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CHAPTER FIVE

The Developmental Origins of Dehumanization

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Contents

Abstract

Dehumanization is a complex social phenomenon, intimately connected to intergroup harm and neglect. However, developmental research has only recently started to investigate this important topic. In this chapter, we review research in areas closely related to dehumanization including children's intergroup preferences, essentialist conceptions of social groups, and understanding of relative status. We then highlight the small number of recent studies that have investigated the development of this social bias more directly. We close by making a series of suggestions for future research that will enable us to better understand the nature and causes of this harmful phenomenon.

1. INTRODUCTION

The negative effects of undermining a person's humanity (dehumanization) have been documented in historical literature (Allport, 1954; Chalk & Jonassohn, 1990; O'Brien, 2003; Tirrell, 2012) and continue to

be relevant today. Dehumanization is an integral aspect of racism and other forms of prejudice (Jahoda, 1999; Kteily, Bruneau, Waytz, & Cotterill, 2015; Smith, 2012). Throughout Western Europe and the United States, portrayals of immigrant groups in the media and political debates have subtly, and sometimes explicitly, questioned the human status of these individuals (Esses, Medianu, & Lawson, 2013; Sanneh, 2016; Schmuck & Matthes, 2015; Shah, 2015). When individuals are dehumanized, they are more likely to be treated harshly (Bandura, 1999; Goff, Eberhardt, Williams, & Jackson, 2008; Viki, Osgood, & Phillips, 2013) and less likely to receive humanitarian aid (Andrighetto, Baldissarri, Lattanzio, Loughnan, & Volpato, 2014; Cuddy, Rock, & Norton, 2007).

A great deal of research has investigated the origins of stereotyping, prejudice, and discrimination among young children (Aboud, 1988; Banaji, Baron, Dunham, & Olson, 2008; Bigler & Liben, 2007; Over, 2017). However, studies investigating the development of dehumanization have, until recently, been rare. It is not clear why dehumanization has been overlooked by developmental psychologists. Perhaps it is because paradigms used to study this phenomenon often involve comprehension of higher order emotions and traits (Bain, Vaes, Kashima, Haslam, & Guan, 2011; Chas, Betancor, Rodríguez-Pérez, & Delgado, 2015; Demoulin et al., 2004) and rely on complex verbal instructions. Despite this challenge, a handful of recent studies have started to directly investigate dehumanization among children.

The study of dehumanization is interesting for developmentalists because, as well as being a predictor of intergroup harm and neglect (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Čehajić, Brown, & González, 2009; Moller & Deci, 2009), dehumanization is closely related to central topics within the field of social cognitive development including essentialism (Hirschfeld, 1995, 1996) and mental state attribution (Wellman, 2002; Wellman & Bartsch, 1988). In this chapter, we discuss influential accounts of dehumanization from the social psychological and philosophical literatures and then use this research as a basis from which to understand the developmental origins of this phenomenon in young children. We expect that this line of research will provide insight into difficulties children face in their social lives, for example, in the form of bullying and discrimination (Bastian & Haslam, 2010; Obermann, 2011). In addition, we hope that identifying how dehumanizing biases originate in development may ultimately contribute to research-led interventions to improve intergroup relations among children (for e.g., see Aboud et al., 2012).

2. CONCEPTUALIZING DEHUMANIZATION

A basic definition of dehumanization is relatively easy to summarize—it involves the belief that certain individuals (most commonly members of particular social groups) are less human than others (Tajfel, 1981; Vaes, Leyens, Paladino, & Miranda, 2012). Beyond this basic definition, however, accounts differ in terms of what they consider to be the key features of the phenomenon.

Early social psychological theorizing on this topic sought to understand how dehumanization relates to genocidal atrocities and mass violence committed in times of war (Bar-Tal, 1989; Schwartz & Struch, 1989; Staub, 1989). Work in this tradition focused on the idea that dehumanization involved a weakening of moral inhibitions against causing harm to others (Bandura, 1991, 1999; Kelman, 1973) and a tendency to exclude them from moral consideration (Opotow, 1990).

