Growing Racial Resilience: The Impact of Mindsets on the Development of Prejudice

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Abstract
Previous studies have indicated a strong link between lay theories and the development of prejudice. The purpose of this article is to review past studies that have examined the relation between a specific lay theory (mindset) and the development of prejudice, as well as highlight areas for future research that will contribute to our theoretical understanding of mindsets (and their relation to prejudice). Specifically, we highlight the need for future studies to examine mindsets from the target’s perspective, to explore how contextual cues may influence the development of mindsets over time, and to observe how mindsets motivate collective action among majority group members. Future studies focused on these areas will deepen the field’s theoretical understanding of the impact of mindsets on the development of prejudice. Such knowledge, in turn, can inform the construction of future mindset interventions that foster sustainable and concrete improvements in interracial relations and ultimately promote racial equity.

Keywords
Mindsets · Stereotyping · Prejudice · Intergroup relations · Developmental interventions · Lay theories

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Children develop racial biases and stereotypes as early as preschool (e.g., Raabe & Beelmann, 2011; Rhodes & Baron, 2019; Shutts, 2015), yet they do not start exhibiting exclusionary behavior and a decline in interracial friendships until around middle childhood (Pauker et al., 2017). Increases in exclusionary behavior (e.g., greater racial discrimination; Hughes et al., 2016) and decreases in interracial friendships (Aboud et al., 2003) raise critical questions regarding how these stereotypes and prejudice develop to cause racially discriminatory behavior. Given that positive interracial interactions become increasingly scarce during middle childhood, how do we, as researchers, educators, and social activists, intervene in a way that facilitate productive interactions and discussions about racism that ultimately promote racial equity from a young age?

Social and developmental psychologists have worked for decades to better understand the causes and consequences of stereotyping and prejudice in childhood (see Levy & Killen, 2008). Current theories of prejudice development emphasize the importance of both children’s so-
cial cognitive skills and their sociocultural contexts in contributing to prejudice (e.g., Bigler & Liben, 2006). Studies have shown that the development of advanced social cognitive skills (i.e., integrating multiple perspectives, categorizing along multiple dimensions, second-order mental state understanding) relates to decreases in stereotyping and prejudice with age (Bigler & Liben, 1993; Doyle & Aboud, 1995; Fitzroy & Rutland, 2010). Additionally, factors within a child’s sociocultural context, such as intergroup contact (Pettigrew & Tropp, 2006) or exposure to counter-stereotypic exemplars (Gonzalez et al., 2021), have been shown to reduce prejudice as well (see Aboud et al., 2012 for a review).

While previous studies have connected both advances in children’s social cognition and various aspects of their sociocultural context to the development of prejudice, developmental theories of stereotyping and prejudice also emphasize the active role that children play in interpreting information presented in their sociocultural context (Aboud & Amato, 2001; Bigler & Liben, 2007). While the interpretation of their sociocultural context undoubtedly depends on their social cognitive development, other individual differences, particularly children’s lay theories, serve as frameworks that direct how children interpret and remember stereotypic or counter-stereotypic information (Levy, 1999; Levy et al., 2001). For example, a child with advanced cognitive skills who could combat stereotyping and prejudice, may not be motivated to do so, depending on their lay theories. Thus, understanding how children’s lay theories contribute to individual differences in stereotyping, prejudice, and discrimination can shed light on how researchers and practitioners may be able to create more effective interventions. Most interventions focus on changing children’s sociocultural context in some manner (Aboud et al., 2012), but it is also important to understand how children’s lay theories can impact children’s construal of the very same information (and thus the effectiveness of a particular intervention).

This review critically synthesizes research that examines children’s lay theories as an important variable that explains variations in children’s development of racial stereotypes, prejudice, and their approach toward race-related situations (e.g., engagement in interracial interactions, willingness to address bias). While there are many types of lay theories that can affect intergroup relations in childhood (see Levy et al., 2005), here we focus particularly on growth and fixed mindsets (Dweck, 2006).

What Are Mindsets?

Drawing influences from personality construct theory (Kelly, 1955) and attribution theory (Heider, 1958), Carol Dweck developed a theory of people’s mindsets. Mindsets refer to an individual’s implicit system of beliefs or understanding of the nature of an individual’s personality and disposition (Dweck, 2006). An individual with a growth mindset believes traits can be developed with time and deliberate effort, regardless of an individual’s existing ability and/or personality. Thus, a growth mindset involves the belief that effort leads to mastery of a specific skill or development of a specific trait. Because of this belief, those with a growth mindset are more likely to view failure as a learning experience, persist through difficult tasks, and be inspired by the success of others. On the other hand, an individual with a fixed mindset believes that traits are fixed, and therefore any effort meant to change or enhance a certain skill or characteristic is useless. Thus, individuals with a fixed mindset interpret failure as indicative of their own overall ability and/or personality, give up easily during challenging tasks, and feel threatened and discouraged by the success of others.

Dweck initially developed this theory when observing the way young children thought about their own intelligence. She was interested in why some children persisted when faced with failure, while others were more likely to give up. To understand the mechanism behind this phenomenon, Dweck conducted studies that observed the effect of children’s beliefs about intelligence – as fixed or malleable – on academic performance (e.g., Dweck & Leggett, 1988). She found that while children who had more of a fixed mindset were more likely to give up after failing a challenging task, children with a more of a growth mindset persisted for longer, even in cases where the children showed equal intellectual ability.

Though the literature on mindsets started off investigating children’s beliefs about intelligence, mindsets are conceptualized as domain specific – meaning that a child’s mindset in one domain, such as intelligence, need not be the same as their mindset in another domain, such as prejudice (Dweck, 2006; Dweck et al., 1995; Levy, 1999; Levy et al., 2001). Thus, it is important to consider the domain that is most appropriate to examine, in terms of children’s mindsets, when considering how mindsets might impact children’s motivation and engagement in racial issues and intergroup relations, more broadly (Rattan & Georgescu, 2017). The types of mindsets that have been shown to be most relevant to intergroup relations include: “kind of person” theories, personality theories,
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To measure mindsets, children are asked to report agreement or disagreement with statements such as “Everyone is a certain kind of person, and there is not much that they can do to really change that,” (“kind of person” theories; Dweck, 1999; Dweck et al., 1995), “Someone’s personality is a part of them that they can’t change very much,” (personality theories; Dweck, 1999; Dweck et al., 1995), “You can learn new things, but you can’t really change your basic intelligence,” (intelligence theories; Dweck, 1999; Dweck et al., 1995), or “People have a certain amount of prejudice and they can’t change that” (prejudice theories; Carr, Dweck et al., 2012; Pauker et al., 2021). Agreeing with these statements suggests the belief that people’s core attributes cannot change – a fixed mindset, whereas disagreeing with these statements suggests the belief that people’s core attributes can change – a growth mindset. Note that most measures of mindsets focus on beliefs about individual’s traits; in other words, they measure whether an individual (or people in general) can change a particular trait, and are neutral with regard to whether they are referring to whether the self can change or others can change. Some more recent measures focus on beliefs about a group’s traits (e.g., group theories, which measure beliefs about whether a group can change; see Plaks et al., 2004 for review).

