

# The Value of Remorse: How Drivers' Responses to Police Predict Fines for Speeding

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Published online: 17 June 2010

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**Abstract** After they stop drivers for exceeding the speed limit, police often have the discretion to alter the penalty. We investigated the degree to which extra-legal factors (apologies and other verbal responses), in addition to speed over the limit, predict ticket costs for speeding. Surveys of speeders were conducted in the U.S. and Canada. The data suggest that what people say to police matters. Participants who reported statements of remorse, e.g., “I’m sorry,” received lower fines for speeding. The relation of speeders’ responses to ticket costs is discussed from legal and psychological perspectives.

**Keywords** Apology · Remorse · Forgiveness · Police-citizen interactions

Speeding stops constitute one of the most common interactions between citizens and the police in both Canada and the U.S. (Ministry of Transportation Ontario, 2005; U.S. Department of Justice, 2002). Every year in the U.S., approximately 21% of the population age 16 or older has some contact with police; of these contacts, approximately 40% involve traffic stops. Excessive speeding is the basis of 55% of all traffic stops (U.S. Department of Justice, 2002). When drivers are stopped for speeding violations, what determines the amount of their fine? Speed matters. Police officers can use formulae to calculate the level of fine from the severity and location of the violation. In most jurisdictions, police officers can also exercise discretion (National Research Council, 2004). Independent of the severity of the violation, police can choose to issue a

warning, reduce the recorded speed and fine, or report the speed accurately. Many factors can potentially affect a police officer’s decision. In the current research, we investigated the relation between drivers’ verbal responses (apologies, excuses, etc.) and penalties for speeding.

We derive our analysis of verbal responses from both social psychological research and linguistic analyses of politeness (Brown & Levinson, 1987). In social psychological research, observers’ judgments of transgressors are influenced by what they say about their offences (Blumstein et al., 1974; Gonzales, Haugen, & Manning, 1994; Schönbach, 1990; Scott & Lyman, 1968). Researchers have studied the effects of various statements, including concessions, excuses, justifications, and denials (Schönbach, 1980). Concessions are basically apologies that include statements of remorse (e.g., “I’m sorry”) and admissions of personal responsibility (e.g., “I was wrong”). Excuses acknowledge wrongdoing but include explanations that decrease personal responsibility (e.g., “I’m tired”). Justifications deny personal responsibility for a transgression by depicting actions and intentions as appropriate (e.g., “I speeded up to avoid an accident”). Denials reject any responsibility for a transgression (e.g., “I didn’t do that”). Apologies and excuses yield more favorable evaluations of offenders than do justifications and denials (e.g., Gonzales et al., 1994). Schönbach (1990) reasoned that verbal responses vary in defensiveness: apologies (concessions) are the least defensive, and therefore the least aggravating to victims, accusers or observers, followed in order of increasing defensiveness by excuses, justifications, and denials.

Similarly, Brown and Levinson’s (1987) politeness theory suggests that transgressors can engage in strategies to maintain their own “positive face” and respect the positive images of victims or accusers. Factors that predict the specific strategies used by transgressors include their

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relative status and the severity of the offense (Brown & Levinson, 1987; Gonzales, Pederson, Manning, & Wetter, 1990). When their offense is relatively severe and they are low in status, transgressors may offer polite responses, such as apologies and excuses (Goffman, 1971). Such responses demonstrate respect for the victim or accuser and help restore the transgressor's image.

Of the different verbal strategies, apologies have received the most research attention. In many studies, participants read a scenario in which a transgressor did or did not apologize. Participants are asked to evaluate the transgressor or infer the victim's response (e.g., Darby & Schlenker, 1982; Ohbuchi & Sato, 1994; Scher & Darley, 1997; Weiner, Graham, Peter, & Zmuidinas, 1991). Apologies that included acknowledgments of wrongdoing and expressions of remorse benefitted transgressors. Research participants regard transgressors who apologize as less blameworthy, less immoral, and more likable, than those who do not apologize. Participants also infer that victims will be more likely to forgive apologizers. Expressions of remorse appear to be particularly effective in restoring the transgressor's image (Scher & Darley, 1997).

Other researchers have examined the effectiveness of apologies in the context of actual transgressions. Participants who are asked to remember offences committed against them by intimates are more forgiving if the transgressors apologized (e.g., McCullough, Worthington, & Rachal, 1997). Although far less common, there are also laboratory studies in which an experimental confederate does or does not apologize after offending a research participant (e.g., Risen & Gilovich, 2007). In participants' subsequent evaluations, the transgressor usually benefits from an apology.

The potential value of apologies has recently been examined in legal domains (Petrucci, 2002; Robbennolt, 2008). A number of authors have suggested that apologies for medical errors can benefit both physicians and patients, as well as reduce medical malpractice suits. Anecdotal evidence supports the potential of apologies to reduce malpractice suits and awards in the U.S. (Haley, 1998; Vincent, Young, & Phillips, 1994), as does research with mock jurors responding to hypothetical medical mistakes (Bornstein, Rung, & Miller, 2002; Robbennolt, 2009). The findings from field studies are mixed. The University of Michigan Health Care System reported a decline in lawsuit claims and litigation costs after implementing an apology and disclosure program. Two other reports from different health care systems have found negligible effects of apology and disclosure programs on malpractice suits (Schmidt, 2007). Despite the limited research, policy and procedures are rapidly changing in U.S. health care settings, promoting disclosure and apologies following medical mistakes (Gallagher, Studdert, & Levinson, 2007).

Apologies are also central to the restorative justice movement. In some programs, victims of crime have the opportunity to interact with offenders. Offenders apologize in a high proportion of cases. Mediators speculate that these apologies help promote the typically greater satisfaction experienced by victims in such programs (e.g., Armour & Umbreit, 2006; Morris & Maxwell, 1997; Strang & Sherman, 2003). The presumption that apologies are effective in offender–victim mediations has led to calls for their inclusion in other legal domains (Bazermore, 1998; Bornstein et al., 2002; Greene, 2008).

Researchers have also examined apologies in more traditional court settings. In studies of civil litigation, mock claimants accept lower settlements when transgressors apologize (Robbennolt, 2008). In studies of hypothetical crimes, mock jurors are more lenient toward offenders who apologize (e.g., Robinson, Smith-Lovin, & Tsoudis, 1994; Rumsey, 1976; Taylor & Kleinke, 1992). Analyzing a sample of 80 Canadian court transcripts, Benoliel (2006) found that defendants who apologized (either spontaneously or mandated by the judge) received lower sentences.

People's interactions with the police represent potentially rich, real-life contexts in which to study the effects of apologies and other verbal responses to transgressions. In laboratory studies of the effects of various verbal strategies including apologies, the transgressions are often minor or hypothetical. It is perhaps especially easy for research participants to indicate forgiveness when responding to hypothetical scenarios in which transgressors apologize. Participants are not personally angry, offended, or victimized. Nor are participants in the role of enforcing moral or legal standards. Forgiveness may be more difficult to attain in everyday life when the offence is more serious (Exline, Worthington, Hill, & McCullough, 2003), the potential penalty for wrongdoing is consequential, and the person levelling the penalty is both a stranger and a law enforcement officer.

