Applying the axes of subordination to biracial groups: Biracial identities and stereotypic dimensions of foreignness and superiority

A thesis submitted by

Maria M. Garay

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Advisor: Jessica D. Remedios

Abstract

Racial subordination has continuously occurred throughout the history of the United States. *Stereotypes*, or generalized assumptions about members of social groups that people rely on to make quick judgments, contribute to the racial subordination of racial minorities by White Americans. While research shows that stereotypes cluster onto broader dimensions of warmth, status, competence, and competition, recent work has shown that racial stereotypes have an underlying theme of inferiority/superiority (i.e., low class vs. high class job) and foreignness/Americanness (i.e., having a non-American accent vs. an American accent). However, research has yet to examine racial stereotypes of biracial groups and whether stereotypes of monoracial groups impact perceptions of biracial individuals. The results shows that stereotypes of biracial groups reinforce existing racial inequalities, such that biracial groups who are part-White tend to be stereotyped as superior and American in comparison to their monoracial minority counterparts. This suggests that some biracial groups may be afforded some advantages because of the positive stereotypes associated with their White identity, which maintains Whiteness in U.S. society.

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Those who identify as biracial—identifying as having two racial backgrounds—is one of the fastest growing racial groups in the U.S. since the Census allowed multiple selections on their racial demographic item in 2000 (Pew Research, 2015). Due to this, both mainstream media and social scientist have devoted more interest in understanding how the increase in those who identify as biracial will shape race relations in the U.S. (Charmaraman et al., 2014; Spencer, 2014). For instance, media outlets tend to suggest that an increasing population that identifies as biracial in the U.S. will positively shape race relations, propelling the U.S. into a racially egalitarian society (Rainier, 2014). Similarly, some research also suggests that there would be both societal and cognitive benefits of being exposed to biracial people and societies (Pauker, Meyers, et al., 2018).

Although, these perspectives often neglect to acknowledge that perceivers can formulate impressions of biracial people and that can reinforce racial inequalities. Specifically, a biracial individual's monoracial component identities—the specific monoracial identities that a biracial person identifies with—may impact the way a perceiver makes judgments about this individual and, consequently, how they treat this individual. Specifically, a White identity can contribute to positively changing perceptions of a biracial person due to their proximity to Whiteness, all in efforts to reinforce existing racial disparities that maintain White peoples' dominance and power in the U.S. Therefore, I aim to examine how stereotyping of biracial groups possibly reinforce exiting racial inequalities, such that part-White biracial groups may be perceived more positively in comparison to their monoracial minority counterparts.

Historical Context of Subordination and Stereotyping

The subordination of racially marginalized communities is rooted in the history of the United States. From colonization and genocide of Indigenous communities (Wunder & Hu-DeHart, 1992), the enslavement of African people (Kendi, 2016), and the xenophobic immigration laws directed toward Asian communities (Lee, 2007), the United States has been built on oppressing racial marginalized groups in efforts to systematically maintain White individuals' power and dominance in society (i.e., Whiteness; Hartigan, 1997; Sue, 2006). For instance, police violence directed toward Black communities in the U.S. today is a direct reflection of slave patrols of the seventeenth and eighteenth centuries (to capture runaway enslaved people; Reichel, 1988) and police enforcement of Jim Crow laws (arresting those that challenged Jim Crow laws meant to deny Black people the right to vote, hold jobs, get an education or other opportunities; Bass, 2001) in the late nineteenth to mid-twentieth centuries. In addition, the Thirteenth Amendment, which sought to abolish slavery, still states that the one exception for slavery is if it is a punishment for a crime (Wolff, 2002). Altogether, the history of using policing as a form to oppress Black communities causes people to believe that crime rates are higher in Black communities, when in reality, police presence in predominately Black neighborhoods is reflection of racist laws and acts meant to subordinate Black people (Davis, 2003; Weitzer & Brunson, 2015).

In order to justify police violence that the Black community experiences, White people engendered stereotypes that characterize Black people as criminals, dangerous, and/or violent (Barkan & Cohn, 1998). Due to both systemic racism (e.g., Jim Crow laws, policing), which led to negative stereotyping of Black people, Black individuals—along with other racially marginalized communities—experience subordination that causes greater difficulty in accessing housing, education, and/or health care compared to White people (Feagin, 1999; Krivo &

Kaufman, 2004; Pager & Shepherd, 2008; Kim & Keefe, 2010; Dula, 1994; Feagin & Barnett, 2004). Therefore, the subordination of racially marginalized communities directly relates to the stereotypes formed about these communities, which function to limit their access to resources or opportunities in the U.S (Gans, 2012; Hartigan, 1997). This subordination and stereotyping causes racially marginalized communities to be viewed and treated as inferior to White people, who overwhelmingly control political, economic, cultural system and material resources (Beliso-De Jesús & Pierre, 2019; Gilllborn, 2006). Therefore, subordination of racially marginalized groups by White people in the U.S. have often led to the stereotypes that are formed about racial communities.

Subordination and Stereotypic Dimensions

Because subordination of racially marginalized groups and racial stereotyping are inextricably linked, understanding peoples' awareness of stereotypical impressions of racial groups is a way to also understand how these groups are then treated in society (David & Derthick, 2018). Indeed, racial stereotypes—broad judgments and impressions applied across a racial group—function to maintain racial hierarchies, which benefits White people. For example, stereotypes about competence (e.g., perceived as being educated) and/or warmth (e.g., perceived as being friendly)[1]—also known as stereotypical dimensions in which specific stereotypical traits tend to reflect/cluster on to—maintain racial hierarchies by providing trait-based justifications for racial subordination and group disparities (Fiske, Cuddy, et al., 2002; Fiske, Dupree, et al., 2016; Oldmeadow & Fiske, 2007). For example, stereotypes associated with both Black and Latinx Americans reflect low competence, which then limits their academic and educational opportunities (Steele & Aronson, 1995; Saenz & Ponjuan, 2009). Although, Asian Americans,

[1] In addition, perceptions of perceived status and competition also maintain racial subordination and group disparities (Fiske, Dupree, et al., 2016; Oldmeadow & Fiske, 2007).

who are also racially marginalized in the U.S., are stereotyped as being economically successful and competent, in line with the *Model Minority Myth* (i.e., the idea that Asian Americans are well-off in U.S. society; Bell, et al., 1997). The positive expectations others hold of Asian Americans likely confer advantages to Asian Americans; for example, Asian Americans being more likely than Black and Latinx Americans to hold high-status jobs (e.g., engineer or doctor). However, the model minority narrative masks discrimination faced by Asian Americans (Chin, 2016). Though, status and competence are not the only stereotypical dimensions that can be used to articulate racial disparities in the U.S.

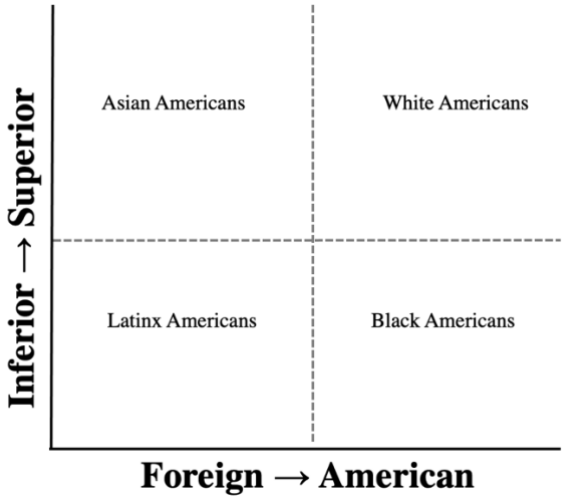
Inferiority/Superiority and Foreignness/Americanness

In addition to the stereotypical dimensions of competence and status, stereotypes of racial groups can also be seen as also clustering on to dimensions of inferiority/superiority (i.e., low class vs. high class, which can be viewed as a compliment to status) and foreignness/Americanness (i.e., having an accent vs. no accent). In an analysis both target and perceivers perspectives of racial stereotypes, Zou and Cheryan (2017) found that stereotypes well-known and consensually recognized for Asian, Black, Latinx, and White racial groups mapped onto dimensions of superiority/inferiority (i.e., the ways in which a group is perceived as having or not having intellectual, economic, and occupational prestige) and foreignness/Americanness (i.e., the distance of which a person being viewed as not resembling the prototypical features of the superordinate, dominant group). The intersecting dimensions of inferiority and foreignness are referred to as the *Axes of Subordination* or the *New Racial Position Model* (Zou & Cheryan, 2017). Specifically, the results showed that White Americans are perceived as being both superior and American, whereas Asian, Black, and Latinx Americans are perceived as being inferior and foreign to some extent. Specifically, Asian Americans are

perceived as superior in comparisons to Black and Latinx Americans, but foreign in comparison to Black Americans. Latinx Americans are perceived as inferior in comparison to Asian Americans, and foreign in comparisons to Black Americans. Lastly, Black Americans are perceived as inferior in comparison to Asian Americans, but American in comparison to Asian and Latinx Americans (see Figure 1). Therefore, perceptions of inferiority/superiority and foreignness/Americanness of racial minorities are relative to each other.

Figure 1

Axes of Subordination or New Racial Position Model from Zou & Cheryan (2017)



Such stereotypical dimensions for inferiority/superiority and foreignness/Americanness can also maintain and reinforce subordination of racially marginalized groups by dominate groups in society (i.e., White people), thus, continuously hindering marginalized groups from gaining access to resources that would challenge the status of the dominant group (Gans, 2012; Hartigan, 1997). For example, in the U.S., stereotypes about Black individuals reflect violence, incompetence, and other negative stereotypes (e.g., criminal activity or drug use; Dixon & Maddox, 2005; Eberhardt, Goff, et al., 2004). Due to these assumptions shaping people's expectations, stereotypes may prevent Black individuals from obtaining jobs or furthering their

academic careers (Allen, 1992; Chavous et al., 2004; Kellow & Jones, 2008; Steele & Aronson, 1995). Therefore, stereotypes about Black people reflect the subordination that Black communities experience in the U.S., which has been largely contained toward oppressing Black people as inferior to White people.

Asian Americans are often seen as fulfilling the Model Minority Myth stereotype, which implies that they are hardworking and academically and/or economically successfully, but that they are still perpetual foreigners in the U.S. because of the Yellow Peril movement, which led to the Chinese Exclusion Act (Kawai, 2005; Lee, 1994; Wing, 2007; Zou & Cheryan, 2017). Due to their perceived cultural foreignness, the ability of Asian Americans to advance in their careers is hindered, an effect known as the *Bamboo ceiling* (Chin, 2016). Therefore, Asian Americans are viewed as superior in the U.S., similar to White people; though, they still experience the consequences of the Yellow Peril movement and the Chinese Exclusion Act, causing them to be subordinated and stereotyped as foreign.

