

Dehumanizing Prisoners: Remaining Sentence Duration Predicts the Ascription of Mind to Prisoners

Jason C. Deska¹ , Steven M. Almaraz² ,
and Kurt Hugenberg³

Personality and Social
Psychology Bulletin
1–14

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DOI: 10.1177/0146167220911496
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Abstract

We tested the novel hypothesis that the dehumanization of prisoners varies as a function of how soon they will be released from prison. Seven studies indicate that people ascribe soon-to-be-released prisoners greater mental sophistication than those with more time to serve, all other things being equal. Studies 3 to 6 indicate that these effects are mediated by perceptions that imprisonment has served the functions of rehabilitation, retribution, and future deterrence. Finally, Study 7 demonstrates that beliefs about rehabilitation and deterrence may be the most important in accounting for these effects. These findings indicate that the amount of time left on a prison sentence influences mind ascription to the incarcerated, an effect that has implications for our understanding of prisoner dehumanization.

Keywords

prisoners, dehumanization, incarceration, mind perception

Received December 17, 2018; revision accepted February 5, 2020

Understanding the causes and consequences of imprisonment is a classic question in social psychology (see Haney & Zimbardo, 1998). The nature of the dehumanizing treatment of prisoners has received extensive discussion in popular press (Lackey, 2019; Simon, 2015) and in legal scholarship (e.g., Binnall, 2008), with a particular focus on how imprisonment can change an individual. Social psychologists have also studied how lay individuals dehumanize criminals and prisoners (see Vasiljevic & Viki, 2014, for a review); however less research has investigated how prisoner dehumanization changes over the time course of imprisonment. Yet, to both laypersons and legal scholars, prisons presumably serve fundamental change functions such as rehabilitating prisoners (i.e., making prisoners better people) or enacting moral retribution against prisoners (i.e., balancing the moral scales via punishment). Of interest is whether these change functions of prisons thereby change the dehumanization of the imprisoned.

We directly address the question of whether prisoner dehumanization changes over the course of their imprisonment. Does the dehumanization of prisoners change if they have served more of their sentence or if they are nearing release? And if so, why? Perhaps the rehabilitative nature of imprisonment leads prisoners to be dehumanized less as they are rehabilitated. Alternatively, perhaps the dehumanization of prisoners lessens as the moral scales become more

balanced by time served. We first briefly outline basic theory on dehumanization (and related constructs). We next discuss the specific evidence regarding the dehumanization of prisoners, before describing both lay and philosophical functions of imprisonment and how imprisonment may change individuals. Finally, we present seven studies investigating how the tendency to withhold fundamental human faculties from prisoners changes over the time course of their imprisonment (Studies 1 and 2), as well as testing how different beliefs about how prisons affect incarcerated individuals mediate the observed change in dehumanization (Studies 3–7).

On Dehumanization

Dehumanization is observed as the denial of full humanness to others (Haslam, 2006). Theorists from multiple related literatures, such as infrahumanization (Leyens et al., 2007), dehumanization (Haslam & Loughnan, 2014), and mind

¹Ryerson University, Toronto, Ontario, Canada

²East Los Angeles College, Monterey Park, CA, USA

³Indiana University, Bloomington, USA

Corresponding Author:

Jason C. Deska, Psychology Department, Ryerson University, 350 Victoria Street, Toronto, Ontario, Canada M5B 2K3.

Email: jdeska@ryerson.ca

perception (Waytz et al., 2010), all focus on the ascription or denial of fundamental humanlike capacities to others. These models share a focus on how humans have an emotional depth and experiential capacity that distinguishes them from automata, while also having sophisticated logical and self-regulatory capacities that distinguish them from animals (Haslam, 2006), although there are important conceptual distinctions among them (Fincher et al., 2018).

Whereas automata, such as robots, may be able to compute rational solutions, follow rules, and act planfully, they lack emotional depth and sensory experience. Animals, such as dogs and elephants, may experience emotions and sensations, but they have limited cognitive and agentic faculties. Humans, however, share both such faculties simultaneously. This distinction between unfeeling machines and unthinking animals mirrors the commonplace means by which people are often dehumanized as either machine-like—lacking in emotional responsiveness and experience (mechanistic dehumanization)—or animal-like—lacking in civility, rationality, and self-regulation (animalistic dehumanization).

One commonplace finding is that ascribing and withholding humanlike faculties often result from motivated processing. We ascribe or withhold humanness when it suits our goals. Ascribing sophisticated human minds to others may serve social connection needs. People experiencing either chronic or induced desires for social connection are more likely to see non-humans as possessing humanlike minds (Epley et al., 2008; Powers et al., 2014). A strong desire to understand the world increases mind attribution, especially to relatively unpredictable targets (Waytz et al., 2010). Conversely, people quite readily dehumanize others, especially when driven by intergroup motives (Haslam & Loughnan, 2014; Vaes et al., 2012). Leyens and colleagues (2000) demonstrate that people often fail to ascribe sophisticated emotional states (e.g., love, ennui) to outgroup members. Dehumanizing others can justify past intergroup harm or increase support for punishment and other harmful acts, especially in intergroup contexts (e.g., Deska et al., 2020; Fincher & Tetlock, 2016; Kteily et al., 2015; Rai et al., 2017). Castano and Giner-Sorolla (2006) reminded participants of historical atrocities committed by the ingroup and then measured the extent to which participants perceived the victims as having fully human faculties. This reminder led participants to judge the victimized groups as having less emotional depth, thereby easing the experience of shared guilt. The dehumanization of victimized outgroups can also undermine the desire to repair or remediate past harms perpetrated by the ingroup (Zebel et al., 2008).

The current work focuses on a chronically dehumanized group: prisoners. Prisoners are an especially interesting group because most are expected to reenter society at the end of their sentence and live as productive members of society. Yet, the dehumanization of prisoners occurs commonly and can have robust consequences both during and after incarceration.

Prisoner Dehumanization

The dehumanization of prisoners is a particularly interesting case to investigate because prisoners are often seen, by virtue of their transgressions, to have removed themselves from moral society (Kelman, 1973). They have broken the social contract by dint of criminal activity, and harsh punishment becomes permissible or even preferred. Not only are prisoners often stripped of fundamental human faculties in ways typical of dehumanization (Deska et al., 2018), but stronger dehumanizing judgments about prisoners tend to generate harsher punishments. Including dehumanizing language in victim impact statements exacerbates punitive judgments toward defendants in mock jury contexts (Myers et al., 2004). Individuals who more strongly dehumanize criminals or prisoners also favor stronger punishments and even violence toward criminals (Bastian et al., 2013; Osofsky et al., 2005; Viki et al., 2012, 2013). This tendency to seek harsh punishments is exacerbated for criminals who committed morally outrageous crimes (e.g., child molestation; see Bastian et al., 2013).

However, it is unclear whether or how dehumanization may *change* over the time course of imprisonment, despite strong consensus that people dehumanize prisoners. One possibility is that people further dehumanize prisoners as they approach release. The increased psychological threat of a prisoner's impending release may generate dehumanizing responses. Although intuitively plausible, past work finds that threat and dehumanization are distinct constructs, each independently contributing to intergroup conflict (Maoz & McCauley, 2008). Perhaps prison itself is seen as a dehumanizing institution (Lackey, 2019; Simon, 2015), meaning that the longer one serves, the more one is seen as lacking humanlike capacities, becoming more like a (threatening) animal over the course of a prison sentence. However, dehumanization is instead more commonly associated with disgust, rather than threat, responses (Buckels & Trapnell, 2013; Harris & Fiske, 2006).

