

**A New Science of Early Moral Development: On Defining, Constructing, and  
Studying Morality from Birth**

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## **Abstract**

The first four years of moral development are perhaps the most transformative. Helpless neonates become infants who routinely help and harm others; infants develop into preschoolers who make moral judgments based on moral concerns with welfare. In the past two decades, research on early moral development has seen tremendous empirical progress but also theoretical stalemates. To advance the field, this chapter argues for providing definitions of key terms, adopting an interactionist and constructivist approach (eschewing the dichotomy between innate and learned characteristics), and combining naturalistic and experimental methods. On this basis, the chapter reviews how children's orientations toward helping and harming others develops gradually through everyday social interactions in the early years. In these interactions, children play active roles through processes of initiation, negotiation, protest, and construction. The chapter concludes with key questions for future research on early moral development.

Keywords: *Morality; Infancy; Social interactions; Constructivism; Helping; Harming*

## **A New Science of Early Moral Development: On Defining, Constructing, and Studying Morality from Birth**

What would human interactions look like if our actions were not guided by moral concerns? There are no known adult societies in which people indiscriminately harm or steal from others, but young children provide some clues about what such a society might look like. In the first half of the second year, infants hit, bite, or kick others about once per hour, sometimes without provocation or visible distress (Dahl, 2016a; Hay, 2017; Hay et al., 2014). At this age, infants rarely try to comfort others in distress (Roth-Hanania, Davidov, & Zahn-Waxler, 2011; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). While 18-month-olds sometimes help others with simple tasks, they are about as likely *not* to help, for instance, opting to watch a person reach for an out-of-reach object on the floor instead of handing it back (Dahl, Satlof-Bedrick, et al., 2017; Warneken & Tomasello, 2006; Waugh & Brownell, 2017). Young children prefer to interact with helpful agents, but they are perfectly willing to interact with hindering or harmful agents if no other agents are available (Dahl, Schuck, & Campos, 2013; Hamlin, Wynn, & Bloom, 2007; Hamlin, Wynn, Bloom, & Mahajan, 2011; Vaish, Carpenter, & Tomasello, 2010). If children did not overcome these limitations during moral development, human societies as we know them would be impossible (Dahl, Waltzer, & Gross, 2018; Hobbes, 1651; Pinker, 2012).

The moral limitations of young children set the stage for the great challenges of early moral development: How to develop fundamental moral concerns that reliably guide actions? The transformation in children's orientations toward welfare, rights, fairness, and justice during the first four years of life are unparalleled in the lifespan of

humans and other animals. Over merely a few years, children respond more reliably to others' needs and distress, develop categorical judgments based on moral concerns, protest violations of those concerns, and rely less and less on physical force toward others (Dahl & Kim, 2014; Hay, 2005; Schmidt, Rakoczy, & Tomasello, 2012; Smetana & Braeges, 1990; Svetlova, Nichols, & Brownell, 2010; Vaish, Missana, & Tomasello, 2011; Waugh & Brownell, 2017; Zahn-Waxler et al., 1992).

Research on early morality aims to describe and explain these developments. The past two decades have seen empirical progress but also theoretical stalemates in research on early morality. Empirical research on precursors and early forms of morality in the first four years has blossomed (see e.g., Bloom, 2013; Dahl & Paulus, in press; Dahl, Waltzer, et al., 2018; Hamlin, 2013; Killen & Smetana, 2015; Thompson, 2012; Warneken, 2016). Many of these studies have shed light on social preferences, helping, empathy, judgments, and protests among infants, toddlers, and preschoolers.

Still, the accrual of data has not resolved major theoretical debates about how children develop moral concerns. Several current discussions about early morality were prompted by landmark studies in the mid-2000s (Haidt & Graham, 2007; Hamlin et al., 2007; Warneken & Tomasello, 2006). Some discussions are about the starting points of moral development: Do infants have an innate moral sense? Do infants' helping behaviors stem from a natural altruistic tendency that develops independently of support from caregivers? Other discussions are about the end-points of moral development: Are developed moral judgments based on automatic, affective reactions rather than reasoning about endorsed moral principles? Is morality about all issues of right and wrong, or only about harm, rights, fairness, and justice? For each of these questions, contemporary

theories offer competing answers, and an even greater concern is that it is unclear what evidence could resolve them.

This chapter traces current theoretical stalemates in research on early morality to three limitations of current research: the lack definitions of morality and other key phenomena; a reliance on the dichotomy between nature and nurture; and very little naturalistic data. To resolve these stalemates, the chapter proposes an alternative approach that defines key phenomena, adopts a constructivist and interactionist framework, and systematically combines naturalistic and experimental evidence. These three proposals will set the stage for a discussion of how orientations toward helping and harming others develop from birth to age four. By age four, most children express moral judgments and reasoning, protest moral violations, and decreasingly rely on interpersonal force (Dahl & Freda, 2017; Killen & Smetana, 2015; Tomasello, in press). These early moral developments – culminating in the acquisition of children’s moral concerns with promoting and protecting others’ welfare – are critical to the functioning of societies and the welfare of their members.

### **Overcoming Three Limitations in Research on Early Morality**

#### **The Need for Definitions**

Definitions are important for explaining development, and moral development is no exception. Simply put, without knowing what a theory of moral development means by “morality,” we will not know what the theory is trying to explain (Dahl, 2014; Kohlberg, 1971; Turiel, 1983). Similarly, discussions of whether infants have innate characteristics rely on implicit or explicit definitions of “innate,” which have implications for what evidence is needed to evaluate those claims. In the absence of definitions, it

becomes difficult or impossible to know whether two scholars are discussing the same construct and to determine what evidence is needed to claim some moral capability is present at a given age.

I define morality as evaluative concerns with welfare, rights, fairness, and justice (Dahl, 2014; Dahl & Killen, 2018; Dahl, Waltzer, et al., 2018; Turiel, 1983, 2015a). By “evaluative concerns,” I mean issues that individuals care about *and* think other people ought to care about (Dahl & Schmidt, 2018; Turiel, Dahl, & Besirevic, in press). These evaluative concerns are reflected in individuals’ judgments, reasoning, protests and emotional reactions to actions by themselves and others (Dahl, Sherlock, Campos, & Theunissen, 2014; Mascolo & Fischer, 2007; Schmidt et al., 2012; Turiel & Dahl, in press). Preschoolers, older children, and adults distinguish moral concerns from social conventional concerns regarding the coordination of social interactions, prudential concerns about personal welfare, pragmatic concerns about material and social order, and religious concerns about adherence to commands from gods and other religious authorities (Dahl & Kim, 2014; Nucci & Weber, 1995; Smetana et al., 2012; Srinivasan, Kaplan, & Dahl, in press; Turiel, 2008; for a review, see Smetana, 2013).

