Conceptualizations of Race: Essentialism and Constructivism

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Abstract:
Demonstrating how race is socially constructed has been a core sociological objective, yet many individuals continue to hold essentialist and other concepts of what races are and how to account for group differences. These conceptualizations have crucial consequences for intergroup attitudes, support for social policies, and structures of inequality, all of which are key sociological concerns; yet much of the research in this area has emerged outside of sociology. Our review of this interdisciplinary scholarship describes the range of views people hold, the attitudes and behaviors associated with them, and what factors contribute to these views. We focus primarily on essentialism and constructivism, although we describe the greater variety of beliefs beyond this dichotomy, as well as fluidity in how people use these concepts. We conclude by presenting research on strategies for reducing essentialist belief systems and identifying key areas for future research.

Keywords: essentialist, constructivist, racial concept, beliefs, race

INTRODUCTION

Many sociologists place racial meaning at the center of their scholarship. Indeed, demonstrating how race is socially constructed rather than natural and fixed has been a core sociological objective (Omi & Winant 1994; Saperstein et al. 2013). For instance, the ASA statement on the importance of collecting and researching race takes this position (American Sociological Association 2003), claiming that "race is a social construct (in other words, a social invention that changes as political, economic, and historical contexts change)" (p.7) and rejecting "the mistaken perception that race is a biological concept" (p.3). In doing so, sociologists of race commonly differentiate two primary conceptualizations of what race is – a "constructivist" and an "essentialist" view – and assert the validity of the former over the latter.

The preponderance of evidence from social and biological sciences supports this interpretation that races are not biologically determined (Fujimura et al. 2014; Graves 2004; Lewontin et al. 1984; Roberts 2011; Tishkoff & Kidd 2004). No clear biological dividing lines distinguish them, and the enormous amount of genetic distance within racial categories exceeds the genetic variability between them (Conley & Fletcher 2017; Lewis et al. 2022; Tishkoff & Kidd 2004) — a distinction biologists use for determining a biological race or subspecies (Graves 2004). And yet individuals' belief systems about the nature of race frequently differ from scientific understandings, with many people holding essentialist and other conceptualizations (Condit et al. 2004b; Dubriwny et al. 2004; Jayaratne et al. 2009; Morning 2011; Morning & Maneri 2022). Wimmer (2008) describes today's literature as dominated by the "hegemony of constructivism," arguing that our focus on describing what race *really is* has prevented us from considering the variable ways that societies or individuals understand it.

How societies and individuals conceptualize race has crucial consequences. It underpins intergroup attitudes and belief systems, including prejudice and racism (Jayaratne et al. 2006; Keller 2005; Knowles et al. 2022; Tawa 2022). It also can influence support for social policies and structures. Those who view racial differences as biological and unchanging are less likely to support policies addressing racial inequalities (Byrd & Ray 2015; Donovan 2017; Yalcinkaya et al. 2017). Essentialist views have provided the foundation for some of history's worst atrocities, including slavery, eugenics, apartheid, and genocide (Cornell & Hartmann 1998; Duster 2003; Phelan et al. 2013; Roberts 2011; Smedley 2007). Sociologists have much to gain from understanding the range of views on the ground, how they develop and change, and their consequences.

Over a decade ago, Morning (2009) called for a sociology of racial conceptualization – a study of trends and patterns in people's understanding of what race is, how races differ, and where they originate. Some sociologists have taken up this challenge, but this scholarship remains highly interdisciplinary. While sociologists typically focus on showing the constructivist nature of race, other disciplines – including psychology, communication, and science education – have done considerable work on the consequences of essentialist beliefs and how to reduce them (Condit et al. 2004b; Dar-Nimrod & Heine 2011; Donovan 2016, 2022; Hirschfeld 1996; Williams & Eberhardt 2008). At the same time, this scholarship can overlook much of the complexity in people's racial conceptualization, including the different forms of views people hold and the ways that individuals situationally switch between essentialist and constructivist logics. These gaps show that sociologists have much to contribute to this scholarship.

This article reviews scholarship both within and outside of sociology on the different ways that people conceptualize race. We focus primarily on essentialism (i.e., the belief that race is an

inherent attribute that characterizes the traits and abilities of their members), and constructivism (i.e., the belief that race is socially constructed and has no inherent meaning). However, we also discuss scholarship showing greater complexity in people's beliefs, as well as in how they use those concepts. We review research on attitudes and behaviors associated with essentialist views, as well as factors contributing to these views. The article also presents research on strategies for reducing essentialist belief systems and identifies areas for future research.

RACE VS. ETHNICITY

Sociologists often distinguish conceptually between race and ethnicity, although these concepts are sometimes conflated by laypersons (Morning 2011). Ethnicity is a social and cognitive structure that leads people to recognize themselves and/or be recognized by others as having real or putative common ancestry, shared culture, and/or a shared historical past (Brubaker et al. 2004; Cornell & Hartmann 1998). Race is a similar social and cognitive structure for grouping and classifying people on the basis of physical or biological characteristics that are perceived to be inherent. Yet human beings decide which characteristics constitute the race, and may do so differently across time and place (Cornell & Hartmann 1998). Many sociologists center the creation and use of race in systems of power, social conflicts, or interests, which distinguish different types of human bodies to dominate or exploit (Omi & Winant 1994; Smedley 2007). Others note the overlap between race and ethnicity and argue that race can be seen as a type of ethnicity (Brubaker 2009; Loveman 1999; Wimmer 2008).

