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To cite this article: Melanie Killen (2018) The origins of morality: Social equality, fairness, and justice, *Philosophical Psychology*, 31:5, 767-803, DOI: [10.1080/09515089.2018.1486612](https://doi.org/10.1080/09515089.2018.1486612)

To link to this article: <https://doi.org/10.1080/09515089.2018.1486612>



Published online: 19 Aug 2018.



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ARTICLE



The origins of morality: Social equality, fairness, and justice

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ABSTRACT

Tomasello's *A Natural History of Morality* is novel, compelling, and comprehensive. Drawing on past and current research in developmental psychology, as well as moral philosophy, I make the following points: (1) cooperation is a significant major hallmark of early human sociality but is also the foundation for antagonistic goals designed to enhance one's own group's benefit at the cost of due justice to others; (2) interdependence coexists with independent autonomous thinking, which is necessary for challenging group norms, authority, and institutional mandates, and is a core aspect of morality; and (3) morality after age 5 years undergoes major, qualitative developments which shed light on what it means to view morality as an impartial obligation to uphold fairness, to recognize the breadth of moral concepts including equality, rights, and others' welfare, and to challenge social inequality and injustice, throughout human ontogenetic development.

ARTICLE HISTORY

Received 31 October 2016
Accepted 22 February 2017

KEYWORDS

Autonomous thinking;
cooperation; fairness;
morality; peer relationships;
social equality

1. Introduction

Psychological theories about how morality develops from infancy to adulthood began almost a century ago (Freud, 1929; Piaget, 1932). Over the past 50 years, research on the origins and development of morality has greatly expanded, revealing the complex ways in which children's actions are related to their judgments, how their judgments become moral, generalizable, and principled, the ways in which moral judgments intersect with other forms of social cognition (such as knowledge of others' mental states, group identity, and intergroup attitudes), and the challenges for acting on moral principles throughout the lifespan (Killen & Smetana, 2015).

What has not been examined until recently, though, is the question about the *natural* history of morality, and specifically from a developmental science perspective. That is, how did morality originate in *Homo sapiens*, and what might it have looked like as it evolved from early humans to

modern humans (Tomasello, 2015; Vaish & Tomasello, 2014)? To address this question, Tomasello (2015) formulated a new theory to identify a set of predictions for explaining the biological basis for a *natural* history of morality. Drawing on his extensive research with nonhuman primates, primarily chimpanzees, and young children (ages 1.5–4 years), Tomasello (2015) makes three central claims: (1) morality, rooted in our evolutionary past, stems from cooperation and interdependence (group-minded thinking); (2) second-personal 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 one; and (3) children display early forms of morality prior to formal teaching and socialization.

Tomasello's (2015) ambitious proposal about the natural history of morality is novel, comprehensive, bold, theoretically rich, and informed by an interdisciplinary perspective. Many avenues of research will stem from this new perspective of morality, and new findings will contribute to how we understand the role of morality in human evolution. The reliance on ontogenetic developmental data is extremely important, and provides a new contribution to understanding our evolutionary heritage. The argument about humans as "ultra-cooperative" is consistent with recent paleoanthropology findings and theories (see Marean, 2015) and will provide multiple lines of research for decades to come. Understanding the social side of humanity is important for arguments against the "aggressive nature of humans," which have been used to justify societal atrocities, as well as aggressive strategies to resolve conflicts.

In his book, Tomasello theorizes that "human beings are under the sway of at least three distinct moralities" (Tomasello, 2015, pp. 6–7), one that is cooperative (reflected in great apes) and focused on special sympathy for kin and friends; the second morality (a term modified from Darwall's 2006 theory about the second-person standpoint) is a joint morality of collaboration, entailing responsibilities to specific individuals other than kin or friends, and the third is an impersonal collective morality of cultural norms and institutions (2015, pp. 6–7). To explain this theory, Tomasello charts out a "me-you-we" hypothesis which characterizes the emergence of these different moral orientations in chimpanzees, early humans, and modern humans (and from the infant to the adult). The developmental trajectory proposed by Tomasello (2015) progresses from a focus on the self ("me"), then on to a second "other" related individual ("you"), and then to "we," which is reflected by an interdependent internalized form of cooperation at the group level, involving nonkin others. The second-personal morality around 2 years of age leads to an objective, impartial morality in the preschool years (ages 3–5 years), which is reflected by judgments that result from cultural norms, institutional rules, and conventions.

Tomasello (2015) has two developmental epochs in mind when he charts his theory, which reflect very different time scales: (1) the transition from chimpanzees to early and modern humans, focusing mostly on the transition from

140,000 years ago to the present, and (2) the developmental change from 1.5-year-old to 3.5-year-old children, the latter developmental period being significant for capturing the onset of morality in childhood. This window of change is a significant one, as it captures the onset of moral judgments at age 3.5 years. A limitation of the human age period, however, is that it does not provide a characterization of the developmental trajectory of moral judgments from early childhood to adolescence and adulthood. A theory of morality and its ontogenetic trajectory, however, requires an analysis of morality from childhood through to adulthood. For most moral developmental theories, in fact, moral judgment only just *begins* around age 3.5 years, requiring an in-depth focus from childhood to adulthood.

In this commentary, I will draw on past and current research in developmental psychology, as well as moral philosophy, to make the following points: (1) cooperation is a significant major hallmark of early human sociality but is also the foundation for antagonistic goals designed to enhance one's own benefit at the cost of due justice to others; (2) interdependence coexists with independent autonomous thinking, which is necessary for challenging group norms, authority, and institutional mandates, and is a core aspect of morality; and (3) morality after age 5 years undergoes major, qualitative developments which shed light on what it means to view morality as an impartial obligation to uphold fairness, to recognize the breadth of moral concepts including equality, rights, and others' welfare, and to challenge social inequality and injustice throughout human ontogenetic development.

A central theme in this article is the focus on the dynamic roles of the individual and the group, and how morality is often a struggle between what one, individually, thinks is the right thing to do and the goals of the group, leading to internal and external conflict. As well, tensions exist in both directions: that is, there are also times when individual beliefs conflict with moral values, and the group promotes change toward the fair and just treatment of others. Morality is a central aspect of human social life (Dahl & Killen, 2017; Turiel, Chung, & Carr, 2016); it is a force for change, and a guide for decision-making that is necessary and adaptive.

The propositions and assertions in this article stem from theory and research by Piaget (1932) and Kohlberg (1969), reported in their classic treatises on moral judgment, as well as from research stemming from social domain theory (Nucci, 2014; Smetana, Jambon, & Ball, 2014; Turiel, 2008; Turiel et al., 2016), and the social reasoning developmental (SRD) approach to investigating morality, group identity, and intentionality (Killen, Elenbaas, & Rutland, 2015; Killen & Rutland, 2011; Rutland & Killen, 2015). Current research on morality from a range of developmental perspectives, in fact, provides evidence to support the claims that I will make. Before discussing the role of cooperation for morality, I will briefly discuss how morality has been conceptualized by Tomasello (2015) and social cognitive-developmental perspectives.

2. Theories of morality

Tomasello's argument that three forms of morality exist, "cooperation, collaboration, and impartial judgments codified by society," (2015, pp. 6–7) is quite different from arguments made by most social cognitive-developmental approaches. First, most cognitive-developmental theories, such as stage theory and social domain theory, draw on deontological approaches to morality. Deontological perspectives, represented by philosophical theories including Kant as well as neo-Kantian theorists (Gewirth, 1978; Rawls, 1971; Scheffler, 2015; Sen, 2009), do not view morality as a set of rules codified by society but rather as a set of prescriptive norms about how individuals ought to treat one another, with respect to fairness, others' welfare, equality, and rights that sometimes align with, but other times challenge, societal rules.

A deontological viewpoint proposes that morality cannot be defined by rules enforced by societies because organized groups of individuals often create rules to perpetuate social hierarchies and social status at the expense of the fair and just treatment of others. In fact, human history is filled with examples of social hierarchies in societies that maintain the status quo through slavery, discrimination, and subordination of others. Moreover, the conflict between equality and social hierarchies is a perennial moral struggle for human social interaction, one that requires close scrutiny to understand the developmental trajectory of morality (Killen & Smetana, 2015; Turiel et al., 2016). Social equality, in fact, is a relatively recent moral concept in human history, emerging as concepts of personhood have slowly evolved to recognize all persons as having equal status regarding fair and just treatment (Fourie, Schuppert, & Wallimann-Helmer, 2015; Nussbaum, 1999; Sen, 2009).

