

**Empathy, Crime Seriousness, and Procedural Justice: Understanding Dutch Public
Perceptions of Victim-Offender Mediation**

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Psychology Bachelor Thesis

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July 1, 2024

Abstract

This study investigated how the seriousness of crime and empathy influence the view of the Dutch public towards victim-offender mediation (VOM). VOM is a restorative justice method where victims and offenders meet in the presence of a mediator to restore harm. However, how the Dutch public views VOM has not yet been explored. In this study, it was expected that higher crime seriousness would lead to more negative views of the Dutch public towards VOM. For higher empathy towards offenders, the perception of the Dutch public towards VOM would become more positive. It was also proposed that the perception of procedural justice among the Dutch public will worsen if judges do not take mediation into account in their verdict. In other words, if the judge does not lower the punishment of the offender after successful mediation takes place, the perceived procedural justice will deteriorate. The punitiveness gap entails the preference of the public to sentence stricter than the judges. It was hypothesised that the disregard of mediation by the judge influenced the punitiveness gap, and the punitiveness gap negatively influenced the perceived procedural justice. An online survey with 110 participants was conducted, using an experimental 2x2 design measuring the variable crime seriousness (high/low), and the variable judge reckons with mediation (yes/no). The variable offender empathy was measured as well, investigating the relationship between offender empathy and the attitude the Dutch public has towards VOM. Results indicated that empathy and the seriousness of a crime did not influence the attitude towards VOM. Nevertheless, the disregard of the judge did negatively influence the perception of procedural justice, however, this effect was not mediated by the punitiveness gap.

Keywords: victim-offender mediation, offender empathy, attitude, procedural justice, punitiveness gap

Introduction

Victim-offender mediation (VOM) is the most popular, extensively studied, and applied form of restorative justice methods in the justice system. Across all continents, VOM has been incorporated (Umbreit and Armour, 2011). VOM is an effective method of restorative justice, moreover the most used method in Europe (Dünkel et al., 2015). In VOM, the victim and offender meet face-to-face in the presence of a mediator, but the parties can also communicate indirectly through, for example, letter exchanges (Bouffard, Cooper & Bergseth, 2016; Zebel, 2012). The victim and offender are free to share their narratives, and the parties listen carefully to each other. The mediator in this dialogue is centred, and non-directive, and tries to establish a meaningful connection with and between the other parties and tries to attain agreements (Hansen & Umbreit, 2018c).

Notably, since the year 2012, article 51h in the Dutch Code of Criminal Procedures has been included by the Dutch government. This article stipulates that the Public Prosecution Service must inform the suspect and victim of the possibilities for mediation and that the judge takes the result of the mediation into account when issuing a guilty verdict (Openbaar Ministerie, n.d.). This was an important development, as it facilitated the option for mediation in criminal cases for victims and suspects, marking a critical advancement in restorative justice. The number of references of criminal cases to mediation in The Netherlands is 1434 in total over the year 2022. This is a small number compared to the total number of 153.000 criminal cases that took place in the year 2022 (Raad voor de Rechtspraak, 2023). Around 85% of the mediations in criminal cases were concluded with an agreement or partial agreement between the parties (Raad voor de Rechtspraak, 2023). However, this is after the parties agreed to participate in mediation, which implies that the parties were open to participation in VOM, which might be the reason for the high percentage of concluded agreement. The effects of mediation mentioned most often by parties (victim

and offender) that participated in VOM in The Netherlands in 2022, were improved communication with the other party, which was indicated by 22% of the questioned parties, more understanding for the other party mentioned by 15%, and a better insight into one's share named by 13%. This indicates several experienced positive effects, which is also reflected in the numbers denoting that around 61% of the parties were satisfied to very satisfied with the mediation process (Raad voor de Rechtspraak, 2023). Only 59.5% of the criminal cases that were forwarded to mediation, engaged in mediation (Raad voor de Rechtspraak, 2023).

From these numbers, it can be concluded that there are still growth opportunities, as in most criminal cases there is no referral to mediation. Given the potential of enlarging the use of mediation, it is crucial to understand the public view on VOM, as the public view plays a major role in the emergence of punitive laws for example (Robert & Stalans). In research done by Robert and Stalans (2004), Gromet and Darley (2006), Doble and Greene (2000), and several other studies, the public view towards restorative justice is investigated in populations other than the Netherlands. However, what has not yet been explored, is how the Dutch public views VOM, and whether the severity of crimes influence this perception.

Additionally, there exists a punitiveness gap between the Dutch public and the punishment imposed by judges. Research indicates that, on average, the Dutch public has a clear preference for stricter sentences than those imposed by Dutch criminal courts (Keijser and Elffers, 2007). This punitiveness gap is significant: a majority of 66% thought in 2019 that the judge sentenced too leniently, 27% thought it was just right, less than 1% thought the punishment was too harsh and 5% had no opinion (Sociaal en Cultureel Planbureau, 2024). As the Dutch public is more punitive than the judges (De Keijser et al., 2007), and restorative justice methods, such as VOM, are often considered to be less punitive (Robert & Stalans), it is interesting to look at this gap and discover how VOM plays a role in this.

Also, despite the positive developments in mediation, there are still many citizens who know relatively little about mediation, which might influence their acceptance of restorative justice options (Robert and Stalans, 2004). Furthermore, the role of empathy, the capacity to comprehend other people's feelings, independently of whether they are associated with a particular emotion or sensation (Unnever & Cullen, 2009), could be an important predictor of the attitude of the Dutch public towards VOM, as empathy towards the offender might shift the opinion of the Dutch public. Therefore, the central research question in this thesis is: *How does the level of crime seriousness influence the perception of the Dutch public towards victim-offender mediation, and how does empathy play a role in this?*

Theoretical Framework

Victim-offender mediation

Mediation is a type of restorative justice procedure. According to Zehr (2015), restorative justice can be defined as a "process to involve, to the extent possible, those who have a stake in a specific offence and to collectively identify and address harms, needs, and obligations, in order to heal and put things right as possible" (p. 37). In other words, the aim is to repair the harm that was done by the crime by involving all parties involved. VOM is a type of restorative justice procedure, in which the victim and offender engage in a conversation to resolve a conflict in the presence of a third party, the mediator (Hansen & Umbreit, 2018b). VOM contains face-to-face meetings between the offender and victim. Prior to the first face-to-face meeting, the mediator has one-on-one conversations, to prepare each party. The conversation between the victim and offender is regarded as more important than the written agreement that frequently concludes VOM (Umbreit et al., 2004). VOM also employs a variety of indirect communication methods, besides direct conversations, to enable both parties to communicate without having to meet each other (Bouffard, Cooper, & Bergseth, 2016; Zebel, 2012). Through the exchange of letters, for instance, both parties can

write out their inquiries and responses, which the mediator will then transmit to the referred party. This indirect form of communication can also be accomplished through shuttle mediation, which implies that the mediator conveys the message orally to the referred party (Sherman & Strang, 2007).

Restorative justice procedures in general provide several benefits, such as a reduction in the risk of recidivism (Jonas-van Dijk et al., 2019), the satisfaction of the victim and offenders, and a reduction of expenses compared to criminal procedures without restorative justice procedures (Brooks, 2017). Many studies provide evidence that there are several advantages of using specifically VOM. For example, it is shown that the victim and offender derive more satisfaction from the process, fairness, and results as a consequence of mediation. Additionally, the parties come to agreements more often. Furthermore, there is a lower risk of reoffending for offenders, and lastly, it is not as expensive as the traditional process (Hansen & Umbreit, 2018b). However, there are some disadvantages to be found in the literature. For example, according to Daly (2006), restorative justice is not satisfying for every victim, as victims with high stress levels after the offence did not become less afraid and angry of the offender after participating in a restorative justice method.

Nevertheless, mostly positive effects can be found in the literature on restorative justice practices and VOM. Therefore, it can be assumed to be beneficial for both parties – victim and offender – to take part in VOM. Furthermore, VOM can be beneficial for society. Not only because of the lowered risk of reoffending (Hansen & Umbreit, 2018b) but also because the government and taxpayers bear the heavy burden of sustaining the prison system (Gromet & Darley, 2006) and VOM is more cost-effective. The attached benefits of VOM make it an interesting procedure of restorative justice to investigate.

Public views on restorative justice

The view of the public on restorative sentencing is an important facet to investigate, as the gain of knowledge in this field can possibly help to increase the confidence people have in the criminal justice system. Robert and Stalans (2004) for example, suggest that the unfamiliarity with restorative justice sentencing could prevent public acceptance of it. Studies have shown that when informed about the possibilities of punishment, thus also restorative justice options, the public tends to view restorative justice more positively (Robert and Stalans, 2004). Furthermore, it is meaningful to scientifically assess the public view for several reasons. First, legislators and decision-makers often highlight the necessity for policies that advance public confidence in justice. The opinion of the public herein plays a major role in the emergence of punitive laws (Roberts and Stalans, 2004). Secondly, as frequently politicians perceive public opinions differently than the opinions really are (Roberts and Stalans, 2004), it is important to understand the true opinion of the public as it affects policymaking.