Views of ethnicity may also vary between essentialist and constructivist conceptions. For instance, some may adopt a cultural essentialist view of ethnic groups, locating the group's essence in fixed cultural patterns, such as its lifestyle, practices, or values, which are seen as fundamentally

shaping its members (Morning & Maneri 2022; Yalcinkaya et al. 2017). Yet because of the association of ethnicity with culture, and race with physical or biological characteristics that are perceived to be inherent, there may be a greater tendency to essentialize race than ethnicity. This is likely why the bulk of the literature on essentialism and conceptualization focuses specifically on race. For this reason, we focus here on scholarship exploring public conceptualizations of race.

WHAT ARE ESSENTIALISM AND CONSTRUCTIVISM?

Essentialism is the view that members of a group share defining qualities, or essences, that are innate and unchanging and inform the nature, behavior, or abilities of group members (Byrd & Hughey 2015; Dar-Nimrod & Heine 2011; Haslam et al. 2000). The concept is often associated with beliefs that the groups or categories are discrete and uniform; membership in them is exclusive, such that belonging to one group disallows membership in another; and the group is perceived as a coherent entity (Haslam et al. 2000; Hirschfeld 1996; Keller 2005; Morning 2011; Rothbart & Taylor 1992). Essentialism is closely tied to the concept of biological determinism, the idea that biology or genes are deterministic, controlling the group's essential nature and behaviors (Byrd & Hughey 2015; Condit 2011; Keller 2005). While essentialist views can be applied to many types of categories or groups, we focus on their application to race.

There are different forms of essentialism; psychological essentialism is based on the idea that certain categories of things are "natural kinds" with immutable, unique properties (e.g., a cat cannot be changed into a dog, or a White person into a Black person) (Phelan et al. 2014; Rothbart & Taylor 1992). Natural kinds like animals, trees, or rivers are seen as existing in nature, independent of human needs or interests (Eberhardt & Randall 1997). The unique essence of each category leads people to infer how members of the category will appear and behave (Dar-Nimrod

& Heine 2011). By contrast, human artifacts like furniture or houses are seen as more flexible. Since they are constructed to serve human needs, their functions can change (e.g., a bed can be changed into a table); thus, they are not perceived as having a core essence (Eberhardt & Randall 1997; Rothbart & Taylor 1992).

Because the essences of natural kinds categories are unobserved, people often use an "essence placeholder" to infer that the essence exists without needing to understand its location (Medin & Ortony 1989). They may also develop implicit theories that link the natural kinds' observable or superficial features to these unobserved essences, concluding that things that look alike share deeper qualities (Eberhardt & Randall 1997; Keller 2005; Medin 1989; Rothbart & Taylor 1992). This produces additional types of essentialism for living things; biological essentialism locates the essence in the group's biology, while genetic essentialism places it explicitly in their genes (Dar-Nimrod & Heine 2011; Donovan 2022; Yaylacı et al. 2021). Cultural essentialism, locating the group's essence in its cultural patterns, may be applied to groups defined in racial terms (Morning & Maneri 2022).

Some emphasize the functional role of essentialist beliefs in implying inferiority of certain groups, justifying social hierarchies, and maintaining the status quo (Jayaratne et al. 2009; Keller 2005; Yzerbyt et al. 1997). While racial essentialism – essentialist beliefs about the nature of races – is often associated with racism, they are not necessarily equivalent. Empirical research does not always support a strong correlation between the two, and it is possible that people believing in biologically distinct races may not hold racist beliefs in a hierarchical ordering or superiority of some races over others (Morning 2011). As we discuss below, there are different forms of racial essentialism, which may have distinct consequences for racist attitudes (Condit 2019; Hu et al. 2022; Yaylacı et al. 2021).

Constructivism refutes the idea that races are "natural kinds" and instead views them as human artifacts, categories socially constructed by humans (Cornell & Hartmann 1998; Morning 2011; Rothbart & Taylor 1992). Constructivist beliefs emphasize that races are flexible and fluid, often changing across time periods or contexts and constructed differently in different societies and regions (Barth 1969; Bashi Treitler 2013; Davis 1991; Domínguez 1986; Haney López 1996; Loveman 2014; Roediger 2005). Constructivist scholarship frequently focuses on how racial categories or identities are built, how they change, and sometimes how they are destroyed over time (Cornell & Hartmann 1998; Omi & Winant 1994; see Saperstein et al. 2013 for review).

Rather than viewing race as originating in nature, genes, or the body, constructivists emphasize the role of power and human interests in creating a system of human differentiation that need not have existed. Constructivist authors emphasize the emergence of race as a folk term in European encounters with other populations between the 16th and 17th centuries, and its later development into an ideology of human differences and a new way of structuring society (Smedley & Smedley 2005). By the early 18th century, its meaning had solidified into a view of non-White or non-European others as inherently inferior, which justified the creation of systems of slavery and colonization that benefitted imperial powers (Saperstein et al. 2013; Smedley 2007). Omi and Winant (1994) focused on "racial projects" whereby races were formed or changed through efforts to represent or interpret racial dynamics while also reorganizing societies and distributing resources along racial lines. Their work centered mostly on macro-level transformations through state activity or social movements, but racial formation and constructivist scholarship also focuses on micro-level processes of boundary construction and who comes to inhabit racial categories or identities, as well as meso-level effects of institutional contexts (Bashi Treitler 2013; Lamont & Molnár 2002; Ray 2019; Wimmer 2008; Saperstein et al. 2013).

