

# Development of Moral Cognition

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<https://doi.org/10.1093/acrefore/9780190236557.013.59>

**Published online:** 23 October 2024

## Summary

Moral cognition describes the processes of interpretation, abstraction, reasoning, judgment, and evaluation when taking considerations of others' welfare, rights, fairness, equality, and justice into account. The roots of these cognitive processes emerge early in development and grow in complexity as children navigate the social world through interactions with others. Preferences for helping in the first few years of life, along with cooperation and intentionality by 3 years of age, form the foundations for children's later capacities to express categorical judgments of right and wrong, and engage in complex moral reasoning. Moral cognition enables children, adolescents, and adults to make decisions about some of the most salient issues in contemporary human society, including how to distribute resources fairly, and how to challenge systems of bias and prejudice that perpetuate social inequities between groups. Diverse theoretical perspectives on the development of moral cognition persist. Nevertheless, understanding the developmental trajectory of moral cognition remains a central focus for scientists and scholars concerned with the diversity and universality of human societies.

**Keywords:** morality, social-cognitive development, constructivism, social inequalities, intergroup processes, resource allocation

**Subjects:** Cognitive Psychology/Neuroscience, Developmental Psychology

## Introduction

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Moral cognition is a central aspect of the human experience. Once predominantly the domain of philosophy, morality and its developmental origins are now widely studied by scholars in the fields of psychology, behavioral economics, sociology, anthropology, and evolutionary psychology. Within the discipline of psychological science, moral cognition has been studied by developmental psychologists interested in investigating its origins, emergence, acquisition, and nature of change (Killen & Smetana, 2023). Moral cognition encompasses the processes of interpretation, abstraction, reasoning, judgment, and evaluation when making decisions about social interactions and societal events. Drawing from work in moral philosophy, moral principles refer to prescriptive principles concerning others' welfare, rights, equality, fairness, and justice (Appiah, 2005; Gewirth, 1978; Nussbaum, 1999; Rawls, 1971; Sen, 2009). Over the past decade, developmental psychologists have also studied how moral reasoning facilitates change (Killen & Dahl, 2021), specifically in terms of promoting the equality of persons, drawing on theories concerned with social justice (Bonilla-Silva, 2015; Fourie et al., 2015; Jost & Kay, 2010; Ruck et al., 2019).

### Background

For the last several decades, developmental science research has primarily driven the study of moral cognition (Killen & Smetana, 2015). This emphasis on the early capacities for moral cognition contradicts popular notions that moral issues are only the topic of adult cognition and discourse. In fact, developmental science research dating back nearly a century highlighted childhood as an integral developmental period for acquiring moral knowledge. Jean Piaget, one of the founders of developmental psychology, conducted early investigations of children's acquisition of moral concepts revealing how social interactions, particularly those between peers, enable children to understand principles of equality and fairness (Piaget, 1932). Extensions of Piaget's work, including Kohlberg's (1969) articulation of a stage-theory of moral development, provided further rationale for approaching the study of moral cognition from a developmental perspective.

The theories of both Piaget and Kohlberg have since been critiqued, largely for underestimating the capacities of very young children and for being empirically tested on demographically narrow samples. Despite these critiques, Piaget's and Kohlberg's work continues to have both theoretical and methodological influences on several programs of research in the field of moral development today. Influenced by Piaget (1932) and Kohlberg (1969), Turiel (1983, 2002) provided an alternative to stage-theory approaches by demonstrating that moral cognition reflects a domain of knowledge distinct from conventions and traditions (societal knowledge; Smetana & Yoo, 2023) and issues of autonomy and personal choice (Nucci & Turiel, 2009). A domain-specific approach implies that these forms of knowledge coexist in development, emerging at the same time, not in a stage-like manner.

Developmental approaches to the study of moral cognition have highlighted the process of reasoning as important for understanding how individuals form judgments of right and wrong (Killen & Dahl, 2021; Turiel, 2018). Beginning in the late 20th century, a robust and growing body of empirical evidence suggests that reasoning plays an important role in moral cognition across the lifespan (Killen & Smetana, 2023; Turiel, 1983, 2015). Studying moral cognition in children requires utilizing developmentally appropriate methods and techniques. Simply asking a 7-year-old, "What do you think about social inequalities?" is unlikely to reveal much about their understanding of complex concepts such as equity. Importantly, a child's failure to produce an answer to that question does not indicate an inability to understand the concept behind social inequalities. Rather, it indicates that the question has to be posed in a developmentally appropriate manner. Contemporary research utilizes individual interviews and vignette-based methods to present children with morally relevant issues that they encounter in their everyday life. Assessments are framed in a way that children can assimilate and understand so that they accurately interpret the parameters of the assessment. Children are often asked to make predictions and decisions about characters in a story, as well as to provide reasoning for why they made their choices. This methodology has revealed novel insights about children's and adolescents' abilities to engage in moral reasoning about complex issues such as intergroup resource inequalities, rights, and group-based social exclusion.

