Contextualizing the development of social essentialism

Kristin Pauker, Christine Tai, and Shahana Ansari

University of Hawai'i

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Abstract

Given the critical role that psychological essentialism is theorized to play in the development of stereotyping and prejudice, researchers have increasingly examined the extent to which and when children essentialize different social categories. We review and integrate the types of contextual and cultural variation that have emerged in the literature on social essentialism. We review variability in the development of social essentialism depending on experimental tasks, participant social group membership, language use, psychological salience of category kinds, exposure to diversity, and cultural norms. We also discuss future directions for research that would help to identify the contexts in which social essentialism is less likely to develop in order to inform interventions that could reduce social essentialism and possible negative consequences for intergroup relations.

Key words

Psychological essentialism, prejudice, stereotyping, intergroup bias, cultural differences

Contextualizing the development of social essentialism

Psychological essentialism—an intuitive theory grounded in the belief that certain categories have important underlying essences that define their nature and properties —is considered a crucial ingredient that contributes to the development of stereotyping and prejudice. 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, Rothschild, & Ernst, 2000). In early theorizing, Allport (1954) emphasized the role that essentialist beliefs about social groups played in stereotyping, prejudice and discrimination, and more recently, developmental theories such as Developmental Intergroup Theory (Bigler & Liben, 2006, 2007) have also emphasized psychological essentialism as an important mechanism in the development of stereotyping and prejudice. Given the critical role that psychological essentialism is theorized to play in the development of stereotyping and prejudice, researchers have increasingly examined the extent to which and when children essentialize different social categories.

Children have been shown to essentialize a number of social categories, including gender, ethnicity, race, and language (Rhodes & Mandalaywala, 2017). While early work on the development of social essentialism tended to focus on children's tendency to essentialize particular social categories, like race or language, early and invariably (e.g., Hirschfeld, 1995; Hirschfeld & Gelman, 1997), this focus may have been driven by the view of essentialism as an internal cognitive bias. For example, early theoretical explanations for the origins of social essentialism proposed that essentialism is a product of a folk-biological module that evolved to support reasoning about the biological world (Atran, 1998; Gil-White, 2001). While a folk-biological module is most obviously applicable to reasoning about non-social but living

categories like animals, this explanation argues that social categories that appear to be structured like species may also trigger processing by this module. Specifically, social categories that appear to have biological markers of category membership (e.g., those that are marked by physical properties that are presumed to be determined by biology, like skin tone, hair texture, or reproductive organs) are most likely to trigger processing by this module (Atran, 1998). While not completely silent on the role of culture in the development of social essentialism, these models place more of an emphasis on demonstrating and perhaps assuming cultural universality (to support the argument for an innate cognitive module).

As more evidence has accumulated around the development of social essentialism, however, it has become clear that some social categories are essentialized more consistently and earlier than others (Rhodes & Mandalaywala, 2017). For example, children show consistent and strong essentialist beliefs about gender, early in development (at 3-4-years-old), across multiple different measures of essentialism. Yet for other social categories, such as race, there is considerable variability in when and the extent to which children essentialize race within the same culture (Rhodes & Mandalaywala, 2017) and across different cultures (e.g., Diesendruck, Goldfein-Elbaz, Rhodes, Gelman, & Neumark, 2013). Indeed, recent research has increasingly emphasized the considerable contextual and cultural variation in the development of social essentialism. Such patterns of data could be explained by a cognitive module that could be differentially triggered by different types of groups that are more or less evolutionarily significant (i.e., gender may be consistently essentialized than other social categories because of the evolutionary role of biological sex in mate selection and reproduction; Kenrick, 1994). These patterns of data, however, could also be explained by culture exerting pressure on a cognitive module in a consistent manner for some categories (i.e., gender, language), resulting in early

emergence of essentialist beliefs about these categories, and in a more variable manner for other categories (i.e., race, ethnicity), resulting in later and more variable essentialist beliefs about these categories. Despite these possibilities, the increasing evidence for contextual and cultural variation do not consistently support predictions made by a domain-specific module for essentialism. Accordingly, recent explanations of the development of social essentialism emphasize the likely interplay between a series of domain-general cognitive biases that support essentialist thinking and the child's environment which provides input as to which social categories become essentialized (Diesendruck et al., 2013; Gelman, 2003; Rhodes & Mandalaywala, 2017).

Given recent interest in contextual and cultural variation in the development of social essentialism, we aim to review and integrate the types of contextual and cultural variation that have emerged in the literature on social essentialism. We review variability in the development of social essentialism depending on experimental tasks, participant social group membership, language use, psychological salience of category kinds, exposure to diversity, and cultural norms. Finally, we review some of the emerging work on the social consequences of the development of social essentialism and examine how these consequences relate to variability in social essentialism and variability in social contexts. The underlying motivation behind understanding this variability is to identify the contexts in which social essentialism is less likely to develop to ultimately inform interventions that harness this understanding. If we can develop interventions to undermine the development of social essentialism, we may mitigate some of the pernicious consequences of social essentialism, such as stereotyping and prejudice.

Contextual and Cultural Variation

Experimental Tasks

One explored and important contextual influence is the task used to measure essentialist beliefs. Specifically, certain tasks may measure different components of essentialist beliefs, and children may have differing levels of essentialist beliefs about a specific social category based on the component measured (see Rhodes & Mandalaywala, 2017). There are five different components of essentialism that have been assessed with children (Rhodes & Mandalaywala, 2017): these involve beliefs that (1) categories reflect *naturally occurring* boundaries, in which there is a right and wrong way of categorizing, (2) category boundaries are *discrete* – properties of one category cannot be simultaneously held by another category, (3) categories are *homogenous* – members of a group share similar properties, even if dissimilarities (e.g., in appearance) exist, (4) category membership is *stable* across time and environmental changes, and (5) category membership *causes* the formation of stereotypical category properties.