PUBLIC UNDERSTANDINGS OF RACE

Both scientists and laypersons – that is, people who are not professional scientists or academics (Condit et al. 2004b) – reveal a range of racial conceptualizations, including both constructivist and essentialist views. Despite the implication that scholars have come to agreement about the social construction of race (American Sociological Association 2003), many studies reveal that scholars and scientists hold essentialist views. For instance, Fullwiley (2008) found that geneticists working to reduce health disparities advance essentialist concepts of genetically distinct, "pure" races corresponding to Linnaean categories (e.g., European, African, Asian, Native American). The continued use of race in varied areas of biological science indicates to many scholarly observers that essentialist ideas of racial difference are still at work (Braun 2006; Fausto-Sterling 2008; Kahn 2008; Lee 2015; Ossorio & Duster 2005; Roberts 2011). Studies of preeminent genomicists (Bliss 2012) and of biology and anthropology professors and undergraduate students (Morning 2011) uncovered both essentialist and constructivist views of race within each group.

However, research suggests that essentialist and constructivist beliefs are multidimensional and incorporate different subsets of beliefs (Condit et al. 2004b; Dubriwny et al. 2004; Glasgow et al. 2009; Hu et al. 2022; Morning 2011; Morning & Maneri 2022; Tawa 2017, 2018; Yaylacı et al. 2021). Some of these subsets could be considered more moderate forms of essentialism and constructivism. Reflecting a moderate essentialism, many people believe that race has a genetic basis because they view physical appearance as caused by genetics, and view race as based on appearance; but they do not necessarily conclude that racial groups have uniform internal essences or traits (Condit et al. 2004b; Dubriwny et al. 2004; Glasgow et al. 2009; Phillips et al. 2007;

Williams & Eberhardt 2008). This is consistent with Tawa's (2018) finding that some believe racial groups have distinct phenotypic characteristics like skin color and hair type, but that racial differences are only "skin deep" and do not indicate deeper essences or characteristics (i.e., phenotypic essentialism). Other scholars describe a related set of beliefs as "category determinism," which sees races as discrete genetic categories, but does not believe these biological differences determine people's abilities or core essences (Hu et al. 2022; Yaylacı et al. 2021).

Scholarship also distinguishes between extreme and moderate forms of constructivism. Exploring the race concepts of people who have taken genetic ancestry tests, Hu et al. (2022) identified an extreme constructivist view of race they call "exclusively sociopolitical," a view that there are no biological differences between races, which exist only for sociopolitical reasons. By contrast, the more common view was a moderate version of constructivism they call "insignificant genetic difference," which acknowledges genetic associations between racial groups that reveal themselves in phenotypical similarities, yet have no deeper significance and do not sort people into exclusive, discrete categories. Bliss (2012) also found moderate constructivist views in a "weak correspondence" model that denies genetic races exist but views them as having significant biological commonalities, and an extreme constructivist model which denies any correspondence between genetic variation and historically-contingent lay classifications of race. Similarly, Tawa (2018) identities an extreme constructivist view he calls "power and oppression" – the belief that race results from power dynamics and was created for white people to maintain power and privilege. He distinguishes these from more moderate forms of constructivism, including "clines" – understanding race as adaptations to geographic climates and regions, which implies some biological overlap among people socially designated as a race. Moderate constructivism views racial categories as invented independently of patterns of human biological variation, yet the

resulting groupings can differ from each other on average in terms of some biological characteristics.

Research also reveals a variety of complex racial conceptualizations that go beyond the scholarly divide between social construction and biological essentialism. Many attribute racial differences to cultural factors, including upbringing, language, nationality, and religion – characteristics typically associated with ethnicity (Condit et al. 2004b; Dubriwny et al. 2004; Hall et al. 2022; Morning 2011; Morning & Maneri 2022). Many of the college professors Morning (2011) interviewed expressed an anti-essentialist perspective, which used biological evidence to dispute essentialist claims without necessarily communicating a constructivist or other view of what race actually is. Hu et al. (2022) found that some respondents believed genetically-distinct, "pure" races existed in the past but no longer do because of widespread contemporary migrations and intermixing. All this suggests a need to look at racial conceptualizations beyond an essentialist-constructivist dichotomy.

Situational Essentialism

Although many think of people as essentialists or constructivists, research also suggests that racial conceptualizations are relatively fluid (Bliss 2012; Condit 2011, 2019; Condit et al. 2004b; Hu et al. 2022; Jayaratne et al. 2006; Morning 2011; Morning & Maneri 2022). Haslam and colleagues (2000) found that people apply different lay theories about race depending on the specific domain and group being considered. The genomicists Bliss (2012) interviewed moved between racial conceptualizations based on the practical and social concerns at hand, sometimes even in a single sentence or argument. Condit (2011, 2019) has compellingly argued that people are strategic essentialists. Most people do not strongly endorse the view that genes determine most

human behaviors or differences, she claims, but rather:

> people tend to store multiple categories, including multiple causal forces, that they deploy "strategically" to serve context-dependent goals in light of varying combinations of immediate and long-term interests. Such strategic essentialism is not illogical but, rather, constitutes a supple cognitive adaptation to the goal-driven character of human life, which requires addressing heterogeneous contexts (Condit 2019, p. S27).

People typically view genes as having higher causal influence over physical traits than over abstract qualities such as behavior or personality (Condit 2011; Parrott et al. 2003). Individuals also deploy essentialist theories more when these are primed, such as in experiments assessing the effects of genetic messages. Condit argues people also use essentialist or deterministic logic when it serves their self-interests, such as to protect valued behaviors or avoid blame and thereby satisfy personal, contextualized needs.