Smith (2012) analyzed the concept of dehumanization in greater detail and provided an empirically informed philosophical account of what is involved in considering a group to be "less than human." He delineates certain features of this process that appear to be shared across atrocities perpetrated against marginalized groups. He argues that, to be dehumanized, an outgroup member must be denied a human "essence." Although a denigrated social group may appear to be physically human, they lack an essential, inner human quality. This outlook is linked to an assumption of outgroup homogeneity, i.e., that each member of the dehumanized group lacks a human essence. Smith (2012) also points out the dehumanization is closely associated with a perception that the dehumanized group is not only disliked but also lower in status—the group is not just *un*human but *less than* human.

Recent psychological research has extended the focus of dehumanization research beyond the study of extreme violence to incorporate more implicit and everyday examples of the phenomenon present in society more broadly. Researchers in this tradition have sought to empirically establish which traits and characteristics individuals associate with humanness (e.g., see Demoulin et al., 2004; Haslam, Bain, Douge, Lee, & Bastian, 2005) and used their attribution of these qualities to understand differential perceptions of in- and outgroup members.

Leyens et al. (2000, 2001) were the first to operationalize the more subtle and relative way we ascribe humanness to different groups. Similar to

Smith (2012), Leyens et al. (2000) assumed that adults reserve a perceived human essence for members of their own social groups. To study this claim empirically, Leyens et al. (2000) first established which traits adults typically include in their concept of humanity. They suggested that "humanness" was associated with intelligence, language, reasoning, and emotions. Choosing to focus on emotions, they further suggested that secondary emotions such as remorse, admiration, and nostalgia are specifically connected to humanness, whereas basic emotions such as sadness, fear, and pleasure are shared between humans and other animals (Ekman, 1992). Their experimental work revealed that adults attribute secondary emotions more strongly to members of their own group than to members of other social groups (Boccato, Cortes, Demoulin, & Leyens, 2007; Cortes, Demoulin, Rodriguez, Rodriguez, & Leyens, 2005; Demoulin et al., 2009). This more subtle form of dehumanization dealing with emotion perception is referred to as "infrahumanization."

Haslam (2006) developed a related theory that also concentrated on the ways in which we assign uniquely human characteristics to members of different social groups. Haslam argues that we conceptualize humanness along two dimensions: one based on the comparison between human and animals (similar to infrahumanization) and another based on the comparison between humans and automata (Loughnan & Haslam, 2007). Haslam refers to the denial of uniquely human traits (e.g., rationality, culture) as animalistic dehumanization and argues that it is linked to feelings of disgust for an outgroup. He refers to denial of human nature traits (e.g., individuality, warmth) as mechanistic dehumanization and reasons that it facilitates the perception of psychological distance from an outgroup. In this conceptualization, dehumanization is viewed as a continuum, where associations between outgroups and animalistic and/or mechanistic concepts can lead to serious harm (e.g., proclivity for torture and sexual aggression; Rudman & Mescher, 2012; Viki et al., 2013) or to less serious violations (e.g., a reduced willingness to help; Andrighetto et al., 2014).

Leyens et al. (2001) and Haslam (2006) both allude to the idea that the concept of humanness is connected to the concept of having a mind. For some researchers, a reduced tendency to attribute mental states to outgroup members is the defining feature of dehumanization. Harris and Fiske (2009, 2011) conceptualize dehumanization as the failure to spontaneously consider the mental life of others. This definition is situated within the stereotype content model of social perception (Fiske, Cuddy, Glick, & Xu, 2002) which posits that adults evaluate social groups on their perceived warmth

and competence. Ingroup members are regarded to be high on both dimensions but members of certain outgroups (e.g., drug addicts, homeless people) fall into the low–low quadrant and are thus vulnerable to dehumanizing perceptions. Harris and Fiske (2006) provided neuroscientific data suggesting that participants display less activity in brain regions associated with mentalizing (e.g., medial prefrontal cortex; Amodio & Frith, 2006; Frith & Frith, 2006) and use fewer mental state verbs when considering the life of, for example, a homeless person.