Stereotypes directed at Latinx American groups are about them being poor, lazy, dependent on welfare, and/or displacing American workers (Espenshade & Calhoun, 1993; Muller & Espenshade, 1985). This can be traced back to some historical implications; for instance, during World War II the U.S. needed workers for agriculture, in which the U.S. government negotiated guest worker programs with Mexico and various Caribbean colonies and countries (Martin & Teitelbaum, 2001). This caused a large influx of immigrants from Latin American heritage in the U.S. Though, many U.S. White Americans were threatened by this influx, causing more discussion about anti-immigration laws and/or policies (Wilson, 2001), which led to the negative stereotyping of Latinx communities in the U.S. as illegal immigrants (Nienmann, 2001). Therefore, Latinx communities experience subordination and stereotyping

that reflect inferiority (i.e., incompetence or low-status jobs, such as labor workers) and foreignness (i.e., illegal immigrants).

However, not all racial groups experience limitations due to stereotypes. For example, White Americans are stereotyped as being privileged, wealthy, American, and perpetuators of the racism that racial minorities experience (Hinzman & Maddox, 2017; Zou & Cheryan, 2017). Additionally, they are not questioned about their 'Americanness' because they are viewed as being prototypically American (Devos & Banaji, 2005). Therefore, stereotypical dimensions of inferiority/superiority and foreignness/Americanness maintain and reinforce subordination of racially marginalized groups by White people. Although, it is not yet clear how those with multiple racial backgrounds/identities are stereotyped—and thus subordinated—in respect to these dimensions.

Stereotyping and Biracial People

Stereotypes serve as a means to subordinate racial minority groups and position these groups—in terms of superiority/inferiority and foreignness/Americanness—within the U.S. societal context. However, little research has examined how such stereotypes are applied and/or formulated for biracial groups. Recent census demographics suggests that the biracial population is projected to be the fastest growing population over the next 46 years (Jones & Bullock, 2012); although, this is an a-historical claim given that the biracial population has long existed in the U.S. Historically, multiracial people can be traced back to the violence and rape of Indigenous women (Kauanui, 2008; Villazor, 2008), enslaved Black women (Jordan, 2014), as well as women overseas due to U.S. militarization (e.g., Höhn & Moon, 2010). Since the biracial population have always been part of our society, *and* the number of those who explicitly identify as biracial, multiracial, or mixed is increasing (due to the U.S. Census Bureau allowing multiple

selections for racial identification in 2000), research about subordination and stereotype content should examine how biracial groups are positioned on the axes of subordination.

It is important to understand how biracial individuals are impacted by stereotype-based judgments associated with their *monoracial component identities* (Vinluan & Remedios, 2020) because stereotyping could shed more light on how racial subordination will unfold when society has a larger population that openly identifies as biracial. While some research has suggested that, as the biracial population grows, society as a whole will become more racially egalitarian (Gaither et al., 2019; Pauker, Meyers, et al., 2018; Young et al., 2013), this overlooks how judgments of biracial individuals are often biased by prejudice toward the monoracial identities that biracial people hold (Chen & Ratliff, 2015). For example, research has shown that attitudes toward monoracial groups influence attitudes toward biracial groups, such that when White perceivers held negative implicit attitudes (via Implicit Association Test) toward Black monoracial targets, these same implicit attitudes also shaped evaluations of Black/White biracial targets but not targets of other races (Chen & Ratliff, 2015). Therefore, if an individual holds strong negative stereotypes about Black Americans, as a group, such attitudes appear to transfer to how they perceive a Black/White biracial individual.

Indeed, literature has attempted to look at stereotypes of biracial people and suggest that stereotypes of biracial people are a combination of stereotypes about a biracial person's monoracial component identities (Skinner, Perry & Gaither, 2019). For example, stereotypes about a Black/White biracial individual include criminality, stereotypes about an Asian/White individual included being STEM-orientated, and stereotypes about a Black/Asian individual included both criminality and being STEM-orientated. Following the axes of subordination, being stereotyped as a criminal might also convey that this individual is perceived as inferior,

while being stereotyped as STEM-oriented might convey that this individual is perceived as superior. Therefore, it appears as though people do transfer stereotypes they hold of monoracial groups to how they perceive biracial individuals. Depending on what a biracial individual's monoracial component identities are, this may impact the way a perceiver makes judgments about this individual and, consequently, how they treat this individual. However, one aspect that is largely left undiscussed in research about biracial people is whether or not their *White identity* contributes to changing perceptions of a biracial person.

Proximity to Whiteness, Stereotyping, and Biraciality

While racially marginalized groups in the U.S. can be subordinated along various dimensions (i.e., inferiority/superiority, or foreignness/Americanness), one aspect remains the same: White Americans remain the dominant racial group in the U.S., having more power and superiority, and also being perceived as the prototypical American (Hartigan, 1997; Zou & Cheryan, 2017). Superiority affords respect, recognition, and/or prestige and correlates with power, or control over valued resources that may be physical (e.g., space), economic (e.g., income), or social (e.g., acceptance; Fiske, 2010). This control over resources by White individuals/groups is referred to as *Whiteness*. Put differently, Whiteness is a cultural construction that reproduces and maintains systems of racial inequality, from which White individuals benefit (Frankenberg, 1993). Moreover, while the racial hierarchy is malleable, it tends to shift to extend or take away some "perks" of Whiteness to/from minority groups—rather than to vacate privileges of White Americans, who tend to remain in superior positions.

Indeed, previous research supports the claim that proximity to Whiteness through a White identity can shape how biracial groups are perceived. Cues related to a target's appearance and behavior shape racial bias, such that more potent forms of bias are expressed toward people who

resemble prototypical minority group members (Maddox, 2004). In a stark example of this effect, an analysis of capital sentencing outcomes showed that, in cases involving White victims, defendants who had more stereotypically Black/Afrocentric appearances were more likely to be sentenced to death (Eberhardt, Davies, et al., 2006). Conversely, research shows that bias expressed toward people who bear less resemblance to prototypical minority group members is less potent. For example, Black targets who have less Afrocentric appearances are less likely to be racially stereotyped (Hinzman & Maddox, 2017), and light-skinned immigrants are perceived as more likely to have assimilated to U.S. culture (Kunst et al., 2017).

The concentration of bias toward people perceived as racially prototypical, as well as the reduction in bias toward people perceived to be less prototypical or closer to Whiteness, can extend to biracial people as well. For example, in one set of studies, biracial targets described as being "100% Black" were assumed to have darker skin tone than targets described as "50% Black and 50% White", and dark skin tone perceptions led to greater racial stereotyping of 100% Black targets (Sanchez et al., 2011). In another study, participants' visual representations of a Black/White multiracial individual were rated by a separate sample of participants as having a less Afrocentric appearance and as holding fewer racially stereotypical traits than a monoracial Black individual (Vinluan, et al., under revision). Thus, given that cues, such as ancestry information, shape perceptions of and stereotypes about biracial people, it could be expected that biracial individuals with a part-White identity will be judged positively along the dimension on which the biracial person's monoracial minority counterpart is subordinated.

Axes of Subordination for Biracial Groups

To summarize, subordination of racially marginalized groups and racial stereotyping are inextricably linked. Stereotypical dimensions of inferiority/superiority and

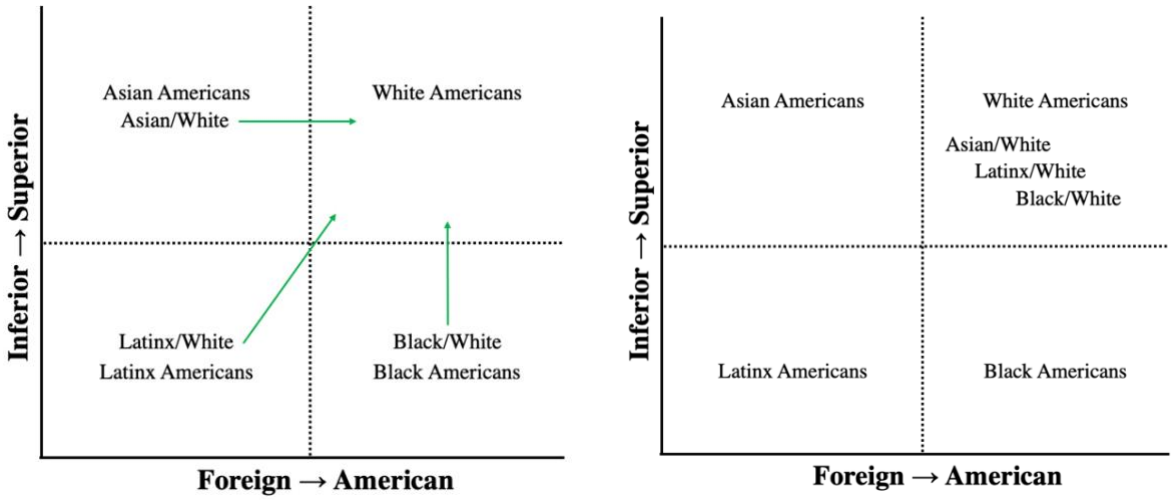
foreignness/Americanness help articulate how such stereotypes can maintain and reinforce subordination of racially marginalized groups by White people, thus, continuously hindering marginalized groups from gaining access to resources (Gans, 2012; Hartigan, 1997). Although, our understanding of how such stereotyping and subordination impact biracial communities is limited. Since people do transfer stereotypes they hold of monoracial groups to how they perceive biracial groups—which is contingent on what a biracial individual's monoracial component identities are—this may impact the way a perceiver makes judgments about biracial people and, consequently, how they treat biracial people. Specifically, a White identity can contribute to positively changing perceptions of a biracial person due to their proximity to Whiteness, all in efforts to reinforce existing racial disparities that maintain White peoples' dominance and power in the U.S.

For example, shifts in racial hierarchies always serve to reinforce the dominance of White Americans by providing some groups resources (e.g., Asian Americans), and using these groups as justification for subordinating other groups (e.g., Black Americans; Osajima, 2005). The same reinforcement can be applied to biracial groups, such that some part-White biracial groups (Asian/White or Black/White) may be provided with resources and be used to justify subordination of their monoracial minority counterparts (Asian or Black). In other words, because White people hold control over resources and power, which aims at maintaining their own dominance through the subordination of racially marginalized groups, biracial groups with a part-White identity will never be seen as "equal" to White people. However, their proximity to Whiteness, characterized through a part-White identity, could bolster perceptions of a biracial person on the dimensions in which they would otherwise be subordinated.