Although almost all components of essentialism have been looked at in the domain of gender, tasks examining essentialist beliefs for other social categories have tended to focus on a few specific components. For example, within the domain of race, researchers have almost exclusively focused on whether children believe race is stable and viewed as a natural kind. Research has revealed that different components of essentialism emerge at different points in development, for different social categories (Rhodes & Mandalaywala, 2017). Thus, what may appear like inconsistent evidence for when essentialism emerges in development for a specific social category, may actually be due to researchers measuring different components of essentialism. Although recent work (e.g., Mandalaywala, Ranger-Murdock, Amodio, & Rhodes, 2019) has started to examine additional components of essentialism (beyond stability and natural kinds) within the domain of race, in order to have a more complete understanding of the variability in the emergence of essentialism across different social categories, researchers need to

measure different components of essentialism for a range of social categories (rather than only

focusing on one task that measures only one component of essentialism).

In addition to understanding developmental variability based on the component of

essentialism measured, it is important to examine the coherence of children's essentialist beliefs

across multiple components to more fully understand how these beliefs develop (see Gelman,

Heyman, & Legare, 2007). Little work has examined coherence across multiple components of

essentialism for social categories. With respect to race essentialism, Giménez and Harris (2002)

examined the extent to which children view race as stable using three different tasks. While they

did not examine coherence across multiple components of essentialism, they did examine

coherence across multiple tasks. Specifically, they used multiple tasks to examine one

component of essentialism (stability) and found that coherence across the three tasks increased

with age: most 5-6-year-olds displayed coherent responding, but 3-4-year-olds did not. Thus, it is

important for researchers to contextualize their results based on the component of essentialism

they are measuring, coherence in children's response across multiple tasks within a single

component, and coherence across multiple components of essentialism.

The information provided within a given task may also affect the extent to which children

display essentialist beliefs about that social category. For young children, gender essentialism

develops early, but studies have shown that the extent to which a child displays essentialist

reasoning about gender depends on whether they are given novel or stereotypic information. For

example, when presented with stereotype consistent information (e.g., "This girl plays with

dolls"), children were more likely to make biological and behavior inductions (an indicator of

causal beliefs) based on gender compared to when they were given novel behavioral information

(e.g., "This girl plays with samas"; Pillow, Pearson, & Allen, 2015). Similarly, when White

children are asked to make inferences about the stability of race versus emotion (e.g., asked to indicate whether a White child with a happy expression is more likely to grow up to be a White adult with an angry expression or a Black adult with a happy expression), they are more likely to show stability beliefs about emotion when emotion information is cued and stability beliefs about race when race information is cued by the experimenter (Roberts & Gelman, 2017). Thus, children's essentialist beliefs were strongly influenced by the information provided by the experimenter during the aforementioned tasks. These examples suggest that environmental inputs, that may vary across a child's social environment, may influence which social categories children essentialize.

Additionally, task demands, such as pitting two social categories against each other has revealed substantial differences in essentialist beliefs compared to when that social category is examined on its own. This has been demonstrated in studies that have examined the extent to which children essentialize race, specifically among research that has examined children's stability beliefs. When children's stability beliefs about race are examined, some research (Hirschfeld, 1995) argues that children as young as 4 years have essentialist beliefs about race, whereas others find that stability beliefs are not apparent until 6 years or later (Giménez and Harris, 2002; Pauker, Ambady, & Apfelbaum, 2010). Some of this variability may be due to the types of tasks administered (i.e., studies that find later emergence of stability also include multiple indicators of stability, including children's justifications). All these studies, however, examined only one social category (race) at a time. Indeed, when two social categories are pitted against each other, we see that race essentialist beliefs (with regard to stability) don't emerge for White children until around 9-10 years (Kinzler & Dautel, 2012; Roberts & Gelman, 2016). Specifically, Kinzler and Dautel (2012) examined children's reasoning about the stability of

language and race. The authors asked children whether an English-speaking White child would grow up to be an English-speaking Black adult or a French-speaking White adult. They found that at 5-6 years of age White children, picked the language match, indicating that they believed the White child would grow up to be Black. However, at 9-10 years of age White children chose the race match. Thus, when race is pitted against language, younger White children's beliefs about the stability of language outweigh that of race. Similarly, Roberts and Gelman (2016) explored the degree to which children essentialize race (with regard to stability) when also given information about emotion, a more unstable social category compared to language. Using the same procedure as Kinzler and Dautel (2012), results from their study indicated that while White adults and 9-10-year-old children chose the race match more than the emotion match, White 5-6-year-old children choose the race match equally as often as the emotion match. This suggests that similar to Kinzler and Dautel (2012), younger White children do not have solid views that race is stable: when pitted against another category, children's stability judgments about race decrease substantially. Overall, these two studies seem to suggest that when race is pitted against another social category, younger White children do not show race essentialist beliefs to the same extent as shown in previous studies when race is examined alone.

Within the domain of ethnicity, studies have also shown that essentialist beliefs (with regard to homogeneity) can differ based on whether ethnicity is examined alone (Diesendruck & haLevi, 2006) compared to when it is pitted against other social categories (Birnbaum, Deeb, Segall, Ben-Eliyahu, & Diesendruck, 2010). Comparing results across the two studies reveals that when ethnicity was pitted against another social category (i.e., gender, religion, and social status), secular Jewish children reduced their use of ethnicity to make trait-based inferences.

In sum, a number of important differences emerge depending on the component of essentialism measured, other aspects of the task that may support essentialism, and whether a particular social category is examined on its own or in combination with other social categories. Taken together, these findings suggest that essentialist beliefs are malleable and context dependent, and thus researchers should be both clear and intentional when developing and implementing measures of essentialist beliefs.

Participant Group Membership

The studies above also highlight another context that is important to consider: participant group membership. Previous studies that have examined race essentialist beliefs in particular (Hirschfeld, 1996; Pauker et al., 2010), have focused on predominantly White samples. This focus on predominantly White samples raises questions about how essentialist beliefs develop for diverse populations. With respect to race, a particularly striking result from both Kinzler and Dautel (2012) and Roberts and Gelman (2016) is that 5-6-year-old racial minority children, compared to their White counterparts, chose the race match more than the language or emotion match. In other words, racial minority children were more likely than White children to display essentialist beliefs about race (with regard to stability) at earlier ages. Additionally, Mandalaywala and colleagues (2019) observed children's causal inferences about race using a switched at birth paradigm and found that Black children were more likely than White children to attribute behavior properties of a child to its birth mother when compared to the adopted mother.

