Current Psychology (2021) 40:4063–4071
https://doi.org/10.1007/s12144-019-00372-0

The role of intentionality in perceiving terrorism as a more important problem than traffic accidents

Sinan Alper[1] · Elif Öykü Us[2]

Published online: 16 July 2019

Abstract

We hypothesized that perceived intentionality is one of the factors explaining why terrorism is perceived to be a more important problem than traffic accidents. In Study 1, we conducted an experiment on a large Turkish sample ($N = 385$) and found that participants suggested allocating significantly more budget to prevent terror-related deaths, as compared to deaths caused by traffic accidents, and this difference was fully mediated by perceived intentionality. In Study 2, which was pre-registered, we hypothesized that American participants ($N = 450$) would similarly suggest allocating more budget to prevent deaths caused by terrorist incidents, as compared to traffic accidents, but this difference would disappear when traffic accidents are portrayed as involving a perpetrator consciously disregarding the safety of others. Our hypothesis was partially supported. We discuss the potential implications for policy-makers and social psychological research.

Keywords Intentionality · Moral judgment · Traffic · Terror

It is not hard to guess the most important news of the day, if there was a terrorist attack within the past few days. People all around the globe are horrified by the atrocities committed by terrorists and terrorism has been frequently named as one of the most important problems in many different societies (e.g., Riffkin 2015). Terrorism seems to be a leading threat on safety in the public eye; but is it really the most dangerous problem people are faced with? Terrorism causes around 30,000 deaths each year (LaFree et al. 2015). Compared to 1.3 million people killed on roads in traffic accidents every year (ITF 2017), it does not look like a very large number. Imagine a terrorist organization that kills 1.3 million people each year (or 3,561 people per day). It would probably be perceived as the most important issue throughout the year. Then why do people tend to perceive terrorism to be a more important problem than car crashes? Based on past research (Ames and Fiske 2013; Schein and Gray 2017), we argue that it is because terrorist attacks, but not traffic accidents, involve perpetrators who are intentionally causing harm.

Dyadic Morality and Perception of Harm

The dyadic theory of morality posits that the morality of actions is judged in terms of three contents, which are norm violations, negative affect, and perceived harm (Schein and Gray 2017). Harm seems to be the most important of the three, for it is considered as an immoral act in all cultures (Graham and Haidt 2011). Both liberals and conservatives were found to use the harm foundation of morality as the basis of their moral judgment processes, implying that harm is a strong factor to consider in moral judgment research (Schein and Gray 2015). However, the content of this harm can vary. When defining harm, there is a perception of an intentional agent and a suffering victim (Schein and Gray 2017). As Schein and Gray (2017) have argued, there are two components of this dyadic mechanism; the actor, whose actions are intentional; and the patient, who is on the receiving end of the said action. Actors and patients (or victims) have different attributes; for instance, even though the wrongdoing is the same, those who are perceived as agents may not escape the blame of their wrongdoings, while those who are seen as victims can (Gray and Wegner 2011).

Data, materials, and analysis scripts for Study 1 and 2 are available at https://osf.io/j69qb/?view_only=633d9729f58c4a58bc5f6cb10e367453

Preregistration form for Study 2 is accessible at https://osf.io/yqbhx/register/565fb3678c5e4a66b5582f67

✉ Sinan Alper
sinan.alper@yasar.edu.tr

[1] Department of Psychology, Yasar University, Izmir, Turkey

[2] Department of Psychology, Baskent University, Ankara, Turkey

This perception of harm and victimization is of great importance because even though there may be no victimization to begin with, individuals might still perceive one (Gray et al. 2012). Murder, theft, rape and assault are obvious examples of immoral actions in which a victim can be perceived, however, acts such as flag burning or breaking promises to the dead do not have a direct victim (Gray et al. 2012). The more individuals think about these actions as immoral, more they see them as harmful, and this loop continues until their opinions are thoroughly polarized (Schein and Gray 2016). Previous research shows that perceived immorality is indeed linked with perceived harm, thus, it is not surprising to see that the act of masturbation is met with such scorn because it is perceived as harmful against the *self*: Here, agent is also the victim (Gray et al. 2014).

Harm and Perceived Intentionality

If a harming behavior involves an agent, it means a perpetrator is perceived to be intentionally harming others. Perception of intention has been shown to be a vital process: The intentional judgment begins at the age of three and continues in a relatively similar pattern throughout adulthood; and while harmful actions are perceived as intentional, good actions are not (Leslie et al. 2006). Knobe (2003) too, has supported this pattern, however, he has also argued that even if the outcome is the same, the judgment would depend on the perceived intention. Although the individual is blamed of wrongdoing, if they show regret, the intentionality of the action decreases; but if they show indifference, the perceived intentionality of the action increases, which enhances the perceived harm of the action in turn (Sverdlik 2004). As for intentionality itself, if negative side effects are unintentional in nature, the blame tends to be lower, however, if these actions are perceived as intentional, the blame increases (Guglielmo and Malle 2010). Even though the damage and the outcome are the same, individuals tend to see intentional harms as worse than unintentional harms (Ames and Fiske 2013).