These differences between real world and laboratory transgressions may partly explain why the evidence for the effectiveness of apologies is clear in laboratory studies and more mixed in field studies of medical malpractice suits. The evidence from field studies of malpractice suits is difficult to interpret, however, because many aspects of the apology process are uncontrolled or unknown. The seriousness of the medical mistakes differs greatly, as does the wording of apologies (e.g., apologies may or may not contain explanations and justifications). There are also variations in who provides the apology. It is sometimes offered by the offending physician and sometimes by other hospital officials. Finally, unlike many wrongdoings, the very existence of medical errors is often unknown until the disclosure and apology occur (Landsman, 2008). It is

unclear whether any effects on malpractice suits reflect the impact of disclosure, apology, or both.

Speeding stops are an intriguing setting in which to study the effectiveness of verbal responses to transgressions because police possess the discretion to alter the penalty. Speeding stops may be especially likely to motivate mitigating responses, such as apologies and excuses, because of the power asymmetry between drivers and police, the potential severity of the fine, and speeders' awareness that officers can reduce the penalty (Brown & Levinson, 1987; Gonzales et al., 1990). This situation also provides the opportunity to link offenders' spontaneous verbal responses to the magnitude of the penalties. Most hypothetical and laboratory-based research focuses exclusively on the reactions of victims or observers. The study of speeding stops also allowed us to relate apologies and other verbal strategies to a relatively objective indicant, level of fine.

Two previous studies have included factors that could predict penalties for traffic violations. Makowsky and Stratmann (2009) analyzed the data from all officially recorded speeding stops in Massachusetts during a 2-month period (i.e., those that involved a ticket or official warning). In a sample of over 60,000 recorded stops, 46% of drivers received fines; the remainder received warnings. Speed over the limit strongly predicted ticket costs. Controlling for speed, women received lower fines than men, older people received lower fines than younger people, and Blacks and Whites received lower fines than Hispanics.

Makowsky and Stratmann (2009) analyzed only information that was available on traffic citations. The information provided on tickets may not accurately represent the actual speed of drivers because police officers sometimes alter the speed reported on citations. Also, official records offer no information on interactions between police and drivers. This study cannot reveal whether drivers' verbal responses influenced penalties.

Verbal responses were examined by Cody and McLaughlin (Study 2, 1985), who asked students in a college course to recruit participants to answer questions about driving violations. Participants' reports of their responses to police officers were coded using the categories of apologies, admission of personal responsibility, excuses, justifications, denials, and silence. Their reports of apologies, excuses, and justifications were positively correlated with receiving warnings rather than fines. Statements of personal responsibility and denial as well as the reported severity of the incident did not predict outcomes.

Some aspects of the Cody and McLaughlin (1985) study are potentially problematic. The data were collected by students in a course, rather than under more controlled conditions. It is unusual that participants' reports of the severity of the incident were unrelated to whether police

issued a warning or fine. This null result is discrepant with Makowsky and Stratmann (2009) finding that speed over the limit strongly predicted penalties. Also justifications had a positive impact in this sample, but a negative impact in laboratory research (e.g., Gonzales et al., 1994). Nonetheless, Cody and McLaughlin's research suggests that the content of people's responses to police may predict penalties.

### Overview of Studies and Summary of Hypotheses

In two surveys, we examined respondents' reports of their verbal responses when they were most recently stopped for excessive speeding, as well as the penalties that they received. The first survey was conducted in Canada and the second in the U.S. Participants were asked to report their speed, the speed limit, their ticket costs (if any), the degree to which their fine was reduced by the police, and to provide as detailed an account as possible of their statements to the police. Our main purpose in both studies was to assess the degree to which drivers' verbal responses predicted ticket costs. To evaluate the precision of people's reports, we also measured people's confidence in their recollections and the length of time since the reported infraction.

We expected that drivers' speed over the limit would be the main predictor of ticket costs. In addition, we hypothesized that drivers' verbal responses would predict the magnitude of fines. We coded participants' reports of their responses to police for statements of apology, excuse, justification, and denial, as well as for indications that they simply remained silent. In particular, we examined whether apologies were related to decreased ticket costs. Theoretically, apologies are a double-edged sword. By apologizing, drivers acknowledge their guilt. At the same time, however, apologizers express remorse for their actions. The admission of guilt may not have negative implications for drivers snared in speeding stops, because speeders are typically caught on radar. Determination of their guilt or innocence is not a primary issue. From a social psychological perspective, the remorseful aspect of apologies should be particularly beneficial in this context because it suggests that transgressors feel upset about their actions (Baumeister, Stillwell, & Heatherton, 1994). Police officers may be more likely to regard speeders' offences as aberrant rather than typical behavior if they express remorse (Wiener et al., 1991). From a legal perspective, apologies may benefit offenders because penalties for speeding and other offences are designed, in part, to promote concerns for safety, as well as compliance with and respect for laws (Redelmeier, Tibshirani, & Evans, 2003; Tyler, 1990). By communicating remorse, speeders help preserve the

positive identity (respect, authority) of the police officer, show respect for the law, and signal their intention to drive within the speed limit. Consequently, police officers may suppose that their mission is at least partly accomplished. We hypothesized that expressions of remorse would be associated with lower ticket amounts than other response strategies.

We also examined whether the relation between expressions of remorse and the magnitude of fines varies with speed. Two contrasting interaction predictions seem plausible. Conceivably expressions of remorse predict lower fines primarily when the offence is minor. As the potential consequences of the offence are smaller and the driver's intention to speed is more ambiguous, police may be inclined to reduce the penalty when a speeder apologizes for a low-speed offence. Alternatively, perhaps expressions of remorse predict reductions in fines primarily when the offence is more severe. When the potential fine is large, police may be inclined to reduce the hardship imposed on drivers who express remorse, especially as our samples exclude extreme cases of reckless speeding. We were unable to find any directly relevant past research on how apologies predict responses to offences differing in severity.

We also examined the association of other verbal responses to ticket costs. In previous research, excuses promote more positive evaluations of transgressors (e.g., Gonzales et al., 1994). Consequently, excuses may be associated with lower fines for speeding. Justifications and denials challenge police actions; we predicted that these verbal responses would be unrelated or even inversely related to ticket reductions. There is little theoretical basis for predictions of the impact of silence on police officers' responses. Although silence may imply acknowledgment of guilt, its meaning is more ambiguous than explicit expressions of remorse. The effects of remaining variables that we included in our studies, driver gender, age, and ethnicity, are also difficult to predict. Makowsky and Stratmann (2009) detected effects for some of these variables, but their data set was very large and the magnitude of the effects was minor in comparison to speed over the limit.

Finally, we assessed respondents' reports of the dates of the incident as well their confidence in the accuracy of their memories. As in all survey research, the integrity of our data depends on people's memories of the incident. We expected that respondents would report clear memories of the incident because traffic stops and interactions with police are rare for the average individual and we limited the time since the incident. Thus, relative to many typical everyday events, a speeding stop is likely to be more memorable and less subject to systematic memory distortion (Conway, 1990; Strube, 1987). We examined whether

people's confidence in their memories and time since the traffic stop predicted people's reports of the incident.