Children of different religious groups show differences in essentialist beliefs as well (Birnbaum et al., 2010; Deeb, Segall, Birnbaum, Ben-Eliyahu, & Diesendruck 2011). Particularly, religious Jewish children, compared to secular Jewish and Muslim Arab children,

showed higher levels of essentializing ethnicity (with regard to homogeneity), even when given

other social categories (e.g., gender, social status, religion, profession, etc.) as a base for

inferences (Birnbaum et al., 2010). This finding only emerged, however, when ethnicity was

labeled in the task. When ethnicity was not labeled and just visual markers indicated ethnicity,

no consistent differences in essentialist beliefs about ethnicity emerged between religious Jewish,

secular Jewish and Muslim Arab children. These findings contrast, however, with results

suggesting that for stability and homogeneity components of essentialism, Muslim Arab children

show higher levels of essentialist beliefs about ethnicity compared to that of secular Jewish

children (Deeb et al., 2011). Together, these findings highlight that differences in essentialist

beliefs based on group membership may depend on the component of essentialism examined and

the particular task used to measure that component.

Some have argued that essentialist beliefs may differ between different groups based on

their status in society. Members of high-status groups, in order to maintain their status, may

invest more in maintaining group boundaries than lower status groups by adopting more

essentialist beliefs (e.g., Yzerbyt, Corneille, & Estrada, 2001). Studies with children have been

mixed with regard to supporting this idea. For example, children from majority groups

sometimes show higher rates of essentializing ethnicity compared to those of minority groups

(Birnbaum et al., 2010), but sometimes do not (Deeb et al., 2011). Other studies examining

essentialist beliefs in a different domain (i.e., status) suggest that stronger essentialist beliefs

among high-status groups may develop as children get older. Results from studies done with

adults (Mahalingam, 2003) and children (Mahalingam, 2007) suggest that higher socioeconomic

status groups are more likely to hold essentialist beliefs compared to those of lower

socioeconomic status and that this difference emerges with age. Using a brain transplant task that

measures the stability component of essentialism, Mahalingam (2003, 2007) examined

differences in essentialist beliefs among higher status Brahman and lower status Dalit. Results

show that while 7-8-year-old children of both caste groups endorsed lower essentialist beliefs,

Brahmin adolescents showed higher essentialist beliefs than Dalit adolescents. The results found

with adolescents paralleled the results found with adults. Together, the results from these studies

suggest that higher status groups increase their essentialist beliefs about status with age in

comparison to lower status groups.

Though some high-status groups may develop more essentialist beliefs as a means of

maintaining the status quo, this explanation may not explain differences in essentialist beliefs

found across different racial groups in the United States. At least with regard to examining

stability beliefs, racial minority children appear to essentialize race earlier than racial majority

children (Kinzler & Dautel, 2012; Mandalaywala et al., 2019; Roberts & Gelman, 2016).

Perhaps the reason for this discrepancy lies in the way race is discussed (or not discussed) in the

U.S. compared to other social categories. Especially within White families in the United States,

not only is race rarely discussed, but colorblind ideologies are more likely to practiced (Pahlke,

Bigler, & Suizzo, 2012). In contrast, racial minority parents are much more likely to discuss race

with their children (Brown, Tanner-Smith, Lesane-Brown, & Ezell, 2007) and they may

emphasize earlier in development the importance and significance of race for their child's

identity and for their experiences with others (i.e., the potential to experience discrimination;

Priest et al., 2014). Thus, differences in the type and prevalence of messages about race may

contribute to our understanding for why young racial minority, and not White, children seem to

essentialize race over other social categories within the United States.

Finally, gender seems to be another social category where the high-status group (i.e., males) does not exhibit higher essentialist beliefs. Previous studies show limited to no differences in the way boys and girls essentialize gender, with both groups displaying high gender essentialist beliefs from a young age (Rhodes & Gelman, 2009; Taylor, 1996; Taylor, Rhodes, & Gelman, 2009). In addition, 3-11-year-old transgender and cisgender youth show differences in their development of gender essentialist beliefs (with regard to the causal component) that do not map onto status differentials. While cisgender youth show a decline of gender essentialist beliefs with age, transgender youth do not show age related changes (Gülgöz, DeMeules, Gelman, & Olson, 2019). While this developmental trend has not been fully understood yet, it is worth noting that transgender and cisgender children show similarities with regard to gender essentialist beliefs earlier in development. Thus, younger children's causal essentialist beliefs about gender seem to be strong and high regardless of participants' gender group membership. Though these studies provide insight how gender essentialism does not seem vary with group membership, all studies on gender essentialism have focused on children who identify within the gender-binary. Future studies looking at children who do not identify within the binary may contribute valuable insight to our understanding of the development of gender essentialist beliefs.

In sum, position in a high-status social group seems to motivate higher essentialist beliefs in some social categories (e.g., social economic status, religion) but not others (e.g., race, gender). Future studies should start to unpack why status motivates higher essentialist beliefs for high status groups in some social categories, but not others.

Language Use

As alluded to in the previous section, how one talks about social categories may impact the extent to which that social category is essentialized. In particular, subtle linguistic cues, like the use of *generic language*, may especially support the development of essentialism (Gelman, Ware, & Kleinberg, 2010). Generic statements reflect a belief about the category in general (e.g., 'girls have long hair'), rather than some particular members (e.g., 'that girl has long hair') within the category and is usually understood as communicating non-accidental generalizations (Carlson & Pelletier, 1995). Thus, when children hear generic language describing a new property of a familiar category, they assume that there is a kind-based, causal explanation of why members of that category possess the property. Indeed, hearing generic language about a novel social category (Zarpies) diverse for race, ethnicity, age, and sex led 4-year-olds and adults to develop essentialist beliefs about that social category (Rhodes, Leslie, & Tworek, 2012).