Not only does discrepancy in knowledge about VOM shape the public view, but the seriousness of a crime is also an important aspect to consider, as it influences the view of the public on restorative justice as well (Gromet and Darley, 2006; Doble and Greene 2000). The seriousness of a crime consists of the factual assessment of the harm done to the victim and the normative assessment of the wrongfulness done to the victim (Warr, 1989). According to Warr (1989), the seriousness of a crime can be divided into two dimensions. First, it can be assigned to the dimension of 'wrongfulness', which is the moral seriousness of the crime, or the moral responsibility and accountability that would apply to the offender. This is the normative side of the judgment of the seriousness of a crime. Second, it can be assigned to the dimension of 'harmfulness', which is the damage or harm the crime causes to the victim. In this case, the judgment is an appraisal of the offence's impact on the victim. This distinction is crucial, as it reveals how people make assessments of the seriousness of crimes.

According to Gromet and Darley (2006), as the level of the seriousness of a crime increases, in terms of morally offensive and violently offensive, people find the solution of restorative justice procedures less appropriate as a single procedure to use in a criminal case. This is an important finding related to the public vision of restorative justice, as it shows how restorative justice procedures can be utilised while gaining or maintaining the support of the public. The study done by Gromet and Darley (2006) covers the perceptions of Princeton undergraduate psychology students on the acceptability of restorative justice practices for dealing with varying levels of severity of crimes. They found that when a crime is more severe, people lean more towards traditional court procedures. In their study, most of the cases with low severity were referred to the solely restorative procedure by participants. Nevertheless, when offences became more serious, participants submitted offences of moderate severity to the restorative approach or combined with the traditional approach. Most cases of high severity were referred to the combined approach (restorative and traditional systems combined). The increase in the severity of a crime leads people to demand a retributive element, such as a prison sentence, along with the restorative procedure (Gromet & Darley, 2006). Doble and Greene (2000) also found that the public's support for restorative procedures is largely determined by the nature and severity of crimes committed, with their research on participants from the United States.

In the studies mentioned above, the perception of the Dutch public is not involved. These findings of the studies done with participants with different demographics imply that the public view towards restorative justice could be cross-culturally consistent (Robert & Stalans, 2004). Besides, the procedures of VOM differ across countries. Therefore, it is interesting to look at the Dutch public and their opinion, as a different context might establish new insights. Hence, this study will focus on the Dutch public and their opinion. More specifically, the perception of the Dutch public towards VOM at different levels of crime

severity. It is expected that as the level of severity of a crime increases, the Dutch public views VOM in general more negatively. The following is predicted:

H1: As the seriousness of a crime in terms of perceived harmfulness and wrongfulness increases, the perception of the Dutch public towards victim-offender mediation becomes more negative.

Empathy

An influential aspect that will be considered in this study, is empathy. The concept of ‘empathy’ is defined in many ways by different authors. According to Cuff et al. (2014), empathy is:

An emotional response (affective), dependent upon the interaction between trait capacities and state influences. Empathic processes are automatically elicited but are also shaped by top-down control processes. The resulting emotion is similar to one’s perception (directly experienced or imagined) and understanding (cognitive empathy) of the stimulus emotion, with the recognition that the source of the emotion is not one’s own. (p. 150)

In other words, understanding someone’s feelings by taking their perspective (Unnever and Cullen, 2009). However, the concept of empathy is influenced by several factors, such as trait and state factors (Cuff et al., 2014). In this study, empathy is defined as the empathy of the Dutch public towards the offender, which can be conceptualised as ‘empathetic identification with offenders’. This can be interpreted as a particular type of empathy, which entails the ability to feel empathy for specific kinds of offenders by taking the role of the offender (Unnever and Cullen, 2009).

According to the study done by Unnever and Cullen (2009), empathy diminishes punitiveness. Significant variations in people’s views toward punishment are correlated with how much they can empathise with offenders. Individuals who can empathise with criminals

are more willing to offer them a second chance. In contrast, individuals who are unable to take the perspective of the offender, are more inclined to support harsh punishment. This consequence is influenced by several factors, such as the finding that empathy lessens the need for retaliation, makes people see the offenders' remorse, and increases the ability to forgive (Unnever and Cullen, 2009). As empathy diminishes punitiveness, it could also imply that empathy enhances the tendency of the public to look positively at restorative justice procedures, such as VOM. For this reason, it is expected that the more empathy the Dutch public has towards offenders, the more positive the Dutch public perceives VOM.

In the study done by Dalla Giacomina (2023), it was found that empathy invoked by personal narratives increases the empathy for offenders, in a way that offender empathy appears to exist, which has not been explored in previous research before. Nevertheless, there is no evidence to suggest that empathy may subsequently predict opinions on restorative justice. As the study above used a mild crime in their research, namely car theft, it is still unknown what influence empathy has in a more serious criminal case such as serious assault or attempted manslaughter. For this reason, it is relevant to study empathy concerning VOM, if also a more serious criminal case is included. It is hypothesised that:

H2: As the level of empathy towards offenders increases among the Dutch public, their perception of Victim-Offender Mediation (VOM) becomes more positive.

Procedural Justice

Procedural justice has been shown to influence people's sense of legitimacy and trust in the legal system (Tyler, 2010). Procedural justice denotes the perceived fairness of the procedure employed to acquire a given outcome (Lind and Tyler, 1988). Individuals view an outcome as more equitable if they believe the process that led to it was fair (Leventhal, 1980). It is important that a procedure is perceived as fair, as this provides a continuation of support of the courts by citizens, and reduces hostility, but also determines the legitimacy

citizens experience with legal authorities. Legitimacy is especially important in the case of mediation, as voluntary compliance is needed to ensure a successful result (Lind & Tyler, 1988). The perceived fairness of a procedure remains positive, even if the outcome of a case is negative (Lind & Tyler).

In the context of the Netherlands, the outcome of VOM may influence sentencing decisions. However, it remains unclear how judges incorporate the outcome of VOM in their verdict, in the sense that it is up to the judge whether the outcome of VOM in their verdict is reckoned with or not. It is interesting to investigate whether the process is perceived as fair if the judge disregards the mediation. In terms of perceived fairness, whether the judge takes the outcome of the VOM into account, is more important than the outcome of the verdict by the judge, as this denotes the fairness of the procedure, rather than the outcome of the procedure. In the case where mediation was implemented in the process, the nature of the process changes, which should influence the procedure. So, when the judge does not take into account the outcome agreement of mediation, it is predicted that this lowers the level of the perceived procedural justice, as the process is considered to be less fair.

Perceived procedural justice can be applied to fields like research on punitiveness (Kury & Ferdinand, 2008). Cools et al. (2012) have found that punitiveness is promoted when the public perceives a low level of procedural justice. So, it is predicted that when the judge does not take VOM into account, punitiveness is promoted, thus the public becomes more punitive. This enlarges the punitiveness gap, and considering this punitiveness gap between the Dutch public and judges, the perceived procedural justice will decline. It is hypothesised that:

H3: When the judge does not take into account successful mediation in their verdicts, the perception of procedural justice among the Dutch public tends to deteriorate. The punitiveness gap between the judge and the Dutch public mediates this effect.

Method

Design

This study adopted an experimental 2x2 between-subjects design, measuring the variables seriousness of a crime (high/low) and the judge's disregard for mediation (yes/no), to assess the influence of differences in crime seriousness and verdicts on the view of the Dutch public towards VOM. Other variables considered in this study are offender empathy and attitude towards mediation. One condition included a high level of seriousness, and one included a lower level of seriousness. These conditions were further subdivided based on whether the judge took the mediation outcome into account when sentencing the offender. Participants were assigned randomly to one of the four conditions: (condition 1) high level of seriousness/takes mediation into account; (condition 2) high level of seriousness/does not take mediation into account; (condition 3) low level of seriousness/takes mediation into account; (condition 4) low level of seriousness/does not take mediation into account. All participants received the same set of questionnaires, irrespective of the condition the participant was assigned to.

Participants

Participants were recruited from the Dutch population using convenience sampling methods and snowball sampling methods. Through convenience sampling, BMS students were recruited. This was done via the online SONA system, a participant recruitment website of the University of Twente. Using this recruitment website, the participating students would receive 0.25 SONA points (credits) that they need to successfully achieve their study year. In total, 178 participants responded to the survey. However, 68 participants had to be excluded from the final sample due to unanswered questions. Most of the participants terminated the study after only answering 30% of the questions. The final sample included 110 participants with ages ranging from 18 to 85 ($M = 42.15$, $SD = 17.26$) of which 76 were women (69.1%),

and 34 were men (30.9%). There was one participant who identified their gender as ‘other’.

The participants were all Dutch, of which the highest percentage finished HBO education ($n = 40$, 36.4%).

