

Abstract

Across two studies, this research aims to empirically test assumptions of intersectionality theory by comparing the contributions of the additive, multiplicative, and intersectional perspectives for assessing stereotypic beliefs toward intersecting identities. Using the stereotype content model, I further understandings of stereotypes about groups by capturing different *types* of reactions (e.g., warmth and competence) rather than valanced reactions alone. In study 1, I examine 36 intersectional class-race-gender labels (e.g., “middle-class Asian woman”, “wealthy Black man”) to document quantitative warmth and competence beliefs. Study 1 tests whether class, race, and gender categories have common stereotypes associated with them, and whether combining two or three of these categories evokes different stereotypes. In study 2, I acknowledge that warmth and competence beliefs fall short of capturing stereotypic beliefs about these complex identities. Study 2 examines a narrower subset of 12 groups from study 1; participants provide qualitative data about their potentially stereotypic beliefs toward a hypothetical person. Study 2 identifies both shared and distinct stereotypic traits between each group. By examining the novel and interlocking impressions formed when people evaluate a target with multiple marginalized identities, this work expands current understandings of how class, gender, and race stereotypes interact.

Keywords: class, race, gender, intersectionality, stereotyping

THE STEREOTYPE CONTENT OF INTERSECTING RACE, CLASS, AND GENDER
GROUPS

by

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The Stereotype Content of Intersecting Race, Class, and Gender Groups

Across two studies, this research provides a descriptive and theoretical foundation for examining stereotype content toward targets with intersecting race, class, and gender identities. I build on research from the stereotype content model, assessing warmth and competence beliefs toward labels and hypothetical targets (Fiske, Cuddy, & Glick, 2007; Cuddy, Fiske, & Glick, 2008; Fiske, Cuddy, Glick, & Xu, 2002). Borrowing from the stereotype content literature, study 1 introduces 36 race-class-gender labels (e.g., “middle-class Asian man”) to obtain and compare mean warmth and competence evaluations between labels, as well as comparisons between labels and evaluations of participants’ perception of the “typical American”. Study 2 complements and builds on study 1 by asking participants to describe a day in the life of a hypothetical target with multiple identities. Study 2 contextualizes the warmth and competence ratings from study 1 and provides nuanced detail into participants’ stereotypic beliefs toward intersectional target groups by systematically identifying patterns from coded open-ended responses.

Intersectionality Theory and its Origins

Intersectionality is the recognition of multiple identities as interlocking and constructing fundamentally distinct experiences that cannot necessarily be divided into singular dimensions of identity or experience (Warner, 2008). This theory has been useful in identifying structural power dynamics through delineating how conventional identity categories (e.g., race, gender) may oversimplify the relationship between identity and discrimination (Cho, Crenshaw, & McCall, 2013). For example, in a study investigating femininity among female Indian and Filipina immigrants to the United States, Mahalingam & Leu (2005) found that both groups of women strongly identified with traditional feminine gender roles and expression, relative to American women. However, the authors concluded that this was likely not solely due to a shared

pan-Asian identity, but also a reaction to and protest against stereotyping and discrimination both groups experienced in the United States.

Intersectionality theory is rooted in Black feminist scholarship, and the term is typically attributed to legal scholar Kimberlé Crenshaw. Crenshaw (1991) highlighted the need for nuanced frameworks that can describe the experiences of people with multiple marginalized identities. Crenshaw (1989) describes an analysis of legal cases from unsuccessful Black female claimants. Crenshaw's analysis concluded that in cases of discrimination against Black women, the claimants had to represent their cases as discriminatory on the basis of race and gender, but also how race and gender discrimination compound. However, they were perceived as both too similar to Black men and White women to be viewed specifically as Black women, yet too different from Black people or women (generally) to be perceived as representative of either identity ("double jeopardy"). Initially coined to describe the impact of dual experiences of racism and sexism toward Black women, double jeopardy refers to an individual with multiple marginalized identities experiencing multiple forms of discrimination on more than one identity dimension (Beal, 1970/2008).¹ Courts were ill-prepared to handle intersectional accounts of discrimination, and as such, failed to provide the Black female claimants justice.

Intersectionality as a research area had already garnered a great deal of attention prior to Crenshaw's groundbreaking analysis. During the 1980s, what contemporary scholars would now call intersectionality studies were referred to as "race, class, gender" projects (Collins, 2015, p. 9), and included the work of Sojourner Truth, Audre Lorde, Gloria Anzaldúa, the Combahee River Collective, and Angela Davis, among many others (Anzaldúa, 1987; Combahee River Collective, 1977; Davis, 1981; Lorde, 1984/2012; Truth, 1851/2005).

¹ Subsequent research called for third and fourth "jeopardies", based on class and sexual orientation, respectively (King, 1988).

Intersectionality theory recognizes three primary perspectives. Each perspective provides a slightly different account of the experiences of individuals with multiple marginalized identities, and therefore, each is beneficial in contributing to a nuanced understanding of minority race-class-gender identity (Cole, 2009).