A competing hypothesis is that prisoners will become *less* dehumanized as they serve their sentence. This hypothesis is rooted in the four core functions of incarceration as outlined in the criminal science literature—rehabilitation, retribution, deterrence, and incapacitation—each of which could plausibly be related to the rehumanization of previously dehumanized prisoners (Allen & Simonsen, 2001; Kifer et al., 2003).

Historically, many nations have emphasized *rehabilitation*—improvement of the individual—as the central function of prisons (Benson, 2003). From the perspective of rehabilitation, prisoners can (and should) be reformed for successful reentry into society, and time spent in prison facilitates this rehabilitation. Successful rehabilitation would presumably involve both the ability to feel empathy for their victims (the term “penitentiary” has its roots in the term “penitent,” or someone seeking repentance for transgressions) and

improvement in self-regulation and civility, all fundamental human faculties. Prisoners who have completed the majority of their sentence may be seen as more thoroughly rehabilitated and therefore deemed more mentally sophisticated.

Recent prison policy tends to focus on *retribution* as a key function of imprisonment (Benson, 2003). Retribution seeks to balance the moral scales for prisoners having committed transgressions. The punishment itself creates justice, and unpunished crimes leave moral scales unbalanced (Carlsmith et al., 2002; Kant, 1797/1965). Although a different philosophy of punishment, here too we might expect prisoners who have only just begun their sentence to be more severely dehumanized than those about to leave because the former have not yet been sufficiently punished. They have not yet paid the debt they owe society for their transgression and are therefore dehumanized.

Deterrence for future crimes is commonly understood as a third function of imprisonment. Incarceration can serve as a means to prevent future crimes, in the sense of positive punishment in operant conditioning for the imprisoned. Punishment (presumably) teaches that future criminal behavior will be punished and encourages a desire to avoid punishment that promotes a reduction in recidivism. A deterrence perspective views incarceration as a way of keeping people in line with the threat of punishment. Perceiving prison as deterrence could have implications for dehumanization. As a prisoner approaches release (i.e., as the negativity of the punishment has accrued), the prisoner should presumably become more deterred from committing future crimes and instead become more likely to act in line with the social contract. This reduction in norm violation (see Fincher & Tetlock, 2016) and the increase in self-regulation (Haslam, 2006) may lead to the ascription of more humanness.

Finally, an *incapacitation* perspective on incarceration views prison as a way to remove offenders from society so they cannot victimize anyone else. Incarceration is designed to make prisoners irrelevant to the broader society by locking them away (Galtung, 1958). However, as prisoners approach release, their subjective relevance to others may increase. There is reason to believe that this changing subjective relevance could affect the extent to which targets are seen as sophisticated or simplistic. Khalid et al. (2016) found that targets who are more subjectively relevant (i.e., more likely to interact with or affect the self, for good or ill) are more likely to be ascribed sophisticated humanlike faculties. The increasing self-relevance of prisoners as they approach release may similarly lead perceivers to care more about their inner states, motives, and experiences, which in turn may increase the ascription of humanlike faculties.

Based on these functions of imprisonment, we believed the more plausible hypothesis was that as prisoners approached release, participants would ascribe them more sophisticated, humanlike mental faculties, relative to prisoners who had more time left on their sentence. We tested this hypothesis directly in our studies below.

We believe investigating the change in prisoner dehumanization provides substantial advances. First, the present research links classic questions of prisoner dehumanization (e.g., Haney & Zimbardo, 1998) to modern theories of mind perception (e.g., Waytz et al., 2010). Second, much of the extant research focuses on how dehumanizing beliefs about prisoners exacerbate punishment, leaving open questions of how prisoner dehumanization may change over the time course of imprisonment. Thus, the present research investigates a novel question and affords the possibility of a genuine theoretical advance on a classic question. Finally, if prisoner dehumanization does change over the course of the prison sentence, understanding the mediators of this effect may give clues as to how to better ameliorate the stigma experienced by former prisoners post release.

We test our hypotheses across a series of seven studies. In Studies 1 and 2, we find support for our primary hypothesis that participants ascribe more sophisticated humanlike minds to soon-to-be-released prisoners relative to those with more time to serve. We then turn to an examination of the core functions of incarceration—rehabilitation, retribution, deterrence, and incapacitation—as potential mediators for this predicted change-over-time effect, testing each potential mediator in turn in Studies 3 to 6. We find evidence that perceptions of prison rehabilitating a prisoner, enacting retribution against a prisoner, and deterring a prisoner's future recidivism each mediate the change in dehumanization across prison sentence when tested independently. We find no evidence that incapacitating a prisoner mediates this effect. Finally, in Study 7, we test whether these effects of perceived rehabilitation, retribution, and deterrence emerge as independent predictors when tested in parallel. We find that rehabilitation and deterrence are the most robust mediators of this change in dehumanization effect.

Study 1

In Study 1, we tested whether the amount of time prisoners have remaining on their sentence affects the degree of humanlike mental sophistication participants ascribe to them. Participants viewed faces of male prisoners who had approximately 4 years or 4 weeks remaining on a 4-year sentence, and judged each prisoner's agentic and experiential mental capacities using Gray et al.'s (2007) mind ascription measure. This measure assesses both humanlike agentic faculties (e.g., self-regulation and morality), as well as more basic experiential faculties shared by most animals (e.g., the ability to feel fear, hunger, and pain). We expected participants to ascribe greater mental sophistication to soon-to-be-released prisoners than their counterparts with more time left to serve.

Although we hypothesized a main effect of time until release, we were open to the possibility of an interaction between time left to serve and mind dimension. We thought the *agentic* dimension of mind may be particularly relevant.

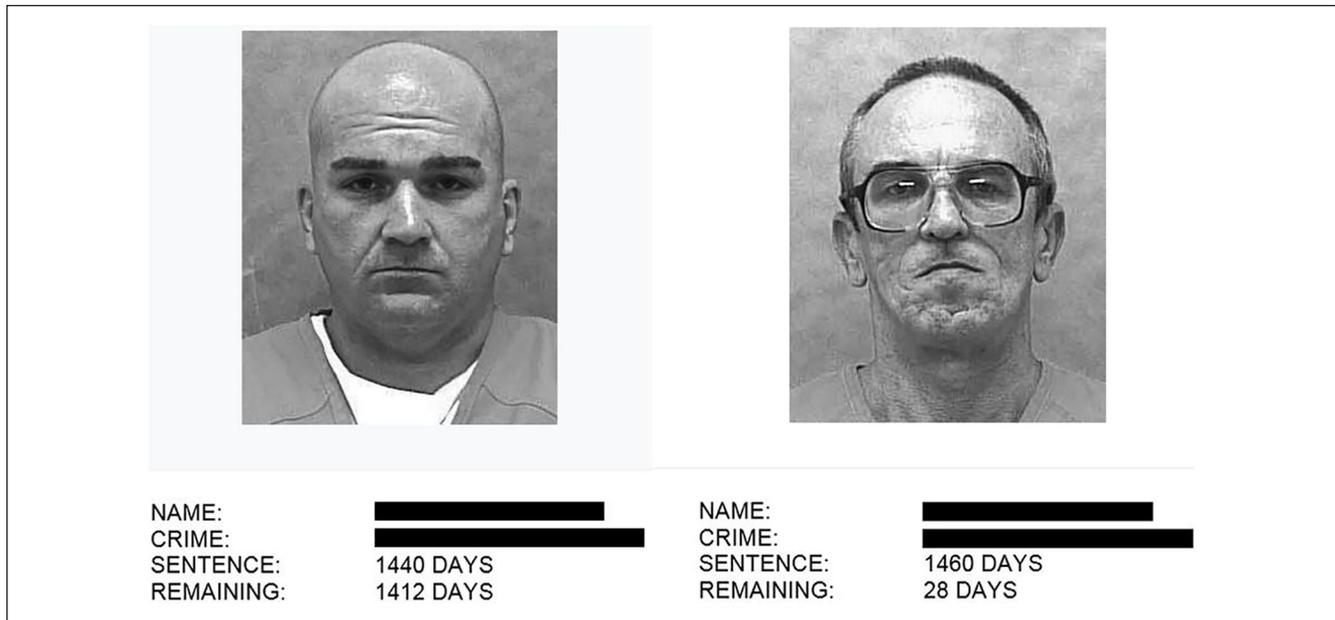


Figure 1. Example stimuli.