Therefore, I hypothesized that holding a higher status identity, such as a White identity, will *increase superiority* perceptions because White American are perceived as high in superiority. Additionally, a White identity will *decrease foreignness* perceptions because White Americans are perceived as American. In addition, I hypothesize that these increased perceptions of superiority and Americanness would specifically be contained to the dimensions in which a racially marginalized group is subordinated. For example, a biracial individual who holds an Asian and White identity may be seen as less foreign *compared to their Asian monoracial counterpart* due to their White identity being American; however, because Asian and White people are stereotyped as superior, a White identity for an Asian/White biracial person may not necessarily lead to increased superiority perceptions. Or a biracial individual who is Black and White could be seen as more superior *compared to their Black monoracial counterpart* due to their White identity being superior; however, because Black and White people are stereotyped as American, a White identity for a Black/White biracial person may not necessarily lead to increase Americanness perceptions. See Figure 2 for a diagram.

Figure 2

Diagram depicting how biracial groups will exist along the axes of subordination given their monoracial component identities



Current Studies

The current studies aim to examine how stereotypes of monoracial groups influence the way perceivers stereotype biracial groups according to the dimensions of the axes of subordination (foreignness/Americanness and superiority/inferiority). I draw on Zou and Cheryan's (2017) model for the theoretical foundation to investigate this question. First, I examined the stereotypes of monoracial minority groups that may provide stereotypical information of a racial groups' superiority/inferiority and foreignness/Americanness. For example, it could be that a stereotypical trait such as 'athletic' is not an indicator of either superiority/inferiority or foreignness/Americanness, but that the trait 'immigrant' is an indicator of the foreignness dimension, and that the trait 'educated' is an indicator of the superiority dimension. Next, I examine to what extent the stereotypes examined in Study 1 are perceived as descriptive of racially ambiguous targets when those targets are described as part-White biracial individuals or as a monoracial minority individuals.

While many biracial identities could be examined, I will ground these studies in work on the New Racial Position model, examining how perceptions of superiority/inferiority and foreignness/Americanness are bolstered when a biracial individual has White ancestry.

Therefore, I will examine the identities previously explored within the NRP model—Asian, Black, and Latinx—as well as those identities in combination with a part-White identity: Asian/White, Black/White, and Latinx/White. Overall, I hope to show how stereotypes associated with monoracial component identities (i.e., White) can influence perceptions of biracial individuals (i.e., Asian/White, Black/White, Latinx/White) and show where these biracial individuals may be positioned on the axes of subordination.

I report how I determined the sample size, all participant exclusions (if any), all manipulations, and all measures in the studies. Please also see the Open Science Framework page for this research for the pre-registration, study materials, data analysis scripts, data files, and any additional study materials: http://bit.ly/BiracialNRPM**.**

Study 1

The purpose of Study 1 was to examine the stereotypes found in Zou and Cheryan's (2017) paper for underlying themes of superiority/inferiority and foreignness/Americanness. First, I aimed to reduce the number of stereotypical traits to 40, as 40 items is the maximum number of items that are recommended to be included in an exploratory factor analysis (Kaiser, 1960). Therefore, Study 1a aimed to reduce the number of stereotypical traits to focus on a smaller set of items for Study 1b, which used an exploratory factor analysis to see which specific stereotypical traits cluster onto the dimensions of interests.

Study 1a

Participants

Participants were recruited through Tufts University's paid human subjects pool. Participants were told that their participation would enter them into a raffle for a $75 Amazon gift card. We aimed to sample 100 participants in order to match how many participants Zou and

Cheryan (2017) sampled for the factor analysis conducted in their paper. In total, I sampled 135 participants. We excluded 12 participants because they failed three attention checks, 10 because they withdrew their consent at the end of the survey, and 9 because their responses indicated their data was of low quality through examining click counts (Buchanan & Schofield, 2018). Therefore, the final sample was 104 participants (M_{age} = 26.81, SD_{age} = 6.76; Woman/Female = 60, Man/Male = 43; Black = 4, East Asian = 7, Southeast Asian = 11, White = 74, Hispanic/Latinx = 1, Biracial = 5, 1 = N/A).

Procedures

Stereotypical traits that participants rated come from the stereotypes listed in Appendix A of Zou and Cheryan (2017). In addition, I included three stereotypes that are associated with biracial individuals, which were "being attractive", "not belonging", and "not fitting in" (Skinner, Perry & Gaither, 2020). Participants rated 40[2] of the stereotypical traits, selected at random from the full set of 74 items, to prevent participant fatigue. Participants rated the stereotypical traits on two dimensions: foreignness/Americanness (1 = *very foreign* to 7 = *very American*) and superiority/inferiority (1 = *extremely inferior* to 7 = *extremely superior*). Prior to rating each trait, participants were given definitions of 'foreign/American' and 'superior/inferior.' The definitions were follow as: "*Being American describes someone who has 'typical' features of someone from the United States, whereas being foreign describes someone who does not have 'typical' features of someone from the United States*" and "*Being superior describes someone who is economically, educationally and occupationally privileged in the United States*, *where as being inferior describes someone who is not economically,*

[2] Each trait had roughly 52 ratings each, with a standard deviation of 1.40.

educationally, and occupationally privileged in the United States of America" (Zou & Cheryan, 2017).

Participants were reminded that the researchers are not interested in their personal beliefs, but rather what they think others believe. We posted the question in this way to prevent social desirability bias, which is participants providing responses that reflect social norms (i.e., it is taboo to admit one's stereotypes) instead of responding in way that it reflective of their true feelings (Grimm, 2010). Therefore, I phrased the question in such a way to ask participants whether they are *aware* of stereotypes that others hold rather than whether if they *believe* a stereotype, given social taboos around admitting one's stereotypes. Nevertheless, such measures are informative of participants' knowledge of how people are judged and treated in society.

Results

In Study 1a, I aimed to reduce the number of traits from 74 to 40 traits to comply with recommendations for EFA analyses. First, I calculated the average rating of each dimension, collapsing across all foreign/American ratings ($M = 4.18$, $SD = 0.46$) and all inferior/superior ratings ($M = 3.91$, $SD = 0.58$). Next, I calculated the average ratings for foreignness/Americanness and inferiority/superiority for each individual trait. To ensure that I was selecting traits that were highly representative of each dimension I selected traits that were greater than two standard deviations above the mean, and less than two standard deviations below the mean for each scale ($5.09 >$ *foreign/American trait average* < 3.27; $5.07 >$ *inferior/superior trait average* < 2.75). I was able to identify 32 traits to examine further in Study 1b. To see full list of traits, please see the Appendix.

Study 1b

After determining which 32 traits from Zou and Cheryan (2017) are most stereotypically associated with foreignness/Americanness and inferiority/superiority, I ran another study with a different sample of participants to examine the structure of trait ratings. We aimed to determine which stereotypes cluster onto each stereotypical dimension using an exploratory factor analysis (EFA).

Participants

For EFAs, it is recommended to have 10 ratings or more for each item (Kaiser, 1960, Costello & Osborne, 2005). Therefore, I aimed to sample between 10 to 30 participants. Participants were Tufts undergraduate students who were compensated 0.5 course credits for their introductory psychology course. We sampled 25 participants and did not exclude anyone. All participants passed three attention checks, did not withdraw their consent at the end of their participation, and indicated they had high quality data through click counts (M_{age} = 18.20, SD_{age} = 0.71; Woman/Female = 20, Man/Male = 5; Black = 3, East Asian = 2, South Asian = 1, White = 18, Hispanic/Latinx = 1).

Because the system used to management studies that offer pay and credit are independent systems, and because Tufts University students can participate in studies for both pay and course credit, there was no way to prevent participants who may have taken Study 1a from taking Study 1b. Therefore, I included a measure that asked whether participated in this study on another website (1 = *it is extremely likely* to 5 = *it is extremely unlikely*). Due to human error when programming the study, only 10 of the 25 participants completed this item (M = 4.60, SD = 0.84). Though, I am confident that participants in Study 1a and 1b did not overlap because Study 1a was conducted prior to the academic year, whereas Study 1b was conducted at the start of the following, new academic year. Participants in Study 1b were unlikely to have been enrolled in

either the system that offers studies for pay or for credit as the systems are often introduced in the introduction to psychology course.

Procedures

Study 1b procedures were the same as in Study 1a, except that participants completed ratings for *all* 32 traits identified as being highly representative of each dimension.

Results

We conducted two EFAs, one for the foreignness/Americanness scale items, and another for the inferiority/superiority scale items. To conduct the EFAs, I used principal axis extraction method and parallel analysis to determine the number of factors, which is the recommend practice for EFAs (Worthington & Whittaker, 2006; Kahn, 2006). In addition, I ran an oblimin, varimax, and promax rotation for each EFA to examine which items were retained across all three tests, which increases confidence in the results given that each test uses different rotations (Russell, 2002). To select items that best cluster onto each dimension, I used a 0.6 cut-off for the factor loadings. This was the cut-off used in Zou & Cheryan's (2017) paper. To see the full results of the EFA, please see the Appendix.

After conducting the EFAs for each dimension of the axes of subordination, I found that some stereotypes overlapped between the two EFAs. Because the goal was to create two measures to best represent foreignness/Americanness and inferiority/superiority, I opted to remove the items that overlapped between the two EFAs. Therefore, I determined that *not speaking English well* and *having an accent* ($\alpha = 0.76$) best measured foreignness/Americanness and *being a burden to society*, *being rich* (reverse coded), *privileged* (reverse coded), *not belonging*, *being a thief*, *dirty*, *being a criminal*, and *uneducated* ($\alpha = 0.84$) best measured inferiority/superiority.

Discussion

The purpose of Study 1a and 1b was to deduce which stereotypes provide information about the dimensions of subordination. The results provided us with the stereotypes that are high on the dimensions of foreignness/Americanness and inferiority/superiority, which I used in Study 2.

Study 2

Study 2 aimed to use the stereotypical traits that clustered onto dimensions of superiority/inferiority and foreignness/Americanness in Studies 1a-1b to examine how biracial individuals are perceived along these dimensions. Because a White identity can contribute to positively changing perceptions of a biracial person due to their proximity to Whiteness (which is in efforts to reinforce existing racial disparities that maintain White peoples' dominance), I anticipate that a biracial person's proximity to Whiteness, characterized through a part-White identity, could bolster perceptions of a biracial person on the dimensions in which they would otherwise be subordinated.

