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ABSTRACT

Adults' judgments regarding punishment can have important social ramifications. However, the origins of these judgments remain unclear. Using the legal system as an example domain in which people receive punishment, the current work employed two complementary approaches to examine how punishment-related concepts emerge. Study 1 tested both 6- to 8-year-olds and adults to ascertain which components of "end-state" punishment concepts emerge early in development and remain stable over time, and which components of punishment concepts change with age. Children, like adults, agreed with and spontaneously generated behavioral explanations for incarceration. However, children were more likely than adults to attribute incarceration to internal characteristics. Neither children nor adults reported that incarceration stems from societal-level factors such as poverty. Study 2 built on the results of Study 1 by probing the extent to which early punishment-related concepts in the legal domain emerge from a specific form of social experience—namely, parental incarceration. Children of incarcerated parents, like children whose parents were not incarcerated, were more likely to reference internal and behavioral factors than societal factors when discussing why people come into contact with the justice system. Taken together, these studies clarify how punishment-related concepts arise and therefore contribute to theories of moral psychology, social cognitive development, and criminal justice.

1. Introduction

During season three of the American comedy television series "The Office," the employees of Dunder Mifflin Paper Company learned that their new co-worker, Martin, previously spent time in prison. After learning this information, the employees squandered much of the workday speculating about why Martin had been incarcerated. While some employees guessed that a specific societal-level reason (racism) played a role in Martin's incarceration, others insinuated that Martin was incarcerated for individual-level factors such as performing illegal behaviors or possessing negative internal qualities.

Although the events described above are fictitious, attributions for incarceration and other forms of punishment may have social consequences. Generally, perceivers are more likely to help and feel positively toward individuals whose misfortune (e.g., incarceration or other forms of punishment) is attributed to external versus individual-level causes (e.g., Cochran, Boots, & Heide, 2003; Cozzarelli, Wilkinson, & Tagler, 2001; Rudolph, Roesch, Greitemeyer, & Weiner, 2004). As such, the inferences people make about why others receive punishment may impact their attitudes and behaviors toward individuals who have

received one of society's harshest punishments—incarceration.

The present work investigated how punishment-related concepts arise in two complementary ways. Study 1 investigated the origin of adults' punishment concepts by asking how children and adults explain incarceration. In doing so, Study 1 provided insight into which punishment concepts remain stable throughout development and which change with age. Study 2 built on the results of Study 1 by probing the extent to which social experiences during childhood alter the structure of early-emerging punishment concepts. Specifically, Study 2 examined the role of parental incarceration in children's concepts. Taken together, these studies provide insight into how development (Study 1) and social experience (Study 2) give rise to moral judgment related to punishment.

1.1. Studying punishment in the context of the criminal justice system

The current studies used the criminal justice system as an example domain in which to study punishment-related concepts. We did so for two reasons. First, prior experiments testing children's concepts of punishment have typically focused on relatively minor moral transgressions (e.g., breaking an object, failing to help another person,

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Bregant, Shaw, & Kinzler, 2016; Bregant, Wellbery, & Shaw, 2019; Chernyak & Sobel, 2016; Cushman, Sheketoff, Wharton, & Carey, 2013; Hamlin, 2013; Vaish, Carpenter, & Tomasello, 2010; Yang, Choi, Misch, Yang, & Dunham, 2018). This literature makes crucial contributions to the scientific understanding of how children judge moral violations that they are likely to encounter in their own lives. At the same time, children's inferences about severe moral transgressions remain unclear, and their judgments about severe punishment might differ in important ways from social cognition in other contexts. For instance, children may be especially likely to make dispositional attributions in the context of the criminal justice system because they infer that severely punished actions are worse than actions that are less severely punished (Bregant et al., 2016) and that people who perform particularly bad actions are dispositionally bad people (Uhlmann, Pizarro, & Diermeier, 2015).

Second, incarceration touches the lives of millions of United States residents. The United States incarcerates more people than any other country (Mears & Cochran, 2015), amounting to more than 6.6 million individuals serving time in an adult correctional facility at the end of 2016 (Kaeble & Cowhig, 2018). This high rate has collateral consequences for children, 2.7 million of whom have an incarcerated parent (The Pew Charitable Trusts, 2010). Despite its commonality, incarceration remains understudied within psychology. The current work sought to clarify how people perceive individuals who have experienced this common form of punishment. Further, we asked how these perceptions change with age and with greater personal experience with the justice system.

1.2. Adults' punishment concepts

Psychologists have long sought to understand the factors underlying adults' moral judgments (e.g., Graham, Haidt, & Nosek, 2009; Gray, Young, & Waytz, 2012; Haidt & Graham, 2007; Haidt & Joseph, 2004; Schein & Gray, 2018; Waytz & Young, 2012; Young & Tsoi, 2013). Within this larger body of work, many have investigated the role of mental states in judgments of right and wrong. Adults typically judge accidental harms to be less severe than intentional ones (e.g., Chakroff, Dungan, & Young, 2013; Cushman, 2008; Young & Saxe, 2011) and blame those who have bad desires even when those desires are only indirectly connected to a harmful event (e.g., a man coerced by attackers to kill his wife's secret lover is seen as blameworthy because he wanted his wife's lover dead anyway, Woolfolk, Doris, & Darley, 2006). A related literature has examined how perceptions regarding another type of internal quality—moral character—influences adults' judgments of right and wrong (e.g., Alicke, 1992, 2000; Nadler & McDonnell, 2011; Pizarro & Tannenbaum, 2011). For example, in one line of work, adults learned about individuals with good versus bad moral character who committed a transgression (Nadler & McDonnell, 2011). Despite the fact that each actor performed the same behavior, participants judged the “bad” individual's actions more negatively than those of the “good” individual.

Thus, converging lines of evidence suggest that transgressors' internal characteristics (e.g., intent, moral character) influence adults' moral judgments. However, the factors underlying judgments of moral wrongness do not perfectly mirror those that underlie judgments of whether or not someone should receive *punishment*. Whereas wrongness judgments largely hinge on internally-oriented factors such as intent and moral character, judgments concerning punishment are highly contingent on behaviors themselves (Cushman, 2008; Cushman, Dreber, Wang, & Costa, 2009). In one experiment demonstrating this effect (Cushman et al., 2009), adults punished individuals whose behaviors caused negative outcomes even when their intentions were good and rewarded individuals whose behaviors caused positive outcomes even when their intentions were bad. Given that behavioral factors weigh heavily on adults' own punishment decisions, it is possible that adults conceptualize punishment as primarily stemming from behaviors. Further, extant legal norms may reinforce this link between

punishment and behavior. Adults conflate prescriptive norms (how people should behave) with descriptive norms (what types of behaviors are common, Eriksson, Strimling, & Coultas, 2015). That is, adults reason that what *should* occur actually *does* occur. In the United States, doctrines in criminal law assert that people should be punished for their behaviors and that extra-legal factors (e.g., inferences about an individual's moral character) should not influence punishment decisions in most cases (*People v. White*, 1840). Therefore, adults may infer that people *are* severely punished (e.g., incarcerated) for their behaviors, and not for internal reasons, because of legal standards specifying what *should* occur.

Within moral psychology, much work on punishment has focused on participants' propensity to link punishment with particular behaviors. Within this tradition, relatively less work has examined how adults might think about another factor that underlies punishment decisions—societal inequality. Recent scholarship has highlighted how systems of punishment (e.g., the American criminal justice system) disproportionately impact people who are marginalized on the basis of group memberships, particularly race (e.g., Alexander, 2012; Forbes, 2016; Forman, 2017; Glaser, 2015; Harcourt, 2007; Travis, Western, & Redburn, 2014). Black people are stereotyped as criminals (Eberhardt, Goff, Purdie, & Davies, 2004) and are over-represented in United States jails and prisons (Alexander, 2012; Forman, 2017). Furthermore, their experiences in the legal system are strikingly different from Whites' experiences. Black children are perceived as older than White children of the same age and treated more harshly as a result (Goff, Jackson, Di Leone, Culotta, & DiTomasso, 2014; Rattan, Levine, Dweck, & Eberhardt, 2012). Black adults and adults who look stereotypically Black are more likely than White adults and adults who look less stereotypically Black to face racial profiling (Glaser, 2015; Tyler & Wakslak, 2004) and to find themselves on the receiving end of government violence (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; Kahn, Goff, Lee, & Motamed, 2016). Disadvantage based on race can compound disadvantages based on other group memberships, such as gender (Allen, Flaherty, & Ely, 2010; Rathbone, 2007) and socioeconomic status (Eubanks, 2018). Though converging evidence suggests that societal factors such as racism and poverty play a critical role in mass incarceration, it is likely that societal factors lay at the periphery of adults' punishment-related concepts because adults often underestimate the scope of societal inequality (Davidai & Gilovich, 2015; Kraus, Rucker, & Richeson, 2017; Norton & Ariely, 2011). In one line of work, participants, on average, overestimated current levels of racial economic equality by nearly 25% (Kraus et al., 2017). Given that adults often misperceive the extent to which societal inequality impacts the lives of others, they may not readily link punishment with societal factors.

In sum, past work has provided critical insight into how adults might conceptualize punishment, suggesting that adults may view legal punishment as stemming from behavioral—but not internal or societal—factors. However, the origin of these “end-state” punishment concepts remains unclear. By investigating early punishment concepts, it is possible to learn which components of “end-state” punishment concepts are present even before most children become acquainted with formal, complex systems of punishment governing society. Doing so can also clarify how adult sociopolitical thought is constrained by early childhood cognition. Indeed, other programs of research argue that some psychological processes that emerge during childhood shape adult cognition (e.g., Block & Block, 2006; Fraley, Griffin, Belsky, & Roisman, 2012; Heiphetz, Spelke, & Young, 2015; Hussak & Cimpian, 2018). A similar analysis may apply to early-developing punishment concepts. Certain components of punishment concepts may emerge early in ontogeny, remain stable over time, and, thus, guide socio-moral judgment throughout development. Drawing on research from social, cognitive, and developmental psychology, the following section lays out several possibilities regarding which components of children's punishment concepts remain stable throughout development and which undergo

change.