Second, if morality is encompassed through codified rules, then this would imply that an external set of expectations provides the motivation for morality rather than an internal set of principles about how others ought to treat one another. Along with this view, it would be expected that retribution by those creating the rules toward transgressors enhances compliance and underlies individuals' evaluations for what makes an act morally good or bad. Yet, in actuality, a set of (internal) inferences about the intentions of others is what provides the basis for moral judgments – more so than the consequences of one's actions or compliance with rules. Individuals' internal inferences can lead to moral judgments that are in opposition to societal rules and laws, which would be nonsensical if morality were defined by those very societal rules (Dahl & Killen, 2017).

These types of internal judgments require mental state knowledge, also known as theory of mind (ToM), which is directly related to children's ability to accurately assign blame and make moral judgments (Fu, Xiao, Killen, & Lee, 2014; Killen, Mulvey, Richardson, Jampol, & Woodward, 2011; Lagattuta & Weller, 2014; Smetana, Jambon, Conry-Murray, & Sturge-Apple, 2011). With

age, children understand that an individual's intentions, not the outcomes of their actions, matter for judgments of fairness, and often before children become aware that there are rules for such behavior. In fact, young children understand that good intentions can produce bad outcomes for reasons beyond the intender's control; as well, bad intentions can accidentally lead to good outcomes (Li, Rizzo, Burkholder, & Killen, 2017; Rizzo, Li, Burkholder, & Killen, 2018). As children's understanding of mental states develop, their ability to evaluate the moral status of others' actions in complex or ambiguous situations also increases.

Further, there are contexts in which codified rules are at odds with ensuring fairness, such as situations in which the group (or society or culture) has supported a situation of inequality resulting from a history of prejudicial treatment. In these contexts, it is often necessary to challenge the rules in order to "level the playing field." Understandably, these are difficult decisions, and ones that often involve a conflict of multiple moral considerations (e.g., equality and equity; impartiality and equity) for creating fair treatment. What's important for the examination of morality in childhood is that children's judgments reflect an awareness of these conflicts, and in many cases these conflicts make the application of morality to a given context difficult. This does not mean that they do not understand morality, however, but only that the situation requiring a moral decision is multifaceted.

Third, the theory of morality as impartial codified rules does not provide an explanation for the process of acquisition if learning the rules of the culture is the basis by which morality is acquired (which is not consistent with constructivist developmental viewpoints). How does change from a "morality of cooperation and collaboration" to a morality of impartial codified rules come about? Most cognitive-developmental theories have asserted and provided evidence for the view that direct transmission from adults regarding codified rules is not the predominant way in which children acquire concepts of fairness and equality. This is because adults give conflicting messages, are often not moral role models, and children are not passive recipients of information (Nucci, 2016). Tomasello appears to agree with the cognitive-developmental viewpoint in many places throughout his book, even referring to peer interaction as being central for morality, but also refers to change from cooperation to morality as resulting from being taught the practices from adults (the authoritative voice, p. 97). This implies that morality is learned through transmission, not constructed by the individual.

3. Constructivist theories of morality

Constructivist views of moral development have demonstrated, in fact, that children are active knowledge seekers, abstracting, transforming, and evaluating the information that they receive and encounter every day. In contrast to

traditional socialization theories, children are not passive recipients of adult or authority mandates. Social domain theory is one such theory, and it has generated empirical research programs investigating children's judgments reflecting the criteria, evaluations, and reasoning that are associated with morality defined as prescriptive norms. Moral judgments emerge early, around 3.5 years of age, reflecting some but not all of the criteria associated with morality (Smetana et al., 2011). Similarly, moral decision-making concerning others' welfare, fairness, equality, and rights begins at age 3–4 years and continues throughout the lifespan (Helwig, Ruck, & Peterson-Badali, 2014). As well, these lines of research have charted age-related changes from 3 to 18 years of age, examining the types of moral concepts that emerge, the relationships between judgments and action, and the underlying criteria that children associate with morality, and specifically acts that reflect moral transgressions.

Children view moral transgressions (particularly prototypic ones, such as hitting someone for no reason, denying resources, or infringing on rights such as property rights) as acts that are associated with a set of obligatory expectations that are generalizable (applied across contexts), impartial, not contingent on rules, and independent of authority (Smetana et al., 2014; Turiel, 2002). In contrast, considerations related to the formation and maintenance of groups and societal institutions (the societal domain) are evaluated as context-specific, partial, and contingent on rules and authority mandates. Further, individuals differentiate principles of morality and conventional rules from personal goals and aspirations, reflecting the valuing of autonomy, individual prerogatives, and psychological intentions (psychological domain).

Most events in social life are multifaceted, however, and involve moral, psychological, and societal considerations. Likewise, many situations involve giving priority to one consideration over another. This coordination of considerations involves a social cognitive process for which there is rarely an explicit rule that serves as a guide. If the rule is "distribute resources equally" and the allocator distributes unequally to rectify a disadvantaged status, then the rule "distribute equally" is being violated. If there are two rules "distribute resources equally" and "help those in need," then which one gets followed in what contexts? Compliance with rules is not an efficient (or realistic) means by which morality is acquired. Instead, underlying principles develop and, in conjunction with attributions of intentionality, group norms, and many other factors, individuals make moral judgments.

Supporting this viewpoint, children do not evaluate all rules or rule transgressions in the same way. Acts involving the infliction of harm on others or the unfair distribution of resources are viewed as wrong, and this evaluation is independent of whether someone gets punished for it or whether an authority figure condemns it. Punishment and retribution are not pivotal issues for deciding whether an act of harm is right or wrong in these situations. The intentions of the transgressor and the negative intrinsic consequences to the

victim appear to be guiding principles. Surprisingly, children understand this very early (Helwig et al., 2014; Wainryb & Recchia, 2014).

In contrast, conventional rule violations, those that involve a violation of etiquette or a disruption to group functioning (in the absence of a victim), are evaluated by children as contingent on punishment and authority mandates. Children view conventional violations as acceptable if there is no punishment or authority expectation (e.g., it's okay to eat spaghetti with your hands if the teacher/parent says that it's okay); however, this is not true for hitting someone, which is evaluated as wrong even if there is no punishment or the authority figures condone it.

Thus, an important contribution of social domain theory has been to understand morality in the context of other “nonmoral” social considerations. In fact, to understand morality it is necessary to understand other developing social domains of knowledge, such as those about groups (society) and personhood (psychological). This characterization has implications for investigating the origins of morality because conceptualizing morality as couched in a social context involving other nonmoral social considerations differs from traditional theories that claim that moral conflicts are those between the self and other, or are framed as a “moral versus selfish” problem. To some extent, Tomasello's (2015) framework reflects a “moral versus selfish” dichotomy to the extent that he views it as changing from Me to You to We. Underlying this trajectory is the notion that individuals are originally selfish and then become oriented to dyads and then to the group.

Yet, individuals have personal goals that are not always selfish. As an example, desiring to be a physicist or an opera singer are personal goals that, on their own (as desires or intentions), would not be viewed as violating moral expectations about fair and equal treatment of others. Moral philosophers (Williams, 1981) have argued that personal goals and aspirations are not inconsistent with moral principles of obligation and fair treatment of others because being human necessitates autonomous decisions to contribute to society and to acquire skills that provide help and benefits to others. So, too, in childhood, personal goals are legitimate endeavors that are not necessarily selfish or moral (Nucci, 2001). Along with development in the personal domain, children understand the psychological perspectives of others (mental state knowledge), which increases their ability to make accurate moral judgments.

Group affiliation is also a human necessity that does not necessarily involve intentions or desires that violate moral obligations of fair and just treatment. As I discuss below in detail, group identity is complex because there are ways in which identification with groups can lead to negative attitudes toward members of outgroups; in some contexts, the reverse is true: group identity can lead to the recognition of what constitutes wrong and unfair treatment of others. Group affiliation is also a healthy and necessary aspect of human development (Nesdale, Durkin, Maass, & Griffiths, 2004; Nesdale & Lawson, 2011;

Verkuyten, 2014) and it needs to be understood in the context of moral judgments of fairness and social equality. The nonselfish aspects of human nature include not only morality but also sociality in the forms of personal goals and group affiliations, which contribute to the emergence of the autonomous individual. This is important because it has implications for framing children's basic nature, as well as how to investigate the onset and development of moral judgment.

The relevance of this viewpoint for theories about the emergence of morality in early humans and young children is whether concerns of fairness, others' welfare, rights, and equality emerge in precursory forms from the beginning, evolving toward impartial judgments (for modern humans or for 3–4 year olds) or whether other social competencies such as cooperation and sympathy are the only source of experience that generates impartial moral judgments. The argument that cooperation provides the basis for joint activities among individuals and is necessary for communication, social exchanges, and group interactions is forcefully made by Tomasello (2015). While cooperation as the interdependent engagement with others is central for successful functioning in social groups, other social and cognitive competencies are equally important for morality. Morality involves independent thinking as well.

