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The Harm-Made Mind: Observing Victimization Augments Attribution of Minds to Vegetative Patients, Robots, and the Dead

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Abstract

People often think that something must have a mind to be part of a moral interaction. However, the present research suggests that minds do not create morality but that morality creates minds. In four experiments, we found that observing intentional harm to an unconscious entity—a vegetative patient, a robot, or a corpse—leads to augmented attribution of mind to that entity. A fifth experiment reconciled these results with extant research on dehumanization by showing that observing the victimization of conscious entities leads to reduced attribution of mind to those entities. Taken together, these experiments suggest that the effects of victimization vary according to victims' preexisting mental status and that people often make an intuitive cognitive error when unconscious entities are placed in harm's way. People assume that if apparent moral harm occurs, then there must be someone there to experience that harm—a harm-made mind. These findings have implications for political policies concerning right-to-life issues.

Keywords

morality, consciousness, mind perception, victimization

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People normally believe that a mind is something that thinks, remembers, perceives, acts, and perhaps also feels and experiences. They do not usually understand a mind chiefly as something that can be harmed. But there may be circumstances in which the perception of mind in entities with marginal status as minds—people in a persistent vegetative state (PVS), robots, or even the dead—is not only influenced but also actually created by the perception that someone is being harmed. In these cases, apparent harm may lead observers to grant a variety of mental capacities to generally nonconscious entities—capacities including the ability to experience harm, as well as to think, remember, perceive, act, and carry out other functions often associated with having a mind. In the present research, we examined whether people might overattribute mental capacities to entities with liminal or nonexistent minds when these entities are the targets of intentional harmful action—that is, when they are victimized. It may be that harm makes minds in the sense that it leads people to perceive them.

People cannot step inside others' heads and directly sense their minds; every mind they observe is, in a sense, a mind they create (Dennett, 1997). People perceive minds in living, conscious individuals by inferring specific mental states (e.g., Baron-Cohen, 1997) and, more generally, by attributing properties of mind such as the capacities for experience and agency (H. M. Gray, Gray, & Wegner, 2007) to entities that show evidence of them (Epley, Akalis, Waytz, & Cacioppo, 2008; Waytz, Gray, Epley, & Wegner, 2010). The evidence for mind may be direct, as when people observe or interact with entities that seem to display intention or emotion. But the evidence for mind can also be indirect, based less on specific abilities and more on the feeling that a mind must be present simply because of the social or moral interactions

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surrounding a particular entity. In particular, thinking about minds is often shaped by a cognitive template that ties mind to morality: Minds are things that can do good or bad actions and that can have good or bad actions done to them (H. M. Gray et al., 2007). Minds participate in *moral dyads* made up of agents responsible for moral actions and patients susceptible to these actions (K. Gray, Waytz, & Young, 2012; K. Gray & Wegner, 2009).

If moral and immoral actions typically take place in interactions between minds, then people should be inclined to perceive minds when such actions are observed—even if these minds are not readily apparent. Prior research suggests that this is the case: People tend to perceive agents when faced with suffering patients (K. Gray & Wegner, 2009, 2010) and perceive patients when faced with apparently harmful agents (DeScioli, 2008).

In the present research, we expanded this work by investigating the effects of perceived intentional harm on mind attribution to entities lacking any objective hallmarks of mental activity—people in vegetative states, robots, and the dead. In further contrast to previous research on dyadic completion, we focused on mind attribution to specific entities—not some abstract and intangible agent (e.g., God) or patient (e.g., society). Public policy debates over end-of-life decisions (e.g., Hirsch, 2005) and abortion (e.g., Pluhar, 1977) provide anecdotal evidence that perceptions of harm can lead people to complete the moral dyad by attributing minds to specific victims even when those victims lack the objective hallmarks of having a mind. In the present research, we empirically examined this possibility—that perceivers attribute minds to potential victims who appear to have been harmed.

This phenomenon—the harm-made mind—should be particularly apparent when perceivers judge the mental capacities of targets of intentional harm, because such harm is more morally wrong than unintended harm (Nichols, 2004). Our first hypothesis is that the perception of intentional harm will lead people to complete the moral dyad by attributing an enhanced capacity to experience pain (i.e., to receive harm) to potential patients. Our second hypothesis is that this capacity to experience pain will serve as a catalyst for enhanced mind perception more broadly—that the minds created for victims will be full minds capable of both experience and agency, not just unidimensional receptacles for harm.