Past literature strongly suggests that *perceived* intention to harm is of great importance when judging the perpetrator for their supposed crime. As discussed, past literature suggested that intentional acts are seen as more harmful, even when the consequences do not differ (Ames and Fiske 2013). Based on this perspective, we argued that terrorism is perceived to be a more important societal problem than traffic accidents, because the former involves an intentional perpetrator whereas the latter usually does not. As a measure of perceived importance of the problem, we asked participants to allocate budget to prevent deaths that could be caused by terrorist incidents or traffic accidents. Perceived importance can be measured by asking the importance of the issue directly (Robin et al. 1996), asking the participants how much money would be required to violate a moral value (Graham and Haidt 2011), or whether they would comply to an organization that works on preventing the issue (Kronrod et al. 2012). There is an imminent threat in both traffic accidents and terrorist attacks and allocation of budget can measure the perceived importance of these two incidents because it measures the amount of resources that must be sacrificed to prevent the threat of death in both scenarios. Thus, we expected that, even when the expected number of casualties is the same, people would allocate more budget to prevent terror-related deaths. We also expected that such difference would be observed even after controlling for ideological differences. Past research showed that conservatives are more predisposed to perceive threat (Jost et al. 2003) and perceived terrorism threat is associated with endorsement of conservative and right-wing governmental policies (Hetherington and Suhay 2011; Huddy et al. 2005). So, as ideology is potentially an important confounding factor, we also planned to control for ideological differences. Furthermore, we hypothesized that this difference would be mediated by perceived intentionality. In other words, terrorism would be seen as a more important problem, because perpetrators in terrorist incidents would be perceived as intentionally causing harm. However, as we proposed that intentionality is the key factor, we also hypothesized that if traffic accidents are perceived as intentional, this difference in budget allocation would disappear, thus confirming the mediating effect of intentionality of the perpetrator's actions.

Overview of the Current Research

There were two studies in the present research. Study 1 tested the hypotheses that (1) people would allocate more budget to prevent terror-related deaths, as compared to deaths caused by traffic accidents, although the number of casualties is the same in both conditions; and (2) this effect would be mediated by differences perceived intentionality. Here, allocation of budget was used as a proxy for perceived importance of the issue. We also expected that such effect would remain even after controlling for ideological differences. In Study 1, we recruited a Turkish sample, as Turkey is a regular target for terrorist attacks: It is by far the most impacted country in Europe and the ninth country with the most terrorist incidents in the world (Institute for Economics and Peace 2017). In 2016, 658 people died due to terrorist incidents in Turkey (Institute for Economics and Peace 2017). However, Turkey is also a hot zone for road traffic deaths: Every year, approximately 10,000 people die in traffic accidents in Turkey (World Health Organization 2015). So, we reasoned that a Turkish sample would be ideal to examine the differences in perception of two important societal problems, namely terrorism and traffic accidents. As discussed in detail below, findings in Study 1 supported both hypotheses.

In Study 2, we planned to replicate the findings of Study 1 on an American sample (recruited via Amazon Mechanical Turk) with an important alteration in study design: There were three, instead of two, conditions which were compared in an analysis of variance (ANOVA). In addition to terrorism and traffic accidents conditions employed in Study 1, there was a third condition in which the same number of people were said to lose their lives in traffic accidents that are caused by intentional agents. Although, at first glance, it might sound oxymoronic to call an accident as "intentional", it is in fact the case that, rather than environmental factors, human error is the leading cause of traffic accidents: Behaviors such as speeding, distracted driving (usage of mobile phones or other digital devices while driving), not wearing seatbelts, drinking and driving, nonadherence to traffic rules are shown to be the lead causes of traffic accidents (ITF 2017). Such behaviors typically include a perpetrator who had knowingly disregarded the safety of others. Following this logic, third condition, named *negligent driver*, was a duplicate of traffic accident condition, but with some extra information: It was argued that most fatal traffic accidents were caused by *gross negligence* of one of the parties. Gross negligence is a legal term defined as "A conscious, voluntary act or omission in reckless disregard of a legal duty and of the consequences to another party" (Garner 2010, p. 1134). Participants in this condition were briefed about the expected number of casualties in traffic accidents and that most of these deaths would be caused by conscious, voluntary acts that disregarded others' safety, such as reckless driving or driving under the influence. It was hypothesized that participants would allocate more budget to prevent terror-related deaths than traffic-related deaths; but when the terrorism and the third condition (deaths caused by negligence in traffic) are compared, the difference would become nonsignificant. Such result would further demonstrate that the difference in perceived importance of terrorism and traffic accidents would be due to intentionality, and there would be no difference when both are presented as intentional acts. In addition, potential findings would also illustrate that the hypothesized effect would be observed not only in Turkey, but also in the US, which is another country that is highly impacted by terrorism (Institute for Economics and Peace 2017) and suffers from large numbers of road traffic fatalities (World Health Organization 2015). All measures, manipulations, and exclusions in the studies are disclosed.

