Universiteit Leiden
The Netherlands

Instrumental and normative pathways to compliance: results from field research on moped drivers
Terpstra, B.L.

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1 | General introduction and overview

1.1   INTRODUCTION

Laws regulate the behaviour of citizens. Governments and legal insti-
tutions interpret and enforce these laws and, for a society to function
properly, citizens must comply with the rules and obey the decisions of
legal authorities (Tyler & Darley, 2000). However, human beings do not
always comply with the regulatory laws by which the legislator has set
restrictions on their behaviour. This makes it important for those inter-
ested in the rule of law, particularly authorities interested in obtaining
compliance with the law, to identify how governance can stimulate
compliance. The goal of this dissertation is to add to the knowledge on
this relationship. I do that by looking at an authority that holds a crucial
role in governing compliance with everyday laws; the police. To add
to the knowledge on the impact of police governance on compliance, I
present results from field research conducted with the help of the Dutch
National Police between January 19, 2017 and August 2, 2017. During
this period data was collected at routine traffic control check-points
for mopeds, two-wheeled motorized vehicles that can be operated by
persons over 16 years of age with a valid driving license.

1.2   PATHWAYS TO COMPLIANCE

Research on pathways to compliance with the law is dominated by two
perspectives (Piliavin et al., 1986). The first is contemporary deterrence
theory, or the instrumental view. According to this view, the threat of
punishment may discourage non-compliance (Nagin, 2013). The idea is
that potential offenders will only engage in non-compliant behaviour
when the expected returns, discounted by the expected costs of this
behaviour, exceed the expected net returns from law-abiding alterna-
tives such as legitimate employment (Becker, 1968). Through sanction
risk, the expected costs of non-compliant behaviour can be increased
and potential offenders can be deterred to engage in non-compliant
behaviour. Sanction risk consists of the severity, certainty and celerity of

punishment (Beccaria, 1766; Bentham, 1879). Severity refers to the oner-ousness of the legal consequences if a sanction is imposed. Certainty refers to the probability of legal sanction, given commission of a crime. In order for a sanction to be imposed, the offender must first be appre-hended, charged, successfully prosecuted, and finally sentenced by the judge. Celerity refers to the time between the commission of the crime and its punishment (Nagin, 2017).

The deterrent effect of criminal policy relies on the positive corre-lation between the individuals' perceived sanction risk and the actual risk as a result of criminal policy (Nagin, 1998). Deterrence theory predicts that the certainty, severity and celerity of punishment have a negative impact on the level of crime. The pathway from criminal policy to compliance from the instrumental perspective can graphically be depicted as shown in figure 1.1.
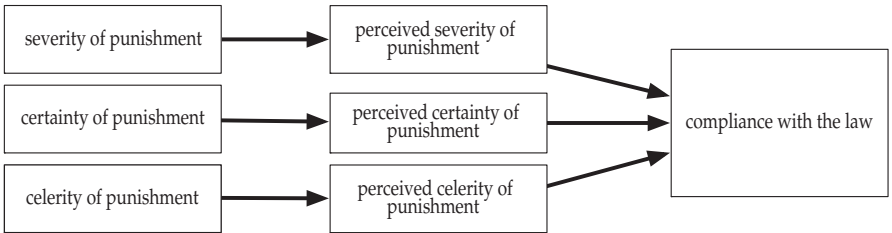

Figure 1.1: Instrumental pathways to compliance

The second perspective concerns normative explanations for compli-ance. These explanations are concerned with intrinsic motivations such as personal morality and perceptions about the legitimacy of authorities. According to this perspective, people view compliance with the law as appropriate, because of their attitudes about how they should behave (Eisner & Nivette, 2013). There are two types of personal normative motivations: morality and legitimacy. Normative commitment through personal morality means obeying a law because one feels a law is just. Normative commitment through legitimacy means obeying a law because one feels that the authority enforcing the law has the right to dictate behaviour. (Tyler, 2006, 1990). Based on the idea that people comply with the law because they believe it is the right thing to do, the normative perspective posits that authorities can secure compli-ance through policies that generate perceptions of legitimacy (Tyler, 1990; Tyler & Huo, 2002). If citizens perceive that authorities act in a procedurally just manner – by treating people with dignity and respect,