1. Additive perspective: This perspective assumes that sociodemographic identities operate independently and can be combined in an additive fashion. This perspective assumes that individual categories (e.g., race, gender) are the best predictors for a given outcome. Additive perspectives have been used to describe situations of “double jeopardy” for women of color in the workplace (Beal, 1970/2008; Berdahl & Moore, 2006). An additive approach would argue that workplace harassment experienced by women of color would exceed the harassment experienced by White women (a main effect of gender) by precisely the extent to which the harassment experienced by men of color exceeds that experienced by White men (a main effect of race/ethnicity).
2. Multiplicative/Interactionist² perspective: This perspective builds upon the assumptions of the additive perspective, but also assumes that the detrimental effects of belonging to multiple marginalized groups compound, or multiply, resulting in outcomes (e.g., harassment; Berdahl & Moore, 2006) that are worse than an additive perspective would suggest. The interactive nature of the multiplicative perspective recognizes that having one marginalized identity can exacerbate the experience of having another marginalized identity (Parent, DeBlanc, & Moradi, 2013).
3. Intersectionality perspective: Both above perspectives assume the experiences of multiply marginalized people can be separated into their more basic components (e.g., main

² Given that we already have an “interactionist” perspective in social psychology, unrelated to intersectionality, I’ll be using the term “multiplicative”, but in the intersectionality literature, these terms are used interchangeably. This perspective is also sometimes referred to as the “categorical” approach (McCall, 2005).

effects). The multiplicative perspective acknowledges that the experience of having multiple marginalized identities is worse than additively combining experiences of two or more marginalized identities. However, the intersectionality perspective contributes that having multiple marginalized identities creates fundamentally unique experiences, identities, and thus stereotypes, that can't necessarily be parsed into the discrimination due to singular identities. In other words, groups experience different kinds of discrimination, not just different amounts.

It's important to note that these perspectives assume a particular set of research practices. Traditionally, intersectional research focuses on the qualitative experiences of people with previously underemphasized combinations of identities. The assignment and analysis of an identity category would be to the participants that provided their phenomenological accounts. As such, it is sensible that traditional intersectionality scholars have raised concerns about quantitative analyses using identity categories as predictors (see Warner, 2008), as even the participants themselves may be unaware of the extent to which an instance of bias or stereotyping was related to race, gender, or both. In the present work, I take an alternative approach in which the focus of the study is *perceptions* (rather than experiences) of people with multiple salient identity descriptors. My research questions center on participants' stereotypic beliefs toward these intersectional identities, rather than the participants' own experiences with their identities.

An Intersectional Approach to Understanding Stereotypes of Marginalized Groups

Social psychologists, too, have become increasingly interested in investigating the relationship between race, class, and gender identities and stereotyping (Cole, 2009; Purdie-Vaughns & Eibach, 2008; Smith, LaFrance, & Dovidio, 2017; Thomas, Dovidio, & West, 2014). Generally, women are stereotyped to be emotional, relative to men who are stereotyped as

rational (Fischer, 1993). However, this finding does not account for differences in the specific emotional content stereotypically associated with women of various races (and socioeconomic statuses, religions, nationalities, etc.). In one study, White women were stereotyped as “emotional” while Black women were stereotyped as “hostile” (Landrine, 1985), and in another study, Asian women were stereotyped as “reserved” (Hess, Beupre, & Cheun, 2002). Kunda, Miller, & Claire (1990) demonstrated that when participants were provided with the label “feminist bank tellers” they produced stereotypes like “hypocritical” and “unmarried”—stereotypes that participants did not produce when “feminists” and “bank tellers” were provided separately. Research suggests that stereotypes of Black women diverge from stereotypes of Black men and White women as well. Black women are stereotyped as more masculine and less feminine than White women (Landrine, 1985). Niemann, Jennings, Rozelle, Baxter, & Sullivan (1994) demonstrated that while some stereotypes toward Black men and women were similar (e.g., “athletic,” “antagonistic,” “speak loudly”), other stereotypes diverged. Black women alone were stereotyped as “pleasant/friendly,” “unmannerly,” and “sociable/socially active”, while Black men alone were stereotyped as having a “muscular appearance” and [being involved in] “criminal activities.”

The intersectional invisibility hypothesis, like Crenshaw’s case analysis, demonstrates how multiply marginalized intersectional identities may be erased. The hypothesis argues that the United States is both androcentric (centered on men) and ethnocentric (centered on whiteness; Purdie-Vaughns & Eibach, 2008). These ideologies de-center, or render invisible, groups that are not perceived as prototypical for either dimension (e.g., Black women). Aligning with Crenshaw’s findings, research on the intersectional invisibility hypothesis has found that White Americans have more difficulty associating “Black women” with the categories “Black” (relative to “Black men”) *and* “women” (relative to “White women”; Thomas, Dovidio, & West,

2014). Further, Sesko & Biernat (2010) found that among a sample of White participants, Black women's faces were less easily recognized and distinguished relative to Black men, White women, and White men. In a subsequent study, Black women's contributions in a conversation were challenging for White participants to attribute and distinguish: Black women's conversational contributions were misattributed to other Black women, as well as Black men, White women, and White men (Sesko & Biernat, 2010). Taken together, these findings demonstrate that Black women are both "unseen" and "unheard", and thus rendered invisible in daily interactions.

The intersectionality literature's focus on social identities and disparities has laid the groundwork for research questions well-suited to experimental designs, a methodological complement to the current interdisciplinary literature spanning critical legal studies, ethnic studies, feminist studies, philosophy, political science, sociology, and related disciplines (see Hancock, 2007; Choo & Ferree, 2010; Walby, 2007 for examples). Intersectionality, as a theoretical framework, captures how having multiple marginalized or subordinate identities can shape one's experiences. The intersectionality framework provides a fruitful basis for investigating class, race, and gender-based inequities (Cho et al., 2013; Lykke, 2011). Further, the theory critically emphasizes (1) the non-homogeneity of groups that may otherwise be binned together (e.g., "a sample of women", but the sample is made up of primarily White women, or otherwise doesn't represent women of color), (2) where identities exist within power structures and the relations between those power structures, and (3) the unique effects of identifying with more than one group (Stewart & McDermott, 2004).