## Study 1: Caught Speeding in Canada

### Method

**Participants.** A sample of 530 Canadian respondents participated in a survey in exchange for entry into a draw for one of three \$100 gift certificates. The sample included Ontario university undergraduates who were recruited by an e-mail requesting that drivers volunteer for a survey and community participants recruited from online advertisements. Drivers were asked to report the most recent occasion that they were stopped by police for speeding in the last 3 years. Of this sample, four respondents who indicated that they had not driven in excess of the speed limit were excluded from the data analyses.<sup>1</sup> In addition, the data from eight participants who reported ticket costs and/or speeds that exceeded the median by 3.5 interquartile ranges were excluded from the analyses.<sup>2</sup> In many jurisdictions, instances of extreme speeding are treated differently by police officers than mild or moderate speeding (e.g., California, Ontario, Oregon, Virginia).

The original sample was reduced by 2.26%, yielding an effective sample size of 518 participants (47.88% female, 50.38% male, 1.74% unknown gender). Participants reported their ethnicity as follows: 77.41% White, 8.11% Asian, 2.70% Middle Eastern, 1.74% East Indian, 1.16% Black, 0.96% Aboriginal, 0.19% Hispanic, 4.83% other, and 2.90% did not list their ethnicity. The mean age of the sample was 26.77 years ( $SD = 10.45$ ), and the mean duration of driving experience was 9.97 years ( $SD = 9.82$ ). A majority of participants indicated that they were stopped for speeding in Ontario (65.10%). The remaining respondents were stopped in nine other Canadian provinces and two territories. Participants reported that a mean of 15.81 months ( $SD = 13.45$ ) had elapsed since their speeding stop.

**Procedure and Materials.** Respondents were directed to a website to complete the survey. They were asked to

<sup>1</sup> Including such participants in the analyses does not affect the pattern or significance of the main results in either study.

<sup>2</sup> In Ontario, Canada, the maximum fine for speeding is \$10,000. Police have the discretion to issue this fine for speeds in excess of 50 km/h (31.1 mph) above the speed limit. Two participants who received this fine were excluded prior to analysis, as this ticket cost is highly atypical. After removing these cases, interquartile ranges were used to identify the remaining extreme outliers in an effort to maintain a relatively normal range of speeders and speeding ticket costs.

recall the most recent time they were stopped by the police for speeding as a driver. Respondents answered questions about various aspects of the speeding incident and themselves. We describe these questions in the order in which they appeared in the survey.

**Responses to Police.** Respondents indicated the date and location of their most recent speeding infraction. Next, respondents were asked: “After the officer stated your violation, what, if anything, did you say in response?” Respondents were asked to respond as accurately as possible in their own words. We asked two questions to assess the quality of respondents’ memories: “How vivid is your recall of this incident?” and “Are you confident that you remember what you said to the officer?” All rating scales in the survey contained five steps with the end and mid-points labeled (e.g., confidence scale: 1 = *not at all confident*, 3 = *moderately confident*, 5 = *very confident*).

**Speed over the Limit.** Respondents reported the speed limit and the speed that they were driving. Respondents indicated on a rating scale how confident they were that they remembered their speed.

**Penalty.** Respondents were asked, “What penalty, if any, did the officer give you for speeding?” Respondents who received a ticket were asked to indicate its cost and then how confident they were of that amount on a rating scale. Respondents were also asked to describe any reductions of the penalty by the police officer (e.g., a reduction in the speed he/she reported).

**Other.** The remaining questions in the survey assessed background information about the participant including gender, age, ethnicity, and driving experience.

**Coding of Verbal Responses.** Respondents’ statements to police officers were coded according to a taxonomy adapted from earlier research (Gonzales, Manning, & Haugen, 1992; Schönbach, 1980). The revised taxonomy used in this study excluded responses from the Gonzales et al. taxonomy that seemed implausible following a speeding stop (e.g., appeals to the role of the victim). We coded response elements as present (1) or absent (0) for the response types of apology, excuse, justification, denial, and silence. The examples provided below are actual responses provided by survey respondents.

**Apologies.** We assessed the presence or absence of three apology elements: remorse, personal responsibility, and forbearance. Remorse was coded as an expression of

regret (e.g., “I’m sorry”). Personal responsibility was defined as respondents’ acknowledgment that they had violated a rule or social norm (e.g., “I know I was speeding”). Forbearance included promises not to repeat the offence, or to act more appropriately in the future (e.g., “It won’t happen again”).

**Excuses.** We assessed the presence or absence of three excuse elements: statements of own shortcomings (e.g., “I didn’t realize the speed I was driving”), reasons for own shortcomings (e.g., “My speedometer was broken”), and attributing speeding to shortcomings or misdeeds of others (e.g., “I was following the flow of traffic”).

**Justifications.** We assessed the presence or absence of three types of justifications: circumstances that permitted a rule to be broken (e.g., “My sister is giving birth and I’m her birth coach”); attempts to minimize the severity of the situation (e.g., “I was only going 10 mph over the limit”); appeals to an unfair detection procedure (e.g., “you targeted me”).

**Denials.** Statements denying the offence were coded into two categories: claims that the offender did not commit the act (e.g., “I wasn’t speeding”) and refusals to admit the offence (e.g., “I will not admit it”).

**Silence.** Explicit acknowledgments that respondents said nothing to the officer or responded with only sounds or unintelligible utterances (e.g., “uhhh,”) were coded as silence.

Two trained research assistants coded all of the open-ended data. Coders were only exposed to drivers’ responses and were blind to all other variables. Overall, reliability (assessed by Cohen’s Kappas) between coders was substantial for unique counts of the superordinate categories, apology, excuse, justification, denial, and silence ( $\kappa = .66-.97$ ). For response elements within the superordinate categories reliability was as follows: apology ( $\kappa = .93-1.00$ ), excuse ( $\kappa = .86-.89$ ), justification ( $\kappa = .57-.80$ ), and denial ( $\kappa = .63-1.00$ ). A third coder independently resolved any disagreements prior to data analyses.

## Results

Respondents reported relatively clear memories of the speeding incident. Of the respondents, 94.59% indicated that they had moderate to very vivid recall of the incident, 89.76% were moderately to very confident that they remembered what they said to the police, and 97.87% were moderately to very confident that they could recall how fast



they were driving. Of the respondents who received a ticket, 82.48% were moderately to very confident of its cost.

The difference between the speeds participants were driving and the speed limits was computed to create a *speed over the limit* variable. The mean speed over the limit was 17.74 mph ( $SD = 7.47$ ), with a range of 1.24–48.47 mph.<sup>3</sup> The data from six participants who did not report their speed could not be used to predict ticket costs or warnings.

Respondents who received a warning were coded as receiving a ticket cost of \$0. Of the respondents, 16.02% reported a warning for speeding, 46.14% reported a reduced ticket, 37.64% reported a full speeding ticket, and 0.20% did not report the penalty. Of those who received a ticket, 18 (4.15%) respondents did not indicate the ticket cost. The data from these 18 participants were excluded from the regressions predicting ticket costs. Participants who received a fine reported a mean ticket cost of \$141.23 Canadian dollars ( $SD = 95.74$ ).

