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Feelings of Culpability: Just Following Orders Versus Making the Decision Oneself

Maayan S. Malter[1], Sonia S. Kim[1], and Janet Metcalfe[2]
[1]Marketing Division, Columbia Business School, Columbia University, and [2]Department of Psychology, Columbia University

Abstract

In five experiments (N = 1,490), participants were asked to imagine themselves as programmers of self-driving cars who had to decide how to program the car to respond in a potential accident: spare the driver or spare pedestrians. Alternatively, participants imagined that they were a mayor grappling with difficult moral dilemmas concerning COVID-19. Either they, themselves, had to decide how to program the car or which COVID-19 policy to implement (high-agency condition) or they were told by their superior how to act (low-agency condition). After learning that a tragic outcome occurred because of their action, participants reported their felt culpability. Although we expected people to feel less culpable about the outcome if they acted in accordance with their superior's injunction than if they made the decision themselves, participants actually felt more culpable when they followed their superior's order. Some possible reasons for this counterintuitive finding are discussed.

Keywords

decision making, judgment, morality, autonomous vehicles, perspective taking, COVID-19, trolley problem, agency, Nuremberg defense, open data, open materials

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In this research, we investigated the relation between agency and culpability for behavior enacted at a distance. Previous research has shown that the feeling of agency increases a person's involvement (Bandura, 1997), improves their memory (Cloutier & Macrae, 2008; Murty et al., 2019), and produces a feeling of responsibility (Frith, 2014; Haggard & Tsakiris, 2009). Presumably, if there is a link between the sense of agency and feelings of responsibility, individuals should feel responsible for adverse outcomes to the extent that they decide what to do rather than simply following another person's orders. This common understanding—that guilt and credit are both connected to the individual's sense of agency—lies at the core of the hypothesis investigated here: that high, rather than low, feelings of agency will result in the individual feeling more responsible and culpable should an adverse outcome occur.

To investigate this issue, we studied two kinds of moral dilemmas: one hypothetical and the other all too real. The first dilemma employed an adaptation of the classic trolley problem (Cushman et al., 2006; Foot, 1967; Greene, 2016), in which an engineer at a company that makes self-driving cars must program the car to make what Amit and Greene (2012) called a "deontological" (save the rider above all else) or a "utilitarian" (save as many people as possible even if it means sacrificing the rider) action. Participants were instructed to imagine that they were a programmer who had high agency (they chose how to program the car) or low agency (they executed their boss's orders). The second dilemma involved a moral conundrum faced by communities all over the world as a result of the COVID-19 pandemic: whether to remain strictly closed in an effort to thwart the spread of the virus or to partially reopen in order to protect other aspects of people's health and welfare. In both situations, the focus was on individuals' feelings of their own culpability when a negative outcome occurred as a function of whether they made the decision themselves about what to do or took action following the orders of a superior.

Corresponding Author:
Maayan S. Malter, Columbia University, Columbia Business School, Marketing Division
E-mail: mmalter22@gsb.columbia.edu

Experiment 1: Self-Driving Cars

Method

Participants. Two hundred one participants (111 women; age: $M = 35.89$ years, $SD = 11.24$) were recruited to complete an online survey through Amazon's Mechanical Turk (MTurk). We recruited roughly 100 participants per agency condition on the basis of a previous MTurk study with a similar experimental design and context (Amit & Greene, 2012). Additionally, using G*Power software (Version 3.1.9.6; Faul et al., 2007), we computed that the necessary sample size for analyses of variance (ANOVAs) with a moderate effect size, an α of .01, and power $(1 - \beta)$ of 0.80 is 191 participants.[1]

Procedure. Participants were asked to imagine that they were an engineer working at a company developing autonomous cars and that they had to program the car's action in a potential accident. The car could be programmed to be deontological (save the rider above all else) or utilitarian (save as many people as possible even if this harms the rider).

Each participant was randomly assigned to one of two conditions: high agency or low agency. In the high-agency condition, they read that the CEO of their company told them that it was solely their choice, as the engineer, to program the car to be deontological or utilitarian. They were then asked to decide how they would program the car. In the low-agency condition, participants read that the CEO had told them (i.e., it was not their own decision to make) how to program the car—to be either deontological or utilitarian (low-agency participants were randomly assigned to each decision type).

Next, all participants were told to imagine that 5 years had passed since they programmed the car and were asked to describe a day in their lives 5 years in the future. Following this day-in-the-future exercise, participants read that 5 years had indeed passed and that one of the cars they had programmed was involved in an accident: The car had stopped in front of a crosswalk where five pedestrians were crossing when a truck lost control of its brakes and was about to hit the car from behind. Participants who programmed the car to be deontological read, "Because you [programmed/were told to program] the car to have deontological behaviors, it changed lanes and caused the five pedestrians to die." Participants who programmed the car to be utilitarian read "Because you [programmed/were told to program] the car to have utilitarian behaviors, it stayed in front of the truck and caused the rider to die."