and by being fair and neutral in their actions – then the legitimacy of these authorities is enhanced (Reisig et al., 2007; Reisig & Lloyd, 2009; Sunshine & Tyler, 2003; Tyler, 1990, 2004). According to Lind and Tyler (1988) a procedurally just treatment emphasizes the perception of a shared group membership; and how authorities communicate with members of a group conveys information about the status of those members (Smith et al., 1998; Tyler & Lind, 1992). Here, a procedurally just treatment sends the message that people are valued by society (Lind & Tyler, 1988), strengthening the justification for obedience to an authority. Other influences on perceptions of legitimacy, such as distributive justice and effectiveness of the criminal justice system, are routinely found to be less important in predicting legitimacy evaluations (Reisig et al., 2007; Tyler, 1990; Tyler & Huo, 2002). Figure 1.2 shows a graphic representation of these normative pathways to compliance.
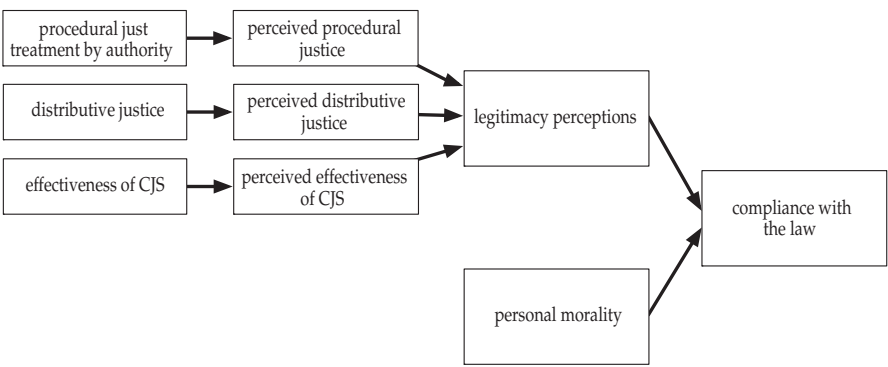

Figure 1.2: Normative pathways to compliance

For authorities, such as the police, interested in obtaining compliance with the law, the instrumental and normative perspectives are important because they have direct implications for police crime control policy. Other explanations set forward in previous literature, such as explanations based on habit or obstruction are in a sense secondary, since they imply that something led to offending at such a level or rate that either imprisonment was needed, or created the habit of (non)compliance with the law (Hough et al., 2013).

1.3   Instrumental and normative pathways to compliance

Both the instrumental and normative perspective on compliance have been influential in guiding policing research. There is an extensive body of work on both perspectives. Reviews of the deterrence literature by Apel and Nagin (2015), Durlauf and Nagin (2010), Chalfin and McCrary (2017), Kleck and Sever (2018) and Nagin (2013, 2017) show that the strongest deterrent effect comes from the certainty of punishment, or more specifically, the certainty of apprehension. The most important set of actors affecting certainty is the police; When detection and apprehension are absent, there is no possibility of conviction or punishment (Nagin, 2013). Evidence of the effect of the severity of punishment is much less convincing and consistent. Empirical evidence on the effect of the celerity of punishment has been given far less attention in the literature and results are ambiguous.

Some studies even indicate that the use of threat of punishment can also produce non-compliant behaviour, in particular when perceived as unreasonable (Bardach & Kagan, 1982; Murphy, 2004; Unnever et al., 2004). These results have stimulated the large body of research based on the pioneering work by Tyler (1990) in which he presented empirical evidence for the incorporation of normative, or intrinsic motivations into crime control. Since Tyler's work based on survey-research on low-level crimes amongst Chicago residents, many studies have consistently found that higher procedural justice perceptions lead to higher legitimacy perceptions (Hinds & Murphy, 2007; Sunshine & Tyler, 2003; Tyler, 1990; Tyler & Fagan, 2008; Tyler & Huo, 2002; Tyler & Wakslak, 2004). And more positive perceptions of legitimacy are associated with reduced self-reported offending, even when adjusting for perceptions of the risk of getting caught (Jackson, 2018; Nagin & Telep, 2017). This has led Tyler and others (Sunshine & Tyler, 2003; Tyler, 1990; Tyler & Huo, 2002; Tyler & Wakslak, 2004) to conclude that people primarily comply with the law because they believe in respecting legitimate authority. The suggestion is that lawmakers and enforcers such as the police would do much better to make legal systems worthy of respect than to try to promote compliance through deterrence.

However, reviews on instrumental and normative pathways to compliance have shown that the extensive body of research also has gaps and limitations that call for prudence when drawing inferences on how to best design crime control-policy (Apel, 2013; Apel & Nagin, 2015;

Chalfin & McCrary, 2017; Durlauf & Nagin, 2010; Eisner & Nivette, 2013; Jackson, 2018; Kleck & Sever, 2018; Nagin, 2013, 2017; Nagin & Telep, 2017). I discuss these gaps and limitations and their potential solutions in the next section.

