Compliance with the law for traditional and grey crimes: A seven-country comparison

Krisztián Pósch

Address: Department of Methodology, London School of Economics, Columbia House, Aldwych, WC2A 2AE, London

E-mail: k.p.posch@lse.ac.uk

Word count: 9766

Abstract

Drawing upon data from a representative sample survey in seven European countries the paper builds upon procedural justice theory in three ways. First, a distinction is made between traditional and grey crimes, which (a) differ in their frequency and perceived morality and (b) are related in different ways to perceived risk of sanction and perceived legitimacy. Second, a comprehensive definition of legitimacy is employed that differentiates between (i) police and law and (ii) right to rule and entitlement to be obeyed judgements. Third, the concept of “bounded authority” is added to the framework. The findings indicate qualified support for the normative model of crime control, but only with respect to grey crimes. Furthermore, including “bounded authority” enhances the explanatory power of appropriate police behaviour.

Keywords: procedural justice policing, Fiducia, legal compliance, police legitimacy, bounded authority, cross-national comparison

Introduction

Procedural justice theory is the dominant analytic framework for understanding police-citizen relations (e.g. Murphy, Bradford, and Jackson 2016; Tyler 2006; Tyler and Jackson 2014). Yet, while evidence is emerging in countries across the world, there are a number of methodological and substantive gaps in the extant literature. Using comparative, cross-national data from seven European countries, the current study (i)broadens the types of crimes under investigation; (ii)uses a more powerful definition of police and legal legitimacy; and (iii)develops the range of potentially legitimising police actions beyond procedural justice. Thus far, tests of procedural justice theory to legal compliance (rather than cooperation with the police) have been mostly from Anglo-Saxon countries, with the majority of them coming from the United States (e.g. McCluskey 2003; Sunshine and Tyler 2003; Tyler 2006; Tyler and Jackson 2014), United Kingdom (Hough, Jackson, and Bradford 2013; Jackson et al. 2012), and Australia (Murphy et al. 2016; Murphy, Tyler, and Curtis 2009). This current study draws upon data from representative sample surveys of seven countries with distinct cultural traditions (Bulgaria, Finland, Germany, Italy, Lithuania, Turkey, and the UK).

The study provides a more elaborate examination of why people comply with the law and tests whether the previous findings are generalisable to a number of new contexts. First, it tests whether a central prediction of procedural justice theory – that legitimacy predicts compliance adjusting for morality and perceived risk of sanction – applies not only to traditional everyday crimes (like buying stolen goods) but also to grey crimes (like illegal downloading). An underlying premise of procedural justice theory is that legitimacy “kicks in” when morality fails. Morality is assumed to motivate most law-related behaviour. Because legitimacy in part constitutes a moral duty to obey the law *simply because it’s the law*, the proposition is that legitimacy is particularly influential when people judge an otherwise illegal act in morally neutral or acceptable ways. Most prior studies have addressed traditional, everyday crimes like illegal car parking, breaking traffic laws, shoplifting and using soft drugs in public spaces (Sunshine and Tyler 2003). These are the sort of crimes that (a)are relatively frequent (compared to more serious crimes), (b)more likely to be self-reported, because (c)there is greater heterogeneity in people’s judgements about their morality. But does the theory apply to crimes that belong even more firmly in a moral “grey” zone, like illegal downloading and purchasing untaxed goods?

Second, I apply a new approach to the definition and measurement of police and legal legitimacy (Trinkner, Jackson, and Tyler 2017). Prior studies have taken a number of different approaches, sometimes combining judgements of police and legal legitimacy, sometimes combining judgements of moral appropriateness and duty to obey (Hamm, Trinkner, and Carr 2017; Jackson and Gau 2015; Tyler and Jackson 2013). But as Trinkner et al. (2017) note, not only are police and the law distinct institutions, it is also important to consider whether moral appropriateness and duty to obey have different motivational effects. For example, the sense that the law is morally appropriate may motivate people to comply with the law out of a sense of value congruence, but the motivational effect of duty to obey relates to something that is content-independent, i.e. people obey the law *simply because it's the law*.

Third, the procedural justice literature has thus far mostly focused on people's expectations as to *how* the police wield their power (Tyler and Fagan 2006). For example, when police treat people impartially with dignity and their decisions appear to be fair and neutral, this will help to legitimise the institution or help to maintain the institution's legitimacy. Recently, Trinkner et al. (2017) recommended adding a respect for boundaries aspect to the procedural justice framework, extending the potential scope of appropriate police behaviour. While people are willing to accept authorities' intrusions into certain spheres of their lives, they do not accept them into other areas, considering such intrusions illegal (Huq, Jackson, and Trinker 2017). Respect for boundaries takes into account the *when*, *where*, and *what* of police actions and thus can potentially allow for a more elaborate understanding of police-citizen power relations and people's views on the legitimacy of the police. A cross-national comparison can test whether inclusion of this boundary condition increases appropriate police behaviours' explanatory power of police and legal legitimacy across the different countries.

This paper is organised in the following way. First, a distinction is made between traditional and grey crimes, separated according to certain distinctive characteristics (frequency and perceived morality) of crimes. This is followed by a brief overview of the normative model of crime control. This model defines appropriate police behaviour as fairness of treatment, professionalism of decision making, and respect for boundaries. Instead of relying solely on police legitimacy, legal legitimacy is included as a more relevant predictor of legal compliance. The third section of the paper provides a methodological introduction to the Fiducia project and the measurements used. The fourth section looks at the descriptive

statistics and regression models of legal compliance, which is followed by an examination of the normative models. It is shown that the presumed distinction between traditional and grey crimes is well-founded, and that grey crimes can be determined by personal morality, legal legitimacy and/or perceived risk of sanction. In contrast, for traditional crimes no consistent picture emerges, which underlines the limitations of the theories tested and measurements applied. For fairness related judgments and boundaries a moderately strong relationship is found, which indicates that they are closely related but separate constructs. In addition, it is shown that the inclusion of the boundary aspect increased the explanatory power of appropriate police behaviours and that the proposed normative model is supported across the countries with only slight variation between them. Finally, the limitations of this work and future directions of research is discussed.

Review of the literature

For decades the deterrence model was at the forefront of thinking on managing crime. This model posited that people are essentially “*homines economici*”, in that they are guided by self-interest and will only follow the law if the risks of engaging in criminal activity outweigh any potential gains. Thus, the only way to keep crime at bay is by increasing the certainty of apprehension, severity of punishment, and swiftness of delivering justice (Nagin 2013). The primary problem with the deterrence model is that it identifies only a very narrow set of human motivations regarding compliance. Many people will follow other, normative considerations and abide by the law not because they are concerned about the potential consequences of not doing so, but simply because *it is the “right thing to do”* (Tyler 2006; Tyler and Jackson 2014).

This perspective is partly built on the realisation that, in interactions with representatives of the justice system, the process is more important than the outcome. A convincing majority of studies have indicated that this process will be perceived as legitimate if the power-holders follow procedurally just principles, such as showing respect and allowing voice, while dealing with citizens, and making decisions fairly and neutrally (Tyler, Goff, and MacCoun 2015). Crucially, legitimacy enables a shift from a coercion-based (instrumental) policing to a consensus-based (normative) one. This consensus-based model relies on a value-based social control, where individuals will regulate themselves through the internalisation of a voluntary deference to authority (Tyler and Jackson 2013).