Morton et al. (2009)'s experiments illustrate how a single individual may use essentialist logics differently in different contexts. In Australia, for example, they found that essentialism was generally associated with greater prejudice toward Aboriginal people among White Australian undergraduates. However, an experiment with a vignette describing an artist being excluded from an "Emerging Indigenous Art Award" showed that participants used essentialist logics differently depending on how the vignette was framed. When the artist was described as excluded for being "not clearly Aboriginal," participants who scored high on a prejudice scale were more likely to employ essentialist notions of Aboriginal identity. Yet when told that the character was excluded for being "White," prejudiced participants were not more likely to employ essentialist logics. A UK-based study found similar results among White British undergraduates' reactions to a character's exclusion from a prize for Asian writers (Morton et al. 2009). These studies show how people use essentialist logics strategically in circumstances when they are beneficial to members of their own group. Understanding the real-world implications of essentialist logics will require

attention to under what conditions and for which purposes individuals draw on essentialist racial frameworks.

The view of racial concepts as situational, as well as multidimensional and complex, comes across clearly in work by Morning and Maneri (2022), which offers a new model for understanding racial conceptualization comparatively. Because cross-national research has been stymied by national differences in use of the term "race," the authors broadly compare how Italians and Americans conceptualize "descent-based difference," meaning the range of groupings that people associate with ancestry, whether labeled as "race," "ethnicity," "tribe," etc. Despite different ways of speaking about group difference, they find that Italian and American students largely share the same underlying belief systems. They propose an analytical framework that characterizes concepts of difference by six key features: 1) the perceived basis for difference or group membership (e.g., genes, traditions); 2) the scope or reference group to which the concept is applied; 3) whether groups are ordered hierarchically; 4) the mechanism for acquiring group traits (e.g., socialization, biological inheritance, deliberate acquisition, social assignment); 5) the perceived permanence or fluidity of the traits that constitute membership; and 6) how deterministic those traits are of other outcomes (e.g., behavior, abilities). This work illustrates that people use concepts of race or other descent-based groups in complex ways not typically captured in survey research or the broader literature on the consequences of racial essentialism.

Survey Research on the Public's Racial Conceptualization

How common are essentialist, constructivist, or other views of race among the general public? Surprisingly few studies analyze this important question with representative samples. Those that do typically explore whether people attribute racial differences in specific traits or outcomes to genetic or other causes, such as the environment or personal choice. Analyzing data

from the 2004 General Social Survey, Byrd and Ray (2015) found that White respondents tend to attribute personality and behavioral traits (such as intelligence, athleticism, selfishness, dependability, etc.) to environmental situations more than to genetic causes, regardless of the subject's race. However, they are slightly more likely to employ genetic explanations for Black people's personality traits than for White people's traits.

In a representative study of 600 White Americans, Jayaratne et al. (2006) assessed how much people agreed that genes explained perceived differences between Blacks and Whites on the drive to succeed, math ability, the tendency to act violently, and intelligence. They found that half of respondents reported that none of the differences were due to genetic factors, 24% had mean scores indicating very little genetic influence, 20% indicated some genetic influence, 6% reported a lot of genetic influence, and less than 1% said that genes account for "just about all" of the perceived race differences. They also found significant positive correlations between a belief that genes explain racial differences and age, conservative political orientation, and religiosity, as well as significant negative correlations between this belief and education.

Yaylacı, Roth, and Jaffe (2021) developed a scale to measure genetic essentialist beliefs that incorporates several subdimensions of those views. Using this scale, Roth, Yaylacı and Adkins (2019) compared genetic essentialist views of race among nationwide samples of White Americans and White Canadians. Their samples focused on people who were willing to take genetic ancestry tests but had not yet done so, and thus are not representative of the national populations. Nonetheless, they found that while both groups had average scores close to the midpoint, White Canadians had significantly higher average scores—indicating greater support for genetic essentialism (0.521 versus 0.447 on a scale ranging from 0 to 1). In both countries, genetic

essentialism was negatively associated with education and interactions with non-Whites, and positively associated with more conservative political views.

Overall, we have relatively little representative data on how common essentialist or other racial concepts are or how they tend to be used—and practically no data among non-Whites. Yet as the next section shows, holding or using essentialist conceptualizations can have significant, negative consequences for prejudice, stereotyping and racial bias, indicating a greater need for representative data. We now turn to the much larger body of scholarship on the correlates and consequences of holding essentialist views.

ESSENTIALIST BELIEFS AND RACIAL ATTITUDES

Large literatures seek to identify the correlates or consequences of racial essentialism. Substantial evidence shows that essentialist beliefs among members of majority racial groups are associated with stereotyping, bias, and prejudice against minority groups (Keller 2005; Knowles et al. 2022; Mandalaywala et al. 2018; Rhodes & Mandalaywala 2017; Rizzo et al. 2022). For example, one major study found that greater endorsement of genetic essentialist lay theories (i.e., the belief that genes explain racial differences) was associated with explicit prejudice toward Blacks among a representative sample of White American adults (Jayaratne et al. 2006). Chen and Ratliff (2018) found that essentialist beliefs also predicted greater implicit bias toward Black Americans, as measured by an Implicit Association Test (IAT). Additionally, a longitudinal study linked essentialist views to the development and expression of racial bias over time. In this three-year study involving a nationally-representative panel of White Americans, respondents' essentialist understandings of Whiteness contributed to increased belief in "minority collusion"—the perception of a homogenous and threatening "Non-White" population—among respondents

between 2015 and 2018 (Knowles et al. 2022). Another study found an interaction between racial essentialism and physiological stress. Among White criminal justice majors who participated in a virtual reality simulation, increased physiological stress was associated with incorrect uses of lethal force against Black subjects depicted in the simulation—but only among participants who previously demonstrated strong essentialist beliefs (Tawa 2022).