1.4 Gaps and limitations in a large body of knowledge

The gaps and limitations in the extensive body of research on instrumental and normative pathways to compliance are divers. In this section I discuss the main methodological and theoretical problems brought forward in reviews of the literature that cause for prudence when drawing conclusions on the empirical findings on instrumental and normative pathways to compliance. I start with a discussion of the limited evidence on actual police action, followed by a discussion on omissions of potentially relevant motivations. Thirdly, I discuss the limitations of settings in which evidence has been found for the pathways to compliance

The diversity in concepts used in the body of research, which makes it difficult to compare results is discussed in the fourth section. This is followed by a discussion of the limited results on actual offending behaviour. I close the section with a discussion on difficulties in determining causal order in the research on instrumental and normative pathways to compliance.

1.4.1 Limited evidence on actual police action

The first limitation in the body of work on crime control through instrumental and normative pathways concerns the link between police action and perceptions of these actions by citizens.

To establish if police action is effective in stimulating compliance, the link between what the police do and how this is perceived by citizens is imperative. As the pathways in figure 1.1 and 1.2 show, if it is unclear how police action influences perceptions, then it is difficult to determine how criminal policy stimulates compliance. For both the instrumental and the normative pathway, the evidence on this crucial relationship is limited.

Research on instrumental pathways to compliance as yet has not been able to find conclusive evidence of the crucial link between (changes in)

actual criminal policy and (changes in) individuals' perceived sanction risks (Apel, 2013). Most of the research is based on cross-section differences in objective sanction risks between jurisdictions and cross-section differences in punishment experiences between individual respondents. None of these studies however, with the single exception of Hjalmarsson (2009a), directly pertained to a *change* in actual criminal policy. In addition, none of the studies on the effect of actual criminal policy measures had an experimental design, making it difficult to exclude other factors that may have caused a change in the perceived probability of apprehension.

The current body of research on the normative pathway between police treatment and decision-making and perceptions of this behaviour is also very limited and, in the studies that exist, the results are not consistent (Jonathan-Zamir et al., 2015; MacQueen & Bradford, 2015; Mazerolle et al., 2012; Sahin et al., 2017; Worden & McLean, 2017). Also, little attention has been given to the individual contributions of respectful treatment, voice, trustworthiness, and neutrality; the four main ingredients of procedural justice (Nagin & Telep, 2017), making it difficult to determine how specific treatment and decision-making affects perceptions of procedural justice.

Advancements in the research on the link between police action and perceptions of these actions by citizens involves developing empirical tests of this contention (Nagin, 2013). Experimental designs can be very helpful in investigating the link between changes in actual criminal policy and changes in individuals' perceived sanction risks. Experiments can also add to the knowledge on the relationship between how people are treated and perceptions of procedural justice. However, for this last relationship, experiments are desirable but not necessary (Nagin & Telep, 2017). In settings where options to conduct classic experiments are limited, other methods such as systematic social observation (SSO) can provide useful insights.

1.4.2 Omissions of potentially relevant motivations

A second limitation concerns the restricted extent to which research has adequately incorporated both instrumental and normative motivations for compliance. As discussed, there are multiple studies that have presented empirical evidence for both instrumental and normative motivations for compliance. These conclusions however are possibly

biased as a consequence of the omission of potentially relevant variables (Eisner & Nivette, 2013; Jackson, 2018).

For instance, many previous studies on motivations for compliance do not include perceived severity or celerity of punishment. Other examples of potentially relevant omissions include personal morality and perceptions of informal sanctions in the form of peer approval that addresses social norms. Grasmick and Bursik (1990) argued that shame emotions imposed by significant others can contribute to the effectiveness of deterrence measures. There are good examples of studies that have incorporated a more comprehensive set of motivations for compliance (Gao & Zhao, 2018; Hertogh, 2015), however, this research is scarce.

It is essential, that future research on instrumental and normative motivations for compliance follows recent insights by using motivations for compliance based on the latest research, especially when conclusions are drawn about the relative importance of different motivations for compliance.

