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THE PERCEPTION OF SMALL CRIME

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Abstract: Violations of social norms can be costly to society and they are, in the case of large crimes, followed by prosecution. Minor misbehaviors — small crimes — do not usually result in legal proceedings. Although the economic consequences of a single small crime can be low, such crimes generate substantial losses in the aggregate.

In this paper we measure perceptions of incorrect behavior or 'small crime', based on a questionnaire administered to a large representative sample from the Dutch population. In the questionnaire we ask the respondents to rate the severity and justifiability of a number of small crimes. We present short questions that only state the nature of the small crime, as well as vignette questions, describing in detail the fictitious person committing the small crime and other factors related to the circumstances in which the small crime is committed.

We find that the perceived severity of small crimes varies systematically with characteristics of the respondent as well as of the person committing the crime. Small crimes are considered less serious if committed by someone with lower income. Also, the association between respondent characteristics and perceived seriousness changes if the respondents are given more information about the offender and the circumstances of the offense.

Prelude

In Odessa around 1896, a 15-year old boy carried a message to the writer Mr. Lilienblum, who also served as treasurer of the local 'Lovers of Zion'. While the boy was waiting for Lilienblum to write a reply, he took out his cigarettes and reached for the ashtray and matchbox on the drawing room table. Mr Lilienblum quickly put his hand on the boy's to stop him,

> 'then went out of the room and returned a moment later with another matchbox that he had brought from the kitchen, explaining that the matches on the drawing room table had been bought out of the budget of the Lovers of Zion, and were to be used only at committee meetings, and then only by members of the committee.' (Oz, 2003, pp. 88–89)

The boy was Alexander Klausner, brother of the famous scholar Joseph Klausner, and grandfather of Amos Oz, the Israeli author.

A young boy goes to supermarket and sees an expensive pen which he likes a lot. He puts the pen in his pocket and walks out of the shop, but the shop assistant has seen him, grabs him, and hands him over to the police. At the police station, the boy's father is called and appears.

> *Father:* Son, why did you do this?
> *Boy:* I liked the pen so much!
> *Father:* But you know you should not steal.
> *Boy:* I liked the pen so much!
> *Father:* Why did you not tell me? I could have brought one for
>   you from the office.

1 Introduction

Living together in a society is guided by formal and informal rules. Violations of these rules can be costly to society and they are, in the case of large crimes, followed by prosecution. Minor misbehaviors — small crimes — do not usually result in legal proceedings, because the cost of enforcing compensation of small crimes would be too high or because the law does not permit prosecution. Although the economic consequences of a single small crime will be low, such crimes are often quite common and can, in the aggregate, generate substantial losses. In the year 2000, for example, surfing the Internet at work for private use was estimated to cost society worldwide $50

billion annually; and theft by employees around \$200 billion (Greenberg and Scott, 1996).

In standard models of criminal behavior (Becker, 1968), individuals who undertake small illegal actions evaluate the probabilities and consequences of being punished and commit a crime only if the expected value of doing so exceeds the utility of the status quo. An important implication of this simplified model is that every individual would commit a small crime if the probability of being prosecuted is negligible. This implausible prediction is the result of not allowing the preferences of individuals to depend on the harm the intended crime is perceived to impose. Perhaps it is more plausible that individuals who perceive a crime as having relatively severe consequences for society will not commit the crime despite the fact they could do so without being punished. The *perception* of the severity of small crimes in society, rather than (or, in addition to) the (low) probabilities of being caught, could therefore be an important determinant of small crime. This makes it of interest to measure and analyze the perceived severity of small crime. Measuring the perception of small crime can also be useful to evaluate how sentencing guidelines correspond to public sentiment and to the allocation of police resources (Miethe, 1982).

In this paper we measure perceptions of small crime and relate these to information on crimes committed, based on a questionnaire developed by us and administered to participants of the CentERpanel, a large representative sample from the Dutch population of ages 16 years and older. In the questionnaire we ask the respondents to subjectively rate the severity of a number of small crimes. We also ask them to evaluate six small crimes presented in a setting with more (hypothetical) context. In such 'vignette' questions, several characteristics of a fictitious person committing the small crime and other factors related to the situation are included in the description. The small crimes in the vignette questions include, *inter alia*, breaking a coffee mug in a store and not reporting this, driving too fast on a highway, and reporting a lower income (than the actual income) to the tax authorities, typical actions that are 'incorrect but nevertheless occurring more or less frequently' (Traxler and Winter, 2009, p. 3).

The first to study the perceptions of 'crime seriousness' were Sellin and Wolfgang (1964) who developed a new method to measure seriousness, thus providing new insights on public consensus on and relative ordering of criminal acts. The present literature focusses on serious crimes and/or property crimes (O'Connell and Whelan, 1996; Rosenmerkel, 2001; Rossi, Waite, Bose, and Berk, 1974), and white-collar crimes (Isenring, 2008; Piquero, Carmichael, and Piquero, 2008; Rosenmerkel, 2001). In the present paper we look at incorrect behaviors ('small crimes') that are not always condemned

by the general public. These small crimes go beyond white-collar crimes committed by individuals within an organization. Our analysis is related to Halman and Luijkx (2008) who examined the public's opinion on small crimes from a social-values point of view. Some of our small crimes are the same as the short descriptions used by Halman and Luijkx (2008), taken from the 1999 and 2008 waves of the European Values Study (EVS). Our approach is different in that it includes both short descriptions and hypothetical settings of specific small crimes. This allows us to investigate the influence of offender and offense characteristics on a respondent's perception.

The plan of the paper is as follows. In Section 2 we describe the set-up and framework of the questionnaire. Descriptive statistics summarizing the data generated by the questionnaire are presented in Section 3. In Section 4 we order the small crimes by perceived severity. The statistical analysis is presented in Sections 5 and 6, first for the short questions, then for the vignette questions. Section 7 discusses some policy implications and concludes. An Appendix gives the definitions of the variables used.

2   The questionnaire

The results in this paper are based on an online survey conducted in the Summer of 2008 through CentERdata at Tilburg University. CentERdata manages a panel of over two thousand 'respondents' (the CentERpanel, hereafter CP), forming a representative sample of the Dutch population aged 16 and older. The sample is based on a probability sample of the non-institutionalized Dutch population of ages 16 years and older. Selected households without Internet access or without a personal computer are provided with the necessary equipment so that the sample also covers the non-Internet part of the population. Every week a questionnaire is sent out (through the Internet) to all respondents, each week on a different topic. The response rate is generally above 70%. Since most respondents have participated in previous surveys, detailed background information is available, including gender, age, income, education, role in the household, and area of residence.

Respondents who did not respond to the survey in the first weekend were asked again a few weeks later. This resulted in an ultimate survey response rate of 83.3% (1932 respondents). Of the respondents who started the survey, only fifteen did not complete the questionnaire. The average completion time was about thirty minutes. It seems reasonable to assume that participating and completing the questionnaire is independent of the variables of interest, conditional on several background variables (gender, age,

eduction) that are used to construct survey weights. CentERdata constructs these weights by comparing the sample with a larger household survey used by Statistics Netherlands. These weights will be used below in computing some of the descriptive statistics.