It is clear even from this short summary that dehumanization is a complex and contested concept and that dehumanizing biases can take different forms (Bain, 2014; Fiske, 2009; Haslam & Loughnan, 2014; Opotow, 1990; Smith, 2014). The particular definition adopted has implications for our understanding of the developmental origins and trajectory of the phenomenon, as we discuss in more detail. For now, we note that certain themes emerge as common across the definitions we have presented. Dehumanization is commonly associated with the denial of mental states and human-like traits to perceived outgroups, reasoning about social groups in essentialist terms, and considering outgroup members as both less likeable than ingroup members and lower in status. In the next two sections, we briefly outline developmental research on each of these topics.

3. CHILDREN'S UNDERSTANDING OF HUMANNESS

If dehumanization involves the perception of others as "less than human" (Haslam, Kashima, Loughnan, Shi, & Suitner, 2008; Kteily et al., 2015; Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007; Smith, 2012), then it follows that to dehumanize other social groups it is first necessary to understand something about what it means to be human. Next, we discuss how children begin to reason about human and nonhuman agents and the emergence of mental state understanding.

3.1 Perception of Agency

Developmental research has tended to focus not on children's explicit understanding of "humanness" but rather on how children come to differentiate animate from inanimate agents (Legerstee, 1992) and on the type of the expectations they form about these animate entities (Johnson, 2000). Empirical work has demonstrated that infants distinguish between the actions of human and nonhuman agents and reason about them differently (Woodward, Sommerville, & Guajardo, 2001). For example, infants appear

to infer that human actions are driven by internal goals and intentions, whereas the actions of mechanical devices are not (Meltzoff, 1995; Woodward, 1998; Woodward, Phillips, & Spelke, 1993). Certain cues seem to be particularly important in influencing the attribution of agency: the presence of facial features, self-propelled motion, and whether an agent engages in some form of contingent, social interaction (Beier & Carey, 2014; Johnson, Slaughter, & Carey, 1998; Leslie, 1994; Premack, 1990).

When considering children's perception of agency, it is interesting that research with infants and young children often uses animated characters rather than human actors as stimuli (Hamlin, Wynn, & Bloom, 2007; Johnson, 2003; Over & Carpenter, 2009; Song, Over, & Carpenter, 2015; Springer, Meier, & Berry, 1996). These stimuli can often be as simple as moving shapes (Hamlin et al., 2007). It appears that children readily attribute social qualities to characters of this type (Hamlin & Wynn, 2011; Powell & Spelke, 2013), perhaps reflecting the origins of anthropomorphism in which children overattribute human-like qualities to nonhuman agents. Other work has focused more directly on anthropomorphism and shown that younger children are more likely to anthropomorphize animals and inanimate objects than are older children (Kahn et al., 2012; Severson & Lemm, 2016).

3.2 Mental State Understanding

Researchers from several different traditions have converged on the idea that concept of humanity is closely related to having a mind (Harris & Fiske, 2011; Waytz, Epley, & Cacioppo, 2010). In developmental research, "theory of mind" refers to the capacity to understand that other people possess mental states that are independent from, and sometimes different to, our own (Baron-Cohen, Leslie, & Frith, 1985; Wellman, 1990; Wimmer & Perner, 1983). From a very young age, children are able to reason about the intentions (Carpenter, Akhtar, & Tomasello, 1998; Meltzoff, 1995), desires (Repacholi & Gopnik, 1997), and perhaps even the beliefs (Buttelmann, Carpenter, & Tomasello, 2009; Onishi & Baillargeon, 2005; Southgate, Senju, & Csibra, 2007) of others (although see Heyes, 2014; Wellman, Cross, & Watson, 2001 for alternative accounts). Other research has examined the development of emotion understanding and suggested that 5-year-old children can make inferences about complex emotions such as guilt and remorse (Vaish, Carpenter, & Tomasello, 2011). Children's comprehension of uniquely human emotions continues to develop significantly throughout middle

childhood. For example, the experience and understanding of secondary emotions, including embarrassment, pride, and shame, steadily increase between the ages of 5 and 12 years of age (Bennett, 1989; Buss, Iscoe, & Buss, 1979; Harris, Olthof, Terwogt, & Hardman, 1987; Seidner, Stipek, & Feshbach, 1988; Tangney & Fischer, 1995).