Compliance with the law – Traditional and grey crimes

As one of the key elements of the normative model of compliance, it is assumed that regulators should propose and enforce laws which are by-and-large in accordance with what society perceives as morally acceptable. Tyler and Jackson (2013) theorised that this can be increasingly difficult to achieve in a postmodern multicultural environment where a multitude of values and moral codes co-exist. For instance, it can be a challenging to convince certain parts of society that illegal downloading or the recreational use of cannabis are immoral or otherwise harmful. Therefore, it might be worth differentiating between “traditional” crimes, which are morally objectionable to the vast majority of society, and so-called “grey” crimes, which carry a morally mixed picture and have a higher chance of occurrence, likely because they are more acceptable to some.

So far, very few studies have focused on different aspects of compliance. Aaltonen and Salmi (2013) compared the correlates of traditional crimes (e.g. engaging in assaults and fights, shoplifting) and illegal downloading among Finnish teenagers. They found that even though illegal downloading was widespread among youths, these different crime categories were interlinked, and higher participation in traditional crime increased with more frequent illegal downloading. Tyler & Jackson (2014) differentiated between minor (traffic violation, littering) and major (purchase of stolen goods, shoplifting, insurance fraud) crimes, where the former had a much higher frequency of occurrence than the latter. They found that for both crime categories, legal compliance was primarily increased by legitimacy, but deterrence also played an augmenting role. The present analysis, based on datasets from seven European countries can provide further evidence as to whether it is meaningful to make such distinctions, or if the compliance for different crime categories is similar across all categories.

The normative model of compliance

When discussing the normative model of compliance, it is worth “taking stock” of what one understands by legitimacy (Bottoms and Tankebe 2012). This paper follows the framework outlined by Jackson and Gau’s (2015), who posited that people have expectations about the values and behaviour of representatives of the authorities, which will manifest as trust in the procedural justice, legality, effectiveness, and so on, of the power holders. In contrast, legitimacy means that individuals recognise the power of the authorities and are willing to comply with the law based on the conviction that their jurisdiction is rightful.

A good deal of research has shown that procedural justice is fundamental in achieving the internalisation of supportive attitudes towards the legal system and in attaining value-based self-regulation through legitimacy (e.g. Blader and Tyler 2009; Tyler 2006). Procedurally just policing entails officers being polite and respectful towards citizens, explaining police conduct, and allowing citizens to voice their concerns or to start a discussion with officers. These behaviours result in the public perceiving officers as neutral, transparent, equitable actors, who grant people dignity, which in turn, activates the morality of individuals (Tyler et al. 2015; Tyler and Jackson 2014).

As an extension of the procedural justice theory, recent research (Huq et al. 2017; Trinkner et al. 2017) has argued for the inclusion of a boundary condition to appropriate police behaviours. These studies speculate that during their legal socialisation, people acquire certain beliefs regarding the domains of their lives. The police are allowed to operate in certain domains, but others are “off limits”. If the police trespass on any of the latter domains, then their regulatory intent will be perceived as them misusing or abusing their power. In accordance with the idea of domains, Rothstein (2011) defines certain spheres of society as having their particular morality. For instance, while in certain cases a market-oriented self-centred behaviour is acceptable, if the police were to act in that manner (e.g. by accepting bribes from the highest bidder) this would be a violation of acceptable conduct. It follows that when the police encroach on these domains/spheres, their right to operate in those situations and exercise their power will be called into question. Critically, these boundaries go beyond fairness and neutrality of treatment, and such perceived breaches of the established rules are considered by citizens as abuses of power. Notably, this understanding of legality does not need to align with the letter of the law, but only with the subjective perception of what domains of life are perceived as “no-go zones” for the police. This paper, in line with Trinkner et al. (2017), will assume that these boundaries, along with the procedural justice of treatment and decision making, are constituents of appropriate police behaviours.

Legitimacy of the police is unrelated to the authorities’ (instrumental) power of assigning reward and punishment; instead it is an inherent property or quality that leads people to accept that power holders are entitled to their power, to carry out decisions, and to be willingly obeyed (Tyler, Fagan, and Geller 2014). Here, legitimacy is conceptualised as the perception of shared values with the police, which gives them appropriateness and normative justifiability (normative alignment), and the entitlement to be obeyed, which inspires truly

free consent (obligation to obey) (Tyler and Jackson 2013). Normative alignment with the police represents the notion that the police and the community have shared values, goals, and purposes. In contrast, obligation to obey the police represents a voluntary deference to authorities' decisions and commands, even if one disagrees with their content (Jackson and Gau 2015).

Legitimacy of the law is rooted in the legitimacy of the police (Murphy et al. 2009). This legal legitimacy incorporates normative alignment with the law and the obligation to obey it (Trinkner et al. 2017). This means that instead of people identifying with the police officers' and the legal system's values, normative alignment with the law taps into whether the laws are in accordance with what people perceive as right or wrong. Importantly, as far as duty to obey is concerned, free consent shifts from the content of police decisions to the substance of the law. When it comes to legal compliance, it stands to reason that people's decisions will be based on whether they perceive regulations to be legitimate, and not on their views of the police. Previous evidence (Trinkner et al. 2017) indicates that obligation to obey the law will be the most relevant predictor of compliance.

Legitimacy is not the only factor on which effective crime control can be based. Personal morality can help citizens internalise a feeling of responsibility and boost self-regulation (Tyler and Jackson 2013). As shown by several studies (Carlsmith and Darley 2008; Darley 2009), most people have only imperfect information about the actual rule of law and, instead of exercising cognitive deliberation (do I have any knowledge about the legislation?), they will let their morality guide them (do I consider this morally right?), assuming (sometimes erroneously) that their moral code is in congruence with the legal code. Because personal morality is largely shaped by legal socialisation, it also means that these attitudes tend to be rigid; this then requires a high level of adaptiveness from the legislator to keep up with ever-changing public morality.

Methods

FIDUCIA project

This paper utilises a cross-national survey of the FIDUCIA project, (<http://fiduciaproject.eu/#>) which is funded by the European Commission as part of EURO-JUSTIS, with the main goal of exploring trust's role and influence in criminal justice systems. The survey took place in seven countries (Bulgaria, Finland, Germany, Italy, Lithuania, Turkey, and the United Kingdom¹) and in each of them different sampling strategies were undertaken,

reaching 700-1000 respondents (Table1). The various sampling strategies can be characterised either as quota sampling (Germany, Italy, Turkey, and the UK), which provided broadly representative samples after weighting, or probabilistic sampling (Bulgaria, Finland, and Lithuania), which allowed for truly representative samples after weighting. The modes of interview also varied, being either computer assisted telephone interviewing (CATI) or face-to-face interviewing (Table1). The surveys were fielded during the winter and spring of 2015.

TABLE1 GOES SOMEWHERE HERE

Researchers' choice of measurement model represents their ontological presumptions regarding the concepts and constructs assessed. The current paper will rely on a formative approach to measurement, which implies that – unlike with reflective measurement – the scales are indicators of the latent variable and these selected indicators can be combined to establish a latent construct (Borsboom 2005; Jackson and Kuha 2016). In addition, it is presumed that each latent variable defined this way specifies a distinct theoretical phenomenon; therefore, these formative measurement models comprise causal indicators (Bollen and Bauldry 2011).