Our survey consists of three parts. First, the respondents were asked to rate the severity of 18 offenses and the justifiability of 6 offenses that are taken from EVS (using the exact same wording that EVS uses). These offenses range from taking a ballpoint from the office for private use to accepting a bribe. The wording of the questions for the first 18 offenses is:

> Below we list examples of situations that might occur in daily life. Please evaluate the severity of these actions as you perceive them on a scale from 1 (very severe) to 10 (not severe).

The wording for the other six offenses is comparable but uses 'justifiability' instead of 'severity'. Some of the types of small crime included in the survey were also used by Traxler and Winter (2009), but our list of small crimes is much larger. Second, we asked our respondents in 12 questions to rate the perceived justifiability of six offenses, but this time described in short stories (so-called 'vignettes'), concerning hypothetical persons in a hypothetical setting. Each of the six offenses was described in two vignettes with varying characteristics of the hypothetical person (the 'vignette person') committing the offense and of the hypothetical setting. The wording of the question is:

> Do you think the behavior of [name] is: never justifiable, ..., always justifiable

where [name] is the first name given in the vignette, either a common female or a common male name (randomly assigned). The six offenses are: (i) not having a valid (train) ticket; (ii) breaking a coffee mug and not reporting it; (iii) taking a bundle of printing paper; (iv) driving too fast on a highway; (v) accepting a bribe; and (vi) reporting a lower income than the actual income to the tax authorities.

Finally, we asked some questions about the respondent's past victimization incidence, exposure to crimes in daily life, and other background information that might be relevant. These questions are not analyzed in the current paper. The complete survey is available upon request from the authors. In Table 1 we present the means and standard deviations for the answers to the six questions that appear in both the European Values Study and the CentERpanel survey. Two questions from EVS 1999 were not asked in EVS 2008. There seems to be general agreement between the CentERpanel and the EVS data for most questions. An exception is smoking in a

Table 1: European Values Study (EVS) 1999 and 2008 versus CentERpanel (CP) 2008

Offense	EVS 1999 mean (std)	CP mean (std)	EVS 2008 mean (std)
Claiming state benefits	1.52 (1.28)	1.44 (1.04)	1.52 (1.33)
Accepting a bribe	1.60 (1.31)	1.65 (1.26)	1.55 (1.23)
Throwing away litter	1.74 (1.30)	1.98 (1.42)	
Avoiding a fare	2.79 (2.21)	2.47 (1.81)	2.58 (2.10)
Cheating on taxes	2.74 (2.22)	2.92 (2.14)	2.28 (1.96)
Smoking in a public place	3.81 (2.65)	2.98 (2.16)	

Note: Answers are on a scale from 1 (never justifiable) to 10 (always justifiable). All statistics are weighted. The number of observations N varies over studies and also (slightly) over offenses. We have 1001–1003 observations for the EVS 1999, 1929 for the CP, and 1542–1549 for the EVS 2008.

public place, which is seen as more severe in the CentERpanel than in EVS 1999. This is explained by the nine-year gap between the two data sets. The perception of smoking in The Netherlands has changed in those nine years, because smoking was banned from governmental organizations in 1990, and from the private sector (including restaurants and bars) in July 2008, just after the first weekend that our survey was fielded. A widely publicized event like the introduction of a smoking ban may well lead to a (possibly temporary) change of the social norm (Ramchand, MacDonald, Haviland, and Morral, 2009). Comparing the two EVS waves, it appears that people consider most offenses less justifiable in 2008 than in 1999. This particularly applies to cheating on taxes. Surprisingly, the CentERpanel mean for the perceived severity of cheating on taxes is much closer to EVS 1999 than to the 2008, event hough EVS and CP are conducted in the same year.

3 Descriptive statistics

In understanding the perception of incorrect behavior or small crimes, three dimensions are relevant. First, respondent characteristics, which tell us whether the respondent being interviewed is male of female, old or young, rich or poor, educated or not educated, and so on; second, characteristics of who commits the small crime, for example male or female, young or old, rich or poor; and third, characteristics related to the context of the offense itself, for example whether a superior behaves in the same incorrect way. In Table 2 we present some descriptive statistics of the respondent character-

Table 2: Descriptive statistics: respondent characteristics

	mean (std)
Non-binary	
age	50.7 (16.1)
hh_lincome	7.93 (1.43)
crime rate	7.31 (1.22)
Binary	
female	0.47 (0.50)
edu_prim	0.07 (0.25)
edu_secon1	0.26 (0.44)
edu_secon2	0.12 (0.33)
edu_vocat1	0.19 (0.39)
edu_vocat2	0.24 (0.43)
edu_univer	0.12 (0.32)
urban_low	0.39 (0.49)
urban_high	0.41 (0.49)
urban_middle	0.20 (0.40)
occup_empl	0.48 (0.50)
occup_pension	0.23 (0.42)
occup_indep	0.05 (0.21)
occup_nowork	0.24 (0.43)
position_head	0.62 (0.49)
partner	0.79 (0.41)
party_christ	0.22 (0.42)
party_other	0.19 (0.39)

Note: See Appendix, Tables 8 and 9 for variable definitions.

Statistics are not weighted. N varies between 1918 and 1931.

istics. Details on variable definitions are presented in Tables 8 and 9 in the Appendix.

Roughly 47% of the sample is female. The age of the respondents ranges from 15 to 93 with a mean of 51. Highly-educated respondents are overrepresented: 36% completed higher vocational school or has a university degree in our sample as compared to 25% in the population in 2006 (Statistics Netherlands, 2008). This is because the higher educated have a larger probability to participate in the CentERpanel. We will use sample weights (provided by CentERdata) to correct for this.

To capture the effect of how familiar respondents are with crime, we

include the crime rate (the number of registered crimes per capita) at the provincial level, which varies from 4.55% to 9.01%. Within a given province, crimes are more common in cities than in rural areas. Hence, we also include the degree of urbanization. Our respondents are well spread in terms of urbanization, with 41% living in cities, 20% in larger towns, and 39% living in villages or small towns.

We distinguish between four types of occupation. The largest group (48%) are those in paid employment (occup_empl). It is likely that one's occupational status influences one's perception of crime. For example, employees may be more sympathetic than others to someone taking a bundle of printing paper from the office for private use, because they are more familiar with this kind of situation. The majority of the respondents (62%) is head of a household (defined as the person who owns the house or signed the rental contract, or, if this applies to more than one person, the one with the highest income). In about 67% of all cases, household heads live together with a partner (married or unmarried). Being head of a household or the partner of the household head may imply that one's behavior is an example to the rest of the household, which may lead to a different attitude to (small) crimes. Finally, about four out of five respondents reported that they support a national political party; the others support a local party or do not feel affiliated with any political party. Of those supporting a national party, about one-quarter supports a Christian party. We included a dummy for supporting a Christian party as a proxy for ethical norms and values that may possibly affect attitudes towards (small) crime.

A large part of this paper (especially Section 6) will focus on the additional information provided in the vignette questions, including some characteristics of the person who commits the crime and the context in which the crime is committed. In Table 3 we present some descriptive statistics, comparing the vignette evaluations and the answers to the corresponding short questions. Figures 1 and 2 provide the complete distributions of the answers.

We have almost twice as many observations (3840) for the vignette questions as for the short questions (1930), because our respondents evaluated two vignette questions for each type of offense (with different context and characteristics of the vignette person). For each offense, the income of the person committing the offense is always lower in the first vignette than in the second vignette (while other characteristics are randomized; see Section 6). Figure 2 shows separate histograms for the answers to these two questions, clearly illustrating that respondents tend to perceive an offense as more severe if the income of the person committing the offense is higher.