4. THE DEVELOPMENT OF INTERGROUP BIAS

Research investigating the origins of intergroup cognition has established that some of the psychological constructs linked to dehumanization are present from relatively early in development. In the next section, we briefly outline developmental research on essentialist beliefs about social group members (Rhodes, Leslie, & Tworek, 2012), perceptions of outgroup homogeneity (Bennett et al., 2004; Nesdale, Maass, Griffiths, & Durkin, 2003), negativity toward outgroup members (Cameron, Alvarez, Ruble, & Fuligni, 2001), and sensitivity to the relative status of different groups (Nesdale & Flesser, 2001).

4.1 Social Essentialism

A number of prominent theories have conceptualized dehumanization as denying a human essence to members of other groups (Haslam & Loughnan, 2014; Leyens, 2009; Smith, 2012, 2014). Essentialism refers to the belief that members of social groups share inherent and unchangeable traits that remain true of group members even when their physical appearance changes (Gelman, 2003; Haslam, Rothschild, & Ernst, 2000; Prentice & Miller, 2007). Empirical research has examined essentialism in general rather than the attribution of a specifically "human essence." This research has illustrated that young children often assume that members of particular genders (Rhodes & Gelman, 2009; Taylor, Rhodes, & Gelman, 2009), language groups (Kinzler & Dautel, 2012), races (Astuti, Solomon, & Carey, 2004; Kinzler & Dautel, 2012; Waxman, 2010), and ethnicities (Birnbaum, Deeb, Segall, Ben-Eliyahu, & Diesendruck, 2010; Diesendruck & HaLevi, 2006) share underlying qualities in common. Individual differences in the tendency to essentialize particular social groups predict the amount of stereotyping children engage in about those groups (Gelman, 2004; Pauker, Ambady, & Apfelbaum, 2010), and essentialized group members are less likely to be offered resources when children make sharing decisions (Rhodes, Leslie, Saunders, Dunham, & Cimpian, 2017).

Related to essentialized concepts of social groups, Smith (2012) argues that dehumanization involves believing that outgroup members are homogenous in their lack of a human essence. The phenomenon of "outgroup homogeneity" (Quattrone & Jones, 1980; Simon, 1992) refers to the belief that outgroup members are more similar to each other in their traits than are ingroup members who are thought of as having more varied and unique qualities. McGlothin and colleagues studied perceptions of outgroup homogeneity in the context of racial groups and showed that 6- and 9-year-old White children estimate that two Black children are more likely to hold the same interests than are two White children (McGlothlin & Killen, 2005; McGlothlin, Killen, & Edmonds, 2005).

4.2 Outgroup Negativity

Dehumanization is thought to typically cooccur alongside a negative view of the dehumanized group. Researchers interested in the use of dehumanizing metaphors have pointed out that outgroup members are usually compared to animals or entities that have negative connotations (e.g., "disgusting" rats and "threatening" beasts; Buckels & Trapnell, 2013; Goff et al., 2008; Jahoda, 1999; Tirrell, 2012). From early in development, children hold both explicit and implicit preferences for members of their own social groups over members of other social groups. Within Western contexts, young children prefer members of their own gender (La Freniere, Strayer, & Gauthier, 1984; Martin & Ruble, 2004; Shutts, Banaji, & Spelke, 2010; Yee & Brown, 1994), language (Buttelmann, Zmyj, Daum, & Carpenter, 2013; Kinzler, Dupoux, & Spelke, 2007), and sometimes racial group (Baron & Banaji, 2006; Doyle & Aboud, 1995; Dunham, Baron, & Banaji, 2007; Kircher & Furby, 1971). Indeed, ingroup positivity can be induced in lab-based settings with novel groups based on arbitrary criteria (Dunham, Baron, & Carey, 2011; Richter, Over, & Dunham, 2016).