From the formative measurement approach, it follows that principal component analysis (PCA) is the most appropriate technique to analyse each scale and derive component scores for further analysis. Here, the inclusion criterion was defined based on the eigenvalue, and the component scores were extracted when they reached or surpassed one. These component scores were later entered in path analyses. In these path analyses, appropriate police behaviour was determined through a formative measurement model, where the component scores of fair treatment, professional decision making and respect for boundaries operated as indicators. When a construct was measured by a single variable, it was entered into the model with its original values kept intact.

Measuring compliance, personal morality, and risk of sanction

Compliance with the law was measured by asking respondents whether they had committed any of the following activities in the last five years:

1. "...downloaded music, TV shows, films and other files from the internet sites that may be illegal?"
2. "...stolen a DVD or other media format containing music, TV shows or films from a shop?"
3. "...bought something you thought might be stolen?"

4. "...bought alcohol, cigarettes or other goods that you know have been brought into [country] without taxes being paid?"
5. "...employed somebody who you know does not have the right to work in [country], for example as a plumber or nanny."

The listed response alternatives included "never", "once", "twice", "3 or 4 times", and "5 times or more". The respondents were also allowed to opt out from questions by either refusing to answer or choosing "don't know" (this was allowed for all questions in the survey). Personal morality and perceived risk of sanction were both iterations of the above questions using the same examples, but with different prompts and answer alternatives. The prompt for personal morality inquired how wrong it was to commit any of the listed behaviours. A 1-4 Likert scale was offered for the participants with specific answer alternatives of "not wrong at all", "slightly wrong", "wrong", and "seriously wrong". To measure risk of sanction, the respondents were asked to imagine how likely it was that they would be discovered or punished, should they become involved in any of the listed activities. Again, a 1-4 Likert scale was used with response alternatives of "not at all likely", "not very likely", "likely", and "very likely". Measuring compliance, personal morality, and perceived risk of sanction this way permits asking particular questions about certain crimes, providing very specific insights into what respondents' opinions are regarding the actions under scrutiny.

Measuring appropriate police behaviour and legitimacy

The fairness and professionalism of police decision making and treatment was captured by three questions on the frequency of people having been treated respectfully ("Based on what you have heard or your own experience, how often would you say the police generally treat people in [country] with respect?"), fairly ("About how often would you say that the police make fair and impartial decisions in the cases they deal with?"), and on the frequency with which officers explain their decisions ("And when dealing with people in [country], how often would you say the police generally explain their decisions and actions when asked to do so?"). The answer alternatives were introduced on a 1-4 Likert scale and included "not at all often", "not very often", "often", and "very often".

Respect for boundaries was also measured with three items. The survey asked "how often (if ever) do you think the police..." (1) "...exceed their authority", (2) "...abuse their power", and (3) "...act as if they are above the law". Here a five point Likert scale was applied with "never", "rarely", "occasionally", "often", and "all the time" as options. As mentioned

earlier, the component scores for police decision making and treatment, and respect for boundaries were extracted separately, then they were entered into a formative measurement model in the path analyses to define appropriate police behaviour.

Legitimacy of the police was theorised to include obligation to obey the police and normative alignment with the police. The former was measured with three items: asking the respondents to what extent it was their moral duty to (1) "...back the decisions made by the police because the police are legitimate authorities?", (2) "...back the decisions made by the police even when you disagree with them?", and (3) "...do what the police tell you even if you don't understand or agree with the reasons?". For these questions a 1-10 Likert scale was employed, 0 referring to "not at all my duty" and 10 to "completely my duty". To tap into respondents' normative alignment with the police, three questions were also used. The prompt requested "Please say to what extent you agree or disagree with each of the following statements about the police in [country]." Five point Likert scales were presented with the items: (1) "The police usually act in ways that are consistent with my own ideas of right and wrong", (2) "The police can be trusted to make the right decisions", and (3) "The police generally have the same sense of right and wrong as I do".

Finally, legitimacy of the law was gauged through measuring obligation to obey and normative alignment with the law. The questions measuring these constructs were included in the same block, which was introduced as: "Now some questions about your duty towards the law in [country], where duty means you have a moral duty to obey the law". Obligation to obey was determined by two items: "All laws should be strictly obeyed" and "Even if you disagree with a law, you should always obey it". Normative alignment with the law was operationalised through a single item: "Obeying the law ultimately benefits everyone in society". A five point Likert scale was used with "disagree strongly", "disagree", "neither agree, nor disagree", "agree", and "agree strongly" as potential responses.

Results

Descriptive analysis

As discussed earlier, it has been assumed that certain types of crimes can be considered "grey". Such crimes' moral status is somewhat ambiguous, and there are higher proportions of non-compliance with the laws covering their transgression. In the present descriptive analysis, a review of the proportion and perceived morality of crimes is conducted. It is revealed that downloading content that might be illegal and purchasing untaxed goods

constitute “grey crimes”, while the other three (stealing physical copies of media content, buying possibly stolen merchandise, and employing someone without a proper visa) constitute traditional crimes. Table2 follows this distinction: crimes are separated according to whether they were hypothesised as being grey or traditional crimes. Although in the original questions the number of times someone committed a crime was recorded, for this descriptive analysis, and for the sake of demonstration and easier interpretation, they are recoded into simple binary variables indicating whether the person acknowledged perpetrating a certain crime or not². Focusing on traditional crimes, the ample majority of the participants do not report taking part in any of them. The various countries show a disparity in the percentage of admissions, with Italians being the least likely to admit to traditional crimes, followed by the British, Germans, Turkish, Finnish, Lithuanians, and Bulgarians. Traditional crimes do not reach 10% in any of the countries. The most frequent traditional crime is either purchasing stolen goods (Bulgaria, Finland, Lithuania, Turkey, and the UK), or employing illegal immigrants (Germany and Italy). The least likely crime also varies: it is stealing a CD/DVD in Finland, Germany, Italy, Lithuania, and the UK, while it is employing illegal immigrants in Bulgaria and Turkey.

Turning to the grey crimes, both of them are much more frequently perpetrated than traditional crimes. Again, Italians are the most law-abiding, followed by Germans, British, Finnish, Lithuanians, Bulgarians, and Turkish. Between the two grey crimes, illegal downloading is the most prevalent in all countries. The contrast in the proportions of traditional and grey crimes becomes more obvious when looking at the differences in the likelihood of committing the most frequent traditional crime and the least frequent grey crime. The likelihood of committing grey crimes increases almost twofold among the Germans, twofold among the Italians and British, two-and-a-half-fold among the Lithuanians, and more than threefold among the Bulgarians, Finnish, and Turkish.

TABLE2 GOES SOMEWHERE HERE

The results so far seem to support the presumption that the likelihood of taking part in different criminal activities will strongly vary depending on the crime. It has been posited that these disparities can be explained by the perceived morality of the different crime categories, grey crimes being considered as less severe, with traditional crimes being judged as more severe transgressions. The weighted means and standard deviations are computed for the perceived immorality of the respective crimes for all five countries, higher numbers

referring to higher perceived immorality of the given crime (Table3). While in most countries, such as in Bulgaria, Finland, Lithuania, Turkey, and the UK grey crimes are judged as less immoral than traditional crimes, in Italy this only applies to illegal downloading, while in Germany grey crimes are on a similar level of immorality with traditional crimes. Standard deviations are used as indicators for the level of disagreement regarding the morality of a certain crime. For grey crimes it is expected that their evaluation is more equivocal, resulting in more diversity of opinion and higher standard deviations, while traditional crimes are viewed more consistently with smaller standard deviations. Yet again, Finnish, Lithuanian, Turkish, and British respondents indicate higher differences for grey crimes than for traditional crimes, while Bulgarians, Italians, and Germans do not diverge as much in their (dis)agreement regarding grey crimes.