Accepting a bribe in the course of duty is considered least justified, both

Table 3: Descriptive statistics: dependent variables

	median	mean (std)
Short questions		
Avoiding a fare	2	2.47 (1.81)
Breaking a coffee mug	4	4.13 (2.10)
Taking a bundle of printing paper	4	4.09 (2.28)
Driving too fast on a highway	3	3.09 (2.13)
Accepting a bribe	1	1.65 (1.26)
Cheating on taxes	2	2.92 (2.14)
Vignette questions		
Avoiding a fare	4	3.88 (2.33)
Breaking a coffee mug	3	3.47 (2.08)
Taking a bundle of printing paper	3	3.19 (2.05)
Driving too fast on a highway	2	2.73 (1.96)
Accepting a bribe	1	2.10 (1.59)
Cheating on taxes	2	2.81 (1.96)

Note: Answers are on a scale from 1 (very severe/never justifiable) to 10 (not severe at all/always justifiable). All statistics are weighted. N varies between 1929 and 1932 for short questions and between 3840 and 3846 for vignette questions.

in the short questions and in the vignette questions. Accepting a bribe and avoiding a fare are considered more serious offenses when posed as a short question than as a vignette question, and the opposite holds for breaking a coffee mug or driving too fast on a highway. This also affects the order of perceived seriousness of the crimes: avoiding a fare is considered the second most serious offense in the short questions, but the least serious offense according to the vignette questions. We therefore conclude that there are substantial differences between the answers to the short questions and the vignette questions. Since the vignette questions provide more information about the context in which the offense is committed, this shows that context matters.

Riedel (1975) asked respondents to rate the importance of offense and offender characteristics for judging the seriousness of a described offense. He concludes that respondents need external factors to make a judgement. On the other hand, Rossi et al. (1997) find that the offender's background only has a small impact on sentencing preferences. How context matters will be studied in detail in Section 6.

Figure 1: Answers to selected short questions
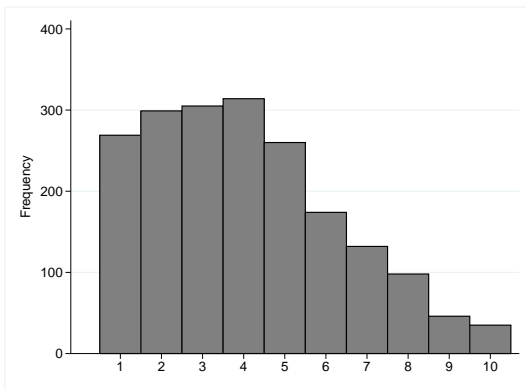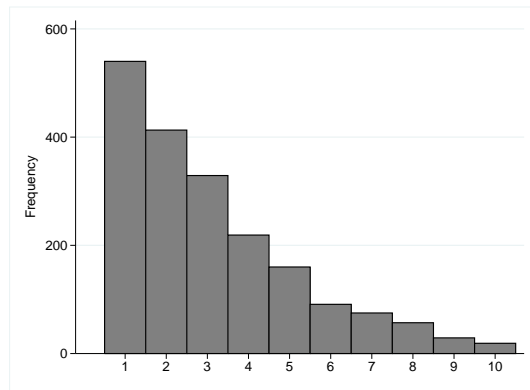
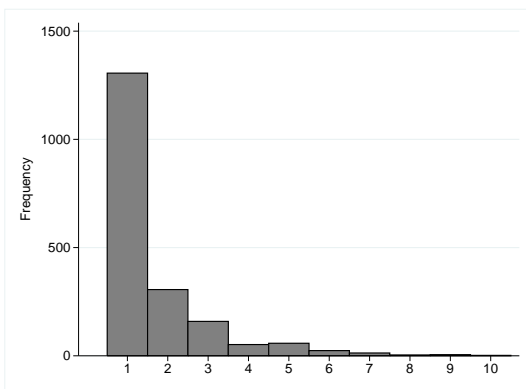(a) Avoiding a fare
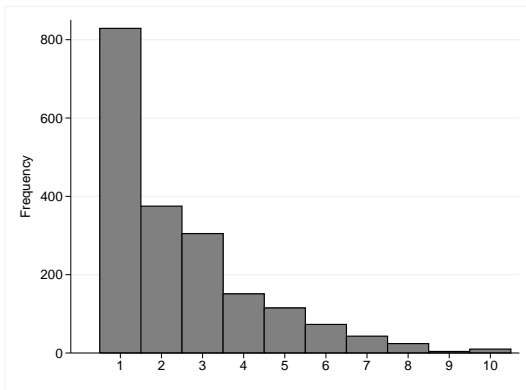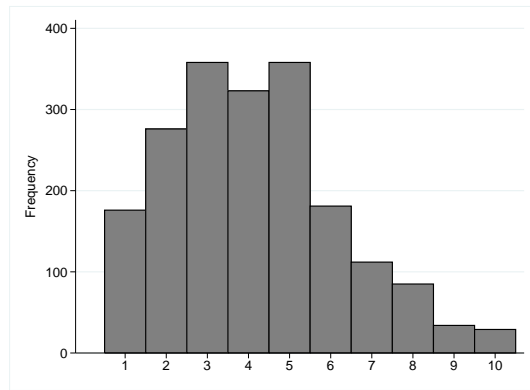
(b) Breaking a coffee mug

(c) Taking a bundle of printing paper

(d) Driving too fast on a highway
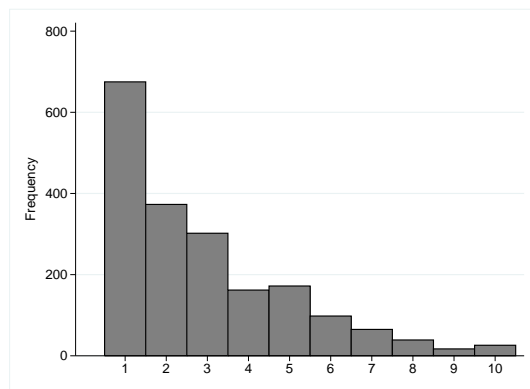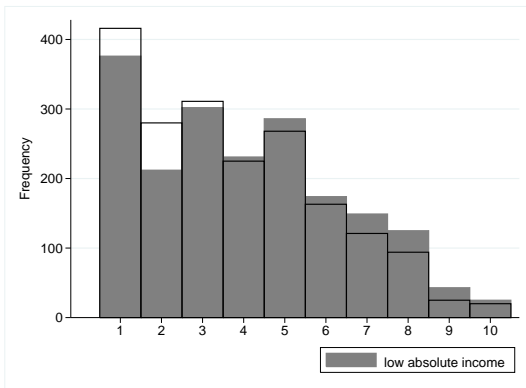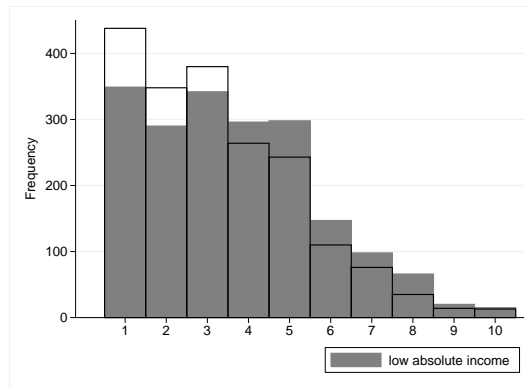