1.4.3 Limitations in research settings

A third limitation of the body of work concerns the restrictions of settings in which instrumental and normative perspectives on compliance have been investigated. For example, much of the extensive body of research is conducted in the United States and the United Kingdom (Eisner & Nivette, 2013; Nagin, 2017). However, there are indications that motivations for compliance are culturally variable (Lee & Cho, 2019; Tankebe, 2009a; Tankebe et al., 2015) and that motivations vary depending on the types of offending behaviour (Gao & Zhao, 2018; Jackson, Bradford, Hough, & Murray, 2012). These results indicate that it is necessary to be careful in making general statements on the effectiveness of either normative or instrumental pathways to compliance. What works in one situation, does not necessarily work in another. The differences in results also underline the importance of research on the circumstances under which instrumental and normative motives translate into greater legal compliance (Beetham, 1991; Chalfin & McCrary, 2017; Nagin & Telep, 2017). Notwithstanding the growing body of research performed in different circumstances, many opportunities remain for further investigation. Studies that focus on different types of offending behaviour, different cultures and groups or neighbourhoods can help further the knowledge of the circumstances

under which instrumental and normative motivations translate into greater legal compliance.

1.4.4   Diversity in concepts used

A fourth limitation in existing research on instrumental and normative pathways to compliance is the diversity in how concepts are defined and operationalized. For a robust body of comparable evidence on police-citizen relations, methodological equivalence and uniformity of concepts is essential (Jackson, 2018). Different operationalizations might lead to different conclusions about the pathways to compliance with the law (Eisner & Nivette, 2013).

   The fourth limitation is well illustrated by the considerable variation in how legitimacy has been defined and operationalized empirically. In the work by Tyler (1990), legitimacy was based on two dimensions, the obligation to obey the law (e.g. 'all laws should strictly be obeyed') and trust in authorities (e.g. 'police are generally honest'). Many studies have followed Tyler's work by viewing legitimacy as a single construct measured by questionnaire-items based on the two dimensions. (Jackson, 2018). Authors as Murphy, Tyler and Curtis (2009) and Bottoms and Tankebe (2012) on the other hand, argue that legitimacy goes beyond obligation to obey and trust in authorities. They also include concepts such as lawfulness and shared values in the definition of legitimacy. Studies by Jackson et al. (2012), Hertogh (2015), Tyler and Jackson (2014) and Tyler, Jackson and Mentovitch (2015) follow this line of reasoning by extending the construct of legitimacy by adding moral (or normative) alignment with the law (e.g. 'My own feelings about what is right and wrong usually agree with the laws that are enforced by the police'). Fagan and Tyler (2005), in contrast, operationalize legitimacy through items that measure the perceived fairness and equity of legal actors. This small literature selection shows the diversity in how legitimacy, one of the key normative motivations, is defined and operationalized. Although it is possible that the different approaches measure the same underlying construct, it is unlikely (Kaina, 2008; Reisig et al., 2007, 2011; Tankebe, 2009a, 2013).

To foster the uniformity of concepts used in research on the pathways to compliance, it is important to operationalize and define the instrumental and normative concepts based on insights acquired in recent research. In addition, analyses on the convergent and discriminant validity

of constructs should be incorporated in future compliance research. Currently, the use of essential techniques as exploratory and confirmatory factor analysis is scarce.

1.4.5 Limited results on actual offending behaviour

Another limitation that troubles mostly micro-level research, concerns the way compliance or offending behaviour is measured. There are examples of studies that have incorporated actual offending behaviour in their research (Hertogh, 2015; Paternoster et al., 1997; Tyler et al., 2007), but most research on the link between police treatment, perceptions and compliance is based on self-report data. Comparisons between self-report and other methods have indicated that self-report can be a reliable and valid means to establish frequency of criminal activity, especially concerning minor violations (Hindelang et al., 1981; Thornberry & Krohn, 2000). Self-report data on less serious infractions, make it more likely that people engage in the behaviour studied and are more likely to honestly report in an interviews situation (Jackson, 2018). Moreover, self-report data are superior to police or victim data when it concerns victimless deviant behaviour (Junger-Tas & Marshall, 1999). However, self-report crime measures raise a number of important methodological issues including response rate concerns and issues related to respondent characteristics and memory effects (Baumeister et al., 2007; Junger-Tas & Marshall, 1999).

Self-report data in research on pathways to compliance is helpful when it regards questions of motivation, perceptions and criminal behaviour that goes undetected. This makes self-report data an important part of the field of research. However, there is a lot to gain by including direct observation of behaviour whenever possible and in at least a healthy minority of research projects. Devising field research that is capable of combining perceptions with actual offending behaviour is an important factor in this regard. In situations where actual behaviour cannot be observed, it is imperative to diminish the problems that face self-report offending measures by for example increasing response rates and minimizing memory decay.