To see whether there are any discrepancies between the research conditions, the demographics were looked at, which are displayed in Table 1. To summarise, for the condition ‘does take mediation into account’, a total of 52 participants were recruited, most of which were women ($n_{women} = 73.1\%$, $n_{men} = 26.9\%$). For the condition ‘does not take mediation into account’, there were 58 participants included most of which were women as well ($n_{women} = 65.5\%$, $n_{men} = 34.5\%$). For the condition ‘high in seriousness’, 53 participants were recruited ($n_{women} = 73.6\%$, $n_{men} = 26.4\%$), and for the condition ‘low in seriousness’, 57 participants were included ($n_{women} = 64.9\%$, $n_{men} = 35.1\%$). With an effect size of 0.25 (medium effect), an alpha level of 0.05, and 4 conditions consisting of around 27 participants, the power of the study is approximately 55%. However, conditions 1 and 3, and conditions 2 and 4 are taken together, leading to a power of the study of approximately 75%, which is acceptable.

Table 1

Participant demographics table

	Total	Does take mediation into account	Does not take mediation into account	High in seriousness	Low in seriousness
N	110	52	58	53	57
Men	34	26.9%	34.5%	26.4%	35.1%
Age	42.15	43.38	41.05	44.4	40.1

Education	High
	School
	(24)
	MBO (23)
	HBO (40)
	Bachelor
	(8)
	Master
	(15)

Materials

Questionnaire tool

The participants had to finish a survey from the platform Qualtrics, a software used for the creation and distribution of surveys, and for data collection. The survey was in the Dutch language, as only Dutch participants pertain to the target group, and this would enhance the comprehensibility of the survey. The online survey could be done on a mobile device, by clicking on the website URL.

Scenarios

The participants were assigned to four different conditions. In the condition of a higher level of seriousness, the criminal case described a highly severe violent incident, in which the offender violently and repeatedly stomped on the head of the victim, resulting in serious injury and pain (Appendix A). In the condition of lower level of seriousness, the criminal case described a less severe violent incident, in which the offender pushed the victim to the ground, which leads to pain, but no injury (Appendix A). Additionally, participants were presented with the demand of the public prosecutor and the verdict of the judge, in

which the judge in the case of the high level of seriousness would either deviate from the demand of the public prosecutor as a response to the successful mediation or the judge would comply with the demand of the public prosecutor, thus would not consider the successful mediation in the verdict (Appendix G). Also, for the low level of seriousness condition, the participants either were shown the case that the judge would deviate from the demand of the public prosecutor or would comply (Appendix G)

Variables

Offender Empathy

To measure the empathy the participant has towards the offender in the described scenario, a part of The Offender Empathy Questionnaire was used (Dalla Giacoma, 2023). The scale included eight questions (See Appendix B), using a 7-point Likert scale (strongly disagree to strongly agree). The original scale was adapted, as in the current study there was not enough background information given to answer all the items asked in the existing scale. Therefore, some of the questions were not included in the scale used in this study, and some items were added because of their relevance to this study. An example of a question is “I can empathise with the offender”. Although the factor analysis showed that not every item loaded strongly, it was decided to retain all items to measure offender empathy, as every item plays an important role in capturing all aspects of the construct. The reliability test showed that this scale was reliable ($\alpha = 0.75$).

Perceived wrongfulness and harmfulness

To measure the seriousness of the crime, the perceived wrongfulness and harmfulness were measured with a scale including four questions (Zebel et al., 2017) using a 7-point Likert scale (strongly disagree to strongly agree) (Appendix C). The perceived wrongfulness measured the moral seriousness of a crime using two items, while the perceived harmfulness measured the damage or harm inflicted on the victim using two items. An example of a

question of perceived harmfulness is “The crime caused emotional damage to the victim”, and an example question of perceived wrongfulness is “The offence is morally reprehensible”. For the two items that measured the perceived wrongfulness, the items correlated strongly and significantly with each other according to Zebel et al. (2017) ($r = .72$, $p < .001$) indicating good reliability of the scale. Zebel et al., (2017) used five items to measure the perceived harmfulness. In this study, only two items were used as there was no further information given considering the inflicted harm on the victim to answer other questions about it. The two items have a positive correlation ($r = 0.62$, $p < 0.001$).

General attitude towards VOM

To measure the general attitude that the Dutch public holds towards VOM, a new scale was developed, as there did not exist such a scale yet. A 7-point Likert scale was used (strongly disagree to strongly agree) to measure the 8-item scale (Appendix E). An example of an item is “Mediation is an effective way to resolve conflicts between victim and offender”. According to the factor analysis, items 3, 5, and 7 were removed, as they loaded less strongly, and focused more on the benefits for the offender, instead of the attitude towards VOM in general. Also, these items measured the benefits of VOM for the offender, which does not capture what was aimed to be measured. The reliability test showed that this scale was reliable ($\alpha = 0.74$).

Punitiveness Gap

Four questions were asked about the punitiveness gap between the participant and the judge (Appendix H). An example of a question is: “I would have given a higher punishment than is given by the judge”. A 7-point Likert scale was used (strongly disagree to strongly agree) to measure the scale. Item 1 did not load high on this factor; thus, this item was removed from the scale. The remaining items 2, 3, and 4, formed a moderate reliability ($\alpha = 0.61$).

Perceived Procedural Justice

Five items were asked to measure the perceived procedural justice of the decision of the judge in the case, and a 7-point Likert scale was used (strongly disagree to strongly agree) to measure the 5-item scale (Appendix I). The scale was based on an existing scale by Kochel et al. (2013). Not all items were used, as not the entire process was described in this study. An example of an item is “I think the judge's decision is fair”. All factors were retained as they were important to measure the construct. The reliability was tested and showed a reliable scale ($\alpha = 0.80$)

Procedure

The study was approved by the Behavioural Management and Social Ethics Committee. Informed consent was given before participating in the study. The participants were informed about the duration and purpose of the study, the anonymity and use of the data, and that participation is voluntary and that it is possible to withdraw from the survey whenever the participant wishes to. It took between 3.5 and 10098 min to fill in the survey. First, participants had to fill out several questions considering demographics, such as age, gender, and nationality. After that, all the questions entailed statements answered on a 7-point Likert scale (strongly disagree to strongly agree).

After filling out the demographics, the participant was presented with a criminal case (high or low in level of seriousness). After that, questions were asked about offender empathy (Appendix B), and perceived wrongfulness and harmfulness (Appendix C). Then, a description of what VOM entails was given (Appendix D), to answer the next questions in the survey about the general attitude towards VOM (Appendix E), and the attitude towards VOM for different levels of seriousness of crime (Appendix F).

Lastly, the decision of the judge was described. The aim was to measure the view of the Dutch public towards VOM concerning the verdict of the judge, and the influence of

whether the judge would consider mediation in the verdict. After that, four questions about the punitiveness gap between the participant and the judge considering the verdict were asked (Appendix H). Furthermore, questions were asked about the perceived procedural justice (Appendix I).

Lastly, the participant was debriefed by explaining to the participant that there were four conditions in the study, in which the participant was randomly allocated to one of the conditions. Also, the aim of the study was clarified a second time. The e-mail address of the researcher was shared as well, which could be contacted in case the participant had any questions and/or comments.

Data Analysis

To analyse the obtained data, Rstudio 2023.12.1+402 was used (R Core Team, 2021). For the analysis, the packages ‘psych’, ‘dplyr’, ‘Hmisc’, ‘lavaan’, ‘readxl’, ‘semPlot’, ‘mediation’, and ‘pwr’ were utilised. With descriptive statistics, including mean, standard deviation, and summary statistics, the data was explored. Validity tests and reliability tests were executed on the construct of offender empathy, harmfulness and wrongfulness, attitude VOM, the seriousness of the crime, punitiveness gap, and procedural justice. This was done to determine which items fit the construct and how reliable the constructs were. Furthermore, hypothesis testing was done. Linear regression models were utilised to test the manipulation of the level of seriousness of the crime on the perceived harmfulness and wrongfulness, and to test the relationship between the attitude VOM and harmfulness/wrongfulness (hypothesis 1) and the relationship between offender empathy and the attitude VOM. A mediation analysis was conducted to investigate the direct effect of the verdict of the judge on the punitiveness gap, the direct effect of the punitiveness gap on procedural justice, and the indirect effect of the verdict of the judge on procedural justice through the punitiveness gap. The script of Rstudio can be found in the Appendix J.

Results

Descriptive Statistics

The average score on the offender empathy scale was 2.65 ($SD = 0.9$). This means that empathy for the offender was relatively low in this sample. The participants who were assigned to the high level of seriousness condition had slightly lower levels of offender empathy (2.31) compared to the low level of seriousness condition (3.01). For the perceived harmfulness, the average score was 4.44, ($SD = 1.51$), and for the perceived wrongfulness the average answer was 3.91 ($SD = 1.37$). For the high level of seriousness condition, the perceived harmfulness was higher (5.32), compared to the low level of seriousness (3.62). For the high level of seriousness condition, the perceived wrongfulness was higher (4.54) compared to the low level of seriousness condition (3.32). The average score on the general attitude towards VOM scale is 3.9 ($SD = 0.74$), which indicates a slightly positive attitude towards VOM. For the high level of seriousness condition and the low level of seriousness condition, the general attitude towards VOM was equal (3.90). The average score on the punitiveness gap scale is 2.78 ($SD = 0.67$). There is no significant difference in the punitiveness gap between the different conditions, the average answer differed from 2.31 to 2.43. The average score on the scale of procedural justice is 4.19 ($SD = 0.85$). For the taking mediation into account condition, there was a slightly higher perceived procedural justice (4.36) compared to the not taking mediation into account condition (4.03). Through a correlation matrix, Table 2 displays the correlation between each variable and in the note below Table 2, the variables that significantly correlated with each other are shown.