1.3. Which components of punishment-related concepts remain stable throughout development and which change with age?

Conceptual development has traditionally been understood as overhauling naïve theories guiding childhood thinking and reasoning with more sophisticated, accurate concepts (for a review, see Shtulman & Lombrozo, 2016). In other words, conceptual development has traditionally been synonymous with “conceptual replacement.” However, more recent models suggest that “end-state” concepts consist of two co-existing bundles of concepts: those that have remained stable since childhood and those that have changed over the course of development (e.g., Eidson & Coley, 2014; Goldberg & Thompson-Schill, 2009; Heiphetz, Gelman, & Young, 2017; Heiphetz, Lane, Waytz, & Young, 2016; Kelemen, Rottman, & Seston, 2013; Shtulman & Schulz, 2008). While “end-state” punishment concepts likely follow this trend, it is unclear which components of these concepts change with age and which remain relatively stable from childhood to adulthood.

Evidence hints that the link between behavioral factors and punishment is stable across development. In one study, children between the ages of four and eight years consistently reported that accidental harms were punishable but not necessarily morally wrong and that attempted, but failed, harms were morally wrong but not necessarily punishable (Cushman et al., 2013). These results suggest that children's punishment decisions, like those of adults (Cushman, 2008; Cushman et al., 2009), are sensitive to the outcomes of harmful behaviors. Given that children's judgments about punishment largely hinge on behavioral factors, children may infer that others receive punishment for behavioral reasons.

While the link between punishment and behaviors may remain stable across age, the link between punishment and internal characteristics may change. This possibility is grounded in prior work in developmental and cognitive psychology demonstrating that children, compared to adults, are especially likely to navigate the social world with an eye toward internal characteristics. Children's attention to internal states may be rooted in psychological essentialism—the tendency to view others' characteristics as arising from internal, immutable, biologically-based “essences” (Gelman, 2003; Medin & Ortony, 1989). In one study investigating age-related changes in essentialist perspectives, children and adults learned about a baby girl who was adopted at birth by a man who lived on an island with only male inhabitants (Taylor, Rhodes, & Gelman, 2009). Participants then indicated whether this girl would play with tea sets and dolls—activities to which she had never been exposed—or whether she would grow up to enjoy the stereotypically masculine activities that those around her performed, such as fishing and playing with baseball cards. Put another way, participants indicated whether they perceived the adopted child as having an immutable, biologically-based female “essence.” Five- to six-year-olds perceived the child to have an innate, internal essence that guided her gender-linked behaviors and preferences, whereas adults perceived a greater environmental influence. In line with other research demonstrating that essentialism typically decreases with age (e.g., Chalikh, Leslie, & Rhodes, 2017; Cimpian & Steinberg, 2014; Gelman, Heyman, & Legare, 2007; Heiphetz, in press; Heiphetz et al., 2017; Taylor et al., 2009), it is possible that children's concepts of punishment rely on judgments about internal characteristics even more than do those of adults.

Thus, past work suggests that both children and adults may link punishment with behavior and that children, more than adults, may link punishment with internal characteristics. Competing predictions can be made about the link between punishment and the third factor discussed above, societal inequality. On the one hand, children report less positivity toward individuals who lack resources (e.g., Horwitz, Shutts, & Olson, 2014; Li, Spitzer, & Olson, 2014; Shutts, Brey, Dornbusch, Slywotzky, & Olson, 2016) or are low in status (e.g.,

Dunham, Chen, & Banaji, 2013; Newheiser, Dunham, Merrill, Hoosain, & Olson, 2014) than toward more privileged individuals. Moreover, young children sometimes perpetuate resource-based inequality, suggesting they believe that certain groups are not entitled to fair treatment (Olson, Dweck, Spelke, & Banaji, 2011; also see McGillicuddy-De Lisi, Daly, & Neal, 2006). Given that children engage in punishment-like behaviors toward those who are subject to societal inequality (see Travis, 2002, for prior work conceptualizing social exclusion and resource inequality as forms of punishment), they may judge that similar types of societal factors play a role in punishment and incarceration. On the other hand, past work suggests that younger children may underestimate the extent to which others' misfortune is caused by externally-oriented, uncontrollable factors (e.g., societal inequality, Leahy, 1983; Neff, Cooper, & Woodruff, 2007). Therefore, children may be unlikely to attribute punishment and incarceration to societal inequality. In this way, they would respond similarly to adults, who, as previously mentioned, underestimate the extent to which social inequality influences life outcomes (e.g., Kraus et al., 2017).

In sum, the current work assessed children's and adults' judgments regarding incarceration to gain insight into which components of punishment-related concepts change and which remain stable across development. Past work suggests that children, like adults, may link punishment with behavior. Past work also suggests that children may be more likely than adults to link punishment with internal characteristics. Finally, past work supports two alternative predictions regarding age-related change or stability in associations between punishment and societal inequality. The current work tested these possibilities.

1.4. How might experience with parental incarceration shape punishment-related concepts?

Above, we outlined how punishment concepts might change or stay the same across age. However, the developmental trajectories outlined above are agnostic to the idea that developing concepts are shaped by children's social experiences (for evidence that social experience shapes concepts, see Byers-Heinlein & Garcia, 2015; Chalikh et al., 2017; Deeb, Segall, Birnbaum, Ben-Eliyahu, & Diesendruck, 2011; Kinzler & Dautel, 2012; Mandalaywala, Ranger-Murdock, Amodio, & Rhodes, 2018; Rhodes & Mandalaywala, 2017; Rhodes & Gelman, 2009; Roberts & Gelman, 2016; Smyth, Feeney, Eidson, & Coley, 2017). As previously mentioned, millions of children in the United States have had experience with the criminal justice system due to parental incarceration (The Pew Charitable Trusts, 2010). Yet, it is unclear how this experience may shape the trajectory of punishment-related concepts. The current work addressed this question. Drawing on separate literatures investigating (1) the role of intergroup contact on essentialism and (2) the role of social input on children's beliefs, we outline three ways in which parental incarceration may shape developing moral judgments.

1.4.1. The possible role of intergroup contact

Prior work has argued that essentialism arises from basic cognitive processes but that personal experiences and social input shape how and when children employ essentialist beliefs (e.g., Chalikh et al., 2017; Kinzler & Dautel, 2012; Roberts & Gelman, 2016). However, different theoretical proposals make distinct predictions regarding the impact of personal experiences and social input on essentialist views. On the one hand, some work suggests that intergroup contact may decrease essentialist reasoning. Children who attend religiously (Smyth et al., 2017) and ethnically (Deeb et al., 2011) diverse schools exhibit less essentialist beliefs about each respective social group than those who attend homogenous schools. Furthermore, children exposed to linguistic diversity are less likely to report that language is inherited and stable than are monolingual children (Byers-Heinlein & Garcia, 2015). Given that experiences with stigmatized group members can reduce essentialism regarding those groups, it is possible that the incarceration of a close family member may lead children to reject the idea that

contact with the justice system is determined by stable, inherited properties.

On the other hand, some studies suggest that increased contact with members of a particular group may bolster essentialist views of individuals belonging to that group. For example, compared to White children, Black children report more essentialist views of race (Kinzler & Dautel, 2012; Roberts & Gelman, 2016), perhaps because experiential factors (e.g., witnessing race-based discrimination) may facilitate racial essentialism (see Quintana, 1994, 1998).¹ Similar reasoning may apply to how children of incarcerated parents think about contact with the justice system. These children may be especially likely to witness discrimination against people who have experienced contact with the justice system (for evidence of such discrimination, see Forbes, 2016; Pager, 2008; Western, Braga, Davis, & Sirois, 2015). In turn, they may be especially likely to believe that people who are involved in this system possess an internal “essence” that makes them different from non-involved individuals.

1.4.2. The possible role of social input

Traditional theories of learning and conceptual development argue that children acquire knowledge by directly interacting with the world (e.g., Bruner, 1973; Needham, Barrett, & Peterman, 2002). However, more recent work has pointed out that children acquire a great deal of knowledge by listening to others (see Gelman, 2009, for review). While the content of child-directed speech varies across contexts, other features of language generalize across settings. Adults often use generic statements—those that convey a property that generalizes to an entire category, such as “tigers have stripes” or “girls like pink”—when communicating with children (Gelman, Chesnick, & Waxman, 2005; Gelman, Goetz, Sarnecka, & Flukes, 2008; Gelman, Taylor, & Nguyen, 2004; Pappas & Gelman, 1998; Rhodes, Leslie, & Tworek, 2012). Specifically, adults typically produce over 30 generic statements per hour when speaking to children and, by extrapolation, hundreds of generic statements per day (Gelman, Coley, Rosengren, Hartman, & Pappas, 1998). Given the prevalence of generic statements in child-directed speech, adults may use similar language when talking to children about punishment (e.g., incarceration).

For example, if a child asks what prison is, it may seem overly complicated to provide a full explanation, and adults may default to statements like “bad people go to prison” even if they would make more nuanced statements to other adults (similarly to how adults may tell children that “girls like pink” even while privately recognizing that not all girls like pink and that some people who like pink are not girls). Generic statements license the inference that category members have an internal “essence” that creates the relevant property—that a “tiger essence” leads to stripes or that a “girl essence” leads to liking pink (Bloom, 2004; Cimpian & Markman, 2009; Rhodes et al., 2012). Therefore, children who hear generic statements about punishment may attribute criminal justice contact to internal factors, regardless of whether or not they have personal experience with the justice system (although, of course, such experience could play a crucial role in other aspects of social cognition not tested here).