**Responses to Police.** The superordinate categories of apologies, excuses, justifications, and denials were deemed to be present if an open-ended statement contained at least one of the relevant elements. As seen in Table 1, excuses and apologies were the most common categories, followed by justifications and denials. The mean number of superordinate categories and response elements in each report was low ( $M = 0.97, SD = 0.77; M = 1.13, SD = 0.98$ , respectively), which indicates that drivers were typically responding with simple accounts. Correlations between time since speeding stops and response elements (all  $r$ s  $< .09$ ) or speed over the limit ( $r = .02$ ) were nonsignificant. The low correlations indicate that respondents' verbal accounts and reports of speed severity were not changing systematically (e.g., becoming more self-serving) as the time since the speeding stop increased.

We also examined whether participants' verbal responses varied with degree of excessive speed (severity of transgression). There were only weak associations between speeding level and participants' likelihood of offering the various verbal responses: excuses (personal shortcomings,  $r = -.02, p = .69$ , reasons for shortcomings,  $r = .12, p = .01$ , and misdeeds of others,  $r = -.08, p = .09$ ), apologies (remorse,  $r = .06, p = .22$ , responsibility,  $r = .08, p = .06$ , and forbearance,  $r = .04, p = .33$ ), justifications (circumstances permitted,  $r = -.02, p = .70$ , minimization,  $r = -.08, p = .09$ , and unfair detection,  $r = -.09, p = .04$ ), denials (denial of incident,  $r = -.08,$

**Table 1** Unique counts and frequencies of drivers' responses to police after being told of a speeding violation (Canadian survey)

Response	Count	Percentage
Excuse	239	46.14
Shortcoming	137	26.45
Reason for shortcoming	127	24.52
Misdeeds of others	16	3.09
Apology	223	43.05
Remorse	154	29.73
Responsibility	94	18.15
Forbearance	15	2.90
Justification	29	5.60
Circumstances permitted	4	0.77
Minimized severity	20	3.86
Unfair target	8	1.54
Denial	12	2.32
Denial of incident	11	2.12
Refusal to admit	1	0.19
Silence	33	6.37

*Note.* Unique counts of superordinate response types (e.g., apology, excuse) are based on whether or not any of the underlying response elements were reported. As drivers may have offered multiple response types, percentages sum to more than 100%

$p = .09$ , and refusal to admit,  $r = -.01, p = .77$ ), and silence ( $r = -.01, p = .91$ ). Only excuses that consisted of reasons for shortcomings and justifications about being unfairly detected were significantly correlated with speed, and the correlations were small.

**Predictors of Ticket Costs.** In preliminary analyses, we examined whether driver characteristics and quality of memory predicted ticket costs. For driver ethnicity, we contrasted the most frequent minority group in the sample, Asian Canadians, to all others. For quality of memory, we examined time since the episode as well as respondents' confidence in the accuracy of their responses. None of these variables predicted ticket costs. Also, controlling for these variables did not alter the significance of the findings reported below.<sup>4</sup>

Next, we examined relations among the superordinate categories of apology, excuse, justification, denial, and silence. The likelihood that drivers responded with any two of the superordinate categories was relatively small (all  $r$ s  $< .17$ ). The low correlations indicate that responses such as apologies and excuses occurred relatively independently of each other. We followed up these analyses by examining

<sup>3</sup> Speeds in Canada are assessed in kilometers not miles. We converted all speeds to miles to facilitate comparisons across the Canadian and U.S. surveys.

<sup>4</sup> We conducted a separate regression for each driver characteristic in which all two-way interactions with response types, and speed over the limit were entered on the second level of analysis. There were no significant increases in model variance accounted for by these tests (measured by  $R^2$  change).

some of the more common response elements (e.g., remorse and responsibility). The correlations among these response types were also small (all  $r$ 's < .27).

To examine predictors of speeding ticket costs, we conducted linear multivariate regression analyses. The initial regression analysis included the superordinate categories (apology, excuse, justification, denial, and silence) and speed over the limit as predictors. Prior to analyses, continuous predictor variables were mean centered, and all discontinuous variables were dummy coded (0, 1). The results of the regression for first-order level variables on speeding ticket costs indicate the unique variance that each variable contributed, controlling for the other variables. Speed over the limit strongly predicted ticket costs. At the intercept, which represents a speed over the limit of 17.72 miles and a fine of \$129.32, every additional mile over the limit was associated with an increased fine of \$4.03 ( $\beta = .29$ ,  $SE = 0.60$ ,  $p < .001$ , 95% CI [2.86, 5.20]). The only other significant predictors were apology and silence. An apology predicted a \$33.12 reduction in ticket costs ( $\beta = -.16$ ,  $SE = 9.24$ ,  $p < .001$ , CI [-51.28, -14.95]), on average. Drivers who were silent received ticket costs that were \$41.97 ( $\beta = .10$ ,  $SE = 18.98$ ,  $p = .03$ , CI [4.67, 79.27]) higher than drivers who provided some type of response to police.

The first regression analysis revealed that apologies were associated with a reduction in fines. It is possible that using the broader category of apology, instead of apology elements, masks or alters the size of any meaningful effects. For example, Cody and McLaughlin (1985) argued that, unlike remorse, accepting personal responsibility may be harmful in the context of law enforcement. Therefore, we conducted a similar regression analysis predicting ticket costs substituting the more frequent apology elements (statements of remorse and personal responsibility) for the general category of apology. The results of this regression appear in Table 2. Remorse was a significant predictor, but personal responsibility was not. Controlling for other coded response elements, a statement of remorse predicted a \$34.69 reduction in ticket costs.

To examine possible two-way interactions, we retained our response types and speed over the limit predictor variables in our model. We created interaction terms between speed over the limit and the various response types. We entered each interaction term on the second level and conducted separate regressions. We found three interactions between response types and speed over the limit.

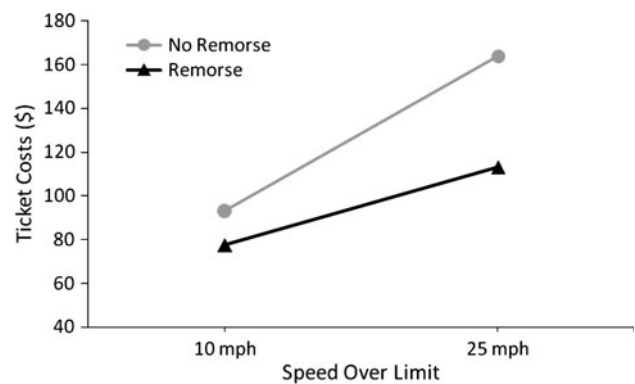
The interaction between speed over the limit and remorse was marginally significant ( $b = -2.36$ ,  $\beta = -.10$ ,  $SE = 1.27$ ,  $p = .06$ , 95% CI [-4.58, 0.15]). Despite its marginal significance, we report this interaction because it is theoretically important and replicates in the second survey. As illustrated in Fig. 1, when drivers failed to

**Table 2** First-order regression effects of legal and extra-legal variables on speeding ticket costs

Predictor	<i>b</i>	<i>SE b</i>	$\beta$	95% CI ( <i>b</i> )	
				LL	UL
Remorse	-34.69**	10.01	-.16	-54.36	-15.03
Responsibility	-16.14	11.46	-.06	-38.65	6.36
Excuse	0.61	9.46	.00	-17.80	19.20
Justification	10.85	19.04	.02	-26.56	48.25
Denial	22.24	30.11	.03	-36.91	81.40
Silence	44.26*	18.92	.10	7.07	81.44
Speed over limit	3.96**	0.60	.29	2.79	5.13
Constant	127.03**	7.54		112.21	141.85