Table 2

Descriptive statistics and correlation matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
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Offender	2.65	0.9	-					
empathy								
Harmfulness	4.44	1.51	-0.3*	-				
Wrongfulness	3.91	1.37	-0.34*	0.6*	-			
Attitude	3.9	0.74	0.14	-0.01	0.01	-		
VOM								
Punitiveness	2.78	0.67	0.03	0.02	0.04	0.19*	-	
gap								
Procedural	4.19	0.85	-0.03	0.12	0.07	0.32*	-0.04	-
justice								

Note. Values assigned with * mean a significant correlation of corresponding variables.

Hypothesis Testing

Linear Regression

For the first hypothesis to be tested, a linear regression analysis was conducted. H1 stated: *As the seriousness of a crime in terms of perceived harmfulness and wrongfulness increases, the perception of the Dutch public towards victim-offender mediation becomes more negative.* To ensure that the manipulation of the high level of seriousness and low level of seriousness influenced the perceived harmfulness and wrongfulness, first, a linear regression model was done by creating a dummy variable (high/low level of seriousness) as the independent variable, and the perceived harmfulness and wrongfulness as the dependent variable. The results show that the model was statistically significant between the dummy variable and harmfulness. When the dummy variable changed to participants in the condition of high level of seriousness, participants perceived higher harmfulness ($\beta = 1.7, t = 7.1, p = <0.001$). Similarly, the regression model for the dummy variable and wrongfulness was

shown to be significant. Participants in the condition of high level of seriousness perceived higher harmfulness ($\beta = 1.21, t = 5.17, p = <0.001$).

Then, to explore the hypothesis, the linear regression involved the perceived seriousness of the crime (measured in terms of perceived harmfulness and wrongfulness) as the independent variable and the attitude towards VOM as the dependent variable. The results revealed that the model was not significant between harmfulness and attitude VOM ($\beta = -0.01, t = -0.25, p = .8$) or between wrongfulness and attitude VOM ($\beta = 0.02, t = 0.26, p = .8$). Neither perceived harmfulness nor wrongfulness of a crime significantly predicts the public's attitude towards VOM. The overall model showed to be not significant ($R^2 = .02, F = 0.04, p = .96$), indicating that the attitude towards VOM is not explained by perceived wrongfulness and harmfulness. These results suggest no significance; therefore, the hypothesis should be rejected.

The second hypothesis was also tested with a linear regression analysis. H2 states: *As the level of empathy towards offenders increases among the Dutch public, their perception of Victim-Offender Mediation (VOM) becomes more positive.* In the linear regression, the offender empathy was the independent variable, and the attitude towards VOM was the dependent variable. The regression models revealed that the offender empathy did not significantly predict the attitude towards VOM ($\beta = 0.12, t = 1.52, p = .13$). The overall model showed to be not significant ($R^2 = .01, F = 0.04, p = .13$), indicating that attitude towards VOM is not explained by offender empathy. These results suggest no statistical significance; therefore, the hypothesis should be rejected.

Mediation Analysis

The third hypothesis was tested with a mediation analysis. H3 states: *When the judge disregards successful mediation in their verdicts, the perception of procedural justice among the Dutch public tends to deteriorate. The punitiveness gap between the judge and the Dutch*

public mediates this effect. To determine that the punitiveness gap is a mediator, four criteria must be met (Preacher & Hayes, 2004). First, the independent variable, the judges' disregard (X) significantly predicts the dependent variable, the perceived procedural justice (Y). Second, the judge's disregard (X) significantly predicts the mediator, the punitiveness gap (M). Third, the punitiveness gap (M) significantly predicts the perception of procedural justice (Y), controlling for the judges' disregard (X). However, recent literature states that path a, the relation between X and M, and path b, the relation between M and Y does not both have to be significant, which is known as the test of joint significance. As long as the paths a and b are significant together (ab), the criterium is met. Furthermore, the direct effect of X on Y is not of important interest, as the mediation is not part of the model (Hayes & Rockwood, 2019).

To begin with, the direct effect of the judge's disregard on the perceived procedural justice was analysed, and as expected, the judge's disregard negatively predicted perceived procedural justice ($\beta = -0.34$, $SE = .16$, $p = 0.032$). This indicated that the judge's disregard significantly, and negatively influenced procedural justice. Specifically, the group where the judge does not take the mediation into account is associated with a decrease in procedural justice, compared to the reference group. In the second analysis, the judge's disregard did not predict the mediator, punitiveness gap ($\beta = -0.18$, $SE = .13$, $p = 0.15$). This suggests that the difference of the group the participant was assigned to, does not significantly affect the punitiveness gap. Then, when the mediator was added to the model with the judge's disregard as the independent variable and perceived procedural justice as the dependent variable, the indirect effect of the judge's disregard on procedural justice through the punitiveness gap is not significant ($\beta = 0.02$, $SE = .02$, $p = 0.51$), which indicates that the punitiveness gap does not mediate the relationship between the judge's disregard and procedural justice. However,

the total effect is significant ($\beta = -0.33$, $SE = .16$, $p = 0.04$), which suggests that overall, the judge's disregard negatively affects procedural justice.

Discussion

Previous literature shows that as the level of seriousness of a crime increases, people view restorative justice procedures more negatively (Gromet & Darley, 2006). As in the study of Robert and Stalans (2004) they suggest that there exists a literature gap of the public towards VOM, it was interesting to uncover aspects of this topic more thoroughly and see whether this is still the case. In this field, researchers aim to untangle the view of the public towards restorative justice procedures. Correspondingly, this study aims to investigate the view of the Dutch public towards VOM as a function of crime seriousness and the role that empathy plays in this.

To sum up, initially, the validation of the manipulation of crime seriousness levels on perceived harmfulness and wrongfulness was tested. It can be concluded that the manipulation successfully influenced the participants, and that the manipulation was valid. This is because when the level of seriousness of the crime was high, participants perceived both a higher harmfulness and wrongfulness. Despite successfully manipulating the perceived seriousness of crimes, the following results of this study showed that a higher perceived seriousness, in terms of harmfulness and wrongfulness, does not relate to a more negative public attitude towards VOM. It suggests that the impact of the manipulated crime severity might not be big enough to yield a change in the public attitude towards VOM. This finding is in contradiction to the study done by Gromet and Darley (2006), who found that an increase in the severity of a crime leads to the demand for a retributive element, thus the restorative element is not sufficient anymore. Doble and Greene (2000) found similar results. In the study of Gromet and Darley (2006), the participants had to read different types of crimes, such as vandalism, assault, identity theft, and rape. In the current study, the same type

of crime was used, namely assault, but it differed in the severity only. This could be the reason for the contradictory outcome. It could be that the severity does not play a big role in the attitude towards VOM but measuring the attitude towards VOM for different types of crime could have led to different outcomes, which has also been found in other studies (Robert & Stalans, 2004; Gromet & Darley, 2006). Furthermore, other factors such as the potential benefits of VOM might exert influence. Also, the procedural justice and punitiveness gap could be factors that influence the attitude towards VOM, as these variables correlated significantly with the attitude towards VOM.

According to Unnever and Cullen (2009), offender empathy reduces punitiveness towards that offender, which could also be related to a more positive view towards VOM in that specific case, as this is a restorative procedure of lower punitiveness. Therefore, it was predicted that as the level of empathy towards the offender in the specific case increases among the Dutch public, their perception of VOM becomes more positive. However, the results contradicted the findings of Unnever and Cullen (2009), as the results showed that a higher level of empathy towards offenders did not positively influence the attitude towards VOM in general. This indicates that empathy towards offenders does not determine the attitude towards VOM by the Dutch public. The outcome does align with the study done by Dalla Giacomina (2023), where it was found that empathy did not affect the view of the public towards restorative justice. This non-significance could be attributed to the fact that in the current study, little information was given about the offender and the situation. Therefore, less empathy might have been invoked, which makes it less likely that offender empathy predicts the attitude towards VOM. Furthermore, people's empathy is frequently biased. People feel empathy more strongly towards those close to or similar to them (Fowler et al., 2021).