Participants then responded to two questions concerning their general affect, that is how they felt about their programming and whether they were upset about what happened (these questions will not be considered further). These were followed by the three questions, central to our study, that were directed at their appraisal of their own moral culpability: "To what extent do you feel you are *responsible* for what happened?" "To what extent do you feel *guilty* about what happened?" and "To what extent do you *regret* programming the car the way you did?" Responses were given on 7-point Likert scales. Participants were then asked, "If you could [redo the programming decision/make the programming decision yourself], would you program the car differently?" Finally, basic demographic information was collected.

Statement of Relevance

In this article, we examine the relation between agency and felt culpability for behavior. Two conditions were contrasted, one in which the individual made a decision and took action and another in which the same action was taken in compliance with an authority figure's decision. Although the legal system holds individuals who make the decision more culpable for a negative outcome (the "Nuremberg defense"), our results indicated that individuals who "obeyed orders" *felt* more culpable (responsible, guilty, and regretful). This outcome was the opposite of our own expectations and occurred in a hypothetical scenario in which participants programmed a self-driving car as well as in two moral-dilemma scenarios regarding COVID-19. Better understanding the conditions in which decision agency will increase or decrease feelings of moral culpability has important implications not only for firms developing autonomous systems and products but also for policy and lawmakers who are setting the protocol for how we, as a society, act and judge moral responsibility.

Results

The results from the three items that were directed at participants' felt culpability were averaged to produce a single aggregate measure.[2] (The individual data for all questions asked, along with the direction of coding, are provided in the Supplemental Material available online.) When given a choice (in the high-agency condition), 66% of participants chose the utilitarian (vs. deontological) option. Although the decision type (deontological vs. utilitarian) in the high-agency condition was determined by the participant, in the analyses that follow, decision type was treated as if it were an independent variable. Because cell sizes were unbalanced, Type III sum of squares were used in the ANOVAs.

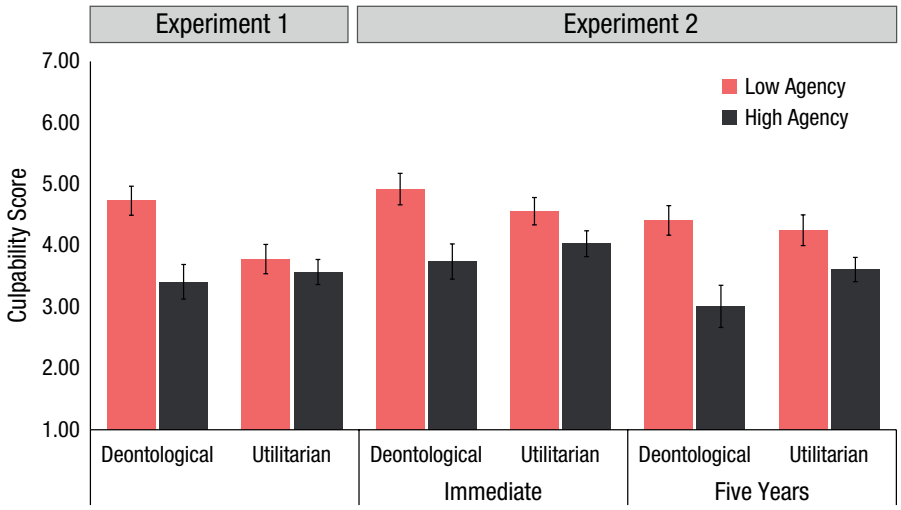

Fig. 1. Culpability in the scenarios involving self-driving cars in Experiments 1 and 2. Results are shown separately for each decision type and agency condition in Experiment 1 and for each decision type, agency condition, and temporal lag in Experiment 2. The culpability score combines responses for felt responsibility, guilt, and regret. In the deontological condition, five people died; in the utilitarian condition, the rider died. Error bars represent standard errors of the mean.

A 2 (agency: low vs. high) × 2 (decision type: deontological vs. utilitarian) between-subjects ANOVA indicated that there was a main effect of agency (see Fig. 1). Participants in the low-agency condition, that is, those who did what the CEO directed, felt more morally culpable ($M = 4.26$, $SD = 1.71$) than did those in the high-agency condition who made the decision themselves ($M = 3.51$, $SD = 1.68$), $F(1, 197) = 12.96$, $p < .001$, $\eta_p^2 = .04$. There was a main effect of decision type: Participants who had programmed the car to be deontological ($M = 4.19$, $SD = 1.93$) felt more morally culpable than those who programmed to the car to be utilitarian ($M = 3.66$, $SD = 1.54$), $F(1, 197) = 8.04$, $p = .005$, $\eta_p^2 = .01$. In addition, there was an interaction between agency and decision type, $F(1, 197) = 5.26$, $p = .023$, $\eta_p^2 = .02$. Scheffe's post hoc test indicated that people in the low-agency condition felt more culpable than those in the high-agency condition, particularly when the car executed a deontological action ($p = .006$) but not so much when it executed a utilitarian action ($p = .925$).