However, other studies have found conflicting results. For example, Haslam, Rothschild, and Ernst (2002) found only a weak relationship between essentialist beliefs and anti-Black racism among a sample of White and Asian college students. Phelan, Link, and Feldman (2013) found that essentialist beliefs predicted only implicit—but not explicit—racism among a nationally-representative sample of Non-Hispanic White adults.

Researchers have also linked essentialist views to stereotyping and bias among advantaged racial groups in national contexts beyond the United States (Bastian & Haslam 2008; Keller 2005; Morton et al. 2009). For example, a study of German university students found that belief in genetic determinism was associated with racial stereotyping of people of African descent and prejudice toward Turkish immigrants (Keller 2005). Such findings suggest the link between essentialism and racism extends more broadly to intergroup dynamics between dominant and subordinated groups.

Some studies suggest specific mechanisms through which essentialist beliefs may fuel in-group favoritism and out-group discrimination—namely, acceptance of the racial status quo, closed-mindedness, and feelings of social distance. At least two studies demonstrate that essentialist beliefs are associated with endorsement of existing social hierarchies (Mandalaywala et al. 2018; Williams & Eberhardt 2008; cf Shostak et al. 2009). Williams and Eberhardt (2008) found that essentialism was associated with less motivation to interact with racial outgroup

members and lower reported friendship network diversity. Tadmor et al. (2013) also found that essentialism is negatively associated with creativity. This study, involving White American and Asian American college students, found the association was mediated by closed-mindedness—leading the authors to argue that "stereotyping and creative stagnation are rooted in a similar tendency to over-rely on existing category attributes" (Tadmor et al. 2013, p.103). Both Phelan et al. (2013) and Tawa (2016) found that essentialism was associated with feelings of social distance toward racial outgroup members. Furthermore, Tawa (2016) demonstrated that this relationship was mediated by feelings of outgroup discomfort. However, these studies are unable to determine the direction of causality.

Priming Essentialism

Much of the literature described above relies on surveys that simultaneously measure and correlate different psychological constructs, but some researchers have used experimental methods to understand essentialist beliefs. These studies typically identify the effects of exposure to an essentialist primer, such as a newspaper article or audio message describing a genetic basis for racial categories. Such studies offer strong evidence that essentialist messages can increase essentialist logics or racial biases within the immediate context of an experiment (Condit et al. 2004a; Morin-Chasse 2020; Morton et al. 2009; Phelan et al. 2013, 2014; Williams & Eberhardt 2008). However, it is unclear if these effects last or whether similar effects would be found after exposure to essentialist messages in everyday life.

Several experimental studies focus on how majority group members perceive and act toward minority group members after being shown an essentialist primer (Condit et al. 2004a; Diesendruck & Menahem 2015; Ho et al. 2015; Williams & Eberhardt 2008). For example, Condit

et al. (2004) found that playing an audio message linking genes, health, and race increased discriminatory attitudes toward Black Americans among a sample of college students. Williams and Eberhardt (2008) used a priming strategy to study the implications of essentialism for social justice motivations and attitudes toward interracial relationships. They assigned college students to read articles that either argued for a genetic basis of race (the essentialist primer), argued against a genetic basis of race (the constructivist primer), or was unrelated to genes and race. The participants assigned the essentialist primer article were less upset by the racial inequities described in the article and demonstrated reduced interest in becoming friends with a racial outgroup member. Experiments in other national contexts provide further evidence that intergroup attitudes can be manipulated in the short term through exposure to a primer (Bastian & Haslam 2008; Diesendruck & Menahem 2015; Keller 2005). However, there is little research on the real-world or long-term implications of these effects.

Several studies also suggest the effects of exposure to an essentialist primer are contingent on an individual's existing beliefs and biases (Ho et al. 2015; Hunt 2007; Keller 2005; Morin-Chasse 2020; Morin-Chassé et al. 2017; Morton et al. 2009; Phelan et al. 2013; Suhay & Jayaratne 2013). In a U.S. study involving White adults, Ho et al. (2015) used newspaper primers to test whether priming essentialist beliefs could alter how White Americans applied racial labels to multiracial (Black/White) individuals. They found the essentialist primer increased the likelihood that a participant would categorize a multiracial target as Black—but only among participants who demonstrated high anti-Black bias at the outset. Overall, studies suggest that the consequences of making essentialist beliefs more salient or seemingly credible through a primer depends on an individual's pre-existing intellectual commitments and dispositions.

Essentialist Views within Minority Groups

There is evidence that essentialism functions differently for members of minority groups than for those belonging to the majority (Bernardo et al. 2016; Mandalaywala et al. 2018; Moftizadeh et al. 2021; No et al. 2008; Sanchez & Garcia 2009; Verkuyten & Brug 2004; Wilton et al. 2018; Yalcinkaya et al. 2017). Since much of the relevant scholarship on essentialist beliefs focuses on advantaged groups (e.g., all- or majority-White samples in the U.S. context), it typically examines outcomes related to bias and discrimination toward racial minorities, especially Black Americans (Chen & Ratliff 2018; Jayaratne et al. 2006). Understanding how essentialist beliefs are related to racist attitudes and behaviors among majority members is a vital task, but focusing exclusively on essentialism within majority groups obscures how essentialism operates within minority groups (Mandalaywala 2020; Yalcinkaya et al. 2017).