For the purposes of this review, we include research that has: (a) measured and/or manipulated children’s mindsets; and (b) examined an intergroup outcome (e.g., stereotyping, prejudice, interracial behavior, discrimination). In addition, we review research that has examined how mindsets impact children of color’s responses when they are placed in environments that elicit negative stereotypes about their group. We will first discuss literature on how broader “kind of person” and personality theories relate to the development of prejudice, which is where the bulk of the literature investigating the relation between children’s mindsets and prejudice focuses. We will also discuss interventions that target more specific mindsets, such as beliefs about intelligence or groups. We will then review literature on the relation between prejudice theories and interracial behavior, a relatively newer area of study. Importantly, we aim to highlight areas missing within the existing literature to inform future studies in this area. In doing so, we underscore the need to move beyond just examining how mindsets may be an important factor that explains individual differences in the development of stereotyping, prejudice, and discrimination (which has been generally focused on reducing bias) to include research on how mindsets may inform children’s willingness to engage in and confront racial issues (a focus on active engagement in issues related to race, including motivation for interracial contact). Although the focus of this review is on children’s mindsets and their impact on intergroup relations, we will also review work with adults where relevant to help situate the reader and to point out where future work with children and adolescents is needed.

Essentialism versus Mindsets

Though a person’s mindset is the lay theory we will focus on in this paper, it is worth noting that the theory of mindsets has conceptual overlap with psychological essentialism – another lay theory that leads individuals to view members of a category as sharing an underlying essence that is immutable and stable across contexts. People who view a category in an essentialist manner are more likely to view that category as stable, natural, inductively powerful, and defined by discrete boundaries (Gelman, 2003; Haslam et al., 2000). In early theorizing, Allport (1954) emphasized the role that essentialist beliefs about social groups played in stereotyping, prejudice, and discrimination. More recently, developmental theories such as the Developmental Intergroup Theory (Bigler & Liben, 2006, 2007) have also emphasized psychological essentialism as an important mechanism in the development of stereotyping and prejudice. There is a substantial literature on children’s social essentialism, including their essentialist beliefs about race (Mandalaywala, 2020; Pauker et al., 2020; Rhodes & Mandalaywala, 2017). Notably, some have proposed that mindsets (particularly beliefs about whether personality can change) should be considered a subcomponent of essentialist beliefs (Haslam et al., 2006). Specifically, Haslam and colleagues argue that fixed beliefs about personality should be considered part of the “natural kinds” component of essentialism, because both tap into beliefs about immutability. Indeed, in adults, mindsets about personality and essentialist beliefs (particular items that tap into natural kinds beliefs) are moderately positively correlated (Bastian & Haslam, 2006).

It is not surprising then, that race essentialism is associated with increased stereotype endorsement, prejudice, and discrimination in both children (e.g., Diesendruck & Menahem, 2015; Hirschfeld, 1995; Mandalaywala et al., 2019; Pauker et al., 2010, 2016) and adults (e.g., Allport, 1954; Bastian & Haslam, 2006; Jayaratne et al., 2006; Williams & Eberhardt, 2008). For example, higher race es-
essentialist beliefs among children 3–10 years old predicted greater out-group racial stereotyping (e.g., Pauker et al., 2010). In other work, Rhodes et al. (2018) found that inducing essentialist beliefs about a novel social category led to decreases in resource sharing with out-group members. In other words, psychological essentialism led to increased discriminatory behavior among novel social groups.

While essentialist beliefs and fixed mindsets do have conceptual overlap and appear to relate to the development of prejudice in a similar manner, there are also important conceptual differences that have been discussed in past work (Levy et al., 2006; Madan et al., 2019; Mandalaywala, 2020): These two types of beliefs differ in their dimensionality, generality, and target. Whereas mindsets are unidimensional, domain-specific beliefs about the malleability of individuals’ and/or groups’ traits and characteristics, essentialism captures multidimensional, domain-general beliefs about whether social groups are defined by inherent essences (including the dimensions of naturalness, strict boundaries, immutability, informativeness, and homogeneity; Prentice & Miller, 2007; Rhodes & Mandalaywala, 2017). For example, mindsets involve a child’s belief about whether a particular human characteristic, such as personality or prejudice can change. On the other hand, essentialism involves various components that capture underlying assumptions about category membership (see Rhodes & Mandalaywala, 2017 for a review). Simply, mindsets focus on whether an individual (or a group in some cases) can change specific traits, whereas essentialism focuses on a constellation of beliefs (i.e., distinctiveness, naturally occurring basis, biological basis, stability, or homogeneity) about a social category, like race. Given the multidimensional nature of essentialist beliefs, results from developmental studies exploring the relation between different components of essentialism and prejudice reveal a complicated picture, whereby different components of essentialism appear to emerge at different ages and relate to prejudice in different ways (see Mandalaywala, 2020; Pauker et al., 2020 for reviews).

While both essentialism and mindsets contribute to prejudice development (and may function in similar ways, at least on the surface), we focus on mindsets specifically in this review. From an application standpoint, it may be more straightforward to implement interventions aimed at changing a child’s view of the malleability of personality or prejudice than it is, for example, to change their view that race is biologically based and immutable. Additionally, some have theorized that social essentialism may arise because of a motivated framework to protect group identity, rather than being the conceptual framework that leads to prejudice (Diesendruck, 2021). If this is the case, it may be particularly hard to reduce social essentialism if the direction of the relation flows from prejudice to essentialism (or perhaps more likely, in both directions), as children may be motivated to maintain their essentialist beliefs. Thus, a more fruitful approach may be to focus on interventions that may be less susceptible to defensive motivations (e.g., through changing mindsets rather than focusing on changing beliefs about race).

How Do Mindsets Influence the Development of Stereotyping and Prejudice?

Mindsets serve a heuristic function: they direct attention, guide interpretation, and shape behavior. They offer a causal, explanatory framework that can provide different starting assumptions and lead people along different and often diverging pathways (e.g., Levy et al., 2001). Specifically, in the domain of stereotyping and prejudice research, most studies with children have focused on how mindsets about human traits influence stereotyping and prejudice (e.g., beliefs about whether the kind of person someone is can change, beliefs about whether personality can change) are associated with the cognitive (stereotyping), affective (prejudice), and behavioral (discrimination) aspects of social injustice.