Evidence of outgroup negativity appears to emerge somewhat later in development than ingroup preference (Brewer, 1999). Buttelmann and Böhm (2014), for example, found that 8-year-old, but not 6-year-old, participants opted to give undesirable items to members of a perceived outgroup (see also Aboud, 2003; Benozio & Diesendruck, 2015). Whereas some researchers have provided evolutionary explanations for this developmental trajectory (Brewer & Caporael, 2006; Caporael, 1997), others have emphasized the role of learning in the emergence of outgroup negativity (Over, Eggleston, Bell, & Dunham, 2017).

4.3 Relative Status

Dehumanization is associated with perceptions of a group's social status as dehumanized groups are generally perceived as lesser or inferior beings (Capozza, Andrighetto, Di Bernardo, & Falvo, 2011; Harris & Fiske, 2006; Smith, 2012; Vaes & Paladino, 2009; Viki & Calitri, 2008). Developmental work has suggested that young children are sensitive to the hierarchical nature of society (Bigler, Brown, & Markell, 2001; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011). This sensitivity emerges relatively early—children as young as 3 years of age associate wealth with higher status racial groups (Olson, Shutts, Kinzler, & Weisman, 2012). Children's knowledge of the relative status of group members also impacts their judgements of novel occupations. They are more likely to perceive a job as prestigious when it is performed by a White male (Bigler, Averhart, & Liben, 2003; Liben, Bigler, & Krogh, 2001). Furthermore, the perceived status of a social group influences young children's intergroup attitudes. Several studies have revealed that children favor members of high status groups (Horwitz, Shutts, & Olson, 2014; Nesdale & Flesser, 2001; Newheiser & Olson, 2012; Shutts et al., 2011).

From reviewing the literature, many of the features typically associated with dehumanization are in place from relatively early in development. In what remains of this chapter, we will review the small but growing body of research that directly investigates dehumanization among children.

5. DEHUMANIZATION AMONG CHILDREN

Van Noorden, Haselager, Cillessen, and Bukowski (2014) developed a measure to assess mechanistic and animalistic dehumanization in children (aged 7–12 years) toward groups defined on friendship status. The participants were asked whether six aspects of humanness applied to peers who either were or were not their friends. Three of these aspects of humanness were related to human nature/mechanistic qualities (i.e., trustworthy, friendly, sociable), and three were related to uniquely human/animalistic qualities (i.e., humble, thorough, polite). Van Noorden et al. (2014) found that children attributed significantly more human traits of both types to friends than to nonfriends. In a related study, Costello and Hodson (2014) examined how children understood dehumanization in a racial group context. Focusing on animalistic forms of dehumanization, they found that 6- to

10-year-old White children thought Black children possessed fewer uniquely human traits (e.g., curiosity, creativity) and emotions (e.g., embarrassment, guilt) than did ingroup members. An interesting facet of their findings was that this bias was associated with a stronger endorsement of the divide between humans and animals.

Further research has investigated biases in emotion attribution (infrahumanization) with children and adolescents in peer group contexts. For example, in a longitudinal study, 11- and 16-year-old participants who had infrequent contact with students from another educational institution were less likely to specify complex emotions (e.g., sympathy, hope) in their evaluation of these outgroup peers (Brown, Eller, Leeds, & Stace, 2007). In closely related research, Chas et al. (2015) found that 11- and 12-year-olds attributed fewer secondary emotions (e.g., enthusiasm, stress) to fans of a sports team with whom they were competing. Martin, Bennett, and Murray (2008) also used a similar paradigm to assess the development of infrahumanization in younger children. They asked 6- to 7-year-old and 10- to 11-year-old Scottish participants to rate the intensity of primary (e.g., anger) and secondary emotions (e.g., pride) experienced by their national football team and the English football team after a loss and a win. Children across both age groups predicted that ingroup members would experience more intense secondary emotions compared to primary emotions. In comparison, their intensity ratings for the outgroup did not vary depending on the type of emotion in question. Taken together, these results seem to provide an interesting parallel to research on dehumanization and infrahumanization with adults (Boccato et al., 2007; Castano et al., 2009; Gaunt, Sindic, & Leyens, 2005). However, it remains for future research to determine whether children conceive of humanness in a similar way as do adults (e.g., see Betancor Rodriguez, Chas Villar, Rodriguez-Perez, & Delgado Rodriguez, 2016).