Some researchers have rejected the notion that definitions are crucial. In a discussion of early moral development, Wynn and Bloom (2014) state that “starting with a definition is ill advised. After all, there is no agreed-upon definition of morality by moral philosophers [...], and psychologists sharply disagree about what is and is not moral” (p. 436). Similarly, Greene (2007) argues that “defining morality at this point is more of a hindrance than a help, as it may artificially narrow the scope of inquiry” (p. 1).

Even when writings about morality do not explicitly reject the need for definitions, they often avoid any mention of what they mean by “morality.”

There are several misconceptions about what it means to define morality in psychology. The first misconception is that a definition of morality must capture every meaning of the word “morality.” The Oxford English Dictionary lists over a dozen meanings of “morality” (Simpson & Weiner, 1989). There is no *a priori* reason to expect that each of these meanings can be subsumed under a single definition (Wittgenstein, 1953). Fortunately, we do not need a scientific definition of morality to capture every meaning of the word in everyday language. By analogy, we do not need the biological definition of “cell” to capture every meaning of the word “cell,” including battery cell, prison cell, and cell phone. Rather, we need a scientific definition of morality to capture the phenomenon we are interested in, to be clear enough for empirical investigation, and to be sufficiently close to other usages of the word “morality” to warrant calling it “morality.”

A second misconception is that a definition of morality must capture all evaluative considerations. In a paper aiming to investigate political differences in conceptions of morality, Haidt and Graham (2007) asked participants, “When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?” (p. 108). However, there are many considerations about right and wrong that no theorist or layperson would label “moral.” One example is considerations about right or wrong ways of reaching instrumental goals, such as how to mix a Martini or how to use a hammer to hit a nail into a piece of wood (Dahl & Schmidt, 2018; Kohlberg, 1971). Moreover, considerations about social conventions, personal

welfare, and religious commands can lead to judgments about right and wrong, yet they do not fall within the definition of morality in terms of welfare, rights, fairness, and justice as adopted in this chapter.

The third misconception is that the proposed definition of morality must be the *one true definition* of morality for all scientific purposes. The proposed definition is based on, though not identical to, conceptualizations of morality adopted by a number of philosophers (Kant, 1785; Kohlberg, 1971; Rawls, 1971; Sen, 2009; Turiel, 1983). Its usefulness is indicated by a large body of empirical studies demonstrating children and adults around the world distinguish concerns with welfare, rights, fairness, and justice from other evaluative concerns. Still, other definitions of morality may prove useful in other scientific endeavors. My call here is not for everyone to adopt the same definition of morality – although that could be useful – but rather for scholars to make explicit what they mean by “morality.” Without explicit definitions of morality, we will not know what we are trying to explain in research on moral development.

### **Interactionism and Constructivism: Beyond Innate vs. Learned Characteristics**

I take an interactionist and constructivist approach to the development of morality, eschewing the common dichotomy between innate and learned characteristics (Dahl, Waltzer, et al., 2018; Piaget, 1932; Turiel & Dahl, in press). The approach is *interactionist* in proposing that developmental transitions occur through constant interactions between children and their environment in everyday life (Dahl, 2017; Gottlieb, 1991; Spencer et al., 2009). Since morality is about how individuals treat others, interactions with other people are particularly relevant for moral development. From birth, infants are surrounded by people who respond to their needs and initiatives

(Richards & Bernal, 1972; Tronick, 1989). Through these interactions, infants develop sensitivities to the signals and actions of others, for instance adjusting their posture before being picked up or following others' point and gaze toward objects (Carpenter, Nagell, & Tomasello, 1998; Hammond, Al-Jbouri, Edwards, & Feltham, 2017; Reddy, Markova, & Wallot, 2013). Changes in infants' capabilities in turn set the stage for triadic exchanges in which infants and caregivers incorporate toys and other objects into their interactions.

The current approach is *constructivist* in proposing that moral development involves children's active efforts to interpret, scrutinize, and understand their social worlds. In doing so, they consider how actions violate perceived rights or affect welfare, material order, and social coordination. One illustration of children's active role in developing notions of right and wrong is that children do not automatically accept the commands of their parents. Starting in infancy, children sometimes challenge, disobey, or negotiate parental commands, while other times they enthusiastically comply (Dahl, 2016b; Grusec & Goodnow, 1994; Kochanska, Kim, & Boldt, 2015; Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987; Nucci & Weber, 1995; Rheingold, Cook, & Kolowitz, 1987). In the second year, children sometimes playfully anticipate caregiver prohibitions, drawing caregiver attention to their own prohibited actions (Dunn, 1988; Dunn & Munn, 1985). Dunn and Munn (1985) recount the story of an 18-month-old who forcefully pulled her mother's hair, and appeared amused by her mother's reprimands (for discussion, see Dahl, Campos, & Witherington, 2011)

Preschoolers and older children evaluate authority commands based on moral and other considerations, for instance deeming that it would be wrong to harm others even if parents or teachers gave permission to do so (Dahl & Kim, 2014; Nucci & Weber, 1995;

Smetana et al., 2012; for a review, see Smetana, Jambon, & Ball, 2014). Even when they comply with authority commands, individuals do not necessarily agree with, or “internalize,” those commands. People sometimes view prevailing customs or norms in their families or communities as unfair (Turiel, 2002, 2003). Many women in patriarchal communities judge that it is unfair that men tell women what to do, even in situations when they think it is better for women to obey to avoid repercussions (Wainryb & Turiel, 1994).

The constructivist and interactionist approach differs from other classic and contemporary approaches to moral development. Most importantly, constructivism rejects the dichotomy between “innate” or “core” characteristics and “learned” or “socialized” characteristics. Discussions of moral development often take the dichotomy between innate and learned characteristics for granted (Bloom, 2013; Cushman, Kumar, & Railton, 2017; Haidt & Joseph, 2008; Hamlin, 2013; Jacob & Dupoux, 2008; Spelke & Kinzler, 2009; Warneken, 2016). Indeed, the editors of the recent *Atlas of Moral Psychology* invited authors to state whether they thought morality is innate or learned (Gray & Graham, 2018).