Most primitively, mindsets influence individuals’ early information processing systems. Specifically, having a growth or fixed mindset about human traits influences what information people attend to (Dweck & Yeager, 2019; Plaks et al., 2001), and therefore what they remember (Eberhardt et al., 2003; Tong & Chiu, 2002). Believing that human characteristics, in general, are fixed and that behavior is thus indicative of a person’s underlying traits leads those with a fixed mindset to develop expectations regarding that person’s behavior (Plaks et al., 2001). These trait-specific expectations are used to make trait inferences about others who may share group membership with that person, and to direct attention to stereotype-consistent information (Molden & Dweck, 2006; Plaks et al., 2001). On the other hand, believing that traits can grow and develop leads an individual to place less emphasis on behavior as indicative of underlying traits, and rather, to see variation in behavior as normal.

The influence of mindsets about human traits on attention has downstream consequences on an individual’s social cognition. Attending to stereotype-consistent information is a prominent ingredient in forming stereotypes. Stereotype formation is a cognitive process in which individuals begin to evaluate particular social groups using extreme trait judgments and consisting of
little within-group variability (Ford & Stangor, 1992; Judd & Park, 1988). Attending more to information that confirms an individual’s expectations of how others will behave contributes to the limited variability and extreme judgments that those with a fixed mindset are more likely to develop about social groups. On the other hand, attending to multiple aspects of a situation (i.e., information that does and does not confirm a stereotype) may allow an individual to have a multidimensional perspective of a social group, slowing the process of stereotype formation.

**Mindsets about Human Traits**

Levy and Dweck (1999) examined the role of mindsets about personality (e.g., beliefs about the malleability of personality) in stereotype formation among young adolescents using novel social groups. When 11- to 13-year-old primarily Latinx children were given mean (e.g., unwilling to take turns) and neutral (e.g., looked at a poster on the wall) descriptions of students from a fictitious neighborhood school, those with a fixed mindset about personality, compared to those with a growth mindset about personality, not only had significantly less favorable opinions, but also used more extreme qualifiers (i.e., very very mean) when evaluating students from this fictitious school. Those with a fixed mindset readily saw individuals from this school as sharing traits (e.g., saw the outgroup as more homogeneous and therefore extrapolated information from a few group members to the whole group) and believed those that belonged to different groups were very different. In essence, those with a fixed mindset about personality, compared to those with a growth mindset about personality, formed stereotypes more quickly and easily (Levy & Dweck, 1999).

Though no studies with children have investigated how mindsets relate to stereotype endorsement with regard to existing social groups, we can gain insight into this process from studies with adults. Across five studies, Levy et al. (1998) found that although adults with a fixed and growth mindset about human traits both showed equal knowledge of societal stereotypes about specific racial and ethnic groups, individuals with a fixed mindset were more likely than those with a growth mindset to endorse these stereotypes, believing that these traits reflected true group differences. Thus, children with a fixed mindset (when making judgments about novel groups) and adults with a fixed mindset (when making judgments about existing social groups) formulated and endorsed stereotypes to a greater degree than those with a growth mindset (Levy & Dweck, 1999; Levy et al., 1998).

Mindsets about human traits have also been shown to influence a child’s behavior (Karafantis & Levy, 2004). Engaging in volunteer work and helping those in need is heavily motivated by the belief that these prosocial acts will lead to improvement and positive changes in the recipient’s life. Thus, it is not surprising that a growth mindset about human traits, rather than a fixed mindset, is associated with greater motivation to engage in prosocial behavior. Karafantis and Levy (2004) explored the relationship between mindset and engagement in prosocial behavior and found that among 9- to 12-year-old primarily White children, the more they exhibited a growth mindset, the more they showed a desire to engage in volunteer work aimed at helping low-income, stigmatized children. In addition, having a growth mindset was also associated with higher rates of prior engagement in volunteer work.

While growth mindsets relate to children’s prosocial behavior, fixed mindsets about personality have been shown to relate to harsher punishment for negative behavior. Because those with a fixed mindset expect people’s behavior to be stable, those with a fixed mindset tend to make more negative judgments and suggest harsher repercussions for negative behavior. When told a fictitious story about a boy who engaged in negative behavior on his first day of school, fourth- and fifth-grade children with a fixed mindset about personality were more inclined to punish this boy for poor behavior (Erdley & Dweck, 1993). On the other hand, children with a growth mindset were more likely to believe that even though this boy displayed poor behavior that he could still change, thus motivating them to be more forgiving and recommend less punishment. While this research focused on an individual child’s negative behavior and how mindsets related to children’s judgments and responses to this child’s behavior, these results could easily be extrapolated to judgments about group members (particularly those who may be stereotyped as troublemakers or misbehaving in the classroom).

In sum, previous studies have explored the influence of mindsets about human traits on cognitive biases that have implications for individual differences in the development of stereotypes, prejudice, and discrimination. Specifically, children with a fixed mindset about human traits believe that behavior is indicative of underlying human characteristics, which is associated with their attention to stereotype-consistent information. On the other
Interventions Based on Mindsets about Human Traits

Since mindsets affect social cognitive processing that contributes to stereotyping and prejudice, growth mindset interventions that target an individual’s or a group’s ability to change their characteristics have been created to help mitigate stereotyping and prejudice (or the consequences of experiencing stereotyping and prejudice). For example, mindset interventions targeting beliefs about personality have been shown to increase children’s willingness to engage with novel negatively stereotyped groups (Levy, 1998). In an experimentally induced intervention, fifth-grade children watched a 10-min presentation that explained that psychologists have long debated and arrived at the conclusion that personality can change (growth mindset intervention) or cannot change (fixed mindset intervention). They were then asked to assess a group of students from another fictional school described as having some negative and neutral traits. Children in the growth compared to the fixed mindset intervention not only engaged in less stereotyping (e.g., made less extreme judgements, more situational attributions), but also reported a greater intention for intergroup contact (i.e., willingness to engage with this novel group).

Researchers have also developed mindset interventions that target children’s mindsets about group-level traits to address high-tension, seemingly insurmountable conflicts in the real world (e.g., Cohen-Chen et al., 2014; Goldenberg et al., 2016; Halperin et al., 2011). The Israeli-Palestinian intractable conflict has been a longstanding struggle and has led to enormous suffering for both parties. The researchers reasoned that adopting a growth mindset focused on how groups can change their traits may instill hope that the conflict may be resolved, increasing positive emotions and cooperation among both parties (Goldenberg et al., 2016; Halperin et al., 2011). To test this theory, Goldenberg et al. (2016) placed Jewish and Palestinian adolescents (13–15 years old) into groups, first conducted a mindset intervention, and then instructed the adolescents to engage in a number of team tasks (i.e., building the tallest tower). What they found was that those who received the growth mindset intervention training (e.g., an intervention that focused on the capacity for groups to change), compared to those who did not receive the intervention training, engaged in more cooperative intergroup behavior, which led them to win the team tasks (i.e., building taller towers). Thus, adopting a growth mindset can prove beneficial in challenging intergroup relationships, such as intractable conflicts.