Specifically, I anticipate that targets described as Black/White would be perceived as *superior* compared to when the same targets are identified as Black. In contrast, targets will be perceived as *less foreign* when they are described as Asian/White compared to when they are identified Asian. Lastly, targets would be perceived as both *superior*, and *less foreign*, when they are described as Latinx/White compared to when they are identified as Latinx. Additionally, because the axes of subordination is contingent on ancestry being known, I did not have specific predictions for how ratings of foreignness/Americanness and superiority/inferiority for targets described as being biracial (i.e., no ancestry information is present) may unfold. Nonetheless, the results would still suggest that proximity to Whiteness, or a White identity, can positively shape

stereotypes and perceptions of biracial groups along the dimensions of superiority/inferiority and foreignness/Americanness. The results would also suggest that perceivers do use ancestry as a cue for stereotype formation for biracial people when presented, rather than a general biracial identity (being mixed-race).

Method

Participants

Participants were recruited through Tufts University's subjects pools for both pay and course credit. If participants were recruited for pay, they were entered a raffle to win a $75 Amazon gift card. If they were recruited for course credit, they were compensated 0.5 credits for their introductory psychology course. To determine sample size, I conducted a power analysis using the PANGEA app (Power ANalysis for General Anova design; Westfall, 2019) to determine the number of participants needed to achieve power of 0.80 to detect a small effect size (d = 0.20) in a 3 (base race: Asian vs. Black vs. Latinx) x 3 (parental ancestry: monoracial vs. biracial-White vs. biracial-unspecified) repeated measures ANOVA with ten trials for each cell. The study is powered to detect main effects and an interaction if there is one, though, an interaction is not part of the pre-registered hypotheses.

In total, I sampled 79 participants. Six participants were excluded because they participated in the study twice through different participant pools. The remaining participants met all other inclusion criteria (i.e., they all passed three attention checks, did not withdraw their consent at the end of their participation, and indicated they had high quality data through click counts). Therefore, the final sample was 73 participants (M_{age} = 20.51, SD_{age} = 5.15; Women/female = 38, Men/male = 31, Nonbinary = 1, Decline = 3; Black = 5, East Asian = 14, Southeast Asian = 4, South Asian = 3, White = 34, Latinx = 5, Biracial = 7, prefer not to answer

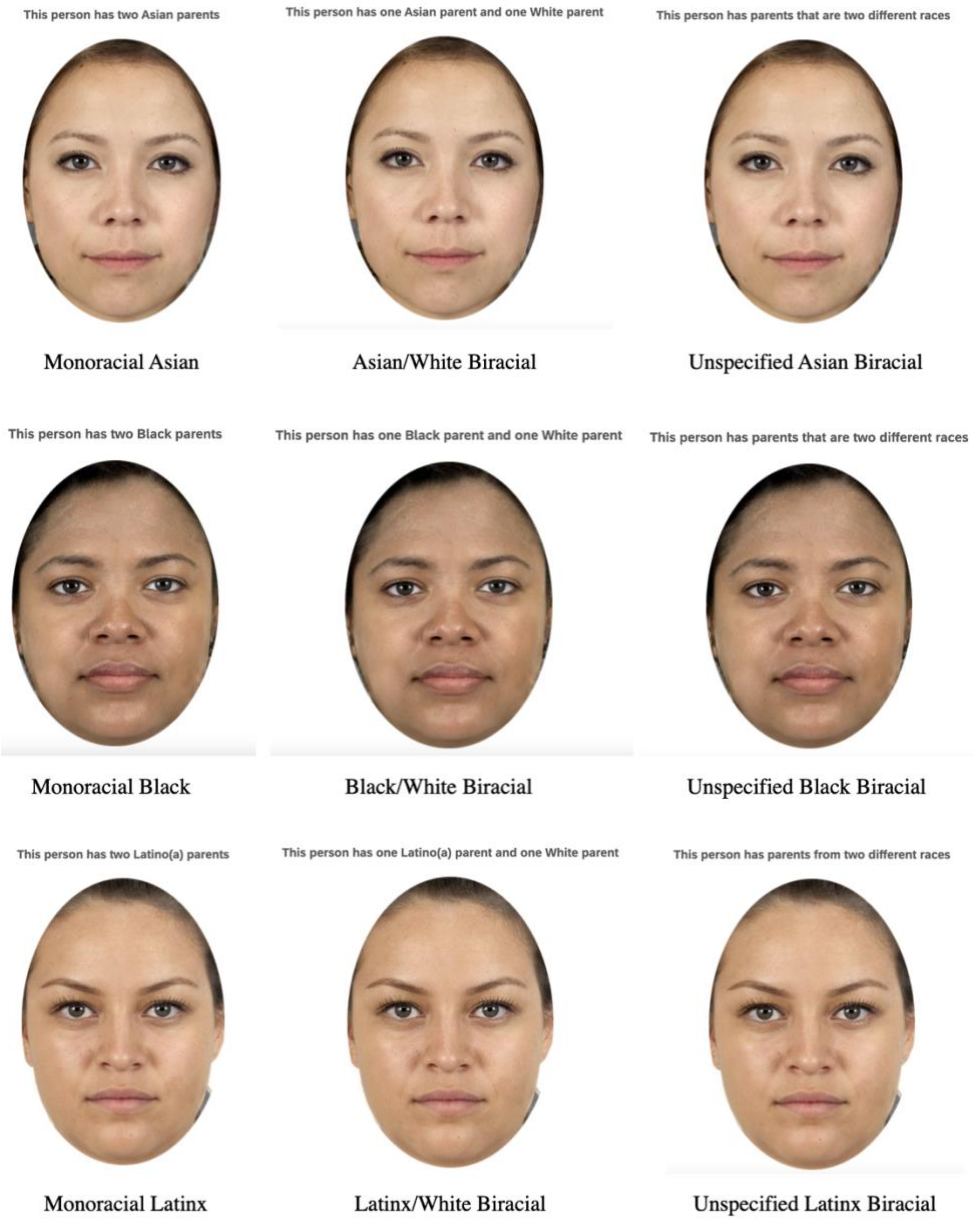
= 1). Although the pre-registration indicated 78 participants were needed, recruitment of participants took somewhat longer than expected due to COVID-19, and the number of exclusions was difficult to anticipate. Data collection is still on-going to collect data from 5 additional participants.

Procedure

On each trial, participants were shown an image of an individual that was accompanied by information about the individuals' racial ancestry (i.e., stimuli *target*). The image was either an Asian/White, Black/White, or Latinx/White face that were created by morphing together monoracial faces (see morphing procedures below). The racial ancestry information accompanying each face was presented as parental background; for example, "*this person has one Asian parent and one White parent*" or "*this person has two Asian parents*." Therefore, for example, each Asian/White face was presented three times (in random order and among the other morphed faces): once as monoracial Asian, part-White or Asian/White, and unspecified-biracial (i.e., "*this person has parents from two different races*"). In total, ten novel morphed faces were created for each base race (10 Asian/White, 10 Black/White, and 10 Latinx/White) and were paired with all three racial labels (e.g., Asian, Asian/White, and unspecified-biracial), resulting in 30 trials for Asian racial groups, 30 for Black racial groups, and 30 for Latinx racial groups for a total of 90 randomized, experimental trials. See Figure 3 for an example of targets and trials.

Figure 3

Example of experimental trial for across the different targets (Asian/White, Black/White, Latinx/White) and ancestry information (monoracial, part-White, unspecified-biracial)



Facial Morphs

Facial Morphs Creation. Biracial faces were made by morphing selected faces from the Chicago Face Database (Ma et al., 2015) and matched on these dimensions: how prototypical they were of their respective race, attractiveness, age, afraid, angry, happy, and unusual. Specifically, I wanted to ensure that the faces selected did not differ greatly on these dimensions, so I selected faces that were no more than 0.50 different in their ratings for each of the

dimensions (i.e., if a face has a 4.50 attractiveness rating, then other faces matched with it would be rated between 4.00 and 5.00 on attractiveness). Faces from each racial category (Asian, Black, White, Latinx) that are matched on these dimensions were morphed together using webmorph.org. In total, 20 Asian/White, 20 Black/White, and 20 Latinx/White faces were created. To see the criteria used to match faces, see Table 3a in the Appendix.

Facial Stimuli Pre-test. The morphed faces were then pre-tested ($N = 198$) and rated on the same dimensions as above, with the addition of a neutral rating. To select faces, I calculated the grand mean of each dimension for each group (i.e., the grand mean of attractiveness ratings for all Black/White morphed faces) and selected faces with average ratings that were one standard deviation from the grand mean. This was done for each dimension and faces that met the one standard deviation criteria for each dimension were selected. The goal was to narrow down 20 morphs from each group to 10 morphs to be used in the study.

In total, 10 Asian/White, 10 Black/White, and 10 Latinx/White faces were selected to be used in the study. Once 10 faces were selected, a one factor (group: Asian/White vs. Black/White vs. Latinx/White) repeated measures ANOVA was conducted to confirm that that the average ratings of faces did not differ between stimulus groups. Overall, the 30 morphed faces were matched in age, neutrality, and attractiveness, $ps > 0.05$. They were not matched in how prototypical they were of their minority race or their White race, and also were not matched in their unusual ratings[3], $ps < 0.001$. To see average pre-test ratings, see Table 4a in the Appendix. I did not intend for the morphed faces to be matched in their prototypicality ratings, as that might cause biases in perceivers' impressions of a biracial person. For example, a Black/White face

[3] In the Chicago Face Database, there are "unusual" ratings, which reflect how unique and/or novel a face appears. For instance, one particular face in the CFD of a prototypical Black man with bright blue eyes is rated as highly unusual.

will likely be rated lower in their White prototypicality in comparison to Asian/White and Latinx/White face. If they were matched in their White prototypicality, we may inadvertently show participants very Eurocentric Black/White faces, which could cause perceivers to provide more positive responses than they typically would for Black/White faces, due to skin tone biases or other phenotypic biases (Hunter, 2007; Maddox, 2004).

Measures

On each trial, participants were asked to rate the target on the stereotypes obtained through testing in Study 1. Participants completed the following ratings: *not speaking English well* and *having an accent* to represent foreignness/Americanness and *being a burden to society* and *being rich* (reverse coded) to represent inferiority/superiority. Stereotypes of superiority/inferiority were deduced from Study 1b because a pilot of Study 2 revealed that the survey was too long, leading to concerns about participant fatigue. We selected the traits *being a burden to society* and *being rich* because they had the highest factor loadings in comparison to the other traits that clustered on to the dimension of superiority/inferiority in Study 1b.