(e) Accepting a bribe

(f) Cheating on taxes

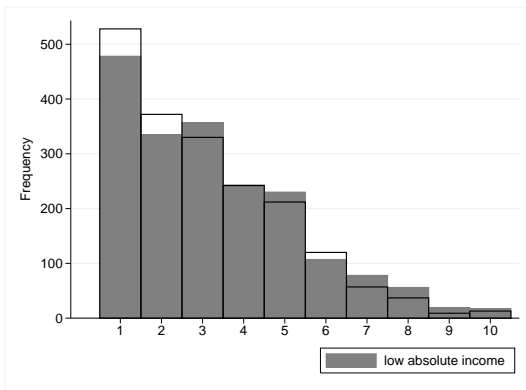Figure 2: Answers to vignette questions
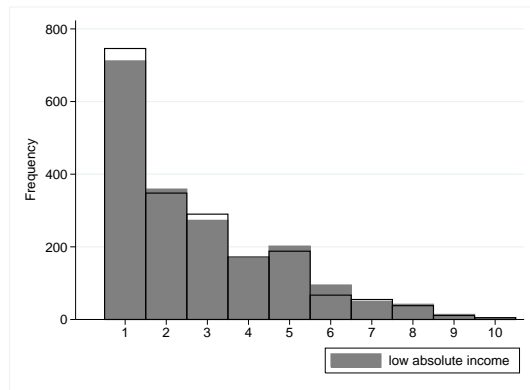
(a) Avoiding a fare
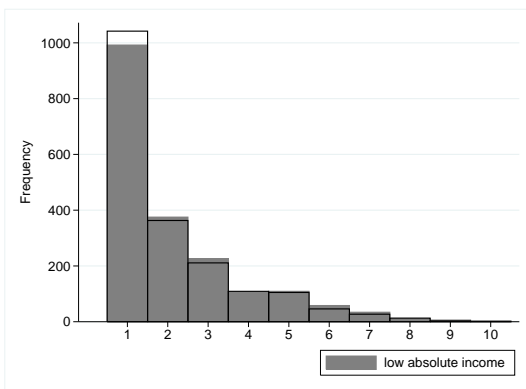
(b) Breaking a coffee mug
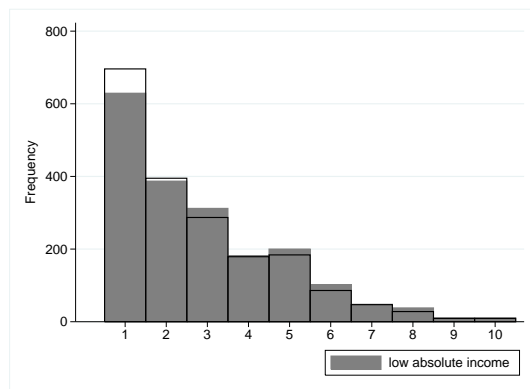
(c) Taking a bundle of printing paper

(d) Driving too fast on a highway

(e) Accepting a bribe

(f) Cheating on taxes

12

The sample standard deviations in the answers to the short questions and the vignette questions are of similar size; two of the six standard deviations are larger for the vignette questions; the other four are larger for the short questions. Herzog (2003) argues that when judgements are based on less information regarding the circumstances of the crime (e.g. offender characteristics) respondents will make quick judgements based on shared norms in a society, which would suggest that the dispersion in the answers to the short questions would be smaller than for the vignette questions. We do not find any such evidence in Table 3.

4   Ordering of small crimes

In the first part of the survey, our respondents were confronted with 24 types of incorrect behavior from three categories: (i) at the cost of the employer, (ii) at the cost of the government, and (iii) at the cost of others. Table 4 describes these 24 small crimes, ordered according to the mean evaluations, from most severe to least severe. Applying for social benefits to which one is not entitled is considered the most severe of all offenses considered, followed by accepting a bribe in the course of duty. Both are offenses that may endanger the welfare state and the social security system. Remarkably, throwing away litter in public places (ranked 3 out of 24) and not cleaning up the dog's pooh (ranked 7), offenses that pollute the environment, also rank quite high. That social security fraud is perceived as more severe than tax fraud is in line with Wilson et al. (1986), who found the same for Australian data, even though in their survey the monetary damage of the tax fraud was much higher than that of the social security fraud (5000 and 2000 Australian dollars, respectively; the amounts were stated explicitly in the survey).

Traffic violations, even rather extreme ones, like driving 170 km/h on a highway where the speed limit is 120 km/h, are not considered as very severe, perhaps suggesting that many people see the maximum speed rules as unnecessarily strict. As expected, taking away soap and shampoo from a hotel room is considered the least severe of small crimes. Most respondents do not consider this as a small crime at all, but see the soap and shampoo as a 'gift' from the hotel. Taking a ballpoint home from the office is also one of the least severe small crimes. It is an example of 'internal fraud' and, according to Greenberg (2002), this occurs more frequently when employees feel underpaid or when employees consider the decision-making criteria as unfair. Downloading music illegally also appears in the bottom three of the ranking; downloading music is not illegal in The Netherlands as long as it is for private use and from a legal source, but the majority of music offered

Table 4: Ordering of 24 small crimes in terms of perceived severity

Offense	mean (std)
Claiming government benefits to which one is not entitled*	1.44 (1.04)
Accepting a bribe at work*	1.65 (1.26)
Throwing away litter in a public place*	1.98 (1.43)
Damaging a car by accident and not informing the owner	2.10 (1.36)
Turning up the volume of music late in the evening	2.15 (1.40)
Avoiding a fare on public transport*	2.47 (1.81)
Walking the dog and not cleaning up the dog's pooh	2.71 (1.73)
Pretending to be sick and staying at home for two days	2.84 (1.90)
Cheating on taxes if one has a chance*	2.92 (2.14)
Smoking in a public building*	2.98 (2.16)
Driving 170 km/h on a highway (maximum is 120 km/h)	3.09 (2.13)
Leaving a barking dog alone at home	3.19 (1.78)
Taking cutlery from a canteen	3.21 (1.91)
Taking a bundle of printing paper and 5 ballpoints from the office	3.30 (2.01)
Practicing the piano in an apartment building from 7:00–10:00 am	3.47 (1.96)
Taking software from the office to install it at home illegally	3.94 (2.31)
Taking a bundle of printing paper from the office	4.09 (2.28)
Breaking a coffee mug in a store and not informing the owner	4.13 (2.10)
Making daily private phone calls from the office	4.49 (2.33)
Working two evenings per week without paying income tax	4.51 (2.34)
Driving 60 km/h within town (maximum is 50 km/h)	5.19 (2.56)
Downloading music illegally from time to time	5.98 (2.53)
Taking a ballpoint from the office	6.27 (2.70)
Taking soap and shampoo from a posh hotel room	7.03 (2.66)

Note: Answers are on a scale from 1 (very severe/never justifiable) to 10 (not severe/always justifiable). All statistics are weighted. The formulation of some offenses (indicated by *) is shortened to fit the table. The full survey is available upon request.

at peer-to-peer networks comes from illegal sources. Apparently, there is no strong social condemnation of digital piracy as this has no perceived social cost. This is in line with the theoretical arguments of Balestrino (2008).