Although these previous studies have examined how mindset interventions can be used to increase positive intergroup impressions or interactions, much of this work has focused on majority group children. Work that has included individuals who may be the target of intergroup biases typically focused on how researchers can mitigate the negative effects of stereotypes through creating an intervention that harnesses the power of mindsets. Indeed, mindset interventions targeting beliefs about the malleability of intelligence have been shown to mitigate situational predicaments, such as stereotype threat, that disadvantage racially marginalized students. Stereotype threat is a person’s fear of confirming a negative stereotype about their social group (Steele, 1997). This fear generates cognitive load that interferes with a stigmatized student’s ability to perform at their fullest potential. According to Aronson et al. (2002), stereotype threat imitates a fixed mindset, in that those under stereotype threat are concerned with performing in a way that does not confirm a negative stereotype (i.e., performance-oriented goals). Thus, changing the focus from performance-oriented goals to learning-oriented goals may help release the cognitive load incurred by stereotype threat for stigmatized group members.

Women and particular racially stigmatized students (e.g., African American students, Latinx students) have been historically targeted with negative stereotypes of being unintelligent (e.g., Eccles, 1994; Nasir et al., 2016). Thus, mindset interventions that seek to alleviate stereotype threat for these stigmatized group members have targeted their mindsets about intelligence, specifically. The goal of these mindset interventions is to cultivate beliefs that intelligence is malleable among women and stigmatized racial groups, which should lead them to focus on learning-oriented goals, instead of focusing on proving they are smart (and worrying about others’ assumptions of their intellectual aptitude). These mindset interventions, which target beliefs about the malleability of intelligence, have proven to be helpful for young women and adolescents who belong to stigmatized racial groups: Under stereotype threat, seventh-grade girls and primarily Latinx and African American students who underwent a growth mindset intervention performed better on a standardized test compared to those who did not receive the
intervention (Good et al., 2003). These mindset interventions have also been shown to be effective for girls as young as 9 years of age (Lee et al., 2021).

Mindset interventions have also been used to rectify the racial inequity in school disciplinary policies. Specifically, Latino and African American American boys are often disproportionately targeted with disciplinary citations, the severity of which range from minor infractions (Amemiya et al., 2020) to suspensions (Welsh & Little, 2018). These disciplinary citations in school have been shown to contribute to the disproportionate imprisonment of Black and Brown men (i.e., school-to-prison pipeline: Monahan et al., 2014; Okonofua et al., 2016), and thus researchers explored whether mindset interventions could decrease the number of disciplinary citations that Latino and Black boys receive in schools. Indeed, targeting beliefs about the malleability of intelligence significantly reduced disciplinary citations in Latino adolescent boys (Goyer et al., 2019). Similarly, a mindset intervention among teachers that focused on a child’s ability to change their attitude about school and behavior (student growth) and the teacher’s ability to foster growth in their relationship with their students (relationship growth) reduced inequality in teacher disciplinary decisions (Okonofua et al., 2020).

In sum, researchers have sought to develop mindset interventions to increase the positive impressions that majority group children have of stigmatized group members, to increase intergroup cooperation, and to help stigmatized-group members mitigate the negative effects of stereotyping.

**Mindsets about Prejudice and Interventions Based on These Beliefs**

Newer work has started to focus on the ways in which mindsets about prejudice may impact interracial behavior among children. Interracial interactions are a setting where researchers have observed the impact of mindsets (specifically beliefs about the malleability of prejudice) on social behavior (Carr, Rattan et al., 2012; Murphy et al., 2011; Neel & Shapiro, 2012; Pauker et al., 2021; Simon et al., 2019), because they are known to be difficult and quite challenging, especially for individuals who fear revealing underlying biases (Trawalter et al., 2012). As individuals with a fixed mindset avoid challenging tasks and engage in behavior to prove they possess (or in this case don’t possess) a specific trait (i.e., performance-oriented behavior), having a fixed mindset about prejudice may lead an individual to disengage from interracial interactions or exhibit behavior that undermines developing an interracial relationship out of fear of appearing prejudiced. However, this may be contingent on children’s understanding of prejudice and of the possible (negative) implications of being perceived as prejudiced.

Patterns in development suggest that interracial relationships may become more challenging for students as they get older. Previous studies show that children’s interracial friendships become increasingly rare, and children begin to self-segregate based on race around 8–10 years (Aboud et al., 2003; Pauker et al., 2017; Shrum et al., 1988). Decreased cross-race friendships and increased self-segregation do correspond with the age at which children generally become cognizant of anti-prejudice norms and become concerned about acting on, or being the target of, prejudice (McKown, 2004; Pauker et al., 2015). One factor that may be influencing children’s interracial relationships, then, could be their increasing concerns about prejudice. In other words, the “stakes” of interracial interactions – a social setting laden with the risks of expressing or experiencing prejudice – become greater as children start to understand prejudice, norms about conveying prejudice, and the possibility that they themselves could be discriminated against.

Like adult’s, children’s experiences in interracial interactions could be determined by the way they interpret the interaction. White adults led to think of interracial interactions as a learning opportunity, exhibited less social distancing and “prejudiced” nonverbal behavior toward Black adults (Goff et al., 2008). Similarly, 9- to 12-year-old White and Black children who had more of a learning orientation (i.e., growth mindset) also expressed greater comfort and interest in interracial contact (Migacheva & Tropp, 2013). Given that children are not explicitly taught about the “proper way to act” in an interracial interaction, many children may approach these interactions armed with their mindsets (which may inform the extent to which they see the interaction as a learning opportunity). These mindsets may provide an interpretative framework for how children respond to the perceived challenge of the interracial interaction and the strategies they employ. Specifically, when children believe prejudice is fixed, they will be more likely to have negative expectations for the interaction and display avoidance-related behaviors toward their partner to try to minimize the chance of appearing prejudiced or for their partner to treat them in a prejudiced manner. However, when children believe that prejudice can change, the interaction may be construed quite differently, whereby children may have positive expectations about their ability to handle the challenge, displaying approach-related behaviors toward their partner to try to learn from the interaction.
Pauker et al. (2021) explored this phenomenon with White, Latinx, Asian, Multiracial, and Black 8- to 13-year-olds and found that even controlling for children’s own implicit prejudice (as measured via a child-adapted version of the Implicit Association Task), greater beliefs that prejudice could change compared to beliefs that prejudice could not change were related to more self-reported racial diversity in children’s friendships (e.g., the proportion of their friends that were of a different race than their own), less self-reported interracial anxiety, and more motivation toward interracial contact (as measured by Phinney’s (1992) Other Group Orientation scale). Children’s levels of implicit prejudice were not related to their prejudice mindsets. Additionally, children older than 10 years with stronger malleable-prejudice theories exhibited more interest and affiliation in a simulated cross-race (vs. same-race) interaction, regardless of their preexisting prejudice level. In this case, children’s growth mindsets about prejudice facilitated interracial interaction, but only among older children in the sample (those who may have a better understanding of the “stakes” of prejudice). Thus, children’s beliefs about whether prejudice can change, compared to their own implicit prejudice, better predicted their intergroup behavior and several self-reported constructs related to interracial interactions and forming interracial relationships. So even a child with low racial prejudice beliefs could exhibit less affiliation in a cross-race interaction (often coded as a sign of prejudice), if they believed that prejudice is a fixed quality that cannot change.