## Contemporary Views

Contemporary views on the emergence of moral cognition in developmental science focus on both the precursors to moral judgment and reasoning as well as charting the development of moral reasoning from childhood through to adulthood. These contemporary theories include nativism, which focuses on sociomoral core knowledge (Hamlin et al., 2007; Woo & Hamlin, 2023), evolutionary perspectives regarding cooperation, intentionality, and sharing (Tomasello, 2014; Vaish & Tomasello, 2023), and constructivism, which examines conceptions about fairness, rights, others' welfare, and equality from childhood to adulthood (Smetana & Yoo, 2023; Turiel, 1983, 2023), often in the context of intergroup relationships and attitudes (Killen et al., 2022; Mulvey, 2016; Rutland & Killen, 2015). While these approaches diverge in several ways, they are united by the goal of understanding the developmental trajectory of children's capacities for making moral judgments and decisions that promote fair and equitable treatment of others in childhood.

## Roadmap

An overview of contemporary theoretical perspectives and research on the development of moral cognition is presented.<sup>1</sup> First, research on the precursors of morality displayed in infancy in the form of social preferences is covered from a nativist, core knowledge perspective (Hamlin et al., 2007). Second, research on the emergence of cooperation, intentionality, interdependence, and sharing in toddlerhood and early childhood is reviewed from an evolutionary viewpoint (Tomasello, 2014; Vaish & Tomasello, 2023). Next, social-cognitive developmental approaches to investigating children's moral cognition, including the social domain viewpoint as well as social reasoning developmental theory focusing on intergroup contexts (Killen & Rutland, 2011; Smetana & Yoo, 2023) are outlined. The role of moral cognition in children's and adolescents' developing capacities to be agents of social change is also highlighted. Finally, a conclusion and remarks on the importance of future research on moral cognition in diverse contexts are provided.

## Early Precursors

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### Core Knowledge

Drawing from nativist theories, proponents of this view argue that infants possess a sociomoral core that supports early capacities for evaluating and making sense of morally relevant behaviors (Van de Vondervoort & Hamlin, 2018; Woo & Hamlin, 2023; Woo et al., 2022). Empirical support for this view stems from a set of studies by Hamlin and colleagues documenting infants' preferences for characters demonstrating prosocial over antisocial actions. Specifically, Hamlin et al. (2007) found that 6- and 10-month-old infants from the Northeast region of the United States preferentially reached for puppets presented as prosocial helpers over antisocial hinderers, and preferred helpers over neutral characters but preferred neutral characters over hinderers. Follow-up studies with younger children showed that 3-month-olds preferentially looked at helpers over hinderers (Hamlin & Wynn, 2011; Hamlin et al., 2010; Wynn & Bloom, 2014), and negatively evaluated hinderers, as indicated by infants' preference for neutral characters over hinderers (Hamlin et al.,

2010). It is argued that these early preferences support the existence of a sociomoral core because infants lack the experiences necessary to make such morally relevant evaluations (Van de Vondervoot & Hamlin, 2018).

Additional research demonstrating that infants' early preferences are sensitive to factors that influence moral judgments in older children and adults has also been used to support arguments for the existence of a sociomoral core. For example, Hamlin (2013) investigated the role of characters' intentions in infants' preferences and found that North American 8-month-olds preferred characters with positive intentions (i.e., those who tried but failed to help a protagonist), regardless of the success of the outcome. Infants' sensitivity to intentions provides a precursor to theory of mind in the context of moral judgments observed to be present in older children's judgments and evaluations assessed in a Western European context (Sodian et al., 2016). Investigations of infants' preferences in the context of accidents have provided more information about infants' sensitivity to others' intentions. In a recent study, Woo et al. (2017) presented 10-month-old infants with intentional and accidental helpers and found that infants preferred intentional over accidental helpers, yet preferred accidental helpers over intentional harmers. These results are interpreted as further evidence that infants' preferences and evaluations are sensitive to others' mental states.

Researchers and scholars who argue for the existence of an early emerging moral core do not propose that infants' early preferences and evaluations should share the complexity of those of older children and adults, nor should they ignore the roles of social interactions and broader cognitive development on the advancement of later moral cognition. Instead, their view is underscored by the assertion that infants possess a functional sociomoral sense early in development that does not require specific experiences of being helped and harmed or explicit teachings of right and wrong (Van de Vondervoot & Hamlin, 2018). Given that the data reflect social preferences rather than obligations about actions toward others to preserve fair treatment, there have been debates about this approach regarding the extent to which these data are interpreted as moral judgments or precursors to moral judgments.