Our experiments focused on whether perceived harm might prompt attributions of mind by outside observers. Unlike examining harm-doers or victims, whose self-interest or self-justification might bias their judgments, evaluating observers who have a third-person perspective on a moral interaction should reveal the influence of perceived harm without bias (cf. Cialdini, Kenrick, &

Hoerig, 1976). We used the intention to inflict physical harm as the defining characteristic of the moral agent and the capacity to experience this harm in the form of pain as the defining characteristic of the moral patient; this focus is rooted in research suggesting that intentional physical harm is the most prototypical moral violation (K. Gray et al., 2012) and is connected to other types of harm (e.g., Dewall et al., 2010; Kross, Berman, Mischel, Smith, & Wager, 2011).

Attribution of mind to the moral patient, or victim, was assessed using four measures. Attribution of specific victim-related mental capacities was assessed by a single-item measure of perceived capacity to experience pain. Attribution of general mental capacities was assessed using two 7-item scales (see Gray et al., 2007), one gauging capacities related to experience (desires, feelings, emotions, pleasure, fear, hunger, personality) and the other gauging capacities related to agency (planning, self-control, memory, emotion recognition, moral understanding, communication, influencing situations). Explicit endorsement of mental functioning was assessed using two measures related to the victim's consciousness of the self and the external world. For the first experiment, we report perceived pain, overall indices of experience, agency, and consciousness, and a composite index of general mind attribution created by averaging all individual items from the experience and agency scales; for brevity, in the remaining experiments, we report only pain and this composite mind index. In the Supplemental Material available online, we provide the full scales for each mind measure (Table S1), complete results for the remaining experiments (Tables S2–S5, respectively), and the full text of the vignettes used for each experiment.

In Experiment 1, we tested whether observing intentional harm to a PVS patient would lead people to attribute both specific and general mental capacities to that patient; a follow-up experiment further explored the role of harm in creating minds by directly manipulating our proposed mediator—the victim's capacity to experience pain. In Experiment 2, we tested whether greater attribution of mind to victims would indeed be prompted by intentional rather than unintentional harm. In Experiments 3 and 4, we expanded the scope of our inquiry from the liminal organic mind of the PVS patient to both a synthetic mind (Experiment 3—a robot) and a nonexistent mind (Experiment 4—a corpse). Finally, in Experiment 5, we addressed the apparent conflict between the phenomenon of the harm-made mind and prior research suggesting that people may see less mind in human victims as a result of dehumanization (see Haslam, 2006). In Experiment 5, we tested our experimental paradigm with adult humans as victims; we expected that victimization would enhance mind attribution for entities without

minds (Experiments 1–4) but decrease mind attribution for those with fully conscious minds (Experiment 5).

Experiment 1: Harm to a Vegetative Patient

In this experiment, we explored the possibility of a harm-made mind in an ambiguously conscious entity, a PVS patient. We expected that dyadic completion would lead to enhanced attribution of the capacity to receive harm (experience pain), as well as mental capacities more broadly, to victims relative to nonvictims.

Method

Participants ($N = 62$; 30 female, 32 male; mean age = 35.5 years) were recruited through Amazon's Mechanical Turk; such participants are more diverse than those from traditional lab-based samples, yet provide responses with equal levels of reliability (Buhrmester, Kwang, & Gosling, 2011). Each participant was randomly assigned to a control condition or a harm condition. All participants first read a 139-word vignette about a PVS patient, "Ann," which described her background and brain injury, unresponsiveness to stimuli (no experience), and complete dependence on hospital staff (no agency); further, the vignette explained that there was no expectation of recovery. Participants in the harm condition read that the patient's nurse intentionally unplugged Ann's food supply every evening with the intention of starving her and obtaining money from a distant relative named in the patient's will; participants in the control condition read that the nurse performed her job satisfactorily. This vignette emphasized three key points: first, that the moral agent acted intentionally (the nurse had a reason for her actions); second, that the victim (and potential patient) lacked the objective hallmarks of having a mind (experience and agency); and third, that judgments were made in relation to the victim's current state rather than concerns about family or the possibility of future recovery (the victim had no immediate family and was not expected to ever recover).¹