Methodological Approaches and Challenges

Bridging the Gap between Intersectionality Scholarship and Psychological Methods

Identity Categories versus Structures of Inequality

The dynamic, fluid structures of inequality associated with group-based identities play a vital role in the methodological approach and interpretation of intersectional research (Parent et al., 2013). Traditional intersectional scholarship de-emphasizes the importance of identity categories (e.g., race, gender) and instead organizes analyses based on structural inequalities. For example, Hurtado (1989) investigated the relationship between women and White men, finding that White women benefit economically and socially from their romantic and familial ties with White men, while Black women rarely had such ties, and as such, were less invested in pursuing relationships with White men and maintaining existing inequities. A similar conclusion could have been found using an analysis examining solely White and Black women's partner preferences. However, framing an analysis to focus narrowly on race differences among women, and not considering the sociohistorical relationships between White men, White women, and Black women, may have attributed this relationship to solely an in-group bias effect. Hurtado's work emphasizes that the overarching focus on power dynamics and structural inequities can bring to light specific processes that may otherwise go undetected. This emphasis is a central tenet of intersectionality theory as a framework, alongside the argument that having multiple, marginalized identities creates unique forms of stereotyping and discrimination.

This heightened emphasis on the role of power poses a challenge for experimental researchers. In its most authentic form, intersectionality theory de-emphasizes categories of identity and focuses on the underlying political and structural inequalities associated with marginalized race, gender, and class groups. While these identities are inextricably intertwined, intersectionality scholars have argued that emphasizing identity categories yields a narrow interpretation of the power dynamics inherent in social hierarchies (Cho et al., 2013). For example, MacKinnon (2013, p. 1023) argued that research examining intersectional identities

and subsequent stereotyping captures the outcome of a “dynamic intersection of multiple hierarchies”—but not the process that creates those hierarchies.

In this research, I’ll be capturing the outcome of this process, rather than the process itself. Rather than a limitation, communication among disciplines is a strength of intersectionality scholarship. Each field that conducts research in this area provides a novel contribution. Through an emphasis on identity categories, this research answers questions about warmth and competence stereotypes (study 1) and participant-generated stereotypes of intersectional race-class-gender groups (study 2).

Measuring Intersectionality

Research that examines the experience of multiple stigmatized identities began with Black feminist scholarship. Today, intersectionality is inherently interdisciplinary, as it challenges social structures that bridge the fields of women’s/gender studies, ethnic studies, LGBTQ+/queer studies, sociology, and psychology (Collins, 2015). However, translating constructs that are operationalized and measured in highly disparate ways across fields has posed challenges for interdisciplinary researchers. Parent and colleagues (2013) note that in a special issue about intersectional psychological research, the majority of research articles were unable to examine 3-way interactions, primarily due to constraints on sample size and statistical power. Including more than two predictors to increase the descriptive or theoretical contribution of a study can pose financial obstacles for experimental researchers.

The Stereotype Content Model

The stereotype content model argues that many stereotypes can be captured by the two distinct dimensions of warmth and competence, considered to be fundamental in impression formation (Fiske et al., 2002; Fiske et al., 1999). The constructs of warmth and competence provide an informative measure of beliefs about groups that does not reduce preference for any

group to a simple question of liking that group above others (e.g., a feeling thermometer measure). Cuddy, Fiske, & Glick's (2008) warmth and competence measures have become frequently used in studies examining intergroup bias. This is likely in part due to the centrality of warmth and competence when people are forming impressions of others.

Asch (1946) demonstrated that when forming impressions, attributes like "warm" conveyed different information about others relative to attributes like "intelligent" or "industrious" (similar to competence). Rosenberg, Nelson, & Vivekananthan (1968), found that two measures "intellectual good/bad" (similar to "competence") and "social good/bad" (similar to "warmth") could effectively represent participants' perceptions of another person. Wojciszke and colleagues demonstrated that warmth (or morality) and competence are central when forming impressions of close others, work colleagues, and when thinking about past social interactions (Wojciszke, 1994; Wojciszke, Abele, & Baryla, 2009; Wojciszke, Bazinska, & Jaworski, 1998). Cuddy and colleagues (2008) argue that there is evidence for spontaneous stereotyping of social groups using warmth and competence related words, as demonstrated through a re-analysis of the Princeton stereotyping articles (see Gilbert, 1951; Karlins, Coffman, & Walters, 1969; Katz & Braly, 1933). Out of 100 adjectives, 17 traits fell into the "warmth" category, while 33 trait words fell into the "competence" category.

Research on the stereotype content model in US samples have demonstrated that men are stereotyped as high in competence but low in warmth, while women are stereotyped as low in competence but high in warmth (Glick & Fiske, 1999). Asian Americans, like "men" (generally) are perceived as high in competence, but low in warmth—introducing questions about how Asian American women may be stereotyped, and how these beliefs could be further qualified by socioeconomic labels (Fiske et al., 2002). Some social groups fall into the cluster of high competence *and* high warmth (e.g., "Middle-class," "White," and "Americans") while others fall

into the cluster of low competence and low warmth (“Poor,” “Welfare recipients”; Cuddy et al., 2007). This is especially notable given the number of class labels that fall into these clusters. Taken together, the stereotype content literature provides some clues about how intersectional labels may be perceived.