1.4.6   Difficulties in determining causal order

A sixth limitation that concerns many studies in the field is the impossibility to discern cause from correlation. Causal order is often assumed rather than demonstrated, and the observed relations could also stem from causal mechanisms in the opposite direction. For example, work by Sykes and Matza (1957) and Bandura (1990) suggests that people who break moral rules develop inner excuses and justifications that make their mischief look more favourable. These justifications may develop before and/or after deviant activity in an attempt of people to rationalize their behaviour. For example, it is easier to self-excuse past harmful behaviour if one morally justifies it (e.g. speeding is only harmful if you're a bad driver) or condemns the condemner (e.g. the police only hand out speeding tickets to make money). However, as shown in figure 1.2, the assumption is that perceptions of legitimacy influence compliance and not the other way around. This is an illustration of a potential problem in research regarding the normative pathway to compliance, but the problem in determining causality also applies to the instrumental pathway. For example, empirically acquired negative correlations between perceived sanction risk and compliance may only reflect the fact that people who commit illegal acts and get away with it (as most do) tend to lower their perceptions of the risks involved (Saltzman et al., 1982).

    In the current literature, there are two main reasons that hamper the possibility to discern cause from correlation. The first is that many studies on the associations between perceptions and compliance arise from cross-sectional data (Chalfin & McCrary, 2017; Nagin & Telep, 2017). This kind of data is not equipped to uncover the above-described examples of reciprocal effects, where perceptions may not only influence behaviour, but behaviour may also influence perceptions. In addition, the use of cross-sectional data also introduces the problem of third common causes (Nagin & Telep, 2017). This problem concerns elements that influence both the independent and the dependent variable. For example, it is possible that both perceptions of police action and compliance behaviour are influenced by past experiences, opinions of peers or personal characteristics (Murphy, 2008; Piquero et al., 2004; Wolfe, 2011). In this case, plausible alternative interpretations of the association between police action and compliance behaviour cannot be ruled out.

    The second main reason for problems with distinguishing between cause and correlation is already discussed in the paragraph on studying

actual police action. Establishing the link between police action and perceptions is imperative to credibly establish causal relationships between the effect of police policy on compliance.

To gain additional insights on the causality of the relationships between police action and compliance, it is important to use methods that are able to deal with the dynamic process where motivations and legal compliance mutually affect each other (Hsiao, 2003). The use of longitudinal panel data is valuable, although this does not eliminate the enduring impact of third common causes (Maguire & Johnson, 2010). To also control for this effect, person and time fixed effects models can be very helpful. Even more promising is the use of experimental settings.

1.5   Design of this study

The gaps and limitations presented in the previous paragraph show that it is difficult to formulate general conclusions on how police governance can stimulate compliance. Nevertheless, multiple authors have suggested that lawmakers and enforcers such as the police would do much better to make legal systems worthy of respect than to try to promote compliance through deterrence (Hertogh, 2015; Sunshine & Tyler, 2003; Tyler, 1990; Tyler & Huo, 2002; Tyler & Wakslak, 2004). It is this line of statements and conclusions that warrants a critical examination of the extensive body of research on instrumental and normative pathways to compliance. It is important to be prudent and precise when formulating such strong conclusions, not only for their contribution to the academic debate on governance, but especially, since the results in this research play an important role in the current design of crime control-policy.

With this dissertation I want to add to the body of research on instrumental and normative pathways to compliance through field research on traffic controls of mopeds and their drivers. Mopeds are two-wheeled motorized vehicles that can be operated by persons over 16 years of age with a valid driving license. In the Netherlands, it is a regular routine that the National Police sets up traffic control check-points for mopeds where they check for a number of traffic law violations: driving a vehicle with a higher top speed than allowed, driving without a valid driving license or insurance, driving under the influence of alcohol, driving

without proper lighting, using a mobile phone while driving, and driving without a helmet when required.

1.5.1   Set-up

For the field research two different locations were selected: Wassenaarseweg in Leiden and 1ste Stationsstraat in Zoetermeer. The cities Leiden and Zoetermeer are part of the urban agglomeration in the western part of The Netherlands, halfway between Amsterdam and Rotterdam. The two locations were selected because of their comparable nature with regard to the population of interest (people driving mopeds), the number of moped drivers passing the location and the average number of traffic violations per driver stopped by the police. The two locations are only 14 kilometres apart from each other. However, Leiden and Zoetermeer have their own area of coverage and are separated by an agricultural zone.