Given that mindsets about prejudice have been associated with children’s experiences in interracial relationships, interventions seeking to improve interracial behavior have targeted manipulating children’s mindsets about prejudice specifically. Indeed, Pauker et al. (2021) found that changing children’s prejudice mindsets changes the lens through which they approach interracial interactions. In a second study with 10- to 12-year-old children, the researchers examined whether they could change children’s prejudice mindsets and subsequently children’s experience in an actual interracial interaction. They created a storybook intervention that highlighted either a growth or fixed prejudice mindset. The researchers found that a growth (vs. fixed) prejudice mindset increased behavioral affiliation (as measured through nonverbal synchrony) in children’s interracial interactions and increased children’s interest in future cross-race interaction among both White children and children of color.

The results with a diverse sample of older kids found in Pauker et al., 2021 replicate past work conducted with White adults (Carr, Dweck et al., 2012; Neel & Shapiro, 2012). Carr, Dweck et al. (2012) found that White adults with a fixed mindset about prejudice, compared to White adults with a growth mindset about prejudice, were more likely to display nonverbal behavior that suggested physiological and behavioral anxiety (e.g., making less eye contact, smiling less, tensing up their body, sitting further away, etc.), even when controlling for their own prejudice. Thus, the performance-oriented goal of appearing non-prejudiced led White adults with a fixed mindset about prejudice to, paradoxically, appear racially prejudiced (Simon et al., 2019).

Together, the findings from studies with both children and adults indicate that mindsets about prejudice, compared to an individuals’ own prejudice, better predicted nonverbal interracial affiliation and anxiety. Additionally, these findings have important implications for future prejudice intervention methods. These findings suggest that increased engagement (or disengagement) in interracial interaction can arise developmentally from pathways independent of prejudiced attitudes, even though most theories and interventions target such biases. Thus, negative and avoidant intergroup behavior could arise not only from a child’s prejudice, but also because a child believes a person’s level of prejudice is fixed. The behavioral responses resulting from both (i.e., own prejudice and fixed mindset about prejudice) may be perceived by other children as prejudiced. Many previous interventions have targeted trying to change children’s prejudiced attitudes (e.g., Aboud et al., 2012) with the hope that they will also improve children’s behavior; however, prejudiced attitudes can be quite resistant to change in response to such interventions (Bigler, 1999). Thus, instead of targeting changing an individual’s prejudiced attitudes, results from Pauker et al. (2021) and Carr, Dweck et al. (2012) suggest that tackling an individual’s mindset about prejudice may be an alternative and more effective way to counter racist behavior in children.

While past work has found that individuals’ prejudiced attitudes (as measured through both explicit and implicit attitude measures) do not seem to be consistently related to their mindsets about prejudice (e.g., Carr, Dweck et al., 2012; Pauker et al., 2021; but see Neel & Shapiro, 2012), there are populations for whom a prejudice mindset intervention would likely be less effective. For example, past studies on prejudice mindsets and intergroup behavior have either measured implicit prejudice or explicit prejudice along with prejudice mindsets, but not both implicit and explicit prejudice in a single study. It is likely that those high in implicit and explicit prejudice will not want to engage in interracial interactions, no
matter what their mindsets about prejudice may be; however, interventions that tackle mindsets about prejudice may be particularly effective among individuals who espouse strong explicitly egalitarian beliefs, but still harbor forms of implicit prejudice. Thus, prejudice mindset interventions may be more effective among certain populations of children, compared to others, and future research should explore this possibility.

In sum, newer work on mindsets about prejudice has shown a relation between mindsets about prejudice and interracial behavior. This work is particularly fascinating, as results suggest that regardless of a person’s own prejudice levels, children and adults with a fixed mindset are more likely to exhibit what some may construe as “racist” behavior (e.g., less interracial affiliation, more interracial anxiety); however, this effect differed with age. Children’s belief in a growth mindset about prejudice, compared to a fixed mindset, facilitated more positive interracial interactions particularly among older (10- and 13-year-old), but not younger (8- to 9-year-old) children. Thus, it is important for research to consider developmental differences that may inform when a particular mindset may be more or less likely to impact the intergroup outcome of interest. We discuss this point in more detail in the next section. Aside from the importance of considering developmental differences when investigating the relation between mindsets and prejudice, reviewing past studies has also highlighted two key points to keep in mind when designing future research in this area: matching mindset beliefs with the specific domain of interest and considering the target’s perspective.

**Factors to Consider when Designing Mindset Interventions**

**Considering the Domain**

Children’s mindsets across several domains (e.g., personality, intelligence, prejudice) have been shown to relate to aspects of intergroup relations for both White children and children of color. When designing a study or an intervention that might include changing children’s mindsets, it is important to consider what mindset is most appropriate to target for the outcome of interest. For example, if trying to improve children’s interracial interactions (where worries about prejudice are a central concern), it would be prudent to target mindsets about prejudice. However, if trying to mitigate the negative effects of racial stereotypes in the classroom (where beliefs about intelligence are a central concern), a researcher or practitioner would target mindsets about intelligence. Thus, the mindset targeted should match the underlying concern or motivation that is relevant to the targeted outcome.

**Considering the Target’s Perspective**

The research reviewed thus far highlights the need for continued research that incorporates the target’s perspective. Specifically, in what ways can mindsets promote more equitable outcomes for children who experience discrimination, negative stereotypes, and identity-threatening environments? It is important to understand whether there are similarities and differences in how White children and children of color may respond to messages that encourage a particular mindset by increasing work that includes the perspective of both White children and children of color within a single study. As one example, both White children and children of color who endorse more malleable prejudice mindsets display more affiliative behavior in an interracial interaction (Pauker et al., 2021). In this case, a malleable prejudice mindset has a similar impact on children’s behavior, but it may operate through different mechanisms. For example, children of color may be more concerned about being treated in a prejudiced manner rather than being evaluated as prejudiced (Richeson & Shelton, 2007), so a malleable prejudice mindset may operate by changing their belief that others’ prejudice can change, and thus this interaction could lead to positive outcomes.