### Concerns for Others' Welfare

The prioritization of concerns for others' welfare is a central component of moral cognition. In addition to infants' early preferences for prosocial over antisocial others in third-party contexts, infants themselves show early orientations toward concern for others' welfare. While initial theory and research suggested that these concerns were not present until the second year of life (Hoffman, 2001; Zahn-Waxler et al., 1992), additional studies provide evidence suggesting that these concerns are present earlier in development (Davidov et al., 2020; Liddle et al., 2015; Roth-Hanania et al., 2011). In one study, Davidov et al. (2020) investigated the onset, development, and predictive power of concern for others by examining infants' responses to distress longitudinally from 3 to 18 months. Results demonstrated that 3-month-old infants from a Middle Eastern metropolitan city expressed empathic concern for distressed others, and early individual differences in concern for others predicted later prosocial behavior at 18 months (Davidov et al., 2020). Related research with 18-month-olds showed that overt emotional distress may not be required for children to express concern for others, however. For example, Vaish et al. (2009) found that by 18 months of age, a

sample of predominantly White children from a medium-sized German city showed concern for victims of harmful situations even when they displayed neutral expressions, and children's concerned looks were correlated with prosocial behaviors toward victims in follow-up trials.

### Resource Distribution Preferences

Several studies utilizing violation-of-expectations (VOE) paradigms and looking-time behaviors have demonstrated preferences for equal distributions among infants between the first and second years of life (Geraci & Surian, 2011; Schmidt & Sommerville, 2011; Sloane et al., 2012). In studies using VOE paradigms, infants are first presented with distribution trials in which they are repeatedly shown both equal and unequal distributions. Then, they are presented with choice trials in which they choose either the equal or unequal distribution. Infants' choices are often measured by pointing, reaching, or other similar approach behaviors. Additional research has attempted to further understand the extent to which these preferences indicate infants' evaluations of equal and unequal distributions. One study by Burns and Sommerville (2014) presented Caucasian 15-month-olds with actors who repeatedly demonstrated patterns of either equal or unequal distributions and then gave children the chance to select one of the actors. The majority of children in this study selected the actor who demonstrated equal distributions, which was interpreted as evidence for their positive evaluation of this actor over the one who demonstrated unequal distributions (Burns & Sommerville, 2014). The extent to which children's early experiences influence the development of these preferences for fairness and equality remains a central question. Evidence of relations between infants' sense of fairness and sharing behaviors at 9 months old living in the Western region of the U.S. supports the argument that experiences play an important role in the acquisition of these preferences (Ziv & Sommerville, 2017).

Advances in behavioral research methods have allowed developmental scientists to investigate the origins of several skills and preferences within the first few years of life that lay the foundations for later moral cognition. These methods examine infants' and toddlers' nonverbal responses, including looking time, reaching, and physical helping, to morally relevant scenarios (Hamlin et al., 2007, 2010; Sommerville, 2023). These early behaviors and preferences may be related to developing prosocial orientations toward helping and fairness. While scholars from different theoretical perspectives debate the extent to which these nonverbal behaviors demonstrate infants' capacities for moral evaluations, these methods have inarguably enriched developmental scientists' abilities to investigate the origins of an infant's social predisposition, which is theorized to underlie the emergence of moral cognition. Thus, the evidence of infants' preferences for helping, fairness, and equality demonstrates the early emergence of potential precursors of moral cognition.

### Cooperation and Intentionality

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To study the evolutionary basis of early morality, scholars have proposed that early childhood reflects a period where cooperation, reciprocity, and normative understandings about groups emerge in social interactions (Tomasello, 2014; Vaish & Tomasello, 2023). Drawing on his extensive research with non-human primates, primarily chimpanzees, and young children (ages 1.4–4 years),

Tomasello (2015) proposes three central claims: (a) morality, rooted in our evolutionary past, stems from cooperation and interdependence (group-minded thinking); (b) second-person morality in the form of sympathy and personal relationships precedes objective and impartial morality in the natural history story as well as in the ontogenetic developmental story; (c) children display early forms of morality prior to formal teaching and socialization. Without the capacity to recognize interdependence with other like-minded peers, morality would not be possible.

Children desire to act as a member of a group, which requires joint intentionality to achieve social goals (Vaish & Tomasello, 2023). Focusing on collaboration and commitment, sympathy and helping, along with equality and sharing, this perspective provides extensive evidence regarding the emergence of moral judgments (Engelmann et al., 2016; Schmidt et al., 2016; Vaish et al., 2011).