Note. Unstandardized coefficients (*b*) represent dollar amounts (Canadian survey)

CI confidence interval, LL lower limit, UL upper limit.  $R^2 = .12$ .  $N = 491$ . \*  $p < .05$ , \*\*  $p \leq .001$



**Fig. 1** Remorse, excessive speeding, and final ticket costs (Canadian Survey). Note. Ticket costs (Canadian dollars) at 10 mph and 25 mph are representative of 1 SD below and above the mean speed over the limit, respectively

express remorse their speed over the limit strongly predicted their ticket costs ( $b = 4.76$ ,  $\beta = .34$ ,  $SE = 0.73$ ,  $p < .001$ , CI [3.31, 6.20]). When drivers expressed remorse, the association between speed over the limit and ticket costs was still significant, but considerably attenuated ( $b = 2.40$ ,  $\beta = .17$ ,  $SE = 1.03$ ,  $p = .02$ , CI [0.37, 4.42]). In particular, after being stopped for 25 mph of excessive speeding (1 SD above the mean), drivers who expressed remorse received a fine that was \$50.98 lower on average, than those who did not report offering remorse ( $\beta = -.23$ ,  $SE = 13.31$ ,  $p < .001$ , CI [-77.14, -24.82]). At 10 mph over the limit (1 SD below the mean), remorse was unrelated to ticket costs ( $b = -15.80$ ,  $\beta = -.07$ ,  $SE = 14.28$ ,  $p = .27$ , CI [-43.86, 12.27]).

A significant interaction between speed over the limit and statements of personal responsibility ( $b = 3.28$ ,  $\beta = .11$ ,  $SE = 1.44$ ,  $p = .02$ , 95% CI [0.41, 6.06]),

revealed a pattern that differed from that obtained for remorse. Admitting responsibility was associated with a reduction in fines only at lower speeds. At 10 mph over the speed limit, admitting responsibility was associated with ticket costs \$43.14 lower than not taking responsibility ( $\beta = -.16$ ,  $SE = 16.54$ ,  $p = .01$ ,  $CI [-75.65, -10.64]$ ). At higher speeds (25 mph over the limit), admitting responsibility for speeding did not affect ticket costs ( $b = 5.19$ ,  $\beta = .02$ ,  $SE = 14.82$ ,  $p = .73$ ,  $CI [-23.94, 34.31]$ ).

Finally we found a significant interaction between speed over the limit and offering an excuse ( $b = -3.51$ ,  $\beta = -.17$ ,  $SE = 1.18$ ,  $p = .003$ ,  $95\% CI [-5.82, -1.20]$ ). Depending on degree of speed over the limit, excuses were associated with either increased or decreased ticket costs. At higher speeds (25 mph over the limit), an excuse was associated with a reduction in ticket costs of \$25.07 ( $\beta = -.12$ ,  $SE = 12.74$ ,  $p = .05$ ,  $CI [-50.11, -0.04]$ ). For drivers stopped for 10 mph of excessive speeding, an excuse was associated with an increase in ticket costs of \$27.29 ( $\beta = .13$ ,  $SE = 12.97$ ,  $p = .04$ ,  $CI [1.80, 52.77]$ ). We also examined interactions that combined the more frequent response types: statements of remorse, excuse, and responsibility. None of these interactions was significant. For example, offering an excuse in addition to a statement of remorse did not predict ticket costs differently than offering a statement of remorse alone.

**Predictors of Warnings Versus Fines.** An alternative way of characterizing the data is to examine predictors of whether respondents reported that they had received a warning (83 respondents or 16.24% of the sample) versus any fine (428 respondents or 83.76% of the sample). This analysis allowed us to test the robustness of the main results derived from multiple regression analyses. As a dichotomous measure is a less sensitive measure of variance than a continuous measure and relatively few participants received a warning, we simplified our analyses by examining only first-order predictors. Using logistic regression, we analyzed warnings versus tickets as a function of the speed over the limit and driver response variables (remorse, responsibility, excuse, justification, denial and silence). The speed over the limit variable was mean centered and the driver responses were dummy coded as in the multiple regression analyses.

The results of the logistic regression are interpreted when controlling for the simultaneous (i.e., multivariate) effects of the variables. The only significant predictors were remorse ( $b = -1.40$ ,  $SE = 0.27$ ,  $p < .001$ ) and speed over the limit ( $b = 0.04$ ,  $SE = 0.18$ ,  $p = .04$ ). At the mean speed over the limit (approximately 17 mph), the probability of receiving a fine was 87.87% when no remorse was offered. For excessive speed, the odds ratio of receiving a fine over receiving a warning was 1.04,  $95\% CI [1.00,$

1.07]. This means that one extra mile in speed increased the overall probability of getting a fine to 88.29%. Statements of remorse had an odds ratio of 0.25,  $CI [0.15, 0.42]$ . At the mean speed over the limit, drivers who expressed remorse had an overall likelihood of getting a ticket of 64.11%.

As in the multiple regressions predicting ticket costs, the logistic regression analysis revealed that speed over the limit and remorse were significant predictors. Silence, which was a significant predictor of ticket costs, was not associated with receiving a fine versus a warning.

## Discussion

An apology expressed as a statement of remorse (e.g., “I’m sorry”) was associated with a reduction in ticket costs and a greater likelihood of receiving a warning rather than a fine. As in Makowsky and Stratmann (2009), speed over the limit also strongly predicted ticket costs. Further analyses revealed interactions between some of the response types and speed over the limit. Statements of remorse were associated with lower ticket costs, but especially at higher speeds. Accepting personal responsibility for speeding was also associated with lower ticket costs, but only at lower speeds. Relative to offering no excuse for speeding, excuses were associated with reduced ticket costs at higher speeds, but increased ticket costs at lower speeds. These interactions indicate that speed and drivers’ responses to police jointly predict the magnitude of fines.

We conducted a second study on a different sample of speeding violators to assess the reliability of the findings from Study 1. Past theorizing and research would not have predicted the precise interactions between driver response type and speed over the limit that we obtained. Thus, some caution is warranted in interpreting the findings without a replication of these effects.

## Study 2: Caught Speeding in the U.S.

### Method

**Participants.** Participants were 536 American survey respondents who participated in exchange for entry into draws for a variety of gift certificates. Participants included community members recruited from online advertisements and by e-mail from a community participant pool managed by a non-profit survey group, *Study Response*, operating out of Syracuse University. Drivers were asked to report their most recent speeding stop in the previous 3 years. In the initial sample, 17 reported that they had not exceeded the speed limit and were excluded from further analyses. Using similar criteria to Study 1, we removed seven participants from the final sample who surpassed the



medians for ticket costs or speeding by 3.5 interquartile ranges.

The sample was reduced by 4.48%, yielding an effective sample size of 512 participants (55.86% female, 42.58% male, 1.56% unknown gender). Ethnic groups included 76.95% White, 9.18% Black, 4.49% Hispanic, 2.93% Asian, 0.59% Native American, 0.20% East Indian, 2.73% other. A further 2.93% did not report their ethnicity. The mean age was 29.00 years ( $SD = 11.49$ ), and the mean duration of driving experience was 13.24 years, ( $SD = 11.76$ ). Participants indicated that they were stopped for speeding in 45 states. Participants reported that a mean of 15.06 months ( $SD = 14.01$ ) had elapsed since their speeding stop.