4. Convergence and differentiation in viewpoints

There is both convergence and differentiation between Tomasello's (2015) theory about the natural origins of morality and social domain research on moral development. Fundamentally, there is a shared perspective regarding the social origins of morality, the role of social interactions, and the source of acquisition. Rather than viewing the young child as amoral or purely selfish, both Tomasello's perspective and social domain theory assume that humans are born social and socially predisposed. As well, both perspectives consider morality to be *more* than a learned set of prescriptions directly transmitted by the adult world to children, as was proposed by behaviorists and many socialization theorists (for a review, see Grusec, Chaparro, Johnston, & Sherman, 2014). These convergent views propose that morality has an evolutionary basis in the form of sociality and that it emerges in the child and changes over the course of ontogenetic development. Where these theories diverge has to do with whether cooperative interactions are moral ones, and whether autonomous reasoning, in addition to group-minded thinking, is necessary for morality to develop, and predictions about age-related changes regarding morality from early childhood to adulthood.

5. Cooperation is at odds with morality in many contexts

The argument for the evolutionary basis for cooperation has been a controversial one, as Tomasello (2015) points out. What is the evolutionary advantage of helping others (cooperating) with no apparent benefit to the self? Over several decades, comparative psychologists and biologists have made the case for cooperation's adaptive basis by drawing on the cooperative behavior of many species, with examples existing for kin selection, group selection, and mutualism at the level of individual organisms. Very relevant for evolutionarily based theories of morality was the early work that revealed reciprocity in animals, mostly nonhuman primates, and in which reciprocity is related to emotional bonds with others in the group, including others who are not biologically related (De Waal, 1996). As well, paleoanthropologists have argued that the ability to cooperate and communicate (interdependence) enabled *Homo sapiens* to become the dominant (and then only) hominin species to survive on earth, outsmarting the Neanderthals through their proclivity for collaboration with unrelated individuals, and their ability to create unique projectile weapons for hunting and survival (Marean, 2015).

In an extensive and innovative line of behavioral research, Tomasello and colleagues (Rakoczy, Warneken, & Tomasello, 2008; Tomasello & Vaish, 2013; Vaish, Carpenter, & Tomasello, 2010; Warneken & Tomasello, 2006, 2013) have provided a wealth of empirical data to argue that cooperation in humans is unique and different from that observed in Great Apes. By comparing 3-year-old children and nonhuman primates on a range of tasks, they have shown that young children's cooperative behavior exceeds that of nonhuman primates in terms of collaborative group-level reference, intentionality knowledge, and other-orientation. Further, Tomasello (2015) formulated a theory about the relationship of cooperation to the development of morality in humans. He draws on data with 3- and 4-year-old children when speculating about early humans because young children engage with others in dyadic interactions and, according to Tomasello, have "few if any social skills for operating in groups *qua* groups" (2015, p. 41). According to Tomasello's (2015) account, this lack of social skills or awareness of groups may be similar to the social abilities of early humans, who he speculates lacked this type of awareness. From Tomasello's viewpoint, young children have the species-specific skills to engage in second-personal morality (see Darwall, 2006), defined as prosocial behavior with kin-relationships, but not conventions or norms of the group. Whether it is the case that young children do not yet engage in the conventions of the group is something that I will return to below.

As an illustration, Tomasello (2015) documents that young children (14 months) will spontaneously show a strange adult (an experimenter) how to open a locked box, demonstrating early cooperative behavior, and 2-year olds will do this even when they have to stop their own play behavior to help, actions that have not been documented in nonhuman primates (Warneken & Tomasello, 2007). By ages 3–4 years, children will share the fruits of collaborative labor with a same-age playmate rather than take all the rewards for themselves (Warneken, Lohse, Melis, & Tomasello, 2011). Again, this behavior is not reported in Great Apes (Hamann, Warneken, Greenberg, & Tomasello, 2011). The data with young children have been used to argue for morality emerging prior to socialization and teaching.

6. Multiple forms of cooperation: Not all forms are moral ones

When individuals cooperate with one another, there is the recognition of the other and a willingness to work to achieve a joint goal. Tomasello (2015) defines cooperation as one of the two axes of social animals, the other axis being competition. Cooperation is associated with affiliation; competition is associated with power and aggression. In his writings, early forms of cooperation are viewed positively from a social perspective, providing examples of young children spontaneously helping strange adults with instrumental tasks and dyads of children solving problems related to resource allocation. An implication of the studies is that these forms of cooperation (especially in young children) are prosocial and exist prior to formal teaching. The social cognitive competencies that are involved in spontaneous helping behavior include intentionality knowledge (about others' wants and needs) and sociality (helping another kin or friend obtain a desired goal). Yet, many forms of cooperation do not appear to be precursors to moral goals. Three identifiable forms of cooperation are: (1) morally repugnant forms, (2) socially condoned, nonmoral forms, and (3) morally relevant forms.

Morally repugnant forms of cooperation. What needs to be very clear is that there are many forms of cooperation in which it is morally obligatory to be uncooperative. This is a counter-intuitive notion, perhaps, but reflective of a fundamental distinction between cooperation and morality. As an illustration, most individuals would agree that, from a moral viewpoint, one should not cooperate with others to take someone's resources or steal from a bank. Malevolent forms of cooperative activities are not the sole province of adulthood; young children also cooperate with others to cheat others, or to ostracize or exclude peers from group activities.

Cooperation pertains to the communal engagement of individuals motivated toward the same goal. Identifying the goal is important for determining the moral status of the action. This is because cooperation is not an absolute value; it is a process by which individuals together achieve a

desired end. This process may be social but it is not necessarily moral as the above examples illustrate; cooperation and morality are not one and the same. In fact, moral judgments are necessary for determining the prosocial or negative status of cooperative interactions.

In contrast to generalized cooperative behavior, morality is about “the desired end;” it reflects absolute values that guide how individuals ought to treat one another, as discussed above. These values are those that individuals view to be generalizable and impartial, such as treating others with fairness, equality, and justice. Consider the example of White supremacist organizations that extensively cooperate to derogate and intimidate individuals based solely on their race. This form of cooperation is highly complex but has negative goals from a moral position. In the area of childhood, examples of cooperation with negative moral intentions include forms of group-based bullying or taunting another peer due to a physical difference or socially awkward behavior. One can help or share in these contexts to serve unfair and unjust ends.

This position does not deny that there are “social” aspects of affiliating with a group to commit a moral transgression. The coordinated efforts to annihilate another group of people or to taunt someone for their social awkwardness involves a form of social exchange and discourse and often requires keen intelligence, including social intelligence, such as mind-reading, deception, coordination of goals, and perspective-taking. However, these socially coordinated acts are committed to denying others their owned resources, which results in the forms of physical and psychological harm, and the violation of the integrity for the respect for persons and general moral principles.

There are also other forms of cooperation stemming from group affiliation that are related to group dynamics and group identity; these are complex behaviors that support an “in-group” preference combined with derogation of the outgroup. These forms of cooperation involve prejudicial or biased attitudes that underlie the motive for cooperation. This will be considered in the section on group identity.

Socially condoned cooperation. In addition to morally repugnant forms of cooperation, many forms of cooperative helping involve doing what is nice but not what is obligated from a moral perspective, such as helping someone pick up their pencils which fell on the floor (e.g., it’s nice if you do it but not morally wrong if you don’t). Prosocial actions such as helping and sharing are ways of interacting with others that do not necessarily reflect absolute values about inter-individual treatment. These forms of cooperative helping are sometimes done to facilitate nonobligatory aspects of positive social interactions; in other words, social behavior that in its presence or absence does not involve “victimization.” The goal of helping someone to clean up a room is to turn disorder into order, a conventional system for ensuring the smooth functioning of social groups (Turiel, 1983).

The failure to clean one's room does not result in victimization of others or the infliction of harm (Smetana et al., 2014). These forms of cooperation are socially condoned and context-specific. For example, in institutional contexts, the act of cooperating to get things done is viewed as contingent on whether a person in a position of authority supports the form of cooperation; when individuals in positions of authority view such forms of cooperation as unnecessary, then alternative means for establishing order are created.

Morally determined forms of cooperation. Most would agree, however, that there are many contexts in which cooperation is consistent with moral obligation, such as cooperating to distribute resources to those in need, or cooperating to prevent violence toward others. Again, though, it is the intentions of the actor(s) (e.g., distributing resources or preventing violence) that reflect the morally cooperative goal.