Similar to generics, using category labels when pointing out that someone has a certain property (e.g., is good at a new game) leads children to draw broader category-based inferences about the person (Waxman, 2010). Noun labels in particular are important information children use to infer a person's characteristics. Indeed, children are more likely to judge characteristics as stable over time and context when the characteristic was referred to by a by a noun (e.g., carrot eater) than when it was referred to as an action (e.g., she eats carrots; Gelman & Heyman, 1999). This effect has been shown for social categories, as well (Birnbaum et al., 2010; Diesendruck & haLevi, 2006; Waxman, 2010). Waxman (2010) revealed that for both gender and race, when children heard the social category labels, they were more likely to extend a novel property to within race and within gender group members, compared to when they were not given any labels. Birnbaum and colleagues (2010) found a similar effect with ethnicity. When categories were labeled, religious and secular Jewish children and Muslim Arab children readily made

ethnicity-based inferences, though religious Jewish children were the most likely to draw inferences based on ethnicity; however, when categories were not labeled, all three groups did not rely heavily on ethnicity to draw inferences (even when perceptual differences between the categories were available to use). The results in this study indicate that naming or providing a label is a powerful indicator for children to use during inductive reasoning—a social category label seems to highlight *which* categories children should use to form broader inferences and thus are likely to provide a foundation for children learning to essentialize certain social categories over others.

Language is especially pertinent to development when we consider how information about social categories are conveyed through parent child interactions. In particular, research has shown that children's development of essentialist beliefs is not consistently related to their parents' holding and explicitly teaching essentialist beliefs, but simply to parents' marking of relevant social categories, such as through the use of generic language or category labels (Segall, Birnbaum, Deeb & Diesendruck, 2015). In particular, children may pick up on subtle linguistic cues (e.g., use of generic language) that mothers use when talking about different social categories, and children may use these linguistic cues to construct essentialist beliefs about the social categories marked by these linguistic cues (Gelman, Taylor, & Nguyen, 2004). Indeed, the relationship between generic language and essentialist beliefs has been shown to be bidirectional: experimentally inducing parents to hold essentialist beliefs about a novel social category led them to produce more generic language when discussing the category with their children, and exposure to generic language about a novel group led children to form more essentialist beliefs about that group (Rhodes et al., 2012).

Although a number of studies provide evidence for the impact subtle linguistic cues have on the development of essentialist beliefs, these studies have primarily focused on children's essentialist beliefs about gender and novel categories (with the exception of the Segall et al., 2015 study that focused on ethnicity). It will be important for future work to expand this into other social categories. Does this process generalize across social categories? The work on novel categories provides evidence that it should, but do these effects depend on the acceptability and frequency of labeling a particular social category? For example, some social categories are more frequently labeled than others. Indeed, gender seems to be a salient social category for children especially at young ages and the use of gender-marked language (e.g., generic language, category labels, etc.) compared to race-marked, ethnicity-marked, or age-marked language may be more consistent earlier in development across various cultures. How do these differences in the consistency of marking some categories but not others contribute to the development of social essentialism? Or does the consistency of marking some categories but not others contribute to which social categories are more likely to be essentialized through making some social categories more psychologically salient?

Psychological Salience of Category Kinds

Psychological salience of a social category, or how prominent a social category is in a particular context, is another contextual factor that may lead to differences in essentialist beliefs. In particular, the more salient a social category, the more familiar children may be with that social category and the more they may use it to organize their beliefs, feelings, and behaviors. This is clearly shown in cross-cultural research that has compared the extent to which children essentialize different social categories (specifically the extent to which they view a category as natural and objective) in North America and Israel (Diesendruck et al., 2013). Results show that

North American children show increases in race essentialism with age, while Israeli children show higher levels of ethnic essentialism across all ages. Children in both cultures, however, show similarity in the extent to which they essentialize gender. Thus, while there are similarities in the extent to which children essentialize some social categories across cultures (e.g., gender), there are differences that appear to map onto to the differential psychological salience of those social categories within those cultures (i.e., race is more salient in North America and ethnicity is more salient in Israel).

A reasonable question then is: what are the factors that make a particular social category more or less psychologically salient? Competition or tension between groups may serve as a cue that children use to determine whether a new category is an important dimension to attend to and thus whether it should be used to constrain and predict future behavior. Rhodes and Brickman (2011) illustrate this idea using novel social categories. When children were placed in a condition where they were told that Flurps and Zazes were in competition for limited resources, children were more likely to expect that category members would preferentially direct prosocial behavior to ingroup over outgroup members and antisocial behavior to outgroup over ingroup members, were more likely to use category membership to explain individual behavior, were more likely to view category membership as stable (a component of essentialism), and were more likely to endorse that category membership should lead to unique social roles and obligations. In contrast, participants in the low competition group did not show these inferences.

Competition likely contributes to the salience of real-life social categories as well. The prevalence of interethnic tension serves as an important environmental input that reinforces the essentialization of ethnicity. Indeed, for children living in societies with intense interethnic

conflicts (e.g. Israel), essentialization of ethnicity emerges early (5 years of age) and remains

unchanged through adulthood (Diesendruck et al., 2013).

In summary, especially at an age when children are learning about social categories, the

psychological salience of specific social categories highlighted by cues to tension between

groups (and other cues that signal psychological salience) may signal to children that the

category is fundamental and informative.

Exposure to Diversity

Intergroup exposure within a diverse environmental context may be another factor that

contributes to the salience of social categories and is also another important context that has been

shown to affect the development of essentialism. In particular, studies have shown that in diverse

environments children develop less essentialist beliefs with age. Results from Rhodes and

Gelman (2009) indicate that although younger children appear to have natural kind beliefs about

gender and not race, older children from rural, less diverse communities continue to essentialize

gender and start to exhibit natural kind beliefs about race. Their urban counterparts, however,

essentialized both social categories *less* with age. Pauker, Xu, Williams, and Biddle (2016)

compared the level of race essentialist beliefs (specifically examining stability beliefs) of

children from a racially homogenous (Massachusetts) and a racially diverse community

(Hawai'i). Similar to the findings from Rhodes and Gelman, there was no difference in race

essentialism scores for younger children the two contexts, but older children in Massachusetts

displayed more race essentialist beliefs than older children in Hawai'i. Finally, Mandalaywala

and colleagues (2019) found that increased out-group exposure in a sample of White and Black

5-6-year-old children was associated with the decreased likelihood of viewing race as tied to a

causally powerful essence in children, regardless of their race. Thus, across a number of contexts

within the U.S. increased intergroup exposure appears to be associated with decreased essentialist beliefs about race.