Participants were asked to rate "how much is this individual stereotyped as [trait]?" on a scale ranging from 1 (*not at all*) to 7 (*very much*). To keep the study similar to Zou and Cheryan (2017), participants were also asked to rate "to what extent do you think the person is seen as: "inferior or superior in U.S. society" (1 = *very inferior* to 7 = *very superior*; reverse coded), and "foreign or American in U.S. society" (1 = *very foreign* to 7 = *very American*). The items *not speaking English well*, *having an accent*, and foreignness were averaged to create a final score, with higher scores being indicative of being rated as very foreign. In addition, *being a burden to* society, *being rich*, and inferiority are averaged to create a final score, with higher scores being indicative of being rated as inferior.

Results

To examine differences in ratings between each group of biracial stimuli, I conducted a 3 (base race: Asian vs. Black vs. Latinx) x 3 (parental ancestry: monoracial vs. biracial-White vs. unspecified-biracial) repeated measures ANOVA for foreignness/Americanness ratings, and superiority/inferiority ratings. Tukey post hoc comparison were used to examine specific comparisons for all results, unless otherwise stated. In addition, Cohen's d was calculated for effect sizes between comparisons.

Foreignness and Americanness

There was a main effect of base race, $F(2, 1436) = 57.71$, $p < 0.0001$, $\eta^2_p = 0.07$. Specifically, Asian base race groups ($M = 3.62$, $SE = 0.08$) were rated as more foreign than Black base race groups ($M = 3.12$, $SE = 0.08$; $d = 0.38$) and Latinx base race groups ($M = 3.24$, $SE = 0.08$; $d = 0.31$), $ps < 0.0001$. In addition, Latinx base race groups were rated as more foreign than Black base race groups, $p = 0.047$, $d = 0.08$. Thus, Asian base race groups were rated as most foreign (or least American), followed by Latinx base race groups, then Black base race groups.

There was also a main effect of parental ancestry, $F(2, 1436) = 183.45$, $p < 0.0001$, $\eta^2_p = 0.20$. Specifically, targets described as monoracial minority ($M = 3.64$, $SE = 0.08$) were rated as more foreign than targets described as being part-White ($M = 3.06$, $SE = 0.08$; $d = 0.74$) and as unspecified-biracial ($M = 3.28$, $SE = 0.08$; $d = 0.41$), $ps < 0.0001$. Additionally, targets described as being unspecified-biracial were rated as being more foreign than targets described as being part-White, $p < 0.0001$, $d = 0.27$. Thus, targets described as monoracial were rated as being the most foreign (or least American), followed by targets described as being unspecified-biracial, then targets described as being part-White.

Lastly, these main effects were qualified by an interaction between base race and parental ancestry, $F(4, 2872) = 161.40$, $p < 0.0001$, $\eta^2_p = 0.18$. Because my hypotheses are contained within each base race (meaning I do not have predictions about whether, for example, a target described as having two Asian parents differ in ratings in comparison to a target described as having one Black parent and one White parent), I will only focus on post hoc comparisons within each base race group. To see all other post hoc comparisons, see Table 5a in the Appendix.

Asian Base Race. When Asian/White targets are described as having two Asian parents (i.e., *monoracial*; $M = 4.03$, $SE = 0.09$) they are rated as more foreign than when they are described as having one Asian parent and one White parent (i.e., *part-White*; $M = 3.26$, $SE = 0.09$; $d = 0.60$), as well as when they are described as having parents from two different races (i.e., *unspecified biracial*; $M = 3.58$, $SE = 0.09$; $d = 0.34$), $ps < 0.0001$. In addition, when Asian/White targets are described as being unspecified biracial, they are rated as more foreign than when they are described as being part-White, $p < 0.0001$, $d = 0.26$. Therefore, Asian/White targets described as being monoracial Asian were rated the most foreign (or least American), followed by when they are described as being unspecified-biracial, then when they are described as being as part-White.

Black Base Race. For Black/White targets, there was not a statistically significant difference in foreignness ratings between when targets are described as being monoracial ($M = 3.01$, $SE = 0.09$) and described being as part-White ($M = 2.88$, $SE = 0.09$), $p = 0.14$, $d = 0.14$. However, when the Black/White targets are described as being unspecified-biracial ($M = 3.47$, $SE = 0.09$) they were rated as more foreign than when they are described as being monoracial ($d = 0.37$), as well as when they are described as being part-White ($d = 0.49$), $ps < 0.0001$. Therefore, Black/White targets described as being unspecified-biracial were rated as the most

foreign (or least American), followed by when they are described as being monoracial, as well as when they are described as being part-White.

Latinx Base Race. When Latinx/White targets are described as being monoracial (M = 3.88, SE = 0.09) they are rated as more foreign than when they are described as being part-White (M = 3.04, SE = 0.09; $p < 0.001$, d = 0.66), as well as when they are described as being unspecified biracial (M = 2.79, SE = 0.09; $p < 0.0001$, d = 0.72). In addition, Latinx/White targets described as being part-White were rated as more foreign than when they are described as being unspecified biracial, $p < 0.0001$, d = 0.19. Therefore, Latinx/White targets described as being monoracial were rated as the most foreign (or least American), followed by when they are described as being part-White, then when they are described as being unspecified biracial.

Summary

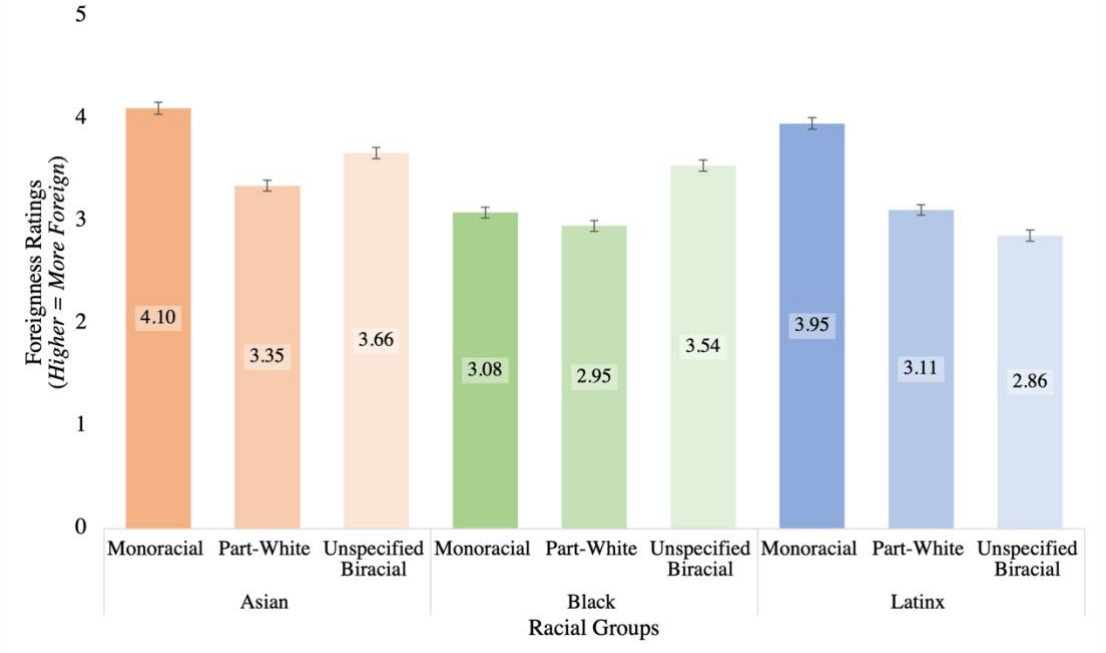
Overall, the hypotheses were supported. Specifically, Asian/White targets described as being part-White were seen as less foreign compared to when they are described as being monoracial. Similarly, Latinx/White targets described as being part-White were seen as less foreign compared to when they are described as being monoracial. Lastly, because Black monoracial and White monoracial groups are viewed as American (Zou & Cheryan, 2017), I did not expect to see a statistically significant difference in foreignness ratings between Black/White targets described as being monoracial and described as being part-White. The results were consistent with this expectation. Therefore, the results show that, indeed, a White identity likely increases Americanness perceptions for groups that are typically subordinated on the axes of foreignness/Americanness (i.e., Latinx and Asian Americans). See Figure 4 for graph.

As anticipated, it was less clear how participants were rating targets when they were described as being unspecified biracial. For example, there was no statistically significant

difference in foreignness ratings between Asian/White targets described as being unspecified biracial and Black/White targets described as being unspecified biracial, $p = 0.63$. In addition, Latinx/White targets described as being unspecified biracial was rated the least foreign (or most American) in comparison to both Asian/White and Black/White targets described as being unspecified biracial, $ps < 0.0001$. These results are somewhat inconsistent with what may be expected, given that Asian and Latinx groups are stereotyped as foreign, and Black groups are stereotyped as American (Zou & Cheryan, 2017). However, no specific ancestry information was presented to participants in the unspecified biracial conditions; therefore, it could be that participants are using other cues to inform their ratings, such as phenotype. I return to this in the General Discussion.

Figure 4

Average foreignness/Americanness ratings across base race groups and parental ancestry



Note. Bars represent standard error. Averages are inside each bar. Orange gradients represent Asian base race groups, green gradients represent Black base race groups, and blue gradients represents Latinx base race groups. Gradients go from darkest (monoracial), to medium (part-White), to lightest (unspecified biracial).

Superiority and Inferiority

There was a main effect of base race, $F(2, 1463) = 567.95$, $p < 0.0001$, $\eta^2_p = 0.44$. Specifically, Black base race groups ($M = 4.89$, $SE = 0.06$) were rated as more inferior compared to Asian base race groups ($M = 4.58$, $SE = 0.06$; $d = 1.22$) and Latinx base race groups ($M = 3.93$, $SE = 0.06$; $d = 0.93$), $ps < 0.0001$. In addition, Latinx base race groups were rated as more inferior in comparison to Asian base race groups, $p < 0.0001$, $d = 0.30$. Thus, Black base race groups were rated as being the most inferior (or least superior), followed by Latinx base race groups, then Asian base race groups.

There was a main effect of parental ancestry, $F(2, 1463) = 178.89$, $p < 0.0001$, $\eta^2_p = 0.20$. Specifically, targets described as being monoracial minority ($M = 4.37$, $SE = 0.06$) were rated as more inferior to targets described as being part-White ($M = 4.00$, $SE = 0.06$; $d = 0.67$) and unspecified-biracial ($M = 4.03$, $SE = 0.06$; $d = 0.56$), $ps < 0.0001$. However, there was no difference between targets described as being part-White and unspecified-biracial, $p = 0.42$, $d = 0.05$. Thus, targets described as monoracial minorities were rated as being the most inferior (or least superior), followed by those described as being unspecified-biracial, then those described as being part-White.