Whereas imprisonment may be seen as changing individuals' ability for self-regulation, it might be more surprising if imprisonment was seen as changing the ability to feel basic emotions such as fear or basic sensory experiences such as hunger or pain.

Method

Participants. We estimated a small-to-medium sized effect ($d = 0.35$) because we were uncertain what effect sizes we would observe. Using this estimate, an a priori power analysis indicated that we should target 128 participants to obtain 80% power (G*Power V3.1; Faul et al., 2007). We conservatively oversampled. Participants were 148 undergraduate students from a medium-sized Midwestern university ($M_{age} = 19.01$, $SD = 1.15$). Most self-identified as White (77.7%) and female (56.8%). One did not provide demographic information. In this and all studies reported, we neither conducted analyses until data collection was complete nor excluded any participants from analyses. All measures are reported. All materials and measures are available in the Supplemental Materials.

Materials. Stimuli were 20 mugshots of White men imprisoned in Florida (Wilson & Rule, 2015) lacking salient facial features that might influence judgments (e.g., scarring, tattoos). Accompanying each mugshot was information ostensibly detailing the target's name, crime, sentence length, and time remaining on the sentence. We obscured prisoners' names and crime information as though that information was confidential (Figure 1). Participants read that all targets were sentenced to approximately 1,460 days imprisonment (i.e., 4 years). We manipulated the amount of time left on prisoners'

sentences such that targets had approximately 1,430 days (i.e., all but 1 month) or approximately 30 days (i.e., 1 month) remaining on their sentence. Participants always saw all 20 faces; however, whether a given target was presented with short or long remaining sentences was randomized across participants.

Procedure. Participants learned that we were investigating whether the effects of accurate first impressions extended to criminals. They learned that each person they would see was a criminal imprisoned in Florida, that below each face was information about his sentence, and that they would rate each prisoner on a series of scales. Participants then completed all 20 trials. In each, they viewed a prisoner's face and the accompanying sentencing information. Whether a given face was paired with a short or long remaining sentence was randomized across participants. After viewing each target, participants indicated the extent to which they agreed that targets had seven agentic capacities (e.g., *self-control*, *planning*) and 11 experiential capacities (e.g., *pain*, *hunger*), using 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The next trial began after participants finished all 18 ratings. Participants were thanked and debriefed after completing all 20 trials and the brief demographic survey.

Results and Discussion

We tested whether targets' remaining prison sentence influenced mind ascriptions. We first computed mean values for agency and experience separately for targets with short and long durations left on their sentence before submitting them to a 2 (Remaining Duration: short vs. long) \times 2 (Mind

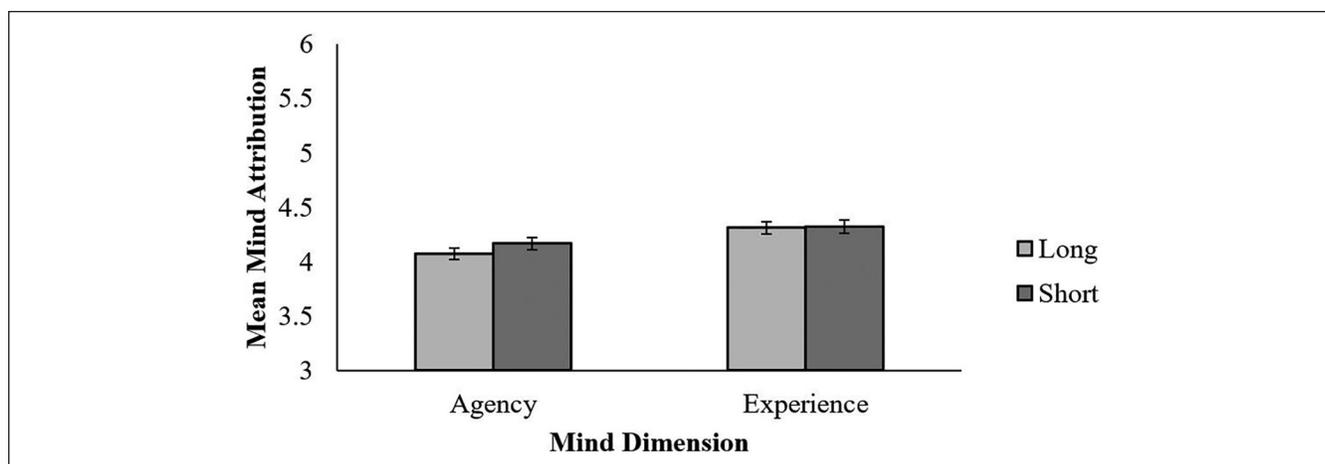


Figure 2. Ascription of agency and experience to prisoners as a function of remaining sentence duration in Study 1.

Note. Participants ascribed greater agency (but not experience) to targets with short remaining sentences compared with long remaining sentences. Error bars reflect standard error of the mean.

Dimension: agency vs. experience) repeated-measures analysis of variance (ANOVA). This analysis yielded the predicted main effect of Remaining Duration, $F(1, 147) = 3.93$, $p = .049$, 95% confidence interval (CI) = [0.00, 0.10], $d = 0.16$. Participants ascribed greater mental sophistication to targets with short remaining sentences ($M = 4.24$, $SD = 0.62$) than targets with long remaining sentences ($M = 4.19$, $SD = 0.62$). This analysis also revealed a significant main effect of Mind Dimension, $F(1, 147) = 22.06$, $p < .001$, 95% CI = [0.11, 0.29], $d = 0.39$. Participants ascribed targets more experience ($M = 4.32$, $SD = 0.68$) than agency ($M = 4.12$, $SD = 0.63$). These main effects were qualified by an interaction, $F(1, 147) = 8.26$, $p = .005$, $d = 0.24$ (Figure 2). Participants ascribed targets with short remaining sentences ($M = 4.16$, $SD = 0.67$) more agency than their counterparts with long remaining sentences ($M = 4.07$, $SD = 0.66$), $t(147) = 2.75$, $p = .007$, 95% CI = [0.03, 0.16], $d = 0.23$. However, participants did not differentially ascribe experience to targets with short ($M = 4.32$, $SD = 0.70$) and long ($M = 4.31$, $SD = 0.71$) remaining sentences, $t(147) = 0.47$, $p = .638$, 95% CI = [-0.04, 0.06], $d = 0.04$.

Study 1 provides initial evidence that people ascribe greater mental sophistication to prisoners who are closer to reentering society than prisoners who have relatively longer left to serve. This change in perceived mental sophistication did not extend to *all* mental faculties. People saw prisoners as having more sophisticated humanlike *agentic* faculties as their sentences neared completion, but their fundamental abilities to *experience* sensory states, such as fear and hunger, were unchanged.