Debates about what is innate and what is learned are premised on the notion that these two terms exhaust all possibilities: “*Innate* means *not learned*, and so claims of innateness and learning are mutually dependent” (Spelke & Kinzler, 2009, p. 96). Similarly, Bloom defines “innate” as “[not] gotten into the head by means of the extraction of information from the environment” (2012, p. 72). In these debates, the goal is to determine which psychological characteristics develop independently of specific

experiences – the “innate” characteristics – and which characteristics depend on specific experiences – the “learned” characteristics.

The interactionist-constructivist view contends that morality cannot be separated into innate and learned parts. Every developmental transition involves both genetic and environmental processes, such that “genetic and nongenetic factors cannot be meaningfully partitioned when accounting for developmental outcomes” (Lickliter & Honeycutt, 2010, p. 37). The question is not *whether* genes or environments matter for a developmental acquisition, but *how* these and other processes jointly bring about the acquisition (Anastasi, 1958; Dahl, 2018b). It is hardly an empirical question *whether* environmental events contribute to the emergence of infant helping in the first year of life, but it is an empirical question *how* environmental events do so (Dahl, 2015, 2018b; Hammond et al., 2017). For instance, do parents scaffold infants toward helping, or does helping develop prior to any parental scaffolding (Dahl, 2015; Dahl, Satlof-Bedrick, et al., 2017; Warneken, 2016; Warneken & Tomasello, 2013)? As discussed in a later section, evidence now suggests that scaffolding plays an important role in the development of infant helping.

Importantly, the interactionist-constructivist approach also differs from traditional socialization or learning approaches to moral development (Dahl, Waltzer, et al., 2018; Kohlberg, 1971; Piaget, 1932; Turiel, 1983). These socialization and learning approaches have largely portrayed moral development as a unilateral processes by which children come to accept, or “internalize,” the norms and values of their parents and other agents of socialization (see Kuczynski, Parkin, & Pitman, 2014; Maccoby, 2007). For instance, Kochanska and Aksan describe morality as “autonomous inner guiding systems” that

“ensure people’s compliance with shared rules and standards” (Kochanska & Aksan, 2006, p. 1588). Illustrating how socialization is taken to operate on top of innate tendencies, Prett and Hardy write: “All societies must find effective ways to teach moral values and behaviors to children [...] Humans have innate potential for both goodness and evil [...], but socialization can have a salient effect on which path is taken” (Pratt & Hardy, 2014, p. 661).

The interactionist-constructivist approach differs from these socialization and learning views because it stresses that children play an active role in social interactions (e.g., eliciting reactions, negotiating) and construct moral concerns with welfare, rights, fairness, and justice that sometimes align, and sometimes clash, with the views of parents and “socialization agents” (Dahl, Waltzer, et al., 2018; Piaget, 1932; Turiel, 1983). Moreover, the interactionist and constructivist approach makes the assumption that morality develops through a wide range of social encounters, not just situations in which adults seek to teach children about morality. Morally relevant concerns, knowledge, and skills also develop through experiences such as harming and being harmed, helping and being helped, and observing interactions between others (Dahl, 2018b; Turiel, 1983).

### **Combining Naturalistic and Experimental Methods to Explain Moral Development**

Since development happens through everyday interactions, it is necessary to study those interactions (Dahl, 2017; Rogoff, Dahl, & Callanan, 2018). Most, if not all, developmental theories make assumptions about children’s experiences and actions in their everyday lives. Elsewhere, I have referred to these assumptions about everyday events as “ecological commitments” – claims about the child’s “ecology” that must be true for the theory to be true (Dahl, 2017). For instance, some theorists have proposed

that infants do not receive encouragement or praise for helping in everyday life before they start helping, whereas others have proposed that early scaffolding is central to the emergence of helping (Dahl, 2015, 2018b; Warneken & Tomasello, 2006, 2009).

Ecological commitments – which state what happens in contexts not controlled by researchers – cannot be tested by laboratory observations and experiments. By logical necessity, experiments cannot inform us about what happens when children are not participating in experiments. The notion that there are theoretically crucial questions that experiments are unsuited to answer runs counter to the common characterization of experiments as the “gold standard” of psychological research (see Gonzalez, Yu, & Volling, 2012).

Naturalistic observations are ideal for testing ecological commitments. By naturalistic observations, I mean that the researcher observes or records what participants do without giving instructions or otherwise imposing structure (Willems, 1967). For instance, in a study of infants’ experiences with helping at home, Dahl (2015) video recorded infants and caregivers engaging in everyday activities in middle-class families in the U.S. The research team subsequently coded how infants and caregivers interacted surrounding infant helping, demonstrating that caregivers frequently encouraged and praised infant helping in everyday life. Other methods, such as parental descriptions of everyday interactions, can also support or challenge ecological commitments (Dahl, 2015, 2016b; Dahl et al., 2014; Zahn-Waxler et al., 1992).

There have been few efforts to test ecological commitments about early moral development (Dahl, 2017; Thompson, 2012; Warneken & Tomasello, 2009; Wynn & Bloom, 2014), and as a consequence, claims about what happens in everyday life often

go untested. For instance, proponents of nativist views typically assert that children lack the necessary experiences to develop the relevant skills (Dwyer, 2007). In a discussion of infants' early social preferences for helpful over hindering agents, Hamlin and Wynn wrote: "It is unlikely that infants have been sufficiently socialized, by 3, 5, or even 9 months of age, to distinguish between the positive and negative intentions of social others to an extent that would explain our results" (2011, p. 39). Despite their centrality to the validity of theories, these and other ecological commitments are often based on little more than researchers' intuitions about what does and does not happen in everyday life.

Recent technological advances have made naturalistic research more feasible. Unobtrusive audio recorders and head-mounted cameras, improvements in data storage and transfer, and algorithms for media processing (e.g., automated speech detection) make it easier for researchers to test their ecological commitments (Adolph, 2016; Cole, Robinson, & Adolph, 2016; Fausey, Jayaraman, & Smith, 2016; Oller et al., 2010; Yurovsky, Smith, & Yu, 2013). These findings have challenged the ecological commitments of some theories, while supporting others, highlighting the value of empirically testing ecological commitments. Thus, there is reason for optimism about the place for naturalistic research in developmental science.