### Prosocial Helping Behaviors

Investigations of young children's helping behaviors have revealed insights into the emergence of prosocial orientations. Children begin to engage in acts of instrumental helping between the ages of 12 to 18 months, as documented by studies in which children pick up objects that adults have dropped or help them complete other tasks to fulfill instrumental goals (e.g., Warneken & Tomasello, 2006, 2007). Similar research methods have also been used to investigate children's instrumental helping toward peers. In one study by Hepach et al. (2017), a sample of predominantly White 18-month-old and 30-month-old children from a medium-sized German city were paired with an unfamiliar same-age peer and presented with a task that required helping to complete an instrumental goal. Children as young as 18 months old readily helped their peers complete the task and demonstrated nuanced helping behaviors depending on the peers' level of need (Hepach et al., 2017). The role of parent socialization and scaffolding in contributing to the development of these early helping behaviors has also been examined (Dahl et al., 2017; Hammond & Carpendale, 2015; Pettygrove et al., 2013). A study by Dahl et al. (2017) with majority White non-Hispanic families from the Western and Mid-Atlantic regions of the United States found that praise and encouragement from parents in one helping trial increased infants' simple helping behaviors in a subsequent trial. Interestingly, this effect of parent scaffolding on infants' helping behaviors was only found for infants at the beginning, but not end, of the second year of life, suggesting that these social experiences are most impactful as these prosocial orientations begin to emerge.

Examining the developmental trajectory with a sample of German 5-year-olds, Engelmann et al. (2016) demonstrated that children's prosocial motivations can take priority over selfish considerations when a peer recipient is in need. In a laboratory testing room, children were asked to play a game in which two confederates acted selfishly to deny an absent peer from receiving an award of a cereal bar. When told that the absent peer was hungry and in need, the participant ignored the confederate children's behavior and acted prosocially to donate the cereal bar to the absent child. Thus, prosocial motivations can lead children to act generously when the need is made explicit.

## Preferences for Fairness and Equality

Since Piaget's (1932) early work on children's moral judgments, developmental scientists have used resource allocation tasks to understand children's conceptions of fairness and equality (Damon, 1977). Experimental investigations of children's resource allocation decisions have demonstrated that around the ages of 6 to 8 years old, children hold strong preferences for equality, and even show aversion to inequality (Blake et al., 2014; Fehr et al., 2008; Shaw & Olson, 2012). Scholars advancing the evolutionary viewpoint of cooperation and morality note that these experiments lack the conditions of collaboration and sharing that likely shape children's early fairness-related behaviors (Vaish & Tomasello, 2023). Studies taking these conditions into account have found evidence of younger children's nuanced resource distribution preferences. In one study, Ulber et al. (2017) compared the responses of 3.5- to 4.5-year-olds from a medium-sized German city to advantageous and disadvantageous resource inequalities when they engaged in collaborative and non-collaborative conditions. Results showed that children responded aversely to both types of inequities when they interacted in the social collaborative context, but not when they completed the task on their own, highlighting the important role of social cooperation in children's fairness-related preferences (Ulber et al., 2017). Children's early sharing behaviors are also sensitive to reciprocity and past relationships, with children as young as 3 years old being more likely to share with others who have shared with or intentionally benefitted them in the past than those who have not (Vaish et al., 2018; Warneken & Tomasello, 2013).

In a study on the influence of friendship and merit on children's resource allocation decisions in three societies, Engelmann et al. (2021) examined how 7-year-olds from Kenya, China, and Germany consider these influences when distributing resources, as well as how they resolve conflicts between these two issues. The findings revealed that children in all three countries were more likely to share with a friend than a neutral peer. Differences were shown for the value of merit in a given context when asked to allocate resources, revealing both similarities and differences across the contexts of the three different countries.

Investigations of children's early fairness preferences have also extended beyond resource allocation contexts to examine children's behavioral responses to other moral transgressions. For example, Vaish et al. (2011) presented 3-year-olds from a medium-sized German city with moral transgressions in the form of puppets harming one another's belongings and investigated children's responses to the transgression. Children not only actively intervened by verbally protesting the transgression, but several children's protests reflected the use of normative language, suggesting that children recognized the harmful actions as violating a moral norm (Vaish et al., 2011). Similar puppet-based methods have also been used to investigate young children's spontaneous protests to unfair resource distributions, showing that 3- and 5-year-olds protest unfair distributions that advantage them and unrelated third parties (Rakoczy et al., 2016).



## Constructivism

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A constructivist view asserts that children actively construct knowledge through inferences and evaluation of events in their world. This perspective implies that children are not passively adopting the norms or rules imposed by adults in their world. Children assimilate information and formulate judgments that lead them to act in a way that is consistent with their beliefs and values. This does not mean that there is no conflict or inconsistency. Children often have difficulties weighing different perspectives. However, development enables children to change and take different perspectives.

Thus, developmental psychology has proposed children and adults reason about their experiences in, observations of, and interactions with their social environment, a process that contributes to the construction of moral knowledge (Killen & Dahl, 2021). In observational studies of young Genevan children at play, Piaget first viewed the equal status of peer relationships as crucial to children's development of understanding cooperation, mutual respect, and equality (Piaget, 1932). He described how young children progress from viewing morality as merely obedience to an adult authority to gaining an understanding of reciprocity and cooperation through play with other children, to eventual co-construction of rules and expectations among peers (Piaget, 1932). Inherent in this process of development is the use of social and moral reasoning through evaluative judgments about the behavior of others or the fairness of rules, based on children's knowledge and experiences (Dahl & Killen, 2018; Tomasello, 2014). Children begin to formulate their own viewpoint about fairness and equality, even when it may conflict with what they hear from their peers (Mulvey & Killen, 2015), or from adults, such as teachers (Kaufman & Killen, 2022) and parents (Dahl, 2019).