McLoughlin, Tipper, and Over (2017) recently investigated the origin of dehumanizing perceptions. Across two studies, they presented 5- and 6-year-old children with ambiguous doll-human faces and asked them to rate how human they believed the faces were on a 4-point scale (0 = Not human, 1 = A little human, 2 = A medium amount human, 3 = Completely human; see Fig. 1A). In one study, the group division was based on gender (see Fig. 1B), and in another study, the group division was based on geographical location (see Fig. 1C). The older children (6-year-olds) perceived the faces to be less human when they belonged to the outgroup, and this

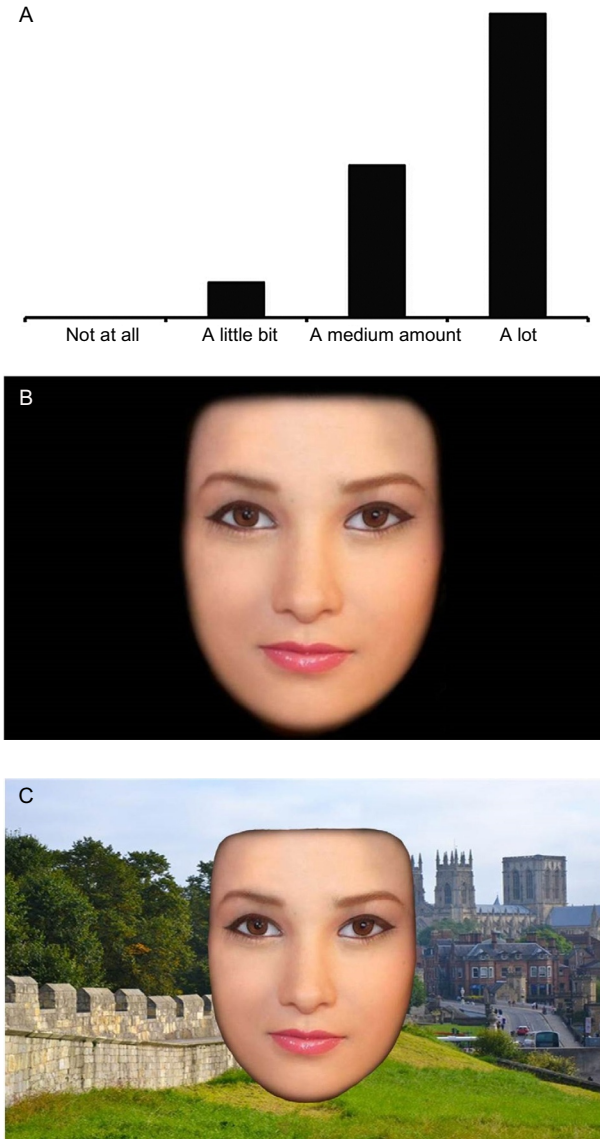Fig. 1 Materials for McLoughlin et al. (2017): (A) the 4-point measurement scale that was used to measure children's perception of humanness, (B) an example test trial in Study 1 with gender groups, and (C) an example test trial in Study 2 with geographically based groups. The face morph stimuli were originally developed by Looser and Wheatley (2010) and were kindly made available by Hackel, Looser, and Van Bavel (2014).

effect held across both types of group manipulation. Importantly, this developmental pattern appeared to be driven by a decrease in children's humanness ratings for outgroup members rather than an increase in their humanness ratings of ingroup members. This developmental trend is mirrored in work examining the related construct of pain perception (Loughnan et al., 2010; Waytz, Gray, Epley, & Wegner, 2010). In two studies, White children's belief that Black children feel less pain than do other White children gradually emerged between the ages of 5 and 10 (Dore, Hoffman, Lillard, & Trawalter, 2014; Dore, Hoffman, Lillard, & Trawalter, 2017). Interestingly, both McLoughlin et al. (2017) and Dore et al. (2014) also found that increases in children's dehumanizing biases were not correlated with their explicit preferences for members of their own group.