Similar to association between diverse environments and race essentialist beliefs, diverse religious environments are associated with lower essentialist beliefs about ethnicity. Importantly, this reduction in essentialism does not seem to operate through reducing the extent to which children notice or categorize by ethnicity. Specifically, secular Jewish children who attended Jewish-Arab integrated schools were more aware of ethnicity *and* were less likely to essentialize ethnicity compared to their counterparts in segregated schools (Deeb et al., 2011). The negative association between salience of ethnicity and essentialism toward ethnicity suggests that exposure to different ethnicities decreased children's essentialist beliefs toward ethnicity by contextualizing ethnicity and providing children with more personal knowledge of different category members. Similarly, in a study examining children's essentialist beliefs about religion categories in Ireland, older children attending religiously segregated schools were more likely to use religious categories to make inferences about others and endorse stability beliefs, compared to those in integrated schools (Smyth, Feeney, Edison, & Coley, 2017).

In summary, a number of studies (particularly those focused on race, ethnicity, and religion) suggest the importance of intergroup exposure in reducing essentialist beliefs (or alternatively the role of segregation in maintaining or exacerbating essentialism) across a number of different components of essentialism.

Cultural Norms

Cultural factors contribute to the creation of norms and expectations that may guide our beliefs about the world around us. Specifically, cultural norms and practices inform us of the nature of the world, including how the world was created and the nature of social group

membership (e.g., how one becomes a member of certain groups). Beliefs about the nature of the world perpetuated through cultural norms may inform the basis of what children use to make inferences about others. The influence of cultural norms on essentialist beliefs has been examined through work specifically focusing on religious norms. Especially in religions that stipulate a God as the sole creator of animals, artifacts, and social categories of people, and describe how each of these categories have a predestined purpose in the world, religious norms espouse beliefs consistent with stability and distinctiveness components of essentialism compared to secular norms. Indeed, results from Diesendruck and Haber (2009) suggest that the more children believed God was the creator of social categories, the more likely they were to endorse the stability of gender, race, and ethnicity.

In addition to religious doctrine, the way religious affiliation is described may contribute to overall essentialist beliefs about social categories. Some religious theologies explicitly state that membership in the group is inherited at birth (e.g., Judaism), whereas other religions require action to join the group (e.g., baptism in Catholicism). Chalik, Leslie, and Rhodes (2017) assessed whether differences in how religious group membership is determined contribute to differences in essentialist beliefs (specifically stability beliefs) among Jewish and Christian 5-year-olds, 10-year-olds, and adults. They found that 5-year-olds from all backgrounds tested showed the highest levels of essentialism about both novel and familiar religions, but with age cultural input appeared to matter: Jewish adults held more essentialist beliefs for familiar compared to novel religions than Christian adults. Thus, while young children tended to essentialize religious groups across the board (i.e., they appeared to have a conceptual bias toward essentialism), cultural input through religious norms may govern which groups maintain

essentialist beliefs across development and which sub-groups of a social category those beliefs are applied (i.e., specific familiar religious groups rather than any religious category broadly).

Aside from religion, cultural practices that highlight differences between social categories may increase the likelihood that children essentialize those social categories. For example, cultural practices that increase the salience of differences between genders, such as gendered hair styles and dress, may lead children to assume these differences are meaningful and important (Gelman & Taylor, 2000). In addition to cultural practices, norms governing the possibility of social mobility and change are also thought to contribute to the development of essentialist beliefs. For example, children who grow up in societies with relatively lower job mobility are more likely to essentialize occupation when they grow up (Hirschfeld, 1995, 2001).

In sum, cultural norms and practices may amplify perceived differences between individuals who belong to different social categories, leading children to develop their own inferences and intuitive explanations as to why these differences occur.

Summary

The aforementioned contextual and cultural variation (e.g., based on task type and procedure, participant group membership, language use, exposure to diversity, etc.) in the development of social essentialism highlights important patterns that have theoretical implications for understanding social essentialism. More specifically, this body of work begins to demonstrate that while social category salience is an important prerequisite to essentialist beliefs, it does not always lead to more essentialism in and of itself. For instance, the salience of social category *stereotypes* can interact with the salience of the social category to shape essentialist beliefs in children. This is perhaps is most clearly demonstrated in Pillow and colleagues (2015) results showing stronger gender essentialist beliefs when both gender as a social category is

made salient *and* stereotypic information is made salient compared to when only gender as a social category is made salient.

Importantly, this salience interaction also helps explain discrepancies in the literature. For example, existing literature seems to suggest that Black American children develop race essentialist beliefs earlier than White American children. While both Black and White children in America are exposed to cues about race and racial stereotypes, it is reasonable to suspect that most young, White children living in White majority environments will not find race to be a particularly salient social category on its own because of infrequent race discussions and colorblind ideologies (Pahlke et al., 2012; Priest et al., 2014). Therefore, in tasks that measure components of essentialism without clearly highlighting or labeling race (i.e., natural-kinds beliefs), or where race is pitted against other information like language or emotions, researchers are less likely to find race essentialism effects in younger, White children. For racial minority children, however, race may be more chronically psychologically salient to them due to increased parental discussions, observed differential treatment and stereotypes relevant to their own group membership, and in some cases a history of tension and intergroup conflict with regard to race. Thus, the combination of exposure to racial stereotypes and the increased psychological salience of race for racial minority children may support the earlier development of race essentialism observed in Black American children, for example.

Similarly, research has documented differences in the development of essentialist beliefs about ethnicity in contexts in which ethnicity is made salient through positive intergroup contact versus contexts in which ethnicity is made salient through intergroup competition and tension. Namely, when ethnicity is salient as a result of positive intergroup contact, increased social category salience appears to be connected to *decreased* essentialism (Deeb et al., 2011). Though

not specifically documented with regard to ethnicity, Rhodes and Brickman's (2011) research

with novel groups implies that when ethnicity is made salient as a result of intergroup

competition and tension, increased category salience should be connected to *increased*

essentialism. Thus, the broader social context in which a particular social category is highlighted

appears to matter in terms of how social category salience is related to the development of social

essentialism.