Study 1

Participants

The initial sample was consisted of 396 undergraduate students (293 females, 94 males, 9 unreported; $M_{age} = 21.29$, $SD = 2.05$) from Baskent University and Middle East Technical University, both of which are located in Ankara, Turkey. Eleven participants failed to follow the instructions (see below for the explanation) which yielded a resulting sample of 385 participants who participated in exchange for extra course credit. Using G*Power software (Faul et al. 2009), we calculated that sample size was large enough to detect an effect size as small as $d = .29$, assuming a two-tailed α of .05 and a statistical power of .80.

Materials and Procedure

Participants were provided with a hyperlink directing them to an online questionnaire hosted by Qualtrics. They completed the materials in the enlisted order.

Experimental Manipulation First, participants were randomly assigned to one of two conditions. In terror condition ($n = 189$), participants were given the following information: "Governmental agencies predict that, in 2018, around 200 people will die due to terrorist incidents in Ankara." In traffic condition ($n = 196$), they were instead told that "Governmental agencies predict that, in 2018, around 200 people will die due to traffic accidents in Ankara." Thus, we manipulated the reason behind deaths while keeping the number of people that will be affected as constant.

Perceived Intentionality Second, we led participants to think of the perpetrators of these incidents and rate how intentional their actions were. They were asked "In what percentage of these incidents, the perpetrators will intentionally cause deaths? 0 means 0%, or none; 100 means 100%, or all. Now please write a number between 0 and 100."

Allocation of Budget Third, we asked participants to decide what amount of budget should be allocated to prevent deaths. They were asked "How much (in million Turkish liras) should the government allocate to prevent the deaths that would be caused by terrorist incidents [traffic accidents] in Ankara? For example, if your answer is '1 million Turkish liras', you can write '1' in the box below. Now please write a number between 0 and 100."

Demographics and Ideology Lastly, participants stated their sex, age, and ideology (1 = *very liberal*, 7 = *very conservative*).

Eleven participants in the initial sample entered scores higher than 100 for the variables of perceived intentionality and/or allocation of budget. Thus, they were removed from the analyses. All measures, manipulations, and exclusions are disclosed.

Results

Participants in terror condition had significantly higher scores for both perceived intentionality ($M_{terror} = 83.19$, $SD = 25.57$

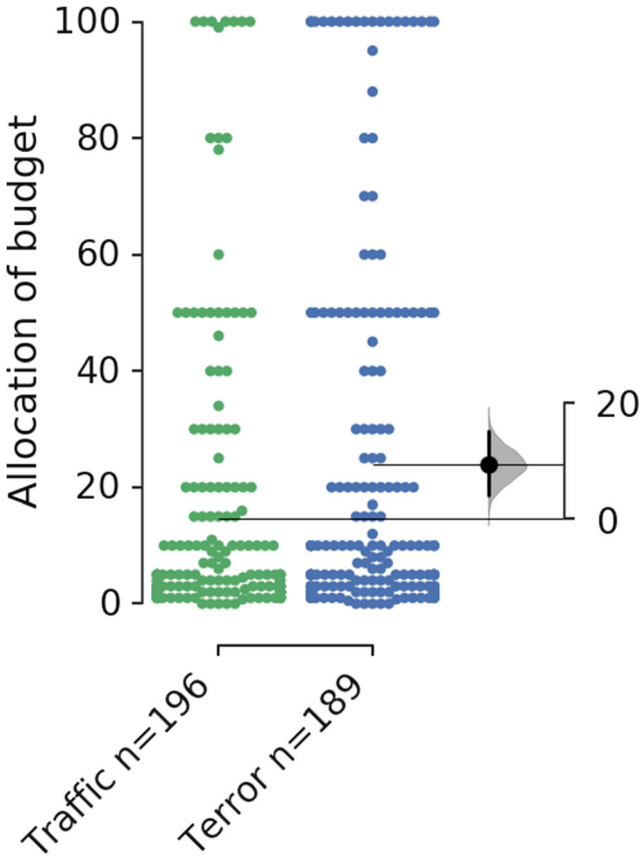

Fig. 1 Distribution of allocations of budget to prevent traffic- or terror-related deaths for Study 1. Flat lines show mean scores for each group and vertical bold line shows 95% confidence interval

vs. $M_{traffic} = 32.82$, $SD = 25.80$, $t(383) = 19.23$, $p < .001$, 95% CI [45.22, 55.52], $d = 1.97$) and allocation of budget ($M_{terror} = 24.95$, $SD = 31.51$ vs. $M_{traffic} = 14.64$, $SD = 24.16$, $t(383) = 3.26$, $p = .001$, 95% CI [3.69, 14.92], $d = .37$). Findings suggest that perpetrators in terrorist incidents were perceived to be causing deaths more intentionally and participants allocated more resources to prevent deaths caused by terrorist incidents as compared to traffic accidents, although the number of people expected to die was the same. An analysis of covariance further illustrated that these observed effects were significant even after controlling for differences in ideology. Ideology as a covariate did not have any effect on perceived intentionality ($F(1, 373) = 1.27$, $p = .260$) and allocation of budget ($F(1, 373) = .76$, $p = .385$).[1] After controlling for ideology, participants in terror condition reported significantly higher perceived intentionality ($F(1, 373) = 392.88$, $p < .001$, $\eta^2 = .512$) and allocation of budget ($F(1, 372) = 12.32$, $p < .001$, $\eta^2 = .032$) (Figs. 1, 2, 3 and 4).