Besides, offender empathy was measured specifically for the described case, not the empathy the participants generally posit. The attitude towards VOM, on the other hand, was measured as a general attitude, not the attitude for the specific case. This discrepancy could be a point of improvement, as the variables are not directly comparable. Empathy in a specific case might differently affect attitudes towards VOM than general empathy. The validity of the findings might have been affected because of this mismatch. Future research should measure offender empathy and attitude within the same context. Furthermore, the offender already had a criminal record, as described in the case, which most people probably do not identify with. This could be the reason why there was not much empathy invoked, as the participants did not relate with the offender. Also, a short description was given about what VOM entails, which might not have been elaborate enough to form a substantial attitude towards VOM. There still could have been large discrepancies of knowledge on VOM between the participants, another factor influencing the differences in their attitudes.

Additionally, this study only investigated the view of the Dutch public. For other nationalities and cultures, cultural differences might lead to different findings. This is because in different cultures VOM is deployed differently, reflecting the norms and values the culture holds. The discrepancy in the implementation of VOM in different cultures makes it difficult to study and generalise findings. On the other hand, it denotes the flexibility of the process, which makes it a feasible justice process for numerous diverse cultures and countries (Umbreit et al., 2000).

That the punitiveness gap exists in The Netherlands, is a fact according to Keijser and Elffers (2007), and according to numbers from the year 2023 reported by Sociaal en Cultureel Planbureau (2024). The results of this study showed that the disregard of the mediation of the judge negatively influenced the perceived procedural justice. However, the punitiveness gap

did not influence this relationship. The lack of mediation by the punitiveness gap suggests that other factors might have played a role in the relationship.

VOM is not extensively applied in The Netherlands yet, only 1434 cases were referenced to VOM in 2022, which is a minimal number compared to the total cases that took place that year (Raad voor de Rechtspraak, 2023). However, it conveys multiple benefits such as satisfaction for victim and offender, lower risk of reoffending (Hansen & Umbreit, 2018b), and benefits for society, for instance, because of its cost-effectiveness (Gromet & Darley, 2006). This asks for efforts to promote VOM. As many citizens do not know much about VOM, it might influence their acceptance of restorative justice procedures such as VOM (Robert and Stalans, 2004). From the findings in this study, it can be concluded that attitudes towards VOM are complex and influenced by several factors, which asks for more thorough future research, uncovering potential factors influencing the attitude towards VOM. According to Robert and Stalans (2004), educating the public on the benefits of VOM, and what restorative justice entails is an effective way to promote VOM, as this could provoke the public to accept it. Furthermore, enhancing empathy towards offenders might not be the right solution as well to improve the view of the Dutch public towards VOM. Instead educating campaigns is a better notion, as literature supports that unfamiliarity could prevent acceptance of VOM (Robert and Stalans, 2004).

Finally, the criminal court should be mindful of whether they consider the mediation in their verdicts. The expected, negative influence of disregarding the mediation in the verdict on the perceived procedural justice of the Dutch public, highlights the importance of how the judge handles criminal cases that involve VOM.

Limitations and future directions

One noteworthy limitation of this study is the sample size and dropout rate. Since the findings are based on the Dutch public, the sample size can be considered too small to

generalise outcomes over that big of a population. Furthermore, a high amount of participants dropped out of the study before finishing the survey. At this point of the survey, the participant had to read a bigger segment of information, which might be too time-consuming, which could have led to the dropout. In all, a bigger sample size would yield more statistical power and generalizability of the results. It is eligible to increase the sample size, to enhance the generalizability of the results.

Furthermore, the study used only two crime scenarios (high and low in seriousness), which limits the knowledge of how crime scenarios influence the perception of VOM. A wider range of scenarios could have improved the understanding of its influence on the perception of VOM (property crime, white-collar crime, etc), or conditions with different types of offenders. Also, the descriptions of the scenarios were not that elaborate. This was purposely done, to ensure that, besides the difference in the level of seriousness, the scenarios were comparable. However, this does not capture how a real-life scenario looks like and withholds the participant to fully grasp or empathise with the situation, which could affect the responses of the participants, leading to less reliable results. On the other hand, in daily life, the public also receives little information about criminal cases. Therefore, this approach of this study might reflect the real-life conditions under which individuals form their attitudes towards VOM. Despite this, it is still interesting to provide the participants with a more detailed and realistic description, so they can better immerse themselves in the situation. The participants will have a clearer understanding of the context which leads to results that reflect the attitude the public has when they are informed more thoroughly about crimes.

Even though self-reporting is one of the most utilised methods to study the psychological state and attitude of individuals, it is not always a consistent objective measurement, implying that it cannot always be trusted to reveal correct responses (Gao et al., 2021). This study relies on a self-report survey, which could alter the responses of the

participants, as they might want to give socially desirable answers for instance (Nederhof, 1985). Even though the 7-point Likert scale gives the participants a wide range of options to indicate their feelings or opinions, it still does not contribute to as deep and complex answers provided by doing qualitative research. In the future, the study could append qualitative methods such as in-depth interviews, to get a more thorough understanding of the underlying factors behind the attitude towards VOM. Together with the survey, interviews are a good addition to providing more insight into the topic.

Lastly, the non-significant results indicate that the examined variables do not seem to influence the attitude towards VOM. This emphasises that other factors such as background knowledge of VOM should be explored. The background knowledge people have of VOM is important to consider, as this shapes their attitude towards VOM (Robert & Stalans, 2004). Participants with little knowledge of the subject might have false, stereotype-like perceptions, such as thoughts about the ineffectiveness of VOM, and the underappreciation of the benefits of VOM, which affect their responses negatively towards VOM. By establishing the foreknowledge, the different answers might be more understandable and certifiable. Without taking this aspect into account, the study might neglect cognitive biases that influence the responses of the participants. It also helps to account for, as it enhances the reliability and internal validity of the study. The recognition of different factors influencing the attitude towards VOM leads to findings applicable across various contexts, and a more comprehensive understanding of the topic.

Conclusion

This study aimed to investigate the influence of crime seriousness on the attitude of the Dutch public towards VOM and the role of empathy in this process. As there was a lack of knowledge on this topic in the Dutch context, the study contributes insights into VOM in the Netherlands. There was no significant relationship found between the factors of empathy

and the seriousness of a crime, however, it helps as a starting point for future research to elaborate on this topic by investigating other factors that could determine the perception of the Dutch public. Nevertheless, a negative relationship was found for the impact of the judge's consideration of VOM on procedural justice. In conclusion, this study contributes to the understanding of the attitude of the Dutch public towards VOM. Further research is necessary to explore other factors more elaborately and deeply, to understand people's perception towards VOM more thoroughly. This could help promote restorative justice methods in the Netherlands, which would greatly contribute to Dutch society, considering all the benefits of a more extensive implementation of VOM. The influence of the judge's disregard of VOM in the verdict is a critical aspect to further investigate in future research, as its influence on the perceived procedural justice indicates that it might shape the public view towards VOM. Enhancing the perceived procedural justice by taking VOM into account in the verdict of the judge can build public trust and create a judicial system that is perceived as fair. This way, Dutch society can move to a more accepted approach to VOM, and a fair, restorative society is created where justice not only punishes but heals.

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Appendix

Appendix A: Description of case

High level of seriousness

Please read the following aggravated assault court case carefully, as the subsequent questions will address this issue:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose after an argument. The suspect, who has a criminal record, approached the victim, and punched him in the head several times with force. When the victim was on the ground, the suspect again forcefully punched the victim's head and stamped on his head with a shod foot. Then he turned around and walked away. The suspect then turned around again and moved at an accelerated pace towards the victim, who was still on the ground. He stood over the victim, lifted his leg and stamped on his head with a shod foot with great force. The victim experienced a lot of pain and (non-permanent) injury.

Low level of seriousness

Please read the following minor assault court case carefully, as the subsequent questions will address this:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose from an argument. The suspect, who has a criminal record, approached the victim, and pushed him, after which the victim fell to the ground. The offender then turned around and walked away. The victim did not experience any injuries but did experience pain.

Appendix B: Offender Empathy

Please indicate to what extent you agree with the following statements in the case just described:

1. I can empathize with the offender
2. I understand what could have motivated the offender to commit this crime
3. I understand that the offender may regret the crime
4. I can imagine how the offender would feel after committing the crime
5. I understand that the offender would like to express his remorse
6. I believe that the offender has the right to understanding and empathy
7. I often feel empathy for offenders of crimes
8. It is important to understand the reasons why someone committed a crime

Appendix C: Perceived Wrongfulness and Harmfulness

Please indicate to what extent you agree with the following statements in the case just described:

1. The crime has caused emotional damage to the victim
2. The victim has suffered physical damage because of the crime
3. The offense is morally reprehensible
4. The offender intended to cause harm by committing this crime

Appendix D: Description VOM

Before we ask questions about mediation in criminal cases, first read the description below about what mediation entails:

Mediation is a process between two parties (victim and offender) that is supervised by an independent party, the mediator. It is an example of restorative justice. Victim and offender voluntarily enter into discussions with each other to repair emotional, material and/or physical damage and to make agreements.

Mediation is a supplement to criminal proceedings, so the judge will still have to reach a conviction. The sentence may be milder, taking into account the mediation that has taken place. Scientifically proven benefits of mediation include reduced recidivism (risk of recurrence) of the offender and satisfaction of both victim and offender. Furthermore, it leads to reduced negative emotions such as fear and anger for the victim.