If the salience of social categories and the salience of category stereotypes interact to

shape and predict children's essentialist beliefs, this raises the question: *how* do social categories

and category stereotypes become salient to children? The studies reviewed so far clearly point to

cues in language and culture that help bolster the salience of specific social categories and

stereotypes. Things like generic language (e.g., "Girls are sweet and boys are rambunctious"),

labels (e.g., "This is a boy and this is a girl"), and marking relevant and important social

categories (e.g., "Listen up boys and girls!") have all been linked to stronger essentialist beliefs

in children (Birnbaum et al., 2010; Gelman & Heyman, 1999; Rhodes et al., 2012; Rhodes,

Leslie, Bianchi, et al., 2018; Segall et al., 2015; Waxman, 2010). These linguistic cues can work

to make both social categories salient and category stereotypes salient to children, perhaps

because parents with stronger essentialist beliefs use many subtle linguistic cues—in addition to

the ones listed above—that are in line with their own essentialist beliefs (Gelman et al., 2004;

Rhodes et al., 2012).

Similarly, cultural norms, practices, and beliefs can work to do the same things. Cultures

that explicitly teach group members to identify the true purpose or utility of all categories (e.g.,

cultures in which religious ideologies guide reasoning about the nature of the world and life

itself), prime group members to be especially sensitive to social category salience and category

stereotypes. This sensitivity can be taught through explicit instruction or implicit cultural

practices. For example, children may hear religious leaders telling them that God has a purpose

for everything and everyone—an explicit teaching that promotes recognizing an essential

purpose of social groups—or they may learn that people are born into important social categories

because of a cultural practice of ascribing group affiliation at birth—an implicit teaching that

people have an innate essence which determines group membership. Observing messages that

explicitly and implicitly highlight which types of social categories are meaningful to track, may

lead children to notice and use those social categories to organize information about their world

(Bigler & Liben, 2006, 2007).

Implications of Contextual and Cultural Variability for Social Consequences

It is clear that the development of essentialist beliefs is highly contextual and seems to be

linked to multiple factors that increase the psychological salience of and underscore the

underlying meaning of those social categories. If context is a critical factor in the development of

essentialist beliefs about social categories, this implies that not all children develop the same

essentialist thinking about the same social categories. This in and of itself is not especially useful

information, but it does provide a perfect opportunity to examine social consequences associated

with essentialist beliefs about social categories by investigating differences between those who

hold stronger vs. weaker essentialist beliefs. Additionally, understanding the contexts in which

essentialism may be reduced can provide important input for possible interventions aimed to

mitigate the negative consequences of essentialist beliefs. To date, the literature has primarily

focused on the negative consequences of essentialist beliefs about social categories among adult

populations. Less work has examined the consequences of essentialist beliefs in early childhood,

but this work is critical to understanding the role of essentialism in the development of

intergroup phenomena and the types of situations that may mitigate negative intergroup

consequences.

Among children, research has shown that essentialist beliefs are associated with more

stereotyping. 11-13-year-old children who believed that people's personal characteristics cannot

change (a 'fixed' belief which overlaps conceptually with the stability component of

essentialism) compared to children who believed that people's personal characteristics can

change, stereotyped novel group members to a greater degree (Levy & Dweck, 1999). Research

by Pauker and colleagues (2010) examined when stereotyping emerged in children ages 3-10

years and what factors (including essentialism) were associated with increased stereotyping. This

work found that both racial out-group and in-group stereotyping increased with age, but racial

out-group stereotyping emerged earlier, at about 6 years of age. The developmental increase in

out-group stereotyping was predicted by both race salience and children's essentialist thinking

(with regard to stability beliefs) (Pauker et al., 2010). Additionally, neither race salience nor

essentialist thinking was related to children's in-group stereotyping. This work suggests that

essentialist beliefs may contribute specifically to racial *out-group* stereotyping.

Research has also examined the effect of essentialist beliefs on the extent to which

children draw more distinct or more fuzzy intergroup boundaries and the resultant implications

of for children's face processing and interactions. The 'own race bias' in adults and children is a

well-documented phenomenon, whereby people tend to remember faces of racial in-group

members better than faces of racial out-group members (Chance, Turner, & Goldstein, 1982;

Hugenberg, Young, Bernstein, & Sacco, 2010; Meissner & Brigham, 2001; Sangrigoli & de

Schonen, 2004). Gaither and colleagues (2014) found that children with essentialist beliefs about

race displayed worse memory for racially ambiguous faces compared to children who had not

developed such beliefs. Specifically, children 4-9 years of age who engaged in more essentialist thinking about race (specifically stability beliefs) remembered racial in-group (i.e., White) faces better than racial out-group (i.e., racially ambiguous and Black) faces, while children of the same age who exhibited less essentialist thinking about race remembered in-group and racially ambiguous faces equally well (Gaither et al., 2014). Importantly, children who engaged in less essentialist thinking about race still displayed an own-race bias, but the boundary between White and Black seemed to become less discrete and they displayed better memory for *racially ambiguous* faces. Therefore, the authors theorized that the results are due to essentialist beliefs about race leading to more discrete in-group and out-group boundaries that facilitate more rigidity in who can be considered part of the in-group.

This rigidity in group boundaries is conceptually related to intergroup distancing—that is, children who endorse greater essentialist thinking may perceive distinct groups to be very different from one another and thus create more psychological distance between them. Indeed, essentialist beliefs have been found to increase children's tendency to conceptualize more distance between ethnic in-groups and out-groups. 5-7-year-old secular Jewish Israeli children primed with essentialist thinking about ethnicity placed Jews and Arabs further apart in imagined space than children in control conditions (Diesendruck & Menahem, 2015). Thus, essentialism may have a group distancing effect through the conceptualization of more rigid, and distinct group boundaries.

Endorsement of essentialist beliefs can also have consequences for intergroup attitudes and behavior. Work with kids as young as 3-5 years old shows an increase in out-group derogation and in-group favoritism with higher race essentialist thinking (Rutland, Cameron, Bennett, & Ferrell, 2005). More specifically, children with higher racial constancy scores (i.e.,

stability beliefs about race), attributed more negative traits to racial out-groups and more positive traits to racial in-groups whereas children with lower racial constancy scores showed no difference in attributing positive and negative traits between racial in-group and out-group members. Additionally, Rhodes and colleagues (2018) found that 4.5-6-year-old children primed with generic language about a novel category were more likely to endorse essentialist beliefs about that category and, subsequently, more likely to withhold resources from members of that group (though it did not affect their attitudes toward out-group members). This is particularly powerful when considering work which finds that both White and Black adults who hold higher causal essentialist beliefs about behaviors are less warm toward Black targets compared to White targets (Mandalaywala et al., 2019). This association was also found among 5-7-year-old Black children but was not found for White children of the same age. Taken together, studies examining real groups that have a host of other covarying information available for children to observe (e.g., social status, stereotypes) find some relation between essentialist beliefs and racial attitudes, whereas studies that examine novel groups (which are typically devoid of this extra information) find an association between essentialist beliefs and resource allocation, but not a broader set of intergroup attitudes. This may mean that essentialism on its own does not lead to the development of negative intergroup attitudes, but that it interacts with other social input (e.g., social status, existing stereotypes) to influence intergroup attitudes (Mandalaywala et al., 2019).