A similar pattern was observed when participants were asked whether they would change their programming if they could do it again. A logistic regression revealed a main effect of agency ($\beta = -1.14$, 95% confidence interval [CI] = [−2.12, −0.23], $z = -2.38$, $p = .017$, odds ratio [*OR*] = 0.32, 95% CI = [0.21, 0.80]); more participants in the low-agency condition would have changed their programming. There was a main effect of decision type ($\beta = -2.25$, 95% CI = [−3.44, −1.25], $z = -4.10$, $p < .001$, $OR = 0.10$, 95% CI = [0.03, 0.29]): More participants who made deontological decisions wanted to change their programming. In addition, there was a marginal interaction between agency and decision type ($\beta = 1.45$, 95% CI = [−0.01, 3.00], $z = 1.91$, $p = .057$, $OR = 4.27$, 95% CI = [0.99, 20.15]). When the car executed a deontological action, 52% of participants in the low-agency (vs. 26% in the high-agency) condition said that they would program the car differently if they had to do it over. When the car executed a utilitarian action, 10% of participants in the low-agency (vs. 13% in the high-agency) condition indicated that, if given the opportunity, they would have changed the programming.

Insofar as more people in the low-agency than the high-agency condition indicated that they would have changed their programming, we investigated the possibility that the primary result of interest might have been entirely attributable to people having been forced to go against their own inclinations. The question concerning whether they would have changed provides some indication of what participants would have decided had they been given free choice. This is not a perfect measure, though, because there could have been hindsight-related changes in both groups once the tragic outcome was known. And, indeed, even in the high-agency condition, several participants said that they would have programmed the car differently. Accordingly, in a follow-up ANOVA, we included only participants, in both groups, who said that they would not have changed the programming. The effect of interest was still observed: Low-agency participants felt more culpable ($M = 3.70$, $SD = 1.51$) than high-agency participants ($M = 3.17$, $SD = 1.60$), $F(1, 148) = 13.93$,

$p = .017$, $\eta_p^2 = .04$. The main effect of decision type and the interaction between decision type and agency were not significant ($p > .10$). Being required to go against one's own inclinations is very likely important and worthy of further consideration. However, this analysis indicated that this factor alone is not sufficient to explain the primary result of interest, namely that people who obeyed a superior's orders felt more, rather than less, culpable than did people who made the decision themselves.

Experiment 2: Replication and Time Lag

The effect shown in Experiment 1, in which people who obeyed the orders of their superior felt more culpable for a negative outcome than did people who made the decision themselves, was unexpected. In the literature, immediate outcomes are associated with greater feelings of agency than are delayed outcomes (Metcalfe & Greene, 2007; Michotte, 1946). Perhaps one factor contributing to the counterintuitive result in Experiment 1 was that people felt little agency, even in the high-agency condition, because the outcome was delayed. In Experiment 2, then, we had two aims: (a) to replicate the results of Experiment 1 and (b) to investigate whether the delay or immediacy of the outcome affected felt responsibility.

Method

Four hundred four participants were recruited through MTurk (167 women; age: $M = 37.63$ years, $SD = 12.26$). Experiment 1 yielded a moderate effect size, so we recruited 100 participants per condition in this experiment as well.[3] The method for Experiment 2 was identical to that of Experiment 1, except for an additional factor, temporal lag. After imagining programming the car, each participant was randomly assigned to one of two conditions: immediate vs. delay. In the immediate condition, they read,

> Right after you program the self-driving car, it goes directly out onto the city streets with real people (where its actions have real consequences) for testing. As the programmer, you are observing the car through a drone flying overhead, when the car encounters an inevitable accident.

The delay condition was the same as in Experiment 1, with the accident occurring 5 years later. An additional open-ended question was given at the end of the survey: "Why do you think you feel this level of regret? Briefly explain your reasons."

Results

Seventy percent of participants in the high-agency condition chose to program the car to execute a utilitarian (vs. deontological) action. A 2 (agency: low vs. high) × 2 (decision type: deontological vs. utilitarian) × 2 (temporal lag: immediate vs. delayed) between-subjects ANOVA indicated that there was, again, a main effect of agency (see Fig. 1): Participants in the low-agency condition felt more culpable ($M = 4.53$, $SD = 1.71$) than did those in the high-agency condition ($M = 3.70$, $SD = 1.74$), $F(1, 396) = 9.42$, $p = .002$, $\eta_p^2 = .06$. There was no effect of temporal lag (immediate: $M = 4.33$, $SD = 1.77$ vs. delayed: $M = 3.89$, $SD = 1.75$), $F(1, 396) = 2.09$, $p = .149$, although, directionally, participants felt more culpable in the immediate than the delayed condition. The effect of decision type in this experiment was not significant (deontological: $M = 4.18$, $SD = 1.95$ vs. utilitarian: $M = 4.07$, $SD = 1.65$), $F(1, 396) = 1.08$, $p = .298$. There was no interaction between agency and decision type, $F(1, 396) = 1.68$, $p = .195$, although the direction was the same as was found in Experiment 1.