Piaget's (1932) classic book was an important foundation for several contemporary constructivist theories which have focused on identifying children's differentiation of moral and conventional rule transgressions (social domain theory: Nucci, 2009; Smetana & Yoo, 2023; Turiel, 1983), when they recognize that stereotypic expectations and biases are unfair and contribute to inequalities (social reasoning developmental [SRD] model: Killen & Rutland, 2011; Rutland & Killen, 2015), and how they establish an interdependence with others that promotes cooperation, reflection, and moral judgments (Engelmann et al., 2016; Tomasello, 2014). Current work has expanded the populations sampled beyond the young Swiss children in Piaget's studies to include children from diverse ethnic and racial backgrounds from various different countries.

Importantly, children's moral cognition is applied in social group contexts. According to social identity theory, group affiliation, a necessity for humans, often results in both ingroup preference to enhance one's group and outgroup distrust resulting from the desire to preserve resources for the ingroup (Abrams & Rutland, 2011; Hornsey, 2008; Tajfel & Turner, 1986). Evidence for this ingroup preference has been found from early childhood (Dunham et al., 2011; Kinzler & Spelke, 2011), through adulthood (Abrams et al., 2005; Everett et al., 2015; Tajfel & Turner, 1979). Research from social domain theory has also found evidence that individuals, from childhood, learn to coordinate concerns across different domains of reasoning. These domains include the moral (equality, the well-being of others, fairness concerns), societal (traditions, conventions, group functioning), and psychological (personal choice, autonomy: Killen & Smetana, 2015; Turiel, 2015). Therefore, moral



cognition is constantly, and with ever more complexity with development, interwoven with other aspects of social cognition, as children learn to manage these different domains of concern in different contexts.

Thus, theories based on constructivism hold that while infants may show evidence of a predisposition toward a moral sense, children's abilities for reasoning about prescriptive moral principles further develop through the increasingly complex coordination of conventional, personal, moral, and group identity concerns. This process of cognitive coordination draws on the social development of group identity formation, as well as the cognitive development of theory of mind.

### **Domain Specificity: Morality and Conventions**

The distinguishing factor between children's early prosocial preferences and their later moral judgments is the prescriptive understanding of moral principles as obligatory, generalizable across contexts, and authority-independent (Dahl, 2019; Smetana, 2013). Although social-conventional issues are also dictated by norms and expectations regarding the most appropriate ways to act, they are not bound by the same prescriptive moral criteria. Therefore, examining when and how children distinguish between moral and conventional transgressions can reveal important insights into their emerging abilities to make explicit moral judgments. This has been the focus of several decades of empirical research from the social domain theory perspective (Smetana, 2013; Smetana et al., 2014; Turiel, 1983). A robust body of research has consistently shown that children as young as 3 years of age are capable of distinguishing between moral and conventional transgressions, and these distinctions become stronger as children approach the age of 4 years (e.g., Smetana, 2013; Yoo & Smetana, 2022).

One commonly used paradigm for investigating children's judgments of moral and conventional transgressions is the social-rules interview (SRI). In these structured interviews, young children were presented with hypothetical moral (e.g., hitting another child) and conventional (e.g., putting toys away in the appropriate place) transgressions and were asked to evaluate the acts under different moral criteria. For example, generalizability is examined by asking children to evaluate the acts across different contexts, and authority independence is examined by asking children whether the act is wrong even if a parent or teacher did not witness it. Children's reasoning for their judgments is also a central focus of many studies and is probed for by asking children to justify their responses. Around the age of 3 years, children's reasoning begins to reflect their understanding of prescriptive moral principles and aligns with their explicit judgment of a transgression. For example, young children sampled in the Western region of the U.S. often justify their judgments of moral transgressions as wrong with reasoning that references others' welfare or the harm that an act may cause another person (Dahl & Kim, 2014; Nucci & Weber, 1995).