This emerging literature suggests that stronger essentialist beliefs are associated with negative social consequences. Yet, the literature also shows that essentialist beliefs depend on the social context, cultural input, and can change. Therefore, researchers have begun to examine whether contexts which reduce essentialist beliefs about social categories also show associated decreases in negative social consequences. For example, in the study by Pauker and colleagues

(2016) discussed earlier, they found lower essentialist beliefs (specifically examining stability beliefs) among children in a racially diverse community (Hawaiʻi) compared to children in a racially homogenous community (Massachusetts). Interestingly, children in Hawaii also exhibited less outgroup stereotyping than children in Massachusetts, and an environmental difference in essentialist thinking about race accounted for the different pattern of stereotyping in the two environments. In a recent study with adults, Pauker and colleagues (2018) investigated in a longitudinal study whether moving to a racially diverse environment (Hawaiʻi) could lead to changes in race essentialism and corresponding changes in social consequences. Results showed that decreases in race essentialist beliefs over time was indeed associated with lower modern racism scores and lower social dominance orientation scores (Pauker et al., 2018). Furthermore, decreases in race essentialism was associated with increased cognitive flexibility (Pauker et al., 2018). Similar types of effects have been found in younger samples—specifically where a contextual factor meant to reduce essentialism leads to reduced essentialism and a mitigation of negative social consequences. For example, in a recent study with middle school students, those exposed to an intervention meant to reduce race essentialism—through describing human genetic variation—showed decreases in racial bias that corresponded to their decreases in race essentialist beliefs (Donovan et al., 2019). Thus, research has started to test how contextual factors that contribute to reductions in social essentialism could lead to benefits for intergroup relations.

Future Directions

While recent research has shown that social context and cultural input can guide when social essentialism emerges and particularly which social categories are more likely to be essentialized, the research reviewed also reveals a number of avenues ripe for future research.

First, research examining social essentialism should start to systematically examine different components of essentialism. While different components of essentialism have been most thoroughly examined within the domain of gender, work examining essentialism of other social categories has tended to concentrate on a few specific components (e.g., stability, natural kinds, homogeneity). Thus, what appear to be conflicting findings in the literature as to when essentialism emerges for a specific social category may instead be due to differences in the component of essentialism measured across different studies. In other words, we need to better understand the developmental time course for when different components of essentialism emerge and whether this time course varies across the domain or social category examined. Relatedly, future studies should also start to examine when children exhibit coherence across multiple components of essentialism, whether this varies across different social categories, and the implications of the development of coherence for social outcomes. For example, do different components of essentialism predict stereotyping as opposed to discriminatory behavior or do certain social consequences only emerge once there is coherence across multiple components of essentialist beliefs?

Because patterns in the development of essentialist beliefs about social categories seem to be influenced by the social and cultural context, salience of social categories and salience of category stereotypes in the environment should be tested more thoroughly. For example, future work should examine more than one competing social category to discern which categories are more meaningful than others in any given cultural environment. As previously described, studies have found that both race and ethnicity are less essentialized when they are pitted against another category compared to when they are examined on their own (Birnbaum et al., 2010; Kinzler & Dautel, 2012; Roberts & Gelman, 2016), but additional competing social categories can, and

should, be examined. Such work would not only offer insight into categories that are more or less

psychologically salient and meaningful to different groups and in different cultural contexts, but

experimentally manipulating the salience of categories and category stereotypes before pitting

categories against one another would bolster evidence for the causal role of psychological

salience on essentialist beliefs.

Additionally, future work should more thoroughly examine differences in the

development of social essentialism across higher status and lower status groups across different

social categories. Do children who have a higher status position in a particular social category

essentialize that category to a greater degree than children who hold a lower status position? The

evidence thus far regarding this question is quite mixed. Future work should systematically

examine this question, whether the answer varies depending on the social category examined,

and why this might be the case. For example, do children need to have a clear understanding of

the status hierarchies within that particular social category and their position within that

hierarchy in order to show motivated social essentialism (i.e., social essentialism in service of

protecting the higher status group)? Or might lower status groups essentialize particular social

groups within environments where strong identification with that group provides a protective

function?

Future research should also examine if different environmental cues that make categories

or category stereotypes more salient affect different components of essentialism. Some research

indicates that distinct types of linguistic cues (e.g., generic language vs. labeling) may be

differentially associated with the development of specific components of children's essentialist

beliefs (Segall et al., 2015). Specifically, Segall and colleagues (2015) found that parents' use of

generic language surrounding ethnicity was related to their children's view of ethnicity as

homogeneous, but parents' labeling of ethnicity was related their children's view of ethnicity as stable. This study provides initial evidence that perhaps distinct types of language cues may contribute to distinct components of social essentialism, though it is unclear whether this effect will occur across a wide range of different types of social categories. For example, work that has manipulated generic language about novel categories, finds that generic language increases children's endorsement of essentialist beliefs across multiple components of essentialism (i.e., stability, homogeneity, causal; Rhodes et al., 2012). Thus, future work should examine this question with a wider range of social categories.

Additionally, the type of environmental cues that signal salience of categories and category stereotypes may interact with the socio-political and historical context of communities. For example, in Israel—a context with historical and current ethnic conflict between Jews and Arabs—children's essentialist beliefs are attenuated by outgroup contact in schools (e.g., attendance in integrated vs. segregated schools; Deeb et al., 2011). This is also true of children's essentialist beliefs about religion in Ireland—a context which has had historical intergroup tension between Protestants and Catholics (Smyth et al., 2017). However, children in Israel, as compared to children in Ireland, were observed to endorse more essentialist beliefs at an earlier age. Namely, Israeli children showed early endorsement of essentialist beliefs about ethnicity that attenuated with age in an integrated context, while Irish children started off with relatively low essentialist beliefs about religion that increased with age, particularly in a segregated context. These different developmental trajectories raise questions about why children start off essentializing some types of social categories (i.e., ethnicity in Israel) but appear to need more cultural input to essentialize other types of social categories (i.e., religion in Ireland). Both contexts have considerable intergroup tension, but perhaps other factors, such as the perceptual

salience of the category or the extent to which adults label and use the categories may contribute to these different developmental trajectories. Similarities and differences across different cultural and socio-political contexts can help researchers start to unpack the factors that lead to stronger and weaker essentialist beliefs and additional contexts should be examined to enable the ability to examine the trajectory of the development of social essentialism embedded within these contexts.