Still, ecological commitments are only part of theories: Theories also make causal hypotheses about what affects what. For testing causal hypotheses, experiments remain the ideal choice in most situations, though other methods can also be used (Dahl, 2017; Freedman, 1991). Debates about the role of caregiver scaffolding in the development of infant helping is not just about whether scaffolding occurs in everyday life (ecological commitment) but also whether scaffolding influences infant helping (causal hypothesis).

To test these causal hypotheses, researchers experimentally manipulated adult scaffolding and assessed its effects on infant helping (Dahl, Satlof-Bedrick, et al., 2017; Warneken & Tomasello, 2008, 2013). These studies revealed that encouragement and praise increased the frequency of simple helping acts early in the second year. In contrast, encouragement and praise did not affect simple acts of helping later in the second year, when infants are already more skillful helpers.

In sum, developmental theories contain both ecological commitments and causal hypotheses. Testing these different claims is often best done through a systematic combination of naturalistic and experimental methods. Naturalistic methods can demonstrate how variables correlate in everyday life and experiments can demonstrate causal relations among these variables by manipulating them. Without both naturalistic and experimental data, major debates about the origins of morality will likely remain unresolved.

### **Children's Orientations toward Helping and Harming: Interactions and Constructions over the First Four Years**

The preceding sections advanced three claims about how to advance the field of early moral development: providing explicit definitions, moving away from innate vs. learned debates to a view of construction through interaction, and systematically combining naturalistic and experimental methods. In the subsequent sections I apply these claims to the development of moral orientations toward helping and harming others by discussing two major acquisitions in early moral development. By saying that children acquire moral orientations, I mean that they become concerned with promoting and protecting the welfare of others *and* view these concerns as obligatory. The obligatory

concern with welfare forms the basis of reasoning, judgments, and emotional reactions (Dahl & Killen, 2018; Dahl & Schmidt, 2018; Hutcherson & Gross, 2011; Malti & Ongley, 2014; Turiel & Dahl, in press). Individuals do not generally want people to hit each other, they think it is wrong to hit others because it affects the victim's welfare, and they tend to have strong negative reactions to violence.

Orientations toward helping and harming are key to early moral development. Acts of helping and harming are common in the early years and both increase in the first half of the second year (Dahl, 2015, 2016a; Hay, 2005; Warneken & Tomasello, 2006, 2007). Moreover, helping and harming pertain to the fundamental moral concern with promoting and protecting others' welfare. Older children and adults judge that helping others is good or required and harming others is wrong, all else being equal (Dahl, Gingo, Uttich, & Turiel, 2018; Dahl & Kim, 2014; Davidson, Turiel, & Black, 1983; Killen & Turiel, 1998; Miller, Bersoff, & Harwood, 1990; Nucci & Weber, 1995).

### **The Development of Moral Orientations toward Helping**

In this chapter, "helping" refers to actions that, if successful, directly promote the perceived goal of the recipient (Dahl, 2015). The perceived goals being promoted by helpful actions can range from retrieving an object to staying healthy or alive, and the helper may misperceive the goals of the recipient. For instance, a child helping a parent put the groceries away may help by putting the milk in the cabinet, or accidentally spill the milk on the floor, even though the parent may have wanted the milk in the fridge.

This definition of helping covers simple acts of handing back out-of-reach objects or contributing to someone's chores, as well as more complex acts, such as giving a blanket to a person who is cold or saving someone from a mortal danger (Dahl, Gingo, et

al., 2018; Oliner & Oliner, 1988; Svetlova et al., 2010; Warneken, 2013; Warneken & Tomasello, 2006). Thus defined, helping can stem from a variety of motives, including enjoyment of participating alongside others, material or social rewards for helping, as well as altruistic concerns (Dahl & Paulus, in press; Eisenberg, Spinrad, & Knafo-Noam, 2015; Paulus, 2014; Rheingold, 1982).

The relation between helping and morality is complex (Dahl, in press; Turiel, 2015b). By around eight years of age, children say that people should help others in need, at least when the costs of helping are limited (Kahn, 1992; Killen & Turiel, 1998; Miller et al., 1990; Nucci, Turiel, & Roded, 2017). When the need for help is great or within close relationships, individuals often view helping as obligatory, saying it would be wrong not to help (Dahl, Gingo, et al., 2018; Killen & Turiel, 1998; Miller et al., 1990; Oliner & Oliner, 1988). However, people do not always evaluate helping positively. When helping involves stealing or other moral violations, or doing something that will ultimately harm the recipient (as when the potential recipients have the goal of getting unhealthy or harmful food), children and adults view helping negatively (Dahl, Gingo, et al., 2018; Martin, Lin, & Olson, 2016; Miller et al., 1990). A mature moral orientation toward helping requires the ability to evaluate helping as sometimes good, sometimes obligatory, and sometimes wrong based on moral concerns with welfare and rights (Dahl, in press; Dahl & Paulus, in press; Turiel, 2015b).

At birth, infants do not help others, nor do they appear to make moral evaluations of right and wrong. Yet, due to their own helplessness, neonates do receive an abundance of help from others, for instance when they cry and others respond to their cries (Richards & Bernal, 1972). A few months later, infants have begun to participate in their own

caregiving (Hammond et al., 2017). One study found that 2- to 4-month-olds made anticipatory adjustments that made it easier for caregivers to pick them up (Reddy et al., 2013). These rudimentary forms of helping show a burgeoning attunement to the goals of others in everyday interactions.

Further indicating attunement to others' goal fulfillment, 3- to 5-month-old infants prefer to look and reach toward helpful, rather than hindering, agents (Hamlin & Wynn, 2011; Hamlin et al., 2007). In one paradigm, infants watch one puppet help by rolling a ball back to another puppet, while another puppet runs away with the ball. Infants were more likely to look or reach toward the helpful puppet than the stealing puppet. However, such relative preferences for one puppet over another differ from the categorical moral judgments of right and wrong shown by much older children. Illustrating how relative preferences do not imply categorical negative evaluations, even toddlers who prefer to help the helpful agent are perfectly willing to help the stealing agent if there are no alternatives (Dahl et al., 2013; see also Vaish et al., 2010). I argue that moral judgments of right and wrong are not seen until the third year of life (for alternative views, see Bloom, 2013; Hamlin, 2013).