In sum, three different predictions could be made on the basis of past research. While diverse social experiences sometimes decrease essentialism (e.g., Smyth et al., 2017), other work has reported that increased contact with certain groups may actually increase essentialist views of individuals belonging to that group (e.g., Kinzler & Dautel, 2012; Roberts & Gelman, 2016). A third possibility suggests that views

¹ The sample of children in Roberts and Gelman (2016) included children belonging to several different racial minority groups. Eighteen children were identified as Black, three children were identified as Asian, two children were identified as Latino/a, and one child was identified as multiracial. However, the authors note that all results hold when examining responses of only Black children.

of incarceration may be primarily informed by a common way in which adults speak to children; if this is the case, both children of incarcerated parents and children whose parents have never been incarcerated may hold similar ideas about incarceration. Study 2 tested among these possibilities as a way to understand how the social experience of having an incarcerated parent might shape early concepts related to punishment.

1.5. Overview of current research

The current work used both qualitative and quantitative methods to investigate the origin and development of punishment-related concepts. In Study 1, children and adults responded to an open-ended question asking them to describe prison or jail and, subsequently, used a Likert-type scale to indicate the extent to which they agree people are sent to prison for different reasons. This study tested both children and adults in the same paradigm to determine which components of punishment concepts remain stable across development and which components change. Study 2 built on the results of Study 1 by probing how divergent social experiences during childhood might alter the structure of early-emerging punishment concepts. Specifically, Study 2 recruited both children of incarcerated parents and children whose parents were not incarcerated to test the extent to which parental incarceration shapes children's punishment-related concepts.

2. Study 1

Study 1 investigated how children and adults reason about why people become incarcerated. In doing so, we sought to clarify the origin of “end-state” punishment concepts and determine which components of children's punishment concepts persist throughout development and which change. Here and for Study 2, we report all conditions run, measures collected, participant exclusions, and how sample sizes were determined. Analyses for both studies were conducted only after all data for that study had been collected.

2.1. Method

2.1.1. Participants

Participants included 99 children between six and eight years old ($M_{\text{age}} = 6.94$ years, $SD_{\text{age}} = .77$ years; 50% female). Parents identified their children as White or European-American (73%), Black or African-American (5%), Asian or Asian-American (9%), Native American or Pacific Islander (1%), multiracial (2%), or “other” (7%); the remaining parents did not answer this question. Parents identified their child's ethnicity by answering a separate question; 8% of participants were identified as Hispanic or Latina/o. Responses from 13 additional children were excluded for the following reasons: child did not understand the words “prison” or “jail” ($n = 8$), parents interfered during testing ($n = 4$), and child wanted to end study ($n = 1$). Children were recruited in a local museum or via a lab database; all children received a small prize for participating.

We also recruited 168 adults between 19 and 69 years old ($M_{\text{age}} = 28.70$ years, $SD_{\text{age}} = 11.10$ years; 57% female). Adults completed a demographic questionnaire after answering all experimental items; they self-identified as White or European-American (79%), Black or African-American (4%), Asian or Asian-American (12%), multiracial (4%), or “other” (2%). Additionally, 6% of adults self-identified as Hispanic or Latina/o. Adults also indicated their political orientation using a seven-point Likert scale ranging from 1 (*Very liberal*) to 7 (*Very conservative*). On average, participants rated themselves as relatively liberal ($M = 3.23$, $SD = 1.48$). Self-reported political orientation did not reliably predict responses to the dependent measures in Study 1 (see Supplementary Materials for relevant analyses).

Data from nine additional adults were excluded because they failed to correctly answer an attention check question that required them to

recall one reason for incarceration that had been presented earlier in the study. As is common in studies comparing children and adults (e.g., Cogsdill, Todorov, Spelke, & Banaji, 2014; Heiphetz et al., 2017; Roussos & Dunham, 2016; Shtulman & Phillips, 2018; Smith & Warneken, 2016; Starmans & Bloom, 2016), we recruited adults online, via Amazon Mechanical Turk and the subject pool of a private university in the United States, to increase the size and diversity of the sample (for evidence suggesting that recruiting via Amazon Mechanical Turk increases sample diversity, see Buhrmester, Kwang, & Gosling, 2011; Horton, Rand, & Zeckhauser, 2011). Preliminary analyses did not reveal differences between adults who participated via Amazon Mechanical Turk and adults who participated via the subject pool; therefore, subsequent analyses collapsed across all adult participants. Adults who participated via Amazon Mechanical Turk received \$1.00, and adults who participated via the subject pool received .5 credits.

Seven adults reported that they had previously served time in a jail or prison. Additionally, four parents reported that their child knew an incarcerated person. The main pattern of results reported in this study emerged even when these participants were excluded from analyses. Adults also indicated how many incarcerated people they knew, and this variable did not reliably predict responses to the dependent measures in Study 1 (see Supplementary Materials for relevant analyses).

2.1.2. Procedure

Here and in Study 2, an experimenter tested children individually in a quiet room. First, the experimenter told children that he or she would ask questions about another person and that there were no right or wrong answers. The experimenter then said, "I'm going to be asking you some questions about prison and about people who are in prison. What do you think prison is?"² Asking children to describe prison using an open-ended format allowed participants to spontaneously describe their thoughts about incarceration when not guided by the interviewer. While the original purpose of this question was to simply understand how participants conceptualize incarceration, many children (and adults) spontaneously offered reasons for why individuals become incarcerated when answering this question. The experimenter then asked, "Okay, and what do you think prison is like?" The purpose of this question was to further probe individuals' conceptions of incarceration. Because this question did not directly concern the main question of the current research—how children and adults explain incarceration—it will not be discussed further.

While there are several benefits to open-ended items, one drawback is that they may demand more cognitive and linguistic ability than do closed-ended questions. As a result, open-ended questions may not fully capture children's thoughts about complex topics (e.g., Ganea, Lillard, & Turkheimer, 2004; Miller & Bartsch, 1997). Given the possibility that children could not cogently articulate their thoughts when responding to the open-ended question, we subsequently asked children a series of closed-ended questions measuring their agreement with different explanations for incarceration. In addition to potentially helping children articulate their thoughts, closed-ended items allowed us to employ an experimental design. By directly manipulating the independent variable (explanation type), we could draw stronger inferences about the structure of participants' punishment concepts.

Before asking children the closed-ended questions, the experimenter introduced children to a five-point scale consisting of stick figures arrayed from smallest to largest on a sheet of paper and instructed children on how to use the scale (e.g., asking them to point to the smallest picture if they didn't agree at all with a sentence the experimenter said). The remaining labels were "agree a little bit," "agree a medium amount," "agree a lot," and "agree completely." The experimenter

asked children two test questions to gauge their understanding of the scale (e.g., "Can you show me where you would point if you didn't agree with the answer at all?"). On average, children used the scale correctly: they responded near scale floor ($M = 1.07$, $SD = .47$) when indicating that they "don't agree with the answer at all" and near the scale midpoint ($M = 2.97$, $SD = .43$) when indicating that they "agree a medium amount." Participants who answered incorrectly received corrective feedback.

Following these instructions, the experimenter displayed a photograph of a young Black or White man on a laptop and asked the following four experimental items in counterbalanced order:

- "How much do you agree that this person [pointing to photograph displayed on laptop] is in prison because he is a bad person?" This question was intended to measure the extent to which participants endorsed an explanation highlighting an internal characteristic.
- "How much do you agree that this person is in prison because he did something wrong?" This question was intended to measure the extent to which participants endorsed an explanation highlighting behavioral attributions, i.e., attributions to a characteristic that could potentially change over time (Gelman, 2003).
- "How much do you agree that this person is in prison because he didn't have very much money when he was growing up?" This question was intended to measure the extent to which participants endorsed an explanation highlighting societal forces that are necessarily not tied to any individual. We tested children's endorsement of economic inequality as a reason for incarceration, as opposed to other societal factors, because children of the age tested here have some understanding that differences in wealth are associated with disparate life outcomes (Leahy, 1983; Sigelman, 2012) but do not consistently attribute negative outcomes to other societal factors, such as racism (Quintana, 1994, 1998). Thus, we did not probe participants' agreement with explanations linking race and incarceration (though see Introduction for a review of relevant literature suggesting that the negative consequences of incarceration disproportionately accrue to Black people).
- "How much do you agree that this person is in prison because he has a younger brother?" This question was intended to measure the extent to which participants endorsed an irrelevant explanation and was designed to serve as a control item to ensure that children did not simply agree with all explanations.³

Participants were randomly assigned to view either a White man ($n_{\text{children}} = 47$; $n_{\text{adults}} = 85$) or a Black man ($n_{\text{children}} = 52$; $n_{\text{adults}} = 83$).⁴ The purpose of this manipulation was to determine whether the target's race influenced participants' explanations. Although Black and White individuals can have very different experiences in the legal system (e.g., Alexander, 2012; Eberhardt et al., 2006;

³ After responding to the open-ended questions and prior to hearing any of the explanations described in the main text, participants were asked to indicate in a free-response manner why they thought the person was in prison. We included this question because it was not clear a priori the extent to which responses to the question, "What is prison?" would offer spontaneous explanations for why people might become incarcerated. However, a substantial number of participants did offer such explanations. Because participants' responses to subsequent items may depend on responses to previous items (e.g., their first response is likely to reflect their first intuition, and subsequent responses may differ because participants do not want to give the same response to multiple questions or because they thought their first response was "incorrect"), we focused on responses to the first open-ended question.