Next, we examined whether perceived intentionality mediated the relationship between experimental manipulation and allocation of budget. Manipulation (1 = *terror*, 2 = *traffic*) significantly predicted perceived intentionality ($\beta = -.70$, $t = -19.23$, $p < .001$, $\eta^2 = -.701$). Perceived intentionality also significantly predicted allocation of budget ($\beta = .18$, $t = 3.58$, $p < .001$, $\eta^2 = .180$). When both experimental manipulation and perceived intentionality were entered into regression as predictors, they explained 3.5% of the total variance ($F(2, 382) = 6.97$, $p = .001$). But neither manipulation ($\beta = -.08$, $t = -1.07$, $p = .2686$) nor perceived intentionality ($\beta = .13$, $t = 1.80$, $p = .073$) had a significant effect on allocation of budget. Thus, when controlling for perceived intentionality, the effect of the manipulation on allocation of budget became nonsignificant. Using Hayes' (2013) PROCESS macro, we calculated that the indirect effect mediated by perceived intentionality was statistically significant ($b = -7.15$, 95% CI [−11.19, −3.19], based on 10,000 Monte Carlo samples. Results showed participants chose to allocate significantly larger budgets to prevent terror-related deaths (as compared to deaths caused by traffic accidents) and this effect was fully mediated by the perception that terrorist incidents involved an intentional act of killing, unlike traffic accidents (Tables 1).

Study 2

Sample size estimation, exclusion criteria, hypotheses, study design and analysis plan for Study 2 were preregistered prior to data collection on Open Science Framework.

Participants

We recruited a convenience sample of U.S. Americans via Amazon Mechanical Turk. The study was advertised on the Amazon Mechanical Turk's portal and the willing participants could participate in the study in exchange for a small compensation. We estimated that it would take approximately one minute to complete, so participants were paid $0.12 (an equivalent of $7.25/h which is the federal minimum wage in the US). In Study 1, it was found a small effect size ($d = .37$) for the effect of the manipulation on allocation of budget. A d of .37 translates into an f value of .185 (Cohen 1988). Using G*Power software (Faul et al. 2009), we calculated that a sample of 450 participants would be sensitive to detect an effect size as small as $f = .147$ for a one-way ANOVA with three conditions, assuming a two-tailed α of .05 and a statistical power of .80. There was no exclusion criterion for those who completed all materials of the study. The final sample consisted of 450 participants (249 females; $M_{age} = 37.42$, $SD = 11.82$).

Materials and Procedure

Participants were provided with a hyperlink directing them to an online questionnaire hosted by Qualtrics. They completed the materials in the enlisted order.

[1] Ten participants did not indicate their ideology which resulted in N of 376 for analyses of covariance.

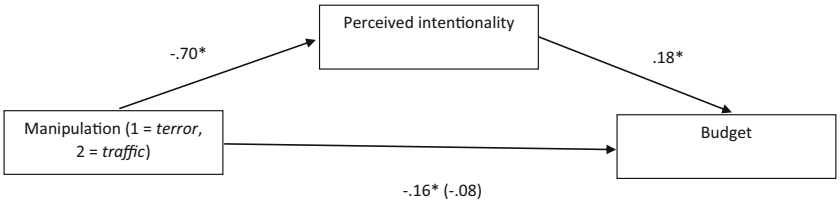

Fig. 2 Standardized regression coefficients for the relationship between the manipulation (terror vs. traffic-related deaths) and allocation of budget as mediated by perceived intentionality for Study 1. The standardized regression coefficient between the manipulation and budget, controlling for perceived intentionality, is in parentheses. * $p < .001$

Participants were randomly assigned to one of the three groups. In the terrorism condition, participants were told that "Governmental agencies predict that, during 2018, around 200 people will die due to terrorist incidents in an undisclosed city[2] in the United States of America." In the traffic accidents condition, they were instead told that "Governmental agencies predict that, during 2018, around 200 people will die due to traffic accidents in an undisclosed city in the United States of America." In the negligent driver condition, participants were briefed that "Governmental agencies predict that, during 2018, around 200 people will die due to traffic accidents in an undisclosed city in the United States of America. A spokesperson claimed that most of these fatal traffic accidents will be caused by negligent drivers who will intentionally disregard the safety of others while being aware of the potential consequences of their recklessness."

In the next step, all participants completed the measures of perceived intentionality, allocation of budget, demographics (sex and age), and ideology which were employed in Study 1. The only difference of Study 2 in terms of budget allocation was that participants suggested the amount of money in U.S. Dollar instead of Turkish Lira. Following the completion of the study, participants were debriefed about the nature of the numbers used in the study; they were told that the expected number of casualties were not accurate, and this study was designed to examine their responses to hypothetical scenarios.