Late in the first year, parent-infant interactions increasingly incorporate objects, as infants become more capable of joint attention (Bakeman & Adamson, 1984; Brownell, 2011; Carpenter et al., 1998; Moore, 2008). During this period, infants begin to hand toys and other objects to others during play (Bakeman, Adamson, Konner, & Barr, 1990; Gustafson, Green, & West, 1979; Hay, 1979). A recent experimental study found that parental encouragement increased object sharing among 7-month-olds, suggesting

that parental scaffolding facilitates the development of infant helping (Xu, Saether, & Sommerville, 2016).

In the last months of the first year, parents report that infants begin to help with chores (Carpendale, Kettner, & Audet, 2015; Dahl, 2015; Hammond et al., 2017). These reports were recently confirmed by naturalistic observations of infant helping late in the first year (Dahl, Freda, & Grubb, 2017). Infants' earliest helping behaviors closely resemble other forms of social interactions: Infants begin to help by handing objects to others around the same time as they begin to share objects during play. Infants' involvement does not always make chores easier for parents, sometimes leading parents to do chores when infants are asleep (Hammond, 2011; Rheingold, 1982). Accordingly, some have suggested that infants' earliest acts of helping are based on a motive to participate in activities with others rather than an altruistic motives (Dahl & Paulus, in press; Hammond & Brownell, in press).

Parental scaffolding appears central to the early development of helping. Late in the first year, helping situations commonly begin by infants attending to parents' activities and caregivers encouraging them to participate (Dahl, Freda, et al., 2017). Parental reports and naturalistic observations have shown that most helping situations in the first and second year involve encouragement, thanking, or other forms of caregiver scaffolding (Dahl, 2015). Even among chimpanzees, parents sometimes model helping by handing objects to infants, and infant chimpanzees carefully attend to and learn from the actions of adults (Hirata & Celli, 2003; Ueno & Matsuzawa, 2004).

To investigate whether scaffolding affects helping, one experiment randomly assigned infants to receive either encouragement and praise or no encouragement or

praise during a helping task (Dahl, Satlof-Bedrick, et al., 2017). As noted earlier, scaffolding made younger infants (13-14 months) twice as likely to hand back an out-of-reach object to an experimenter.

The emergence of helping likely draws on other skills emerging around the first birthday. The onsets of crawling and walking enable infants to help in new ways (Karasik, Tamis-LeMonda, & Adolph, 2011; Köster, Ohmer, Nguyen, & Kärtner, 2016). Furthermore, changes in children's understandings of others' intentions and desires will allow them to promote others' goals more effectively, for instance by handing others what they want (Carpenter et al., 1998; Repacholi & Gopnik, 1997).

Still, even in the middle of the second year, infants remain unreliable helpers. In a simple laboratory task in which infants can help at limited cost, 18-month-olds will often opt to play or observe rather than to help an experimenter (Waugh & Brownell, 2017). Other work has found that infants do not use the recipients' emotional distress to guide their helping, but are similarly likely to help people with neutral and sad facial expressions (Newton, Goodman, & Thompson, 2014).

Over the course of the second year and into the third, infants become increasingly helpful in home and laboratory contexts (Dahl, 2015; Svetlova et al., 2010; Warneken & Tomasello, 2006, 2007; Waugh & Brownell, 2017). In everyday interactions, infants become more likely to initiate helping before any caregiver encouragement (Dahl, Freda, et al., 2017). By two years of age, children can help an adult experimenter even without explicit signs of need, for instance when an experimenter does not notice that a needed object has fallen on the ground (Warneken, 2013).

Consistent with the notion that infant helping has become more autonomous, several experiments found that adult encouragement and praise did not affect simple helping acts later in the second year (Dahl, Satlof-Bedrick, et al., 2017; Hepach, Haberl, Lambert, & Tomasello, 2017; Warneken & Tomasello, 2008, 2013). In contrast, more subtle forms of scaffolding, for instance references to need, do correlate with helping at these older ages (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013; Dahl, 2015; Hammond & Carpendale, 2015; Pettygrove, Hammond, Karahuta, Waugh, & Brownell, 2013).

Late in the second year, children's helping appears to be guided in part by concerns with promoting others' welfare (Dahl & Paulus, in press). At this age, children try to comfort others in distress far more often than at earlier ages (Roth-Hanania et al., 2011; Svetlova et al., 2010; Zahn-Waxler et al., 1992). Moreover, infants show comparable decreases in arousal whether they help a person in need or whether someone else helps the person in need, suggesting that they are concerned with the welfare of the "victim" regardless of who is doing the helping (Hepach, Vaish, & Tomasello, 2012; though see Pletti, Scheel, & Paulus, 2017).

In the third and fourth years, children begin to make evaluations of right and wrong about moral, conventional, and other issues (Dahl & Kim, 2014; Rakoczy, Warneken, & Tomasello, 2008; Smetana, Ball, Jambon, & Yoo, 2018; Smetana & Braeges, 1990; Tomasello, in press). Gradually, these evaluations become reflected in judgments, justifications, protests, and emotional reactions to their own and others' moral violations (see next section).

So far, there has been surprisingly little research on evaluations of helping among preschoolers (Dahl, in press; Dahl & Paulus, in press). One possible explanation for this paucity is the common assumption that most people think helping, as a so-called “prosocial act,” is generally a good act. In the introduction to a recent book on the development of prosociality, the volume editors write: “All human societies value prosocial actions, and the expression of prosocial behavior is an integral aspect of all social animals” (Padilla-Walker & Carlo, 2016, p. 3). A second possible explanation is that moral development research has often focused on obligations, and many helping acts are not seen as obligations (Kahn, 1992; Killen, 2016). However, neither of these explanations should keep researchers from studying evaluations of helping: As noted, individuals judge some acts of helping as wrong, and other acts of helping as obligatory (Dahl, Gingo, et al., 2018; Miller et al., 1990).

A few previous studies suggest that 3- to 4-year-olds do make moral judgments about helping. In an ongoing study, 3- to 5-year-olds were interviewed about hypothetical events in which one person had the opportunity to help someone else (Dahl, 2018a). When the cost of helping was minimal, over 80% of children indicated that the protagonist was obligated to help. They often justified these judgments with references to the needs and interests of the recipient. In contrast, children were significantly less likely to say the protagonist should help someone steal clothes from another child (for related findings, see Eisenberg, Lennon, & Roth, 1983; Van de Vondervoort & Hamlin, 2017; Wörle & Paulus, 2018).