The Present Research

This research empirically tests assumptions of intersectionality theory by comparing the contributions of the additive, multiplicative, and intersectional perspectives for assessing stereotypic beliefs toward intersectional identities. I further understandings of stereotypes toward these groups by capturing different *types* of reactions attributed to these social groups, rather than valence alone. Study 1 aims to distinguish the additive from the multiplicative perspectives. While the additive perspective is a useful simplification in cases where simple categories (defined by class alone, race alone, or gender alone) have broad stereotypes associated with them (e.g., lower class people are stereotyped as low in competence; Darley & Gross, 1983), evidence of 2- or 3-way interactions supports the critical contribution of the multiplicative perspective.³ These interactions suggest that qualifying a single predictor (e.g., race, class) with another (e.g., gender) alters the stereotypic representation of that group in people’s minds. In study 2, I acknowledge that warmth and competence beliefs do not fully capture stereotypes about these complex identities. Intersectional researchers have commented that categorical approaches might encourage such a narrow a focus that unique aspects of group attributes are missed (McCall, 2005). Study 2 aims to identify whether there are stereotypes that are unique to each group.

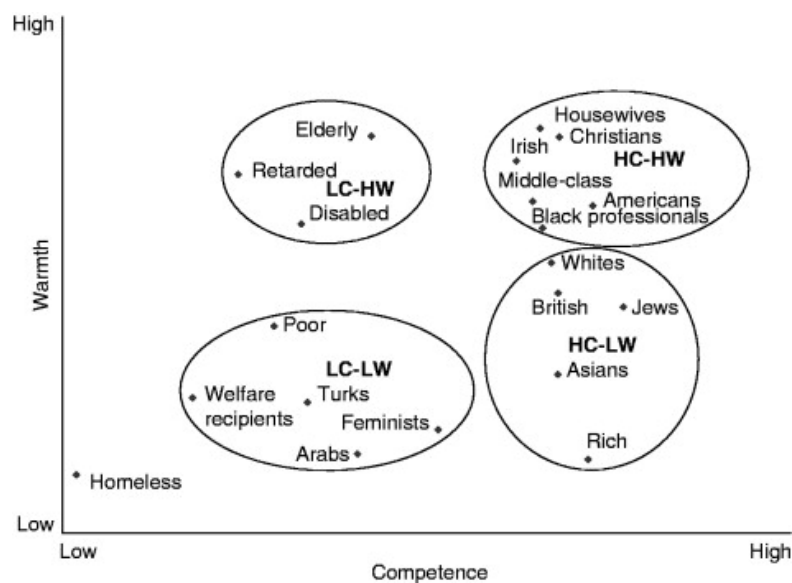
Study 1

³ The multiplicative perspective would typically predict worse outcomes for multiply-marginalized groups relative to the additive perspective, but an interaction could be consistent with worse *or* better outcomes than expected from main effects.

This study examined how class, race, and gender stereotypes intersect. Borrowing from previous work on the stereotype content model, a central aim of this work was to document the relationship between exposure to class, race, and gender-based identity groups and perceptions of warmth and competence (Cuddy et al., 2007; see Figure 1). This was a between-subjects, factorial experiment. Participants were provided a demographic category label defined by class, race, and gender (e.g., wealthy Black man, poor Asian woman). Participants were then asked to rate that group with respect to warmth and competence (Fiske, 1998; Fiske et al., 2002; Fiske et al., 1999).

Figure 1

Example Figure of Warmth and Competence Beliefs toward Social Groups



Note. From Fiske, Cuddy, & Glick (2007); a mapping of various social groups as a function of perceived warmth and competence.

Hypotheses

All hypotheses were preregistered prior to viewing or analyzing study 1 data (https://aspredicted.org/MCV_9WG). I predicted the following:

H1–3: In line with the additive perspective, I predicted that there would be main effects of class, race, and gender, specifically:

H1a: There would be a main effect of class, such that the poor target group would be evaluated lower in warmth relative to the middle-class and wealthy target groups.

H1b: There would be a main effect of class, such that the poor target group would be evaluated lower in competence relative to the middle-class and wealthy target groups.

H2a: There would be a main effect of race, such that the White target group would be evaluated higher in warmth than the Black, Hispanic, and Asian target groups.

H2b: There would be a main effect of race, such that the White and Asian target groups would be evaluated higher in competence than the Black and Hispanic target groups.⁴

H3a: There would be a main effect of gender, such that women would be evaluated higher in warmth relative to men.

H3b: There would be a main effect of gender, such that men would be evaluated higher in competence relative to women.

The above predictions capture prevalent stereotypes toward these groups when only a singular identity is considered, and I predicted that the average of the more specific patterns for each intersecting target group would at least approximate these well-known stereotypes.

However, the above assumptions fail to capture how stereotypic beliefs may be altered when considering comparisons between non-marginalized, singularly-marginalized, or multiply-marginalized identities on similar dimensions. This is captured through examining 2- and 3-way interactions under the assumptions of the multiplicative perspective. Given the wide variety of

⁴ With respect to Hypotheses 2a & 2b, social desirability may have influenced responses such that participants were unwilling to report stereotypical attitudes toward the Black, Hispanic, and Asian groups, or, conversely, reported relatively more negative stereotypical attitudes toward the White group, to appear less prejudiced. I noted this *a priori* to interpret results that do not correspond with current findings in the stereotyping literature toward these groups (e.g., results suggesting that White or Asian men are perceived as low in competence relative to other findings in the SCM literature).

group comparisons available, I constrained my predictions to focus on Black women—where intersectionality scholarship began and where empirical tests of key assumptions of intersectionality theory may be particularly relevant.