⁴ We used photographs of men because most people incarcerated in the United States are male (Carson & Anderson, 2016). Photographs were taken from Kennedy, Hope, and Raz (2009) and were matched on all variables on which faces in that dataset were normed (perceived age, familiarity, mood, memorability, and picture quality).

² Half of the participants followed the same procedure but heard the word "jail" instead of "prison." This manipulation did not influence participants' responses, and data were collapsed across these two conditions.

Glaser, 2015; Harcourt, 2007), target race did not reliably influence participants' responses. This finding is consistent with prior work suggesting that children may not become aware of racism and race-based inequalities until later in childhood (e.g., Quintana, 1994, 1998). Therefore, the analyses reported in the main text collapse across this variable.

Based on recommendations for psychologists (Lakens & Evers, 2014; Simmons, Nelson, & Simonsohn, 2013), we aimed to recruit approximately 50 participants of each age group in each condition. We over-recruited adult participants because we expected that some data would not be usable (e.g., due to failing an attention check question). Adults completed the procedure online and read all experimental items to themselves. They typed their answers to the open-ended item into a textbox and selected the scale label that best matched their response in the close-ended portion of the study (i.e., they viewed only the verbal labels, not the stick figures shown to children). Though children and adults completed slightly different procedures (e.g., adults responded using a scale marked only with verbal labels as opposed to seeing images), past work suggests that such minor methodological modifications do not exert a reliable influence on adults' responses (see Brandone, Gelman, & Hedglen, 2015; Heiphetz, Strohminger, Gelman, & Young, 2018; Shaw, Li, & Olson, 2012). Thus, it is unlikely that any age-related differences reported in the present study are an artifact of methodological modifications.

2.2. Results

Analyses that included multiple comparisons were adjusted using a Bonferroni correction. Below, we report the corrected alpha level alongside uncorrected *p* values. Additionally, we report the smallest effect size that could be detected given the present samples. For ease of interpretation, we report both the effect sizes and their corresponding benchmark labels ("small", "medium", "large"); these effect sizes were determined using sensitivity power analyses and assume 80% power and an alpha = .05. In addition to the main analyses reported below, we examined whether participant age predicted responses in our data. Age did not reliably predict children's or adults' responses; see Supplementary Materials for these analyses. Also see Supplemental Materials for descriptive statistics and correlations among experimental items.

2.2.1. What is prison?

Two researchers coded responses to this item using categories developed based on theoretical interest (how often participants mentioned internal characteristics, behavioral factors, and societal factors when explaining incarceration, see Table 1 for example quotes). Responses that referred to internally-focused properties of an individual (e.g., moral character, biological traits) were coded in the internal characteristics category, while responses that referred to behaviors were coded in the behavioral factors category. Responses referencing specific crimes or other behaviors (e.g., describing prison as a place where people go when they kill someone) or crimes or other behaviors in a more general sense (e.g., describing prison as a place where people go when they break the law or when they do something wrong, without specifying a particular act) were both coded in the behavioral factors

Table 1
Coding for "what is prison?" question.

Codes	Code descriptions	Example quotes
Internal characteristics	References internal characteristics, such as the person's perceived badness	"A place where bad people go" (child) "A place to contain bad people" (adult)
Behaviors	References behaviors	"Somewhere you go if you broke the law" (child) "A place for people who have committed a crime" (adult)
Societal	References societal factors that are not specifically tied to any individual	"A place to put the undesirable/abnormal people that society does not want to deal with" (adult)

category. The third code was developed to capture responses attributing incarceration to societal factors that are not specifically tied to any individual (e.g., describing prison as a place that disproportionately targets members of marginalized groups).

The coder assigned each response a 1 if it referenced the category and a 0 if it did not. For example, a participant who reported that prison "is a place where bad people go" received a 1 in the "internal" category and a 0 in the remaining categories for this question. Codes were not mutually exclusive, and a single participant's response could receive several codes. Thus, no code for "other" responses existed; if participants failed to mention any of the available categories, they received a zero for each category. Each response was also coded by a second rater who was blind to hypotheses and to the first rater's codes. The raters achieved inter-rater reliabilities of .89 for "internal" codes and .83 for "behavioral" codes, indicating "substantial" to "almost perfect" agreement (Landis & Koch, 1977). Kappa could not be calculated for "societal" codes because one rater categorized 100% of responses as falling outside of this category, leading to invariance. Even so, the other rater indicated that only 1% of responses referenced societal factors, indicating that the presence of societal codes was rare. Disagreements were resolved via discussion.

Two types of analyses investigated participants' responses (Fig. 1). First, chi-squared tests examined potential age differences in responses falling into each category (internal, behavioral, and societal explanations). Thus, *p* values needed to be .017 or lower to pass the Bonferroni-corrected significance threshold. A sensitivity analysis revealed that this analysis could detect "small" effect sizes (*V* = .17); all significant comparisons yielded effect sizes above this threshold. Children were more likely than adults to mention internal factors ($\chi^2(1, N = 267) = 57.80, p < .001, V = .47$), whereas adults were more likely than children to mention crimes or other bad behaviors, ($\chi^2(1, N = 267) = 10.52, p = .001, V = .20$). Zero children and only one adult referenced societal factors when discussing incarceration; no significant difference emerged between age groups for this category, ($\chi^2(1, N = 267) = 1.61, p = .21, V = .05$).

Second, McNemar's tests compared the extent to which children and, separately, adults mentioned each category versus each other category. This analysis included six comparisons; therefore, *p* values needed to be .008 or lower to pass the Bonferroni-corrected significance threshold. These analyses could detect an odds ratio (OR) of 2.05 for differences in children's explanations and an OR of 1.73 for differences in adults' explanations; all significant comparisons yielded odds ratios above these thresholds. Children were more likely to generate internal and behavioral explanations than societal explanations (*ps* < .001, ORs = infinity); the former two categories did not significantly differ from each other (*p* = .382, OR = 1.29). Adults were more likely to generate behavioral explanations than either internal or societal explanations (*ps* < .001, ORs ≥ 27.75); the latter two categories did not significantly differ from each other (*p* = .219, OR = 5.00).

2.2.2. Agreement with explanations for incarceration

In addition to the open-ended questions described above, participants used a five-point scale to indicate how much they agreed with four explanations for incarceration: that the incarcerated person was in prison because "he is a bad person," because "he did something wrong,"

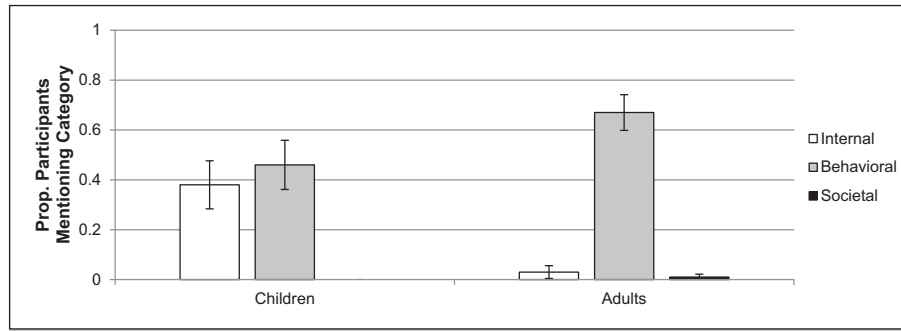


Fig. 1. Proportion of participants who made internal, behavioral, and societal attributions for incarceration when defining jail or prison in Study 1. Error bars represent 95% confidence intervals.

because “he didn’t have very much money when he was growing up,” and because “he has a younger brother.” Agreement was analyzed using a 2 (Participant Age: child vs. adult) x 4 (Explanation: internal vs. behavioral vs. societal vs. irrelevant) mixed ANOVA with repeated measures on the second factor. This analysis revealed main effects of Participant Age ($F(1, 260) = 86.37, p < .001, \eta_p^2 = .25$) and Explanation ($F(2.62, 679.91) = 413.29, p < .001, \eta_p^2 = .61$), which were qualified by a Participant Age x Explanation interaction ($F(2.62, 679.91) = 36.95, p < .001, \eta_p^2 = .12$).

To examine the Participant Age x Explanation interaction, we conducted two sets of tests (Fig. 2). First, we investigated whether children and, separately, adults distinguished among the different explanations. This analysis included 12 comparisons; therefore, p values needed to be .004 or lower to pass the Bonferroni-corrected significance threshold. These analyses could detect “small” effect sizes both for differences in children’s agreement with different explanations (Cohen’s $d = .28$) and for differences in adults’ agreement with different explanations (Cohen’s $d = .22$); all significant pairwise comparisons yielded effect sizes above these thresholds. (For consistency across analyses, we report effect sizes using partial eta squared for all analyses below; see Supplemental Materials for the Cohen’s d associated with each pairwise comparison.) After applying the Bonferroni correction, the difference in adults’ agreement with the explanation that the person was incarcerated “because he is a bad person” and “because he didn’t have very much money when he was growing up” dropped to non-significance ($F(1, 167) = 7.80, p = .006, \eta_p^2 = .05$). Other than this exception, adults’ agreement with each explanation differed significantly from agreement with each other explanation (internal versus behavioral: $F(1, 167) = 322.38, p < .001, \eta_p^2 = .66$; internal versus irrelevant: $F(1, 167) = 179.89, p < .001, \eta_p^2 = .52$; behavioral versus societal: $F(1, 167) = 230.55, p < .001, \eta_p^2 = .58$; behavioral versus irrelevant: $F(1, 167) = 830.92, p < .001, \eta_p^2 = .83$; societal versus irrelevant: $F(1, 167) = 107.39, p < .001, \eta_p^2 = .39$). Similarly, children’s agreement with each explanation differed significantly from agreement with each other explanation (internal versus behavioral: $F(1, 93) = 9.36,$

$p = .003, \eta_p^2 = .09$; internal versus societal: $F(1, 93) = 143.85, p < .001, \eta_p^2 = .61$; internal versus irrelevant: $F(1, 93) = 246.43, p < .001, \eta_p^2 = .73$; behavioral versus societal: $F(1, 93) = 224.49, p < .001, \eta_p^2 = .71$; behavioral versus irrelevant: $F(1, 93) = 402.22, p < .001, \eta_p^2 = .81$; societal versus irrelevant: $F(1, 93) = 11.78, p = .001, \eta_p^2 = .11$).