After reading the vignette, participants indicated their perceptions of the PVS patient according to all mind-attribution measures (see Introduction). Each measure was presented as a statement, and participants responded on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Results

As a manipulation check, participants rated how morally right or wrong the nurse's actions were on a scale from 1 (*extremely wrong*) to 7 (*extremely right*); moral wrongs

imply both intention (Nichols, 2004) and harm (Gray et al. 2012), and they may lead people to create victims to receive this harm. Participants in the harm condition judged the nurse's actions to be more morally wrong ($M = 1.15$, $SD = 0.36$) than did participants in the control condition ($M = 5.91$, $SD = 0.95$), $t(60) = 24.66$, $p = .001$, Cohen's (1988) $d = 6.37$.

Participants in the harm condition, relative to those in the control condition, attributed more mind to the PVS patient by every index of mind attribution: the ability to feel pain (control condition: $M = 3.09$, $SD = 1.88$; harm condition: $M = 4.00$, $SD = 1.41$), $t(60) = 2.10$, $p = .04$, $d = 0.54$; the capacity for experience ($\alpha = .96$; control condition: $M = 2.75$, $SD = 1.50$; harm condition: $M = 3.71$, $SD = 1.15$), $t(60) = 2.77$, $p < .01$, $d = 0.72$; the capacity for agency ($\alpha = .88$; control condition: $M = 1.96$, $SD = 1.03$; harm condition: $M = 2.52$, $SD = 0.79$), $t(60) = 2.34$, $p = .02$, $d = 0.61$; and explicit endorsement of conscious awareness ($\alpha = .91$; control condition: $M = 2.31$, $SD = 1.39$; harm condition: $M = 3.11$, $SD = 1.19$), $t(60) = 2.38$, $p = .02$, $d = 0.61$. Mean differences in overall mind attribution (i.e., the mean of all experience- and agency-related mind-attribution measures) are presented in Figure 1 ($\alpha = .95$; control condition: $M = 2.35$, $SD = 1.21$; harm condition: $M = 3.12$, $SD = 1.23$), $t(60) = 2.78$, $p < .01$, $d = 0.72$.

To examine whether the perceived capacity to experience harm served as a catalyst for increased mind attribution more broadly, we performed a series of bootstrapping mediation analyses (5,000 samples; Preacher & Hayes, 2008). Analyses were performed between condition (control, harm) and each dependent variable (experience, agency, consciousness, and overall mind), with pain as the mediator. The overall mediation models were significant for all measures of mind attribution—experience: $F(2, 59) = 63.64$, $p < .0001$, 95% confidence interval (CI) for indirect effect = [0.03, 0.58]; agency: $F(2, 59) = 12.68$, $p < .0001$, 95% CI for indirect effect = [0.02, 0.28]; mind: $F(2, 59) = 39.61$, $p < .0001$, 95% CI for indirect effect = [0.03, 0.41]; consciousness: $F(2, 59) = 18.40$, $p < .0001$, 95% CI for indirect effect = [0.02, 0.44]. Perceptions of the victim's capacity to experience pain completely mediated the path from condition (control, harm) to all aspects of mind attribution (Fig. 2).

Although these analyses provide mathematical support for the mediating role of pain, directly manipulating a proposed mediator is often a stronger test of a mediational hypothesis (see Spencer, Zanna, & Fong, 2005). Thus, we performed a follow-up experiment in which we directly manipulated the ability of the PVS patient to feel pain. Participants ($N = 50$; 18 female, 32 male; mean age = 28.5 years) were presented with the harm scenario used in Experiment 1, in which the PVS patient's nurse unplugged her feeding supply every night with the intention of