Experiences around chores likely contribute to children’s judgments and reasoning about helping. Communities, families, and children vary in how much they

think children should contribute to household work (Coppens, Alcalá, Mejía-Arauz, & Rogoff, 2014; Goodnow, 1988; Rogoff, Sellers, Pirrotta, Fox, & White, 1975).

Experiences in family work likely inform children’s views on the importance of their own contributions (Coppens et al., 2014). For instance, if children experience being excluded from household work, they may believe that they could not contribute to the wellbeing and functioning of the family. Conversely, if children experience that their contributions are needed, they will likely view their own involvement as more central.

**Conclusion: The early development of orientations toward helping.**

Children’s orientations toward helping develop gradually through everyday social interactions over the first four years (see Table 1). Starting at birth, children experience that others respond to their needs and interests. Within a few months, children’s behaviors reflect sensitivity to others’ goals. By the end of the first year, children’s interactions with others incorporate objects, and in some of these interactions children help others by handing them needed objects. The emergence and further development of helping are scaffolded by others in a variety of ways, leading children to become increasingly autonomous helpers. By the end of the second year, children’s orientations toward helping reflect robust concerns with others’ welfare. Then, during the third and fourth years, children appear to start making judgments about helping based on moral concerns with others’ welfare.

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INSERT TABLE 1 HERE

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The next section turns to a phenomenon that is diametrically opposed to helping: acts of harm toward others. I will argue that harming others is a key phenomenon in early moral development. The development of children's orientations toward harm reflect both limitations and transformations in children's early concerns with others' welfare.

### **The Development of Moral Orientations toward Harming**

Some of the cruelest acts are those that cause physical harm to other humans, ostensibly disregarding the welfare of victims. Yet, most humans go through a phase in early life during which they regularly hit, bite, or kick others, often without apparent provocation or visible distress (Dahl, 2016a; Hay, 2005; Tremblay & Nagin, 2005). How do young children overcome this phase, eventually coming to view harming others as morally wrong in most situations?

In this section I discuss early developments in children's orientations toward acts of physical harm toward others. By physical harm, I mean the intentional application of abrupt or excessive force toward the bodies of others, either directly or by means of an object, through acts such as hitting, biting, or kicking. Very young children are not always strong enough to cause pain when they hit someone, but I include such acts here because these abrupt hits surely would cause pain if children continued to use them as they get older. This definition of harmful acts makes no assumptions about the motivation underlying them, and does not assume children necessarily intend to cause pain to others when they hit or bite others. For this reason, I will not refer to these acts as "aggressive," which usually implies that the agent wants to cause harm to a victim (Dahl, 2016a; Eisner & Malti, 2015; Hay, 2005; Hay et al., 2014).

Infants experience physical restraint from birth, since they depend on being held and transported by others. As infants become more agentic over the first six months, they begin to express anger when they are unable to attain their goals (Lewis, 2010; Lewis, Sullivan, Ramsay, & Alessandri, 1992). When their arms were restrained by an experimenter, 1- to 7-month-olds showed evidence of frustration (Sternberg & Campos, 1990). Furthermore, the older infants in the study directed their facial expressions of anger specifically toward the experimenter or the mother.

By the middle of the first year, infants sometimes hit others or pull people's hair (Hay et al., 2010, 2014). Such acts of force become more frequent during the first half of the second year (e.g. Alink et al., 2006; Dahl, 2016a; for reviews, see Hay, 2005; Tremblay & Nagin, 2005). A naturalistic study found that infants hit, bit, kicked, or otherwise used force against others on average once per hour in the second year (Dahl, 2016a). Between 18 and 36 months, findings on age trends in harmful acts are more mixed, with acts of force increasing in some contexts and decreasing in others (see Hay, 2005; Tremblay & Nagin, 2005). Then, beyond the third birthday, most children use force less and less often, although a minority of children continue to cause physical harm at elevated rates (Dodge, Coie, & Lynam, 2006; Hay, 2005; Tremblay & Nagin, 2005).

Infants' acts of force are not just the result of unregulated distress, contrary to some claims (Berkowitz, 1989; Bloom, 2013; Loeber & Hay, 1997). One study found that about half of infants' everyday acts of force were unprovoked acts, which were not preceded by any visible frustration of infants' goals and almost never accompanied by signs of distress (Dahl, 2016a). These unprovoked acts of force increased in frequency during the first half of the second year, after which they became less frequent. Some

researchers have suggested that unprovoked acts of force reflect social exploration or efforts to engage others (Bridges, 1933; Brownell & Hazen, 1999).

Other acts of force seem to reflect infant frustration. Late in the first year, infants bite more often when they begin teething (Macknin, Piedmonte, Jacobs, & Skibinski, 2000). In the second year and beyond, provoked force often happens when others physically restrain infants or refuse infants' requests, or during conflicts about objects (Dahl, 2016a; Hay, 2005; Hay, Hurst, Waters, & Chadwick, 2011).

The high frequency of harmful actions in infancy, especially unprovoked actions, suggests limitations in children's orientations toward physical harm. A major question in early moral development is how children develop an aversion to physical harm based on moral concerns about others' welfare. According to Dahl and Freda (2017), the development of a moral aversion to force requires the following three acquisitions. First, children must come to understand that physical force affects others' welfare. Second, they must become sufficiently concerned with others' welfare to refrain from harming them. Lastly, they must develop the notion that it is obligatory to be concerned with others' welfare. These transitions appear to happen gradually over the first years of life.

In everyday life, infants receive numerous signals about how hitting, biting, and kicking affects others. Caregivers and other family members convey to children how acts of harm inflict pain on others through emotional signals of distress as well as verbal explanations (Dahl, 2016b, 2016a; Smetana, 1989; Zahn-Waxler, Radke-Yarrow, & King, 1979; Zahn-Waxler et al., 1992). Several studies have found that caregiver responses to infants' acts of force differ from responses to other transgressions in the second year, such as mess-making or acts that are dangerous: When infants harm others,

caregivers are especially likely to respond with stern tones of voice, physical interventions, and references to welfare, and are less likely to compromise, distract infants, or comfort infants (Dahl, 2016b; Dahl & Campos, 2013; Dahl et al., 2014; Smetana, 1989).