Study 2

Study 2 served as a conceptual replication and extension of Study 1 with two primary differences. First, we employed Kozak et al.'s (2006) Mind Attribution Scale, rather than

Gray and colleagues' (2007) Mind Perception Scale to assess perceptions of the change in prisoners' mental faculties over their sentence. This change provides an important conceptual extension in addition to testing whether the previous effects generalize to a different measure due to the key differences between the scales.

The Mind Attribution Scale (Kozak et al., 2006) was developed based on theory related to mentalization of humans (e.g., Frith & Frith, 2003) and tested within the context of adult humans. Gray and colleagues' (2007) Mind Perception Scale was developed to measure the minds of a broader range of human and non-human agents (e.g., adults, children, animals, robots, deities). Some of the items in the experience subscale of Gray and colleagues' measure (used in Study 1), such as the ability to feel hunger, are likely so fundamental to all humans that people may not see them as varying across imprisonment.

The Mind Attribution Scale was designed to measure differences among humans, rather than between humans and non-humans, and thus focuses on human faculties that are commonly seen to vary between people, including sophisticated *emotional* capacities (e.g., complex feelings), *intentional* capacities (e.g., self-regulation), and *cognitive* capacities (e.g., engaging in extensive thought). We continue to predict that time left to serve would affect the ascription of humanlike faculties to prisoners. We tested whether the interaction between mind dimension and sentence remaining obtains when measuring dimensions of mind that are more commonly seen to vary among humans. The interaction between mind dimension and time left to serve should be eliminated in Study 2 if it was an artifact of the measure employed in Study 1.

Finally, in Study 2, we recruited an online sample instead of an undergraduate sample. Although we did not expect an online sample to show a different pattern of results than an undergraduate sample, it is nevertheless useful to sample from a different population to ensure generalizability.

Method

Participants. Relying on the same power analysis as Study 1, 155 Mechanical Turk (MTurk) workers ($M_{\text{age}} = 37.68$, $SD = 12.95$) completed Study 2. Most self-identified as White (76.1%) and female (54.8%). To reduce the likelihood of MTurk workers participating in more than one of our studies, we relied on a custom script (Unique Turker) to prevent participants from accepting participation in more than one of this series of studies (Studies 2–7).

Materials and procedure. The materials and procedure for Study 2 were identical to that of Study 1 except as follows. Participants rated targets on Kozak and colleagues' (2006) Mind Attribution Scale, including 10 items assessing targets' emotional (e.g., *this person is capable of emotion*), intentional (e.g., *this person is capable of doing things on purpose*), and cognitive (e.g., *this person can engage in a great deal of thought*) capacities. Participants made ratings on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Results and Discussion

We tested whether targets' remaining sentence influenced mind ascriptions. We first computed mean values for the three mind dimensions separately for targets with short and long remaining sentence durations before submitting them to a 2 (Remaining Duration: short vs. long) \times 3 (Mind Dimension: emotion vs. intention vs. cognition) repeated-measures ANOVA. This analysis yielded the predicted main effect of Remaining Duration, $F(1, 154) = 4.06$, $p = .046$, 95% CI = [0.00, 0.13], $d = 0.16$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 4.90$, $SD = 1.13$) than targets with long sentences remaining ($M = 4.84$, $SD = 1.16$). In addition, this analysis revealed a significant main effect of Mind Dimension, $F(2, 308) = 50.75$, $p < .001$, $d = 0.57$. Targets were ascribed more intention ($M = 5.16$, $SD = 1.17$) than emotion ($M = 4.98$, $SD = 1.27$), $t(154) = 3.22$, $p = .002$, 95% CI = [0.07, 0.29], $d = 0.26$, and more emotion ($M = 4.98$, $SD = 1.27$) than cognition ($M = 4.48$, $SD = 1.26$), $t(154) = 6.23$, $p < .001$, 95% CI = [0.34, 0.66], $d = 0.50$. The interaction was not significant, $F(2, 308) = 1.66$, $p = .192$, $d = 0.10$.

Study 2 conceptually replicates the Study 1 finding that people ascribe greater mental sophistication to soon-to-be-released prisoners than prisoners with relatively longer left to serve on their sentence. Unlike Study 1, we did not observe an interaction between remaining sentence duration and mind dimension, suggesting the interaction observed in Study 1 may have been an artifact of the specific measure employed. Consistent with our primary hypothesis, this effect was not unique to judgments of one specific dimension of mind. Participants ascribed greater emotional, intentional, and cognitive faculties to prisoners with 1 month left to serve than

prisoners with all but 1 month left to serve on their 4-year sentences.

Studies 3 to 7: Testing the Functions of Incarceration as Mediators

Both laypersons and philosophers of criminal justice argue that incarceration serves four primary functions, including rehabilitation, retribution, deterrence, and incapacitation (see Allen & Simonsen, 2001; Kifer et al., 2003). Although people could perceive imprisonment as changing incarcerated individuals in multiple ways, we believed each of these four functions of imprisonment could plausibly mediate our previously observed effects. In Studies 3 to 7, we examined whether the differential attribution of mind to soon-to-be-released prisoners, relative to prisoners with more time to serve, might be mediated by perceivers' beliefs that each of these goals has been fulfilled. We tested each of these four functions of imprisonment as a mediator in each of the following four studies on an exploratory basis. It seemed plausible that any or all of these perceived functions of imprisonment could mediate the change in prisoner dehumanization across the time course of imprisonment, and it seemed sensible to test each separately to ensure that the measurement of any one mediator was uncontaminated by the measurement of another. Finally, in Study 7, we tested all of the significant mediators from Studies 3 to 6 in parallel to investigate which are most parsimonious in explaining the effects. In each of these studies below, we employ a procedure similar to Study 2 with the addition of a brief measure of each possible mediator.

Study 3—Rehabilitation

In Study 3, we tested whether participants judge prisoners who have served the majority of their sentence as more rehabilitated than their newly incarcerated counterparts, and whether this belief about differential rehabilitation contributes to mind attribution. We expected to replicate the effect of remaining sentence duration on mind attribution, and we also expected participants to judge soon-to-be-released prisoners as more rehabilitated than prisoners with more time to serve on their sentences. Finally, we examined whether differential rehabilitation judgments would mediate the differential attribution of mental sophistication across remaining sentence duration.

Method

Participants. Because we employed the same primary measure used in Study 2, we ran a new power analysis using the observed effect size from that study ($d = 0.16$). This analysis suggested collecting at least 309 participants for 80% power, which we employed for Studies 3 to 7. Participants were 354 MTurk workers ($M_{\text{age}} = 38.63$, $SD = 12.01$). Most self-identified as White (67.2%) and female (50.3%).