Appendix E: General Attitude towards VOM

Please indicate to what extent you agree with the following statements:

1. Mediation is beneficial for the Dutch population
2. Mediation is beneficial to the victim
3. Mediation is beneficial to the offender
4. Mediation is an effective way to resolve conflicts between victim and offender
5. Mediation contributes to the rehabilitation (repair) of the offender
6. Mediation should be used more often in criminal cases
7. It is desirable that the judge gives a lower sentence than was demanded after mediation has taken place
8. I look at mediation in a positive way

Appendix F: Seriousness of crime

Please indicate to what extent you agree with the following statements:

1. The seriousness of the offense influences the applicability of mediation
2. I believe mediation is an effective approach to resolving minor crimes
3. I believe that mediation is an effective approach to solving serious crimes
4. If I were an offender of a minor crime, I would be willing to participate in a mediation meeting.
5. If I were an offender of a serious crime, I would be willing to participate in a mediation meeting.
6. If I were a victim of a minor crime, I would be willing to participate in mediation meeting.
7. If I were the victim of a serious crime, I would be willing to participate in a mediation meeting.

Appendix G: Description verdict

Condition 1

Read the conviction for the offense already described, where is reckoned with mediation by the court:

The public prosecutor requests that the suspect be sentenced to a **prison sentence of 30 months**, minus pre-trial detention. In addition, he requests the imposition of a **freedom-restricting measure for a period of 3 years**, involving a location ban for the nightlife area in Terneuzen after 8 p.m. in the evening, with an alternative detention of two weeks each time the measure is not complied with. This requirement reckons with the fact that the offender has a criminal record.

The court deviates from the public prosecutor's demand and sentences the suspect to a **prison sentence of 365 days, of which 179 days are conditional, with a probation period of two years**. The freedom-restricting measure is not imposed. This considers the mediation that took place between victim and offender, where both parties were positive and satisfied with the outcome of the mediation.

To refresh your memory, if necessary, read the violent incident again to answer the following questions:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose after an argument. The suspect, who has a criminal record, approached the victim and punched him in the head several times with force. When the victim was on the ground, the suspect again forcefully punched the victim's head and stamped on his head with a shod foot. Then he turned around and walked away. The suspect then turned around again and moved at an accelerated pace towards the victim, who was still on the ground. He stood over the victim,

lifted his leg and stamped on his head with a shod foot with great force. The victim experienced a lot of pain and (non-permanent) injury.

Condition 2

Read the conviction of the offense already described, where is not reckoned with mediation by the court:

The public prosecutor requests that the suspect be sentenced to a **prison sentence of 30 months**, minus pre-trial detention. In addition, he requests the imposition of a **freedom-restricting measure for a period of 3 years**, involving a location ban for the nightlife area in Terneuzen after 8 p.m. in the evening, with an alternative detention of two weeks each time the measure is not complied with. This requirement takes into account the fact that the offender has a criminal record.

The court does not deviate from the public prosecutor's demand and sentences the suspect to a **prison sentence of 30 months**, minus pre-trial detention. In addition, he requests the imposition of a **freedom-restricting measure for a period of 3 years**, involving a location ban for the nightlife area in Terneuzen after 8 p.m. in the evening, with an alternative detention of two weeks each time the measure is not complied with. The court does not reckon with the mediation that took place between victim and offender, in which both parties were positive and satisfied with the outcome of the mediation.

To refresh your memory, if necessary, read the violent incident again to answer the following questions:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose after an argument. The suspect, who has a criminal record, approached the victim and punched him in the head several times with force. When the victim was on the ground, the suspect

again forcefully punched the victim's head and stamped on his head with a shod foot. Then he turned around and walked away. The suspect then turned around again and moved at an accelerated pace towards the victim, who was still on the ground. He stood over the victim, lifted his leg and stamped on his head with a shod foot with great force. The victim experienced a lot of pain and (non-permanent) injury.

Condition 3

Read the conviction of the offense already described, where is reckoned with mediation by the court:

The public prosecutor requests that the suspect be imposed **community service of 48 hours**, minus pre-trial detention, of which two weeks are conditional, with a probationary period of two years. This requirement reckons with the fact that the offender has a criminal record.

The court deviates from the public prosecutor's demand and sentences the suspect to a **fine of €500**. This considers the mediation that took place between victim and offender, where both parties were positive and satisfied with the outcome of the mediation.

To refresh your memory, if necessary, read the violent incident again to answer the following questions:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose from an argument. The suspect, who has a criminal record, approached the victim and pushed him, after which the victim fell to the ground. The offender then turned around and walked away.

The victim did not experience any injuries but did experience pain.

Condition 4

Read the conviction of the offense already described, where is not reckoned with mediation by the court:

The public prosecutor requests that the suspect be imposed **community service of 48 hours**, minus pre-trial detention, of which two weeks are conditional, with a probationary period of two years. This requirement does not consider the fact that the offender has a criminal record. The court does not deviate from the public prosecutor's demand and sentences the suspect to **48 hours of community service**. This does not consider the mediation that took place between victim and offender, where both parties were positive and satisfied with the outcome of the mediation.

To refresh your memory, if necessary, read the violent incident again to answer the following questions:

On October 15, 2022, a violent incident occurred in the center of Terneuzen that arose from an argument. The suspect, who has a criminal record, approached the victim and pushed him, after which the victim fell to the ground. The offender then turned around and walked away. The victim did not experience any injuries but did experience pain.

Appendix H: Attitude towards verdict

Please indicate to what extent you agree with the following statements in the case just described:

1. I think the sentence imposed by the judge is appropriate
2. I would have given a lower sentence than what was given here by the judge
3. I would have given a higher sentence than what was given here by the judge
4. I believe that in this case, mediation should be reckoned with during sentencing
5. I think mediation is a good option in this case
6. Mediation is beneficial to the offender in this case
7. Mediation is beneficial to the victim in this case
8. Mediation is beneficial to Dutch society in this case

Appendix I: Procedural Justice

Please indicate to what extent you agree with the following statements in the case just described:

1. I think the judge's decision is fair
2. The judge has given the parties the opportunity to express their opinions
3. The judge has listened to the parties involved in the crime
4. The judge was trustworthy
5. I am confident that the judge did what was best in the case