5 Results: Short questions

Six of the 24 short questions presented in the previous section are analyzed in the current paper — the six that are similar to the crimes in the vignette questions. This is because we focus on the modification of responses resulting

from information about the offender and offense characteristics, as given in the vignette questions. Since the response scale is discrete and ordered, ranging from 1 (very severe) to 10 (not severe at all), we use an ordered probit model. (An ordered logit model leads to very similar results.) This model describes the reported evaluation as the category containing the value of an unobserved (latent) continuous variable y_i^*, which is driven by a vector of explanatory variables x_i (respondent characteristics, in our case) and an error term ϵ_i:

$$y_i^* = x_i^{'}\beta + \epsilon_i,$$
$$y_i = j \quad \text{if } \alpha_{j-1} < y_i^* \leq \alpha_j,$$

where

$$\epsilon_i \sim \text{N}(0,1) \text{ independent of } x_i,$$

and $i = 1, \ldots, N$ denote the respondents, and $j = 1, \ldots, m$ are the possible values that y_i can have. We set $m = 10$ and let $\alpha_0 = -\infty$ and $\alpha_m = \infty$. The estimation results are presented in Table 5. Some of the earlier studies focus on measuring the degree of consensus between different demographic groups (see for example Kwan et al., 2002; O'Connell and Whelan, 1996; Rossi et al., 1974; Sellin and Wolfgang, 1964), since public consensus is required to develop a generally supported seriousness scale of criminal activities. Differences between groups were studied by Rosenmerkel (2001), who also looks at a larger set of respondent characteristics, including detailed indexes of socio-economic status. We interpret these results as follows.

Gender: The negative and significant effect of the dummy for females indicates that women perceive all six small crimes as more serious than men, *ceteris paribus* (that is, with the same age, education, household income, urbanization rate, and provincial crime rate). This is in line with the results reported by Herzog and Oreg (2008), O'Connell and Whelan (1996), and Rossi et al. (1985), and may be due to the fact that women are more vulnerable and have a stronger fear of being victimized (Warr, 1984). On the other hand, Kwan et al. (2002) find a gender effect only for crimes that disproportionately affect women, and Isenring (2008) finds no gender effect on the perceived seriousness of white-collar crimes. Kwan et al. (2002) find that bribery (similar to our situation 5) is rated as more serious by men than by women. Orviska and Hudson (2002) find that women are more likely to approve tax evasion (specifically, value-added tax), which is in contrast to our result for situation 6 (reporting a lower income to the tax authorities).

Age: Older people rate all six small crimes as more serious than younger people, and the age effect is always significant. This result is in line with

Table 5: Ordered probit on short questions

Variable	Situation					
	1	2	3	4	5	6
female	−0.1887***	−0.2170***	−0.1430***	−0.3282***	−0.1572***	−0.2653***
	(0.0509)	(0.0477)	(0.0481)	(0.0496)	(0.0575)	(0.0498)
age	−0.0153***	−0.0111***	−0.0216***	−0.0192***	−0.0123***	−0.0012
	(0.0017)	(0.0016)	(0.0016)	(0.0016)	(0.0018)	(0.0015)
hh_lincome	−0.0101	−0.0059	−0.0273*	−0.0034	0.0111	−0.0191
	(0.0186)	(0.0185)	(0.0162)	(0.0167)	(0.0212)	(0.0184)
crime rate	0.0155	0.0254	0.0234	0.0242	0.0026	0.0557***
	(0.0217)	(0.0205)	(0.0200)	(0.0204)	(0.0244)	(0.0216)
edu_secon1	−0.0330	−0.0662	−0.0549	0.1592	−0.1906*	−0.1030
	(0.1085)	(0.1048)	(0.1063)	(0.1019)	(0.1120)	(0.1012)
edu_secon2	−0.0693	−0.0520	−0.1256	0.1782	−0.3303***	−0.1198
	(0.1198)	(0.1121)	(0.1179)	(0.1117)	(0.1243)	(0.1137)
edu_vocat1	−0.0718	−0.1210	−0.0518	0.3209***	−0.1598	−0.2684***
	(0.1090)	(0.1070)	(0.1075)	(0.1025)	(0.1128)	(0.1041)
edu_vocat2	−0.2870***	−0.1863*	−0.1638	0.1592	−0.6597***	−0.4281***
	(0.1074)	(0.1032)	(0.1054)	(0.0993)	(0.1133)	(0.1032)
edu_univer	−0.1151	−0.1348	−0.0707	0.2409**	−0.5960***	−0.2650**
	(0.1186)	(0.1115)	(0.1130)	(0.1130)	(0.1305)	(0.1112)
urban_high	0.0307	0.1348**	0.1006*	−0.2780***	−0.1212*	−0.1982***
	(0.0589)	(0.0546)	(0.0557)	(0.0582)	(0.0673)	(0.0583)
urban_middle	0.0133	0.0865	0.0788	−0.1731***	−0.0500	0.0248
	(0.0703)	(0.0668)	(0.0658)	(0.0655)	(0.0758)	(0.0684)
N	1914	1917	1917	1917	1914	1914

Note: Standard errors in parentheses.
*** = $\{p < 0.01\}$; ** = $\{0.01 \leq p < 0.05\}$; * = $\{0.05 \leq p < 0.10\}$.
Situations: 1 = not having a valid (train) ticket; 2 = breaking a coffee mug;
3 = taking a bundle of printing paper; 4 = driving too fast on a highway;
5 = accepting a bribe; 6 = reporting a lower income to the tax authorities.

Orviska and Hudson (2002) and O'Connell and Whelan (1996), and is probably due to the fact that older people feel more vulnerable than younger people (Warr, 1984).

Income: Although household income has a negative effect in five of the six questions, the effect is never significant at the 5% level. Apparently, the respondent's income does not matter much for his or her perception of small crime. This is in line with Rosenmerkel (2001), who also finds no income effect for several types of crimes, including white-collar crime (although he

did find that respondents with higher income considered violent crimes as *less* serious), but is in contrast with Rossi et al. (1985), who report that higher income is associated with more tolerance towards white-collar crimes.

Education: Educational dummies are jointly significant in four out of six situations, but the patterns are non-monotonic and vary across questions. Respondents with higher vocational training seem to perceive most small crimes as more serious than respondents with other education levels, including those with a university education. Rossi et al. (1985) also find an inconsistent pattern of the effect of education on the perception of different types of crime. Orviska and Hudson (2002) find that a higher education level increases disapproval of tax evasion, a result that is similar to our result for situation 6. Only in situation 4 (driving too fast), higher education leads to less harsh judgements. That a higher education would lead to less harsh judgements is also found by Isenring (2008) (for white-collar crimes), Payne et al. (2004) (for five different crimes), and O'Connell and Whelan (1996) (for selling marihuana). Rossi et al. (1974) also report that respondents with lower education are less tolerant towards small crime than higher-educated respondents, and Schrager and Short (1980) confirm this finding for white-collar crimes.

Crime rate: Respondents who live in areas with a higher crime rate are expected to be more familiar with serious crime. As a consequence, they may rate small crimes as less severe, and this is what we find for all six situations, although the effect is significant for situation 6 (tax evasion) only.