H4-5: In line with the multiplicative perspective, I predicted that there would be 2- and 3-way interactions between class, race, and gender, specifically:

H4a: Black women would be evaluated lower in warmth than White women and evaluated similarly in warmth to Black men. Specifically, there would be an interaction between target race and target gender, such that the warmth gap between Black men and women would be smaller than the warmth gap between White men and women. In other words, the warmth rating of Black women would be lower than one would expect knowing only the warmth ratings of White men, White women, and Black men.

H4b: Black women would be evaluated lower in competence than Black men and White women. Specifically, there would be an interaction between target race and target gender, such that the competence rating of Black women would be lower than one would expect knowing only the competence ratings of White men, White women, and Black men.

H5a: The difference in warmth between Black targets and White targets would be largest when those targets were also lower class and women. In other words, lower class Black women would be stereotyped as lower in warmth compared to other class and gender groups between the Black and White race groups.

H5b: The difference in competence between Black targets and White targets would be largest when those targets were also lower class and women. In other words, lower class Black women would be stereotyped as lower in competence compared to other class and gender groups between the Black and White race groups.

Method

Participants

Data were collected from Prolific in March 2023 from 2599 participants. For inclusion in the study, participants were required to be 18 years of age and currently residing in the United States. A sensitivity analysis suggested that this sample provided 95% power to detect main effects and interactions in an ANOVA model at effect sizes of $d = 0.20$ ($\eta_p^2 = 0.01$) or larger.

Race and Gender. The sample contained 1174 women (45.2%), 1184 men (45.6%), 34 non-binary people (1.3%), and 6 agender people (0.2%). The mean age was 40.08 years ($SD = 14.04$). Most participants were White (1761; 67.8%); 220 participants (8.5%) were East Asian, 58 participants were South Asian (2.2%), 201 participants (7.7%) were Hispanic, and 232 participants (8.9%) were Black/African American. The sample contained 134 participants who selected a different race/ethnicity option.⁵

Education and Income. Regarding educational attainment, 14.0% of participants had formal education less than or up to a high school degree, 20.2% reported having some college, 8.1% had a 2-year degree, 36.5% had a 4-year degree, and 13.7% of participants had formal education beyond a 4-year degree. Regarding income, 23.8% of participants reported a total combined family or household annual income of \$34,999 or less, 11.9% reported 35,000 to \$49,999, 17.9% reported \$50,000 to \$74,999, 14.0% reported \$75,000 to \$99,999, 13.8% reported \$100,000 to \$149,999, and 8.2% reported a total combined family or household annual income greater than \$150,000. 270 participants (10.4%) reported that they were unsure or declined to state.⁶ See Table 1 for a full description of participant demographics.

⁵ We had 8 participants indicate that they were either Native Hawaiian/Pacific Islander (8, 0.3%) or Native American/Alaska Native (38, 1.5%). We had 88 participants indicate being biracial, multiracial, or selected “other.” Multiple options could be selected for race ethnicity. Thus, the percentages and participants reported for race described here do not add up to 100 percent or 2599 participants. Of the 1761 participants who selected White, 1620 participants selected only White (not biracial or multiracial).

⁶ I asked participants a question regarding whether their responses were intended to be jokes while taking this survey; “People take online surveys for a lot of reasons. Some people give serious answers in online surveys and other people give joking responses. Were any of your answers in this survey intended as jokes? (Your response to this question will help us understand your other answers. It cannot be used to determine your eligibility for any

Table 1*Participant Demographics*

Income		Education		Race		Gender		Sexual Orientation	
Less than 34,999	619 23.8%	High School Degree	364 14.0%	White	1761 67.8%	Men	1184 45.6%	Straight	1949 75.0%
35,000 to 74,999	774 29.8%	Some College	735 28.3%	Hispanic	201 7.7%	Women	1174 45.2%	Gay /Lesbian	121 4.7%
75,000 to 149,999	723 27.8%	4-year Degree	949 36.5%	Black/ African American	232 8.9%	Nonbinary	34 1.3%	Bisexual	227 8.7%
More than 150,000	213 8.2%	Graduate Degree	357 13.7%	East Asian	220 8.5%	Agender	6 0.2%	Pansexual	48 1.8%
Unsure/ Declined to state	270 10.4%	Unsure/ Declined to state	194 7.5%	Other	130 5.0%	Self- described	7 0.3%	Asexual	53 2.0%

Note on Attrition. The majority of participants completed the entire survey; 2401/2599, 92.4%. Of the participants who chose to leave the study early, 141 participants remained long enough to provide their quantitative warmth and competence beliefs regarding both their intersectional target and their perception of the “typical American”. The remaining 57 participants may have completed some measures, but many completed none at all. A large majority of these participants left during the introduction/instruction portion of the survey. 53 of these participants never saw their target class-race-gender condition. I analyzed all data available for each test reported below.

Materials and Measures

Target Social Groups. Social groups were determined with the goal of establishing a mapping of the stereotype content of intersecting race, gender, and class identities. Four racial

reward or incentive.)” In study 1, 42 participants (1.6%) failed to indicate that their answers were not jokes. Per the preregistration, results are reported with these participants included. However, I note that all analyses were run with these participants excluded and all key results remain the same. This is true for both studies described in this report.

groups were chosen due to the frequency and familiarity of stereotypes associated with these groups among a sample of US Americans. The racial groups chosen for this purpose were Asian people, Black people, Hispanic people, and White people. The following labels were evaluated with respect to warmth and competence evaluations (see Table 2).