Advanced language abilities enable children to participate in these interview studies, and associations between 2- and 3-year-olds' language skills and advanced moral judgments have been empirically demonstrated (Ball et al., 2017). The importance of language abilities in these interviews contrasts them from the methods that have demonstrated children's early prosocial preferences by examining their nonverbal responses (e.g., looking, reaching, pointing) to morally relevant

situations. Smetana et al. (2018) aimed to integrate research on children's early preferences and later explicit moral judgments by investigating whether the preferences and evaluations of a sample of predominantly White 2- to 4-year-olds from the Northeast region of the United States, in a modified version of a commonly used behavioral task, demonstrated distinctions between moral and conventional transgressions. This study also examined associations between children's preferences in the behavioral task and their explicit moral judgments in a simplified version of the SRI. Results of the behavioral task showed that older, but not younger, children's preferences and evaluations of conventional transgressors as less wrong than moral transgressors were above chance levels (Smetana et al., 2018). The modified SRI revealed that children as young as 2 years old made domain distinctions in their evaluations of moral and conventional transgressions. However, significant associations between children's preferences and evaluations in the behavioral task and their explicit moral judgments in the modified SRI were found only among older children (Smetana et al., 2018). This study demonstrates the benefits of applying multiple methodological approaches to investigations of children's early moral cognition and provides rationale for further research on the links between early preferences and moral judgments.

While the body of evidence showing that children can make categorical moral judgments around 3 to 4 years of age is robust (Smetana, 2013; Smetana et al., 2014), few studies have investigated children's understanding of moral criteria longitudinally. One study by Smetana, Rote, et al. (2012) accomplished this by investigating a sample of majority European American 2.5- to 4-year-olds' understanding of different moral criteria, including authority independence, rule independence, and generalizability, across a year. Results demonstrated significant increases in children's understanding of authority independence across the course of a year. Individual differences in moral development based on children's temperament were also found, with more extraverted children demonstrating a stronger initial understanding of moral generalizability compared to less extraverted children (Smetana, Rote, et al., 2012). Another longitudinal study of majority European American children in the same age range revealed important insights into the reciprocal relationship between children's moral judgments and their developing theory of mind skills (Smetana, Jambon, et al., 2012). Specifically, children who evaluated moral transgressions as more wrong independent of authority permission demonstrated a more advanced understanding of others' mental states 6 months later, and children with more advanced theory of mind skills showed greater flexibility in their moral judgments (Smetana, Jambon, et al., 2012).

Increased attention has also been paid to children's nuanced patterns of development in understanding different types of moral transgressions. Findings from several studies suggest that moral judgments of acts of physical harm are among the earliest to develop, emerging by 3 years of age (Ball et al., 2017; Smetana & Ball, 2019; Yoo & Smetana, 2022). Judgments of psychological harm, however, appear to develop later around the ages of 5 to 6 years old and increase with age (Helwig et al., 2001; Yoo & Smetana, 2019).

## Moral Cognition in Intergroup Contexts

Because humans naturally affiliate into groups (Abrams & Rutland, 2011; Nesdale, 2008), the development of moral cognition occurs within intergroup social contexts, whether these groups are temporary, such as friendships or classrooms, or based on social identities, such as gender and race. These intergroup dynamics are important to examine, as they often involve social hierarchies in which certain groups hold power and privilege, while others do not (Abrams & Killen, 2014). Children become aware of group affiliations from a young age, and with groups come expectations of group conventions and norms. Both children and adults see a difference between the malleable rules that govern social conventions, such as rules and norms that make groups function smoothly, and moral concerns, such as fairness, justice, and rights (Killen et al., 2018).

In intergroup contexts, individuals may need to coordinate the desire for group loyalty and harmony with moral concerns. This balancing act often requires the consideration of another person's perspective, which becomes particularly complex when that person is a member of an outgroup (Killen et al., 2018; Rizzo et al., 2018). The SRD model draws from both social identity theory and social domain theory to establish a framework to understand how an individual's social identities are salient to the development of social and moral reasoning (Rutland & Killen, 2015; Rutland et al., 2010). Through the lens of the SRD model, children develop their sense of social cognition by balancing concerns about social conventions, their own group identities, and their ideas about morality (Rutland et al., 2010). This development includes social cognitive processes such as theory of mind; to make moral judgments, individuals must make estimations of others' feelings, knowledge, and intentions (Elenbaas et al., 2020).

### *Children's Perspectives on Intergroup Resource Inequalities*

Studies examining children's evaluations of, responses to, and reasoning about resource inequalities based on group membership have shed light on the influence of group processes on the development of moral cognition. This work suggests that group processes can both lead children to perpetuate inequalities by giving priority to group loyalty and ingroup bias and also enable children to challenge inequalities by incorporating knowledge of status and intergroup relations into their decision-making (Elenbaas et al., 2020, 2023; Rutland & Killen, 2017). In line with the SRD model, some of these findings show age-related changes. For example, Elenbaas and Killen (2016) presented African American and European American 5- to 6-year-olds and 10- to 11-year-olds from the Mid-Atlantic region of the United States with an inequality of medical supplies between hospitals serving either African American or European American children and asked them to evaluate the acceptability of the resource inequality, provide justification for their evaluation, and allocate new resources. Results showed that 10- to 11-year-olds evaluated the inequality more negatively than did 5- to 6-year-olds when both the African American and European American hospitals were disadvantaged. However, age-related increases in children's own allocations of new resources were found only in response to when the African American hospitals were disadvantaged (Elenbaas & Killen, 2016). An examination of children's awareness of wealth disparities between African Americans and European Americans also demonstrated age-related changes, with 10- to 11-year-olds, but not 5- to 6-year-olds, perceiving larger wealth disparities in favor of European

Americans. Together, the findings from this study highlight how, with age, children's considerations of both immediate and broader societal inequalities can promote fair and equitable decision-making. Related studies have found that children can incorporate information about intergroup relations and broader societal disparities into their judgments and reasoning about inequalities by middle childhood (e.g., Elenbaas, 2019).