A commonality seen across numerous studies is that higher intergroup exposure is associated with lower social essentialism (Deeb et al., 2011; Mandalaywala et al., 2019; Pauker et al., 2016; Rhodes & Gelman, 2009; Smyth et al., 2017). Intergroup exposure has been operationalized in a number of ways across these studies, including comparing segregated and integrated schools, measuring intergroup exposure, and comparing racially homogeneous and racially diverse contexts. Future work should start to unpack the extent to which segregation, homogeneity, integration, and/or diversity may be driving these effects. In diverse environments, for example, children have the opportunity for increased intergroup contact, but that contact may not occur if the environment is also highly segregated. Is actual intergroup contact necessary to reduce essentialism and does the effect of that contact depend on its nature (i.e., whether it is positive or negative)? Recent work with adults has also highlighted that contact with specific forms of diversity, such as exposure to group members who do not neatly fit into a single social category may be especially potent in reducing essentialism (Pauker, Meyers, Sanchez, Gaither, & Young, 2018). Individuals who do not fit neatly into any one category can challenge rigid social categorization, and the notion of discrete or strict category boundaries, and if this happens frequently enough, it is reasonable to predict that rigid social categories will simply become less useful and, therefore, less used. For example, recent studies from adults provide insight to how

exposure to racial ambiguity or multiracial/biracial individuals in particular leads to decreases in race essentialism (Sanchez, Young, & Pauker, 2015; Young, Sanchez, & Wilton, 2013). White individuals' exposed to racial ambiguity showed reduced essentialist beliefs, an effect that sustained for two weeks (Sanchez et al., 2015) and White individuals who recently moved to a context with a high multiracial population (Hawai'i) decreased in their endorsement of race essentialism 6–9 months after arrival (Pauker et al., 2018). Although this work is relatively newer, it provides an important direction for future developmental studies to look at the impact of specific types of diversity, such as exposure to individuals that blur social category boundaries, on essentialist beliefs.

Finally, future work should consider whether there are any possible positive social consequences of essentialist beliefs about social categories. For example, to date, the vast majority of the literature has indicated that negative social consequences are associated with higher endorsement of essentialist beliefs, but this literature (except in the case of gender) has also primarily concentrated on high status groups' judgments. It is possible that social essentialism, for example, could serve different purposes for members of higher and lower status groups. Such work would contribute to theory building and application by further delineating the circumstances under which essentialist beliefs lead to downstream effects on stereotyping and prejudice, and perhaps whether essentialist beliefs have effects in other domains (such as strength of identity development) that are typically less examined.

Conclusion

Recent research has examined the development of social essentialism across numerous social categories and has revealed considerable variation in the development of social essentialism across different social and cultural contexts. Future research should keep in mind

the importance of considering this variation and start to systematically explore the ways in which social essentialism may be reduced or exacerbated and its potential impacts on social consequences. This understanding will be critical to both theory building and the development of interventions aimed to reduce the pernicious consequences of social essentialism (and to understand the circumstances when essentialism may not lead to negative consequences).

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Table 1. Summary of Findings: Contextual and Cultural Variation in Social Essentialism

Context	Impact on Essentialist beliefs	Example finding
Experimental Task	*Specific tasks may measure different components of essentialist beliefs, and children may have differing levels of essentialist beliefs about a specific social category based on the component measured*	Race – Switched at birth task (Hirschfeld, 1995) argues that children as young as 4 years have essentialist beliefs about race, whereas others find that stability beliefs are not apparent until 6 years or later (Giménez and Harris, 2002; Pauker et al., 2010).
	Pitting two categories against each other can reveal whether children may base their essentialist beliefs on one category more than the other	When language and race are pitted against each other, we see that race essentialist beliefs (with regard to stability) don't emerge for White children until 9-10 years (Kinzler & Dautel, 2012).
Participant Group Membership	*What group a child belongs to may lead to differences in essentialist beliefs*	Race – Black children were more likely than White children to attribute behavior properties of a child to its birth mother when compared to the adopted mother (Mandalaywala et al., 2019).
		Gender – young transgender and cisgender children show similar levels of gender essentialist beliefs (Gülgöz, Demeules, Gelman, & Olson, 2019).
		Socioeconomic status – While 7-8-year-old children of both caste groups endorsed lower essentialist beliefs, Brahmin adolescents showed higher essentialist beliefs than Dalit adolescents (Mahalingam, 2007).
Language Use	*Generic statements increase essentialist beliefs, as they reflect properties of the category as a whole*	Novel social categories – hearing generic language about a novel social category (Zarpies) led 4-year-olds and adults to develop essentialist beliefs about that social category (Rhodes, Leslie, & Tworek, 2012).
	Category labels are important information that children use to infer characteristics of a person	Gender & Race – Children were more likely to extend a novel property to within race and within gender group members when the social category was labeled (Waxman, 2010).
Psychological Salience of Category Kinds	*The more salient a social category is within a culture the more likely children will use that category to organize their beliefs*	North American children show increases of race essentialism with age, while Israeli children show higher levels of ethnic essentialism across all ages (Diesendruck et al., 2013).

Exposure to Diversity	*Children develop less essentialist beliefs with age in diverse environments.*	Race – Older children in Massachusetts (racially homogenous context) displayed more race essentialist beliefs than older children in Hawaiʻi (racially diverse context; Pauker et al., 2016).
Cultural norms	*Cultural norms and practices inform us of the nature of the world, including how the world was created and the nature of social group membership*	Religion – The more children believed God was the creator of social categories, the more likely they were to endorse the stability of gender, race, and ethnicity (Diesendruck & Haber, 2009)