Table 2

All Labels for Study 1

Race (4)	Class (3)	Gender (3)	Labels
Asian	Poor	Men	Poor Asian Men
		Women	Poor Asian Women
		People	Poor Asian People
	Middle-class	Men	Middle-class Asian Men
		Women	Middle-class Asian Women
		People	Middle-class Asian People
	Wealthy	Men	Wealthy Asian Men
		Women	Wealthy Asian Women
		People	Wealthy Asian People
Black	Poor	Men	Poor Black Men
		Women	Poor Black Women
		People	Poor Black People
	Middle-class	Men	Middle-class Black Men
		Women	Middle-class Black Women
		People	Middle-class Black People
	Wealthy	Men	Wealthy Black Men
		Women	Wealthy Black Women
		People	Wealthy Black People
Hispanic	Poor	Men	Poor Hispanic Men
		Women	Poor Hispanic Women
		People	Poor Hispanic People
	Middle-class	Men	Middle-class Hispanic Men
		Women	Middle-class Hispanic Women
		People	Middle-class Hispanic People
	Wealthy	Men	Wealthy Hispanic Men
		Women	Wealthy Hispanic Women
		People	Wealthy Hispanic People
White	Poor	Men	Poor White Men
		Women	Poor White Women
		People	Poor White People
	Middle-class	Men	Middle-class White Men
		Women	Middle-class White Women
		People	Middle-class White People
	Wealthy	Men	Wealthy White Men
		Women	Wealthy White Women
		People	Wealthy White People

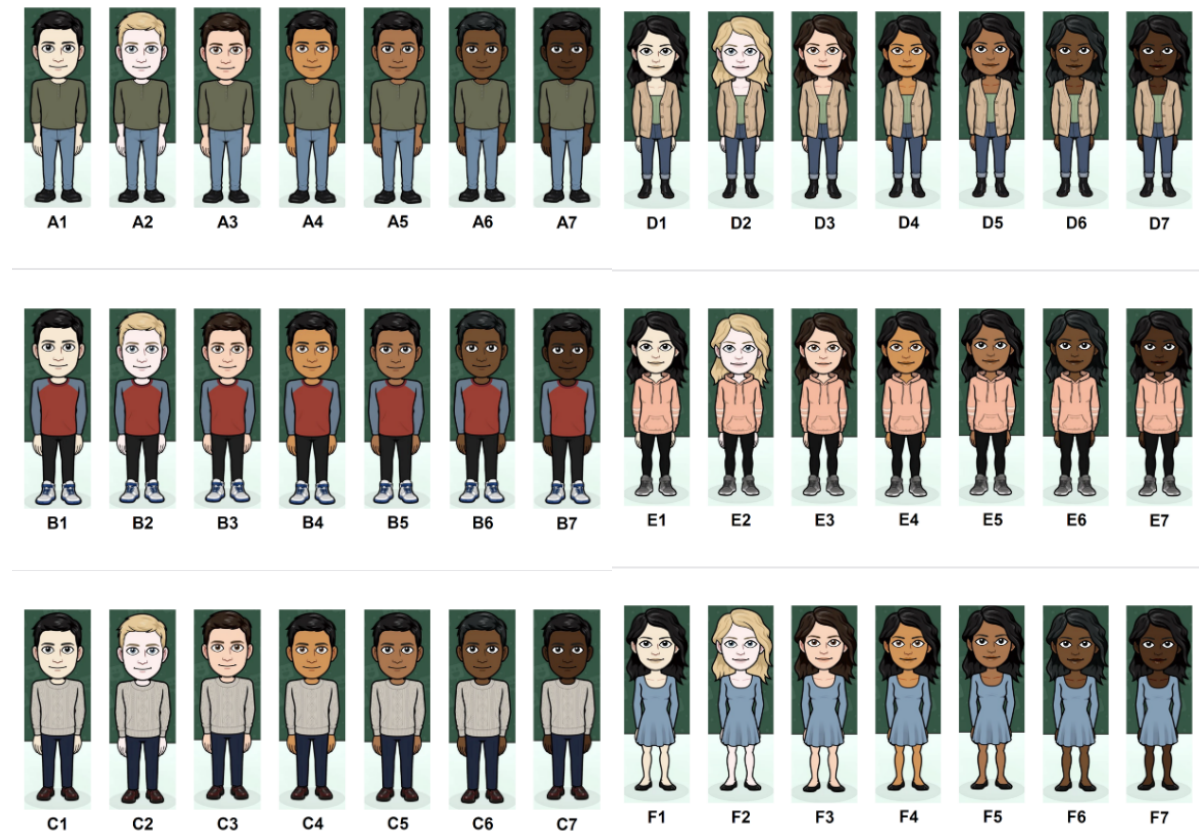
Note. There were 36 target groups total: 4 race/ethnicity groups, 3 class groups, and 3 gender groups.