Recent research has focused on the role of status in shaping beliefs and actions toward systems of inequality. In one study, Rizzo and Killen (2020) randomly assigned a sample of majority European American 3- to 8-year-olds from the Mid-Atlantic region of the United States to a group that was either advantaged or disadvantaged by an individual (i.e., merit-based) or structural (i.e., gender-based) inequality and asked them to evaluate the inequality and allocate new resources themselves. Children who were disadvantaged by inequalities evaluated them more negatively than children who were advantaged by them (Rizzo & Killen, 2020). Results also showed that, with age, advantaged children were less likely to perpetuate inequalities. Yet, rectifying inequalities was still uncommon even for older children, and rather equal allocation between groups became the more likely response. This is an important distinction because equal allocations fail to rectify pre-existing inequalities and instead only serve to passively maintain them. The nuances between these responses underlie discussions of equality versus equity, and the findings from this study suggest that equity can be especially hard for children to prioritize when they are advantaged by inequalities (Rizzo & Killen, 2020).

McGuire et al. (2019) similarly examined the influence of one's own status within inequalities, as well as the role of equity and equality norms, on the resource allocation decisions of a sample of ethnically and racially diverse 7- to 11-year-old children and 13- to 16-year-old adolescents from the South-East United Kingdom in the intergroup context of rival schools. While children's own allocations were guided by principles of equality regardless of their own status or peer group's norm, adolescents' allocations appeared sensitive to equity norms. However, it was disadvantaged, not advantaged, adolescents who adjusted their allocations to conform to group norms, with few advantaged adolescents acting to rectify inequalities even when their group held a norm that supported doing so (McGuire et al., 2019). This study again highlights the difficulty that children in advantaged positions have when it comes to rectifying inequalities; this difficulty continues into adolescence as concerns for group loyalty become increasingly salient.

### ***Children's Evaluations of Unfair Treatment of Others***

Children and adolescents also make decisions about how to treat others in accordance with moral principles in their everyday lives through peer group social inclusion and exclusion decisions. Although social exclusion itself is not inherently a moral transgression and is sometimes a necessity (e.g., a child can only invite a limited number of guests to a birthday party), exclusion decisions violate moral principles of fairness and equality when they are based on group membership. This type of exclusion, also termed intergroup social exclusion, is a common experience for many children and adolescents across the world (Türkiye: Gönül et al., 2023; Nepal: Grütter et al., 2022; Switzerland: Malti et al., 2012; Korea: Park & Killen, 2010). Experiencing exclusion based on one's group membership in childhood is associated with negative health and academic outcomes (Brown,

2015; Neblett et al., 2013; Yip, 2015). Research on children's judgments and reasoning about instances of intergroup social exclusion has shown that both moral concerns and group processes influence children's perspectives, and their abilities to coordinate these competing concerns increase with age (Rutland & Killen, 2015; Rutland et al., 2023).

The transition from late childhood to early adolescence is an especially important time for the development of moral cognition in intergroup contexts. During this period children develop an advanced understanding of the importance of group dynamics, and they recognize that exclusion may be a consequence of challenging the group's norms (Abrams et al., 2009; Mulvey et al., 2016; Rutland et al., 2015). The risk of exclusion is costly for children because groups provide a sense of belonging and support (Nesdale et al., 2007). Thus, even if children evaluate their group's behavior as morally wrong, they may refrain from taking the extra steps to challenge it due to the salience of these group-related concerns. Yet, children's increasing knowledge of group processes can also enable them to respond to intergroup social exclusion in ways that promote the fair and equitable treatment of others. Specifically, with age, children factor knowledge about the relative status of different groups into their responses to intergroup social exclusion (Mulvey et al., 2018; Yüksel et al., 2021).

A study by Yüksel et al. (2021) examined a sample of ethnically and racially diverse British 8- to 10-year-old children's and 13- to 15-year-old adolescents' prosocial bystander behaviors in response to the exclusion of immigrant peers. Utilizing the Cyberball paradigm, participants witnessed either prototypical (i.e., minority status victim excluded by majority status peers) or non-prototypical (i.e., majority status victim excluded by minority status peers) exclusion scenarios. Adolescents, but not children, demonstrated more prosocial bystander behavior in response to prototypical compared to non-prototypical exclusion contexts, showing that intergroup factors increasingly influence children's decision-making in response to social exclusion as they transition from childhood into adolescence (Yüksel et al., 2021). Findings from several studies from the U.K., The Netherlands, and the U.S. also suggest that social group membership shapes children's perspectives on intergroup social exclusion, with members of historically disadvantaged or marginalized groups often evaluating exclusion based on group membership as more wrong than their historically advantaged or majority group counterparts (Killen et al., 2007; Palmer et al., 2022; Thijs, 2017).