Other relevant research has shown that, like adults (Harris & Fiske, 2011), children spontaneously refer to mental states less often when describing the behavior of outgroup members. McLoughlin and Over (2017a) presented 5- and 6-year-olds with animations that depict interacting geometric shapes known to elicit mental state language in children and adults (Abell, Happé, & Frith, 2000; Springer et al., 1996). As in McLoughlin et al. (2017) the perceived group membership of the characters was manipulated across two social categories—gender and geographical origin. Children spontaneously produced fewer mental state words when describing the behavior of animated characters they believed belonged to their outgroups. Older children (6-year-olds) also referred to a smaller number of unique mental state terms when describing members of other social groups (see Tables 1 and 2 for an example description and coding of that description). In other words, their descriptions of outgroup members' mental states were less diverse. Although broadly related to the topic of dehumanization, it remains unclear whether this is an example of outgroup dehumanization per se. There may be contexts in which we do not attribute complex mental states to others but do not dehumanize them either. For example, people attribute less of a mind to babies than they do to adults (Gray, Gray, & Wegner, 2007) but they probably do not dehumanize babies in other ways (Smith, 2012). Furthermore, some individuals, such as those with autism, may be less likely to spontaneously reflect on the mental states of other people in general (Baron-Cohen, 2000; Chevallier, Kohls, Troiani, Brodkin, & Schultz, 2012) but there is no evidence to suggest that they are more likely to dehumanize other groups.

Table 1 Example of a Child's Description of Gender In- and Outgroup Characters (McLoughlin & Over, 2017a)

Condition	Prompt	Response
Ingroup	"What do you think was happening in the video?"	"So, hmmm, so like that one was knocking on the door and then that one didn't know who it was so she hi–, so that one hided behind it because she was going to scare her"
	"What do you think the girls were doing?"	"Maybe they were having like a little game and they have to just scare each other"
	"Tell me about this girl"	"She was inside and wondering who was outside knocking on the door"
	"Tell me about this girl"	"That girl was cheeky and wanted to scare her"
Outgroup	"What do you think was happening in the video?"	"They were, they were like dancing inside the, that's going to be the house, and they're dancing inside their house and then that one decided to play outside and his 'nother friend didn't want to play outside so he bringed him outside"
	"What do you think the boys were doing?"	"And then they had a little dance"
	"Tell me about this boy"	"Hmm, he wanted to stay outside"
	"Tell me about this boy"	"He wanted to stay in"

Table 2 Coding of the Example Description for Mental State Content (McLoughlin & Over, 2017a)

Condition	Mental State Terms	Total Number of Mental State Terms	Diversity of Mental State Terms
Ingroup	to know, to scare (3), to wonder, cheeky, to want	7	5
Outgroup	to decide, to want (3)	4	2

6. QUESTIONS FOR FUTURE RESEARCH

The concept of dehumanization has only quite recently been intro-duced into the developmental literature. As a result, a great many questions offer themselves as important topics for future research. We highlight a small number of questions that we deem to be particularly interesting.

One question that comes immediately to mind is when in develop-ment different aspects of dehumanizing biases first appear. Understanding this question depends, in part, upon how dehumanization is concep-tualized. If dehumanization is operationalized as an explicit belief that out-group members are less than human, then it follows that children must be able to understand at least something about the concepts of "humanness" and relative status before they can dehumanize others (Betancor Rodriguez et al., 2016; Chas et al., 2015; Martin et al., 2008; Smith, 2012; Van Noorden et al., 2014). However, if dehumanization is defined as failure to attribute mental states to outgroup members (Harris & Fiske, 2009; Waytz, Gray, et al., 2010), then young children might show signs of this damaging bias before they are able to explicitly articulate what it means to be human.