TABLE3 GOES SOMEWHERE HERE

Analytical strategy

Path analyses are estimated as depicted by Figure1. Treatment and decision making of the police and attitudes regarding their respect for boundaries constitute the formative measurement of appropriate police behaviour. Pathways are defined from appropriate police behaviour to normative alignment of the police and law, and to obligation to obey the police and law. Both moral alignment with the police and duty to obey the police are regressed on normative alignment with the law and obligation to obey the law. All these pathways are linear, relying on the component scores derived earlier. This part of the path analysis remains unchanged regardless of the crime category scrutinised thus producing the same values for the particular country.

FIGURE1 COMES SOMEWHERE HERE

For each country, two models are fitted for legal compliance. One outcome variable incorporates grey crimes, the other traditional crimes. In either case, the same normative alignment with the law and obligation to obey the law constructs are regressed on both of them. In addition, personal morality and perceived risk of sanction are also defined as predictors, however only the corresponding items are included (i.e. the particular criminal acts that belonged to the grey or traditional crime category). All variables in the models are controlled for gender and age.

As noted earlier and shown in Table2, compliance variables are decidedly skewed, which made the usual linear modelling strategy untenable. To address the issue of skewness

of the responses for compliance behaviour, the number of reported violations in each crime category were added together, reversed, and treated as if they were counts. Ordinal, Poisson, and negative binomial link functions are applied to the two outcome models for each country. Ordinal regression analysis assumes that the dependent variable is categorical, but also that categories used have a particular ordering. Even though strictly speaking the outcome variable is ordinal and not a count (i.e. some categories include 2 numbers, such as “3 or 4 times”, and the maximum number is capped at five), count models tend to perform better with skewed distributions similar to the one encountered here. One of the most popular count models is the Poisson regression, which is named after the distribution that it utilises and which assumes that the data is strictly non-negative. The Poisson regression is often found to be very restrictive as it posits that, for any given estimated coefficients, there is only one potential corresponding variance. As a straightforward generalisation of the Poisson model, the negative binomial model allows for overdispersion, hence each estimate can have a different variance, which is usually a more realistic assumption.

The AIC (Akaike Information Criteria) and the BIC (Bayesian Information Criteria) statistics were used to assess which modelling strategy provided the best fit for the underlying data. Both AIC and BIC are penalised model selection criteria that allow the comparison of non-nested models, with lower values indicating a better fit. Even though both criteria speak to the adequacy of the model, there are some fundamental differences. The BIC’s goal is to identify models that are the closest to a “true model”, while the AIC aspires to maximise the predictive power of future models (Kuha 2004). For both grey and traditional crimes, the count models outperform the ordinal regression models in all countries, this being indicated by a sizable and consistent drop in the AICs and BICs (Table4). From the two count models, the negative binomial model shows a better fit in all countries, even though in some cases the improvement is fairly limited. Accordingly, negative binomial models are specified to explain the outcome variables of compliance for grey and traditional crimes.

TABLE4 GOES SOMEWHERE HERE

The results from the path analyses are discussed in the following way. First, the legal compliance part of the models is inspected separately for grey and traditional crimes. Second, the normative part of the model (with appropriate police behaviour and legitimacy) is examined. The full models for each country and crime category are added to Appendix/A with standardised scores for the negative binomial models.

Legal compliance

Negative binomial models are fitted for the legal compliance variables separately for grey and traditional crimes. In Table5 and Table6 unstandardized measures are included for the top rows for each variable accompanied by their exponentiated transformation in the squared brackets below them. Although all measures are controlled for age and gender, those variables are not included for the sake of simplicity of interpretation.

Because negative binomial models are relatively rarely used in criminology I present two instances here to exemplify the inference from the coefficients. For the first example, observe Germany and grey crimes from Table5. The results indicate that, controlling for all else, one unit increase in the component score of personal morality of grey crimes is associated with a significant ($p < 0.001$) increase in the expected number of compliances with the log count of 0.46 or, in other words, by a factor of 1.58. Obligation to obey the law also shows a statistically significant ($p < 0.05$) relationship with compliance *ceteris paribus*. This means that for each single unit increase in the component score of obligation to obey the law, the average log count of the number of compliance behaviour is increased by 0.32 or a factor of 1.37.

TABLE5 GOES SOMEWHERE HERE

Discussing Table5 and grey crimes further, in all seven countries there is a strong positive relationship between personal morality and compliance, which is significant at the 0.1% level for all countries. In some countries, deterrence also plays a role in motivating compliance: perceived risk of sanction significantly increases the number of compliances in Finland, Lithuania, and Turkey. In addition, normative concerns emerge as predictors, through obligation to obey the law in Bulgaria, Finland, Germany, Italy, and the UK, and through normative alignment with the law as well in Bulgaria. Overall, personal morality emerges as the primary predictor of compliance behaviour for grey crimes, and is accompanied either by the perceived risk of sanction (Lithuania and Turkey), obligation to obey the law (Bulgaria, Germany, Italy, and the UK), or both (Finland). As an exception, normative alignment with the law is also important in Bulgaria with a non-dismissible moderately strong effect size.

TABLE6 COMES SOMEWHERE HERE

In contrast with compliance for grey crimes, traditional crimes' predictors do not show a unified picture (Table6). Personal morality only reveals a positive partial association in Germany, Italy, Turkey, and the UK. Deterrence (perceived risk of sanction) only seems to be

effective in Turkey, while normative concerns are only influential in Finland through obligation to obey the law, and in Bulgaria through obligation to obey the law and normative alignment with the law. All in all, the majority of the countries have a single predictor, either personal morality (Germany, Italy, and the UK) or obligation to obey the law (Finland); while in Turkey personal morality and perceived risk of sanction, and in Bulgaria obligation to obey the law and normative alignment with the law emerge as significant predictors; in Lithuania however, none emerge.

Appropriate police behaviour and legitimacy

At the beginning of this article I hypothesized that appropriate police behaviour is not simply defined by procedural justice of treatment and decision making, but also by police respect for boundaries. This addition of a boundary condition might yield further insight into the legitimacy of the police and, potentially, to the legitimacy of law. A straightforward test of whether this inclusion advances our understanding of legitimacy is to compare the initial normative model, where only procedural justice is included, and the new one, where boundaries and procedural justice jointly create a formative measurement of appropriate police behaviours.

Table7 juxtaposes these two models' R-squared statistics for obligation to obey the police and law, and normative alignment with the police and law. For the legitimacy of the police constructs, meaningful gain can be perceived. On average, obligation to obey the police's explained variance is increased by 4.84% with a minimum of 2% gain in the UK and a maximum of 7.6% in Turkey. Normative alignment with the police shows an even stronger growth with an average rise of 8.41% with a minimum of a 4.9% boost in Italy and a maximum of 11.2% in Lithuania. These results imply that incorporating boundaries meaningfully bolster our understanding of police legitimacy with modest variation in its extent among the countries scrutinised.