One of the confusions that results when proposing that morality stems from cooperation and group-level thinking is the equation of moral norms of fairness and equality with cultural and institutional norms. This is counter to many philosophical and theoretical treatises on morality, as described above, and has not been supported by the developmental data on the emergence of morality. Young children differentiate group norms that are conventional (group-specific) from norms about fairness and equality (generalizable). As issues in social life become more complex, this distinction is maintained even though individuals often give priority to nonmoral considerations over moral ones for reasons based on maintaining group identity, establishing group goals (groups), or the recognition of autonomy and individual prerogatives (individuals). These multiple considerations coexist throughout development and are part of navigating and accommodating to complexities in social life.

7. Independent thinking coexists with group (interdependent) thinking and is necessary for morality

Following from his emphasis on cooperation and collaboration, Tomasello (2015) proposes that morality stems from an interdependent social-ecological condition. He emphasizes that morality emerges from the social achievement of humans to cooperate, collaborate, and work together to achieve social goals. Yet, this position ignores or does not explain the role of independent, autonomous thinking. There are several ways that the theory might be explained: (1) all thought is cooperative, including independent autonomous thinking, because it involves communicating ideas to others; (2) all thought about morality is cooperative because it involves thinking about other social individuals and the impact of acts on individuals; or (3) all thought is both independent and interdependent thinking because individuals abstract, judge, evaluate, and make inferences about

the world and, at the same time, affiliate with groups, share identities, and depend on others for social community and affiliation. From my perspective, only the latter position is theoretically consistent with a view of morality as about fairness and justice.

As part of the empirical support for his theory, Tomasello (2015) cites moral intuitionist positions (Haidt, 2007), which claim that morality is not a truth-seeking endeavor but is socially functional, a product of cultural practices and social institutions, and biologically disposed (such as disgust). Further, Tomasello (2015) cites traditional cultural psychology (Shweder, Mahapatra, & Miller, 1987) which proposes that interdependent thinking includes being intuitive, qualitative, nonpropositional, traditional, and focused on duty (rather than fairness), reflective of individuals in non-Western cultures (Shweder et al., 1998). Shweder and colleagues (1987) argue that independent thinking, in contrast, includes being logical, scientific, quantitative, propositional, creative, and focused on *fairness*, found predominantly for individuals in Western cultures (Shweder et al., 1998). The motivation for Shweder and colleagues (1987) to characterize different modes of thinking by culture was based on the view that theories of Western thinking, which were traditionally viewed as independent and autonomous, ignored non-Western modes of thinking, which were interdependent and group-oriented (Markus & Kitayama, 1991; Shweder et al., 1998; Triandis, 1995).

From this view, though, moral judgment is not a process whereby individuals (humans) construct notions of fairness through reflective abstraction and infer “the right thing to do” based on inferences about social exchanges, but is rather an outcome of socialization by cultural institutions (the group), which reflect positions of authority (the socializers). Yet, much debate has occurred in the research literature regarding these distinctions with the general conclusion that a concern for individual rights as well as concerns for the group collectively coexists within cultures and within individuals (Oyserman, Coon, & Kemmelmeier, 2002; Turiel, Killen, & Helwig, 1987; Turiel & Wainryb, 2000). Another more recent revision of cultural theory is the moral intuitionist position which holds that morality is defined as “more than fairness and harm;” it is also defined as loyalty, authority, and spiritual purity (Haidt, 2007). Defining morality as including group loyalty or authority, however, also removes the possibility that a criterion of morality is the capacity to think independently and to critique groups and authority members that act in unfair ways. Moreover, both cultural psychology and moral intuitionist positions assume that cultural ideologies reflect the psychological values of individuals living in the culture. This assumption belies the evidence that individuals often resist, challenge, and reject aspects of ideologies; psychological values are not a mirroring of the ideologies reflective of any one culture (Turiel et al., 2016; Wainryb & Turiel, 1995).

Clearly, morality is a social endeavor. Knowing how to communicate with others, take perspectives, function in social groups, and understand that others have beliefs, desires, and intentions different from oneself are all necessary for moral judgment. What is unclear is the connection between interdependent and independent thinking in the evolutionary framework, given that little attention is paid to independent thinking and reasoning in the evolutionary approach.

Without independent, autonomous moral thinking, however, individuals would lack the ability to differentiate between morally repugnant cooperative acts and cooperative acts to achieve moral aims. Yet, individuals form their own judgments about the moral status of cooperative acts to evaluate the fair, just, and equal goals of their peers, as well as other individuals up and down the status hierarchies existing in social groups. When humans acquired the ability to think about others in a collaborative manner (“we”), what was the role of independent thinking? Independent thinking would enable individuals to make new discoveries, solve problems, and take leadership roles within the group for the purpose of goal-directed actions for survival. Further, from a philosophical (Gewirth, 1978; Nussbaum, 1999; Sen, 2009) and psychological viewpoint (Killen & Smetana, 2015; Kohlberg, 1969; Turiel, 2002), interdependence is not enough for morality to have its force; independent autonomous thinking is also necessary. Interdependence is clearly important as a means by which individuals communicate their values to one another and demonstrate care and sympathy for each other. But independence of thinking provides the basis for codifying rules into obligatory principles that guide how individuals live together (as with a constitution or Bill of Rights or Human Rights). Moreover, independent thinking draws on feelings of sympathy for others’ plights to justify and create codes of moral conduct (independent thinking is coordinated with the experiences of interdependence) (Nussbaum, 1999; Turiel, 2002).

What is not fully transparent in Tomasello’s position is the connection between interdependence and the emergence of fairness, particularly when he cites Haidt (2007) and Shweder and colleagues (1987) as the basis of his theory of morality. On the one hand, cultural psychologists, such as Shweder, propose that interdependence leads to modes of thinking that are associated with a duty orientation of morality *in contrast* to a fairness orientation of morality that stems from independent orientations (Shweder et al., 1987). On the other hand, Tomasello (2015) theorizes that the socio-ecological condition of interdependence in humans provided the basis for cooperation, collaboration, and ultimately, objective morality, defined as fairness, equity, and equality.

While Tomasello (2015) asserts that the condition of interdependence led to morality, little attention is given to the conditions of independent and autonomous thinking as necessary for moral judgment and the developmental trajectory of morality in humans. Haidt (2007), as well as

Shweder and colleagues (1987), has asserted, though, that traditional cultures have an interdependent “duty” orientation and modern cultures have an independent “fairness” orientation. From this viewpoint, interdependence is not associated with fairness, which is the proposition put forth by Tomasello (2015). Tomasello is asserting that interdependence is what gave rise to fairness and equality judgments, which appears to be orthogonal from the position outlined by Shweder and colleagues (1987) and Haidt (2007). Moreover, Tomasello is promoting a species-general theory of morality, not one that varies by cultural membership, which would make his view quite distinct from one promoted by cultural psychology. In fact, research with young children and adults reveals that individuals across the globe are both interdependent and independent thinkers; these orientations coexist within cultures and within individuals. Extensive research has shown that fairness is a core value for individuals across a wide range of cultures, including those that are traditional and modern, urban and rural, and of high and low socioeconomic status (Helwig et al., 2014; Turiel et al., 2016; Wainryb & Recchia, 2014).

8. Independent thinking is necessary for moral judgment

Developmental theory and research have identified and documented the centrality of individuals’ autonomous, independent thinking as one hallmark of human functioning. In all cultures, individuals make choices, judgments, and express independent thinking about many aspects of social life (Helwig, Ruck, & Peterson-Bedali, 2014). The emergence of this ability in human life is of significant interest; theoretical and technological advances have provided a more in-depth focus on what it looks like in early childhood. Equally important, however, is the developmental trajectory that pertains to how autonomous and independent thinking evolves and changes over the lifespan; developmental perspectives examine change over time. A central question is whether independent thinking emerges prior to, follows from, or coexists with interdependence, and whether independent thinking emerges prior to, or coexists with, cooperative and collaborative forms of interactions.

The early history of psychological theorizing about cognition focused on independent, autonomous thinking, demonstrating how infants and children construct theories of the scientific and physical world. Piaget’s (1952) cognitive developmental theory demonstrated that independent thinking and reasoning were reflected in the infant’s symbolic thinking, along with the emergence of the object concept in infancy; this was in contrast to earlier theories about the infant’s world being one of a “blooming, buzzing confusion” (James, 1890). Through his trilogy on the origins of intelligence, Piaget (1952) revealed how infants and children construct theories of number, time, space, and causality through their interactions with

objects and social others in the world. Even Vygotsky (1978), who discussed the social context of knowledge acquisition, reported data on the child's scientific thinking. Today, we know much more about how children make judgments about number concepts and the physical world (Gelman, 2015; Kuhn & Siegler, 2006), as well as the basis for the construction of number and quantitative knowledge (Carey, Zaitchik, & Bascandziev, 2015). Children develop mental structures that enable them to process information about number and logical relationships through their interactions with objects in the physical world, as well as their social communications with others. It is both logical and social knowledge that leads to scientific thinking and new discoveries; the scientific method involves hypothesis-testing and logical thinking that has its origins in infancy.