In the United States, research on racial minorities finds both similarities and differences from the White majority. Sanchez and Garcia (2009) examined how belief in race as biological is related to daily well-being among a convenience sample of biracial (Asian/White, Black/White, and Latino/White) adults. In a week-long study in which biracial participants completed brief surveys about their current environment and emotional state at multiple points each day, essentialist beliefs measured at the start of the study were associated with lower daily reported well-being throughout the data collection period. However, racial essentialism amplified the positive effects of reported proximity to those with shared minority ethnic identities. When in spaces with more minorities who shared (one part of) their racial identity, biracial individuals who indicated stronger initial essentialist beliefs demonstrated greater increases in positive feelings about themselves and others' attitudes toward them.

Another strain of research on essentialism among racial minorities in the United States explores individuals' perceptions of similarity or difference across racial lines. In a study of Asian American college students, No et al. (2008) found those who reported essentialist racial beliefs perceived greater differences in the personality characteristics of hypothetical Asian vs. White Americans. In contrast, those who viewed race as a social construct believed the personalities of White and Asian Americans were more similar. The authors also found that Asian American students exposed to an essentialist primer news article subsequently demonstrated weaker identification with "White" culture (No et al. 2008). Comparing Asian/Asian American and White American college students, Leffers and Coley (2021) found that White students essentialized outgroup members (i.e., Asians and Blacks) more than they essentialized their ingroup. In contrast, the group of Asian/Asian-American participants essentialized their ingroup more than outgroups (i.e., Whites and Blacks).

Yalcinkaya et al. (2017) explored the relationship between essentialist views and support for social policies among Black and Latinx Americans. They found that biological essentialism was negatively associated with support for affirmative action among both Black and Latinx Americans. Yet whereas biological essentialism was negatively associated with policy support across all racial groups, cultural essentialism was only negatively associated with support for affirmative action policies among Whites. Among Black and Latinx respondents, the relationship between cultural essentialism and affirmative action policy support was positive. Based on these findings, Yalcinkaya et al. (2017) theorize that cultural essentialism may facilitate minority groups' efforts to mobilize for social justice by strengthening collective identification. Overall, research on essentialist beliefs among minority groups suggests that different types of essentialism

(i.e., biological vs. cultural) can produce different outcomes based on a group's social status (i.e., majority vs. minority).

Although studies examining essentialism among minority groups have not typically focused on racist attitudes, one study found that essentialist beliefs were associated with anti-Black prejudice among both Black and White respondents (Mandalaywala et al. 2018). A further experiment involving a subset of this sample demonstrated that increasing the salience of essentialist beliefs through a fictional science news article primer increased both Black and White participants' endorsement of social hierarchies. The primer also increased anti-Black prejudice among White participants, but did not have this effect on Black participants.

FACTORS INCREASING ESSENTIALIST VIEWS

Developmental researchers suggest that essentialist beliefs emerge from how humans create categories to make sense about the social world (Atran 1998; Gelman 2003; Hirschfeld 1996; Murphy & Medin 1985; Taylor et al. 2009). Category-based inferences may give rise to the belief that living kinds have an "essence" (Atran 1998; Gelman & Hirschfeld 1999). Yet there is important variation in essentialist thinking, including across cultures (Diesendruck et al. 2013b; Lee 2000; Seekings 2008). Considerable research in the social sciences – including sociology, psychology, education, and public health – examines what factors increase or perpetuate essentialist views.

Racial Homogeneity. Children in racially homogenous communities express more essentialist thinking in comparison to those from heterogeneous communities (Deeb et al. 2011; Kinzler & Dautel 2012; Pauker et al. 2010). Pauker et al. (2016) found that as 4- to 11-year-old children in

Massachusetts aged, they essentialized race more in comparison to children in the more racially heterogeneous community they studied in Hawaii. These findings have been supported in a school context; Deeb et al. (2011) found that Israeli children from homogeneous schools were more likely to express essentialist views than students in hetereogeneous schools including Arab children.

Language. Perhaps related to being in heterogenous communities, speaking more languages may also reduce essentialist beliefs in children. The experience of learning a new language may demonstrate to children that characteristics such as languages are learned rather than inherited. For example, Byers-Heinlein and Garcia (2015) found that 5- to 6-year-old sequential bilingual children from Montréal (i.e., children exposed to a new language after the age of 3) were less likely to believe that human and animal traits are innate compared to simultaneous bilingual (i.e., exposure to two languages from birth) and monolingual children. These findings are in line with Hirschfeld and Gelman's (1997) study which found that 5-year-old monolingual children in the United States believed a child born to English parents but adopted by a Portuguese couple would grow up to speak English.

The use of essentialist language (those including generalizations about social groups, e.g., Asians are smart) also predicts essentialist beliefs about social groups. Children whose parents used such essentialist language are more likely to hold essentialist views (Diesendruck et al. 2013a). In both the U.S. and the U.K., Leshin et al. (2021) found that showing children aged 4-8 generic group-based language about a cartoon social group, Zarpies (e.g., "Zarpies like to eat flowers,"), predicted essentialist beliefs relative to those shown language about specific Zarpies (e.g., "Look at this Zarpie! This Zarpie likes to eat flowers") (see also Rhodes et al. 2012). Among adults, exposure to generic language about Zarpies also predicts social essentialist beliefs, relative

to those shown specific language (Leshin et al. 2021). Taken together, these findings suggest that language acquisition and essentialist language may shape one's understanding of learned versus "innate" qualities.