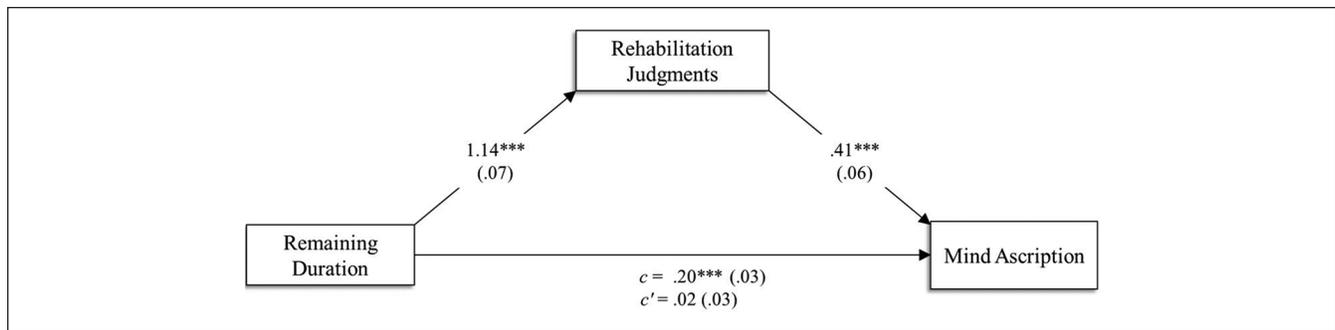


Figure 3. Model showing the effect of remaining sentence duration of mind ascription through rehabilitation judgments in Study 3. Note. The indirect effect is significant, $b = 0.18$, $SE = .03$, 95% CI = [0.11, 0.25]. CI = confidence interval. *** = $p < .001$.

Procedure. The materials and procedure for Study 3 were identical to that of Study 2 except as follows. In addition to rating each target on the Mind Attribution Scale (Kozak et al., 2006), participants rated each on a three-item rehabilitation measure (i.e., *this person has been rehabilitated by prison; this person has been made better by prison; this person has learned their lesson*) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Results and discussion. We first tested whether targets' remaining sentence affected mind attribution. We observed a significant main effect of Remaining Duration, $F(1, 353) = 54.64$, $p < .001$, 95% CI = [0.99, 1.30], $d = 0.39$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 3.89$, $SD = 1.24$) than targets with long sentences remaining ($M = 2.75$, $SD = 1.41$). In addition, this analysis revealed a significant main effect of Mind Dimension, $F(2, 706) = 86.90$, $p < .001$, $d = 0.50$. Participants did not differentially ascribe targets emotion ($M = 5.21$, $SD = 1.19$) and intention ($M = 5.20$, $SD = 1.10$), $t(353) = 0.18$, $p = .858$, 95% CI = [-0.06, 0.07], $d = 0.01$. Participants ascribed greater intention to targets than cognition ($M = 4.76$, $SD = 1.14$), $t(353) = 11.27$, $p < .001$, 95% CI = [0.36, 0.52], $d = 0.60$. The interaction was non-significant, $F(2, 706) = 0.28$, $p = .758$, $d = 0.03$.

We next tested whether targets' remaining sentence influenced rehabilitation judgments. A paired-samples t test indicated that participants deemed targets with short sentences remaining ($M = 3.89$, $SD = 1.24$) more rehabilitated than targets with long sentences remaining ($M = 2.75$, $SD = 1.41$), $t(353) = 14.77$, $p < .001$, 95% CI = [0.99, 1.30], $d = 0.79$.

We used the MEMORE macro (Montoya & Hayes, 2017) with 10,000 bias-corrected bootstrapped samples to test whether the effect of remaining sentence duration on mind attribution occurs indirectly through rehabilitation beliefs. The indirect effect was significant, $b = 0.18$, $SE = .03$, 95% CI = [0.1190, 0.2465], supporting the hypothesis (Figure 3).

One of the primary purposes of incarceration is rehabilitation (Allen & Simonsen, 2001; Kifer et al., 2003). Our data

indicate that people's beliefs about rehabilitation inform their judgments about prisoner dehumanization. Soon-to-be-released prisoners seem more rehabilitated than prisoners with more time to serve and consequently are ascribed more humanlike mental sophistication.

Study 4—Retribution

Study 4 focuses on the retributive function of incarceration, which is a desire to balance the moral scales by enacting punishment against transgressors (Carlsmith et al., 2002). It may be that people dehumanize the newly imprisoned more than those who have served most of their sentence because they see the moral scales as insufficiently balanced for the newer prisoners. Insofar as new prisoners have yet to be sufficiently punished for their crimes, they may seem worthy of dehumanization. Conversely, people may deem that greater retributive justice has been enacted for prisoners with less time left to serve. In turn, differential retribution judgments may mediate the differential attribution of mind to our target prisoners.

Method

Participants. Participants were 355 MTurk workers ($M_{\text{age}} = 40.00$, $SD = 12.20$). Most self-identified as White (72.7%) and female (54.9%).

Procedure. The materials and procedure for Study 4 were identical to that of Study 3 except that instead of rehabilitation, participants rated each target on a three-item retribution measure (i.e., *this person has paid their debt to society; this person has been adequately punished; based on the punishment this person has received, justice has been served*).

Results and discussion. We first tested whether targets' remaining sentence affected mind attribution. We again observed a significant main effect of Remaining Duration, $F(1, 354) = 42.82$, $p < .001$, 95% CI = [0.13, 0.24], $d = 0.35$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 5.12$, $SD = 1.14$) than targets

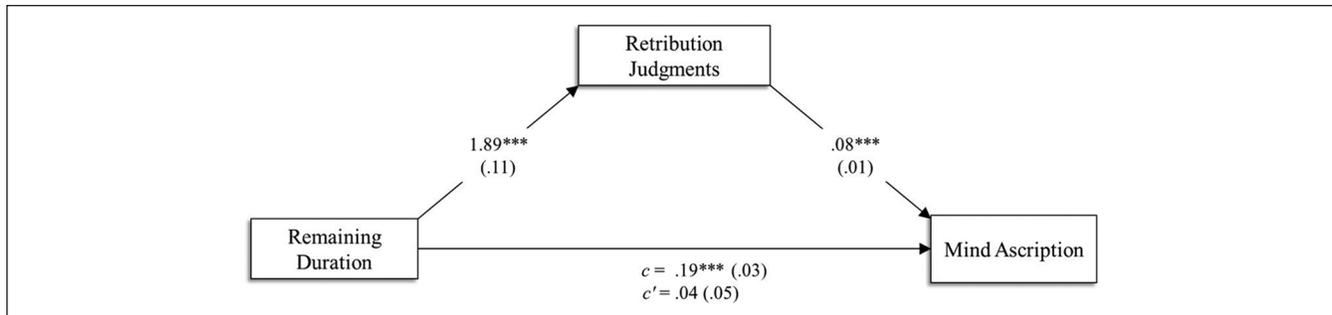


Figure 4. Model showing the effect of remaining sentence duration of mind ascription through retribution judgments in Study 4. Note. The indirect effect is significant, $b = 0.15$, $SE = .04$, 95% CI = [0.09, 0.24]. CI = confidence interval. *** = $p < .001$.

with long sentences remaining ($M = 4.94$, $SD = 1.20$). This analysis also revealed a significant main effect of Mind Dimension, $F(2, 708) = 86.90$, $p < .001$, $d = 0.49$. Participants ascribed greater intention ($M = 5.23$, $SD = 1.15$) than emotion ($M = 5.12$, $SD = 1.28$), $t(354) = 3.20$, $p = .002$, 95% CI = [0.04, 0.18], $d = 0.17$. Participants ascribed greater emotion than cognition ($M = 4.74$, $SD = 1.15$), $t(354) = 9.29$, $p < .001$, 95% CI = [0.30, 0.47], $d = 0.49$. The interaction was non-significant, $F(2, 708) = 2.21$, $p = .111$, $d = 0.08$.

We next tested whether targets' remaining sentence influenced retribution judgments. A paired-samples t test indicated that participants believed greater retribution has occurred with short-remaining-sentence targets ($M = 4.94$, $SD = 1.40$) than long-remaining-sentence targets ($M = 3.05$, $SD = 1.60$), $t(354) = 16.84$, $p < .001$, 95% CI = [1.67, 2.11], $d = 0.89$.