The heightened behavioral insistence on the prohibition against harming others is mirrored by how important caregivers' say it is to discourage children from harming others: In one survey, mothers said it was more important to discourage children from harming others than to discourage children from creating disorder or doing something that could affect their own welfare (Dahl et al., 2014). Whereas behaviors that jeopardize child safety can be prevented by structuring the child's environment (e.g. with baby gates, Gärling & Gärling, 1995), infants' acts of force are difficult to prevent (Dahl, 2016b). This leaves caregivers with the option of signaling disapproval once the harmful behaviors occur.

Young children use the signals from caregivers to guide their behaviors. By the end of the second year, children are more likely to comply with prohibitions elicited by acts of harm than by prohibitions elicited by mess-making (Dahl, 2016b; Dahl & Tran, 2016). Late in the second year, children also anticipate and respond to negative reactions from others, for instance after they have broken the favored toy of an experimenter (Barrett, 2005; Drummond, Hammond, Satlof-Bedrick, Waugh, & Brownell, 2016; Repacholi & Meltzoff, 2007). As noted earlier, children are also increasingly likely to try to comfort others in distress over the course of the second and third years (Dunfield & Kuhlmeier, 2013; Svetlova et al., 2010; Zahn-Waxler et al., 1992).

Yet, concerns with others' negative reactions do not imply that children think it is wrong to harm others (Dahl & Freda, 2017). By analogy, a person may think it is unfortunate that a person slipped and fell without thinking that slipping and falling is wrong. Judging one's own and others' acts of harm as wrong requires a conception of obligatory concerns with others' welfare.

The construction of evaluations of right and wrong is a major achievement in moral development (Dahl & Freda, 2017; Piaget, 1932, 1932; Tomasello, in press). As noted previously, infants show relative preferences for helpful over hindering agents by 3 months of age (Hamlin & Wynn, 2011; Hamlin et al., 2007). However, it is not until about two years later that children show signs of making categorical evaluations about right and wrong about individual actions (Rakoczy et al., 2008; Smetana et al., 2018; Smetana & Braeges, 1990; see Dahl & Freda, 2017). Once acquired, categorical evaluations mark the boundaries between acceptable and unacceptable actions, ruling out some actions and engendering protests or other negative reactions to others' transgressions.

By late in the third year, most children say it is wrong to harm others, protest when a puppet tries to damage the property of another puppet, and are more likely to try to repair damage to another person's property when they caused the damage, rather than someone else (Smetana et al., 2018, 2012; Smetana & Braeges, 1990; Vaish, Carpenter, & Tomasello, 2016; Vaish et al., 2011). The third year is also a time when children show increasing signs of self-evaluation, as evidenced by guilt and shame reactions (Mascolo & Fischer, 2007; Zahn-Waxler & Kochanska, 1990). At this age, children judge moral violations of the welfare and rights of others as more severe than violations of social

conventions, pragmatic rules, and personal safety rules (Dahl & Kim, 2014; Smetana et al., 2018; Tisak, 1993). When explaining why moral violations are wrong, preschoolers reference concerns about others' welfare and rights, and they deem that moral violations would still be wrong even if there were no rules against them and even if the acts were permitted by teachers (Dahl & Kim, 2014; Davidson et al., 1983; Smetana et al., 2018; Weston & Turiel, 1980; for a review, see Smetana et al., 2014). When judging moral violations, young children appear to be particularly concerned with acts that cause physical harm (Smetana, 1981; Smetana, Kelly, & Twentyman, 1984).

Taken together, this research suggest that moral judgments about acts of harm are constructed from the confluence of several developments. Through everyday social interactions involving acts of force in the first three years, children: come to understand that physical force causes pain; become increasingly concerned with others' welfare; and begin to make explicit judgments of right and wrong. Neither concerns with welfare nor the general ability to judge right and wrong would alone explain the construction of moral judgments about harm. As recognized by several theorists (Kohlberg, 1971; Turiel, 1983), moral judgments about acts of force are based on concerns with the welfare and rights of individuals. Judgments based on moral concerns with welfare and rights sometimes challenge group consensus or authority commands (Killen, 2016; Turiel, 2003). Hence, morality cannot be reduced to maintenance of joint commitments (Tomasello, in press) or compliance with parental requests (Kochanska & Aksan, 2006). From an interactionist and constructivist perspective, explaining these developments requires naturalistic investigations of children's everyday experiences with force as well

as experimental and non-experimental studies of how children make use of those experiences (Dahl & Freda, 2017; Turiel, 1983).

**Conclusion: The early development of orientations toward harming.** The preceding section reviewed research on children's orientations toward harmful actions during the first four years from an interactionist and constructivist point of view (see Table 1). Infants begin to use force against others in the first year, for instance by hitting or pulling hair. Acts of force become more frequent during the first half of the second year and begin to decrease in frequency around the third birthday. Infants' acts of force are not just the result of distress, as they often hit or bite others without provocation or signs of distress. During the second year and into the third, children receive salient reactions from others to their acts of force and become increasingly concerned with others' welfare. Then, by late in the third year, children begin to judge harmful actions as wrong based on moral concerns with welfare and rights, and they distinguish these moral violations from social conventional, safety-related, and other violations.

### **A New Science of Early Moral Development**

The first four years of life are perhaps the most transformative in moral development. During this period, children develop from helpless neonates, to infants who routinely help and harm others in everyday interactions, to preschoolers who judge helpful actions as good or required and harmful actions as wrong based on moral concerns with others' welfare. If children did not acquire moral orientations toward helpful and harmful actions, human societies as we know them would be impossible.

In this chapter I offered three suggestions about how to advance current research on early moral development. First, definitions are needed to clarify the scope of moral

developments that theories are trying to explain. Second, the constant coactions between genes, environments, and other processes undermines the distinction between innate and learned characteristics; an interactionist and constructivist approach avoids this dichotomy. Third, testing theories about early moral development requires both naturalistic research that tests ecological commitments and controlled experiments that test causal hypotheses.