Experiment 3: From the Outside Perspective

Both Experiments 1 and 2 showed results that were the opposite of our initial predictions. The unexpected results may have occurred because participants, in imagining that they were the programmer, had taken a first-person perspective, whereas in making our predictions, we had taken a third-person perspective. To test whether this vantage-point difference impacted people's evaluations of responsibility, in Experiment 3, we induced participants to take a third-person perspective.

Method

One hundred one participants were recruited through MTurk. No demographic information was collected. Participants were asked to predict how people in a previous experiment responded. They read a detailed description of the scenario in Experiment 1, including a description of what Experiment 1 participants read in the low-agency condition (referred to as "group A") and the high-agency condition (referred to as "group B"). The utilitarian and deontological decision types were described. Participants reported their predictions about how individuals in groups A and B would respond to the three questions related to culpability, namely, how much responsibility, guilt, and regret the programmer would feel about the situation. They gave their predictions on the same 7-point Likert scales that participants had used in the previous experiments. Participants were

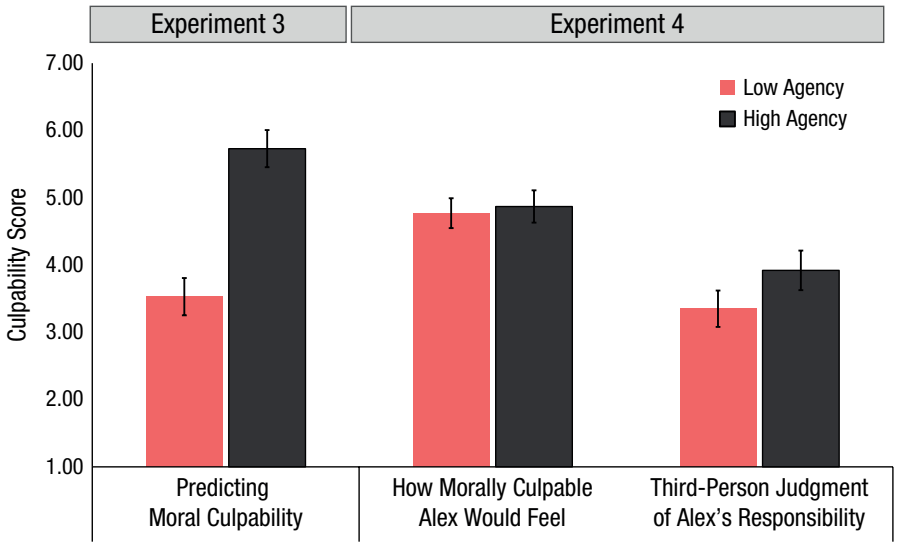

Fig. 2. Results for Experiments 3 and 4. Participants' predictions of how morally culpable a programmer in Experiment 1 would feel are shown for the high-agency and low-agency conditions in Experiment 3. Both participants' evaluations of how morally culpable "Alex" would feel and participants' own judgments of Alex's responsibility for the outcome of the situation are shown for the high-agency and low-agency conditions in Experiment 4. The culpability score combines responses for felt responsibility, guilt, and regret. Error bars represent standard errors of the mean.

asked to make predictions only about the effect of agency. They were not asked about the effect of decision type or about any interactions.

Results

As shown in Figure 2, participants predicted that a programmer would feel more morally culpable in the high-agency condition ($M = 5.73$, $SD = 1.30$) than in the low-agency condition ($M = 3.53$, $SD = 1.50$), $t(100) = -11.92$, $p < .001$, 95% CI for the mean difference = [−2.58, −1.83], $d = 1.57$, 95% CI = [1.18, 1.95]. This is the opposite of the results from Experiments 1 and 2 but consistent with our pre-experimental predictions and the hypothesis that the first-person perspective in the first two experiments was important.

Experiment 4: Identification With the Agent

Experiment 4 involved the four conditions from the scenario of the preceding experiments but referred to the programmer as "Alex." By personalizing the programmer and asking how "Alex" would feel, we intended to increase participants' identification with the programmer. Then, with the same participants, a third-person perspective was induced by asking them for their own judgments about Alex's responsibility.

Method

Four hundred one participants were recruited through MTurk (213 women; age: $M = 38.42$ years, $SD = 12.28$), and each was randomly assigned to one of four conditions in a 2 (agency: low vs. high) × 2 (decision type: deontological vs. utilitarian) between-subjects design. Participants read the same scenario described in Experiments 1 and 2, but instead of imagining themselves as the programmer, they read that a programmer named Alex either made the decision to program the car or was told to program the car to be deontological or utilitarian. Participants were first asked to indicate how they thought Alex would respond to the same questions used in Experiments 1 and 2, and then participants were asked to judge Alex's behavior from their own perspective (as a third-person observer of the situation): "To what extent do *you* think Alex is responsible for what happened?"