The SRD approach has also been used to guide investigations of children's bystander reactions to instances of bias-based bullying (Palmer et al., 2021). While bias-based bullying is similar to intergroup social exclusion in many ways, one of the key distinctions is that bullying is characterized by harm, and thus moral concerns for others' welfare are even more salient. Despite these moral concerns, group processes may still impede children's and adolescents' decisions to intervene in cases of bias-based bullying. Studies asking participants to evaluate bystanders from their group's perspectives have provided novel insights into how children consider group processes in their evaluations of bias-based bullying (Mulvey et al., 2016; Palmer et al., 2021, 2022).

One study by Mulvey et al. (2016) conducted in the Southeastern United States examined a sample of predominantly European American 13- to 17-year-old adolescents' expectations of the likelihood and acceptability of exclusion for peers who intervened in instances of race-based humor when the peer group held a norm condoning it. Although adolescents generally did not approve of race-based

humor, they did not show high expectations for peer intervention. However, participants who viewed race-based humor as wrong were more likely to expect that exclusion would be a consequence for peers who intervened, and they viewed this exclusion as more wrong than those who evaluated race-based humor as okay (Mulvey et al., 2016). In other words, these adolescents viewed race-based humor as a moral transgression worthy of challenging, while also recognizing that group processes may influence peer groups to punish such challenges with exclusion.

In line with findings from studies on children's evaluations of intergroup resource inequalities and social exclusion, research has shown that one's own group membership is related to bystander reactions to bias-based bullying (Gönültaş & Mulvey, 2021; Mulvey et al., 2020; Palmer et al., 2022). For example, children and adolescents from immigrant backgrounds in the U.K. have been found to report higher intentions of intervening in response to bullying based on immigrant status compared to their counterparts from non-immigrant backgrounds (Gönültaş & Mulvey, 2021; Palmer et al., 2022). It is possible that having experienced similar treatment in their own lives allows individuals from historically disadvantaged or marginalized groups to identify bias-based bullying as especially harmful and in need of intervention. However, this does not mean that children and adolescents from historically advantaged or majority-status groups never choose to intervene against bias-based bullying. Rather, certain types of social experiences may be especially influential on children's decisions to intervene. Several studies have demonstrated associations between children's and adolescents' experiences of intergroup contact (i.e., positive interactions with members of another social group) and bystander intentions (Abbott & Cameron, 2014; McGuire et al., 2023; Palmer et al., 2017). These findings support existing arguments for the importance of fostering cross-group friendships in childhood to help reduce prejudice and promote moral cognition in intergroup contexts (Killen & Rutland, 2022; Rutland & Killen, 2015).

## Conclusion

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Moral cognition is fundamental to human life. It enables humans to cooperate, engage in mutual respect, and care about avoiding harm and unfair treatment to others. Challenges exist to applying morality in everyday interactions. Nonetheless, as Pinker (2012) has documented, the decline of violence over the history of human civilization is due, in large part, to the rise of moral reasoning and moral values. The evolutionary basis for moral cognition exists in the altruistic behavior of non-human primates (de Waal, 1996); human achievements include acting in ways to help others with no benefit to the self (Tomasello, 2014) and working toward social justice (Killen & Dahl, 2021; Turiel, 2018). Infants attend to the distress of others, toddlers cooperate with others for social, not selfish gain, and children make complex moral judgments that include support for rectifying social inequalities. Moral cognition provides the basis to challenge stereotypic expectations, resist unfair authority mandates, and reject inequalities that are based on a desire to denigrate one group in favor of promoting another.

While research on moral cognition has been conducted around the globe, it remains true that more diverse populations need to be included in the populations sampled for research. Knowing that morality has an evolutionary basis provides a universality to the existence of morality, but how children and adults coordinate different concerns, including those that stem from sociopolitical

ideologies, requires more research and documentation of moral cognition in diverse contexts. Individuals who spend their lives arguing for just, fair, and equal treatment for all are leaders who provide inspiration and hope. Cultivating and promoting moral cognition in early childhood is essential for creating a just society.

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## Notes

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1. The sociodemographic information of participant samples for each study reviewed in detail is reported to the extent that it appears in the publication of the study. The ethnic and racial identity labels used to describe participants are the ones used in the publication of the study. Thus, studies may differ from one another in how they refer to participants from the same ethnic and racial group (e.g., White, European American, Caucasian).

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