Results

Manipulation Check Analysis of variance revealed that the manipulation had a significant effect on perceived intentionality ($F(2, 447) = 182.50$, $p < .001$, $\eta_p^2 = .450$). Multiple comparisons using Bonferroni adjustment showed that participants in terror condition perceived more intentionality, as compared to traffic ($M_{difference} = 65.14$, $SE = 3.53$, $p < .001$, 95% CI [56.66, 73.63]) or negligent driver conditions ($M_{difference} = 48.89$, $SE = 3.58$, $p < .001$, 95% CI [40.27, 57.50]). Negligent driver condition also resulted in higher perceived intentionality than traffic condition ($M_{difference} = 16.26$, $SE = 3.53$, $p < .001$, 95% CI [7.77, 24.74]). Thus, deaths by terrorist acts were perceived to be the most intentionally caused, which was followed by negligent driver and traffic accidents conditions, respectively (Tables 2).

Allocation of Budget Manipulation had a significant effect on allocation of budget ($F(2, 447) = 15.16$, $p < .001$, $\eta_p^2 = .064$). After controlling for differences in ideology as a covariate ($F(1, 446) = 1.46$, $p = .228$, $\eta_p^2 = .003$), this effect still remained as significant ($F(2, 446) = 15.18$, $p < .001$, $\eta_p^2 = .064$). Multiple comparisons using Bonferroni adjustment revealed that participants in terror condition suggested allocating more budget than traffic ($M_{difference} = 14.66$, $SE = 3.01$, $p < .001$, 95% CI [7.43, 21.90]) and negligent driver conditions ($M_{difference} = 14.32$, $SE = 3.05$, $p < .001$, 95% CI [6.98, 21.65]). There was no difference between traffic and negligent driver conditions ($M_{difference} = .35$, $SE = 3.01$, $p > .999$, 95% CI [−6.88, 7.58]).

Next, to check whether the effect observed in Study 1 was replicated, we investigated whether perceived intentionality mediated the relationship between experimental manipulation and allocation of budget when only terror and traffic conditions are considered, similarly to Study 1.[3] Manipulation (1 = *terror*, 2 = *traffic*) significantly predicted perceived intentionality ($\beta = -.77$, $t = -20.88$, $p < .001$, $\eta^2 = -.769$). Perceived intentionality also significantly predicted allocation of budget ($\beta = .30$, $t = 5.45$, $p < .001$, $\eta^2 = .300$). When both experimental manipulation and perceived intentionality were entered into regression as predictors, they explained 9.1% of the total variance ($F(2, 300) = 15.11$, $p < .001$). Only perceived intentionality ($\beta = .25$, $t = 2.93$, $p = .004$), but not experimental manipulation ($\beta = -.06$, $t = -.72$, $p = .471$) predicted allocation of budget. As a result, when controlling for perceived intentionality, the effect of the manipulation on allocation of budget became nonsignificant. Using Hayes' (2013) PROCESS macro, we calculated that the indirect effect mediated by perceived intentionality was statistically significant ($b = -13.03$, 95% CI [−18.33, −7.84], based on 10,000 Monte Carlo samples. Results showed that perceived

[2] As participants recruited via Amazon Mechanical Turk will likely to be living in different cities, we chose not to mention any detail on the location.

[3] This mediation analysis was not included in the preregistration. We initially planned to only manipulate perceived intentionality, but then reasoned that performing the same mediation analysis on data collected from a distinct culture would provide valuable insight regarding the reproducibility of our key finding.

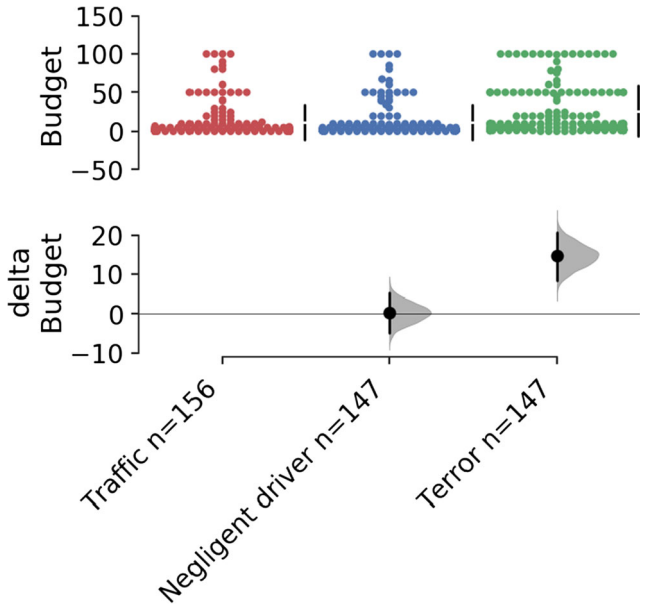

Fig. 3 Comparison of distribution of budget allocations in different conditions in Study 2

intentionality mediated the effect of manipulation on allocation of budget, similarly to Study 1. So, our key hypothesis was supported in both Turkish and American samples.

Discussion

The current study had two main aims: (1) Illustrating that perceived intentionality fully explains the difference in emphasis placed on deaths caused by terrorism and traffic accidents; and (2) increasing the budget allocated to prevent traffic accidents by framing them as involving an intentional perpetrator.