Demonstrating the role of autonomous, independent thinking in infancy and childhood does not deny the social context of cognition and development; both coexist. Social interactions enhance, facilitate, and motivate the acquisition of number and logical concepts. Nonetheless, independent thinking, that is, making inferences, deductions, and developing theories, is a core aspect of how such concepts are acquired, learned, and developed. Individuals make inferences between *x*, *y*, and *z* to build and create a store of knowledge that provides for creativity, discovery, and insights throughout life. Just as autonomous thinking and reasoning are necessary for the discovery of how the physical and biological world work, so too are such competencies necessary for the discovery of the social and moral world.

The data from developmental science indicate that while infants and children are developing interdependence and joint activities, they are also developing independent, autonomous thinking about how individuals ought to treat one another, that is, concepts of fairness and justice. These judgments are *not* strictly a product of cultural practices or institutional norms, contrary to Tomasello's (2015) claim. Children construct concepts about the wrongfulness of harm and the necessity of fairness very early, prior to direct teaching and transmission (Brownell, Svetlova, & Nichols, 2009; Dahl & Kim, 2014; Killen & Smetana, 2015; Smetana, 1984; Smetana et al., 2014).

Early in life, infants appear to prefer helpers over hinderers (Hamlin, 2013), as well as fair over unfair allocations of resources (Geraci & Surian, 2011; Sommerville, Schmidt, Yun, & Burns, 2013). Children develop an understanding of morality as distinct from regularities and norms that ensure the smooth functioning of social groups and the construction of agency and personhood (Nucci, 2014). These coexisting forms of thinking occur between infancy and early childhood.

Significant changes occur by early childhood when children begin to formulate moral judgments about fair (and unfair) decisions (Yau, Smetana, & Metzger, 2009). In each arena of social life, individuals make decisions about the right course of action in contexts involving inter-individual treatment, taking

into account the feedback and influence from those around them. Forms of influence on social and moral decision-making are complex and varied.

In social, moral, and logical-mathematical areas of knowledge, constructivism means that through reflective abstraction about experiences, children test hypotheses about how the world works. Piaget's (1932) moral judgment theory and research demonstrated how children constructed theories of justice and fairness out of peer interactions between 4 and 10 years of age. Mutual respect evolved out of peer relationships, which were hypothesized to reflect equal relations, in contrast to the unilateral nature of adult-child relationships. Over the past 50 years, knowledge about the unique and important role of peer relationships in the acquisition of morality has been well documented (Killen & Smetana, 2015). Further, children's ability to differentiate many types of social cognitive concepts has been extensively documented and expanded, revealing how moral judgment emerges in conjunction with concepts about societal institutions, cultural practices, group traditions, psychological agency, and individual autonomy. As well, current research has revealed how the construction of moral concepts emerges prior to Piaget's (1932) claims, and how it begins in infancy and evolves through the toddler and childhood years, reflecting a range of judgments by age 4 years (Piaget's proposed onset of moral judgment).

Tomasello's (2015) claim is that cooperation and collaboration, the recognition of "we," precedes moral judgment. What is the evidence that early humans and infants did/do not *also* make autonomous judgments about social interactions along with the construction of an identity based on group affiliation? Clearly, early humans and infants make autonomous judgments about tool use, number concepts, and logical inferences about the physical world. Why not also about the social world, including morality? Tomasello's (2015) argument and evidence for interdependence as the foundation for morality is compelling and impressive; it does not rule out, however, the equally important and necessary role of independent thinking. In contrast, many theorists would argue that independent thinking is a basic necessity for morality in all its forms.

Deontological moral philosophy theorizes that morality reflects autonomous maxims and principles that are not bound to the dictates of authority or groups (Gewirth, 1978). Current research has demonstrated that in order to understand the development of moral judgment, it is necessary to understand how children and adolescents evaluate, critique, and judge interactions of others that bear on considerations of fairness, equality, rights, and others' welfare; critical thinking is the core of what it means to engage in independent, autonomous moral reasoning.

This process necessarily involves: (1) the ability to critically evaluate moral actions and beliefs about others including those in positions of authority and the desires of groups from a position of fairness and equality, and (2) the

coexisting development of social cognition such as mental state knowledge and awareness of group dynamics, which bear on moral judgments. Mental state knowledge requires evaluation of the actor on the individual level (Wellman & Liu, 2004; Woodward, Sommerville, & Guajardo, 2001); knowledge about group dynamics requires evaluation of the individual relative to the group (Abrams, Rutland, & Cameron, 2003; Cameron, Rutland, Brown, & Douch, 2006; Nesdale, Maass, Griffiths, & Durkin, 2003; Verkuyten, 2001). Being able to critically evaluate the actions of individuals in positions of authority, for example, means that moral evaluation is not defined in terms of compliance to authority mandates (or to cultural norms and conventional practices). Without an independent assessment, morality loses its force. Groups often discriminate against or ostracize individuals who do not conform to conventional goals. Even more horrifically, entire societies commit atrocities toward members of their own and other groups.

Postulating that morality is solely an outcome of interdependence and inter-subjectivity means that group-thinking and mutual dependence is the foundational requirement for moral behavior. From this position, concerns for either fairness or justice are proposed to be a product of cultural transmission or socialization, or, for some theories, are relegated to ad-hoc justifications. Individuals can be mutually dependent on one another for goals that are deemed to be unfair and unjust toward others, however. What is missing from an interdependent explanation, then, is the ability to think independently from the group and to critically evaluate the acts and intentions of others *with reference to* fairness, justice, and equality. A point of differentiation between the different approaches outlined is whether group thinking (interdependence) precedes independent thinking or whether these forms of thought coexist in ontogenetic and phylogenetic development. I am asserting the latter that these forms of thinking coexist. The features of both independent thinking and interdependence are essential for human life and separate from cultural ideologies. Close scrutiny of the many modes of functioning within any given culture reveals this coexistence. In the next section, I provide ontogenetic evidence for the intertwining roles of independent thinking and interdependence in the development of morality.

9. Moral development: Age-related changes

Morality emerges early in development and continues throughout the life span. Young children develop moral concepts by 3–4 years of age, as evidenced by their verbal reasoning, as well as their nonverbal actions toward others. A wealth of data from both evolutionary accounts (Tomasello, 2015) and social-cognitive developmental accounts (Killen & Smetana, 2015; Smetana et al., 2012) shows that young children understand that moral concepts are generalizable and reflect concerns for fairness, equality, others'

welfare, and rights. Assessments of young children's moral judgments use situations that may be perceived to be fairly straightforward from an adult's viewpoint, such as hitting someone (others' physical welfare), teasing (others' psychological welfare), denying resources (fair distribution), giving preferential treatment (equality), and destroying others' property (rights).

Morality does not occur in a vacuum, however, and moral behavior reflects a continual balancing of considerations, including the desires, intentions, and motivations that stem from the individual and from the group. Most situations requiring moral judgments become multifaceted and complex, particularly in later childhood and adolescence. An understanding of the individual-group dynamic for moral decisions is essential and reveals how independent autonomous thinking is necessarily coordinated with interdependent forms of cooperation, such as group norms. One implication is that morality, intentionality, and group considerations coexist, and that individuals do not always effectively balance all three concerns (or even recognize that all three exist in any given decision-making context).

10. Social reasoning developmental model

The SRD model (Killen & Rutland, 2011; Rutland & Killen, 2017; Rutland, Killen, & Abrams, 2010) provides a framework for investigating the different roles of the individual and the group in morally relevant contexts. Derived from social domain theory and social identity theory, the model theorizes that moral concepts such as fairness, equality, and rights are applied by individuals to contexts in which group identity is often quite salient. As well, individuals' attributions of others' intentions and motives (e.g., good, bad, and neutral) are central for determining how those individuals will act in morally salient situations and for assigning blame.

Expanding on the foundation of social domain theory, the SRD model identifies new areas of the societal, moral, and psychological domains. With regard to the societal domain (concerning customs, conventions, and traditions), the SRD model addresses group norms, group identity, and group dynamics. A particular emphasis is on the dynamic of in-group preference and out-group distrust. Likewise, for the moral domain, a new focus for research drawing on the SRD model is on judgments related to the unfair treatment of others based on group membership, including attitudes that are prejudicial, biased, or discriminatory. The new focus for the psychological domain is on mental state attributions and children's ToM (particularly their attributions of intentions of others) in group contexts.