Lastly, these main effects were qualified by an interaction between base race and parental ancestry, which is described below by base race, $F(4, 2872) = 124.85$, $p < 0.0001$, $\eta^2_p = 0.15$. Again, I will only focus on post hoc comparisons within each base race group. To see all other post hoc comparisons, see Table 6a in the Appendix.

Asian Base Race. When Asian/White targets are described as having one Asian parent and one White parent (i.e., *part-White*; $M = 3.45$, $SE = 0.06$) they are rated as being least inferior compared to both targets described as having two Asian parents (i.e., *monoracial*; $M = 3.57$, *SE*

= 0.06; $p = 0.02$, $d = 0.16$) and described as having parents from two different races (i.e., *unspecified biracial*; $M = 3.73$, $SE = 0.06$; $p < 0.0001$, $d = 0.31$). In addition, Asian/White targets described as being monoracial are rated as being least inferior compared to Asian/White targets described as being unspecified-biracial, $p = 0.0002$, $d = 0.17$. Therefore, Asian/White targets described as being monoracial are rated as being the most inferior (or least superior), followed by when they are described as being unspecified-biracial, then when they are described as being part-White.

Black Base Race. Both Black/White targets described as being part-White ($M = 4.72$, $SE = 0.06$) and described as being unspecified biracial ($M = 4.83$, $SE = 0.06$; $d = 0.46$) were rated as least inferior compared to Black/White targets described as being monoracial ($M = 5.11$, $SE = 0.06$; $d = 0.35$), $ps < 0.0001$. In addition, there was no statistically significant difference between Black/White targets being described as part-White and described as being unspecified biracial, $p = 0.07$, $d = 0.14$. Therefore, Black/White targets described as being monoracial are rated as being the most inferior (or least superior), followed by when they are described as being part-White and unspecified biracial.

Latinx Base Race. When Latinx/White targets are described as being unspecified-biracial ($M = 3.52$, $SE = 0.06$) they are rated as being the least inferior compared to both targets described as being part-white ($M = 3.83$, $SE = 0.06$; $d = 0.29$) and described as being monoracial ($M = 4.44$, $SE = 0.06$; $d = 0.71$), $ps < 0.001$. Additionally, Latinx/White targets described as being part-White were rated as least inferior compared to when they are described as being monoracial, $p < 0.0001$, $d = 0.57$. Therefore, Latinx/White targets described as being monoracial were rated as being most inferior (or least superior), followed by when they are described as being part-White, then when they are described as being unspecified-biracial.

Summary

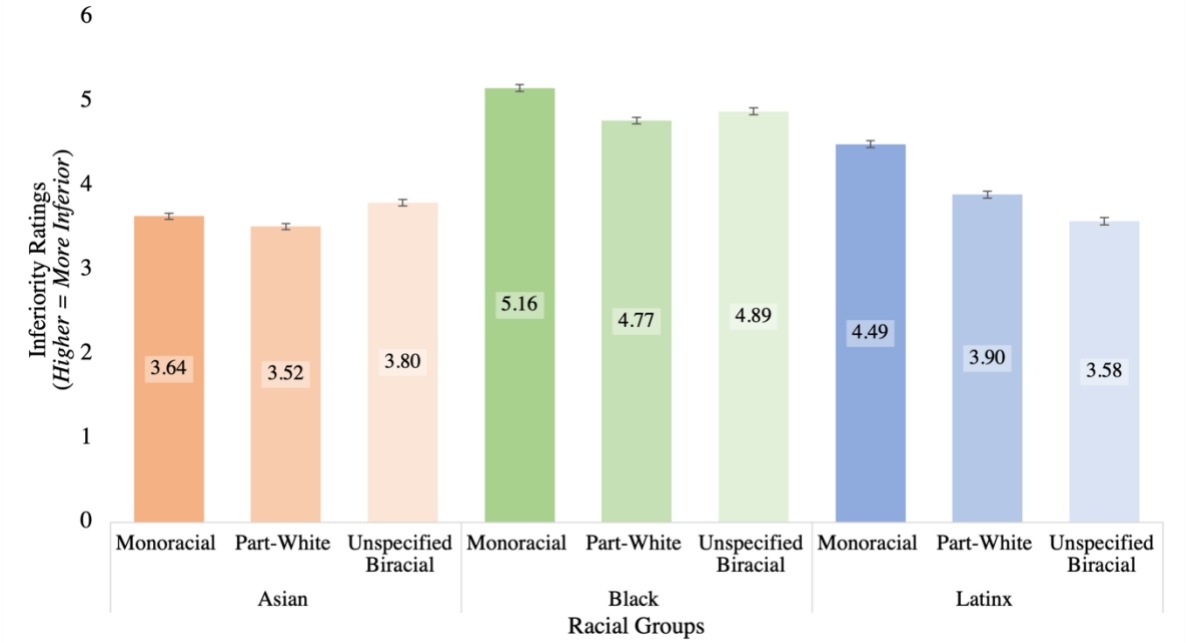
Overall, some of my hypotheses were supported. Specifically, Black/White targets described as being part-White were seen as less inferior compared to when they are described as being monoracial. Similarly, Latinx/White targets described as being part-White were seen as less inferior compared to when they are described as being monoracial. However, because Asian monoracial and White monoracial groups are viewed as superior (Zou & Cheryan, 2017), I anticipated there would be no difference in inferiority ratings for Asian/White targets between when they are described as being monoracial and part-White; however, when Asian/White targets were described as being part-white, they were seen as less inferior compared to when they are described as being monoracial. Although, the effect was small for inferiority ratings (d = 0.16) in comparison to the effect size for difference in their foreignness ratings, which was large (d = 0.60). This suggests that, while there was an increased perception in Asian/White targets' superiority ratings when they are described as part-White, this increased perception is much smaller in comparison to the increased perception of Americanness for the same targets. Therefore, the results again show that, indeed, a White identity likely increases superiority perceptions for groups that are typically subordinated on the axes of superiority/inferiority (i.e., Latinx and Black Americans). See Figure 5 for a graph.

Similar to foreignness/Americanness ratings, it was less clear how participants were rating targets when they were described as being unspecified biracial. Overall, both Asian/White and Latinx/White targets described as being unspecified biracial were rated as less inferior in comparison to Black/White targets described as being unspecified biracial, $ps < 0.0001$. In addition, Asian/White targets described as being unspecified biracial were rated as more inferior in comparison to Latinx/White targets described as being unspecified biracial, $p = 0.0004$. While this is likely consistent with the axes of subordination, given that Black groups are stereotyped as

being inferior (Zou & Cheryan, 2017), it is inconsistent given that Latinx groups are stereotyped as being inferior (Zou & Cheryan, 2017), but here, Latinx/White targets are being rated as least inferior (or most superior) in comparison to Asian/White and Black/White targets when ancestry information is not presented. Again, it could be that participants are using, possibly, phenotype cues to inform their ratings, which I return to in the General discussion. See Figure 6 for visualization of the axes of subordination for biracial groups.

Figure 5

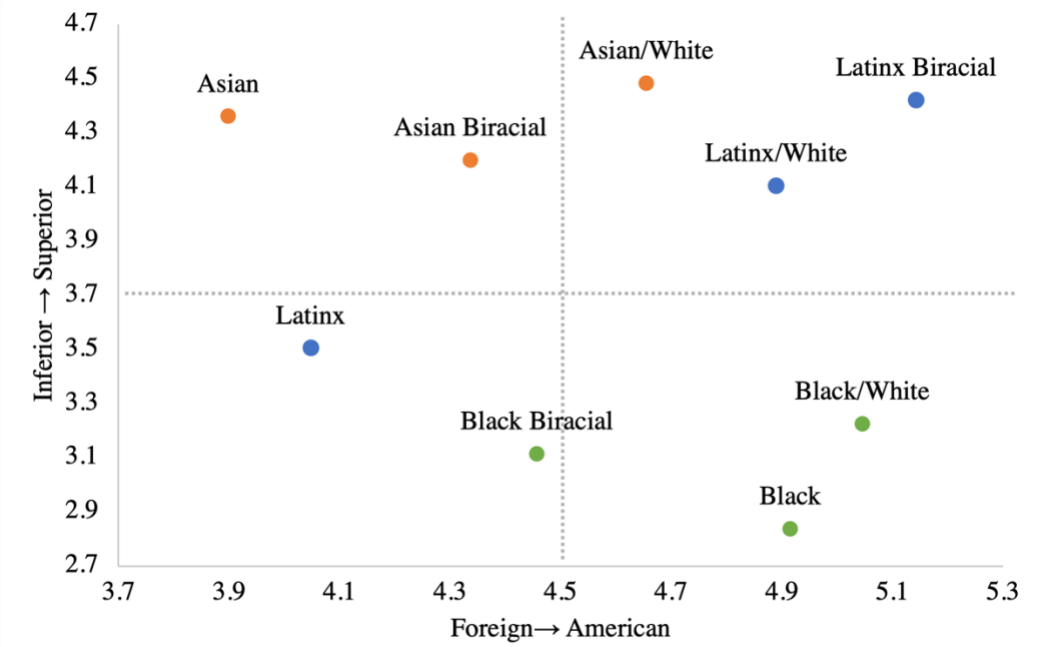
Average superior/inferior ratings across base race groups and parental ancestry



Note. Bars represent standard error. Averages are inside each bar. Orange gradients represent Asian base race groups, green gradients represent Black base race groups, and blue gradients represents Latinx base race groups. Gradients go from darkest (monoracial), to medium (part-White), to lightest (unspecified biracial).

Figure 6

Axes of Subordination for Biracial Groups



Note. X- and y-axes are scaled in a way to easily visualize the positions of the racial groups on the two dimensions. To match this graph's axes with the original Axes of Subordination, average scores were reverse coded. Dotted lines represent hypothetical boundaries for quadrants representing inferior and foreign groups (bottom left), superior and foreign groups (top left), inferior and American groups (bottom right), and superior and American groups (top right).

Discussion

As a reminder, I hypothesized that a biracial person's proximity to Whiteness, characterized through a part-White identity, could bolster perceptions of that biracial person on the dimensions in which their monoracial minority counterpart is otherwise subordinated on. Indeed, my results supported these predictions. Specifically, I anticipated that Black/White targets described as being part-White would be perceived as *superior* compared to when the same targets are described as being monoracial Black, which was supported by my results. I also anticipated that Black/White targets described as being part-White would not be perceived as more or less foreign compared to when the same targets are described as monoracial Black, which was also supported by the results. Therefore, because Black groups are subordinated on the dimension of superiority/inferiority, such that they are stereotyped as being inferior, I

hypothesized that a part-White identity would increase perceptions of superiority for Black/White targets described as being part-White, rather than increase perceptions of Americanness, which was supported by the results.