Our first hypothesis received strong support. Among both Turkish and American samples, participants decided to allocate significantly more budget to prevent terror-related deaths, although the total number of lives that would be saved was no higher than those that would be saved in traffic accidents. We found that such difference could be attributed to the fact that terrorist attacks were perceived as more intentional compared to traffic accidents. It is probably no surprise that terrorist attacks were considered as more intentional acts of harm, but the fact that difference in perceived intentionality fully explains the differences in budget allocation between these two societal problems has important implications for both social psychological research and application of dyadic morality in real-life contexts.

Past research found preliminary evidence that consequences of actions are perceived to be more severe when those actions are intentional, even if the consequence is the same (e.g., Ames and Fiske 2013). However, to our knowledge, the current findings provided the first piece of evidence that perceived intentionality also might affect the level of importance given to two different societal problems, traffic accidents and terrorist incidents. Accordingly, it was found that deaths caused by terrorist incidents were perceived to be more important problems than those caused by traffic accidents (as measured by level of budget allocated to each problem).

Such results were in consistence with past literature. It was previously argued that the notion of harm necessarily requires an emphasis on a perpetrator as well as a victim (Gray et al. 2014; Gray and Wegner 2011; Schein and Gray 2015, 2016, 2017). It was consistently demonstrated in the past research that humans are wired to detect intention behind harmful behaviors (Hesse et al. 2016; Patil et al. 2017), assign more blame to (Ames and Fiske 2013; Darley and Pittman 2003; Goldberg et al. 1999) and (sometimes irrationally) magnifies the consequences of intentionally conducted harmful behaviors (Ames and Fiske 2013). The current findings suggested that the central role of intentionality not only alters the interpretation of single incidents, but also affects the importance given to societal problems.

In Turkey and the US, both traffic accidents and terrorism are extremely salient subjects. Turkey is one of the hot zones of terrorist attacks (Rodoplu et al. 2004) and the U.S. media give extensive coverage to terrorist acts (e.g., Rothe and Muzzatti 2004); thus, it would not be surprising that there is an availability bias for acts of terrorism. However, traffic accidents are also very common occurrences in both countries (World Health Organization 2015). Thus, we argue that the potential role of availability bias would not be substantial and the fact that the same effect was observed in two distinct cultures provides a strong case for our hypothesis that perceived intentionality has a mediating role that explains the

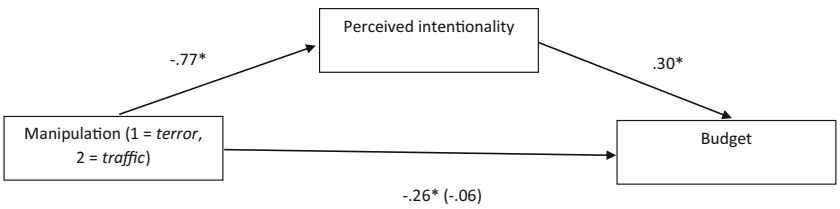

Fig. 4 Standardized regression coefficients for the relationship between the manipulation (terror vs. traffic-related deaths) and allocation of budget as mediated by perceived intentionality for Study 2. Negligent driver condition was not included. The standardized regression coefficient between the manipulation and budget, controlling for perceived intentionality, is in parentheses. * $p < .001$

Table 1 Correlational table and descriptive statistics for study 1

	1	2	3	4	5	6
1. Condition (1 = *terror*, 2 = *traffic*)						
2. Ideology	−.013					
3. Gender (1 = *female*, 2 = *male*)	.030	−.001				
4. Age	.084	.070	.253**			
5. Perceived intentionality	−.702**	.048	−.056	−.082		
6. Allocation of budget	−.172**	.026	.130*	.091	.188**	
M	1.51	5.17	1.24	21.30	57.66	19.55
SD	.50	1.31	.43	2.07	35.99	29.09

* $p < .05$, $p < .001$

difference in approaches to deaths caused by terrorism and traffic accidents.

Our finding that the observed effect remains significant when controlling for ideological differences was important for two reasons. First, conservatives, compared to liberals, are more likely to perceive terrorism as an important societal problem and advocate stronger anti-terrorist action (e.g., Rothe and Muzzatti 2004). Second, especially in American politics, there is a substantial difference between liberals and conservatives in their attitudes toward government spending (e.g., Faricy and Ellis 2014). As we used public spending as a proxy for measuring how much value was given to a societal problem, different attitudes toward public spending could be a confounding variable. We tackled these potential problems by controlling for ideological differences. Results showed that terrorism was perceived to be a more important problem because it involved intentional perpetrators, and this effect remained significant even after accounting for ideological differences.