Urbanization: Crime rates are higher in large cities than in smaller towns or rural areas (Glaeser and Sacerdote, 1999). Since we include the crime rate by province but not by municipality, this implies that the degree of urbanization can be seen as a proxy for within-province variation in the exposure to crime. Living in an urbanized area may also have an effect on the perception of crime through social norms. The effects of urbanization that we find are ambiguous: in two situations (which are among the more serious of the small crimes considered), respondents living in an urbanized area consider crimes significantly less severe than respondents in the least urbanized areas, but in situation 2 (breaking a coffee mug and not reporting it) the opposite effect is found. Rose and Prell (1955) discuss the effect of urbanization on 'punitiveness' and find that respondents who do not live in an urban area think that punishments should be harsher than respondents in urban areas. Stylianou (2003) cites several studies that find an effect of the degree of urbanization on other social norms, such as abortion. Perhaps the weak non-monotonic relation that we find is due to increasing mobility and homogeneity, reducing the gap between rural and urban areas (Smith and Huff, 1982). In addition, there is evidence that perceptions within rural

areas are not homogeneous (Ball, 2001).

6   Results: Vignette questions

The vignette section of the survey presents several stories ('vignettes') about small crimes committed by offenders with varying characteristics, and asks the respondents to evaluate how justifiable the offense is on a 10-point scale, from absolutely not justifiable (1) to certainly justifiable (10). Each respondent is presented with twelve vignettes in total, two on each of the six types of small crime presented in Table 3. The two vignettes on each type of crime differ in the characteristics of the person who commits the crime and the context in which the crime is committed. A typical example is:

> [John/Diana] is [27/43/55] years old and earns €2500 per month before tax, a [low/usual] wage for the type of work (s)he does. Each day (s)he takes the tram to work, for a trip of about [5/20] minutes. Today (s)he is in a hurry since (s)he does not want to arrive late at work. (S)he jumps on the tram without a valid ticket. It has [not/often] happened before that (s)he knowingly did not have a valid ticket. The probability that someone will check the tickets on this route is [very small/50%]. Do you think [John/Diana]'s behavior is absolutely not justifiable (1),..., certainly justifiable (10)?

The parts in square brackets are randomized (independently of each other). For each situation and each respondent, the offender's income is lower in the first than in the second vignette. (In the example above, €2500 in the first vignette and €3500 in the second vignette.) The name of the offender is randomized: about half of the crimes in these vignettes are committed by men (that is, use a male name); the other half by women. The offender's age is randomly set to 27, 43, or 55 years. In this example, the absolute income level of the offender is always €2500, but it can be relatively low or usual for the type of work the offender does. The other randomizations do not concern the offender but the context in which the crime is committed: how long does the trip take (5 or 15 minutes), is the offense committed repeatedly or only once, what are the chances of getting caught (low or 50%)? Similar randomizations are used for the other vignettes.

The fact that each respondent answers two vignette questions on each offense (with different values of the randomized vignette variables) allows us

to use a random-effects panel-data probit model with $T = 2$ 'time periods':

$$y_{it}^* = x_{it}'\beta + \epsilon_{it}, \quad i = 1, \ldots, N, \quad t = 1, 2,$$
$$y_{it} = j \quad \text{if } \alpha_{j-1} < y_{it}^* \leq \alpha_j, \quad j = 1, \ldots, m,$$

where

$$\epsilon_{it} = u_i + v_{it},$$
$$u_i \sim \mathrm{N}(0, \sigma_u^2), \text{ independent of } x_{i1}, x_{i,2}, v_{i1}, v_{i2},$$
$$v_{it} \sim_{iid} \mathrm{N}(0, \sigma_v^2), \text{ independent of } x_{i1}, x_{i2}.$$

Again, we set $m = 10$ and let $\alpha_0 = -\infty$ and $\alpha_m = \infty$. Without loss of generality we normalize $\sigma_\epsilon^2 \ (= \sigma_u^2 + \sigma_v^2)$ to 1. For the explanatory variables in x_{it}, we distinguish between respondent characteristics (income, age, gender, education, occupational status; see Section 5), characteristics of the vignette person committing the crime, and variables describing the context in which the crime is committed. This allows us to disentangle the effects of respondent characteristics and characteristics of the offender on the perceived severity of each offense. We label vignette characteristics *random* as they are the result of a randomization process. Note that vignette characteristics vary with i and t, while respondent characteristics vary with i only.

In the baseline model presented in Tables 6a and 6b, x_{it} includes all vignette characteristics and demographics that were also used in Section 5: gender, age, household income, education, the crime rate in the province of residence, and the urbanization rate. Because of the design, there is some variation in vignette characteristics across the six situations. An example is vign_boss, which captures the effect on perceived justifiability if the boss of the vignette person behaves correctly under the same circumstances. This variable is only included in two of the six situations. We also considered extensions of the baseline model including more respondent characteristics (respondent's occupation, position within a household, and preference for a Christian political party). Selected results for the extended models are presented in Table 7. We discuss and interpret these results below.

6.1 Respondent characteristics

The effects of respondent characteristics were already discussed in the previous sections. The main question now is whether these effects are different if we explicitly control for vignette characteristics.

Gender: Not much changes. We find similar effects as for the short questions. Women consider the offenses less justifiable than men, especially regarding driving too fast on a highway.

19

Table 6: Random effects ordered probit

(a) Respondent characteristics

Variable	Situation					
	1	2	3	4	5	6
female	−0.1775	−0.4754***	−0.3359***	−1.4000***	−1.2307***	−0.9644***
	(0.1105)	(0.1142)	(0.1135)	(0.1350)	(0.1142)	(0.1259)
age	−0.0087***	−0.0082**	−0.0430***	−0.0509***	−0.0416***	−0.0237***
	(0.0032)	(0.0039)	(0.0036)	(0.0042)	(0.0034)	(0.0037)
hh_lincome	−0.0067	−0.0476	−0.0272	−0.1745***	−0.0924***	−0.1762***
	(0.0378)	(0.0477)	(0.0298)	(0.0364)	(0.0340)	(0.0269)
crime rate	0.0880**	0.2405***	0.1691***	0.3897***	0.2232***	0.3639***
	(0.0446)	(0.0432)	(0.0642)	(0.0570)	(0.0450)	(0.0487)
edu_secon1	−0.1647	−0.8979***	−0.1432	−0.0977	−0.6907***	−0.2853
	(0.3054)	(0.2229)	(0.2766)	(0.2764)	(0.1839)	(0.2572)
edu_secon2	0.0167	−0.4125*	−0.3468	0.4387	−1.3166***	−0.3959
	(0.3286)	(0.2436)	(0.3007)	(0.2875)	(0.2252)	(0.2761)
edu_vocat1	−0.1069	−0.8834***	−0.0484	0.2829	−1.3366***	−0.8246***
	(0.3065)	(0.2167)	(0.3069)	(0.2517)	(0.1862)	(0.2629)
edu_vocat2	−0.2527	−0.8612***	−0.4725*	−0.6029**	−2.2939***	−1.3780***
	(0.3208)	(0.2196)	(0.2762)	(0.2403)	(0.2173)	(0.2868)
edu_univer	0.3684	−1.4330***	−0.2069	−0.1554	−2.6853***	−1.9023***
	(0.3327)	(0.2530)	(0.2965)	(0.2738)	(0.2152)	(0.2703)
urban_high	−0.1307	0.0079	0.1733	−1.8075***	−0.0109	−0.8207***
	(0.1227)	(0.1219)	(0.1274)	(0.1769)	(0.1156)	(0.1429)
urban_middle	0.2656*	−0.0118	0.0984	−1.1946***	0.0501	0.1816
	(0.1424)	(0.1356)	(0.2282)	(0.1780)	(0.1604)	(0.1557)
N	3816	3812	3810	3810	3810	3810
ρ	0.8382	0.8813	0.8564	0.9258	0.9166	0.9176

Note: Standard errors in parentheses.
*** = $\{p < 0.01\}$; ** = $\{0.01 \leq p < 0.05\}$; * = $\{0.05 \leq p < 0.10\}$.
Situations: 1 = not having a valid (train) ticket; 2 = breaking a coffee mug;
3 = taking a bundle of printing paper; 4 = driving too fast on a highway;
5 = accepting a bribe; 6 = reporting a lower income to the tax authorities.