TABLE7 COMES SOMEWHERE HERE

In contrast to police legitimacy, the addition of boundaries has only minimal impact on legitimacy of the law (Table7). Obligation to obey the law has on average a negligible growth of 0.3% with a minimum of 0.5% decrease of the explanatory power in Italy and a maximum 2.1% increase in the UK. Similarly, normative alignment with the law also remains largely unchanged with a mean gain of 0.3% and a minimum of 1.2% reduction in Turkey and 2% boost in the UK. Thus, integrating boundaries to appropriate police behaviour, by and large,

has no impact on legitimacy of the law, with average change in the explained variance converging towards zero.

Overall, the increases in the explanatory power of appropriate police behaviour on police legitimacy supplied sufficient support for the new model. These new, final models are depicted by Figure2-Figure8 with one figure for each country. In contrast with the compliance results, here standardised measures are included. Treatment and decision making of the police show moderate to strong correlation with police respect for boundaries across the different countries. From the two, treatment and decision making has a relatively bigger weight when defining appropriate police behaviour than boundaries, except for Bulgaria, where boundaries appears to have a slightly stronger influence than procedural justice.

The extracted formative measurement of appropriate police behaviour has a significant impact on both normative alignment and obligation to obey the police in all countries (Figure2-Figure8). Broadly speaking, appropriate police behaviour has a stronger influence on normative alignment with the police than on obligation to obey the police. These results indicate that when appropriate police behaviour encompasses fair treatment, professional decision making, and respect for legal boundaries, typically, it has a stronger relationship with how people perceive the value congruence between them and the police than with consent for police activities. Although appropriate police behaviour is regressed on normative alignment with the law and obligation to obey the law, the direct effects are only significant in Bulgaria, and even there only with meagre effect sizes, which implies that in general normative alignment with the police and duty to obey the police fully mediate procedural justice's impact on legitimacy of the law.

The association between normative alignment and obligation to obey the police slightly varies from country-to-country, showing a weak to moderate correlation between the variables. Italy reveals the weakest connection, followed by Bulgaria, Turkey, Finland, Lithuania, the UK, and Germany. In all countries normative alignment with the police significantly increases both normative alignment with the law and obligation to obey the law. Conversely obligation to obey the police does not present such a coherent picture. Although, obligation to obey the police has a significant positive relationship with obligation to obey the law in all countries, the strength of the partial association differs with Finland and Turkey being the smallest, followed by Germany, Italy, Bulgaria, Lithuania, and the UK. In addition, an inconsistent relationship is revealed between obligation to obey the police and normative

alignment with the law. While in Finland and Turkey there is no significant connection between the two, in Italy and Germany there is a weak, but significantly positive one, and in the UK, Bulgaria, and Lithuania a moderately positive one.

The results suggest that normative alignment with the police is the profound predictor of legal legitimacy. Obligation to obey the police only has a consistent positive relationship with duty to obey the law, and an inconsistent one with normative alignment with the law. This indicates that considerations about the obligation to follow orders by police officers, regardless of one's personal beliefs, has a limited sway on the conformity of following laws. Furthermore, the relationship between duty to obey the police and moral alignment with the law does not appear to be universal, suggesting that the connection between the perceived value congruence with the police and consent of police actions is tenuous and context-dependent.

FIGURE2-8 COME SOMEWHERE HERE

Finally, the association between the two constructs of legal legitimacy is inspected. Across the seven different countries there is moderate to high correlation between normative alignment with and obligation to obey the law. This provides further evidence about the link between the two variables, but also highlights the cross-country differences in the strength of their association.

Discussion

This paper used the FIDUCIA data set, which granted a robust test of existing theories of crime control across seven European countries. A relatively novel approach was taken towards compliance (Tyler and Jackson 2014): instead of using all the questions from self-recorded offending to describe a single construct, two categories of crime were isolated: grey and traditional. Grey crimes showed a higher frequency of occurrence than traditional crimes in all countries, lower levels of moral objection in five out of seven (with the exception of Germany and Italy), and higher levels of disagreement in four out of seven (with the exception of Bulgaria, Germany, and Italy), providing partial support for the identification criteria of grey crimes. Because of the skewed distribution in the frequency of responses, and relying on the information provided by penalised model selection criteria (AIC, BIC), negative binomial models were fitted separately for the different crime categories.

Grey crimes were predicted chiefly by personal morality, and then either by perceived obligation to obey the law (Bulgaria, Germany, Italy, and the UK), or perceived risk of sanction

(Lithuania and Turkey), or both (Finland). Normative alignment with the law only emerged as a significant predictor for Bulgaria. These findings indicate that the personal moral code acquired through legal socialisation (Trinkner and Tyler 2016) is the most persistent alleviator of criminal offending for grey crimes. In addition, in five out of seven countries, normative considerations (primarily obligation to obey the law) increased legal compliance for grey crimes, which provides a partial replication of results from the United States (Trinkner et al. 2017). Nevertheless, it was also shown that in some countries, deterrence can also encourage compliance, while normative considerations do not play a role, which emphasises the need for specialised context-dependent interventions. The results for grey crimes imply that people will keep downloading illegal materials and purchasing untaxed goods unless they are convinced that those activities are immoral. Compliance can also be influenced either by winning people's consent for the substance of the law, or by affecting their calculation of the risk of getting caught, or in rare instances by both.

For traditional crimes, no consistent picture emerged. In four countries, personal morality remained significant (Germany, Italy, Turkey, and the UK) and for Turkey the perceived risk of sanction complemented personal morality as a predictor. For Finland and Bulgaria, only normative considerations affected compliance (obligation to obey the law in both countries, plus normative alignment with the law in Bulgaria). For Lithuania, none of the predictors reached statistical significance. These findings suggest that the decision to handle grey and traditional crimes as distinct constructs gained further justification, as it also appears that traditional and grey crimes have different motivators. Alas, none of the theories were able to provide a consistent explanation, as the seven countries revealed singular relationships with legal compliance for traditional crimes. This highlights that while existing theories of crime control might be applicable for certain types of crimes (i.e. grey crimes), for others (i.e. traditional crimes) their explanatory power might be limited. Blurring the lines between different crime types can ultimately result in prevention strategies that might end up inadequate or ineffective, as inappropriate generalisations are made when particular compliance types and their sensitivities are not scrutinised. The lack of coherent pattern for traditional crimes points to the need for further research regarding different types of compliance.

Turning towards appropriate police behaviour, the findings were mostly in line with expectations. In the seven countries analysed there was only a moderately strong relationship

between the elements of appropriate police behaviour, indicating that legality and fairness related judgments are connected but distinct constructs, as implied by another study conducted in the United Kingdom (Huq et al. 2017), but unlike in the United States (Trinkner, Jackson, and Tyler 2017). The new model of appropriate police behaviour (with the addition of boundaries) saw a sizable increase in the explained variance for police legitimacy, while it had essentially no influence on the explanatory power of legitimacy of the law. Thus, the perceived police respect for the boundaries of the individual seems to go beyond police officers' recognised fair conduct and appears to have a fundamental impact on the legitimacy of the police. Tellingly, this influence is realised for both aspects of police legitimacy, bolstering the consent for (obligation to obey) and strengthening the sense of appropriateness of (normative alignment) police conduct.