**Procedure.** Participants were directed to a website to complete the survey. The survey questions and coding of open-ended responses were identical to the Canadian survey. Coding was also conducted by the same coders. Reliability between coders was substantial for unique counts of the superordinate categories, apology, excuse, justification, denial, and silence ( $\kappa = .68-.97$ ). For response elements, reliability ranged as follows: apology ( $\kappa = .92-1.00$ ), excuse ( $\kappa = .87-.94$ ), justification ( $\kappa = .57-.81$ ), and denial ( $\kappa = .83-1.00$ ). For purposes of data analyses, a third coder independently resolved discrepancies.

## Results

Most respondents reported moderate to very vivid recall of the incident (92.97%), and moderate to very confident recall of what they said to the police (91.80%). Most respondents were also moderately to very confident that they could recall how fast they were driving (97.07%) as well as the cost of the ticket (85.75%) if they received one ( $n = 358$ ). The mean speed over the limit was 14.55 mph ( $SD = 6.56$ ), with a range of 1.00–45.00 mph. Seven respondents did not report their speed and thus were excluded from analyses predicting ticket costs and warnings.

Of the respondents, 23.63% reported receiving a warning for speeding, 14.84% reported a reduced ticket, 60.55% reported a full speeding ticket, and 0.98% did not list the penalty. The actual ticket cost was not reported by 31 participants (6.08%), whose data were therefore not included in the regression analyses predicting level of fines. Participants who received a fine reported a mean ticket cost of \$148.29 U.S. dollars ( $SD = 78.46$ ).

**Responses to Police.** As in the Canadian survey, excuses and apologies were the most common response type, while justifications and denials were relatively rare (Table 3). The mean number of superordinate categories and response elements in each report was low ( $M = 0.93$ ,

**Table 3** Unique counts and frequencies of drivers' responses to police after being told of a speeding violation (U.S. survey)

Response	Count	Percentage
Excuse	234	45.70
Shortcoming	145	28.32
Reason for shortcoming	115	22.46
Misdeeds of others	17	3.32
Apology	184	35.94
Remorse	136	26.56
Responsibility	62	12.11
Forbearance	7	1.37
Justification	34	6.64
Circumstances permitted	10	1.95
Minimized severity	13	2.54
Unfair target	12	2.34
Denial	25	4.88
Denial of incident	24	4.69
Refusal to admit	1	0.19
Silence	45	8.79

*Note.* Counts of superordinate responses reflect whether or not any of the underlying response elements were reported. Percentages sum to more than 100% as some drivers reported multiple response types

$SD = 0.74$ ;  $M = 1.06$ ,  $SD = 0.92$ , respectively), indicating that drivers typically provided simple accounts. Time since the speeding stop was unrelated to participants' verbal responses (all  $rs < .09$ ) and not associated with reported speed over the limit ( $r = -.06$ ).

Speed over the limit was a weak predictor of participants' likelihood of offering excuses (personal shortcomings,  $r = .00$ ,  $p = .95$ , reasons for shortcomings,  $r = .11$ ,  $p = .02$ , and misdeeds of others,  $r = .08$ ,  $p = .07$ ), apologies (remorse,  $r = .12$ ,  $p = .01$ , responsibility,  $r = .10$ ,  $p = .02$ , and forbearance,  $r = .06$ ,  $p = .16$ ), justifications (circumstances permitted,  $r = .00$ ,  $p = .99$ , minimization,  $r = -.12$ ,  $p = .01$ , and unfair detection,  $r = -.03$ ,  $p = .43$ ), denials (denial of incident,  $r = -.22$ ,  $p = .01$ , and refusal to admit,  $r = .04$ ,  $p = .33$ ), and silences ( $r = -.02$ ,  $p = .60$ ). Although small, the significant relationships reflect a tendency for respondents to report more polite responses (increasing numbers apologies and excuses and declining numbers of justifications and denials) as speed increased.

**Predictors of Ticket Costs.** Unless indicated otherwise, driver characteristics and quality of memory did not yield any interactions that qualified the findings reported below. As in the Canadian survey, we found only minor associations between any two verbal response types at either the superordinate level (all  $rs < .18$ ) or when remorse and responsibility were used instead of apology (all  $rs < .22$ ). Again, this indicates that the response

categories were relatively independent. Multivariate regression analyses were conducted as in Study 1. Each regression coefficient represents the unique variance contributed when controlling for all other variables in the regression.

In the analysis including the superordinate categories of apology, excuse, justification, denial, and silence, speed over the speed limit was again a strong predictor of ticket costs. At the intercept, which represents a speed over the limit of 14.51 miles and a fine of \$127.99, every additional mile over the limit resulted in an increased fine of \$5.31 ( $\beta = .37$ ,  $SE = 0.63$ ,  $p < .001$ , 95% CI [4.08, 6.55]). There was also a significant effect for the category of apology, which was associated with a reduction in ticket costs of \$33.51 ( $\beta = -.18$ ,  $SE = 8.59$ ,  $p < .001$ , CI [-50.40, -16.62]), on average. None of the other first-order variables significantly predicted ticket costs.

We also conducted a regression analysis predicting ticket costs from the most frequent apology elements. The results of this regression appear in Table 4. As in the Canadian survey, the apology element of remorse was a significant predictor. An expression of remorse was associated with a reduction in ticket costs of \$34.39. No other verbal responses revealed significant main effects.

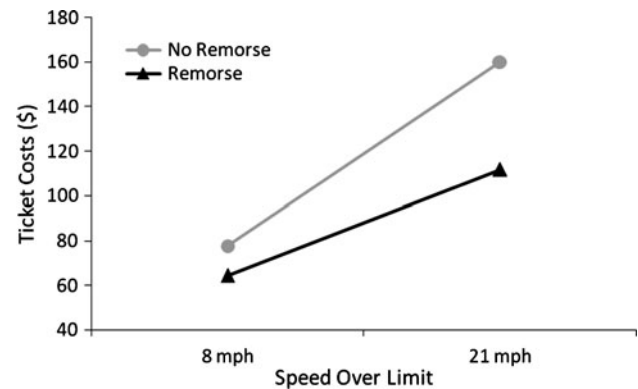
Retaining response types and speed over the limit in the model, we also conducted separate regressions for two-way interactions between excessive speed and response type. The remorse  $\times$  speed over the limit interaction was significant ( $b = -2.64$ ,  $\beta = -.10$ ,  $SE = 1.32$ ,  $p = .05$ , 95% CI [-5.24, -0.03]), as seen in Fig. 2. When drivers failed to express remorse, their speed over the limit strongly predicted their ticket costs ( $b = 6.23$ ,  $\beta = .44$ ,  $SE = 0.77$ ,  $p < .001$ , CI [4.71, 7.75]). When drivers expressed remorse, their speed over the limit still predicted ticket