Second, we examined whether children and adults provided different responses to each explanation. This analysis included four comparisons; therefore, p values needed to be .013 or lower to pass the Bonferroni-corrected significance threshold. A sensitivity analysis revealed that this analysis could detect a “small” to “medium” sized effect (Cohen’s $d = .36$) for age-related differences in agreement, and all significant pairwise comparisons yielded effect sizes above these thresholds. (As in the analyses above, we report partial eta squared values below for consistency across analyses; see Supplemental Materials for the Cohen’s d associated with each pairwise comparison.) Children were more likely than adults to agree with internal ($F(1, 260) = 151.85, p < .001, \eta_p^2 = .37$), behavioral ($F(1, 260) = 21.49, p < .001, \eta_p^2 = .08$) and irrelevant ($F(1, 260) = 16.66, p < .001, \eta_p^2 = .06$) explanations. We did not find a significant difference between children and adults in agreement regarding the societal explanation ($F(1, 260) = .09, p = .759, \eta_p^2 = 0$).

2.3. Discussion

Study 1 examined children’s and adults’ generation of and agreement with explanations for incarceration as a way to understand the origin of “end-state” punishment concepts. In doing so, several findings emerged. Children readily generated and agreed with internal explanations for incarceration; however, this pattern did not emerge among adults. The discrepancy between children’s and adults’ responses suggests that the link between punishment and internal factors wanes throughout development. Moreover, certain components of punishment-related concepts were stable across development. Adults were more likely to generate and agree with behavioral explanations than

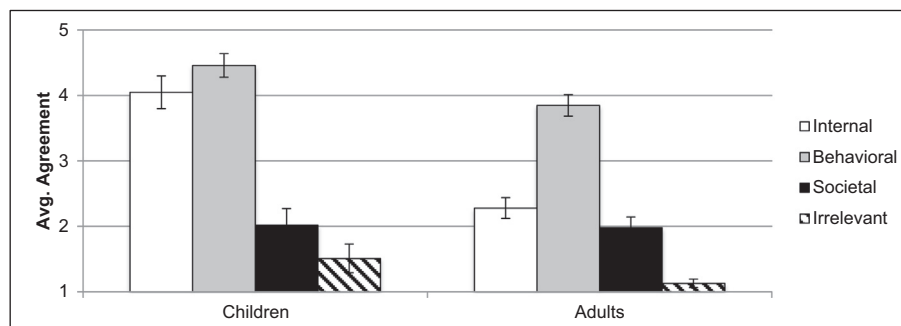


Fig. 2. Average agreement with each explanation for incarceration offered in Study 1. Error bars represent 95% confidence intervals.

any other explanation type. Children, like adults, were more likely to spontaneously attribute incarceration to behavioral factors than societal-level factors. Thus, the present work suggests that the link between behaviors and punishment remains stable between the early elementary school years and adulthood. Lastly, neither children nor adults readily mentioned or agreed with societal-level explanations for incarceration. One possible interpretation of this finding is that societal factors may lie at the periphery of punishment-related concepts throughout development (though see [General discussion](#) for consideration of alternative explanations).

3. Study 2

The results of Study 1 suggest that children readily attribute punishment to internal and behavioral—but not societal—factors. These findings provide important insight into the structure of early punishment-related concepts; however, because cognition does not occur within a vacuum, it is important to consider how these early concepts may depend on social experience. Study 2 included both children of incarcerated parents and children whose parents were not incarcerated to examine the extent to which parental incarceration—one particularly relevant type of social experience—might shape early punishment-related concepts.

Study 2 also extended Study 1 in several other ways. First, it asked participants why people might engage in behaviors that are associated with incarceration (breaking the law). While children in Study 1 reported that both internal factors and behaviors were likely candidates for why an individual might experience incarceration, previous work suggests that children view others' behaviors as stemming from their internal qualities (e.g., traits, [Lillard & Flavell, 1990](#); [Liu, Gelman, & Wellman, 2007](#)). As such, children in Study 1 may have spontaneously mentioned and agreed with behavioral causes for incarceration while actually conceptualizing incarceration as being the result of a multi-factor causal chain. For example, participants in Study 1 could have reasoned that internal qualities cause bad behaviors and that, in turn, bad behaviors cause incarceration. An analogous argument can be made regarding the conceptual link between behavioral and societal factors. Participants may have reasoned that societal factors cause bad behaviors and that, in turn, bad behaviors cause incarceration, but nonetheless attributed incarceration to behavioral factors for the sake of simplicity. By asking about the cause of behaviors, Study 2 tested these possibilities.

Second, Study 2 probed perceptions of *groups* of people as opposed to individuals (e.g., asking why people in general might break the law rather than why a specific person broke the law). In Study 1, participants answered questions about individuals, which may have biased them toward attributions that linked incarceration with individual-level factors (e.g., internal factors, behaviors) and away from societal-level factors that were not clearly linked with a single person. Thus, we sought to clarify the extent to which the results of Study 1 could be explained by semantic subtleties in the question stem.

Third, Study 2 recruited 6- to 12-year-olds to gain greater insight into how perspectives regarding the justice system might change or stay the same during the elementary school years. Study 1 did not find a relation between age and the extent to which participants attributed incarceration to internal factors (see [Supplementary Materials](#)), but the age range among children in that study (ranging from six to eight years old) may have been too narrow to capture developmental changes. Past work investigating the developmental trajectory of essentialist reasoning suggests that the tendency to attribute phenomena to internal causes might decrease throughout the elementary school years (e.g., [Chalik et al., 2017](#); [Gelman et al., 2007](#); [Heiphetz et al., 2017](#)). Thus, testing a broader range than Study 1 allowed us to determine whether such a decrease may occur in the domain of the justice system.

3.1. Method

3.1.1. Participants

In collaboration with two organizations that provide services to families of incarcerated individuals, we recruited 24 6- to 12-year-olds with incarcerated parents ($M_{\text{age}} = 9.38$ years, $SD_{\text{age}} = 1.95$ years; 46% female). Parents identified their children as White or European-American (4%), Black or African-American (58%), multiracial (13%), or “other” (25%); the remaining parents did not answer this question. Parents identified their child's ethnicity by answering a separate question; 42% of participants were identified as Hispanic or Latina/o. Because children of incarcerated parents are a difficult-to-recruit population, we aimed to test as many participants as possible in one year. Our final sample size is similar to samples in other studies testing children (e.g., [Gelman et al., 2007](#); [Kushnir, Gopnik, Chernyak, Seiver, & Wellman, 2015](#); [Misch, Over, & Carpenter, 2016](#); [Over, Eggleston, Bell, & Dunham, 2018](#)), especially difficult-to-reach populations (e.g., children of incarcerated parents, [Shlafer & Poehlmann, 2010](#); transgender children, [Olson, Key, & Eaton, 2015](#); Indian children from lower-income families, [Ahl & Dunham, 2019](#)). Twenty-nine percent of the children in this sample had an incarcerated mother, and 67% had an incarcerated father; one child's demographic questionnaire did not indicate the gender of the incarcerated parent. Zero children had two incarcerated parents. On average, children had been separated from their parent for 52.64 months ($SD = 31.78$ months, range = 8–95 months) and had spoken with their parent in person or via technology (phone, video conferencing) an average of 14.75 times over the past month ($SD = 12.37$ times, range = 1–31 times).

At one location, staff members distributed consent forms and demographic questionnaires to families who had 6- to 12-year-old children. Staff alerted us when families returned consent forms and scheduled appointments for us to interview the children on-site. At the other location, staff members alerted us when 6- to 12-year-olds were scheduled to participate in a different on-site activity. Members of our research team spoke with the child's parent or guardian before or after the activity; if they provided consent, we then interviewed the child on-site. In all cases, consent was obtained from the non-incarcerated parent or guardian, and children also provided assent before beginning the interview. Responses from one additional child were excluded because she did not understand the questions; including her responses in analyses did not alter the pattern of results. Participating families received a \$20 gift card.

We also recruited a group of children whose parents were not incarcerated. Based on recommendations for psychologists ([Lakens & Evers, 2014](#); [Simmons et al., 2013](#)), we aimed to recruit approximately 50 participants in this comparison group, although we over-recruited slightly because we expected that some data would not be usable. The final sample included 62 children ($M_{\text{age}} = 8.11$ years, $SD_{\text{age}} = 1.40$ years; 69% female). Parents identified their children as White or European-American (37%), Black or African-American (30%), Asian or Asian-American (4%), Native American or Pacific Islander (2%), multiracial (13%), or “other” (15%); the remaining parents did not answer this question. Parents identified their child's ethnicity by answering a separate question; 33% of participants were identified as Hispanic or Latina/o. Four additional children were tested but excluded from subsequent analyses because a parent interfered during testing ($n = 1$), the child did not understand the questions ($n = 2$), or the child did not speak English ($n = 1$). Additionally, one child completed the study twice; analyses only included his responses from the first session. Children were recruited from a departmental database and from a museum in a large city in the northeastern United States; all children received a small prize for participating.