For police legitimacy, normative alignment with the police arose as the predominant predictor of legitimacy of the law. Duty to obey the police only showed a persistent (but weak) relationship with obligation to obey the law, and an erratic one with moral alignment with the law. In all countries (except Bulgaria), police legitimacy fully mediated appropriate police behaviour's impact on legal legitimacy. Accordingly, by and large, police legitimacy seemed to act as a conduit between appropriate police behaviour and the legitimacy of the law. The findings suggest that neutral, respectful policing that recognises boundaries increases the belief in shared values with the police and grants consent for their actions. In turn, perceived value congruence with the police is the most crucial driver of legal legitimacy, while duty to obey the police has a more limited impact on the felt obligation to obey the law, and only in particular cases on normative alignment with the law. The strong mediated effect of police legitimacy on legitimacy of the law illustrates that when people assess whether they can give their unequivocal support for the existing laws and whether they find those laws appropriate, they fall back on their evaluation of the most palpable agents of the justice system, the police.

Limitations

A discussion of some limitations is in order. Firstly, even though the frequency of occurrence set traditional and grey crimes apart, the proposed explanation (i.e. the perception of perceived morality) only partially accounted for the differences between them. Future research should explore and establish further criteria to help identify different crime categories and compliance profiles.

Another limitation, and potential reason for the varying or even null results for compliance with traditional crimes, is methodological. As the descriptive analysis of the compliance variables showed, in most countries there was a much higher variance in grey crimes than in traditional crimes, which made modelling the outcome variable more difficult and the chance of obtaining significant results slimmer. It is also possible that severe underreporting also contributed to the lack of consistent evidence (Krumpal 2013; Tourangeau, Maitland, and Yan 2016). Future studies could apply innovative statistical methods, such as the item count technique or list experiment (Kuha and Jackson 2014), to address the social desirability bias of compliance items.

An additional caveat stems from the employed sampling strategies. As underlined earlier, some of the countries relied on quota sampling and are only largely representative, which limits their external validity and the true generalisability of the results to the respective population. As also mentioned above, different data collection methods were used, which might have resulted in mode effects and more socially desirable responding in the case of telephone interviews (Jäckle, Roberts, and Lynn 2006). Furthermore, the cross-sectional nature of this inquiry does not warrant making causal claims of the observed relationships.

Bibliography

- Aaltonen, Mikko and Venla Salmi. 2013. "Versatile Delinquents or Specialized Pirates? A Comparison of Correlates of Illegal Downloading and Traditional Juvenile Crime." *Journal of Scandinavian Studies in Criminology and Crime Prevention* 14(2):188–95.
- Blader, Steven L. and Tom R. Tyler. 2009. "Testing and Extending the Group Engagement Model: Linkages between Social Identity, Procedural Justice, Economic Outcomes, and Extrarole Behavior." *Journal of Applied Psychology* 94(2):445–64.
- Bollen, Kenneth A. and Shawn Bauldry. 2011. "Three Cs in Measurement Models: Causal Indicators, Composite Indicators, and Covariates." *Psychological methods* 16(3):265–84.
- Borsboom, Denny. 2005. *Measuring the Mind - Conceptual Issues in Modern Psychometrics*. Cambridge University Press.
- Bottoms, Anthony and Justice Tankebe. 2012. "Beyond Procedural Justice: A Dialogic Approach To Legitimacy in Criminal Justice." *Journal of Criminal Law & Criminology* 102(1):119–70.
- Carlsmith, Kevin M. and John M. Darley. 2008. "Psychological Aspects of Retributive Justice." *Advances in Experimental Social Psychology* 40(7):193–236.
- Darley, John M. 2009. "Morality in the Law: The Psychological Foundations of Citizens' Desires to Punish Transgressions." *Annual Review of Law and Social Science* 5(1):1–23.
- Hamm, J. A., R. Trinkner, and J. D. Carr. 2017. "Fair Process, Trust, and Cooperation: Moving Toward an Integrated Framework of Police Legitimacy." *Criminal Justice and Behavior* 44(9):1183–1212.
- Hough, Mike, Jonathan Jackson, and Ben Bradford. 2013. "Legitimacy, Trust and Compliance: An Empirical Test of Procedural Justice Theory Using the European Social Survey." Pp. 326–53 in *Legitimacy and Criminal Justice - An International Exploration*, edited by J. Tankebe and A. Liebling. Yale University Press.
- Huq, A. Z. Aziz H., J. Jackson, and R. J. Trinkner. 2017. "Legitimizing Practices: Revisiting the Predicates of Police Legitimacy." *British Journal of Criminology* (57):1101–22.
- Jäckle, Annette, Caroline Roberts, and Peter Lynn. 2006. *Telephone versus Face-to-Face Interviewing - Mode Effects on Data Quality and Likely Causes*. Retrieved (https://www.iser.essex.ac.uk/files/iser_working_papers/2006-41.pdf).
- Jackson, Jonathan et al. 2012. "Why Do People Comply with the Law?" *British Journal of Criminology* 52(6):1051–71.
- Jackson, Jonathan and Jacinta M. Gau. 2015. "Carving up Concepts? - Differentiating between Trust and Legitimacy in Public Attitudes towards Legal Authority." Pp. 49–69 in *Interdisciplinary Perspectives on Trust - Towards Theoretical and Methodological Integration*, edited by E. Shockley, T. M. S. Neal, L. PytlikZillig, and B. Bornstein. Springer.
- Jackson, Jonathan and Jouni Kuha. 2016. "How Theory Guides Measurement." Pp. 377–415 in *The Handbook of Measurement Issues in Criminology and Criminal Justice*, edited by B. M. Huebner and T. S. Bynum. Wiley-Blackwell.
- Krumpal, Ivar. 2013. "Determinants of Social Desirability Bias in Sensitive Surveys: A Literature Review." *Quality and Quantity* 47(4):2025–47.