On the other hand, White children may be more concerned about being evaluated as prejudiced, so a malleable prejudice mindset may operate by changing their belief that their own prejudice can change. Most measures of mindsets or manipulations of mindsets focus broadly on beliefs about whether people can change (e.g., “People have a certain amount of prejudice and can’t change that”). Future research could examine whether mindsets relevant to malleability of one’s own attributes or others’ attributes are more important in certain intergroup situations. Moreover, most research targets children’s beliefs about an individual’s ability to change, but in some circumstances examining beliefs about a group’s ability to change may be more impactful (e.g., Goldenberg et al., 2016). Future research should explore in what cases a mindset about a group’s ability to change is more applicable to increasing equity (e.g., is it unique to conflict situations or does it apply to other situations as well).

In sum, previous research that has utilized mindset interventions to combat racial inequity has often focused on White majority group members. It is important to also examine how mindsets may affect both White children and children of color in similar or different ways, specifically when designing interventions.
Understanding the Development of Mindsets

When do different types of mindsets that are relevant for intergroup behavior develop?

Children have shown evidence of having mindsets about sociomoral stability (e.g., the belief that a person who does one bad thing will continue to do bad things) as young as 3–5 years of age (Giles & Heyman, 2003). However, most of the work relating children’s mindsets to stereotyping, prejudice, and intergroup behavior has been conducted with children 9 years and older (Levy et al., 2012). Why?

Theoretically, around this age (8–10 years), children have developed both the social cognitive skills and knowledge of relevant concepts (e.g., stereotypes, discrimination) such that children’s social cognitive skills, knowledge, and mindsets should coalesce to motivate behavior (Molden & Dweck, 2006). For example, children’s increasing cognitive ability to perspective-take and consider multiple perspectives, including their development of Theory of Social Mind (Abrams et al., 2009; Fitzroy & Rutland, 2010) may be necessary for children to control stereotyping or care about reducing discrimination. Similarly, knowledge of relevant concepts (e.g., stereotype consciousness, discrimination) also emerges around this age (Brown & Bigler, 2005; McKown & Weinstein, 2003). Future research should test the extent to which certain social cognitive skills (e.g., multiple classification ability, Theory of Social Mind) and knowledge of relevant concepts are necessary precursors for children’s mindsets to relate consistently to behavior.

For example, in Pauker et al. (2021), children could reliably report mindsets about prejudice as early as 8 years, but children’s prejudice mindsets only related to behavior among older children (>10 years). Thus, children may need to develop an understanding of certain critical concepts, such as an understanding of discrimination, for mindsets to relate to behavior. Children exhibit increasing awareness of discrimination in middle childhood (Brown & Bigler, 2005; McKown, 2004; Quintana, 2008; Verkuyten et al., 1997). For example, McKown and Weinstein (2003) found that while only 39% of 7-year-olds could infer that an individual’s endorsement of stereotypes is linked to their engagement in discriminatory behavior, 93% of 10-year-olds could make that inference. Additionally, by the age of 10, children understand that discrimination is typically perpetrated by a member of a majority group against a member of a minority group (Verkuyten et al., 1997). In sum, by 10 years, children increasingly understand discrimination and norms surrounding the proscription of prejudice (Brown & Bigler, 2005; Rutland et al., 2005). Thus, awareness of discrimination may change the meaning of interracial interactions for children and may be a necessary concept that children must understand for prejudice mindsets to impact behavior.

Exploring whether children’s social cognitive skills and conceptual knowledge moderates the effectiveness of a mindset intervention would be an interesting avenue for future research and would help to pinpoint the age at which mindset interventions (such as those focused on prejudice mindsets) might be most effective. Indeed, if an understanding of discrimination is a necessary precursor, a prejudice mindset intervention may be more effective among 9- to 10-year-olds than among younger children. Additionally, given that children of color often develop an understanding of stereotype consciousness at a younger age than White children (McKown & Weinstein, 2003), it is possible that a prejudice mindset intervention may also be more effective with younger children of color (who have the relevant conceptual knowledge), if they also have developed relevant social cognitive skills.

Another question that deserves more attention is whether different components of knowledge may be necessary for some types of mindsets (e.g., prejudice theories) to relate to intergroup outcomes compared to others (e.g., personality theories). For example, a mindset intervention focused on personality theories may not require an understanding of discrimination, whereas a mindset intervention focused on prejudice theories may require an understanding of discrimination. Thus, a personality theory mindset intervention may be more appropriate for younger children than a prejudice theory mindset intervention. Finally, more work should explore how children’s mindsets (e.g., personality theories, prejudice theories, intelligence theories) relate to intergroup outcomes in children younger than 9 years old to gain a fuller understanding of the extent to which these relationships change across development.

What Contexts Affect the Development of Mindsets?

In addition to needing to examine when mindsets develop and when they start to predict intergroup outcomes, research also needs to examine what contexts contribute to the development of fixed compared to growth mindsets. Research has connected parental praise to the formation of some types of mindsets. Among 5- to 6-year-olds, Kamins and Dweck (1999) found that person praise or criticism (e.g., “You’re really good at this”) compared to process praise or criticism (e.g., “You found a good way...
to do it, can you think of other ways that might work?”) led to greater beliefs in stable traits (specifically children’s beliefs about sociomoral stability). Additionally, children who heard a greater proportion of process praise in their homes (as measured through observations of naturalistic parent-child interactions) when they were 1–3 years old were more likely to believe traits like intelligence were malleable when they were 7 or 8 years old (Gunderson et al., 2013).

Overall, there is a substantial need to explore the contexts that engender more fixed or malleable beliefs about various traits, including prejudice mindsets. Does how parents or teachers talk about prejudice with children impact their prejudice mindsets? In the work described earlier (Pauker et al., 2021), children’s prejudice mindsets were manipulated by exposing children to a story book that touted a more fixed or malleable view of prejudice. Here, just simple changes in the way a teacher framed a lesson about the civil rights movement depicted in the story book – specifically simple changes in the way the teacher talked about prejudice – affected children’s beliefs about whether prejudice can change and how children approached future interracial interactions. Such messages about whether prejudice can change could be communicated through media, classroom interactions, or parental conversations. These previous studies seem to highlight the importance of considering adults’ or peers’ responses to instances of discrimination or the ways in which they talk about those events with others, and how this might influence the development of more fixed or more malleable prejudice mindsets. Does the emphasis get placed on calling the perpetrator a racist person or on thinking about how the perpetrator’s behavior exhibited prejudice and how they might use an alternative approach in the future? The former would be more likely to encourage a fixed mindset about prejudice, while the latter would encourage a growth mindset.