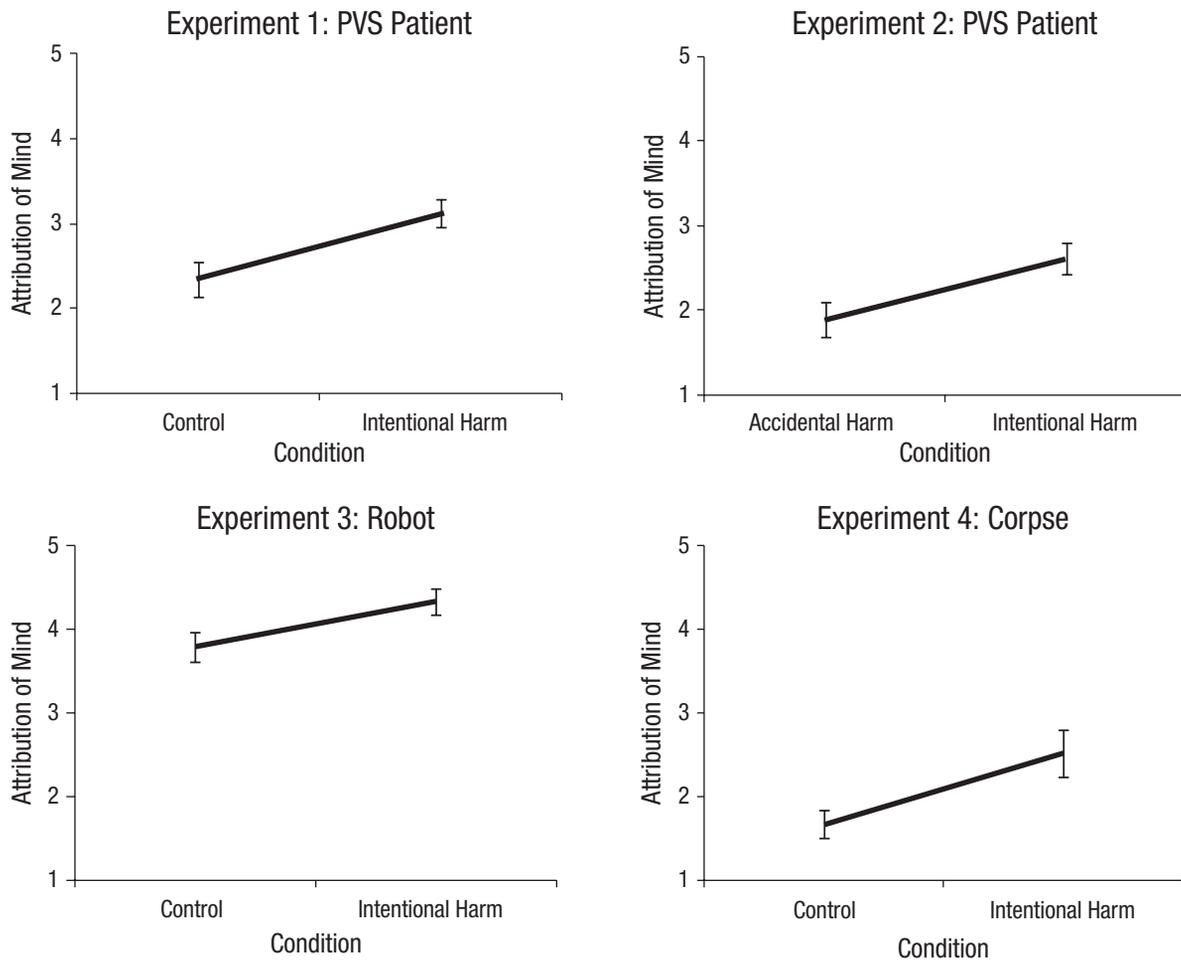


Fig. 1. Results from Experiments 1 through 4: mean scores on a composite measure of 14 mind-related items as a function of condition. Error bars show standard errors. PVS = persistent vegetative state.

starving her; however, those in a pain condition read that the patient felt pain, whereas those in a no-pain condition read that the patient's condition prevented her from feeling pain. Subsequent pain ratings confirmed that this manipulation was effective (pain condition: $M = 5.83$, $SD = 0.72$; no-pain condition: $M = 1.67$, $SD = 0.68$), $t(48) = 21.04$, $p < .001$, $d = 5.97$. Those in the pain condition, relative to those in the no-pain condition, attributed more mind to the patient according to every index of mind attribution—all $t(48) > 2.8$, all $ps < .01$. These results provide evidence that harm is truly at the root of the harm-made mind—not just the agent's intention to cause harm, but also the victim's capacity to experience it.

Experiment 2: The Importance of Intention

The perception of harm should lead observers to apply a cognitive template of moral wrong and infer the presence

of mind. Intentional harm implies greater moral wrong than does unintentional harm and so should be more likely to prompt mind attribution to a victim (K. Gray & Wegner, 2011). In this experiment, we tested this expectation.