Additionally, I anticipated that Asian/White targets would be perceived as *less foreign* when they are described as part-White compared to when the same targets are described as monoracial Asian, which was supported. However, I did not anticipate Asian/White targets described as being part-White would be superior compared to the same targets are described as being monoracial Asian, which was a result I found. Although, the effect size for Asian/White targets' superiority ratings between when they're described as being monoracial and part-White was small, while the effect size for the targets' foreignness ratings was large. Therefore, while there was an increased perception in superiority for Asian/White targets described as being part-White in comparison to monoracial Asian, this increase was smaller in comparison to the increased perception of Americanness. Similarly, because Asian groups are subordinated on the dimensions of foreignness/Americanness, such that they are stereotyped as foreign, I hypothesized that a part-White identity would increase perceptions of foreignness for Asian/White targets described as being part-White, rather than increase perceptions of superiority, which was slightly supported by the results.

Lastly, I anticipated that Latinx/White targets would be perceived as both *superior*, and *less foreign*, when they are described as part-White compared to when they are described as being monoracial Latinx, which was supported by the results. Again, because Latinx groups are subordinated on the dimensions of foreignness/Americanness *and* superiority/inferiority, such that they are stereotyped as foreign and inferior, I hypothesized that a part-White identity would increase perceptions of foreignness and superiority for Latinx/White targets described as being

part-White, which was supported by the results. Therefore, the results suggest that, indeed, because a White identity is associated with positive stereotypes, such as being superior and American, perceivers likely integrate such ancestry information in their impression formation of biracial people, if they are aware that a biracial person is part-White.

In addition, when targets were identified as being an unspecified-biracial (i.e., they have parents from two different races), the ratings for foreignness/Americanness and inferiority/superiority did not demonstrate a clear pattern. For instance, Latinx/White targets described as being unspecified biracial were rated as being the most American and superior in comparison to both Asian/White and Black/White targets described as being unspecified biracial. In addition, there was no difference in foreignness ratings between Asian/White and Black/White targets described as being unspecified biracial; though, Asian/White targets described as being unspecified biracial were rated as superior in comparison to Black/White targets described as being unspecified biracial. Because there was no parental ancestry information presented to participants during these trials, it could be that participants were using phenotypical appearance to inform their ratings. For instance, Latinx/White targets ($M = 6.14$) were rated as being more phenotypically White during pre-testing in comparison to Asian/White ($M = 4.43$) and Black/White targets ($M = 2.27$). When no parental ancestry information was present, participants likely used phenotypical cues to form impressions, and thus, led to Latinx/White targets being rated highly in superiority and Americanness in comparison to the Asian/White and Black/White targets.

In addition, while research on perceptions of biracial people generally suggest that biracial faces are perceived as being ambiguous (Corneille et al., 2004; MacLin & Malpass, 2001; Pauker, Weisbuch, et al., 2009; Willadsen-Jensen, & Ito, 2006, 2008), other work suggests

that biracial targets are more often perceived as being monoracial, rather than biracial. For example, Black/White targets are more likely to be categorized as Latinx and/or Middle Eastern than biracial and stereotyped in accordance with these categorizations (Nicolas et al., 2018). The axes of subordination also suggest that both Latinx and Middle Eastern groups are also stereotyped as inferior and foreign (Zou & Cheryan, 2017), which would be consistent with Study 2's results showing that Black/White targets described as being unspecified biracial are perceived as being foreign and inferior. In addition, Asian/White and Black/White targets described as unspecified biracial were both perceived as foreign, though, unspecified Asian/White targets were rated as superior in comparison to unspecified Black/White targets. It could be that the Asian/White targets' lighter skin tone increased superiority ratings, such that lighter skin tone is associated with status (Hunter, 2007). Nonetheless, results relating to unspecified biracial targets reveal that, in the absence of ancestry information, participants will likely use other cues to shape their perceptions of biracial people.

Therefore, it seems as though having a part-White identity for biracial groups does indeed bolster perceptions of Americanness and superiority. The results show that knowing a biracial person is part-White causes people to judge them positively along the dimensions in which the person's monoracial minority counterparts are subordinated, and that this occurs above and beyond phenotypical characteristics. Therefore, biracial people are likely stereotyped in a way that perpetuates existing systems of inequality, in which White individuals are privileged (i.e., seen as American and superior), and other racial groups (Asian, Black, Latinx, etc.) are subordinated on one or two of the dimensions on the axes of subordination.

Limitations and Future Directions

The current studies may be expanded to consider all of the components of psychological of bias—cognition (stereotypes), affect (prejudice), and behavior (discrimination)—because these components function in synchrony (Mutz et al., 2010; Fiske, 1998; Plous, 2003). I examined cognitive aspects of bias, and although my results are consistent with the idea that people treat biracial individuals of different backgrounds in ways that reinforce existing hierarchies and subordination, I cannot conclude that is the case. Because stereotypes reinforce existing hierarchies by shaping the behaviors of perceivers and legitimizing the institutional barriers that exist for minority groups—and to the extent that the present data suggest the same process will apply to biracial groups—it is important to conduct future research to address whether and how stereotypes impact behavior directed toward biracial people.

Data from the Pew Research Center (2015) suggest that biracial individuals face a variety of types of discrimination. For example, Indigenous/Black and Black/White biracial individuals are subjected to slurs, poor service, and are stopped by the police more often than Asian/White and Indigenous/White biracial individuals. The data also suggest that individuals who hold dual minority identities experience more discriminatory events than biracial individuals who are part-White. In other contexts, we may not expect people to differentiate between monoracial and biracial people. For example, in court settings, a majority of biracial Black complainants face the same discrimination faced by all Black complainants, such as a longer sentencing period and/or harsher sentencing (Hernández, 2017; Mustard, 2001). Thus, in some cases and contexts biracial individuals are subjected to discrimination and inequalities that monoracial groups experience, but there are also advantages conveyed to part-White biracial individuals, who may be treated more positively than others.

In addition, the current study I kept phenotype constant for the sake of understanding how ancestry plays a role in stereotypical perceptions of biracial individuals; however, appearance shapes the way people within groups are treated. For example, someone whose appearance is more prototypical of a racial group is likely to be perceived as having more traits stereotypical of that racial group (Blair et al., 2004; Osborne & Davies, 2013; Wilkins et al., 2010). Thus, *skin-tone or phenotypicality bias*, the association of Eurocentric features (e.g., lighter skin tone) with more positive traits and Afrocentric features (e.g., darker skin tone) with more negative traits, may apply to biracial individuals as well (Levinson & Young, 2009; Maddox & Gray, 2002). For instance, my study cannot rule out that the same "bolstering" effect of a White identity would still apply if perceivers were shown more, for example, Afrocentric targets, in which they have daker skin tone and/or stereotypical Black features. In addition, my study does not expand on the exact mechanism that links ancestry to phenotype. Specifically, it could be that people assume that those with more Eurocentric features (e.g., lighter skin tone) are also part-White, which then informs their impressions of biracial targets. Or it could be that having awareness that someone is part-White may cause perceivers to also believe that the part-White biracial individual also appears to have more Eurocentric features. Impression formation research suggests that both ancestry and phenotype are important factors in shaping perceptions of biracial targets, specifically in regard to how biracial targets are categorized (Chen, 2018). Therefore, future work should aim at disentangling how ancestry and phenotype cues are integrated together in shaping stereotypes about biracial people.

Conclusion

As aforementioned in the introduction, because Whiteness maintains systems of racial inequality, from which White individuals benefit (Frankenberg, 1993), privileges and/or

advantages of Whiteness are either extended to or taken away from minority groups, rather than from White Americans, who remain in superior positions. Consequently, it could be that biracial groups that are part-White may confer *some* privileges and/or advantages, which my data suggests, given that part-White biracial targets were stereotyped as more positively than their monoracial minority counterparts. Though, it is important to highlight that biracial groups, even if part-White, likely will never be seen as "equal" to White people, and such privileges and/or advantages are likely only in efforts to justify subordination of monoracial marginalized groups, due to the cultural construction of Whiteness that benefits White people (Frankenberg, 1993). Thus, such positive stereotypes of biracial individuals due to a White identity only extends to the dimension in which the biracial person's monoracial minority counterpart is subordinated, which my results support. While some research has suggested that biraciality, broadly, will shape society to be more racially egalitarian (Gaither, Toosi, et al., 2019; Pauker, Meyers, et al., 2018; Young et al., 2013), my study suggests that there are more complexities regarding perceptions of stereotype formation of biracial people that may reinforce racial inequality.

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Appendix

Study 1 a
Traits Selected

Outgoing
Confident
Cool
Poor
Thieves
Dirty
Burden to society
Dishonest
Not speaking English well
Mathematical
Intelligent
Lacking ambition
Self-disciplined
Diligent
Rich
Illegal Immigrant
Having an accent
Stealing Jobs from Americans
Unassimilated
Family
Hardworking
Criminal
Use drugs
Uneducated
Privileged
Racist
Fat
Selfish
Athletic
Courteous
Not belonging
Attract

Study 1b
Exploratory Factor Analyses

Table 1a. Factor Loadings for Foreignness/Americanness Variable Items

	Factor			
	1	**2**	**3**	**Uniqueness**
Not speaking English well	0.943			0.151
Taking jobs from Americans	0.936			0.113
Illegal immigrant	0.925			0.132
Having an accent	0.761			0.433
Poor	0.723			0.401
Unassimilated	0.685			0.413
Being a criminal	0.598			0.403
Being a burden to society	0.524	-0.477		0.256
Confident	-0.520	0.405		0.463
Being family orientated	-0.481			0.750
Mathematically skilled	0.445			0.775
Being a thief				0.578
Fat				0.814
Dirty		-0.790		0.313
Attractive		0.718		0.496
Privileged		0.681		0.561
Selfish		0.657	0.490	0.433
Not belonging		-0.622		0.607
Uneducated		-0.612		0.305
Cool		0.554		0.630
Rich		0.466		0.593
Outgoing				0.841
Athletic				0.954
Dishonest			0.742	0.419
Courteous			-0.704	0.489
Self-disciplined			-0.680	0.443
Drug abuse			0.593	0.607
Ambitious			-0.584	0.634
Diligent			-0.512	0.532
Hardworking			-0.487	0.748
Racist			0.478	0.756
Intelligent	0.434		-0.461	0.482
SS Loading	6.65	4.71	4.12	
% Variance	20.80	14.70	12.90	

Note. Principal axis factoring extraction method was used in combination with a promax rotation. All factor loadings below 0.4 are hidden.