Education curricula. Scholars argue that education curricula, specifically the kind of basic genetics instruction generally taught in middle/high schools and introductory college classes, have the capacity to increase essentialism among students (Aivelo & Uitto 2021; Donovan 2015, 2022; Morning 2011; Willinsky 2020). Despite advances in genomic science that highlight the complexity of genomic processes (e.g., multifactorial causation, gene-by-environment interactions), few states require such concepts to be taught in public schools (Dougherty et al. 2011). Instead, genetics instruction for secondary students and undergraduates tends to focus on the basic concept of Mendelian inheritance while overlooking more complex genomic processes (Donovan 2022). Additionally, textbooks and instruction often highlight racial differences in the prevalence of genetic disease (Morning 2011; Willinsky 2020) without explaining that there is far more genetic variation within populations than between them (Donovan 2014, 2016, 2017).

Recent experiments demonstrate that this kind of basic genetics instruction—instruction that fails to acknowledge the complexity of genetic factors or contextualize racial differences in genetic disease—bolsters essentialist beliefs among middle- and high-school students (Donovan 2022). One randomized controlled trial involving eighth graders at a private middle school investigated the effect of a textbook-based lesson that highlighted racial differences in genetic disease prevalence (Donovan 2014). Students in the experimental (racialized text) condition read a state-approved textbook excerpt discussing high rates of sickle cell anemia among people of African descent. Those in the control (non-racialized text) condition read a modified version of the

excerpt with the racial labels removed. Students who read the passage with racial labels demonstrated greater belief in genetic essentialism relative to the control group in a post-treatment assessment.

Other experiments by Donovan (2016, 2017) offer further evidence that basic genetics instruction based on state-approved texts can increase essentialist beliefs among adolescents, including belief in biologically-determined behavioral and ability differences between races and genetic explanations for the racial achievement gap. Such lessons also led to decreased student interest in cross-racial social contact and less support for educational policies that reduce racial inequalities (i.e., affirmative action, school integration).

Genomics and Genetic Testing. Some suggest that the "genomic turn" following the completion of the Human Genome Project may advance notions of genetic determinism and promote genetic essentialist views toward race (Bolnick et al. 2007; Condit et al. 2004a; Duster 2015; Kimel et al. 2016; Roberts 2011). Recent scientific initiatives have raised concerns about the implications of direct or implied links between race and genetics. Through a content analysis, Phelan, Link and Feldman (2013) showed that news stories about race, genetics and disease increased with the genomic revolution, and that these articles increasingly reflected an indirect, "backdoor" way of promoting racial essentialism: not by directly stating essentialist views, but by suggesting that genes may cause racial differences in health outcomes. Through an experimental study with a national sample, they also found that people who read a primer article resembling that "backdoor" approach reported similar beliefs in essential racial differences as those who read an article describing race as a genetic reality, and significantly more than those whose article emphasized race as a social construction. Given the increased number of news articles of this nature, they argue

that the modern genomic revolution, even in subtle ways, can enable a resurgence in racial essentialist beliefs.

Many also speculate that genetic ancestry tests—perhaps the most common way that lay persons engage with genomics—may contribute to increased racial essentialism. Admixture tests, which present a person's individualized genetic ancestry in terms of percentages of geographical categories that typically map onto racial groups, is a source of particular concern (Bliss 2008; Bolnick 2008; Fullwiley 2008). Using a similar experimental approach, Phelan and colleagues (2014) assigned some participants to read an article describing how DNA admixture tests can measure a person's racial ancestry, while others read articles describing race as either a social construction or a genetic reality. This study found that the genetic reality article and the article describing how DNA admixture tests can measure racial ancestry increased racial essentialist beliefs to a similar degree. Each increased essentialism significantly more than the social construction article or reading no article, suggesting that the depiction of genetic ancestry tests as related to race can reify race as essentially genetic.

Roth et al. (2020) directly test the effect of taking genetic ancestry tests on essentialist views of race by conducting a randomized controlled trial of White Americans who were willing to take a test. Half of the sample took genetic ancestry tests, while the remaining half did not. Participants completed a multidimensional scale capturing genetic essentialist beliefs about race (Yaylacı et al. 2021), both before and several months after taking the test. While their primary findings reveal no significant differences in the average effect of taking genetic ancestry tests on racial essentialism, they found that genetic knowledge (i.e., accurate knowledge of genetics) moderated the effect of testing. Those with high genetic knowledge showed reduced racial essentialism after testing, while taking the test increased racial essentialism for those with low

genetic knowledge. Along with other research (Donovan 2022; Donovan et al. 2020), this suggests that accurate knowledge of genetics could potentially help reduce essentialist thinking about race.

REDUCING ESSENTIALISM THROUGH EDUCATIONAL INTERVENTIONS

Given the demonstrated association between essentialist beliefs and racial bias (Chen & Ratliff 2018; Williams & Eberhardt 2008), scholars have begun to develop and evaluate interventions to reduce essentialist beliefs. Whereas the type of basic genetic instruction described above – emphasizing Mendelian inheritance and overlooking more complex genomic processes – has been shown to increase essentialist beliefs (Donovan 2014, 2016, 2017), recent experiments indicate that curriculum designed to teach genetic complexity and/or explicitly challenge essentialism has the potential to reduce essentialism among adolescents and adults. For example, Jamieson and Radick (2017) evaluated an undergraduate introductory genetics curriculum that emphasized developmental contexts and their relation to phenotypic variability. They found a clear reduction in undergraduates' belief in genetic determinism (a key component of essentialism) compared to peers in a traditional science course. Since students were not randomly assigned to these courses, there is potential for selection bias. However, the cohorts' beliefs in genetic determinism did not differ before treatment—only afterwards. Consistent with these results, Donovan et al. (2020) found a negative (albeit weak) correlation between high school students' understanding of genetic complexity (i.e., between and within group variation, multifactorial genetics) and essentialist beliefs. However, Gericke et al. (2017) found that knowledge of modern genetics and gene-environment interaction was not correlated with belief in genetic determinism among Brazilian undergraduates.