Method

Participants ($N = 59$, 42 female, 17 male; mean age = 34.9 years) were selected as in Experiment 1. Each was randomly assigned to an intentional-harm or an accidental-harm condition. Participants read the same description of a PVS patient as those in Experiment 1 did. The intentional-harm condition was identical to the harm condition in Experiment 1. The vignette read in the accidental-harm condition had the same outcome as the vignette in the intentional-harm condition—the PVS patient's food supply was interrupted every night—but with the absence of intentionality; in the accidental-harm

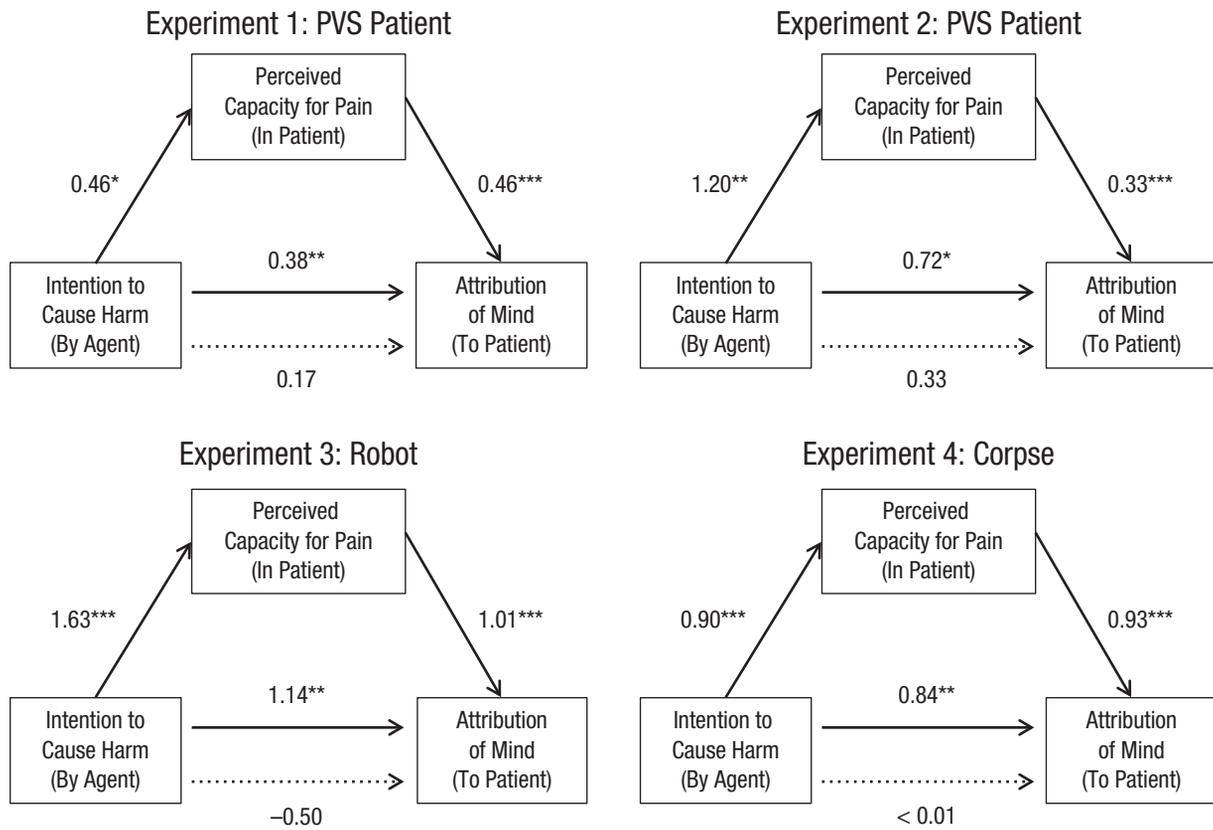


Fig. 2. Models from Experiments 1 through 4 showing the influence of the agent’s intention to cause harm on the attribution of mind to the patient, mediated by the perceived capacity of the patient to experience pain. Along the bottom path of each model, the solid line represents the indirect relationship between harm and mind attribution, and the dashed line represents the direct relationship between harm and mind attribution when the mediator, pain, is accounted for. Path coefficients are unstandardized. Asterisks indicate significant paths (* $p < .05$, ** $p < .01$, *** $p < .001$).

condition, this interruption was due to an unnoticed mechanical failure. After reading the vignette, participants responded to the same 14 mind-attribution measures used in Experiment 1.