This approach shares a number of assumptions with Tomasello's framework and also provides some distinctions. Briefly, the SRD model agrees that human beings have a social predisposition to value others (Tomasello, 2015, p. 159) and that cooperation is necessary for the emergence of

morality. We propose that independent, autonomous thinking emerges at the same time in development as interdependence and enables individuals to differentiate between forms of cooperation that have moral goals and those that are antagonistic to moral goals. A central source of evidence for this claim comes from studies of children's awareness of differences between individual and group goals. In the next section, I will briefly describe the empirical research on social cognition and social reasoning that supports this perspective.

11. Testing hypotheses

By the second year of life, infants engage in interpersonal conflict through unprovoked harm to others (Dahl, 2014, 2016). One interpretation of these data is that infants are testing hypotheses about how other individuals feel pain and testing connections between acts and consequences. Dahl's (2016) studies, using maternal report and direct observation with children, reveal that unprovoked harm during the second year of life is not associated with frustration or a lack of regulation, as has been suggested in related work, but involves child learning about what makes hitting wrong (Dahl & Freda, 2017). Further, unprovoked harm declines precipitously by the second birthday (Dahl, 2016), suggesting that these experiences, which include children's observations of the effects of their behaviors on others and their reactions to how others experience harm, provide children with what they need to make moral inferences.

Starting around 2 to 3 years of age, children's peer interactions become more complex, involving dyadic, triadic, and group interactions. The most common source of conflict in these interactions involves object disputes and claims about ownership of objects ("I want it!" "No, I want it first!") (Friedman, Van De Vondervoort, Defeyter, & Neary, 2013; Ross, Friedman, & Field, 2015). By 3–5 years of age, these conflicts become elaborate discourse exchanges, reflecting expectations about how to structure play activities ("The bridge goes here!" "No, it goes here!") and involving verbal reasoning ("If you give me two then I'll give her that one"), and claims about fairness ("It's not fair – you had it longer than I did"). This discourse provides the basis (and the practice) for bargaining and negotiating resource ownership, use, and exchange (Killen & Naigles, 1995; Killen & Turiel, 1991).

Young children's social conflicts reflect a form of disequilibrium, distinct from cooperation, which motivates change due to the desire to resolve conflicts (Piaget, 1932; Turiel, 1983). New ways of organizing and understanding information in the world emerge through children's efforts to work together to solve problems and to think about how problems should be solved, even when other members of the group do not agree. Change comes about through reflections on current ways of interacting

that are viewed as problematic. That is, children's experiences with interpersonal social conflicts, such as how to share resources, take turns, and negotiate the structuring of their activities, involve both *conflict* and coordination, as well as *cooperation* (Dunn, Slomkowski, Donelan, & Herrera, 1995; Hughes & Dunn, 2007; Ross, Stein, Trabasso, Woody, & Ross, 2005). Resolving conflicts forces individuals to reconsider their expectations of the situation, such as who wants what and why, and how to negotiate. This is a form of independent thinking that guides children's behavioral coordination and fosters their moral judgments.

Resolving conflicts in constructive ways requires information about others' intentions, as well as inferences about the fair course of action. Children's ability to understand the mental states of others enables them not only to accurately assign blame but also to challenge stereotypic expectations held by their peers (Mulvey, Rizzo, & Killen, 2015). As an example, children who have false belief ToM are more likely than participants without false belief ToM to expect that peers will challenge group norms about gender stereotypic activities, and are more positive about others who challenge such gender stereotypes.

Further, research on young children's social interactions has revealed how different types of conflicts provide children with the opportunity to think about the distribution of resources, for example, in new ways. In one study, children were observed in free-play preschool settings and semi-structured triadic play groups (Killen & Naigles, 1995; Killen & Turiel, 1991). In free-play settings where adults were present, children quickly looked to adults to resolve conflicts. However, in semi-structured triadic play, with adults absent (i.e., children were alone in a room with a video camera on and asked to play with toys at a table), the dialogue about how to share the toys revealed processes of negotiation and bargaining. The following is a short excerpt from videotapes of children playing alone in a room with toys from Killen and Turiel (1991):

Matt: I want the green person.

Ruth: No, I want the green person.

Matt: I'm not trading any of mine (hovers over his toys).

Lily: (sings) I'm not trading any of mine.

Ruth: (sings) I'm not trading any of mine.

Lily: *Well, that's not fair because I don't have any people (pouts).*

Matt: (to Ruth). Give her one of them.

Ruth: *But you have three and she has none and I have one. So that's not fair.*

Lily: Yeah, because I have none.

Ruth: (to Michael). *You know what? If you give me the green person and then I'll give her the red one and then we'll all have one.*

Matt: Okay, and then I'll invite you to my birthday party.

In this exchange, both cooperation and conflict are involved. Children cooperate to engage in a joint activity ("then we'll all have one"). At the same time, children protest the actions of others ("No, I want the green person"), make claims ("I want the green person"), provide moral explanations ("Well, that's not fair because I don't have any people"), and offer resolutions to conflicts ("If you give me the green person and then I'll give her the red person and then we'll all have one."). One 15-min social interaction episode provides the basis for learning about reciprocal exchange and mutual trust, and these types of exchanges occur multiple times a day over several years during the preschool period.

Thus, through experiences of conflict, children create resolutions and recognize that negotiation and compromise are also part of moral action. As a result of these processes, children begin to articulate their thoughts, beliefs, and attitudes. Importantly for moral development, children begin to use moral judgments to evaluate acts as acceptable or unacceptable and provide explanations supporting their claims. The evolutionary advantage for thinking and reasoning is uniquely human; children are reasoning, thinking beings in the area of moral problem-solving (as well as that of scientific knowledge). In these contexts, interpersonal conflict creates intrapsychic conflict, prompting the individual to think about a problem in a new way.

As children learn the connections between acts and consequences, they begin to critically evaluate others' actions that they view as unfair or unequal. One of the profound competencies that children develop is the ability to step back and evaluate the rightness or wrongness of an act based on the extent to which it involves the fair or unfair treatment of others. The fundamental point for this discussion is that, at a young age, children are aware of unfairness in different contexts. This awareness reflects flexibility of thought, independent evaluation of actions, and the generalized application of moral concepts to a range of unique contexts. At the same time, increases in knowledge about the mental states of others and increases in knowledge about group dynamics lead both to stronger applications of morality and to confusions and contradictions.

11. Morality and intentionality

One mark of children's early independent thinking is their knowledge about others' mental states (Wellman, 1990; Woodward, 1998). Morality is about intentionality. When intentions are positive but the consequences

are negative (e.g., an accidental transgression), the act is viewed as morally acceptable. But when the intentions are negative but the consequences are positive (e.g., a lucky break), the act is viewed as morally wrong. Attributions of intentionality are measured through assessments of expectations about others' mental states in varying conditions. In the 1980s, and more recently again in the past decade, there has been a burgeoning of research on the intersection of morality and intentionality. Recently, research has examined mental state knowledge through ToM assessments such as false belief and second-order ToM, demonstrating links between the two forms of knowledge.

In a recent longitudinal study (Sodian et al., 2016), significant connections were demonstrated between goal-directed actions in infancy and false belief knowledge in a morally relevant context in the preschool years. Infants' performance on goal encoding measures at 7 months, and implicit false belief understanding measures at 18 months, were predictive of their understanding of an accidental transgressor's moral intentions at 5 years of age. These findings provide one example of how early forms of intentionality are precursors to independent, autonomous thinking about morality at 5 years of age.

Smetana and colleagues (2012) also examined relations between ToM and moral judgments in a longitudinal study. This study used prototypic assessments of criteria related to morality (generalizability, authority jurisdiction, impartiality) and false belief ToM, examining these relationships three times over the course of 1 year with 2.5–4-year-old children. The researchers found that children who evaluated moral acts as more wrong independently of authority (i.e., deemed moral transgressions like hitting to be wrong regardless of whether an authority figure condemned them) had more mature ToM understanding 6 months later. Further, children with more advanced ToM judged moral transgressions as more independent of rules (i.e., judged that transgressions were wrong regardless of whether there was an explicit rule in place that forbid them). These findings provide another illustration of the reciprocal, bidirectional processes between morality and intentionality.

As another example, Killen and colleagues (2011) found that children without false belief ToM competence were more likely to attribute blame to an accidental transgressor (who mistakenly destroyed someone's property) than were children who had this form of mental state knowledge. This finding was replicated with Chinese children in a study that further revealed that relations between moral judgments and ToM hold regardless of executive functioning skills (Fu et al., 2014). Research with young children has shown that "theory of mind" capacities are related to children's attributions of positive or negative intentions to resource allocators (e.g., they use their own knowledge, and not that of the allocator, to

incorrectly attribute positive intentions to an allocator who unknowingly rectifies a “hidden inequality”) (Li et al., 2017).