Age: The signs and significance levels of the effects of the respondent's age are almost the same as for the short questions. Older respondents always give significantly more severe ratings in all situations. For tax evasion, the negative age effect is now significant and larger in magnitude than for some of the other small crimes, while it was insignificant in the short questions.

Table 6: Random effects ordered probit (cont.)

(b) Vignette characteristics

Variable	Situation					
	1	2	3	4	5	6
vign_wage	−0.3496***	−0.5564***	−0.3154***	−0.2604***	−0.3403***	−0.3813***
	(0.0594)	(0.0637)	(0.0632)	(0.0700)	(0.0798)	(0.0688)
vign_female	0.0014	−0.0937*	0.0095	0.1205**	−0.0878	−0.1146**
	(0.0499)	(0.0527)	(0.0520)	(0.0590)	(0.0610)	(0.0568)
vign_43y	0.0683	0.1153*	0.0875	0.1039	−0.0330	0.0030
	(0.0594)	(0.0631)	(0.0625)	(0.0717)	(0.0759)	(0.0733)
vign_55y	0.0937	0.1683***	0.0584	0.0176	−0.0189	0.0246
	(0.0599)	(0.0625)	(0.0622)	(0.0761)	(0.0743)	(0.0699)
vign_freq	−1.2838***		−0.4162***	−0.5922***	−0.3840***	−0.2644***
	(0.0531)		(0.0518)	(0.0624)	(0.0616)	(0.0570)
vign_catch	−0.0390		−0.1340***			−0.2631***
	(0.0484)		(0.0508)			(0.0556)
vign_distance	−0.0719					
	(0.0482)					
vign_boss			−0.5716***		−0.3429***	
			(0.0519)		(0.0608)	
vign_entrepr				0.0138		
				(0.0622)		
vign_wage_us	−0.0941	−0.0117	−0.1123	−0.1171	−0.1473*	−0.1626**
	(0.0684)	(0.0726)	(0.0730)	(0.0879)	(0.0873)	(0.0787)
vign_wage_hi	−0.0520	−0.1416*	−0.0974	−0.0830	0.0658	−0.1025
	(0.0685)	(0.0728)	(0.0730)	(0.0878)	(0.0885)	(0.0798)

Note: Standard errors in parentheses.
*** = $\{p < 0.01\}$; ** = $\{0.01 \leq p < 0.05\}$; * = $\{0.05 \leq p < 0.10\}$.
Situations: 1 = not having a valid (train) ticket; 2 = breaking a coffee mug;
3 = taking a bundle of printing paper; 4 = driving too fast on a highway;
5 = accepting a bribe; 6 = reporting a lower income to the tax authorities.

Income: In the short questions, we hardly found any income effects. But in the vignette questions, household income has a negative and significant effect in three of the six situations: respondents with a higher household income consider driving too fast, accepting a bribe, and tax evasion as less justifiable than low income respondents.

Education: Educational dummies are jointly significant in five of the six situations and the effects of education are quite different from those in Table 5 — non-monotonicity is no longer an issue. The finding in the previous section

Table 7: Random effects ordered probit: extended specification

Variable	Situation					
	1	2	3	4	5	6
occup_pension	0.0522	0.0410	0.1931	0.0990	0.4226**	−0.2838
	(0.1641)	(0.1724)	(0.1947)	(0.1654)	(0.1989)	(0.1791)
occup_indep	0.7616***	0.8261	0.7554***	1.2896***	1.6483***	0.9740***
	(0.2042)	(0.5943)	(0.2578)	(0.2014)	(0.2008)	(0.2355)
occup_nowork	−0.2611**	−0.0872	0.0908	−0.6818***	0.1566	0.6460***
	(0.1328)	(0.1608)	(0.1726)	(0.1613)	(0.1731)	(0.1610)
position_head					0.0537	0.1817
					(0.2110)	(0.1937)
partner					0.3436	0.8216***
					(0.2175)	(0.2191)
party_christ						−0.4256***
						(0.1283)
party_other						0.4221***
						(0.1288)
N	3816	3812	3810	3810	3810	3806
ρ	0.8406	0.8825	0.8559	0.9319	0.9139	0.9214

Note: Standard errors in parentheses.
*** $= \{p < 0.01\}$; ** $= \{0.01 \leq p < 0.05\}$; * $= \{0.05 \leq p < 0.10\}$.
Situations: 1 = not having a valid (train) ticket; 2 = breaking a coffee mug;
3 = taking a bundle of printing paper; 4 = driving too fast on a highway;
5 = accepting a bribe; 6 = reporting a lower income to the tax authorities.

that higher-educated respondents rate tax evasion as more severe than the lower educated is much stronger now.

Crime rate: As for the short questions, higher provincial crime rates make respondents judge less harshly, while in the vignette regressions this holds for all situations. The effect is particularly strong for situation 6 (reporting a lower income to the tax authorities).

Urbanization: The effects of urbanization are still as ambiguous as in the previous section.

The extended specifications in Table 7 include, *inter alia*, the same respondent and vignette characteristics as before. Since the coefficients on these variables hardly change when additional regressors are added, we do not present or discuss them, and focus on the effects of the additional variables, referring to occupational status and affiliation with a Christian political party.

Occupational status: Self-employed respondents are significantly less harsh on five types of small crime than employees, while pensioners are less harsh in only one situation. The latter result is not in line with Herzog and Oreg (2008), who find that part-time employees consider crimes relatively less justifiable than full-timers. Wärneryd and Walerud (1982) find no effect of self-employment or occupation on the attitude towards tax evasion.

Political party: The final additional variable is affiliation with a Christian political party. The literature is ambiguous on this issue. Herzog and Oreg (2008) found that individuals who lead a conservative life also have more conservative views towards crime. Similarly, Payne et al. (2004) reported that conservativeness is positively related to the tendency to punish harder. On the other hand, Isenring (2008) did not find a significant effect of political preferences on crime seriousness ratings. We find no significant effect in five of the six situations. But we do find a significant effect in situation 6: respondents who feel attached to a Christian party rate tax fraud as a more serious offense than other respondents.

6.2 Vignette characteristics

In 1996 the Catholic Dutch Bishop Tiny Muskens declared that the poor have a right to steal bread when they are hungry and see no other way to survive. This statement caused some turmoil, especially in the bakery industry, but was also applauded, and some years later Bishop Muskens was appointed Honorary Citizen of Breda. We find that the most salient effect of the vignette characteristics is the effect of the vignette person's earnings level (vign_wage). For all situations, respondents consider the offense less justifiable if the person who commits it earns more. The explanation is probably that the respondents feel that people with higher income can better afford to be honest. The coefficients for this variable are of approximately the same size, except for situation 2 (breaking a coffee mug in a shop), for which the effect is by far the largest, and situation 4 (speeding) for which the effect is lowest.