Results

All results, including those for our key measures—the ability to experience pain and overall mind attribution—supported our hypothesis. Intentional harm, relative to accidental harm, led to increased attributions of the ability to feel pain (accidental-harm condition: $M = 2.43$, $SD = 1.65$; intentional-harm condition: $M = 3.64$, $SD = 1.84$), $t(57) = 2.55$, $p = .01$, $d = 0.68$, as well as increased overall mind attribution ($\alpha = .95$; accidental-harm condition: $M = 1.89$, $SD = 1.02$; intentional-harm condition: $M = 2.62$, $SD = 1.12$), $t(57) = 2.50$, $p = .01$, $d = 0.66$; see Figure 1. A bootstrapping mediation analysis (5,000 samples) indicated that the perceived capacity to experience pain completely mediated the link between condition (accidental harm, intentional harm) and mind attribution, $F(2,$

56) = 15.31, $p < .0001$, 95% CI for indirect effect = [0.12, 0.78]; see Figure 2. These results indicate that mind attribution to victims is connected to intentional moral harm rather than perception of harm more broadly, and they provide additional evidence supporting the mediating role of pain.

Experiment 3: Harm to a Robot

In this experiment, we expanded our test of the harm-made mind by investigating a synthetic mind: the mind of a robot. Although robots are inorganic, marginal levels of mind are sometimes attributed to them (K. Gray & Wegner, 2012); we predicted that observing intentional harm to a robot would enhance these attributions of mind.

Method

The design of this experiment mirrored that of our prior experiments. Participants ($N = 121$; 80 female, 41 male;

mean age = 34.9 years) were recruited as in Experiment 1, and each was randomly assigned to a control or a harm condition. All participants read about “George,” a “highly complex social robot” placed under the care of a research scientist. In the harm condition, participants read that the scientist regularly abused the robot by stabbing a scalpel into its sensors; in the control condition, participants read that the scientist performed his job satisfactorily. After reading the vignette, participants answered the same 14 items as in Experiment 1.

Results

Each of our key measures indicated that participants who observed intentional harm to the robot attributed more mind to this inorganic figure than participants in the control condition did. Participants in the harm condition, relative to those in the control condition, attributed to the robot a higher capacity to experience pain (control condition: $M = 3.00$, $SD = 1.29$; harm condition: $M = 4.63$, $SD = 1.02$), $t(119) = 4.84$, $p < .0001$, $d = 0.89$, as well as more mind overall ($\alpha = .94$; control condition: $M = 3.79$, $SD = 1.33$; harm condition: $M = 4.33$, $SD = 1.26$), $t(119) = 2.31$, $p = .02$, $d = 0.42$; see Figure 1. A bootstrapping mediation analysis (5,000 samples) indicated that perceived capacity to experience pain completely mediated the link between condition (control, harm) and mind attribution, $F(2, 118) = 51.58$, $p < .0001$, 95% CI for indirect effect = [0.93, 2.47]; see Figure 2. These results provide further evidence that observing an agent’s intent to cause harm leads people to complete the moral dyad by creating a mind to receive that harm—even when that mind is housed in metal rather than flesh.

Experiment 4: Harm to a Corpse

In this experiment, we provided a final test of the harm-made mind by extending our research past ambiguous minds—both natural and synthetic—to a mind that was objectively nonexistent: the mind of a corpse. Although corpses do not have minds, people sometimes attribute minds to the dead (e.g., Bering, 2002; K. Gray, Knickman, & Wegner, 2011). In this experiment, we explored whether harming a human corpse might enhance this tendency.

Method

The design was almost identical to that of Experiment 3. Participants ($N = 49$; 34 female, 15 male; mean age = 35.5 years) were recruited as in Experiment 1, and each was assigned to a control or a harm condition. All participants first read about “George,” a deceased man residing in the local mortuary. Participants in the harm condition read that George’s mortician physically abused the body with

a scalpel and electric shock; participants in the control condition read that the mortician performed his job satisfactorily. We expected that intended harm would enhance attributions of the corpse’s ability to experience pain, and that this would lead to increased attribution of mind to the mistreated corpse. After reading the vignette, participants answered the same 14 items as in Experiment 1.