We used the MEMORE macro (Montoya & Hayes, 2017) with 10,000 bias-corrected bootstrapped samples to test whether the effect of remaining sentence duration on mind attribution occurs indirectly through retribution beliefs. The indirect effect was significant, $b = 0.15$, $SE = .04$, 95% CI = [0.0868, 0.2383], providing evidence supporting the hypothesis (Figure 4).

Study 4 indicates that people believe prisoners with relatively less time remaining on their sentences have received greater punishment for their crimes than those with more time to serve. This meting out of retributive justice, in turn, mediates the differential mind attribution. These findings suggest criminals who have not yet "paid the price" for their crimes may be deemed less-than-fully human. It is unlikely that punishment causes people to gain mental sophistication, suggesting these effects are likely not rooted in reality. Repeated exposure to stressful environments (such as prison) has well-documented negative effects on physical and mental well-being (e.g., Taylor et al., 1997). This effect more closely aligns with work demonstrating that people routinely dehumanize norm violators, an effect that may serve norm-enforcement motives (Fincher & Tetlock, 2016). Once norms have been violated, people may be motivated to seek retribution before humanity is restored to the punished.

Study 5—Deterrence

Study 5 focuses on a third purpose of incarceration: deterrence. Deterrence is a multifaceted concept. The fear of going to prison can deter people from committing crimes, and the discomfort of experiencing imprisonment can deter people from reoffending. People often endorse deterrence as a key function of punishment (Carlsmith et al., 2002). We focus on the latter characteristic of deterrence, testing whether the deterrence of future recidivism is also a mediator of the change in prisoner dehumanization across the time course of imprisonment.

We hypothesized that we would replicate the previously observed effects of remaining sentence duration on prisoner dehumanization and that prisoners who have spent more time incarcerated would be seen as more likely to have "learned their lesson" (i.e., be successfully deterred from future crime). We further test whether this deterrence effect would mediate the change in prisoner dehumanization.

Method

Participants. Participants were 352 MTurk workers ($M_{age} = 42.45$, $SD = 13.13$). Most self-identified as White (74.1%) and female (53.7%).

Procedure. The materials and procedure for Study 5 were identical to that of Study 3 except that instead of rehabilitation, participants rated each target on a three-item deterrence measure (i.e., *due to the unpleasantness of the punishment, this person is less likely to commit crimes in the future; this person wants to avoid prison in the future; this punishment has discouraged the offender from committing crimes in the future*).

Results and discussion. We first tested whether targets' remaining sentence affected mind attribution. This analysis yielded a significant main effect of Remaining Duration, $F(1, 351) = 29.27$, $p < .001$, 95% CI = [0.07, 0.14], $d = 0.29$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 5.13$, $SD = 1.00$) than targets with long sentences remaining ($M = 5.03$, $SD = 1.00$). This

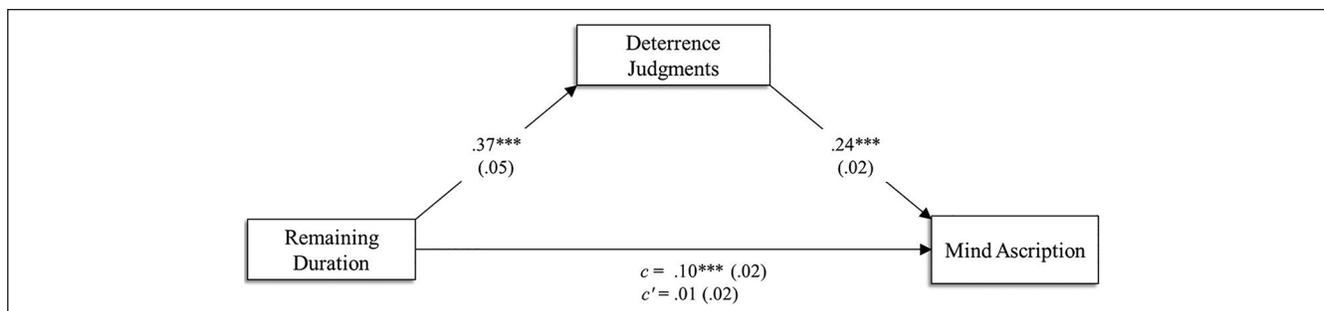


Figure 5. Model showing the effect of remaining sentence duration of mind ascription through deterrence judgments in Study 5. Note. The indirect effect is significant, $b = 0.09$, $SE = .01$, 95% CI = [0.06, 0.12]. CI = confidence interval. *** = $p < .001$.

analysis also revealed a main effect of Mind Dimension, $F(2, 702) = 131.37$, $p < .001$, $d = 0.61$. Participants ascribed greater intention ($M = 5.36$, $SD = 1.01$) than emotion ($M = 5.16$, $SD = 1.14$), $t(351) = 5.75$, $p < .001$, 95% CI = [0.13, 0.27], $d = 0.31$. Participants ascribed greater emotion than cognition ($M = 4.73$, $SD = 1.07$), $t(351) = 9.65$, $p < .001$, 95% CI = [0.35, 0.53], $d = 0.51$. The interaction was not significant, $F(2, 702) = 0.27$, $p = .767$, $d = 0.03$.

We next tested whether targets' remaining sentence influenced deterrence judgments. A paired-samples t test indicated that participants believed targets with short remaining sentences ($M = 4.28$, $SD = 1.15$) are more deterred than targets with long remaining sentences ($M = 3.91$, $SD = 1.16$), $t(351) = 8.01$, $p < .001$, 95% CI = [0.28, 0.46], $d = 0.43$.

We used the MEMORE macro (Montoya & Hayes, 2017) with 10,000 bias-corrected bootstrapped samples to test whether the effect of remaining sentence duration on mind attribution is mediated by deterrence beliefs. The indirect effect was significant, $b = 0.09$, $SE = .01$, 95% CI = [0.0640, 0.1198], providing evidence supporting the hypothesis (Figure 5).

In Study 5, people judged soon-to-be-released prisoners as more deterred from committing future crimes than prisoners with more time to serve, and in turn ascribed greater mental sophistication to the former compared with the latter. We do not argue that incarceration is an effective deterrent, but rather we find that people believe prisoners who have "learned their lesson" due to their incarceration are more mentally sophisticated.

Study 6—Incapacitation

Study 6 tested the fourth function of incarceration: incapacitation. One of the goals of incarceration is to remove offenders from the general population rendering them essentially irrelevant to the broader society (Galtung, 1958). This subjective irrelevance of prisoners who have long sentences left to serve may mean that perceivers need not spend a great deal of effort considering their minds. Yet, as their release date approaches, prisoners' impending reentry into society may render their minds relevant again. Recent evidence

consistent with this logic indicates that as targets become more subjectively relevant, they are ascribed more sophisticated mental faculties (Khalid et al., 2016).

We again hypothesized that we would replicate the previously observed effects of remaining sentence duration on prisoner dehumanization, and predicted that prisoners who are soon to be released would be seen as less incapacitated than those with long sentences still to serve. We further test whether this incapacitation effect would mediate the change in prisoner dehumanization.

Method

Participants. Participants were 356 MTurk workers ($M_{\text{age}} = 41.21$, $SD = 16.56$). Most self-identified as White (74.7%) and female (56.7%).

Procedure. The materials and procedure for Study 6 were identical to that of Study 3 except that instead of rehabilitation, participants rated each target on a three-item incapacitation measure (i.e., *this person cannot act on the world; this person is meaningfully separated from society; this person's actions cannot affect the community at large*).