In addition to the absolute earnings level, each vignette situation also provides information on how earnings compare to those of others with a similar job. This information depends on the earnings level: if the earnings level is high, then the vignette states either 'this income is usual for this type of work' or 'this income is high for this type of work' (vign_wage_hi = 1). If absolute earnings are low, the vignette states either 'this income is low for this type of work' or 'this income is usual for this type of work' (vign_wage_us = 1). A negative sign on both vign_wage_us and vign_wage_hi implies that respondents are harsher if earnings of the offender are relatively

high, given the type of work. The effects are mostly insignificant, however, and much weaker than the effects of absolute earnings. It seems that relative income matters more if the offender's absolute income is low than if it is high: the coefficient of vign_wage_us is significant in two situations; that of vign_wage_hi in only one situation. Perhaps surprisingly, the relative wage level plays no significant role for the only work-related situation (taking a bundle of printing paper home).

As expected, if a vignette person has committed the same crime before (vign_freq = 1), it is considered more severe than if the crime is committed for the first time. The effect is significant in all five situations where this information is provided. People are generally more forgiving if the offense only happens once; see also Herzog and Oreg (2008) and Rossi et al. (1985).

Important is also the probability that the offender gets caught. A larger probability to get caught (vign_catch = 1) leads to a harsher judgement, and the effect is significant in two out of three cases. An explanation could be that a large probability to get caught suggests that the offense is taken more seriously by society, so that the respondent interprets it as a proxy for the social norm.

The behavior of the offender's superior matters. The superior sets an example to the employees and influences the norms within the organization. If the superior behaves correctly (vign_boss = 1) (e.g. does not take printing paper home for private use), then the respondents think it is less justifiable for the employees to behave incorrectly and consider the offense significantly more severe. This type of behavior is referred to as 'parallel deviance', where unethical behavior on the part of a superior sends a message to an employee that deviant behavior is legitimate or even the standard within an organization (Greenberg and Scott, 1996; Jones and Kavanagh, 1996). Jones and Kavanagh (1996) empirically examine individual and situational factors that drive unethical behavior at the workplace, but find no significant effect for parallel deviance. This may be the result of the use of behavioral intentions as the dependent variable instead of actual behavior.

The effects of other vignette characteristics are specific to the situation. Older offenders are judged significantly less harshly than others when breaking a coffee mug in a shop and not reporting it (situation 2). Differences between ratings of small crimes committed by male and female offenders are insignificant in four situations, and marginally significant with opposite signs in the other two situations. These results are not in line with those of Rossi et al. (1985) who find, in the case of property crimes, that older offenders are judged more severely than young offenders, and females are judged more mildly than males.

7 Concluding remarks

Perceptions are said to reflect an underlying normative structure. In this paper we have tried to disentangle the factors that drive these perceptions using subject, offender, and offense characteristics. One of the strengths of the paper is the quality and quantity of the data. We had access to an excellent panel with a high response rate and we were able to ask almost 2000 respondents many questions on incorrect behavior of which some activities are forbidden by law while other activities are not forbidden but can be perceived as morally wrong. Important novelties of our approach are that we use vignette questions to incorporate characteristics of the offender, and that we consider small crimes. Most of the literature in this field considers very serious crimes such as murder and armed robbery. The public's perception of less serious crimes or incorrect behavior is less known. This paper tries to fill this gap.

Respondents evaluate a given (small) crime differently if they know more about the offender and the circumstances. From a methodological point of view, this means that the analysis through vignettes is useful. If we compare the short and vignette questions (Tables 5 and 6a), we see, for example, that respondents from an area with a relatively high crime rate will judge more mildly than respondents from a more peaceful area. This is not evident from our short questions, but it is evident from the vignette questions. The vignette questions also provide a consistent result for education: higher-educated subjects judge more harshly.

The respondents judge a small crime committed by an underprivileged person less harshly than the same crime committed by a wealthy person. Not everyone would agree with Bishop Muskens that a poor man is allowed to steal bread, but income does play a role in people's judgment. This is true even for non-financial crimes such as speeding; see Table 6b, situation 4. If this is indeed the public's sentiment, then one may wonder why punishments are not income-dependent. It is not unusual to make company fines dependent on the revenue earned in a certain period, for example when breaking competition laws. Income-dependent fines for individuals are not common in The Netherlands, although they do exist in some other European countries, such as Germany and Switzerland.

No doubt, one can learn much from the experiences in other countries. The current study considers only The Netherlands. Evans and Scott (1984) compared the perception in two different cultures: United States and Kuwait. While violent, property, and white-collar offenses were perceived similarly, moral offenses (selling illegal drugs, prostitution, having an illegal abortion, committing perjury) were perceived very differently. A new international

study involving more countries would be of great interest.

Various other extensions could also be of interest. It is likely that past victims of a (small) crime judge more harshly than subjects who have never been a victim; see the discussion on the effect of victimization on a subject's judgment in Pease (1988). Hence, including a measure of victimization may provide additional insight. In addition, a multivariate approach would identify factors driving a subject's judgment in general, hence not only in a specific situation.

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Appendix

In Tables 8 and 9 we provide two lists: one of respondent variables and one of binary vignette variables, both with explanation.

Table 8: List of respondent variables with explanation

Non-binary variables	
age	age of respondent (in years)
hh_lincome	log of gross monthly household income
crime rate	% number of crimes over total population in a province
Binary variables	
female	1 if respondent is a woman
edu_prim	1 if respondent's highest education is primary school
edu_secon1	1 if — lower general secondary school
edu_secon2	1 if — higher general secondary school
edu_vocat1	1 if — intermediate vocational school
edu_vocat2	1 if — higher vocational school
edu_univer	1 if — university
urban_low	1 if respondent lives in a less urbanized area
urban_high	1 if — more urbanized area
urban_middle	1 if — an intermediate urban character
occup_empl	1 is respondent has an (unpaid) job
occup_pension	1 if — is retired or ≥ 65 years
occup_indep	1 if — works as independent entrepreneur or in a family firm
occup_nowork	1 if — has no occupation (incl. students)
position_head	1 if respondent is head of the household
partner	1 if head of household has a partner (married or unmarried)
party_nochr	1 if respondent votes for a non-Christian national political party
party_christ	1 if — Christian national political party
party_other	1 if — local party or does not vote

Table 9: List of binary vignette variables with explanation

vign_wage	1 if vignette person (vp) has a high wage
vign_female	1 if vp is a woman
vign_27y	1 if vp is 27 years old
vign_43y	1 if vp is 43 years old
vign_55y	1 if vp is 55 years old
vign_freq	1 if small crime has been committed more often before
vign_catch	1 if the probability of getting caught is 50% (0 if very small)
vign_distance	1 if the travel distance is 20 minutes (0 if 5 minutes)
vign_boss	1 if the boss of the vp behaves correctly
vign_entrepr	1 if the vp is an independent entrepreneur
vign_wage_hi	1 if vp receives substantial wage for type of work, given vign_wage $= 1$
vign_wage_us	1 if vp receives usual wage for type of work, given vign_wage $= 0$