Stronger evidence supports the efficacy of curricula that explicitly challenge essentialist beliefs, as opposed to merely teaching about genetic complexity (Donovan 2022). Research on middle/high school and undergraduate curricula (Donovan et al. 2019; Hubbard 2017), computer-based lessons (Donovan et al. 2019), and workshop-style interventions (Tawa 2016) demonstrates that educational interventions can be a useful tool for reducing essentialism among participants—at least in the short term. Donovan et al. (2019) randomly assigned a racially diverse sample of 8th and 9th grade students to one of two week-long units addressing a politically-controversial topic: (1) human genetic variation (the treatment group) or (2) climate variation (the control group). This study found that students who completed the genetic variation unit indicated lower perceptions of genetic variation between racial groups and scored lower on measures of racial bias, relative to the control group. Donovan et al. (2019) later transformed the curriculum from the first study into a 45-minute computerized intervention and tested it among (1) 9th-12th grade biology students and (2) adults recruited through Amazon's MTurk platform. These experiments similarly found that the intervention lowered participants' perceptions of genetic differences between racial groups and their racial bias.

Nonexperimental studies assessing curricular interventions designed to reduce essentialism also offer support for the efficacy of such interventions (Hubbard 2017; Tawa 2016). For example, Tawa (2016) investigated the effects of a day-long workshop designed to reduce essentialism and found that the high school participants demonstrated lower endorsement of essentialism after the workshop. Although lacking a control group, the pre- and post-intervention measurements suggest the workshop was effective in reducing belief in race as biological. This study also evaluated participants' belief in racial essentialism 6 weeks after the workshop and found a gradual increase; however, participants' essentialism scores were still lower than at the pre-treatment assessment. It

is unknown whether participants' endorsement of essentialist beliefs eventually returned to pre-treatment levels.

Genetics Instruction in Medical Education

Medical school faculty have raised concerns that essentialism may be fostered in medical education, including that medical textbooks reify race as biological fact (Li et al. 2022). Several have issued calls for curriculum reform (Braun & Saunders 2017; Deyrup & Graves 2022; Lee et al. 2018), and offered recommendations for medical instruction challenging essentialist conceptions of race (Gingell & Bergemann 2022; Tsai et al. 2021). For example, University of Texas-Austin medical school faculty formulated recommendations for medical educators in the classroom, including ways to "highlight the science indicating that race is a social construct" and "impress upon learners the potential negative consequences of using race and ethnicity as surrogates for genetics in diagnosis" (Gingell and Bergemann 2022:257–58).

Although little empirical research analyzes medical education and essentialism, one study examined White medical students' and residents' misconceptions about biological racial differences and found that approximately half endorsed at least one false statement (e.g., "black people's skin is thicker than white people's skin") (Hoffman et al. 2016). While the medical students were less likely than White lay participants to endorse false statements (73% of the lay sample endorsed one or more), these findings have provoked concern among medical faculty (Deyrup & Graves 2022). However, we are not aware of empirical studies assessing the effects of specific curricula or interventions designed to reduce essentialism among medical students.

CONCLUSIONS AND FUTURE RESEARCH

How the general public conceptualizes what race is, what it is based on, and how races differ is crucial to sociology, and yet this is still largely the domain of other disciplines. This scholarship illuminates the nuances of essentialism, constructivism, and the many other concepts of how racial groups come to be. Because racial essentialism is a historically harmful perspective, associated not just with individual-level stereotyping, racism, and bias, but also broad-based movements and social structures including slavery, eugenics, and genocide (Cornell & Hartmann 1998; Morning 2011; Phelan et al. 2013), it has become the focus of considerable research on how it forms, what outcomes it may lead to, and how to reduce it. This is important work.

Future scholarship must recognize the multifaceted and fluid nature of essentialist, constructivist, and other racial concepts. This review of research on racial conceptualization shows that many people strategically engage in different forms of racial logic in different contexts, when discussing different target groups, and when it serves their interests. Yet many studies of the consequences of essentialist beliefs treat it as a static belief system. Experimental research using priming effects may need to be reinterpreted in this light. People retain multiple distinct racial logics and access them in different moments. Thus, priming effects may trigger which set of beliefs people access without necessarily changing long-term beliefs or actions. We agree with Condit (2019, p. S30), that "To demonstrate that durable change in belief has occurred, rather than priming effects, the gold standard for the next generation of studies must be longer-term follow-ups, as expensive and difficult as those are." More research needs to explore how explanations of racial difference vary for different target groups and the specific traits being explained (Byrd & Ray 2015; Jayaratne et al. 2006; Morning 2011; Morning & Maneri 2022). We need more representative data, more comparative data across nations and across majority/minority groups,

and longitudinal data to show how racial concepts may change and be influenced by world events or the statements and actions of political leaders (Knowles et al. 2022; Sanchez & Garcia 2009).

The consequences of different racial conceptualizations, and more nuanced concepts of essentialism, are another important area for research. We know little about the attitudinal, behavioral, or social consequences of enacting moderate essentialist views, cultural essentialism, or many other variants of how people conceptualize race. With much of the existing research drawing from psychology, which frequently samples college students or fairly-educated community members, we may know less than we think about how racial conceptualization and essentialist logics are used differently across socioeconomic statuses. In addition to focusing on constructivist models and our own definitions of what we believe race to be, sociologists have much to contribute to knowledge about how others understand it in the world around us.

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