Results

Participants' evaluations of how culpable Alex would feel are shown in Figure 2. There was no effect of agency (low agency: $M = 4.76$, $SD = 1.47$ vs. high agency: $M = 4.84$, $SD = 1.60$), $F(1, 397) = 0.73$, $p = .394$. There was an effect of decision type (deontological: $M = 5.09$, $SD = 1.47$ vs. utilitarian: $M = 4.55$, $SD = 1.56$),

$F(1, 397) = 4.45$, $p = .036$, $\eta_p^2 = .01$; participants judged that Alex would feel more culpable when more people were killed. The interaction between agency and decision type was not significant ($p = .569$).

Interestingly, as shown in Figure 2, when participants were asked how responsible they judged Alex to be, they assessed him as more responsible when he was in the high-agency condition ($M = 3.89$, $SD = 1.92$) compared with the low-agency condition ($M = 3.34$, $SD = 1.85$), $F(1, 397) = 4.29$, $p = .039$, $\eta_p^2 = .001$. They also judged Alex as more responsible if he programmed the car to execute a deontological action ($M = 3.99$, $SD = 1.90$) compared with a utilitarian action ($M = 3.28$, $SD = 1.85$), $F(1, 397) = 7.91$, $p = .005$, $\eta_p^2 = .009$. There was no interaction ($p = .964$).

To examine how changing one's vantage point for making moral judgments would influence a participant's evaluation of Alex's responsibility, we submitted the dependent measure, feelings of responsibility, to a linear mixed-effects regression (LMER; *lmerTest* package in R, Version 3.1-3; Kuznetsova et al., 2017) with agency and decision type as between-subjects factors and perspective as a within-subjects factor. There was a main effect of perspective ($\beta = -0.96$, 95% CI = [−1.29, −0.63], $p < .001$); participants thought Alex would feel more responsible when they imagined how he felt (first person) compared with when they were judging Alex's responsibility (third person). There was also an interaction between perspective and decision type ($\beta = -0.48$, 95% CI = [−0.94, −0.01], $p = .044$). Importantly, excluding decision type from the model revealed a marginally significant interaction between perspective and agency ($\beta = 0.31$, 95% CI = [−0.02, 0.63], $p = .067$). Responsibility judgments did not differ between the low- and high-agency conditions when participants were thinking of how Alex would have felt, but they were higher in the high-agency than in the low-agency condition when participants made their own judgment from a third-person perspective.

Discussion of Experiments 1 Through 4

Results from the first two experiments indicated that when individuals imagined being the person who enacted a moral trade-off, they felt *more* culpable when they had obeyed the orders of someone else than when they made the decision themselves. However, as shown in Experiments 3 and 4, when judging the programmer's actions from the outside, the programmer who made their own decision was viewed to be more morally culpable. This latter finding, indicating that it is the person who makes the decision rather than the one who simply carries out the orders who is responsible, is consistent with the "superior-orders" or Nuremberg defense (Green, 1976). First- versus third-person perspective appeared to be crucial to the pattern of results. When participants were asked how Alex would feel, the results were mixed (and may have depended on whether the participant identified with Alex or judged Alex from the outside).

The question remains as to why people experienced greater feelings of culpability in the first-person perspective when they had only obeyed orders compared with when they had made the decision themselves. Interestingly, Frith (2014) noted that there are two factors that impact people's feelings of responsibility: their feeling of agency but also the counterfactual thought that they might have acted differently. Participants in the low-agency condition may have had a different experience of this second factor than those in the high-agency condition who carefully deliberated about their choice. Participants' open-ended responses, including comments such as "I should have pushed back on the CEO," suggested such counterfactual thought. The finding in Experiment 1—that more participants in the low-agency condition said they would program the car differently if given another chance—suggests that counterfactual thinking likely played some role. Nevertheless, the results were the same when participants who said they would have acted differently were excluded. While this factor may have played a role, other factors may have also contributed. Experimentally delineating the reasons for people's exaggerated feelings of culpability in what are ostensibly passive situations remains a challenge with both theoretical and practical implications. So, too, does the question of whether such a reversal in feelings of culpability plays out in more realistic situations where people's lives are palpably at stake.

Experiment 5: COVID-19 Policy Decisions

The first four experiments were conducted before the COVID-19 pandemic struck and before the advent of the wrenching moral dilemmas that, with the pandemic, were brought into widespread and acute focus. In Experiment 5, we investigated the same issues relating to the effects of agency on feelings of culpability as in Experiments 1 and 2, but this time we applied them to the kinds of real-world decisions that were being hotly debated and enacted at the time the experiment was conducted, impacting the welfare of real people, including the participants themselves.[4]

To better isolate the effects of agency on culpability, we made the outcome (viz., the number of deaths) in Experiment 5 the same regardless of the decision. Two moral-dilemma scenarios were used to establish greater generality of the findings. Scenario 1 posed the question,

"Should bars and restaurants reopen for in-person dining?" Reopening (the lenient option) would help the local economy but risk spreading the virus, whereas remaining closed (the strict option) would prevent spreading the virus but negatively impact the local economy. Scenario 2 posed the question, "Should delivery workers be required to be tested for COVID-19 in order to deliver to elderly/at-risk consumers?" Note that at the time of the experiment (May 2020), COVID-19 tests were very scarce. Allowing workers to make deliveries without testing (the lenient option) would ensure that consumers received essential items such as food and prescription medicines but risk spreading the virus, whereas requiring testing (the strict option) would prevent spreading the virus but risk individuals not receiving necessary supplies.