Results

Our results supported our hypothesis. Participants in the harm condition, relative to participants in the control condition, attributed to the corpse more capacity to experience pain (control condition: $M = 1.47$, $SD = 0.78$; harm condition: $M = 2.37$, $SD = 1.21$), $t(47) = 3.18$, $p < .01$, $d = 0.93$, as well as more mind overall ($\alpha = .95$; control condition: $M = 1.66$, $SD = 0.87$; harm condition: $M = 2.52$, $SD = 1.23$), $t(47) = 2.80$, $p < .01$, $d = 0.82$; see Figure 1. A bootstrapping mediation analysis (5,000 samples) revealed that perceived capacity to experience pain completely mediated the link between condition (control, intentional harm) and mind attribution, $F(2, 46) = 94.44$, $p < .0001$, 95% CI for indirect effect = [0.32, 1.40]; see Figure 2. This suggests that the power of the harm-made mind extends even to the unambiguously nonminded, causing people to imbue victimized corpses with mental abilities.

Experiment 5: Harm to a Healthy Person

The phenomenon of the harm-made mind stands in contrast to research on harm justification (Lerner, 1980) and dehumanization of victims (Haslam, 2006). These lines of research suggest that less mind might be attributed to people when they are unfairly victimized than when they are unvictimized. Here, we used the same procedures as in previous experiments, but with a fully conscious adult human as the victim. It may be that victimization leads people to make minds for the liminally minded (Experiments 1–3) or mindless (Experiment 4) but strip them from the minded.

Method

Participants ($N = 119$, 74 female, 45 male; mean age = 34.49 years) were recruited as in the prior experiments, and each was randomly placed in a control condition, a harm condition, or an extreme-harm condition. All first read about “Sharon,” a fully conscious adult human, and her boss, “Jodie.” Participants in the control condition read that Jodie performed her job satisfactorily, participants in the harm condition read that Jodie physically abused Sharon by shocking her with electrodes, and participants in the extreme-harm condition read that Jodie

also stabbed Sharon with a letter opener. After reading the vignette about Sharon and Jodie, participants answered the same 14 items as in Experiment 1.

Results

A manipulation check using the same scale as in Experiment 1 (1 = *extremely wrong*, 7 = *extremely right*) confirmed that participants in both the harm ($M = 1.32$) and extreme-harm ($M = 1.20$) conditions saw Jodie's behavior as being significantly less morally right than did those in the control condition ($M = 5.25$), $F(2, 117) = 254.42$, $p < .0001$; follow-up post hoc comparisons showed no differences between the two harm conditions, $p = .54$, which indicates that people perceived both harmful and extremely harmful actions committed against Sharon as being morally wrong.

As predicted by theories of victim derogation and dehumanization, participants in the harm conditions, relative to those in the control condition, attributed to Sharon less ability to experience pain, $F(2, 117) = 3.00$, $p = .05$, $\eta^2 = .05$, and less mind overall, $\alpha = .90$, $F(2, 117) = 10.72$, $p < .001$, $\eta^2 = .16$. Follow-up linear and quadratic contrasts showed a significant linear trend for mind attribution ($F = 21.21$, $p < .001$) but no quadratic trend ($F = 0.09$, $p = 0.76$); see Figure 3. These results are in line with prior research on dehumanization and serve both to validate our paradigm and suggest that the effect of victimization on mind attribution varies according to the preexisting mental abilities of the victim.

General Discussion

The experiments reported here provide support for the harm-made mind: a phenomenon in which perceiving harm leads people to attribute minds to otherwise unconscious victims. In Experiments 1 and 2, the link between harm and the mind caused attribution of consciousness

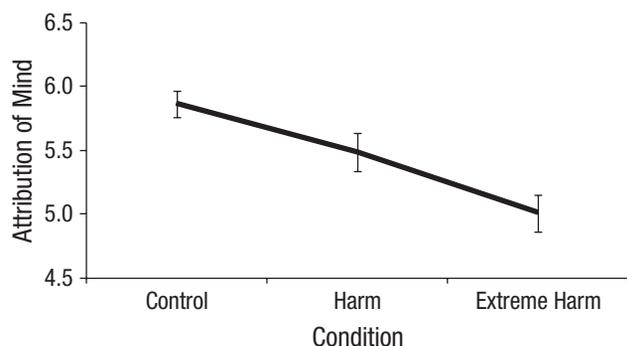


Fig. 3. Results of Experiment 5: mean scores on a composite measure of 14 mind-related items as a function of condition. Error bars show standard errors.