Appendix J: RStudio Script

```
# PACKAGES
```

```
library(psych)
```

```
library(dplyr)
```

```
library(Hmisc"
```

```
library(lavaan)
```

```
library(readxl)
```

```
library(semPlot)
```

```
library(mediation)
```

```
library(pwr)
```

```
# LOAD YOUR DATASET
```

```
data <- VOM_2024
```

```
# EXCLUDE VARIABLES
```

```
data_subset <- subset(data, select = -c(StartDate, EndDate, Status, Finished, RecordedDate,  
ResponseId, DistributionChannel, UserLanguage, Gender_2_TEXT, Informed_consent,  
Nationality)) # Exclude variable1 and variable2
```

```
# RENAME YOUR DATASET
```

```
VOM2024 <- data_subset
```

```
# EXCLUDE RESPONSES WITH PROGRESS LOWER THAN 96
```

```
VOM2024 <- subset(VOM2024, Progress >= 96)
```

```
# ASSIGNING A CHARACTER VALUE "57" TO THE CELL IN THE THIRD ROW OF  
THE 'AGE' COLUMN
```

```
VOM2024$Age[69] <- "57"
```

```
VOM2024$Age <- as.numeric(VOM2024$Age)
```

```
# RECODE
```

```
VOM2024$reversed_variable <- 8 - VOM2024$attitude_verdict__3
```

```
#POWER ANALYSIS
```

```
# Parameters
```

```
effect_size <- 0.25 # Assuming a medium effect size, adjust based on your expectations
```

```
alpha <- 0.05
```

```
sample_size_per_group <- 27
```

```
num_groups <- 4
```

```
# Total sample size
```

```
total_sample_size <- sample_size_per_group * num_groups
```

```
# Power analysis for ANOVA
```

```
result <- pwr.anova.test(k = num_groups, n = sample_size_per_group, f = effect_size,
```

```
sig.level = alpha)
```

```
# Display the result
```

```
print(result)
```



```
# DEMOGRAPHICS
```

```
#summary of dataset
```

```
summary(VOM2024)
```

```
summary(Age)
```

```
# Compute mean and standard deviation of age by gender
```

```
# Filter data for Gender = 0
```

```
age_stats <- VOM2024 %>%
```

```
  group_by(Gender) %>%
```

```
  summarise(mean_age = mean(Age, na.rm = TRUE),
```

```
            sd_age = sd(Age, na.rm = TRUE))
```

```
print(age_stats)
```

```
# Calculate the minimum and maximum ages for women
```

```
min_age_men <- min(VOM2024$Age[VOM2024$Gender == 0], na.rm = TRUE)
```

```
max_age_men <- max(VOM2024$Age[VOM2024$Gender == 0], na.rm = TRUE)
```

```
# Print the age range of women
```

```
cat("Age range of men: ", min_age_men, "to", max_age_men)
```

```
# count frequency of each value in education
```

```
education_count <- table(VOM2024$education_)
```

```
print(education_count)
```

```
#count frequency of each value in age
```

```
age_count <- table(VOM2024$Age)

print(age_count)

#convert gender from factor to character

VOM2024$Gender <- as.character(VOM2024$Gender)

#checks class of condition

class(VOM2024$condition)

#checks class of gender

class(VOM2024$Gender)

#checks levels of gender

levels(VOM2024$Gender)

# Count the number of women assigned to a certain condition (e.g., condition 1)

count_women_condition <- nrow(subset(VOM2024, condition == 2 & Gender == "Female"))

# Print the count

print(count_women_condition)

# Print the counts for each condition

print(condition_counts)

# Perform factor analysis OFFENDER EMPATHY

factor_analysis_result <- fa(VOM2024[, c("Offender_empathy__1",
"Offender_empathy__2", "Offender_empathy__3", "Offender_empathy__4",
```

```
"Offender_empathy__5", "Offender_empathy__6", "Offender_empathy__7",  
"Offender_empathy__8")], nfactors = 8, rotate = "varimax")  
  
# Print factor analysis results  
  
print(factor_analysis_result)  
  
# Print reliability analysis results OFFENDER EMPATHY  
  
psych::alpha(VOM2024[, c ("Offender_empathy__1", "Offender_empathy__2",  
"Offender_empathy__3", "Offender_empathy__4", "Offender_empathy__5",  
"Offender_empathy__6", "Offender_empathy__7", "Offender_empathy__8" )])  
  
# Perform factor analysis HARMFULNESS AND WRONGFULNESS  
  
factor_analysis_result <- fa(VOM2024[, c("Harmful_wrongful_1", "Harmful_wrongful_2",  
"Harmful_wrongful_3", "Harmful_wrongful_4")], nfactors = 2, rotate = "varimax")  
  
print(factor_analysis_result)  
  
# Print reliability analysis results HARMFULNESS AND WRONGFULNESS  
  
psych::alpha(VOM2024[, c ("Harmful_wrongful_1", "Harmful_wrongful_2",  
"Harmful_wrongful_3", "Harmful_wrongful_4")])  
  
# Perform factor analysis ATTITUDE VOM  
  
factor_analysis_result <- fa(VOM2024[, c("attitude_vom__1", "attitude_vom__2",  
"attitude_vom__3", "attitude_vom__4", "attitude_vom__5", "attitude_vom__6",  
"attitude_vom__7", "attitude_vom__8")], nfactors = 1, rotate = "varimax")  
  
print(factor_analysis_result)  
  
# Print reliability analysis results ATTITUDE VOM
```

```
psych::alpha(VOM2024[, c ("attitude_vom__1", "attitude_vom__2", "attitude_vom__3",  
"attitude_vom__4", "attitude_vom__5", "attitude_vom__6", "attitude_vom__7",  
"attitude_vom__8")])
```

```
# Perform factor analysis SERIOUSNESS CRIME
```

```
factor_analysis_result <- fa(VOM2024[, c("seriousness_crime__1", "seriousness_crime__2",  
"seriousness_crime__3", "seriousness_crime__4", "seriousness_crime__5",  
"seriousness_crime__6", "seriousness_crime__7")], nfactors = 3, rotate = "varimax")  
print(factor_analysis_result)
```

```
# Print reliability analysis results SERIOUSNESS CRIME
```

```
psych::alpha(VOM2024[, c ("seriousness_crime__1" "seriousness_crime__2",  
"seriousness_crime__3", "seriousness_crime__4", "seriousness_crime__5",  
"seriousness_crime__6", "seriousness_crime__7")])
```

```
# Perform factor analysis PUNITIVINESS GAP
```

```
factor_analysis_result <- fa(VOM2024[, c("attitude_verdict__1", "attitude_verdict__2",  
"reversed_variable", "attitude_verdict__4")], nfactors = 2, rotate = "varimax")  
print(factor_analysis_result)
```

```
# Print reliability analysis results PUNITIVENESS GAP
```

```
psych::alpha(VOM2024[, c ("attitude_verdict__1", "attitude_verdict__2",  
"reversed_variable", "attitude_verdict__4")], check.keys = TRUE)
```

```
# Perform factor analysis PROCEDURAL JUSTICE
```

```
factor_analysis_result <- fa(VOM2024[, c("procedural_justice__1", "procedural_justice__2",
"procedural_justice__3", "procedural_justice__4", "procedural_justice__5")], nfactors = 2,
rotate = "varimax")

print(factor_analysis_result)

# Print reliability analysis results PROCEDURAL JUSTICE

psych::alpha(VOM2024[, c ("procedural_justice__1", "procedural_justice__2",
"procedural_justice__3", "procedural_justice__4", "procedural_justice__5")])

##ADJUSTED AFTER FACTOR ANALYSIS AND RELIABILITY ANALYSIS

# Perform factor analysis HARMFULNESS AND WRONGFULNESS

factor_analysis_result <- fa(VOM2024[, c("Harmful_wrongful_1", "Harmful_wrongful_2")],
nfactors = 1, rotate = "varimax")

print(factor_analysis_result)

# Print reliability analysis results HARMFULNESS AND WRONGFULNESS

psych::alpha(VOM2024[, c ("Harmful_wrongful_1", "Harmful_wrongful_2")])

# Perform factor analysis HARMFULNESS AND WRONGFULNESS

factor_analysis_result <- fa(VOM2024[, c("Harmful_wrongful_3", "Harmful_wrongful_4")],
nfactors = 1, rotate = "varimax")

print(factor_analysis_result)

# Print reliability analysis results HARMFULNESS AND WRONGFULNESS

psych::alpha(VOM2024[, c ("Harmful_wrongful_3", "Harmful_wrongful_4")])

# Perform factor analysis ATTITUDE VOM
```

```
factor_analysis_result <- fa(VOM2024[, c("attitude_vom__1", "attitude_vom__2",  
"attitude_vom__3", "attitude_vom__4", "attitude_vom__5", "attitude_vom__6",  
"attitude_vom__7", "attitude_vom__8")], nfactors = 1, rotate = "varimax")  
  
print(factor_analysis_result)
```

```
# Print reliability analysis results ATTITUDE VOM
```

```
psych::alpha(VOM2024[, c ("attitude_vom__1", "attitude_vom__2", "attitude_vom__3",  
"attitude_vom__4", "attitude_vom__5", "attitude_vom__6", "attitude_vom__7",  
"attitude_vom__8")])
```

```
# Perform factor analysis SERIOUSNESS CRIME - LOW
```

```
factor_analysis_result <- fa(VOM2024[, c("seriousness_crime__1", "seriousness_crime__2",  
"seriousness_crime__4", "seriousness_crime__6")], nfactors = 1, rotate = "varimax")  
  
print(factor_analysis_result)
```

```
# Print reliability analysis results SERIOUSNESS CRIME - LOW
```

```
psych::alpha(VOM2024[, c ("seriousness_crime__1", "seriousness_crime__2",  
"seriousness_crime__4", "seriousness_crime__6")])
```

```
# Perform factor analysis SERIOUSNESS CRIME - HIGH
```

```
factor_analysis_result <- fa(VOM2024[, c("seriousness_crime__3", "seriousness_crime__5",  
"seriousness_crime__7")], nfactors = 1, rotate = "varimax")  
  
print(factor_analysis_result)
```

```
# Print reliability analysis results SERIOUSNESS CRIME - HIGH
```

```
psych::alpha(VOM2024[, c ("seriousness_crime__2", "seriousness_crime__4",  
"seriousness_crime__6")])
```

```
# Perform factor analysis PUNITIVINESS GAP
```

```