The research was conducted from January 19, 2017 until August 2, 2017. During this period, traffic control checkpoints were set up between 2.30 pm and 5.30 pm on weekdays. At each checkpoint, passing moped drivers were stopped. On average 3 or 4 police officers were present at a traffic control check point, and 1 or 2 additional officers driving around the checkpoint in approximately a 2-mile radius to bring up moped drivers trying to elude the traffic control. After being stopped or pulled over, drivers were asked for their license and insurance papers. All mopeds were checked for defects. After visual inspection, all mopeds were placed on a roller test bench to determine the top speed. In the case of detection of a traffic law violation, drivers received an ordinance.

1.5.2   Data

The field-data used in this dissertation was collected through the use of three different methods; surveys, structural social observation (SSO) and an experimental intervention.

Survey data

After the traffic control check procedure was finished, drivers were informed by the police that researchers of Leiden University were present at the location, inviting them to participate in a survey. To ensure that participants were able to disclose all information, the

surveys, which were administered through face-to-face interviews, were conducted approximately 50 meters from the traffic control check. The survey took on average 7 minutes to complete. It covered a wide range of topics in the field of instrumental and normative pathways to compliance, using questions derived from previous research (Gau, 2013; Sunshine & Tyler, 2003; Tyler, 1990), related both to the traffic control that had just taken place as well as to previous encounters with the police (see *Appendix A*). The survey was tested and slightly modified after two pilot traffic controls in November 2016. The survey was conducted by a pool of 8 trained interviewers, student-assistants studying criminology or law at Leiden Law School, three or four interviewers per control. All interviewers received 4 hours of training on how to conduct the survey and how to interpret the questions.

Structured Social Observation (SSO)

In addition to face-to-face interviews, police behaviour during the traffic control check was observed using a systematic social observation protocol (SSO) derived from previous research (Jonathan-Zamir et al., 2015; McCluskey, 2003; Worden & McLean, 2017). The observations were conducted by the same group of student-assistants who also conducted the surveys. To allow observers to overhear conversations without influencing them, for each check, two to three observers were placed at a distance of at least 5 meters, on average 7 meters. All observers received 6 hours of training on how to score the systematic observation-protocol. To reduce the potential problem of different scoring methods, inter-observer differences were intensively studied and discussed during this training. These differences were tested during the pilot traffic controls in November 2016 and found to be negligible. This was confirmed during the main phase of the field research, in which some situations were randomly selected to be observed by multiple observers.

Experimental intervention

Thirdly, data was gathered based on an experimental intervention. The general interval with which moped traffic controls are carried out depends on the targets the National Police commits to in the beginning of the year. However, local units have the freedom to vary the intensity and location of the controls. Prior to the field research, the frequency of the moped traffic controls on both locations was once every two months

on average. For this study, the police increased the frequency of moped traffic controls to once every two weeks in Leiden while remaining once every two months in Zoetermeer during the entire period of the field research. With this intervention, an experimental setup was created. The frequency of the traffic controls on both locations was not communicated via mass and social media. After the field research, the frequency of moped traffic controls in both locations was reverted back to the regular frequency of once every two months on average.

1.6   OVERVIEW

The research design based on moped traffic control checks makes it possible to investigate multiple gaps and counter limitations in the body of work on the normative and instrumental pathways to compliance. In this dissertation I try to answer three different questions.

With the first question I want to add to the limited evidence on actual police action and extend insight into the causal order of the relationship between police action and perceptions by asking 'if and how citizens update perceived sanction risk in response to changes in police activity'. With the second question I also want to add to the evidence and the understanding of the essential link between what the police do and how this is perceived, but this time the focus is on the normative perspective. I do this by asking 'whether police behaviour that signals higher quality of treatment or decision-making leads to higher perceived procedural justice'. The third question in this dissertation adds to the knowledge on the differences in pathways to compliance in different settings. The question I try to answer is 'how instrumental and normative motivations translate into greater legal compliance by looking at motivations for compliance of six specific traffic violations.'

The three different research questions will be thoroughly discussed in the following three chapters[1]. Below I give a short overview of the research presented in these chapters.

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1   The different chapters that cover these questions have been written as independent research articles, so there is some overlap between the chapters. Chapter two is based on Terpstra, B. L., van Velthoven, B. C. J., & van Wijck, P. W. (2020). Do Intensified Police Controls Change Perceptions of Apprehension Probability: A Field Experiment. *Crime & Delinquency*, *66(8)*, 1115–1136. Chapter three is based on Terpstra, B. L., & van Wijck, P. W. (2021). The Influence of Police Treatment and Decision-making on Perceptions of Procedural Justice: A Field Study. *Journal of Research in Crime and Delinquency*.