to an ambiguous mind—a PVS patient; in Experiment 3, this link enhanced the attribution of mind to an inorganic robot; and in Experiment 4, this link led to increased attribution of mind to an entity without a mind of any sort: a corpse. In each case, the minds created in these entities did not seem to be unidimensional minds, defined solely by the capacity to feel pain; rather, they were minds capable of both experience and agency. Harming a comatose patient, robot, or corpse caused people not only to report that these entities could experience pain but also to avow that they could exert self-control, plan for the future, and even feel hunger.

Across all experiments, mind attribution seemed to be induced by perceptions of the capacity to experience pain. These findings are consistent with the dyadic template of morality and the phenomenon of dyadic completion. The moral dyad requires two minds, not just two bodies (K. Gray & Wegner, 2009; K. Gray et al., 2012); thus, when presented with an agent intending to harm a seemingly nonconscious victim, people may often complete the moral dyad by creating a mind for this potential patient—a harm-made mind. Although overall attribution of mind varies by target—mind attribution was highest for the robot (Experiment 3), lower for PVS patients (Experiments 1 and 2), and lower still for the corpse (Experiment 4)—it is sensitive to perceptions of moral harm in all cases. This phenomenon may be directly relevant to many morally valenced laws and policies ranging from animal rights to hot-button issues such as abortion and assisted suicide. People's widely differing views on these issues may be partially due to framing effects—some people see the entities in question as targets of harm and therefore create minds for them; others do not see harm and do not create minds. Future exploration of the harm-made mind may yield insight into better ways to both create and implement public policies related to these issues.

The harm-made mind is not the whole story, of course—although entities with liminal or nonexistent minds are granted minds when they are victimized, fully conscious victims are stripped of their minds. This pattern of results suggests that the effects of victimization vary according to the preexisting mental status of the victim. Victimization may cause people to dehumanize other entities—but only when these entities have a mind to begin with; entities with absent or liminal minds, in contrast, seem to gain minds as a result of victimization. The interplay of these two seemingly opposing phenomena—the harm-made mind and dehumanization of victims—may be fertile ground for future research. Studies could examine the tipping point between these two effects—the threshold of consciousness at which people stop rehumanizing victims and begin to dehumanize them.

Future work could also focus on addressing some limitations of the present research. First, agents' reasons for inflicting harm may affect attributions of mind to victims. Our experiments gave each agent a plausible reason for harming the victim (e.g., greed, jealousy), and a pretest in our lab revealed that less self-control and moral awareness were attributed to agents without these reasons; moreover, less mind was attributed to the victims of these unreasonable villains. Participants seemed to strip these villains of moral agency, which may have decreased the need to complete the moral dyad. Second, the identity of the agent almost certainly matters. All of our experiments focused on third-person observations of moral scenarios, but future research could explore the phenomenon of the harm-made mind in first-person interactions. When people harm a nonconscious entity themselves, do they create a mind for that entity? Or do they fail to do so, perhaps out of self-justification (e.g., Cialdini et al., 1976)? Finally, each of our experiments focused on the moral transgression of physical harm. Future research could examine the extent to which the harm-made mind applies to other, ostensibly non-harm-related, moral transgressions. Do people create minds for PVS patients whose wallet is stolen? What about when someone breaks a promise made to a corpse? These questions about agents, patients, and moral wrongs provide fertile ground for future research.

Author Contributions

All authors developed the experimental concept and contributed to the experimental design. Testing and data collection were performed by A. F. Ward and A. S. Olsen. A. F. Ward performed the data analysis and interpretation under the supervision of D. M. Wegner. A. S. Olsen drafted an early version of the article, A. F. Ward wrote the final manuscript, and D. M. Wegner provided critical revisions. All authors approved the final version of the article for submission.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Supplemental Material

Additional supporting information may be found at <http://pss.sagepub.com/content/by/supplemental-data>

Note

1. Similar levels of detail were used in Experiments 2 through 5.

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