- Kuha, Jouni. 2004. "AIC and BIC - Comparisons of Assumptions and Performance." *Sociological Methods & Research* 33(2):188–229.
- Kuha, Jouni and Jonathan Jackson. 2014. "The Item Count Method for Sensitive Survey Questions: Modelling Criminal Behaviour." *Journal of the Royal Statistical Society. Series C: Applied Statistics* 63(2):321–41.
- McCluskey, John. D. 2003. *Police Requests for Compliance - Coercive and Procedurally Just Tactics*. New York: LFB Scholarly Publishing.
- Murphy, K., B. Bradford, and J. Jackson. 2016. "Motivating Compliance Behavior Among Offenders: Procedural Justice or Deterrence?" *Criminal Justice and Behavior* 43(1):102–18.
- Murphy, Kristina, Tom R. Tyler, and Amy Curtis. 2009. "Nurturing Regulatory Compliance: Is Procedural Justice Effective When People Question the Legitimacy of the Law?" *Regulation and Governance* 3(1):1–26.
- Nagin, Daniel S. 2013. "Deterrence: A Review of the Evidence by a Criminologist for Economists." *Annual Review of Economics* 5(1):83–105.
- Rothstein, Bo. 2011. *The Quality of Government*. University of Chicago Press.
- Sunshine, Jason and Tom R. Tyler. 2003. "The Role of Procedural Justice and Legitimacy in Shaping Public Support for Policing." *Law and Society Review* 37(3):513–548+512.
- Tourangeau, Roger, Aaron Maitland, and H.Yanna Yan. 2016. "Assessing the Scientific Knowledge of the General Public." *Public Opinion Quarterly* 80(3):741–60.
- Trinkner, Rick, Jonathan Jackson, and Tom R. Tyler. 2017. "Expanding 'Appropriate' Police Behavior Beyond Procedural Justice - Bounded Authority." Retrieved (osf.io/preprints/socarxiv/nez6).
- Trinkner, Rick and Tom R. Tyler. 2016. "Legal Socialization : Coercion versus Consent in an Era of Mistrust." *Annual Review of Law and Social Science* 12:417–39.
- Tyler, T., J. Fagan, and A. Geller. 2014. "Street Stops Police Legitimacy: Teachable Moments in Young Urban Men's Legal Socialization." *Journal of Empirical Legal Studies* 11(14):751–85.
- Tyler, T. R., P. A. Goff, and R. J. MacCoun. 2015. "The Impact of Psychological Science on Policing in the United States: Procedural Justice, Legitimacy, and Effective Law Enforcement." *Psychological Science in the Public Interest* 16(33): 75-109.
- Tyler, Tom and Jeffrey Fagan. 2006. "Legitimacy and Cooperation: Why Do People Help the Police Fight Crime in Their Communities?" *Ohio State Journal of Criminal Law* 6:231–75.
- Tyler, Tom R. 2006. *Why People Obey the Law*. Princeton: Princeton University Press.
- Tyler, Tom R. and Jonathan Jackson. 2013. "Future Challenges in the Study of Legitimacy and Criminal Justice." Pp. 83–104 in *Legitimacy and Criminal Justice - An International Exploration*, edited by J. Tankebe and A. Liebling. Wiley.
- Tyler, Tom R. and Jonathan Jackson. 2014. "Popular Legitimacy and the Exercise of Legal Authority: Motivating Compliance, Cooperation, and Engagement." *Psychology, Public Policy, and Law* 20(1):78–95.
- Wolter, Felix and Bastian Laier. 2014. "The Effectiveness of the Item Count Technique in Eliciting Valid Answers to Sensitive Questions. An Evaluation in the Context of Self-Reported Delinquency." *Survey Research Methods* 8(3):153–68.

<i>Country</i>	<i>Sample size</i>	<i>Sampling strategy</i>	<i>Mode of interview</i>
<i>Bulgaria</i>	1024	Two-stage stratified random sampling	Face-to-face interview
<i>Finland</i>	705	Stratified random location sampling	Face-to-face interview
<i>Germany</i>	769	Random digit dialling – quota sampling	CATI
<i>Italy</i>	1000	Random digit dialling – quota sampling	CATI
<i>Lithuania</i>	754	Multi-stage random sampling	Face-to-face interview
<i>Turkey</i>	1000	Stratified multistage clustered – quota sampling	Face-to-face interview
<i>UK</i>	1004	Random digit dialling – quota sampling	CATI

Table1 Sample characteristics of the five countries

Country	Crime category	Crime type	Didn't commit crime	Committed crime
<i>Bulgaria</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	97.22%	2.78%
		Purchasing stolen goods	90.34%	9.66%
		Employing illegal immigrants	97.83%	2.17%
	<i>Grey crimes</i>	Illegal downloading	67.97%	32.03%
		Purchasing untaxed goods	70.45%	29.55%
<i>Finland</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	99.28%	0.72%
		Purchasing stolen goods	93.70%	6.30%
		Employing illegal immigrants	98.25%	1.75%
	<i>Grey crimes</i>	Illegal downloading	80.77%	19.23%
		Purchasing untaxed goods	80.99%	19.01%
<i>Germany</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	98.04%	1.96%
		Purchasing stolen goods	95.18%	4.82%
		Employing illegal immigrants	94.78%	5.22%
	<i>Grey crimes</i>	Illegal downloading	87.24%	12.76%
		Purchasing untaxed goods	89.70%	10.30%
<i>Italy</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	99.90%	0.10%
		Purchasing stolen goods	99.19%	0.81%
		Employing illegal immigrants	98.99%	1.11%
	<i>Grey crimes</i>	Illegal downloading	92.65%	7.35%
		Purchasing untaxed goods	97.76%	2.24%
<i>Lithuania</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	98.92%	1.08%
		Purchasing stolen goods	90.52%	9.48%
		Employing illegal immigrants	98.90%	1.10%
	<i>Grey crimes</i>	Illegal downloading	73.77%	26.23%
		Purchasing untaxed goods	75.85%	24.15%
<i>Turkey</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	96.06%	3.94%
		Purchasing stolen goods	94.58%	5.42%
		Employing illegal immigrants	96.64%	3.36%
	<i>Grey crimes</i>	Illegal downloading	48.39%	51.61%

		Purchasing untaxed goods	82.01%	17.99%
UK	<i>Traditional crimes</i>	Stealing a CD/DVD	99.50%	0.50%
		Purchasing stolen goods	95.92%	4.08%
		Employing illegal immigrants	99.10%	0.90%
	<i>Grey crimes</i>	Illegal downloading	80.98%	19.02%
		Purchasing untaxed goods	90.94%	9.06%

Table2 Frequency of crime committed country by country and according to crime category

Country	Crime category	Crime type	Mean	Standard deviation
<i>Bulgaria</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.44	0.82
		Purchasing stolen goods	3.31	0.83
		Employing illegal immigrants	2.99	1.04
	<i>Grey crimes</i>	Illegal downloading	2.55	1.07
		Purchasing untaxed goods	2.80	0.97
<i>Finland</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.78	0.53
		Purchasing stolen goods	3.50	0.72
		Employing illegal immigrants	3.28	0.83
	<i>Grey crimes</i>	Illegal downloading	2.82	0.94
		Purchasing untaxed goods	2.99	0.95
<i>Germany</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.91	0.41
		Purchasing stolen goods	3.86	0.47
		Employing illegal immigrants	3.48	0.84
	<i>Grey crimes</i>	Illegal downloading	3.54	0.82
		Purchasing untaxed goods	3.78	0.59
<i>Italy</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.78	0.46
		Purchasing stolen goods	3.58	0.61
		Employing illegal immigrants	3.40	0.76
	<i>Grey crimes</i>	Illegal downloading	3.04	0.89
		Purchasing untaxed goods	3.41	0.75
<i>Lithuania</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.53	0.67
		Purchasing stolen goods	3.28	0.74
		Employing illegal immigrants	3.09	0.83
	<i>Grey crimes</i>	Illegal downloading	2.64	0.89
		Purchasing untaxed goods	2.78	0.97
<i>Turkey</i>	<i>Traditional crimes</i>	Stealing a CD/DVD	3.55	0.64
		Purchasing stolen goods	3.46	0.64
		Employing illegal immigrants	3.45	0.71
	<i>Grey crimes</i>	Illegal downloading	2.72	1.10

		Purchasing untaxed goods	3.26	0.83
UK	<i>Traditional crimes</i>	Stealing a CD/DVD	3.76	0.54
		Purchasing stolen goods	3.68	0.57
		Employing illegal immigrants	3.67	0.66
	<i>Grey crimes</i>	Illegal downloading	2.80	0.83
		Purchasing untaxed goods	3.37	0.79