Together, these findings demonstrate the interrelationships and coexistence of individual thinking and moral decisions in early childhood. In the next section, a focus on morality and group dynamics will be briefly described to emphasize how the notion of group thinking evolves in the context of morally salient contexts involving fairness and equality.

12. Morality and group dynamics

Group identity starts very early in childhood and extensive research has shown that affiliations with groups provide a protective factor for children in their interactions with peers. Extensive research has shown that children benefit from group affiliation in terms of emotional support and buffering against victimization (Hodges, Boivin, Vitaro, & Bukowski, 1999; Lease, Kennedy, & Axelrod, 2002). Groups can take many forms, including spontaneously chosen groups (based on activities, interests, hobbies) and given groups (gender, race, ethnicity). Children who have a strong sense of group identity are less likely to be victimized by others and more likely to feel a sense of support in their social world. These data provide support for Tomasello’s (2015) claim that the awareness and sense of a group (the “we”) is a foundational aspect of interdependence. The complex relationships between in-group preference (liking one’s own group) and outgroup distrust (dislike of the out-group), however, are also well documented in adulthood and emerge in childhood. When in-group affiliation turns into in-group bias, then outgroup distrust often turns into forms of prejudice (Nesdale et al., 2007).

Developmental psychologists have studied these links extensively, demonstrating the many contexts in which in-group preference results in prejudicial attitudes toward an outgroup. In short, the social identity theory and its developmental variants propose that in order to enhance one’s own group, individuals often derogate members of other groups, identified as outgroups (Abrams & Rutland, 2008). Research has shown that even infants demonstrate preferences for looking at faces of individuals whose race matches that of their primary caretakers (Kelly et al., 2009). This suggests an early awareness of group membership, signifying, again, that individual and group knowledge may coexist in early development.

What has been shown in childhood is that deviating from the established norms of one’s in-group can result in social exclusion due to perceptions of disloyalty (Abrams & Rutland, 2008). In some contexts, groups are more exclusionary toward “deviant” in-group members than to outgroup members who support in-group norms (Hitti, Mulvey, Rutland, Abrams & Killen, 2014). This is a complex judgment that changes with age,

as situations involving different types of group affiliations create tensions between in-group bias and out-group dislike.

Evidence supporting the proposition that independent thinking is necessary for morality includes children's ability to critically evaluate the consequences of in-group bias for the targets of bias. A central finding in the area of developmental group dynamics is the age-related increase in children's awareness that their own views about the fair treatment of others may differ from the group's expectations. For instance, Mulvey and colleagues (2015) found that children without false belief ToM competence did not differentiate between their own judgments about challenging gender stereotypes and their predictions about how the group would respond. Yet, children who had false belief competence understood that while *they* would support a peer who challenged the group norm (e.g., refuting gender stereotypes held by the in-group), the *group* might be unfavorable toward those who challenge the group norm, even when the norm would be unfair toward others.

Further, the understanding that one's own view may be different from the group's perspective has been demonstrated in several studies with 9–13-year olds regarding resource allocation (Killen, Rutland, Abrams, Mulvey, & Hitti, 2013; Mulvey, Hitti, Rutland, Abrams, & Killen, 2014). Children around 9 years of age supported a member of their in-group who advocated for equal resource distribution between their group and the out-group, even when the in-group wanted to gain more resources for themselves. Further, in a separate study examining group inclusion decisions (i.e., decisions about whom the group would choose to join them), young adolescents were willing to select a member of an out-group (defined by cultural identity) to join their group when this member shared interests (e.g., art, music, sports) over an in-group member who did not share the same interests (Hitti & Killen, 2015). These findings support the assertion that children and adolescents are critically evaluating group identity in the context of moral considerations, even when they are aware that there may be high costs to doing so (e.g., exclusion from the group).

Thus, both children and adolescents will challenge their in-group when the group is doing something unequal, as well as defer to their in-group when group identity is both valued and threatened (Killen et al., 2013). An important part of the developmental trajectory is that children both cooperate with groups and resist groups when the goal of the group is unfair. This implies that characterizing children as cooperative *or* uncooperative is only half of the story. It is important to determine what exactly children are cooperative or uncooperative about. Research on how young children consider different aspects of group processes such as group norms, group identity, and group status sheds light on the factors that tip the decision from cooperating with the group to challenging the group.

13. Challenging the group

Recent studies drawing on the SRD model have shown that even preschool children are willing to go against an in-group norm (i.e., act “uncooperatively”) in order to ensure that resources are distributed equally between groups (Cooley & Killen, 2015). What’s important about this finding is that preschool children are doing “the right thing” by challenging their group to treat others equally, despite the group norm of getting more resources for their own group. This is distinct from doing “the right thing” to conform to group norms.

In one study, when preschool children were told about a “deviant” in-group member who advocated for equal resource distribution, when the group’s norm was to seek more for themselves, children were favorable toward the “deviant” in-group member who advocated for equality. With age, children also understood that their own evaluation of the in-group deviant would be different from the group’s evaluation. That is, the group would not like an individual who protested their norm, particularly when the norm was to get more for the in-group.

In a similar situation involving gender stereotypes where the group norms were very familiar and readily supported (who plays with dolls or trucks?), preschool-aged children displayed gender stereotypic expectations about play choices, yet also viewed it as unfair to exclude a child from playing with trucks or dolls on the basis of their gender (Killen, Pisacane, Lee-Kim, & Ardila-Rey, 2001). Further, between 3.5 and 5.5 years of age, children were increasingly likely to choose the gender-non-stereotypic child in an inclusion context. That is, when there was only room for one more child to play, they were more likely to choose the girl to play with trucks and the boy to play with dolls, citing equal treatment and access to resources, and thus challenging the group expectations regarding gender-stereotypic play preferences. Counter-probes further demonstrated that children who relied on stereotypic expectations to include a peer into a group (i.e., children who chose the gender-stereotypic child to join) were more likely to change their judgments when presented with a moral argument (“What if Tom will feel bad if he can’t play with dolls?”) than were children who initially evaluated the decision using moral explanations and were presented with a stereotypic probe (“What if trucks are for boys so Sally probably won’t like trucks?”).

Here as well, children weighed both independent judgments about equality and fairness, as well as group membership and affiliation, but morality took priority when counter-suggestions were offered by an adult. With age, these judgments gain complexity, as shown by a similar study with 7-, 10-, and 13-year olds (Killen & Stangor, 2001). In this study, children were asked about exclusion based on gender and race in peer groups that were associated with stereotypic activities. The vast majority of children used moral reasoning to reject exclusion in straightforward exclusion contexts (Is it okay

to exclude X?), citing the importance of equal opportunity and giving someone “new” a chance to learn about the activity. When asked to make judgments in inclusion situations that involved consideration of qualifications (who was better at the activity), older children weighed both concerns about equal opportunity and group functioning considerations.

Taken together, these findings indicate that children and adolescents experience pressure to conform to group norms and expectations, and recognize that exclusion is often the cost of advocating for a departure from norms. In the context of gender or cultural group membership, young adolescents readily acknowledge that challenging a group norm will result in exclusion; thus, these decisions are difficult to make. Yet, children and adolescents also recognize that their perspective on inter-group relations may differ from the interests of the group, demonstrating the interplay between independent reasoning and judgment and children’s decisions to cooperate or deviate from group customs.

Objective morality is not evidenced by conformity to norms and institutions, as Tomasello (2015) proposes, but by challenging groups when their behavior violates the fair and equal treatment of others. In fact, when children justify unequal resource allocation decisions by groups they use conventional reasons to do so, such as “it’s the way it’s always done,” or “it’s the tradition,” in contrast to children who reject unequal allocations and use moral reasons, such as “it wouldn’t be fair to give them less just because your group wants to have more – that’s being selfish.”

14. Rectifying social inequalities

Recent studies have also revealed that young children are aware of status hierarchies between groups. Unlike research showing how children give priority to in-group members when allocating resources (Renno & Shutts, 2015), this work examines how children take group status into account when making distribution decisions. For instance, in contexts in which one group is disadvantaged and another group is advantaged, children may prioritize their social in-group by directing more resources to it, but they may also take preexisting status differences between groups into account.

To examine whether children have different expectations for the behavior of resource allocators depending on the allocators’ group status, children ages 3 to 6 years were asked about their expectations for others’ resource allocation decisions in a context of preexisting inequality between groups (Elenbaas & Killen, 2016b). Children were introduced to two groups of peers (depicted on a laptop screen) composed of four children each; the members of each group had star stickers. The members of the disadvantaged group had one sticker apiece and the members of the advantaged group had six stickers apiece. Children were asked how a

member of the advantaged group and a member of the disadvantaged group, in turn, would distribute a new set of stickers. Children expected that the member of the *disadvantaged group* would reduce the disparity when that person evaluated the inequality negatively, and expected the member of the *advantaged group* to increase the disparity when that person evaluated the inequality positively. Thus, children expect that one's place in the status hierarchy is related to helping those who are disadvantaged and less fortunate.