Based on these three claims, I outlined the developmental progression of children's orientations toward helping and harming others during the first four years. In each case, I argued that children's orientations toward helping and harming are not initially based on obligatory moral concerns with welfare and rights. Because infants at first do not view helping and harming in moral terms, some developments seem paradoxical: In the first half of the second year, both helpful and harmful behaviors increase in frequency for most infants. Through everyday social experiences, children become increasingly concerned with others' welfare. By their third birthday, children come to view concerns about welfare as obligatory. The acquisition of obligatory judgments about helping and harming based on moral concerns marks a major achievement in moral development – one that sets humans apart from all other animals (K. Jensen, Vaish, & Schmidt, 2014; Schmidt & Rakoczy, in press; Tomasello, 2016).

The chapter points toward several areas for future research on early moral development. Each area would benefit from both naturalistic and experimental research. First, the emergence of children's judgments about right and wrong is not well understood. In the first year, infants show social preferences for helpful agents over ones who demonstrate hindering actions (Hamlin, 2013), and during the second year, they

encounter an abundance of prohibitions (Dahl, 2016a; Rijt-Plooij & Plooij, 1993) but do not appear to make categorical evaluations of right and wrong based on moral concerns until well into the third year (Mascolo & Fischer, 2007; Rakoczy et al., 2008; Smetana et al., 2018). Which factors explain this apparent lag (Dahl & Freda, 2017)? The acquisition of language does not alone explain the timing of this transition, since children are capable of anticipating and protesting others' actions much earlier when those actions affect infants directly (Biringen, Emde, Campos, & Appelbaum, 1995; Dunn, 1988; Kuczynski et al., 1987; Sternberg & Campos, 1990).

Dahl and Freda (2017) suggested that improvements in children's representational capabilities may play a role in the emergence of categorical judgments based on the welfare of others. They reasoned as follows: In order to negatively evaluate acts of hitting others, children must represent the expected consequence (pain) of the action (hitting) and also recognize the valence of this consequence (negative) regardless of who is hitting and being hit. Connecting these three ideas (pain, hitting, valence) into a judgment may require representational capacities not available until the third year. Specifically, the connection requires simultaneous representation of a causal relation (hitting  $\rightarrow$  pain) and a valence relation (pain  $\rightarrow$  negative), even in situations when the child is merely observing, neither hitting nor being hit. Additional research is needed to explore whether representation of general causal and valenced relations indeed enables the emergence of moral judgments. This acquisition may depend on capacities for short-term memory or symbolic representation, which undergo major improvements from the second and into the third year (Brownell, 1986; Callaghan & Corbit, 2015; Courage & Howe, 2004; Mascolo & Fischer, 2007).

A second issue that requires additional research is young children's evaluations and decisions regarding use of force in everyday life. Although there is evidence that most three-year-old children think it is generally wrong to harm others, they act so as to harm others more often than do older children and adults (Hay, 2005; Tremblay & Nagin, 2005). Are preschoolers unable to regulate their frustration, lashing out at others when they are frustrated? Or do they think that their acts of force are often warranted because of prior provocation, as some older children and adults do (Ardila-Rey, Killen, & Brenick, 2009; Astor, 1994; Recchia, Wainryb, & Pasupathi, 2013)? Younger children are generally less adept at incorporating competing considerations in their evaluative reasoning (Killen, Elenbaas, & Rizzo, in press; Nucci et al., 2017), yet they frequently encounter conflicts in everyday life that call for such coordination (Wainryb, Brehl, & Matwin, 2005).

A third, related question is the how early development of moral judgments, emotions, and actions surrounding acts of force relate to subsequent externalizing problems. Nearly 10% of children and adolescents will meet the criteria for conduct disorder, according to one estimate (Nock, Kazdin, Hiripi, & Kessler, 2006). Aggressive children are more likely than non-aggressive children to experience peer rejection, poor friendship quality, and other maladaptive outcomes (Boivin, Vitaro, & Poulin, 2005; Eisner & Malti, 2015).

High levels of aggression in infancy predicts high levels of aggression in later childhood, suggesting connections between early moral development and later aggression (Côté, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006; Shaw, Owens, Giovannelli, & Winslow, 2001; see also Kochanska, Koenig, Barry, Kim, & Yoon, 2010). However,

different aggressive acts may show different developmental pathways connecting them to early moral development. Reactive aggression happens in response to a provocation, such as property conflict. Reactive aggression is linked to a tendency to attribute hostile intentions to others and a moral acceptance of force in response to provocations (Arsenio & Lemerise, 2004; Astor, 1994; Dodge et al., 2003). In contrast, and proactive aggression is motivated by material gains or other rewards (Vitaro, Gendreau, Tremblay, & Oligny, 1998). Some have proposed that proactive aggression stems from deficiencies in empathic responsiveness to others' distress (Arsenio & Lemerise, 2004; Vitaro & Brendgen, 2005), the development of which can also be traced to the first years of life.

A fourth research topic is the relation between children's evaluations of helping and their decisions to help. There is a large literature on individual and cultural differences and similarities in the broad class of phenomena called "prosocial behaviors" (see Eisenberg et al., 2015). In contrast, there is limited research on cultural similarities and differences in evaluations and reasoning about when helping is good, obligatory, or wrong (Miller et al., 1990; Turiel, 2015b). We do know that children and adults do not always evaluate helping positively (Dahl, 2018a; Miller et al., 1990; Nucci et al., 2017; Rosen, 1984). Thus, individual and cultural patterns in children's decisions to help or not to help may not just be attributed to "prosocial motivation," but may also reflect that children differ in when they think they *should* help.

The past two decades have been an exciting time for research on early moral development. Experimental and naturalistic research has revealed new precursors and early forms of moral orientations toward helping and harming. This work has also highlighted the rich social interactions through which these orientations develop. Greater

attention to definitions, developmental transitions, and research methodology is key to continued progress toward explaining a unique feat of early development: the construction of moral concerns with others' rights and welfare.

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Table 1

Major events in the development of orientations toward helping and harming others

<b>Months</b>	<b>Helping</b>	<b>Harming</b>
0-6	Dependence on others' help Sensitivity to others' intentions	Early signs of anger/frustration
6-12	Triadic interactions Simple helping/sharing	First acts of force against others
12-18	Increase in helping, scaffolded by others	Increase in provoked and unprovoked force, eliciting reactions from others
18-24	Helping without explicit social cues Increase in helping others in distress	Decrease in unprovoked force
24-36	Developing judgments and protests	Decrease in overall reliance on force Developing judgments and protests
36-42	Developing moral and other justifications	Developing moral and other justifications