Table 2a. Factor Loadings for Foreignness/Americanness Variable Items

	Factor			
	1	**2**	**3**	**Uniqueness**
Illegal immigrant	0.844			0.3033
Being a burden to society	0.804			0.3724
Unassimilated	0.776			0.3616
Poor	0.774			0.3214
Taking jobs from Americans	0.747			0.4113
Rich	-0.715			0.4055
Privileged	-0.685			0.5140
Not belonging	0.668			0.4289
Being a thief	0.664			0.5668
Dirty	0.658			0.3813
Being a Criminal	0.652			0.5501
Uneducated	0.638			0.5583
Not speaking English well	0.551			0.5086
Confident	-0.477	0.428		0.5106
Racist	-0.411			0.6246
Dishonest				0.8052
Cool				0.9098
Athletic		0.824		0.3261
Drug abuse		-0.784		0.2882
Mathematically skilled		0.717		0.4885
Intelligent		0.680		0.5344
Fat		-0.668		0.3494
Attractive	-0.508	0.626		0.2067
Outgoing		0.550		0.5525
Family orientated				0.8916
Diligent			0.920	0.0409
Ambitious			0.850	0.2939
Self-disciplined			0.821	0.3395
Hardworking			0.739	0.3455
Courteous			0.481	0.7285
Having an accent			0.419	0.6621
Selfish			-0.407	0.7646
SS Loadings	7.98	4.53	4.15	
% Variance	24.90	14.20	13.00	

Note. Principal axis factoring extraction method was used in combination with a promax rotation. All factor loadings below 0.4 are hidden.

Study 2
Stimulus Target Pre-test

Table 3a. Average of Matched Criteria for Morphed Faces from the Chicago Face Database (Ma et al., 2015)

Morph Races	Age	Proto	Afraid	Angry	Attractiveness	Happy	Unusual
Asian	27.19	92%	1.84	1.87	3.58	2.87	2.21
White	26.80	95%	1.89	2.03	3.71	2.69	2.21
Black	27.13	96%	1.72	2.02	3.33	2.95	2.19
White	26.24	96%	1.95	1.94	3.30	2.83	2.14
Latinx	27.10	62%*	1.77	2.03	3.41	2.55	2.09
White	26.44	98%	1.76	1.98	3.48	2.92	2.15

Note: *We anticipated that Latinx faces would be low in prototypicality, so I aimed to select faces that were at least 50% or higher in their prototypiacality ratings. Proto is short for prototypicality.

Table 4a. Pre-test average ratings for selected faces

Morph	Age	Proto Minority	Proto White	Neutral	Attractiveness	Unusual
Asian/White	29.56	4.83*	4.43*	3.22	2.31	1.79*
Black/White	29.18	5.38*	2.27*	3.19	2.30	1.95*
Latinx/White	29.24	3.74*	6.14*	3.20	2.32	1.62*

Note: *$p<0.001$, all other comparisons are not statistically significantly different from each other. Proto is short for prototypicality.

Study 3
Tukey Post Hoc Comparisons

Table 5a. Post Hoc Comparisons for Foreignness Ratings - Base Race ✻ Ancestry

Comparison					Mean Difference	SE	df	t	p_{tukey}
Base Race	**Ancestry**		**Base Race**	**Ancestry**					
Asian	Monoracial	-	Asian	Part-White	0.7645	0.0472	4175.9019	16.2130	< .0001
		-	Asian	Biracial	0.4469	0.0472	4175.9019	9.4781	< .0001
		-	Black	Monoracial	1.0167	0.0609	2966.9301	16.7025	< .0001
		-	Black	Part-White	1.1444	0.0631	3316.5251	18.1292	< .0001
		-	Black	Biracial	0.5610	0.0631	3316.5251	8.8865	< .0001
		-	Latinx	Monoracial	0.1470	0.0609	2966.9301	2.4144	0.2763
		-	Latinx	Part-White	0.9866	0.0631	3316.5251	15.6285	< .0001
		-	Latinx	Biracial	1.2401	0.0631	3316.5251	19.6457	< .0001
	Part-White	-	Asian	Biracial	-0.3176	0.0472	4175.9019	-6.7349	< .0001
		-	Black	Monoracial	0.2522	0.0631	3316.5251	3.9952	0.0022
		-	Black	Part-White	0.3799	0.0609	2966.9301	6.2415	< .0001
		-	Black	Biracial	-0.2035	0.0631	3316.5251	-3.2241	0.0347
		-	Latinx	Monoracial	-0.6175	0.0631	3316.5251	-9.7825	< .0001
		-	Latinx	Part-White	0.2221	0.0609	2966.9301	3.6482	0.0082
		-	Latinx	Biracial	0.4757	0.0631	3316.5251	7.5351	< .0001
	Biracial	-	Black	Monoracial	0.5698	0.0631	3316.5251	9.0260	< .0001
		-	Black	Part-White	0.6975	0.0631	3316.5251	11.0493	< .0001
		-	Black	Biracial	0.1140	0.0609	2966.9301	1.8736	0.6322
		-	Latinx	Monoracial	-0.3000	0.0631	3316.5251	-4.7517	< .0001
		-	Latinx	Part-White	0.5396	0.0631	3316.5251	8.5486	< .0001
		-	Latinx	Biracial	0.7932	0.0609	2966.9301	13.0315	< .0001
Black	Monoracial	-	Black	Part-White	0.1277	0.0472	4175.9019	2.7087	0.1449
		-	Black	Biracial	-0.4557	0.0472	4175.9019	-9.6649	< .0001
		-	Latinx	Monoracial	-0.8697	0.0609	2966.9301	-14.2881	< .0001
		-	Latinx	Part-White	-0.0301	0.0631	3316.5251	-0.4774	0.9999
		-	Latinx	Biracial	0.2235	0.0631	3316.5251	3.5399	0.0121
	Part-White	-	Black	Biracial	-0.5834	0.0472	4175.9019	-12.3736	< .0001
		-	Latinx	Monoracial	-0.9975	0.0631	3316.5251	-15.8010	< .0001
		-	Latinx	Part-White	-0.1579	0.0609	2966.9301	-2.5933	0.1896
		-	Latinx	Biracial	0.0957	0.0631	3316.5251	1.5166	0.8481
	Biracial	-	Latinx	Monoracial	-0.4140	0.0631	3316.5251	-6.5584	< .0001
		-	Latinx	Part-White	0.4256	0.0631	3316.5251	6.7420	< .0001
		-	Latinx	Biracial	0.6792	0.0609	2966.9301	11.1579	< .0001
Latinx	Monoracial	-	Latinx	Part-White	0.8396	0.0472	4175.9019	17.8058	< .0001
		-	Latinx	Biracial	1.0932	0.0472	4175.9019	23.1839	< .0001
	Part-White	-	Latinx	Biracial	0.2536	0.0472	4175.9019	5.3781	< .0001

Table 6a. Post Hoc Comparisons for Inferiority Ratings - Base Race ✻ Ancestry

Comparison									
Base Race	**Ancestry**		**Base Race**	**Ancestry**	**Mean Difference**	**SE**	**df**	**t**	**p_{tukey}**
Asian	Monoracial	-	Asian	Part-White	0.1219	0.0359	4264.7258	3.3974	0.0197
		-	Asian	Biracial	-0.1632	0.0359	4264.7258	-4.5471	0.0002
		-	Black	Monoracial	-1.5443	0.0490	2864.2011	-31.5071	< .0001
		-	Black	Part-White	-1.1488	0.0499	3084.9243	-23.0037	< .0001
		-	Black	Biracial	-1.2554	0.0499	3084.9243	-25.1388	< .0001
		-	Latinx	Monoracial	-0.8665	0.0490	2864.2011	-17.6784	< .0001
		-	Latinx	Part-White	-0.2564	0.0499	3084.9243	-5.1336	< .0001
		-	Latinx	Biracial	0.0524	0.0499	3084.9243	1.0490	0.9809
	Part-White	-	Asian	Biracial	-0.2851	0.0359	4264.7258	-7.9445	< .0001
		-	Black	Monoracial	-1.6662	0.0499	3084.9243	-33.3637	< .0001
		-	Black	Part-White	-1.2707	0.0490	2864.2011	-25.9265	< .0001
		-	Black	Biracial	-1.3774	0.0499	3084.9243	-27.5803	< .0001
		-	Latinx	Monoracial	-0.9884	0.0499	3084.9243	-19.7917	< .0001
		-	Latinx	Part-White	-0.3783	0.0490	2864.2011	-7.7183	< .0001
		-	Latinx	Biracial	-0.0695	0.0499	3084.9243	-1.3925	0.9010
	Biracial	-	Black	Monoracial	-1.3811	0.0499	3084.9243	-27.6545	< .0001
		-	Black	Part-White	-0.9856	0.0499	3084.9243	-19.7360	< .0001
		-	Black	Biracial	-1.0923	0.0490	2864.2011	-22.2848	< .0001
		-	Latinx	Monoracial	-0.7033	0.0499	3084.9243	-14.0826	< .0001
		-	Latinx	Part-White	-0.0932	0.0499	3084.9243	-1.8659	0.6375
		-	Latinx	Biracial	0.2156	0.0490	2864.2011	4.3983	0.0004
Black	Monoracial	-	Black	Part-White	0.3955	0.0359	4264.7258	11.0189	< .0001
		-	Black	Biracial	0.2888	0.0359	4264.7258	8.0478	< .0001
		-	Latinx	Monoracial	0.6778	0.0490	2864.2011	13.8287	< .0001
		-	Latinx	Part-White	1.2879	0.0499	3084.9243	25.7886	< .0001
		-	Latinx	Biracial	1.5967	0.0499	3084.9243	31.9712	< .0001
	Part-White	-	Black	Biracial	-0.1066	0.0359	4264.7258	-2.9711	0.0732
		-	Latinx	Monoracial	0.2823	0.0499	3084.9243	5.6534	< .0001
		-	Latinx	Part-White	0.8924	0.0490	2864.2011	18.2081	< .0001
		-	Latinx	Biracial	1.2012	0.0499	3084.9243	24.0527	< .0001
	Biracial	-	Latinx	Monoracial	0.3890	0.0499	3084.9243	7.7886	< .0001
		-	Latinx	Part-White	0.9991	0.0499	3084.9243	20.0052	< .0001
		-	Latinx	Biracial	1.3078	0.0490	2864.2011	26.6832	< .0001
Latinx	Monoracial	-	Latinx	Part-White	0.6101	0.0359	4264.7258	16.9999	< .0001
		-	Latinx	Biracial	0.9189	0.0359	4264.7258	25.6032	< .0001
	Part-White	-	Latinx	Biracial	0.3088	0.0359	4264.7258	8.6033	< .0001