Results and discussion. We first tested whether targets' remaining sentence affected mind attribution. Consistent with the previous studies and our primary hypothesis, this analysis yielded a significant main effect of Duration, $F(1, 355) = 28.14$, $p < .001$, 95% CI = [0.07, 0.15], $d = 0.28$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 4.97$, $SD = 0.99$) than targets with long sentences remaining ($M = 4.86$, $SD = 1.01$). This analysis also revealed a main effect of Mind Dimension, $F(2, 710) = 102.48$, $p < .001$, $d = 0.54$. Participants ascribed greater intention ($M = 5.17$, $SD = 0.96$) than emotion ($M = 4.98$, $SD = 1.19$), $t(355) = 4.82$, $p < .001$, 95% CI = [0.11, 0.26], $d = 0.26$. Participants ascribed greater emotion than cognition ($M = 4.60$, $SD = 1.06$), $t(355) = 8.46$, $p < .001$, 95% CI = [0.29, 0.47], $d = 0.45$. The interaction was not significant, $F(2, 710) = 0.14$, $p = .872$, $d = 0.02$.

We next tested whether targets' remaining sentences influenced incapacitation judgments. A paired-samples t test

indicated that participants believed targets with short remaining sentences ($M = 3.72$, $SD = 1.12$) are less incapacitated than targets with long remaining sentences ($M = 4.54$, $SD = 1.25$), $t(355) = -11.06$, $p < .001$, 95% CI = $[-0.97, -0.68]$, $d = -0.59$.

We used the MEMORE macro (Montoya & Hayes, 2017) with 10,000 bias-corrected bootstrapped samples to test whether the effect of remaining sentence duration on mind attribution occurs indirectly through incapacitation beliefs. The indirect effect was not significant, $b = 0.02$, $SE = .02$, 95% CI = $[-0.0143, 0.0504]$.

Unlike the other primary functions of incarceration tested in Studies 3 to 5, in Study 6 we did not find evidence indicating that incapacitation is a significant mediator of the effects of remaining sentence on mind attribution. This non-significant finding is unlikely the result of a procedural failure. We replicate the effect of remaining sentence duration on mind attribution and also find that people see prisoners with long sentences remaining as more incapacitated than their soon-to-be-released counterparts. Although caution is warranted when accepting null effects as “true” nulls, this observed non-significant effect occurs (a) in the context of other significant, predicted, and replicable effects; (b) when using a procedure identical to other significant mediators in the previous studies; and (c) in the context of a well-powered study.

Study 7

In the previous four studies, we relied on the well-established literature on the philosophy of incarceration to provide four possible mediators—rehabilitation, retribution, deterrence, and incapacitation—for our previously observed effects of remaining sentence duration on prisoner dehumanization. Across these four exploratory studies, we find evidence that beliefs about rehabilitation, retribution, and deterrence can help explain this effect, but that incapacitation does not.

In Study 7, we sought to understand whether these three previously supported mediators remained reliable when controlling for the others. We did not test incapacitation in Study 7 because the previous evidence in Study 6 failed to support it. We believe testing the three supported mediators in parallel is a useful test because it allows us to investigate whether these three sets of beliefs, which are plausibly intercorrelated and thus share variance, are sufficient to mediate the previous effects. First, the retributive and the deterrent functions of imprisonment are often conflated in both the criminal justice literature and lay judgments, perhaps because they both involve causing pain to the punished (Carlsmith et al., 2002). In the former, the pain is deontological, to balance the moral scales. In the latter, the pain is utilitarian, to deter future crime. But this similarity means that deterrence and retribution may share variance. We tested whether the change in the prisoner created by deterrence (vs. the change in the “moral scales”) drives changes in prisoner dehumanization. Second, it is possible

that rehabilitative and deterrent functions of punishment are conflated in judgments. Because both rehabilitation and deterrence involve some change in the prisoner (moral in the former, behavioral in the latter), it is possible they are conflated in prisoner dehumanization as well. Whereas the goals of Studies 3 to 6 were to provide clear, independent tests of the plausible mediators, Study 7 was designed to test whether the previously observed effects survived in a parallel mediation model which accounts for the possibility of shared variance between mediators.

In Study 7, we conducted a final study in which we asked participants to render judgments about targets’ humanlike mental faculties, as well as about rehabilitation, retribution, and deterrence to test whether each putative mediator emerges independently when tested in parallel.

Method

Participants. We targeted the same number of participants as in Study 3. Participants were 357 MTurk workers ($M_{\text{age}} = 38.09$, $SD = 11.80$). Most self-identified as White (69.2%) and female (59.9%).

Procedure. The materials and procedure for Study 7 were identical to that of Study 3 except that participants rated each target on the previously described three-item rehabilitation, three-item retribution, and three-item deterrence measures.

Results and discussion. We first tested whether targets’ remaining sentence affected mind attribution. This analysis again yielded a significant main effect of Remaining Duration, $F(1, 356) = 30.49$, $p < .001$, 95% CI = $[0.08, 0.16]$, $d = 0.29$. Participants ascribed targets with short sentences remaining greater mental sophistication ($M = 5.06$, $SD = 1.06$) than targets with long sentences remaining ($M = 4.94$, $SD = 1.10$). This analysis also revealed a main effect of Mind Dimension, $F(2, 712) = 90.39$, $p < .001$, $d = 0.50$. Participants did not differentially ascribe intention ($M = 5.17$, $SD = 1.10$) and emotion ($M = 5.11$, $SD = 1.21$), $t(356) = 1.76$, $p = .079$, 95% CI = $[-0.01, 0.12]$, $d = 0.09$. Participants ascribed greater emotion than cognition ($M = 4.72$, $SD = 1.09$), $t(356) = 9.84$, $p < .001$, 95% CI = $[0.32, 0.47]$, $d = 0.52$. The interaction was not significant, $F(2, 712) = 0.002$, $p = .998$, $d = 0.002$.

We next tested whether targets’ remaining sentence influenced rehabilitation, retribution, and deterrence judgments. A paired-samples t test indicated that participants believed targets with short remaining sentences ($M = 3.80$, $SD = 1.19$) are more rehabilitated than targets with long remaining sentences ($M = 3.10$, $SD = 1.31$), $t(356) = 11.74$, $p < .001$, 95% CI = $[0.58, 0.82]$, $d = 0.62$. Similarly, participants believed targets with short remaining sentences ($M = 4.37$, $SD = 1.15$) are more punished than targets with long remaining sentences ($M = 3.40$, $SD = 1.34$), $t(356) = 12.38$, $p < .001$, 95% CI = $[0.82, 1.13]$, $d = 0.66$. Finally, participants

believed targets with short remaining sentences ($M = 4.29$, $SD = 1.13$) are more deterred than targets with long remaining sentences ($M = 3.87$, $SD = 1.13$), $t(356) = 8.73$, $p < .001$, 95% CI = [0.32, 0.51], $d = 0.46$. It is also worth noting that these three mediators share variance, as expected. Deterrence and rehabilitation were positively related, $r(355) = .75$, $p < .001$, as were deterrence and retribution, $r(355) = .79$, $p < .001$. Finally, rehabilitation and retribution were also positively related, $r(355) = .82$, $p < .001$.