1.6.1 Do Intensified Police Controls Change Perceptions of Apprehension Probability?

In chapter two, the reader finds results and conclusions on an essential first step in the instrumental pathway to compliance. As shown in figure 1.1, the deterrent effect of criminal policy relies on the positive relation between the individuals' perceived sanction risk and the actual risk as a result of criminal policy. Without this link, it is hard to see how changes in criminal policy can result in changes in the level of crime in another way than through incapacitation. However, previous research has not made clear how or even if individuals update their perceived sanction risk in response to changes in actual criminal policy. The study covered in this chapter is the first field experiment on the updating of the perceived probability of apprehension. The experimental set-up combined with survey data makes it possible to test whether the change in the objective sanction risk as a result of intensified police activity does indeed affect the perceived sanction risk of the moped drivers, and by how much.

   The results indicate that intensified police control, as expected, has a positive influence on the perceived probability of apprehension for certain types of offences. For frequently committed and easily detectable offenses that are regularly checked the increase in control intensity caused an upward revision of the perceived probability of apprehension. This refers to driving under the influence of alcohol, operating a mobile phone while driving and, albeit to a lesser degree, driving with a higher top speed than allowed.

1.6.2 The Influence of Police Treatment and Decision-making on Perceptions of Procedural Justice

Chapter three also reports on the essential relationship between police behaviour and citizen perceptions of this behaviour, but in this chapter the focus is on the normative pathway to compliance. By combining survey data with systematically observed police behaviour I add to the very scarce empirical evidence on the idea that more procedurally just treatment and decision making by authorities leads to an increase in perceived procedural justice.

   In a real-life setting in which the full range of procedural justice ingredients of police-behaviour and decision-making was observed, with a high response rate and the absence of an offender-bias, I find no

evidence that higher quality of police treatment and decision-making leads to higher levels of perceived procedural justice.

The results can probably be attributed to the high ratings of perceived procedural justice, even when officers' behaviour represents low-to-moderate levels of quality of treatment and decision-making. This implies that once a certain level of perceived procedural justice is reached, better quality of treatment or decision-making cannot improve citizens' subjective assessments very much, and other factors become more important in further enhancing the perception of procedural justice.

1.6.3   Instrumental and Normative Motivations for Compliance with Traffic Laws

Chapter four covers findings on how instrumental and normative motivations translate into greater legal compliance by investigating six specific violations. Incorporated motivations are based on recent research and psychometric analyses. The results based on survey data show that motivations for compliance differ depending on the traffic violation. Both normative and instrumental motivations play a role in compliance with everyday traffic laws, but more general conclusions on compliance with traffic laws should be treated with caution. The findings show that personal morality is inversely related to compliance for most violations. However, this relationship is absent for driving without proper lighting and driving with a higher top speed than allowed. The obligation to obey the law, a dimension of legitimacy, is related to driving with a higher top speed than allowed and operating a mobile phone while driving. Perceived probability of apprehension in this setting is related to driving under the influence of alcohol.

The findings implicate that routine traffic controls can be a successful instrument in obtaining compliance with traffic laws when they succeed in influencing the perceived probability of apprehension, but also personal morality and the obligation to obey the law. There is no indication that methods used to influence these perceptions will have an adverse negative effect on other motivations.

1.7   Contributions

1.7.1   Academic contributions

The work in this dissertation contributes to the investigation of multiple gaps in the literature on instrumental and normative pathways to compliance and counters some of the limitations in previous research. Firstly, all results presented are acquired in the setting of moped traffic control checks in the Netherlands. This specific context adds to the literature on minor traffic violations and to the body of work on pathways to compliance tested in Continental Europe. Studies in different settings and from different parts of the world contribute to the understanding of the circumstances under which instrumental and normative motivations translate into greater legal compliance.

The findings in chapter two and three add to research on actual police action and extends insight into the causal order of the relationship between police action and perceptions. The work in chapter three also contributes to insight into the concepts used in the field. These insights can help establish more uniformity in concepts used in future research. Chapter four adds to the knowledge on the contextual differences between motivations for compliance by looking at six different violations. In addition, by using a comprehensive set of motivations based on recent research and psychometric analyses, the study in chapter four is less likely to suffer from omission bias and also helps in creating uniformity in the concepts used in the field.

These additions to the body of work contribute to a better understanding of the pathways to compliance and help foster the academic debate on instrumental and normative pathways to compliance.

1.7.2   Contributions to crime control policy

The results presented in this dissertation also contribute to the design of crime control policy, although it is important to note that the specific setting of moped traffic control checks makes it difficult to extrapolate the outcomes to formulate more general conclusions on the normative and instrumental pathways to compliance. This specific setting was selected due to the possibility to investigate multiple elements of the pathways to compliance. And while this setting provided a high response-rate and a sample including both offenders and non-offenders, the external validity of the results is restricted. Moped traffic control

checks are a specific setting in which the police check for mostly minor violations. It is not possible to extend the conclusions of this research to more serious offences or to other minor violations.