The second hypothesis that more emphasis would be placed on deaths caused by traffic accidents when those accidents were framed as involving a negligent driver did not receive support. It should be noted that, in Study 2, negligent driver condition received significantly higher scores in perceived intentionality, as compared to traffic accident condition. However, such difference was not enough to lead to more budget allocation. One potential reason could be the potentially enormous difference in the level of intentionality: Negligence in traffic could probably not be perceived as intentional as deliberately killing someone in a terrorist attack. In fact, our findings support such explanation: Although negligent driver condition received higher scores on perceived intentionality than traffic accident condition, this difference was relatively much smaller than the difference between terror condition and other conditions. Implications of this finding are twofold: On the one hand, it provides evidence that, it is in fact possible, although with a small effect size, to depict traffic accidents as not mere accidents, but as involving perpetrators who knowingly put others' life at risk. Governments may take this knowledge into account and produce awareness programs that can make people realize that traffic accidents are not as coincidental as they seem. For example, considering a potential framing effect (Tversky and Kahneman 1981), the term "car accident" might be swapped for different terms, such as "traffic collision" or "car collision". Same was proposed before by Stewart and Lord (2002) who argued that the word "crash" should be used instead of "accident"; because such incidents often involve negligent and/or intoxicated perpetrators which should be personally taken as accountable for the consequences. Such emphasis on responsibility might relatively increase the perception of intentionality which would in return magnify the importance given to such important societal problem that causes millions of deaths every year. On the other hand, findings also suggest that it is not an easy

Table 2 Correlational table and descriptive statistics for study 2

	1	2	3	4	5	6
1. Condition (1 = *terror*, 2 = *traffic*)						
2. Ideology	−.005					
3. Gender (1 = *female*, 2 = *male*)	−.017	−.111*				
4. Age	−.034	.154*	.033			
5. Perceived intentionality	−.479**	.008	.059	.005		
6. Allocation of budget	−.215**	.055	−166**	−.063	.270**	
M	2.00	3.73	1.55	37.42	45.90	16.57
SD	.81	1.75	.50	11.82	41.31	27.01

* $p < .05$, $p < .001$

task to depict traffic accidents as intentional as a terrorist incident. However, future research can tap into finding different strategies to frame traffic accidents as intentional as possible which could lead the public to place relatively more emphasis on deaths caused by traffic accidents. Traffic accidents kill many more people than terrorism and findings of the current research suggest that one potential way of attracting attention to this crucial societal problem is to depict it as involving conscious perpetrators as much as possible.

Other Potential Limitations

In addition to the previously mentioned limitations, there are also other potential limitations that should be further investigated in the future research. First, reckless driving might be widespread in certain cultures, especially among young adults (e.g., Arnett et al. 1997). This might lead to desensitization toward to potential dangers of reckless driving in those cultures. Such alternative explanation should be tested in future cross-cultural research. Second, the samples in the current research consisted of mostly young people and there was an unintentional oversampling of women. Although we have used samples from two different cultures to illustrate the robustness of the importance of perceived intentionality, there is still need for future research to replicate the same findings in more diverse and nationally representative samples.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the ethical approval board of Department of Psychology at Baskent University and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

Ames, D. L., & Fiske, S. T. (2013). Intentional harms are worse, even when they are not. *Psychological Science, 24*(9), 1755–1762. https://doi.org/10.1177/0956797613480507.

Arnett, J. J., Offer, D., & Fine, M. A. (1997). Reckless driving in adolescence: 'State' and 'trait' factors. *Accident Analysis & Prevention, 29*(1), 57–63. https://doi.org/10.1016/S0001-4575(97)87007-8.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Darley, J. M., & Pittman, T. S. (2003). The psychology of compensatory and retributive justice. *Personality and Social Psychology Review, 7*(4), 324–336. https://doi.org/10.1207/S15327957PSPR0704_05.

Faricy, C., & Ellis, C. (2014). Public attitudes toward social spending in the United States: The differences between direct spending and tax expenditures. *Political Behavior, 36*(1), 53–76.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160. https://doi.org/10.3758/BRM.41.4.11.

Garner, B. A. (2010). *Black's Law Dictionary* (9th ed.). St. Paul, MN: West Publishing Company.

Goldberg, J. H., Lerner, J. S., & Tetlock, P. E. (1999). Rage and reason: The psychology of the intuitive prosecutor. European Journal of Social Psychology, 29(5–6), 781–795. 10.1002/(SICI)1099-0992(199908/09)29:5/6 < 781::AID-EJSP960 > 3.0.CO;2–3.

Graham, J., & Haidt, J. (2011). Sacred values and evil adversaries: A moral foundations approach. In P. Shaver & M. Mikulincer (Eds.), *The social psychology of morality: Exploring the causes of good and evil* (pp. 1–18). New York: APA Books.

Gray, K., & Wegner, D. M. (2011). To escape blame, dont be a hero-Be a victim. *Journal of Experimental Social Psychology, 47*, 516–519. https://doi.org/10.1016/j.jesp.2010.12.012.

Gray, K., Waytz, A., & Young, L. (2012). The moral dyad: A fundamental template unifying moral judgment. *Psychological Inquiry, 23*, 206–215. https://doi.org/10.1080/1047840X.2012.686247.

Gray, K., Schein, C., & Ward, A. F. (2014). The myth of harmless wrongs in moral cognition: Automatic dyadic completion from sin to suffering. *Journal of Experimental Psychology, 143*(4), 1600–1615. https://doi.org/10.1037/a0036149.