These findings indicate that group status is influential in how children expect others to respond to inequalities. Interestingly, there was only one context in which children consistently expected others to reduce the disparity between groups: that was when a member of the disadvantaged group evaluated the inequality negatively. Thus, children did not think that merely being a member of a disadvantaged group would lead an individual to use resources to reduce the inequality between groups. Children had to also believe that the disadvantaged individual viewed the disparity negatively to expect that person to reduce it. These are further examples of independent thinking in the moral realm.

In a related study on distributing resources to characters identified as "poor" or "rich" in resources, 3–8-year olds gave more priority, with age, to equity (giving more to the poor than to the rich character) in their behavioral allocation decisions, their judgments of different allocation strategies, and their reasoning about their decisions and judgments. Younger children allocated resources equally between the two recipients, but supported equity in their judgments and reasoning. It is not until 7–8 years of age that children consistently prioritize equity over equality in behavior, judgment, and reasoning (Rizzo & Killen, 2016). Children also differentiate, with age, between resource allocations that reflect luxury (e.g., toys) or necessary (e.g., medicine) resources (Rizzo, Elenbaas, Cooley, & Killen, 2016). While 3–5-year olds did not differentiate between distributing luxury and necessary resources, 6–8-year-old children allocated luxury resources more meritoriously than necessary resources. For necessary resources, older children's allocations were equal, ignoring the merit consideration in favor of the equality principle, given that these types of resources were necessary for health and well-being. This finding provided an example of different strategies based on the level of moral obligation regarding the type of resource. This behavior could easily be perceived as contesting the impartial norm of equality; children evaluated the situation and inferred that necessary resources warranted a different response to ensure fairness.

These studies reveal very different ways in which children between 3 and 8 years of age make a range of decisions that involve conflicts between moral principles of fairness and group norms, group loyalty, and group

status. Young children make independent judgments about fairness and equality; as well, group identity is reflected in their judgments. These judgments indicate that children are motivated to do what's fair even when it means challenging the group norms. Yet, as children develop a greater understanding of group identity and social status, this conflict actually becomes more complex and difficult. The coordination of moral, psychological, and group considerations for making decisions about social relationships changes with age.

15. Taking disadvantaged status into account

One of the most difficult moral decisions that exemplifies how individuals balance independent autonomous thinking with their understanding of the group lies with rectifying social inequalities. This decision, itself, involves judgments about fairness and equality, as well as judgments about groups and group identity.

In a recent set of studies, Elenbaas and colleagues examined children's decisions about how to divide up resources in contexts in which one group is advantaged and one group is disadvantaged with respect to resources (Elenbaas & Killen, 2016a; Elenbaas, Rizzo, Cooley, & Killen, 2016). One study tested 5–11-year olds' decisions about how to distribute medical supplies in a context of preexisting inequality between racial groups. Children in this study witnessed a disparity in supplies between hospitals serving children of African-American and European-American backgrounds. Half of the participants witnessed institutions serving African-American peers at a disadvantage, and half of the participants witnessed institutions serving European-American peers at a disadvantage.

With age, children were increasingly likely to support rectifying the inequality in the former condition (directing more resources toward a hospital serving African-American peers when they had witnessed African-Americans at a disadvantage). These age-related changes were mediated by increasingly negative judgments of the resource inequality and children's increasing awareness of economic inequalities between African-Americans and European-Americans in broader society (tested in a separate measure). By contrast, children in the latter condition (European-Americans disadvantaged) focused on dividing subsequent resources equally between hospitals. In short, age-related changes in children's awareness of group status differences and moral judgments about resource disparities resulted in different decisions about how to address inequality, depending on the status of the disadvantaged group (Elenbaas & Killen, 2016a). Notably, rather than conforming to the status quo that they had witnessed, children's independent evaluations of the inequality and social knowledge

about similar disparities in society supported their decisions to change the established resource distribution patterns.

Together, these studies highlight both the development of cooperation in groups and the role of independent thinking in contexts that call for moral judgments. Despite being confronted with groups that exclude others or with group disparities in access to resources, a majority of (but not all) children made the moral judgment to challenge the group to be inclusive or to rectify an inequality based on racial background.

16. Conclusions

Tomasello's discovery of spontaneous displays of sociality in early development is ground-breaking. These data provide evidence that sociality and morality do not need to be literally taught to young children who are either thought of as a "blank slate," "selfish," or "aggressive." Surprisingly, the view that toddlers are "selfish" and "aggressive" lives on in current pediatric guidebooks for raising young children despite evidence to the contrary. In fact, children have a social predisposition and an orientation toward social others, both adults and peers. Thus, fostering positive peer relationships and facilitating constructive methods of conflict resolution are warranted and most effective. While there is little question that Tomasello's (2015) book is compelling and powerful, there are several issues that warrant further thought and research.

First, while cooperation is a hallmark of sociality and human evolution, it provides a basis for morality, but it is not the same as morality. Similarly, interdependence may have enabled morality to emerge in human evolution, but alone it is not enough to give rise to morality. Along with cooperation, *conflict* is essential for the change to occur. Along with interdependence, independent, *autonomous* thinking is necessary to determine when cooperation is for good or evil ends and for challenging groups that have cooperated to inflict harm or unfair treatment on others.

Second, research that investigates children's judgments, reasoning, and intentions is necessary for understanding the origins and development of morality. What we have learned is that moral reasoning is not defined by group norms, group identity, or group ideologies; instead, it is defined by principles pertaining to the just, fair, and equal treatment of others, independently of groups, as well as authority figures. This does not mean that group norms, group identity, and group ideologies do not have significant impacts on moral reasoning. Clearly, group norms are a significant source of influence on how individuals make moral judgments. In many cases, children justify social exclusion and unequal allocation of resources with conventional explanations, referring to traditions, customs, and authority expectations.

Group identity and group norms are essential for development, providing a buffer against negative inter-individual treatment. But group norms can also have negative goals from a moral perspective. Humans have to determine what makes inter-individual treatment fair or unfair, equal or unequal, and these decisions are made with autonomous thinking. Groups exert powerful forms of pressure that are hard to challenge, but it can be done. Individuals challenge groups to promote principles of justice, and this is how many movements organized to create social justice and a society of equals have been successful.

Third, what may appear to be a spontaneous demonstration of helping or cooperating may in fact reflect: (1) a desire for personal gain based on prior expectations about the relationship (e.g., a child helping an adult may expect a reward), (2) a negatively motivated desire to help one person to deny someone else their due, or (3) a desire to rectify a social inequality. Intentions, judgments, reasoning, behavior, and analyses of context are all important measures for understanding the motives, intentions, and goals of cooperative behavior and whether it is negative or positive from a moral viewpoint. For example, group expectations exist about who counts as a member of the in-group, which is the basis for group loyalty. Group ideologies also impose norms about gender roles, individual rights, and the power of authority to make changes affecting individuals' lives.

Finally, children and adolescents will reject an authority's decision to support a moral transgression and reject group consensus as the means by which to evaluate a transgression as legitimate or wrong. Even more surprising, perhaps, is that children and adolescents will go so far as to rectify social inequalities through decisions about how to allocate resources, and they will challenge groups that have norms that reflect stereotypic expectations based on group membership. These actions and judgments are not easy, and children and adolescents are also aware of the costs and consequences of challenging and rectifying inequalities. Not all children or adolescents will go along with these moral decisions, and many will defer to group consensus or authority expectations to conform to group norms that maintain the status quo. Understanding the factors that contribute to the perpetuation of unfair treatment in childhood is enormously important because this understanding may provide a window for intervention. By adulthood, social injustice is pervasive and institutionalized throughout all cultures and societies (to varying degrees). Childhood is the time for change, and provides hope for the next generation. A just society involves not only fairness but also social equality, which has only been widely supported for the past 150 years, an eye blink in the evolution of human civilization. Creating a "society of equals" by facilitating moral judgment in childhood is a goal for furthering the natural history of morality.

Acknowledgments

Thanks to Neil Roughley for inviting me to the Marbach castle for a stimulating discussion of Tomasello's book, and for deftly organizing the workshop, supported by the Jacobs Foundation. I am extremely grateful for the constructive and insightful feedback from Audun Dahl, Amanda Burkholder, Alexander D'Esterre, Laura Elenbaas, Leon Li, Michael T. Rizzo, and an anonymous reviewer.

Disclosure statement

No potential conflict of interest was reported by the author.

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