3.2. Procedure

As part of a longer interview, children answered two types of

questions about their perceptions of the criminal justice system.⁵ One question was open-ended: “Why do you think people break the law?” The purpose of this question was to determine the extent to which participants explained law-breaking by referencing people’s internal characteristics. The other questions in Study 2 were adapted from a closed-ended measure used in prior work on children’s essentialism (Gelman et al., 2007). We used these questions to link to prior work on children’s propensity to use internal explanations. The experimenter said, “Now I’m going to ask you some questions about other people. To answer these questions, you can say ‘yes’ [coded as 3], ‘maybe’ [coded as 2], or ‘no’ [coded as 1]. Does that make sense?” The experimenter then told participants about a person, gender-matched to the participant, who broke the law and asked six questions about that person. Sample items included, “Do you think that [name] can change whether or not he/she’s a person who breaks the law, if he/she wants to?” and, “Has [name] always been a person who breaks the law?” In addition to asking about a person who broke the law, the experimenter asked about a person who does good things, a person who does bad things, and a person who does shy things. We included questions about a person who does good things and a person who does bad things to investigate how perceptions of a particular moralized behavior (breaking the law) might compare with perceptions of morally relevant behaviors more broadly. We included questions about doing shy things as a non-moral control variable. All items are available in the journal’s online research data repository.

Participants answered all close-ended questions in one block; the order of this block and the open-ended question was counterbalanced across participants. The order in which participants answered questions about the person who broke the law, the person who does good things, the person who does bad things, and the person who does shy things were also counterbalanced, as was the order of the items regarding each person.

3.3. Results

As discussed above, we recruited a wider age range of children to clarify whether we would observe changes in essentialism during the elementary school years. However, we did not find age-related differences within each group of participants (children with versus without an incarcerated parent); see Supplementary Materials.

3.3.1. Why do you think people break the law?

Two researchers coded responses to this open-ended question for the presence of internal, behavioral, and societal explanations. One coder noticed that, in some cases, the types of explanations participants offered seemed qualitatively distinct from the explanations offered in Study 1. For example, some internal explanations referenced stable, negative characteristics, as did the explanations from Study 1. However, other explanations referenced internal characteristics that could potentially change over time, such as thoughts and desires. Similarly, some behavioral explanations referenced the target’s own behaviors, as did the explanations from Studies 1. However, other explanations focused on someone else’s behaviors. To account for these differences, we subdivided the “internal” code into stable versus potentially temporary characteristics, and we subdivided the “behavioral” code into the target’s own behaviors versus others’ behaviors (see Table 2 for example quotes).⁶ For consistency across studies, we also

⁵ The interview also included other types of questions that were part of a separate project, such as questions about children’s emotions toward close others.

⁶ To ensure that the qualitative responses provided in Study 2 actually differed from those provided in Study 1, the first author re-coded responses in Study 1 for stable versus temporary internal characteristics and behaviors that referenced the target’s behaviors versus others’ behaviors. In Study 1, zero

retained a code for all internal explanations (stable and temporary internal characteristics collapsed into one category) and, separately, a code for all behavioral explanations (references to the target’s own behaviors and others’ behaviors collapsed into one category). This resulted in seven codes (internal overall, internal-stable, internal-temporary, behavioral overall, behavioral-target, behavioral-others, societal). Across the seven codes, raters reached inter-rater reliabilities ranging from .53 to .87, indicating “moderate” to “almost perfect” agreement (Landis & Koch, 1977). All disagreements were resolved via Discussion.

To determine the role that parental incarceration may play in shaping children’s responses, our initial analyses included seven chi-squared tests to compare the presence versus absence of each code among children of incarcerated parents versus children whose parents were not incarcerated. Because this resulted in a total of seven tests, *p* values needed to be .007 or lower to pass the Bonferroni-corrected significance threshold. This approach allowed for a detection of effects of “medium” size ($V = .32$). No tests reached significance ($X^2(1, Ns \geq 74) \leq 1.73, ps \geq .188, Vs \leq .15$).

We then used McNemar’s tests to compare the extent to which each group of participants mentioned each category versus each other category. To be consistent with Study 1, we first conducted three comparisons within each group of participants: overall internal versus overall behavioral, overall behavioral versus societal, and overall internal versus societal. We then conducted two additional comparisons, again within each group of participants: internal-stable versus internal-potentially temporary and behavioral-self versus behavioral-others. This resulted in a total of ten comparisons; therefore, *p* values needed to be .005 or lower to pass the Bonferroni-corrected significance threshold. The sample size of children whose parents were not incarcerated allowed for detection of effects of size $OR = 2.92$, and the sample size of children of incarcerated parents allowed for detection of effects of size $OR = 4.66$.

Consistent with the results of Study 1, participants were unlikely to reference societal factors; both groups of children were more likely to provide both internal explanations and behavioral explanations than societal explanations (children of incarcerated parents: $ps < .001$, $ORs = \text{infinity}$; children whose parents were not incarcerated: $ps \leq .002$, $ORs \geq 25.00$). Additionally, children of incarcerated parents were more likely to provide internal explanations that focused on potentially temporary characteristics such as thoughts and desires than explanations highlighting stable internal characteristics such as bad character ($p = .001$, $OR = 14.00$). This pattern of results also emerged when we analyzed responses from children whose parents were not incarcerated ($p < .001$, $OR = 6.75$). No other comparisons reached significance ($ps \geq .065$, $ORs \leq 4.50$; Fig. 3).

3.3.2. Closed-ended essentialism measure

We averaged responses to individual items such that a score of 1 indicated the lowest possible essentialism and a score of 3 indicated the highest possible essentialism. We then analyzed these scores using a 2 (Participant Group: children whose parents were not incarcerated vs. children of incarcerated parents) \times 4 (Target Description: broke the law vs. does good things vs. does bad things vs. does shy things) mixed ANOVA with repeated measures on the second factor. This analysis revealed a main effect of Target Description ($F(2.65, 209.45) = 33.03$, $p < .001$, $\eta_p^2 = .30$). Neither the main effect of Participant Group ($F(1, 79) = .73$, $p = .397$, $\eta_p^2 = .01$) nor the Participant Group \times Target Description interaction ($F(2.65, 209.45) = 1.50$, $p = .221$, $\eta_p^2 = .02$) reached significance.

To further investigate the main effect of Target Description, we

(footnote continued)

participants referenced internal temporary characteristic or another person’s behavior.

Table 2
Coding for “why do you think people break the law?” question.

Codes	Code descriptions	Example quotes
Internal stable characteristics	References internally-focused, inherent, stable properties	“Because their heart is different” (child whose parent is not incarcerated) “They’re not smart people” (child of incarcerated parent)
Internal temporary characteristics	References internally-focused, potentially changeable characteristics	“Because people don’t <i>feel</i> like listening to the laws” (child whose parent is not incarcerated)
Behavioral factors (self)	References people’s own observable actions, behaviors	“Some people don’t <i>care</i> about laws” (child of incarcerated parent) “Because they don’t do the stuff that the police tells them to do” (child whose parent is not incarcerated)
Behavioral factors (others)	References others’ actions, behaviors, or influence of another person or group of people	“They chose to do it” (child of incarcerated parent) “Because other people have been bad to them” (child whose parent is not incarcerated)
Societal factors	References externally-focused, societal factors	“They learned from other people that that’s good” (child of incarcerated parent) “Don’t have money to survive” (child whose parent is not incarcerated) “They do it for very good reason. If poor, for their family because they have no job” (child whose parent is not incarcerated)

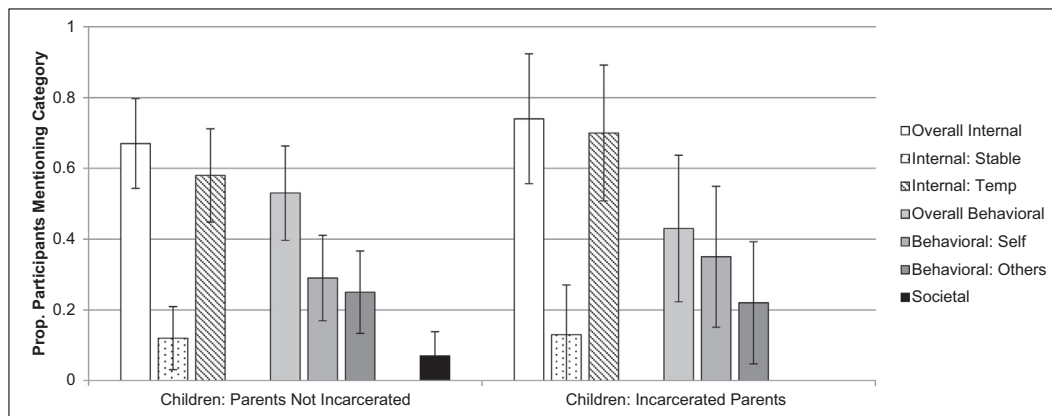


Fig. 3. Proportion of participants who made internal, behavioral, and societal attributions when explaining why people might break the law, Study 2. The “overall internal” category was coded as present if the participant provided at least one internal-stable explanation or at least one internal-potentially temporary explanation. The “overall behavioral” category was coded as present if the participant provided at least one behavioral-self explanation or at least one behavioral-others explanation. Error bars represent 95% confidence intervals.