A related question concerns the nature of the developmental trajectory of dehumanization. At least two possibilities present themselves. First, children may initially attribute human–like qualities equally to members of their own group and other groups but come, over time, to dehumanize members of perceived outgroups. Evidence for this developmental pattern is supported to some extent by McLoughlin et al. (2017) who found that 6–year–olds per-ceived less humanness in outgroup faces than did 5–year–olds and Dore and colleagues who showed that the belief outgroup children experience less pain than do ingroup children increases with age (Dore et al., 2014, 2017). An alternative possibility is that children may differ in their percep-tions of ingroup and outgroup members from as early as it is possible to mea-sure their behavior. Investigating, for example, children's attribution of mental states to group members across multiple age groups, including with infants, could help to disentangle these different possibilities.

Another question relates to the contribution of environmental factors to the development of dehumanization. If dehumanization is at least partially learned, then it is important to explore what environmental cues might influence its development. Previous research has demonstrated that dehu-manizing descriptions (Esses et al., 2013; Goff et al., 2008; Vaes, Latrofa,

Suitner, & Arcuri, 2017) and pictorial representations (Bleiker, Campbell, Hutchison, & Nicholson, 2013) of perceived outgroups are common within the media and that individuals differ in the ways in which they discuss the behavior of social groups (Harris & Fiske, 2011; Maass, Salvi, Arcuri, & Semin, 1989; McLoughlin & Over, 2017a; Segall, Birnbaum, Deeb, & Diesendruck, 2015). Future research ought to investigate whether these subtle differences in expression are sufficient to induce or exacerbate dehumanizing biases in young observers. Cross cultural research (for e.g., see Dunham, Baron, & Banaji, 2006; Lillard, 1998; Over & Uskul, 2016) will be highly informative in understanding the contributing factors found in children's specific environments to this phenomenon. When contemplating the role of learning, it is also interesting to consider whether the environmental factors that influence the development of outgroup negativity (Over et al., 2017), essentialism (Rhodes et al., 2012), and the perceived status of social groups (Bigler et al., 2001) are similar to or different from the environmental cues that influence dehumanization. In addition to this, it will be important to identify the individual differences that matter in children's tendency to dehumanize others. For instance, research with adults has shown that conservative (DeLuca-McLean & Castano, 2009) and nationalistic ideals (Viki & Calitri, 2008), as well as less knowledge of social outgroups (Rodríguez Pérez, Delgado Rodríguez, Betancor Rodríguez, Leyens, & Vaes, 2011) are positively correlated with the extent to which they dehumanize members of perceived outgroups.

Understanding the developmental origins of dehumanization may ultimately help us to develop interventions to reduce its harmful consequences in children's everyday interactions (e.g., bullying; Menesini et al., 2003; Pozzoli, Gini, & Vieno, 2012; Van Noorden et al., 2014). Beyond this, research-led interventions may offer promising routes for tackling the effects of dehumanization before they become deeply entrenched later in development (Dunham & Degner, 2010). In a recent effort, McLoughlin and Over (2017b) found that 5- and 6-year-olds who were encouraged to mentalize about an immigrant group were more helpful toward a novel victim belonging to that group. Mental state attribution is only one aspect of this complex social phenomenon (Smith, 2012); therefore, future research is required to explore whether reinforcing the humanity of vulnerable social groups in other ways is successful in alleviating the negative, and often detrimental, outcomes of dehumanization in young children (e.g., see Albarello & Rubini, 2012; Bruneau, Cikara, & Saxe, 2015; Vezzali, Capozza, Stathi, & Giovannini, 2012).

7. CONCLUSION

Dehumanization has long been considered an important topic in philosophy (Redeker, 2007; Rorty, 1993; Smith, 2014), sociology (Esses, Veenvliet, Hodson, & Mihic, 2008), and social psychology (Bain, Vaes, & Leyens, 2014; Kelman, 1973; Waytz, Epley, et al., 2010). However, developmental researchers have only started to explore the concept of dehumanization among children (Chas et al., 2015; Costello & Hodson, 2014; Martin et al., 2008; McLoughlin & Over, 2017a; McLoughlin et al., 2017; Van Noorden et al., 2014). In this chapter, we sought to summarize the recent developmental research and reflect on the origins of this complex intergroup bias. We hope that our review will serve as a springboard for future research to investigate the ways in which developmental psychology can contribute to our understanding of the phenomenon more generally.

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