factor_analysis_result <- fa(VOM2024[, c("attitude_verdict__2", "attitude_verdict__3",  
"attitude_verdict__4")], nfactors = 1, rotate = "varimax")
```

```
print(factor_analysis_result)
```

```
# Print reliability analysis results PUNITIVENESS GAP
```

```
psych::alpha(VOM2024[, c("attitude_verdict__2", "attitude_verdict__3")], check.keys =  
TRUE)
```

```
# Perform factor analysis PROCEDURAL JUSTICE
```

```
factor_analysis_result <- fa(VOM2024[, c("procedural_justice__1", "procedural_justice__2",  
"procedural_justice__3", "procedural_justice__4", "procedural_justice__5")], nfactors = 1,  
rotate = "varimax")
```

```
print(factor_analysis_result)
```

```
# Print reliability analysis results PROCEDURAL JUSTICE
```

```
psych::alpha(VOM2024[, c("procedural_justice__1", "procedural_justice__2",  
"procedural_justice__3", "procedural_justice__4", "procedural_justice__5")])
```

```
##MAKE VARIABLE OUT OF THE 4 CONDITIONS
```

```
VOM2024 <- VOM2024 %>%
```

```
  mutate(condition = case_when(  
    !is.na(FL_41_DO_Zwaremishandeling_WELmediation) ~ "Condition 1",  
    !is.na(FL_41_DO_zwaremishandeling_GEENmediation) ~ "Condition 2",  
    !is.na(FL_45_DO_verdict_licht_wel) ~ "Condition 3",  
    !is.na(FL_45_DO_lichtemishand_NIET) ~ "Condition 4",
```

```
TRUE ~ NA_character_ # This line handles the case where all conditions are NA
))

# Drop the individual condition variables if needed

VOM2024 <- select(VOM2024, -FL_41_DO_Zwaremishandeling_WELmediation, -
FL_41_DO_zwaremishandeling_GEENmediation, -FL_45_DO_verdict_licht_wel, -
FL_45_DO_lichtemishand_NIET)

#make the variable numeric

VOM2024$condition <- as.numeric(factor(VOM2024$condition, levels = c("Condition 1",
"Condition 2", "Condition 3", "Condition 4")))

## CREATE NEW MEAN VARIABLE OF ALL THE ITEMS

# Create a new variable OFFENDER EMPATHY

VOM2024$Offender_empathy <- rowMeans(select(VOM2024, c("Offender_empathy__1",
"Offender_empathy__2", "Offender_empathy__3", "Offender_empathy__4",
"Offender_empathy__5", "Offender_empathy__6", "Offender_empathy__7",
"Offender_empathy__8")))

# Create a new variable HARMFUL WRONGFUL

VOM2024$Harmfulness <- rowMeans(select(VOM2024, c("Harmful_wrongful_1",
"Harmful_wrongful_2")))

VOM2024$Wrongfulness <- rowMeans(select(VOM2024, c("Harmful_wrongful_3",
"Harmful_wrongful_4")))

# Create a new variable ATTITUDE VOM
```



```
VOM2024$Attitude_VOM <- rowMeans(select(VOM2024, c("attitude_vom__1",
"attitude_vom__2","attitude_vom__3", "attitude_vom__4", "attitude_vom__5",
"attitude_vom__6", "attitude_vom__7", "attitude_vom__8")))

# Create a new variable SERIOUSNESS LOW/SERIOUSNESS HIGH
VOM2024$Seriousness_low <- rowMeans(select(VOM2024, c("seriousness_crime__2",
"seriousness_crime__4", "seriousness_crime__6")))

VOM2024$Seriousness_high <- rowMeans(select(VOM2024, c("seriousness_crime__3",
"seriousness_crime__5", "seriousness_crime__7")))

# Create a new variable PUNITIVENESS GAP
VOM2024$Punitiveness_gap <- rowMeans(select(VOM2024, c("attitude_verdict__2",
"attitude_verdict__3", "attitude_verdict__4")))

# Create a new variable PROCEDURAL JUSTICE
VOM2024$Procedural_justice <- rowMeans(select(VOM2024, c("procedural_justice__1",
"procedural_justice__2", "procedural_justice__3", "procedural_justice__4",
"procedural_justice__5")))

# Use apply to calculate the standard deviation for each variable
standard_deviations <- apply(VOM2024, 2, sd)

# Print or view the standard deviations for each variable
print(standard_deviations)

# Use aggregate to calculate mean values for 'variable_of_interest' by 'condition'
mean_values <- aggregate(VOM2024$Procedural_justice, by = list(VOM2024$condition),
FUN = mean)

# Print or view the mean values for different conditions
```

```
print(mean_values)

standard_deviation <- sd(VOM2024$Procedural_justice)

# Print or view the standard deviation
print(standard_deviation)

# Use aggregate() function to calculate mean of variable1 for each value of variable2
means <- aggregate(VOM2024$Procedural_justice, by = list(condition =
VOM2024$condition), FUN = mean)

# View the resulting mean values for different values of variable2
print(means)

# Calculate the mean of offender empathy where both zwaarniet and zwaarwel equal 1
mean_offenderempathy <- VOM2024 %>%
  filter(condition == 1 | condition == 2) %>%
  summarise(mean_empathy = mean(Offender_empathy, na.rm = TRUE))

# Print the result
print(mean_empathy)

# Calculate the mean of offender empathy where both lichtniet and lichtwel equal 1
mean_offenderempathy <- VOM2024 %>%
  filter(condition == 3 | condition == 4) %>%
  summarise(mean_empathy = mean(Offender_empathy, na.rm = TRUE))

# Print the result
```

```
print(mean_empathy
```

```
# Calculate the mean of harmfulness where both zwaarniet and zwaarwel equal 1
```

```
mean_harmfulness <- VOM2024 %>%
```

```
  filter(condition == 1 | condition == 2) %>%
```

```
  summarise(mean_harmfulness = mean(Harmfulness, na.rm = TRUE))
```

```
# Print the result
```

```
print(mean_harmfulness)
```

```
# Calculate the mean of harmfulness where condition 3/4
```

```
mean_harmfulness <- VOM2024 %>%
```

```
  filter(condition == 3 | condition == 4) %>%
```

```
  summarise(mean_harmfulness = mean(Harmfulness, na.rm = TRUE))
```

```
# Calculate the mean of wrongfulness where both zwaarniet and zwaarwel equal 1
```

```
mean_wrongfulness <- VOM2024 %>%
```

```
  filter(condition == 1 | condition == 2) %>%
```

```
  summarise(mean_Wrongfulness = mean(Wrongfulness, na.rm = TRUE))
```

```
# Print the result
```

```
print(mean_wrongfulness)
```

```
# Calculate the mean of wrongfulness where condition 3/4

mean_wrongfulness <- VOM2024 %>%

  filter(condition == 3 | condition == 4) %>%

  summarise(mean_Wrongfulness = mean(Wrongfulness, na.rm = TRUE))

# Print the result

print(mean_wrongfulness)

mean_proceduraljustice <- VOM2024 %>%

  filter(condition == 2 | condition == 4) %>%

  summarise(mean_proceduraljustice = mean(Procedural_justice, na.rm = TRUE))

# Print the result

print(mean_proceduraljustice)

mean_proceduraljustice <- VOM2024 %>%

  filter(condition == 1 | condition == 3) %>%

  summarise(mean_proceduraljustice = mean(Procedural_justice, na.rm = TRUE))

# Print the result

print(mean_proceduraljustice)

# Select the variables of interest
```

```
selected_vars <- VOM2024[, c('Offender_empathy', 'Harmfulness', 'Wrongfulness',  
'Attitude_VOM', 'Punitiveness_gap', 'Procedural_justice')]
```

```
library("Hmisc")
```

```
# Use the cor() function to compute the correlation matrix for the selected variables
```

```
correlation_matrix <- rcorr(as.matrix(selected_vars), type = "pearson")
```

```
correlation_coefficients <- correlation_matrix$r
```

```
p_values <- correlation_matrix$P
```

```
# Print or view the correlation matrix
```

```
print(correlation_coefficients)
```

```
print(p_values)
```

```
correlation_matrix <- cor(VOM2024$Harmful_wrongful_1,  
VOM2024$Harmful_wrongful_2)
```

```
print(correlation_matrix)
```

```
correlation_test <- cor.test(VOM2024$Harmful_wrongful_1,  
VOM2024$Harmful_wrongful_2)
```

```
print(correlation_test)
```

```
# View Correlation Coefficient and p-value
```

```
print(correlation_test)
```

```
##HYPOTHESIS TESTING !!!!!
```

```
##test hypothesis 1
```

```
#create a dummy variable for values 1 and 2
```

```
VOM2024$dummy <- ifelse(VOM2024$condition %in% c(1,2), 1,0)
```

```
# Fit a linear regression model for Wrongfulness
```

```
model_wrongfulness <- lm(Wrongfulness ~ dummy, data = VOM2024)
```

```
# Print the summary of the model
```

```
summary(model_wrongfulness)
```

```
# Fit a linear regression model for Harmfulness
```

```
model_harmfulness <- lm(Harmfulness ~ dummy, data = VOM2024)
```

```
# Print the summary of the model
```

```
summary(model_harmfulness)
```

```
# Fit a linear regression model
```

```
lm_model <- lm(Attitude_VOM ~ Harmfulness + Wrongfulness, data = VOM2024)
```

```
summary(lm_model)
```

```
##test hypothesis 2
```

```
# Fit a linear regression model
```

```
lm_model <- lm(Attitude_VOM ~ Offender_empathy, data = VOM2024)
```

```
summary(lm_model)
```

```
#test hypothesis 3
```

```
#mediation analysis
```

```
# Create a dummy variable for values 1 and 3
```

```
VOM2024$dummy <- ifelse(VOM2024$condition %in% c(1, 3), 1, 0)
```

```
# Direct effects
```

```
mediation_model <-
```

```
'Punitiveness_gap ~ a * dummy
```

```
Procedural_justice ~ c * dummy + b * Punitiveness_gap
```

```
# Indirect effect (a * b)
```

```
indirect := a * b
```

```
# Total effect (c + indirect)
```

```
total := c + indirect'
```

```
# Estimate the mediation model
```

```
mediation_results <- sem(mediation_model, data = VOM2024)
```