“Typical American” Comparison Group. In addition to providing a quantitative assessment of their stereotypic beliefs toward an intersectional label, participants were asked to assess their stereotypic beliefs toward the “typical American”. This served a few purposes. First, there is a tendency in psychological research to compare marginalized identities to White identities, reinforcing implicit notions that non-marginalized identities are control groups. One goal of this research was to move away from such comparisons except where there is a theoretical basis for doing so. While the “typical American” label does not explicitly name any race, class, or gender, it is likely that participants imagined a middle-class White man anyway. Research suggests that in the absence of explicit social group labels, people imagine men more often than women (androcentrism; Bailey, LaFrance, & Dovidio; 2019). In Western contexts, whiteness operates as a societal norm and default (Bonilla-Silva, 2000; Sue, 2006; Sue, Bingham, Porché-Burke, & Vasquez, 1999). The use of the word “typical” may prime participants to imagine an average (or, in other words, middle-class) person. The “typical American” measure provides an additional comparison point that captures participants’ subjective perceptions of the warmth and competence of a typical American person. Second, it is likely that, when evaluating an intersectional target group label, participants spontaneously brought other social comparison groups to mind.

Participants were asked to narrate their thought process regarding the typical American comparison and any other social groups that may have been salient during their assessment. Participants’ own perceptions of the “typical American” and/or other social groups may have been salient while completing the survey, and salient groups may have differed by their class-race-gender target. Asking about participants’ perceptions of a typical American provided an opportunity to learn additional information about other groups that were salient to participants.

Warmth and Competence. Participants were asked to rate their label with respect to warmth and competence. Specifically, they were asked “For the following characteristics, to what extent do you think that [label] are...” The traits were provided below the question and participants responded to each item on a 1 (not at all) to 7 (very much) scale. The warmth scale was composed of the trait words “warm,” “kind,” “friendly,” and “sincere.” The competence scale was composed of the words “intelligent,” “confident,” “competent,” “skillful,” and “able” (warmth and competence; Cuddy et al., 2007).

Colorism Measure. Participants’ mental imagery of the skin tone of targets was likely to vary, possibly as a function of target class. To test whether wealthier, warmer, or more competent people would be viewed as having lighter skin tones, an indirect colorism measure was created. Avatars, created using bitmoji.com, were used to simulate various skin tones. Participants were told they were selecting the avatar that best represented the target in their mind. To disguise the purpose of the measure, multiple clothing options were also provided for participants to choose from. Skin tones varied across seven avatars from very light to very dark (see Figure 2).

Figure 2*Study 1 Bitmoji Measure Avatars*

Note. All participants were asked to select the avatar that best represented their target. Participants received the gender of the avatars in a randomized order. Some participants saw the women avatars in the first set, and the men in the second set.

Procedure

The survey for study 1 was hosted online via Qualtrics, which participants were directed to using the online recruitment platform, Prolific. After accessing the survey, reviewing the consent document, and agreeing to participate, participants were instructed that they would be evaluating a social group with respect to warmth and competence, as well as reporting their general attitudes toward society. After accessing the consent and instructions pages, participants were randomly assigned to one of 36 potential race-class-gender combinations. Participants were asked to think of the “typical American” and complete warmth and competence evaluations and

were also presented with their intersectional target label and asked to complete similar warmth and competence evaluations. The order of these two tasks was randomized. Participants then completed the colorism measure described above (see Figure 2).

Participants were then asked qualitative questions pertaining to their thought process while completing the previous measures. First, they were asked “When you were asked to evaluate the ‘typical American,’ who did you picture? Please describe, based on your earlier evaluation, what you imagine the ‘typical American’ to look like” with the goal of obtaining the sociodemographic profile of participants’ perceptions of an average American, and thus their potential comparison group while completing the survey. Second, participants were asked to “Narrate your thought process from when you evaluated [label]”. Next, participants were asked “While answering the survey questions, did any other social groups come to mind?” Participants were given the opportunity to describe any other social groups that may have been operating as comparison groups in an open-ended format. Finally, participants completed various demographic measures before being thanked for their participation and compensated for their time.

Results and Discussion

This was a between-subjects, experimental study. Each participant assessed a singular, intersectional label (e.g., “middle-class Black man”). I ran ANOVAs with class (3 levels; poor, middle-class, rich), race (4 levels; Asian, Black, Hispanic, White), and gender (3 levels; men, people, women) as predictor variables and warmth and competence beliefs as outcome measures.

I was also interested in examining differences between groups with highly disparate mean warmth and competence scores, therefore I compared all groups to one another, producing a large number of pairwise comparisons (some of which overlap with the simple effects in the ANOVA described above). Given the large number of comparisons, I used a Tukey test to

account for the inflated familywise error rate. Within the results, I provide p -values, confidence intervals, and (in some cases) effect sizes to describe pairwise comparisons. I ran Tukey post-hoc tests to obtain these values.

Overall Patterns of Target Group Differences

The descriptive aim of this research was to provide an overview of patterns of relationships between identity categories with respect to perceived warmth and competence. The theoretical aim of this research was to test hypotheses in line with the assumptions of intersectionality theory. In this section, I address the descriptive aim by providing an overview of patterns of perceived warmth and competence. I document all main effects and interactions and describe the patterns for significant effects, emphasizing some comparisons with both expected and unexpected differences. In a subsequent section (“Addressing Individual Hypotheses”), I provide a less detailed description of the overall results but address each hypothesis directly, focusing on the theoretical aim of this research. As some overall patterns (e.g., main effects) overlap with specific hypotheses, some results are described in both sections. Tables and figures describing group means can be found in the former section (“Overall Patterns of Target Group Differences”).

Warmth and Competence. Participants were asked to assess their beliefs about both their class-race-gender target and their interpretation of the “typical American”. The scales had the following reliabilities: target warmth, $\alpha = .93$; target competence, $\alpha = .91$; “typical American” warmth, $\alpha = .91$; and “typical American” competence, $\alpha = .87$. See Table 3 for details on each scale.