Given this restriction, the findings in this dissertation put forward multiple implications for crime control policy. The findings in chapter four show that if the Dutch traffic police want to increase compliance, then routine traffic controls can be a successful instrument when they succeed in influencing both normative and instrumental motivations for compliance. Driving under the influence of alcohol can be reduced by increasing the perceived probability of apprehension, while driving with a higher top speed than allowed or operating a mobile phone while driving can be reduced if the police succeed in increasing the perceived obligation to obey. In addition, if the police succeed in influencing personal moral judgements about traffic violations, this could also influence multiple violations.

These implications pertain to the right side of the pathways depicted in figures 1.1 and 1.2. For police action to be effective in stimulating compliance, it is imperative to combine the results on these final stages of the pathways to compliance with information on the link between what the police does and how this is perceived. The findings in chapter two show that intensified police control checks have a positive influence on the perceived probability of apprehension for frequently committed and easily detectable violations such as driving under the influence of alcohol, operating a mobile phone while driving and, albeit to a lesser degree, driving with a higher top speed than allowed. Combined with the results in chapter four, this implies that alcohol violations by moped drivers can be reduced by intensifying traffic control checks. There is no indication that such an instrumental measure will have an adverse negative effect on other motivations, which implies that it can safely be combined with measures based on the normative pathway to compliance.

Promoting compliance through normative motivations however, is more difficult in the setting of traffic control checks. The results in chapter three show that higher quality of police treatment and decision-making in a single encounter does not lead to higher levels of perceived procedural justice. This implies that more procedural just treatment and decision making by the police does not make it more likely that citizens view the police as a legitimate institution, and in turn, more likely to comply with traffic laws. This does not imply that police officers should not be concerned with respectful treatment, voice, trustworthiness or

neutrality. It does however show the limits to the options police officers have to influence legitimacy perceptions through treatment and decision-making, although it is possible that an accumulation of experiences with the police does influence perceptions of procedural justice.

1.8   Discussion

This   dissertation aims to contribute to the knowledge on both the instrumental and the normative pathways to compliance by filling gaps and countering limitations in previous research. However, a critical examination of the research practices used in the present study is warranted. In the different chapters the methodological limitations of the research will be discussed. In addition to those specific limitations, there are two more general issues that deserve attention.

The first issue is that the answers presented in this dissertation do not counter all limitations, nor fill all the gaps in a large body of work. This is well illustrated by the fact that the original research design included actual offending behaviour through the use of follow-up data. And although this data also is not without potential flaws, it would have been an interesting step in acquiring data on actual offending behaviour. Unfortunately, due to rules and regulations, the data necessary for a proper analysis of this behaviour turned out to be impossible to acquire. Another illustration of the first issue is shown in chapter four.
     In that chapter, cross-sectional data is used, limiting the causal claims that can be made based on the results. These two illustrations do not imply that the results of this dissertation do not contribute to a better understanding of the normative and instrumental pathways to compliance. They do however show the difficulty in devising research that counters all limitations in previous research.

A second issue that deserves attention, is the scope of the current research. The focus of this dissertation is on normative and instrumental pathways to compliance, because both perspectives on compliance have been influential in guiding policing research. One of the main reasons for this is their direct implications for crime control policy (Hough et al., 2013). Following in the line of the large body of previous research on normative and instrumental pathways to compliance enables the use of previously validated concepts and methods to advance the knowledge

on specific topics. A good example of this is the study in chapter two that presents results of the first field experiment on the updating of the perceived probability of apprehension. However, pathways with more secondary implications for crime control policy are not covered in this dissertation. Pathways that evolve around habit for example. In that case, people only see one causally effective action alternative, and automatically form an intention to carry out that action (Wikström et al., 2012). It would be interesting to investigate how these pathways interact with the pathways investigated in this dissertation.

The two issues offer many interesting options for future research on crime control policy. Methodological challenges in this research lie in studying actual offending behaviour, setting up experiments and devising studies based on panel data. This kind of research would add to the knowledge on the causality between police action, perceptions and offending behaviour. Theoretical challenges for future research lie in the incorporation of multiple pathways to compliance. The objective of this research should not be to give preference to one theory over the other; the objective is to determine how the combination of different pathways leads to compliance behaviour. The research in this dissertation is a small step in that direction.