*Table3 Perceived morality of crime country-by-country and according to crime category
(higher numbers indicate less moral)*

Crime category	Country	Negative binomial regression		Poisson regression		Ordinal regression	
		AIC	BIC	AIC	BIC	AIC	BIC
More severe crimes	Bulgaria	23073.3	23348.4	23095.3	23355.7	23263.8	23519.3
	Finland	16621.2	16862.4	16633.5	16897.4	16692.9	16929.5
	Germany	18811.0	19071.2	18826.7	19087.9	19127.0	19366.9
	Italy	24871.3	25136.3	24879.5	25139.6	24889.7	25144.9
	Lithuania	16085.7	16103.7	16214.6	16348.2	16347.8	16454.0
	Turkey	23608.2	23896.2	23636.4	23902.4	24105.9	24360.8
	UK	25027.1	25307.1	25032.6	25392.9	25162.2	25417.6
Less severe crimes	Bulgaria	24526.7	24816.5	24949.9	25210.3	25509.4	25764.8
	Finland	16788.9	17057.3	16971.5	17212.7	17160.7	17397.3
	Germany	18915.5	19187.8	18976.1	19220.7	19253.9	19493.8
	Italy	24678.4	24948.4	24776.2	25036.3	24902.1	25157.4
	Lithuania	16738.5	17010.1	17125.6	17369.5	17375.9	17615.4
	Turkey	24355.7	24644.9	24951.1	25210.9	25392.9	25647.9
	UK	25647.9	25937.7	25889.4	26149.8	26163.7	26419.2

Table4 Model fit statistics for models with different link functions for the outcome variables

<i>Grey crimes</i>	<i>Bulgaria</i>	<i>Finland</i>	<i>Germany</i>	<i>Italy</i>	<i>Lithuania</i>	<i>Turkey</i>	<i>UK</i>
<i>Personal morality</i>	0.36*** [1.43]	0.49*** [1.62]	0.46*** [1.58]	0.45*** [1.57]	0.40*** [1.49]	0.66*** [1.93]	0.52*** [1.68]
<i>Perceived risk of sanction</i>	-0.08 [0.92]	0.26** [1.30]	-0.05 [0.95]	0.01 [1.01]	0.41*** [1.51]	0.31*** [1.36]	0.03 [1.03]
<i>Normative alignment with the law</i>	0.23*** [1.26]	0.02 [1.02]	0.10 [1.11]	0.03 [1.03]	-0.01 [0.99]	0.15 [1.16]	0.02 [1.02]
<i>Obligation to obey the law</i>	0.09* [1.09]	0.15* [1.16]	0.32* [1.38]	0.35* [1.42]	-0.02 [0.98]	-0.11 [0.90]	0.16* [1.17]

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table5 Negative binomial models for grey crimes – Cross-country comparison

<i>Traditional crimes</i>	<i>Bulgaria</i>	<i>Finland</i>	<i>Germany</i>	<i>Italy</i>	<i>Lithuania</i>	<i>Turkey</i>	<i>UK</i>
<i>Personal morality</i>	0.03 [1.03]	0.27 [1.31]	0.70*** [2.01]	0.66* [1.93]	0.26 [1.30]	0.40* [1.49]	0.52*** [1.68]
<i>Perceived risk of sanction</i>	0.03 [1.03]	0.12 [1.13]	-0.23 [0.79]	0.06 [1.06]	0.20 [1.22]	0.52** [1.68]	-0.09 [0.91]
<i>Normative alignment with the law</i>	0.33** [1.39]	0.23 [1.26]	0.13 [1.14]	0.48 [1.62]	0.31 [1.36]	0.24 [1.27]	0.12 [1.13]
<i>Obligation to obey the law</i>	0.18* [1.20]	0.41* [1.51]	0.18 [1.20]	0.12 [1.13]	0.31 [1.37]	0.33 [1.39]	-0.01 [0.99]

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6 Negative binomial models for traditional crimes – Cross-country comparison

<i>Explained variance</i>	<i>Obligation to obey the police</i>		<i>Normative alignment with the police</i>		<i>Obligation to obey the law</i>		<i>Normative alignment with the law</i>	
	<i>Initial</i>	<i>New</i>	<i>Initial</i>	<i>New</i>	<i>Initial</i>	<i>New</i>	<i>Initial</i>	<i>New</i>
<i>Bulgaria</i>	15.5%	20.6%	21.0%	31.5%	11.4%	11.6%	7.8%	9.6%
<i>Finland</i>	11.6%	17.0%	28.3%	38.4%	12.3%	12.0%	7.7%	8.4%
<i>Germany</i>	5.5%	11.5%	23.9%	31.0%	21.3%	20.9%	18.5%	17.3%
<i>Italy</i>	8.5%	11.8%	24.9%	29.8%	11.6%	11.1%	10.6%	9.8%
<i>Lithuania</i>	12.5%	17.0%	20.3%	31.5%	24.1%	24.8%	21.9%	22.9%
<i>Turkey</i>	33.6%	41.2%	33.8%	40.8%	17.5%	18.0%	15.2%	14.0%
<i>UK</i>	16.5%	18.5%	33.7%	41.8%	16.9%	19.0%	18.3%	20.3%

Table7 Explained variance of the initial and new models

Figure1 Path analysis general overview³ –

Correlations were also specified between personal morality, perceived risk of sanction, and legitimacy of the law, but those have been left out for visual ease

Figure2 Appropriate police behaviour and legitimacy – Bulgaria

Figure3 Appropriate police behaviour and legitimacy – Finland

Figure4 Appropriate police behaviour and legitimacy – Germany

Figure5 Appropriate police behaviour and legitimacy – Italy

Figure6 Appropriate police behaviour and legitimacy – Lithuania

Figure7 Appropriate police behaviour and legitimacy – Turkey

Figure8 Appropriate police behaviour and legitimacy – UK

Appendix/A

Figure1/A Path analysis for grey crimes with standardised scores (Bulgaria)

Figure2/A Path analysis for traditional crimes with standardised scores (Bulgaria)

Figure3/A Path analysis for grey crimes with standardised scores (Finland)

Figure4/A Path analysis for traditional crimes with standardised scores (Finland)

Figure5/A Path analysis for grey crimes with standardised scores (Germany)

Figure6/A Path analysis for traditional crimes with standardised scores (Germany)

Figure7/A Path analysis for grey crimes with standardised scores (Italy)

Figure8/A Path analysis for traditional crimes with standardised scores (Italy)

Figure9/A Path analysis for grey crimes with standardised scores (Lithuania)

Figure10/A Path analysis for traditional crimes with standardised scores (Lithuania)

Figure11/A Path analysis for grey crimes with standardised scores (Turkey)

Figure12/A Path analysis for traditional crimes with standardised scores (Germany)

Figure13/A Path analysis for grey crimes with standardised scores (UK)

Figure14/A Path analysis for traditional crimes with standardised scores (UK)

Endnotes

¹ Importantly, sampling for the UK only took place in England and Wales, but for the sake of simplicity, this article will refer to the “UK” instead of “England and Wales”.

² Note: In the subsequent modelling the count version of the same variables will be analysed.

³ The asterisks used on all Figures and Tables in the current paper will refer to *=p<0.05, **=p<0.01, and ***=p<0.001. A lack of an asterisk indicates a relationship that did not reach any conventional level of significance.