Method

Participants. Three hundred eighty-three U.S. participants were recruited through MTurk (199 women, 179 men, five nonbinary; age: $M = 32.15$ years, $SD = 10.46$).

Procedure. The experiment had a 2 (scenario: 1 or 2) × 2 (agency: high vs. low) × 2 (policy option: strict vs. lenient) between-subjects design. All participants were asked to imagine that they were a mayor of a mid-sized U.S. city, where they had to make important decisions regarding the pandemic.

Each participant read the descriptions (pros and cons) of each policy option in one of the two scenarios (reopening bars and restaurants or delivery-worker testing). Each participant was randomly assigned to the high-agency or low-agency condition. In the high-agency condition, they read that there were no state-level guidelines, and thus it was their role as the mayor to choose the strict or lenient option. They were then asked to indicate their choice. In the low-agency condition, participants read that the governor issued state-level guidelines for which policy must be implemented, and then each participant was randomly assigned to either the lenient or the strict option.

Next, all participants read how the policy they implemented played out over the following month. For Scenario 1, participants who implemented the strict policy to keep bars and restaurants closed read that the policy caused the local economy to struggle, resulting in 20 deaths because people were unable to afford basic necessities; participants who implemented the lenient policy to reopen bars and restaurants read that the policy caused the spread of the virus, resulting in 20 deaths. For Scenario 2, participants who implemented the strict policy to require testing for delivery workers read that the policy limited the supply of eligible delivery workers, leading to 20 deaths from lack of food and medicine and other non-COVID-19 causes; participants who implemented the lenient policy to allow untested delivery workers read that the policy caused the virus to spread, resulting in 20 deaths.

After reading the entire scenario, participants responded to the same questions as in Experiments 1 and 2. Finally, participants responded to the COVID-19 Threat Scale (Kachanoff et al., 2020) and reported their political orientation on a continuous scale (from very liberal to very conservative) and political-party affiliation (Democrat, independent, Republican, none of the above), along with demographic information.

Results

Fifty-four percent of participants in the high-agency condition (56% and 51%, respectively, for Scenarios 1 and 2) chose the strict option (vs. the lenient option). As shown in Figure 3, there was, again, a main effect of agency: Individuals in the low-agency condition felt more culpable ($M = 4.65$, $SD = 1.42$) than did those in the high-agency condition ($M = 4.09$, $SD = 1.47$), $F(1, 375) = 3.69$, $p = .057$, $\eta_p^2 = .009$. There was no effect of scenario, $F(1, 375) = 1.06$, $p = .303$, $\eta_p^2 = .003$. There was an effect of policy option (strict: $M = 4.08$, $SD = 1.40$ vs. lenient: $M = 4.68$, $SD = 1.48$), $F(1, 375) = 9.19$, $p = .003$, $\eta_p^2 = .022$; people in the lenient condition felt more culpable. There was no interaction between agency and policy option ($p = .787$).

A model including the continuous measure of political orientation was also tested. There was no main effect of political orientation, nor was there an interaction between political orientation and policy option (ps > .10). There was an interaction between agency and political orientation, $F(1, 373) = 11.88$, $p < .001$, $\eta_p^2 = .03$; the effect of agency was larger for more liberal individuals. The three-way interaction among policy option, political orientation, and agency was not significant ($p = .325$). Because this was not the focus of the present study and because the reasons for the interaction and its replicability are not yet known, it will not be discussed further at this time.

Summary of Effects

A summary of culpability effect sizes across all five experiments is presented in Figure 4, which compares first-person and third-person perspectives. A positive value indicates that high agency showed higher culpability than low agency, and a negative value indicates that low agency showed higher culpability than high agency, as given by Cohen's ds. Conditions coded as being from a first-person perspective included moral-culpability responses from Experiments 1, 2, and 5 and people's ratings of how Alex (the programmer) would