**Table 4** First-order regression effects of driver responses and excessive speed on speeding ticket costs

Predictor	<i>b</i>	<i>SE b</i>	$\beta$	95% CI ( <i>b</i> )	
				LL	UL
Remorse	-34.39**	9.31	-.17	-52.69	-16.09
Responsibility	-18.62	12.16	-.07	-42.52	5.29
Excuse	-5.25	8.57	-.03	-22.09	11.58
Justification	-13.22	15.86	-.04	-44.38	17.95
Denial	14.58	18.94	.04	-22.65	51.80
Silence	-28.09	15.84	-.08	-59.23	3.04
Speed over limit	5.34**	0.63	.37	4.10	6.58
Constant	126.04**	7.25		111.79	140.29

Note. Dollar amounts are indicated by levels of the unstandardized coefficients (U.S. survey)

CI confidence interval, LL lower limit, UL upper limit.  $R^2 = .15$ .  $N = 473$ . \*  $p < .05$ , \*\*  $p < .001$



**Fig. 2** Remorse, excessive speeding, and final ticket costs (U.S. Survey). Note. Ticket costs (American dollars) at 8 mph and 21 mph represent 1 SD below and above the mean speed over the limit, respectively

costs, but the relationship was attenuated ( $b = 3.60$ ,  $\beta = .25$ ,  $SE = 1.08$ ,  $p = .001$ , CI [1.47, 5.72]). At lower speeds over the limit (1 SD below the mean), expressions of remorse were not significantly related to ticket costs ( $b = -14.53$ ,  $\beta = -.07$ ,  $SE = 13.64$ ,  $p = .29$ , CI [-41.33, 12.26]), but at higher speeds (1 SD above the mean) expressions of remorse were associated with reductions in ticket costs of \$49.11 ( $\beta = -.24$ ,  $SE = 11.88$ ,  $p < .001$ , CI [-72.45, -25.78]). These interaction results precisely replicate the findings in the Canadian survey. The other significant two-way interactions obtained in the Canadian survey between speed over the limit and responsibility and excuses were not replicated ( $b = 2.30$ ,  $\beta = .06$ ,  $SE = 1.88$ ,  $p = .22$ , CI [-1.38, 5.99], and  $b = 1.84$ ,  $\beta = .08$ ,  $SE = 1.25$ ,  $p = .14$ , respectively).<sup>5</sup>

Tests for interactions between response type and driver gender, age, and ethnicity, revealed only a significant interaction between gender and excuse ( $b = 34.62$ ,  $\beta = .14$ ,  $SE = 16.30$ ,  $p = .03$ , 95% CI [2.58, 66.65]). Excuses tended to be related to lower ticket costs for women (-\$16.98,  $\beta = -.09$ ,  $SE = 10.91$ ,  $p = .12$ , CI [-38.43, 4.47]), and higher ticket costs for men (\$17.64,  $\beta = .10$ ,  $SE = 13.03$ ,  $p = .18$ , CI [-7.97, 43.25]), but these effects were nonsignificant. It is difficult to place much confidence in this statistical interaction, given the nonsignificant simple effects and the failure to find a comparable interaction in the Canadian sample. We also tested for interactions among the more frequent response types (e.g., remorse and responsibility), but none was significant.

<sup>5</sup> While the overall speed  $\times$  responsibility interaction was not significant, the simple effects revealed that statements of responsibility were associated with reductions in ticket costs at lower speeds over the limit ( $b = -37.40$ ,  $\beta = -.14$ ,  $SE = 19.53$ ,  $p = .06$ , CI = [-75.77, 0.98]), and not at higher speeds ( $b = -7.15$ ,  $\beta = -.03$ ,  $SE = 15.32$ ,  $p = .64$ , CI = [-37.27, 22.96]), as in Study 1.

**Predictors of Warnings Versus Fines.** As in the Canadian survey, we also examined predictors of whether respondents reported that they had received a warning (121 respondents or 24.20% of the sample) versus any fine (379 respondents or 75.80% of the sample). We analyzed warnings versus fines as a function of drivers' responses (dummy coded) and excessive speed (mean centered) by conducting a logistic regression.

Statements of remorse ( $b = -0.98$ ,  $SE = 0.25$ ,  $p < .001$ ) and speed over the limit ( $b = 0.09$ ,  $SE = 0.02$ ,  $p < .001$ ) were the only significant predictors. The probability of receiving a fine at 15 mph over the limit (the mean excessive speed) was 85.20%. Each additional mile over the limit increased the odds ratio of getting a fine by 1.09, 95% CI [1.05, 1.13]. For example, one extra mile of excessive speed increased the overall probability of receiving a fine to 86.29%. A statement of remorse was found to have an odds ratio of 0.37, CI [0.23, 0.61]. At the mean speed over the limit, drivers who expressed remorse had an overall likelihood of getting a fine of 68.35%.

## Discussion

As in the Canadian survey, expressions of remorse were associated with reduced ticket costs and a greater likelihood of receiving a warning rather than a fine. Also as in the Canadian survey, expressions of remorse were associated with decreased fines only at higher speeds over the limit. There were no other main effects of response type or driver characteristics.

### General Discussion

As politeness theory would predict (Brown & Levinson, 1987), excuses and apologies were much more common than justifications and denials in both surveys. As hypothesized, apologies, in the form of statements of remorse (e.g., "I'm sorry"), were associated with reduced speeding fines and lower likelihoods of receiving tickets in both surveys.

The potential magnitude of fines for speeding increases according to formulas that reflect the severity of the transgression. The very fact that police have discretion to alter the fine suggests that the general public and legal authorities suppose that blind application of the formulae is inappropriate. The present studies suggest both that reductions are common (especially in the Canadian survey) and that remorse is a contributing factor.

The effect of remorse in predicting the level of fines was speed dependent, however. Remorse was most strongly related to a reduction in fines at higher speeds over the limit. When the potential fine was large, police seemed

disposed to reduce the severity of the penalty for drivers who expressed remorse. It is possible that the reduced relation between remorse and fines at lower speeds reflects a floor effect. Perhaps, an effect of remorse is more difficult to detect for minor speeding offences, because the fines are already low. The fines were not all that low however. For example, the average fine for speeds of approximately 15–17 miles over the limit was \$127 in the Canadian survey and \$126 in the American survey.

Our findings suggest that responses other than remorse were associated with minor or inconsistent effects. Neither justifying nor denying the speeding incident predicted penalties in either survey. Excuses and admissions of personal responsibility were related to ticket costs in the Canadian survey (the nature of the association depended on speed over the limit), but these effects were not replicated in the American sample.

We also examined relations between speed over the limit and the various forms of the verbal responses. Although the correlations were generally nonsignificant or quite weak, politeness tended to increase with the severity of the offence as Brown and Levinson (1987) would predict. In the Canadian survey, respondents provided more excuses and fewer justifications as speed increased. In the U.S. survey, respondents provided more apologies and excuses, as well as fewer justifications and denials with increasing speeds. There are number of possible explanations for this pattern of correlations. Although unlikely, perhaps people who drive at higher speeds tend to be more polite in general than their more law-abiding counterparts. Alternatively, drivers may have responded more politely when the speed was higher to reduce or avoid severe punishment (e.g., Cohen, 1999). Such increased politeness could also reflect genuine remorse as drivers contemplated the potential implications of their speeding. Moreover, stops for severe speeding may be seen as more legitimate, in which case drivers may feel obligated to cooperate with police objectives (Tyler, 1990, 2004). The association between expressions of remorse and the increased likelihood of receiving a warning suggests that police officers regard the apologies as at least somewhat genuine.