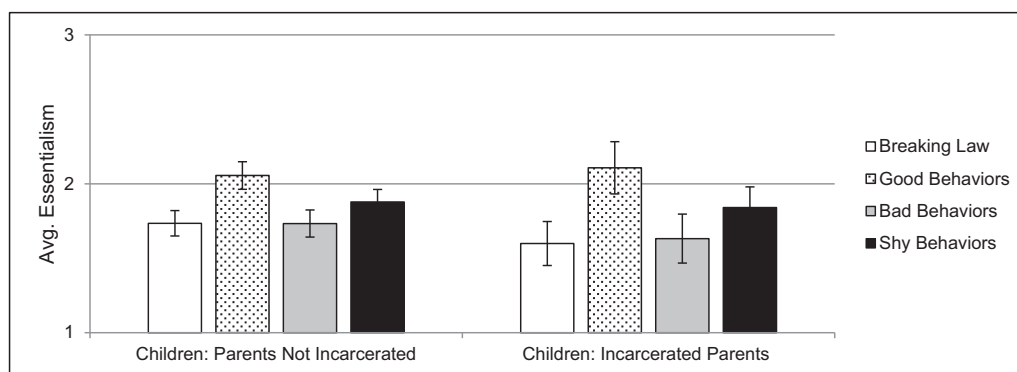


Fig. 4. Average essentialism, Study 2. Error bars represent 95% confidence intervals.

compared each target with each other target. This resulted in six comparisons; therefore, *p* values needed to be .008 or lower to pass the Bonferroni-corrected significance threshold (see Fig. 4). These analyses could detect relatively “small” effect sizes (Cohen’s *d* = .31); all significant pairwise comparisons yielded effect sizes above these thresholds (For consistency across analyses, we report effect sizes using partial eta squared for all analyses below; see Supplemental Materials for the Cohen’s *d* associated with each pairwise comparison). Overall, children viewed performing good behaviors in more essentialist terms than breaking the law ($F(1, 81) = 66.80, p < .001, \eta_p^2 = .45$), performing bad behaviors ($F(1, 82) = 53.87, p < .001, \eta_p^2 = .40$), and performing

shy behaviors ($F(1, 80) = 25.67, p < .001, \eta_p^2 = .24$). Moreover, children viewed performing shy behaviors in more essentialist terms than both breaking the law ($F(1, 80) = 20.86, p < .001, \eta_p^2 = .21$) and performing bad behaviors ($F(1, 80) = 11.41, p = .001, \eta_p^2 = .13$). Children’s views of breaking the law and performing bad behaviors did significantly not differ from one another ($F(1, 81) = .11, p = .740, \eta_p^2 = 0$).

3.4. Discussion

Study 2 investigated how children whose parents were not

incarcerated and children of incarcerated parents view the criminal justice system. Several notable findings emerged.

First, children of incarcerated parents were more likely to reference internal and behavioral explanations than societal explanations when discussing law-breaking. Further, children of incarcerated parents were more likely to attribute law-breaking to potentially temporary characteristics than stable internal characteristics. Strikingly, this pattern also emerged when we investigated responses from children whose parents were not incarcerated. No significant differences emerged between the two groups of children. However, null effects are difficult to interpret; it is possible that the two groups of children actually do think about law-breaking differently, and the current work failed to capture this difference.

A priori, one might have expected a different pattern of results to emerge within each group because children of incarcerated parents, versus children whose parents were not incarcerated, have had more experience with a significant figure who is in jail or prison. Additionally, the current samples differed in ways that reflect the demographics of individuals involved in the justice system (e.g., the proportion of White participants was higher in the sample of children whose parents were not incarcerated than among children of incarcerated parents), and such differences may have led to different patterns within each group of children. Nevertheless, children of incarcerated parents may hear generic messages when learning about punishment and incarceration from adults (for evidence that adults routinely use generic language with children, see Gelman et al., 2005, 2008). In turn, these generic statements may license the inference that punished individuals have an internal “essence” (Rhodes et al., 2012). Messages about incarceration may be more influential than children's personal experiences, leading to a similar pattern of results within each group.

Second, more children referenced internal factors when discussing law-breaking compared to incarceration. For example, 68% of children whose parents were not incarcerated attributed law-breaking to an internal factor in Study 2. However, only 38% of children attributed incarceration to an internal factor in Study 1. This result suggests that children may have spontaneously mentioned and agreed with behavioral causes for incarceration (Study 1) while actually conceptualizing incarceration as being the result of a multi-factor causal chain (internal qualities cause behaviors; in turn, behaviors cause incarceration). This interpretation is consistent with work suggesting that children view behaviors and internal characteristics as closely linked (e.g., Liu et al., 2007). However, the present data suggest that the degree of overlap between children's concepts of behaviors and internal characteristics is partial, not full. As previously mentioned, children in Study 1 indicated greater agreement with behavioral rather than internal explanations for incarceration; this suggests that children understand the difference between internal qualities and behaviors.

In addition to the overall increase in internal attributions across studies, participants in Study 2 also referenced potentially temporary characteristics such as thoughts and desires. One possibility is that asking specifically about behaviors, which are fleeting by nature, might facilitate thoughts of other potentially temporary characteristics. If this is the case, then describing incarceration in terms of behaviors may reduce stigma against people who have had contact with the justice system by leading individuals to consider changeable actions rather than the unchangeable (and often perceived to be bad) essence of people who have become involved in the justice system. Future work can test this possibility, which we discuss further in the [General discussion](#).

Third, children in Study 2, like the children and adults in Study 1, rarely referenced societal factors such as racism or economic inequality. Given that different factors (development, parental incarceration) did not significantly influence the extent to which participants linked incarceration (Study 1) and law-breaking (Study 2) with societal factors, it is possible that the tendency to underestimate the extent to which

societal factors cause negative outcomes is relatively early-emerging and occurs in diverse domains. This possibility is supported by previous research demonstrating this phenomenon in other domains and at different points in development (e.g., Kraus et al., 2017; Leahy, 1983). The consistency of this finding across both studies rules out the possibility that asking about individuals (Study 1) as opposed to people in general (Study 2) skewed the results of Study 1. However, the lack of societal explanations in the present work may be influenced by other factors; see [General discussion](#) for more elaborated discussion on this point.

Finally, although participants demonstrated some degree of essentialism regarding law-breaking on the closed-ended essentialism measure, they viewed this behavior in less essentialist terms than positively-valenced behaviors or shy behaviors (which do not have moral valence). This finding is consistent with other work showing that individuals—especially children—view others optimistically (e.g., by expecting them to perform good behaviors even if they have previously transgressed, Aloise, 1993; Boseovski, 2010; Heiphetz, *in press*; Lockhart, Chang, & Story, 2002; Tasimi, Gelman, Cimpian, & Knobe, 2017). Here, participants appeared to judge that people who do good things would continue to do so in the future, whereas people who committed transgressions (including breaking the law and also including doing “bad things” in general) potentially change over time. Although children appear to readily draw inferences about negative internal characteristics on the basis of contact with the justice system, they also appear to optimistically believe that such characteristics can change over time.

4. General discussion

The present work examined the emergence of punishment-related concepts in two complementary ways. Study 1 investigated this topic developmentally by asking which components of children's punishment-related concepts remain into adulthood and which change over the course of development. Children, like adults, readily attributed incarceration to behavioral factors and did not link incarceration with societal factors. However, unlike adults, children readily attributed incarceration to internal factors. Study 2 built on the results of Study 1 by testing the extent to which personal experience with the justice system shapes the emergence of punishment concepts in childhood. Specifically, Study 2 tested both children of incarcerated parents and children whose parents were not incarcerated. Both groups of children were more likely to attribute law-breaking to internal and behavioral factors than societal factors. Further, when responding to a close-ended measure of essentialism, both groups of children viewed law-breaking as somewhat driven by internal, unchanging factors. Moreover, both groups of children were more likely to view positive behaviors (doing good things) in more essentialist terms than negative behaviors (law-breaking, doing bad things).

Taken together, the present work makes two main contributions to the study of moral cognition. First, the current findings suggest that “end-state” punishment concepts are comprised of two co-existing bundles of concepts: those that have remained stable since childhood and those that have changed over the course of development. Specifically, Study 1 suggests that the propensity to attribute punishment to behavioral factors and not to societal factors emerges relatively early in development and remains into adulthood. Moreover, the results of Study 1 suggest that reliance on internally-focused explanations for punishment decreases between childhood and adulthood.

While the present work did not test why this latter change might occur, at least two possibilities exist. One possibility is that this change is the result of social learning. As children grow into adults, they may learn that United States law justifies punishment on the grounds of behavior and not internal characteristics. In turn, the link between punishment and internal characteristics may weaken. Moreover, throughout development, children may come to learn that the law often demonstrates an “outcome bias” in punishment decisions (Cushman

et al., 2009), sanctioning people more harshly for harmful albeit accidental outcomes (e.g., second degree murder) than failed attempts to harm (e.g., attempted murder). Due to increased knowledge about these norms, people may come to reduce their use of internal explanations for punishment. Another possibility, in addition to social learning, is that age-related changes in cognition may shape punishment concepts across development. For instance, as discussed above, children are more likely than adults to attribute a host of properties to internal, unchanging “essences” (e.g., Chalikh et al., 2017; Heiphetz, in press; Taylor et al., 2009). The decrease in reliance on internal explanations across development could reflect a more domain-general decrease in attributing phenomena to internal causes. Future research can examine the extent to which social learning and changes in cognition—among other factors—drive changes in punishment concepts across development.