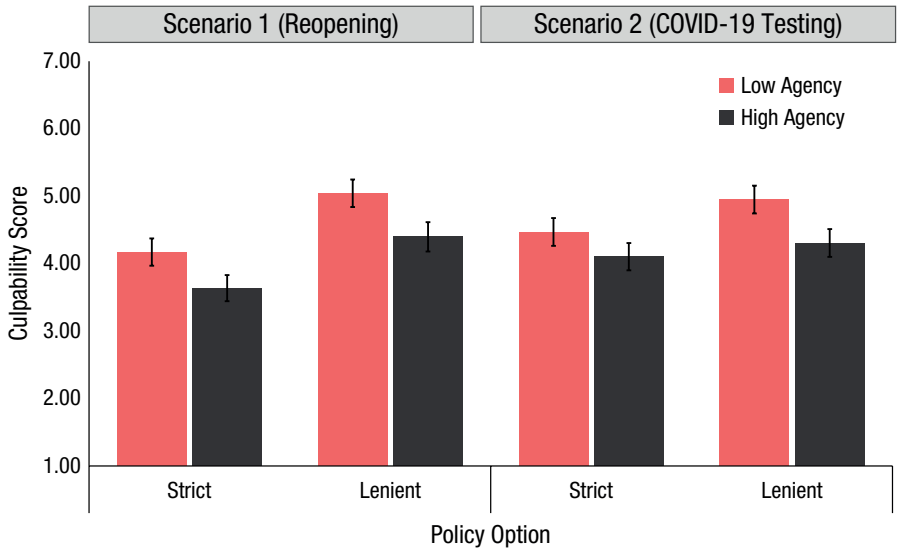

Fig. 3. Results for each of the COVID-19 scenarios in Experiment 5, which focused on a real-world situation in which a mayor made their own policy decision (high-agency condition) or was told which policy to implement by the governor (low-agency condition) about reopening the economy after the initial pandemic shutdown (lenient option) or remaining closed (strict option). The culpability score combines responses for felt responsibility, guilt, and regret. Error bars represent standard errors of the mean.

feel in Experiment 4 (total of 1,389 first-person data points). In classifying the feelings of Alex from a first-person perspective, we made the assumption that people imagined themselves *to be* Alex, although, as noted in the introduction and discussion of Experiment 4, this condition was ambiguous. Data that were coded as being from a third-person perspective included participants' predictions about how culpable other people would feel (from Experiment 3), and participants' evaluations of the extent to which they judged Alex to be responsible for the outcome in Experiment 4 (total of 603 third-person data points). The effects in the first-person data compared with the third-person data are in the opposite directions from zero, and the error bars are nonoverlapping. These

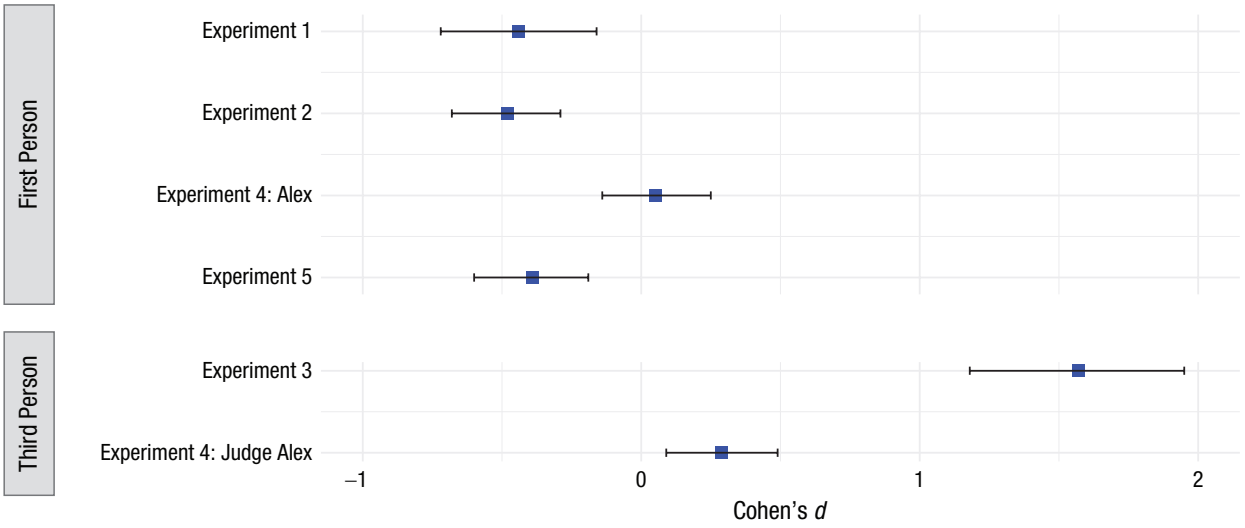

Fig. 4. Forest plot showing the effect of agency on moral culpability across experiments with first- and third-person perspectives. Error bars represent 95% confidence intervals.

results indicate that from a third-person perspective, high-agency individuals were deemed to be more culpable than were low-agency individuals, whereas from the first-person perspective, the reverse occurred: Low-agency participants felt themselves to be more culpable than did high-agency participants.