Having replicated the previously observed effects, we tested whether the effect of remaining sentence duration on mind attribution occurs indirectly through rehabilitation, retribution, and deterrence judgments when the mediators are tested in parallel. We used the MEMORE macro with 10,000 bias-corrected bootstrapped samples (Montoya & Hayes, 2017) and included all three mediators in the model to test them in parallel. This analysis yielded two significant indirect effects. Specifically, the indirect effect with rehabilitation was significant, $b = 0.07$, $SE = .03$, 95% CI = [0.0205, 0.1306], as was the indirect effect with deterrence, $b = 0.06$, $SE = .02$, 95% CI = [0.0273, 0.1237]. The indirect effect with retribution was not, $b = -0.02$, $SE = .02$, 95% CI = [-0.0757, 0.0237].

Study 7 replicated our previous findings but with one key difference: Rehabilitation and deterrence emerged as significant mediators of the time-to-serve effect whereas retribution did not. The fact that retribution does not survive in a parallel test is interesting. Retribution and deterrence share conceptual overlap insofar as they both involve causing pain to the punished. They differ only in their motivation. Deterrence is motivated by a desire to change the individual. This is lacking in retribution, which is motivated by balancing moral scales rather than changing people. Given that our previously observed changes in prisoner dehumanization across incarceration are essentially about changes *in the person* (i.e., their mental, emotional, and intentional faculties), this focus on deterrence (but not retribution) being perceived as an intra-individual change may be an important part of the findings.

The present findings do more than undermine the case for retribution as a mediator of the time-to-serve effects on prisoner dehumanization. They also provide additional support for the premise that perceived changes in prisoner dehumanization over the time course of imprisonment can be partially explained by perceived changes in the prisoners themselves. These data suggest prisoners who are not expected to reoffend, either because they have improved as people, or because they fear the pain of future imprisonment, become humanized. This is consistent with other research linking norm violation to dehumanization (e.g., Fincher & Tetlock, 2016), and also indicates that perceivers' future-oriented assessment of prisoners' effects on society may be an important determinant of dehumanization.

General Discussion

Prisoners are a chronically dehumanized social group (Vasiljevic & Viki, 2014). In the current work, we tested whether this prisoner dehumanization changes over the course of imprisonment, finding consistent evidence indicating that the amount of time remaining on prisoners' sentences influences the extent to which people ascribe them human-like mental faculties. Across seven studies, people ascribed greater mental sophistication to prisoners with roughly 1 month left to serve on a 4-year sentence compared with prisoners with all but 1 month to serve on a 4-year sentence. This effect was related to beliefs about the functions of imprisonment. Prisoners who have served almost all of their sentence are believed to be more rehabilitated (Study 3) and more deterred from committing future crimes (Study 5), which serve as reliable mediators of this effect of time to serve on prisoner dehumanization (Study 7). Notably, this work failed to find reliable support for other putative mechanisms such as retribution and incapacitation.

These findings have several implications both for prisoner dehumanization and for the broader dehumanization and mind perception literatures. Some may believe that only those who lack mental sophistication would become prisoners. Others might argue that the prisoners' criminality justifies their dehumanization (Giner-Sorolla et al., 2012). The current work demonstrates that this prisoner dehumanization is not uniform. The extent to which participants denied mind to prisoners depended on how long they had left on their sentence. Considered differently, our findings also suggest that *rehumanization* may occur because of beliefs surrounding rehabilitation and deterrence. Exactly why rehabilitation and deterrence, but not retribution and incapacitation, proved robust deserves future research. Two possibilities seem immediately plausible. First, rehabilitation and deterrence focus on perceived changes in the individual. The person is seen as changed by incarceration in both cases, which could explain the changes in dehumanization. Second, both implicate reductions in recidivism. People care about what prisoners do upon release and to the extent that dehumanization is driven by norm violation (Fincher & Tetlock, 2016); both rehabilitation and deterrence may be implicated. Both rehabilitation and deterrence suggest lower recidivism, either through becoming a better person or through fear of future punishment.

Our research also links to past work in these domains. Prisoner dehumanization both impedes successful rehabilitation and facilitates inhumane treatment (Giner-Sorolla et al., 2012; Goff et al., 2008; Viki et al., 2012). It behooves us to consider the circumstances under which we can humanize prisoners. Although our data cannot speak to how effective incarceration is for actual rehabilitation and deterrence, they do suggest that emphasizing these functions of incarceration may be especially important for interventions designed at integrating ex-convicts back into society. Whereas punishment decisions themselves often focus on retribution (Carlsmith et al., 2002;

Tan & Xiao, 2018), believing punishment to be retributive may not actually ameliorate the effects of prisoner dehumanization. Future work would benefit from directly testing the efficacy of framing punishment as rehabilitative or deterrent, versus retributive or incapacitating. We hypothesize that framing punishment as rehabilitative or deterring will allow prisoners to be more accepted at the end of their incarceration.

Constraints on Generality

Although the present research shows a consistent effect of remaining sentence duration on the dehumanization of prisoners, it is nevertheless situated within a specific context (Simons et al., 2017). In particular, our participants were primarily White Americans recruited from MTurk or undergraduate student bodies. This necessarily limits the extent to which these results generalize. Future work would do well to examine how diverse participants in non-WEIRD (i.e., Western, Educated, Industrialized, Rich, and Democratic) cultures (Henrich et al., 2010) dehumanize prisoners across the course of their prison term. This may be especially important given that nations across the world have different policies regarding incarceration, and these policies may affect civilian attitudes toward the imprisoned.

The stimuli employed also limit the generality of the work. We employed only White male targets and did not provide any information about crime type. This was done intentionally to isolate the effect of interest by holding as many aspects of the targets constant as possible. Although we do not have reason to suspect that the sentence duration effect would interact with target-level variables such as gender or race, it would nevertheless be useful for future work to examine how diverse prisoners experience dehumanization across their sentences. It would also be useful to consider how the type of crime might influence how people dehumanize prisoners over the course of their sentence. Violent or sexual crimes may engender potent dehumanizing responses to prisoners that may prove difficult to ameliorate with manipulations such as ours (Bastian et al., 2013). Especially egregious crimes may be highly essentialized, immunizing them to the rehumanizing effects of deterrence or rehabilitation. As especially dangerous or violent individuals approach release, they may be seen as undeterred or unimproved by prison, undermining the observed effects. Future research would benefit from such considerations.

Finally, the present research focused on only one sense of dehumanization—ascribing or withholding humanlike mental faculties. Ascribing sophisticated or simplistic mental faculties to others plays an important role in understanding dehumanization (Rai et al., 2017). Yet, dehumanization cannot be reduced to mere mind ascription (see Fincher et al., 2018). Future research would benefit both from investigating whether the time-to-release effects observed here occur for other senses of dehumanization, such as seeing prisoners as less evolved (e.g., Kteily et al., 2015) or likening prisoners to animals

(Haslam, 2006), and from understanding whether the reduced dehumanization when approaching prisoner release would also ameliorate other punitive effects of dehumanizing beliefs.

Conclusion

The current work demonstrates the novel finding that prisoner dehumanization changes across their prison sentence. Soon-to-be-released prisoners are ascribed more humanlike mental sophistication than prisoners who have only just begun their sentence, an effect that is independently mediated by beliefs about prison rehabilitating prisoners and deterring prisoners from future crimes. Thus, this research links classic questions of prisoner dehumanization to modern theories of mind perception and dehumanization.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by NSF grants BCS-1423765 and BCS-1748461.

ORCID iDs

Jason C. Deska  <https://orcid.org/0000-0001-8242-7494>

Steven M. Almaraz  <https://orcid.org/0000-0001-6012-4601>

Supplemental Material

Supplemental material is available online with this article.

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