Second, the present work clarifies the role of personal experience with the justice system in shaping early punishment-related concepts. Drawing on past scholarship suggesting that increased contact with members of a particular group can alter essentialist views of that group's members (e.g., Roberts & Gelman, 2016; Smyth et al., 2017), it was possible that different patterns of results would emerge among children of incarcerated parents and children whose parents were not incarcerated. However, a separate literature highlighting the influence of social input on children's concepts (e.g., Gelman, 2009) suggests that a similar pattern of results could emerge among each group of children. The present work marshaled support for the latter possibility. One interpretation of this finding is that children's propensity to make internal attributions is more sensitive to the information they receive from social input (e.g., listening to others) than to a prolonged relationship with only one member of the relevant group. More specifically, it is possible that the propensity to link punishment with internal characteristics during childhood may be driven by *how* adults communicate with children. Adults often use generics—grammatical forms that convey a property that generalizes to an entire category, such as “girls like pink”—when speaking with children (e.g., Gelman et al., 2005; Gelman et al., 2008). Thus, it is possible that adults use similar language when talking to children about punishment (e.g., “bad people go to prison”). Because generic statements lead children to hold essentialist views about the category being described (Rhodes et al., 2012), it is possible that the use of generic language underlies similarities between groups of children in the present work. Because the current work did not directly test the role of generic language in shaping children's punishment concepts, future research can more directly test this possibility by observing how adults communicate with children about punishment and how these messages may, in turn, shape children's perspectives.

For a number of reasons, it is particularly surprising that participants failed to reference societal factors when discussing incarceration or law-breaking. Societal inequality is strikingly high in the United States, particularly within the criminal justice system (e.g., Alexander, 2012; Eberhardt et al., 2006; Eubanks, 2018; Forbes, 2016; Glaser, 2015; Harcourt, 2007). As such, it is startling that American adults seem largely unaware of the scope and deleterious consequences of societal inequality in this context. Though children have less social experience than adults, it is still somewhat surprising that they did not attribute incarceration or law-breaking to societal factors. Children are especially likely to hold positive views of others (e.g., Boseovski, 2010) and therefore could have been especially motivated to attribute incarceration and law-breaking to factors that would maintain positivity toward people impacted by the justice system. According to research from the attribution theory literature (e.g., Rudolph et al., 2004), one way to do so is to attribute stigmatized qualities (e.g., incarceration status) to externally-oriented, uncontrollable variables (e.g., societal factors) as opposed to controllable individual-level factors (e.g., bad behaviors). Following this reasoning, children could have been especially likely to mention societal factors in order to maintain their positive views of the people they evaluated. Moreover, given that children

of incarcerated parents are especially likely to experience societal-level inequalities (e.g., poverty, homelessness, Clear, 2007; Huebner & Gustafson, 2007; Wildeman, 2014), one may have expected that they would be especially likely to link punishment with societal factors.

What might explain the absence of societal explanations throughout the present studies? One possibility is that children and adults experienced difficulty explaining how societal factors are linked with punishment. There are several causal links between societal factors and incarceration. For example, consider a Black adolescent who was arrested for dealing drugs. Upon further inspection, it turns out that he was engaging in this behavior to help his family pay for basic necessities and was the target of racialized policing practices; his White peers were not arrested for the same action (for additional evidence that police arrest White adolescents less frequently than Black adolescents despite similar rates of law breaking across groups, see Alexander, 2012; Forman, 2017; Joseph & Pearson, 2002). While this person's incarceration was certainly influenced by societal factors (e.g., poverty, racism), the most proximal causal of his incarceration was his behavior. Given that children and adults tend to provide simple explanations for events (Bonawitz & Lombrozo, 2012; Lombrozo, 2007), it is possible that they simply agreed with—and generated—explanations that are most causally linked with punishment.

While this idea should be examined more thoroughly in future research, the consistent paucity of societal explanations across Studies 1 and 2 partially rules out this possibility. By asking about behaviors (Study 2) as opposed to incarceration (Study 1), we effectively increased the causal proximity between societal factors and the outcome being examined. If the dearth of societal explanations in Study 1 was simply due to participants endorsing behavioral explanations while nonetheless conceptualizing behaviors as stemming from societal factors, we might have expected the proportion of societal explanations to increase in Study 2. However, this was not the case, as participants in Study 2 did not readily attribute law-breaking to societal factors. Another possible reason for the lack of societal explanations across studies is that the tendency to reference societal inequalities when explaining social phenomena may be moderated by factors that were not a central aspect of the current research. For instance, among adults, the tendency to use societal explanations may be associated with racial group membership (Hunt, 1996). It is difficult to test for this possibility in our data because of the extremely low rate at which participants spontaneously generated and agreed with societal explanations. However, had our sample included more Black people, societal explanations may have been more prevalent. Regardless as to why participants did not reference societal factors when discussing law-breaking or incarceration, the present work dovetails with other research suggesting that people tend to underreport the role of societal factors (e.g., economic inequality) in causing negative outcomes in people's lives (e.g., Davidai & Gilovich, 2015; Kraus et al., 2017; Leahy, 1983; Norton & Ariely, 2011).

4.1. Limitations and directions for future research

The present work sheds light on an understudied topic within the social psychological literature (incarceration) and provides critical insight into the role that two factors (age, parental incarceration status) might play in the structure of punishment-related concepts. However, there are key limitations to the present work. Views of punishment and the criminal justice system may hinge on factors not explicitly tested in this work. As previously mentioned, the negative consequences of incarceration disproportionately accrue to members of marginalized groups, including racial minorities (e.g., Alexander, 2012) and poor people (e.g., Eubanks, 2018). Thus, future work could examine the role that identification with each of the aforementioned groups might play in the development of punishment-related concepts. Another fruitful avenue for future research could examine how the experience of intersecting social identities (e.g., being a child of incarcerated parents

growing up in a rural or an urban place) might shape how people conceptualize punishment. Past work on intersectionality suggests that the experience of having an incarcerated parent in a rural environment, for example, is not tantamount to the experience of having an incarcerated parent plus the experience of growing up in a rural area (e.g., Crenshaw, 1989/1993; Purdie-Vaughns & Eibach, 2008). Rather, intersecting identities can create emergent realities. All of the children of incarcerated parents interviewed for this project were growing up in an urban area, and their experiences may differ from those of children growing up in other locations. Future research can examine how such experiences, as well as other intersecting identities (e.g., race, gender, class), shape punishment-related concepts.

Another avenue for future research concerns the issue of societal explanations. We interpret the present results to suggest that neither children nor adults in our samples readily linked incarceration or law-breaking with societal factors. However, an alternate possibility exists: participants may not have agreed with the societal explanation we used (poverty) because they viewed other types of societal factors (e.g., racism) as more likely to cause incarceration. This account seems unlikely given that participants could have referenced such factors when responding to open-ended questions. As previously mentioned, participants rarely referenced any type of societal factor when discussing incarceration or law-breaking, suggesting that they may not view either as linked with societal factors broadly construed (though see Vasilyeva, Gopnik, & Lombrozo, 2018 for evidence that children and adults are able to engage in structural reasoning when thinking about other social phenomena). Future work can test children's and adults' agreement with different types of societal explanations, including those referencing race-based inequality.

Finally, future work can investigate the consequences of adopting essentialist perspectives of incarceration and punishment more broadly. In rare instances, essentialism increases positivity; for example, essentialist views of sexual orientation predict more positive attitudes toward gay men and lesbians (e.g., Haslam & Levy, 2006). However, the majority of prior work on essentialism's consequences has demonstrated negative outcomes for essentialized group members. For example, essentializing race increases comfort with racial inequality (Williams & Eberhardt, 2008), and essentializing gender increases acceptance of gender stereotypes (Brescoll & LaFrance, 2004). Among children, essentialist views of a particular group are linked with increases in stereotyping (e.g., Pauker, Ambady, & Apfelbaum, 2010), prejudiced attitudes (e.g., Diesendruck & Menahem, 2015), and stinginess (Rhodes, Leslie, Saunders, Dunham, & Cimpian, 2018) toward members of that group. Perhaps most closely related to the current work, recent scholarship (Heiphetz, *in press*) suggests that essentialist views of immoral character decrease generosity toward essentialized targets. Thus, essentialist explanations regarding punishment may increase negativity toward people receiving punishment. If this is the case, then providing non-essentialist explanations for everyday punishments may allow individuals to modulate the punishment's severity. For example, children may feel better if their parents explicitly communicate that they are receiving punishment because they have done something wrong and not because they are bad people. Further, non-essentialist explanations may also reduce the stigma faced by individuals who have received more severe punishments, such as incarceration.

5. Conclusion

Across two studies, we investigated the emergence of punishment-related concepts. Children largely conceptualized incarceration as stemming from both internal and behavioral factors, whereas adults primarily attributed incarceration to behavioral factors. Neither children nor adults readily generated or agreed with societal explanations for incarceration. These findings suggest that certain components of children's punishment concepts (i.e., the link between punishment and behavioral—but not societal—factors) remain stable over the course of

development whereas other components (the link between punishment and internal factors) change with age. Moreover, we found that the structure of early punishment concepts was similar across groups of children with different experiences with the criminal justice system. Children of incarcerated parents, like children whose parents were not incarcerated, readily referenced internal and behavioral reasons when discussing why people break the law. However, neither group of children was likely to reference societal factors when reasoning about law-breaking. Taken together, these studies marshal evidence suggesting that (1) the conceptual link between punishment and behaviors is stable across development, (2) the link between punishment-related concepts and internal factors wanes across development, and (3) regardless of age or personal relationships with incarcerated individuals, people may not readily report that societal factors play a role in law-breaking and punishment. These findings highlight the importance of research programs that cut across areas of study (e.g., social and developmental psychology) and point to the need for explicit education regarding the role of social inequality in some forms of punishment.

Open practices

The experimental scripts have been included in Supplemental Materials, available online.

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Appendix A. Supplementary analyses and study materials

Supplementary data and study materials for this article can be found online at <https://doi.org/10.1016/j.jesp.2019.103913>.

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