Conclusion

The idea that action driven by one's own intention is more deserving of praise (if the outcome is favorable) or blame (if it is not) than is nonintentional action is fundamental to both our legal system and our personal attributions of moral credit and culpability. As far back as the 13th century B.C.E., Hittite law inscribed in cuneiform on stone tablets asserted this distinction concerning the intent of the doer: "If anyone blinds a free man in a quarrel, he shall give one mina of silver. If only his hand does wrong he shall give 20 shekels."[5] Even preschool children make distinctions on the basis of intent (Carpenter et al., 1998; Cushman et al., 2013), and the construct is foundational to many psychological theories of moral attribution (e.g., Alicke, 2000; Bonicalzi & Haggard, 2019; Bucknoff, 2020; Caspar et al., 2016; Cushman, 2008; Malle et al., 2014; Piaget, 1932/1965; Weiner, 1995). Although the legal system is generally concerned with ill intent (mens rea), credit is also differentially accorded for favorable outcomes following actions that are intentional (i.e., when one makes a choice) compared with those in which one only carries out another's decision.

The data from Experiments 3 and 4 are consistent with this intention or agency-based attribution of responsibility. When the programmer of the self-driving car was judged from the outside, the programmer was deemed less culpable for a tragic outcome when the decision was made by their superior (the CEO of the company) than when they made it themselves. As in the law, the person who acted at the behest of another was viewed in Experiments 3 and 4 as less culpable than the one who actually made the decision.

The surprise in the results of Experiments 1, 2 and 5 is that when people imagined themselves to be the person who made the decision compared with implementing the will of their superior, they felt the opposite: They did not feel less culpable after having obeyed the orders of another; they felt more culpable. Perhaps this result occurred because they imagined that if they had been given free choice they would have chosen differently or that the outcome might have been different and less tragic. There are hints in the data that suggest that they sometimes felt that they should have pushed back. Perhaps they felt that they had violated their own moral standards and would not have made the same decision about the act that they had carried out. They may have felt conflict about their behavior. Perhaps they just felt that they should have given more consideration to an action with such grave consequences. However, even among participants who indicated that they would not change the decision that they implemented, people who followed orders still felt more culpable than those who made the decision themselves. Whatever the reason, their feelings of guilt, responsibility, and regret were amplified, not muted, by acquiescing in another person's decision. Although outsiders blamed them less, they blamed themselves more.

These five experiments show that "just obeying orders" does not get one off the hook in one's own eyes. In fact, the opposite was observed: Individuals felt more culpable for negative outcomes when they had low, rather than high, agency in making a decision with moral trade-offs. These findings, while counterintuitive, appear to be robust. They were replicated in a hypothetical trolley dilemma adapted to programming a self-driving car, and they generalized to two up-to-date and real-life COVID-19 situations. Importantly, the relation between agency and attribution of moral culpability appears to depend on whether the individual views the actions from a first-person or third-person perspective. Whereas from a third-person perspective, people are held to be less culpable when they carry out the decision of another, it is striking that from a first-person perspective, they nevertheless *feel* more culpable. Understanding the feelings that people experience after either making decisions themselves or following another's orders in distressing moral situations has important consequences not only for policy makers but also for the mental health and well-being of the individuals who carry out such decisions.

Transparency

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M. S. Malter and S. S. Kim designed, ran, and analyzed the data for Experiments 1 through 4. M. S. Malter designed and ran Experiment 5. M. S. Malter and S. S. Kim analyzed the data for Experiment 5. M. S. Malter, S. S. Kim, and J. Metcalfe wrote the manuscript. All the authors approved the final manuscript for submission. M. S. Malter and S. S. Kim are joint first authors.
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All data, analysis code, and materials have been made publicly available via OSF and can be accessed at https://osf.io/c7yrv. The design and analysis plans for the experiments were not preregistered. This article has received the badges for Open Data and Open Materials. More information about the Open Practices badges can be found at http://www.psychologicalscience.org/publications/badges.

ORCID iDs

Maayan S. Malter https://orcid.org/0000-0003-0383-7925
Sonia S. Kim https://orcid.org/0000-0002-9163-1910

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Supplemental Material

Additional supporting information can be found at http://journals.sagepub.com/doi/suppl/10.1177/09567976211002821

Notes

1. All experiments were approved by the Columbia University Institutional Review Board (AAAD9781), and all materials are posted on OSF at https://osf.io/c7yrv. For all experiments reported here, no participants who completed the entire experiment were excluded from the analyses.
2. These three items were collapsed into a single aggregate measure in Experiments 2 through 5 as well.
3. We continued to recruit 100 participants per condition in Experiments 3 through 5.
4. Distinct neural circuitry has been found to be activated when an individual makes a hypothetical as opposed to a real moral decision (FeldmanHall et al., 2012).
5. One mina of silver was worth sixty shekels. Interestingly, this distinction was apparently not recognized three centuries earlier. Article V from the 16th century B.C.E. tablet read only, "If anyone blinds a free man or knocks out his teeth he shall pay 20 shekels of silver." (Tablets and translations from the Museum of Anatolian Civilizations in Ankara, Turkey).

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