Guglielmo, S., & Malle, B. F. (2010). Can unintended side effects be intentional? Resolving a controversy over intentionality and morality. *Personality and Social Psychology Bulletin, 36*(12), 1635–1647. https://doi.org/10.1177/0146167210386733.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guildford Press.

Hesse, E., Mikulan, E., Decety, J., Sigman, M., del Carmen Garcia, M., Silva, W., & Ibanez, A. (2016). Early detection of intentional harm in the amygdala. *Brain, 139*(1), 54–61. https://doi.org/10.1093/brain/awv336.

Hetherington, M., & Suhay, E. (2011). Authoritarianism, threat, and Americans' support for the war on terror. *American Journal of Political Science, 55*, 546–560. https://doi.org/10.1111/j.1540-5907.2011.00514.x.

Huddy, L., Feldman, S., Taber, C., & Lahav, G. (2005). Threat, anxiety, and support of antiterrorism policies. *American Journal of Political Science, 49*(3), 593–608. https://doi.org/10.1111/j.1540-5907.2005.00144.x.

Institute for Economics and Peace (2017). Global Terrorism Index 2017: Measuring and Understanding the Impact of Terrorism. Institute for Economics and Peace.

ITF. (2017). Road Safety Annual Report 2017. *Paris: OECD Publishing*. https://doi.org/10.1787/irtad-2017-en.

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129*, 339–375. https://doi.org/10.1037/0033-2909.129.3.339.

Knobe, J. (2003). Intentional action in folk psychology: An experimental investigation. *Philosophical Psychology, 16*(2), 309–324. https://doi.org/10.1080/09515080307771.

Kronrod, A., Grinstein, A., & Wathieu, L. (2012). Go green! Should environmental messages be so assersive? *Journal of Marketing, 76*(1), 95–102. https://doi.org/10.1509/jm.10.0416.

LaFree, G., Dugan, L., & Miller, E. (2015). *Putting terrorism in context: Lessons from the Global Terrorism Database*. London: Routledge.

Leslie, A. M., Knobe, J., & Cohen, A. (2006). Acting intentionally and the side-effect effect: "Theory of mind" and moral judgement. *Psychological Science, 17*(5), 421–427. https://doi.org/10.1111/j.1467-9280.2006.01722.x.

Patil, I., Calo, M., Fornaiser, F., Cushman, F., & Silani, G. (2017). The behavioral and neural basis of empathic blame. *Scientific Reports, 7*(5200). https://doi.org/10.1038/s41598-017-05299-9.

Riffkin, R. (2015, December 4). Americans name terrorism as no. 1 U.S. problem. Gallup News. Retrieved from http://news.gallup.com/poll/187655/americans-name-terrorism-no-problem.aspx?utm_source=alert&utm_medium=email&utm_content=heading&utm_campaign=syndication. Accessed 1 Nov 2018.

Robin, D. P., Reidenbach, R. E., & Forrest, P. J. (1996). The perceived importance of an ethical issue as an influence on the ethical decision-making of ad managers. *Journal of Business Research, 35*(1), 17–28. https://doi.org/10.1016/0148-2963(94)00080-8.

Rodoplu, Ü., Arnold, J. L., Tokyay, R., Ersoy, G., Cetiner, S., & Yücel, T. (2004). Mass-casualty terrorist bombings in Istanbul, Turkey, November 2003: Report of the events and the prehospital emergency response. *Prehospital and Disaster Medicine, 19*(2), 133–145. https://doi.org/10.1017/S1049023X00001643.

Rothe, D., & Muzzatti, S. L. (2004). Enemies everywhere: Terrorism, moral panic, and US civil society. *Critical Criminology, 12*, 327–350. https://doi.org/10.1007/s10612-004-3879-6.

Schein, C., & Gray, K. (2015). The unifying moral dyad: Liberals and conservatives share the same harm-based moral template. *Personality and Social Psychology Bulletin, 41*(8), 1147–1163. https://doi.org/10.1177/0146167215591501.

Schein, C., & Gray, K. (2016). Moralization and harmification: The dyadic loop explains how the innocuous becomes harmful and wrong. *Pscyhological Inquiry, 27*(1), 62–65. https://doi.org/10.1080/1047840X.2016.1111121.

Schein, C., & Gray, K. (2017). The theory of dyadic morality: Reinventing moral judgment by redefining harm. *Personality and Social Psychology Review, 27*(1), 1–39. https://doi.org/10.1177/10888683176982.

Stewart, A. E., & Lord, J. H. (2002). Motor vehicle crash versus accident: A change in terminology is necessary. *Journal of Traumatic Stress, 15*(4), 333–335. https://doi.org/10.1023/A:1016260130224.

Sverdlik, S. (2004). Intentionality and moral judgements in common-sense thought about action. *Journal of Theoretical and Philosophical Psychology, 24*(2), 224–236. https://doi.org/10.1037/h0091244.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453–458. https://doi.org/10.1126/science.7455683.

World Health Organization. (2015). *Global Status Report on Road Safety 2015*. Switzerland: WHO.