Finally, a child’s broader context could be an important factor that facilitates the development of certain types of mindsets. Does growing up in an environment where a child sees or experiences a lot of discrimination serve to reinforce the belief that prejudice cannot change? Or does seeing more examples of positive interracial interactions and only a few instances of discrimination reinforce the belief that prejudice can change? Future studies should further investigate how the context (e.g., encounters with discrimination and interracial interactions, the way prejudice is talked about) in which a child develops may engender a more fixed or growth mindset about prejudice.

The Need for Longitudinal Research

When exploring contexts that influence the development of mindsets, it is also important to consider how these contextual cues influence both the development of prejudice and the stability of mindsets themselves over time. In other words, how do initial evaluations and mindsets change through witnessing a target’s developmental progress (i.e., pattern of change across time) or in the face of a child’s own experience? In particular, while most studies focus on how mindsets shape immediate attitudes and evaluations after a single incident, understanding the stability of judgements and mindsets when faced with information about the trajectory of trait development (i.e., improvement, no change, or regression) can provide important insights regarding longitudinal attitude change. As humans continue to develop throughout their life and since not one developmental path is the same, understanding the stability of evaluations and mindsets across development can illuminate ways to best support the construction of mindsets that promote racial equity.

Previous research with children has revealed a pattern in how a fixed and growth mindset about human characteristics may shape perceptions of a person who has committed a single transgression. As individuals with a fixed mindset believe traits are fixed, they tend to only use one incident to determine an individual’s potential and personality. On the other hand, those with a growth mindset are more likely to believe that a single transgression cannot determine an individual’s personality. For example, 7- to 8-year-old children with a fixed mindset made more definitive and stronger negative assessments about an individual after witnessing a single negative behavior (Erdley & Dweck, 1993). In contrast, children who believed that human traits are malleable were more likely to take other information (i.e., a person’s situational predicament) into account before assessing the target.

Research with adults has also indicated that those with a growth mindset about human traits, compared to those with a fixed mindset, may be more willing to update their initial impressions toward a target if they receive consistent evidence (i.e., evidence over multiple incidents or time) to support that impression. Thus, although individuals who believe that human traits are malleable are more forgiving and encouraging toward targets who have failed (e.g., witnessing one incident of negative behavior or exhibiting poor performance on a specific task), studies show that those with a growth mindset about human traits may decrease their positive attitudes when witnessing individuals who are struggling to change (Heslin et al., 2005; Kammrath

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& Peetz, 2012; Ryazanov & Christenfeld, 2018). For example, when an individual with a growth mindset witnesses improvement from an individual with prior poor performance, they are more likely to change their performance evaluations (Heslin et al., 2005); however, individuals with a growth mindset who witness someone struggling to change may become more frustrated and disappointed at this person over time (Kammrath & Peetz, 2012). Since those with a fixed mindset tend to make dispositional judgements based on a single incident, such as poor performance or behavior, multiple incidents of poor performance or behavior, are not only unlikely to change their initial impression, but also likely to strengthen the confidence they have about their initial impressions.

Although those with a growth mindset are more likely to change their initial impressions, their judgments of those who do not improve may also be harsher, compared to those with a fixed mindset. Ryazanov and Christenfeld (2018) theorized that, individuals with a growth mindset have an expectation that change and improvement should occur. This expectation for change leads to greater blame toward the targets who have a history of showing no developmental change or even developmental regression. Indeed, Ryazanov and Christenfeld (2018), across four studies with adults, found that while a growth mindset about empathy did not lead to more blame when evaluating an individual after a single transgression, a growth mindset about empathy did lead to blaming the target more after consistent failure to show empathy. This study is one of the few that illuminates how developmental stagnation may cause those with a growth mindset to harbor a harsher negative judgment of the target, compared to those with a fixed mindset.

To our knowledge, few studies have investigated how initial evaluations and mindsets may change across time regarding prejudice and discrimination, while no studies have investigated this phenomenon with children. One avenue where this topic could be applied is in confronting prejudiced behavior. Previous studies have indicated that although racially stigmatized adults and women with a growth mindset about personality report a higher likelihood of confronting racial and gender biases, respectively, they also report greater surprise at repeated racial offenses (Rattan & Dweck, 2010; 2018). Thus, what happens when a person of color believes that White, majority group members can change, only to be met with evidence of repeated offenses over time? Adopting a fixed mindset in this case seems to safeguard against disappointment from the expectation of change and frustration of having to encounter multiple racist transgressions.

Studies with adults, such as Rattan and Dweck (2018), Ryazanov and Christenfeld (2018), and Simon et al. (2019), together provide important insight into how experiencing single versus repeated racial transgressions may affect how those with a growth mindset evaluate perpetrators of racial transgressions. Simon et al. (2019) found that when Black adults were asked to evaluate a White adult’s racial prejudice more generally, Black adults with a fixed mindset about prejudice believed that Whites were more racially prejudiced compared to those with a growth mindset about prejudice. However, based on the results of Rattan and Dweck (2018) and Ryazanov and Christenfeld (2018), those who believe prejudice to be malleable, in the face of multiple racial transgressions, may generate equally or greater negative judgment toward perpetrators of those racial transgressions compared to those believe who prejudice to be fixed. Future longitudinal studies (especially those conducted with children and adolescents) are necessary to investigate this phenomenon, especially regarding how multiple experiences with racial transgressions may change children’s evaluations over time.

How can research inform ways to mitigate the negative judgment that individuals with a growth mindset have about targets who fail to progress? One way may be to look at the underlying causes of this relation. As Ryazanov and Christenfeld (2018) allude to, expectations about the nature of the developmental progress itself may explain why individuals with a growth mindset have harsher evaluations of multiple offenders. One expectation that those with a growth mindset have about developmental progress may be how quickly change should occur. In other words, individuals who differ in their expectation for change to be sudden or gradual may be a factor that explains why those with a growth mindset have harsher judgment for targets who show no developmental progress. Individuals with a growth mindset who expect sudden change may experience increased negative attitudes toward individuals who struggle to change. In contrast, individuals with a growth mindset who believe in gradual change may be more forgiving and supportive of those struggling to change. Future studies should differentiate between individuals with a growth mindset who believe in instant versus gradual change, and whether the expectation of the speed with which improvement is made impacts the stability of mindsets over time.

Another important topic for future research is whether initial mindsets may change over time. Not only may the initial impressions of the targets change based on a child’s mindset, but observing a target’s developmental progress may also feedback into a child’s mindset. In oth-
er words, multiple failures may not only lower evaluations of that person, but also may have the potential to influence those with a growth mindset to adopt more fixed beliefs about the target’s underlying traits. For example, children of color who have continued experiences with discrimination may develop more fixed mindsets about prejudice over time, even if they started off with a growth mindset about prejudice initially. In contrast, constant evidence of improvement may influence those with a fixed mindset to adopt specific growth mindset beliefs. Future longitudinal studies with children and adolescents should examine not only whether evaluations of group members may change over time, but also whether initial mindsets may change in the face of observed longitudinal progress (or lack of such progress).