There are a number of possible reasons for why some findings varied across surveys. For example, the nonreplicated findings could be products of sampling, and not reflect genuine associations between verbal response types, speed, and ticket costs. Second, there could be national or regional differences in the willingness of police officers to reduce fines, as well as in their interpretations of drivers' statements. In the Canadian survey, more than 60% of respondents reported receiving a reduced fine or a warning. In the U.S. survey, more than 60% of the respondents reported receiving a full fine. If police are more inclined to reduce fines, they may also be more disposed to take

explanations or statements of responsibility into account, as the Canadian survey seemed to suggest. Of course, the opposite causal direction could also occur with police being more inclined to reduce fines if they are responsive, for example, to explanations. Such possibilities would need to be examined further in future research.

In contrast to other studies of account usage (e.g., Gonzales et al., 1990, 1992), speeders in the present surveys tended to offer one response type. That is, drivers typically responded with an apology, excuse, justification, or denial, and not more complex combinations of these response categories (or even with different elements within these categories). Probably, neither police nor drivers are interested in lengthy interactions following a speeding stop; drivers may have been speeding because they were in a rush to arrive somewhere, and police have other speeders to apprehend. Also, in other contexts, offenders typically apologize to individuals who they have harmed and with whom they may have an ongoing relationship. In such circumstances, transgressors are perhaps likely to offer more extensive apologies and explanations to reduce victim anger and foster a positive relationship.

If as a society we believe that it is important to persuade people to drive within speed limits should police officers have the latitude to reduce penalties? If drivers can knowingly get off with a simple expression of remorse, won't they view the laws with contempt and be encouraged to speed? Although we lack the data to provide compelling answers to these questions, it is important to note that most drivers do not get off scot-free by apologizing. In the present studies, drivers who apologized were still more likely to get a costly ticket than no penalty at all. Also, there is a direct relation between the magnitude of the transgression and the size of the penalty. Drivers' likelihood of receiving a ticket and their ticket costs increased with their speed levels. Note as well that in many jurisdictions, police officers can and do access speeders' prior driving histories by computer, before leveling the penalty. Officers can ignore apologies offered by multiple offenders, if they choose to do so. To account for the possibility that some drivers might receive repeated verbal warnings, the system could perhaps be improved if all stops were consistently recorded, regardless of whether a penalty was issued.

Finally, perceptions of fair treatment by law enforcement officials are better predictors of people's future compliance than the favorability of outcomes that they receive (Tyler & Huo, 2002). By reducing fines, police legitimize drivers' expressions of remorse and may encourage more positive responses to both legal authorities and the law. The validity of this assertion could be tested in future research that examines the effects of accounts and penalty reductions on offenders' perceptions of the law and compliance with it.

## Limitations

We based our analyses on participants' self-reports, rather than information on speeding tickets, or direct observation. Information on speeding tickets was not useful for present purposes, as it does not include drivers' statements and often does not accurately reflect even a driver's speed. Although direct observation of the ticketing process might have been desirable for the purposes of the present investigation, it may have been inadvertently intrusive. If researchers were present or if conversations were knowingly recorded, both drivers and police may have altered their behavior.<sup>6</sup>

No methodology is perfect. In the current surveys, respondents' answers are potentially influenced by fallible memory processes. The vast majority of respondents reported clear memories of the speeding incident<sup>7</sup> and the results are not statistically qualified by either participants' estimates of the time since the event or their confidence in their recall. We also replicated past findings with other methodologies showing a strong relation between speed and ticket costs. These findings are heartening, but do not eliminate the possibility of memory errors. The issue is not whether memory is flawless (it almost certainly is not), but whether it is systematically biased in ways that could contribute to the present pattern of findings. We have no reason to suppose that memory is biased in this manner, especially since there was no relation between time since the stop and participants' accounts of the incidents. If present, biases such as self-serving response patterns would presumably increase in strength as memories became weaker over time. Our confidence in the results would be increased, however, by replications with other methodologies.

<sup>6</sup> A discussion with a senior police officer who supervised traffic enforcement units revealed the potential impact of observers. According to this officer, when police work in teams they are less lenient.

<sup>7</sup> The relation between memory confidence and accuracy has perhaps been studied most comprehensively in eyewitness identification. Here, the relation can be quite weak in some circumstances, but strong in others (Liepke & Eisenstadt, 2007; Lindsay, Read, & Sharma, 1998; Sporer, Penrod, Read, & Cutler, 1995). The variability reflects some characteristics that are unique to eyewitness identification, such as the nature of the line-up. In the domain of word recognition, the confidence–accuracy relation tends to be high (see Fig. 2, Mickes, Wixted, & Wais, 2007). Perhaps, most relevant to the present research, for recall of both significant personal and flashbulb events, confident rememberers are generally more accurate than less confident rememberers (Weaver III, 1993). Although confidence in flashbulb memories is unduly high, confidence still predicts accuracy. On the basis of the literature, we have reason to suppose that our participants' confidence ratings would predict accuracy.



In the current studies, expressions of remorse predicted better outcomes for offenders, a finding that is consistent with the results of past laboratory research in which the offences are either hypothetical or fairly trivial. It is important to emphasize the special features of speeding stops, however, that distinguish them from other contexts in which offenders might or might not express remorse for their actions. The police officers who administer speeding stops are not harmed by drivers' excess speeds (indeed there is typically no direct victim) and have no prior relationship with the offenders. In most other contexts, offenders express remorse to an individual that they have harmed. Apologies may not always reduce the anger or ameliorate the harm experienced by victims, especially if the injury is severe and irreversible. Also, in many cases, the harm occurs in ongoing relationships, and the victims' responses to expressions of remorse may depend in part on their prior feelings about the transgressor. Thus, the potential benefits of apologies are likely to depend on a variety of factors, including the nature and severity of the harm and the relationship between offenders and apology recipients (e.g., Darby & Schlenker, 1982; McCullough et al., 1998).

The contrast between speeding and medical malpractice is particularly striking, and we hesitate to generalize our findings to medical contexts. A doctor and patient would typically have a more substantial relationship and patients may be severely harmed as well as ignorant of the error prior to disclosure. As laws that prevent apologies from being used in malpractice lawsuits become more widespread, physicians may be more likely to disclose and express remorse for their errors. Future research can systematically examine the nature and effectiveness of various physician responses to medical mistakes. In particular, there needs to be a greater focus on different possible effects of apologies, including victim well-being, physician well-being, medical institution trust, and a reduction in medical errors, in addition to the frequency or monetary value of malpractice suits.

### Conclusion

In all of the contexts in which apologies have been studied to date, there is little evidence of detrimental effects for either offenders or victims. Apologies may not always help, but they do not tend to hurt. The same can be said of the findings from the present research. Expressions of remorse were associated with a reduction in ticket costs and a greater likelihood of receiving a warning rather than a fine. Although the reduction in ticket costs was most apparent for more severe offences, apologies for less severe offences had no obvious drawbacks.

**Acknowledgments** This research was prepared with the support of an Ontario Graduate Scholarship to Martin V. Day and was funded, in part, by a Social Sciences and Humanities Research Council of Canada grant to Michael Ross. We thank Richard Eibach and Mark Zanna for their comments on an earlier version of this manuscript.

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