**Using Mindsets to Motivate Collective Action**

Improving mindset interventions to help reduce persisting prejudices is a notable and important goal, but it is also important to consider how to motivate collective action among children. Can mindsets shape children’s willingness to engage in and confront racial issues? Unfortunately, no studies examining how mindsets lead to increased collective action have been conducted with children or adolescents, but studies with adults can provide insight into this phenomenon in children. Specifically, targets of prejudice (e.g., people of color) who have a growth mindset about personality show an increased tendency to confront a majority group member about prejudice (Rattan & Dweck, 2010, 2018). Conversely, people of color who believe Whites’ racial prejudice is fixed, not only are less likely to report confronting a racist, but also evaluate Whites as more prejudiced overall (Simon et al., 2019). Although numerous studies have investigated how mindset interventions lead to changes in social behavior, most of the work so far utilizing mindset interventions to address social prejudice have been focused on what marginalized members may do in the face of discrimination and how marginalized members may overcome situational barriers (i.e., stereotype threat). Given that White, majority group members often hold the power and status to enact social change, future research (especially studies with children and adolescents) should explore how mindset interventions may equip White, majority group members to become better allies.

Since being seen as “not a racist” has been deemed a highly desirable quality in the United States, people’s mindsets about prejudice may dictate how they react to statements that could potentially highlight their involvement in perpetuating racism. Being void of racism (i.e., “not a racist”) has become a highly desirable trait in the United States for several reasons. Since the Civil Rights Act in 1964, societal norms in the United States have discouraged and denounced explicit forms of racism. To be racist has been equated to be an immoral person, and therefore it is desirable to not be “a racist” (DiAngelo, 2018). In addition, fairness is a salient moral value entrenched within the American constitutional doctrine (“All men are created equal”; Jefferson, 1776), and thus engaging in racial prejudice violates these moral values of fairness considered central to the American identity.

How structural racism operates within the United States does not allow for everyone to be seen as egalitarian. Specifically, White privilege challenges the notion that a White person can be non-racist. Acknowledging White privilege as a White person, means acknowledging one’s potential role in perpetuating inequality (and thus one’s potential to be racist). Thus, a White individual with more of a fixed mindset about prejudice who is focused on proving their egalitarianism may react defensively if confronted about their prior biased behavior. Indeed, previous studies indicate that White adults with a fixed mindset about prejudice will avoid learning about their racial biases and how to change them due to their belief that any effort will be futile (Carr, Rattan et al., 2012; Neel & Shapiro, 2012). In contrast, a White individual with more of a growth mindset about prejudice may not only be more likely to acknowledge that racial inequity continues to exist within North American society, but also be more open to feedback about ways in which they themselves have contributed to perpetuating racism. Future studies should investigate this phenomenon as a method of cultivating collective action among White, majority group children and adolescents. For example, research has shown that training adolescents to confront prejudice in their school can be effective in increasing tolerant behavior in the school (Paluck, 2011). The tolerant behavior in this study spread beyond those students trained to confront prejudice to their friends and acquaintances in their social network. One possibility that could be tested in future research is whether fostering a growth mindset about prejudice in the school might improve how other adolescents in the school respond to confrontations (e.g., reducing defensiveness and increasing willingness to change).

Not only could mindsets about prejudice be informative in understanding how to motivate majority group members to reflect on their privilege and engage in effective allyship, mindsets about prejudice (or mindsets in
other domains, such as personality) may also help to elucidate how to increase accountability among racially privileged members of society. Although previous studies have shown that adults of color with a growth mindset about personality are more likely to confront racially prejudiced remarks (Rattan & Dweck, 2010, 2018), no studies to our knowledge have looked at whether having a growth mindset about prejudice increases the tendency for Whites to confront other Whites about their racially prejudiced behavior. Previous studies have shown that although confronting White people is more effective when done by another White person compared to a person of color (Gulker et al., 2013), psychological barriers such as White solidarity may prevent Whites from confronting each other (DiAngelo, 2018). Since White, majority group members often set peer norms in school settings, future studies should look at how specific mindsets may increase confronting behavior among White children and adolescents over and above other social barriers.

**Conclusion**

Mindsets have been shown to relate to the development of stereotyping, prejudice, and discrimination in a consistent manner; however, there are still many areas that need to be addressed in future studies. The purpose of this review was to assess previous studies that have investigated the relation between mindsets and prejudice and to highlight areas within this literature that have yet to be explored. Most importantly, we review these topics to provide some theoretical insight into the role of mindsets in the development of prejudice and practical insight into how best to design mindset interventions aimed to improve intergroup relations in childhood.

First, there are important areas that still need examination. Specifically, previous studies have not fully considered how the target’s perspective (i.e., oppressed vs. oppressor) may inform the mechanism by which a growth mindset about prejudice may affect interracial behavior. In general, studies would benefit from including both White and children of color within the same study. In addition, though studies with adults have shown how a growth mindset facilitates confronting racial bias among people of color, no studies to our knowledge have looked at whether a growth mindset can increase confrontation behavior among White, racial majority group children (or adults).

Second, future studies should investigate how context leads to the development of mindsets. How teachers and parents talk about prejudice and/or information that children receive about prejudice may impact how flexible they believe prejudice to be. In addition, a child’s beliefs about the malleability of prejudice may also be shaped by the frequency in which they encounter discrimination in their everyday lives. Finally, limited studies have investigated mindsets longitudinally, and whether lack of change in a targeted trait leads to changes in even initial beliefs about the target’s malleability. Most of the mindset literature has focused on moment judgments, and whether a growth or fixed mindset in the moment engenders greater or less stereotyping and prejudice. In these studies, a growth mindset is typically associated with less stereotyping and prejudice; however, a few studies have pointed to the fact that multiple failures or lack of improvement engenders greater negative evaluations from individuals with a growth mindset. As an important aspect of a growth mindset is the expectation of positive change; understanding how violations of this expectation may lead to negative evaluations among those with a growth mindset is important to unpack in order to sustain a growth mindset in the face of multiple transgressions. Additionally, studies with younger children should be conducted in order to understand the combined role of social cognitive development, conceptual knowledge, and mindsets in prejudice development.

In consideration of these topics, we hope that future studies focused on mindsets and mindset interventions aimed at addressing intergroup relations can consider how the target’s perspective, context, and changes across time may impact the development of mindsets and thus prejudice. As prejudice and discrimination against stigmatized group members persist in our society today, it is important to continue to deepen our theoretical understanding of the relation between mindsets and prejudice from a developmental perspective to establish meaningful and impactful interventions that can ultimately grow racial resilience.

**Statement of Ethics**

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**Conflict of Interest Statement**

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