Table 3*Descriptive Statistics for Key Outcome Measures*

		Twarmth	Tcomp	TAwarmth	TAcomp
N	Valid	2536	2536	2542	2542
	Missing	63	63	57	57
Mean		4.76	5.10	4.55	4.80
Mean SE		0.02	0.02	0.02	0.02
SD		1.16	1.12	1.03	0.91
Skewness		-0.38	-0.54	-0.15	-0.05
S.E. Skewness		0.05	0.05	0.05	0.05
Minimum		1.00	1.00	1.00	1.00
Maximum		7.00	7.00	7.00	7.00

Note. Twarmth = target warmth rating, Tcomp = target competence rating, TAwarmth = “typical American” warmth rating, TAcomp = “typical American” competence rating.

Target Warmth. The class, race, and gender of the target each had an impact on the participants’ warmth-related stereotypic beliefs toward the target. A main effect of target gender, $F(2, 2500) = 13.18, p < .001, \eta^2 = .010$; a main effect of target race, $F(3, 2500) = 53.08, p < .001, \eta^2 = .060$; and a main effect of target class were found, $F(2, 2500) = 30.46, p < .001, \eta^2 = .024$.

With respect to gender, women ($M = 4.88, SD = 1.19$) and people ($M = 4.80, SD = 1.14$) were rated similarly; $p = .320; SE = 0.05; 95\%CI [-0.05, 0.20]$. Men ($M = 4.60, SD = 1.13$) were rated lower in warmth than both women ($p < .001; SE = 0.05; 95\%CI [-0.41, -0.16]$) and people ($p < .001; SE = 0.05; 95\%CI [-0.33, -0.08]$). With respect to class, the middle-class ($M = 4.93, SD = 1.07$) were perceived similarly to the poor ($M = 4.82, SD = 1.13; p = .094; SE = 0.05; 95\%CI [-0.01, 0.24]$). Both the middle class ($p < .001; SE = 0.05; 95\%CI [0.27, 0.52]$) and the poor ($p < .001; SE = 0.05; 95\%CI [0.16, 0.41]$) were perceived as warmer than the wealthy ($M =$

4.53, $SD = 1.23$). With respect to target race, the Hispanic target group ($M = 5.13$, $SD = 1.07$) was evaluated the highest in warmth, followed by the Black target group ($M = 4.84$, $SD = 1.13$), then the Asian target group ($M = 4.71$, $SD = 1.11$), and the White target group ($M = 4.36$, $SD = 1.19$). The differences in warmth between the Hispanic and Black target groups ($p < .001$; $SE = 0.06$; 95%CI [0.13, 0.45]) and the Asian and White target groups ($p < .001$; $SE = 0.06$; 95%CI [0.19, 0.50]) were significant. The Black and Asian target groups were evaluated similarly; $p = .130$; $SE = 0.06$; 95%CI [-0.02, 0.29].

There was a two-way interaction between target gender and class, $F(4, 2500) = 2.67$, $p = .031$, $\eta^2 = .004$; as well as a two-way interaction between target race and class, $F(6, 2500) = 8.76$, $p < .001$, $\eta^2 = .021$. Gender and race each operated interactively (or multiplicatively) with class, such that participants' warmth-related stereotypic beliefs for a particular class status differed depending on the gender and race of the target. Across classes, women elicited the highest warmth ratings, except for wealthy women. Poor women ($M = 4.99$, $SD = 1.14$) were evaluated higher in warmth relative to poor men ($M = 4.62$, $SD = 1.14$); $p = .008$; $SE = 0.10$; 95%CI [0.05, 0.65]. Middle-class women ($M = 5.13$, $SD = 1.06$) were evaluated higher in warmth relative to middle-class men ($M = 4.73$, $SD = 1.04$; $p < .001$; $SE = 0.09$; 95%CI [0.12, 0.70]). Conversely, wealthy men ($M = 4.42$, $SD = 1.18$) and women ($M = 4.50$, $SD = 1.28$) were rated similarly and relatively low in warmth; $p = .998$; $SE = 0.10$; 95%CI [-0.36, 0.22].

With respect to race and class, both the Black and Hispanic target groups were evaluated high in warmth. However, for the Black target group, the middle-class ($M = 5.04$, $SD = 1.02$) and the wealthy ($M = 4.85$, $SD = 1.14$) were evaluated similarly; $p = .842$; $SE = 0.11$; 95%CI [-0.17, 0.55]. Middle-class Black people ($p = .015$; $SE = 0.11$; 95%CI [0.04, 0.74]) were rated higher in warmth than poor Black people ($M = 4.66$, $SD = 1.19$), although the difference was not significant between poor and wealthy Black people ($p = .782$; $SE = 0.11$; 95%CI [-0.54, 0.15]).

Conversely, middle-class Hispanic people ($M = 5.25$, $SD = 0.99$) were evaluated higher in warmth than the wealthy ($M = 5.02$, $SD = 1.06$); $p = .546$; $SE = 0.10$; 95%CI [-0.11, 0.57]. In the Hispanic target group, the middle-class was rated similarly in warmth to poor Hispanic people ($M = 5.11$, $SD = 1.14$); $p = .981$; $SE = 0.11$; 95%CI [-0.22, 0.49]. The difference in warmth ratings between poor and wealthy Hispanic people was not significant ($p = .999$; $SE = 0.11$; 95%CI [-0.27, 0.45]). The two-way interaction between target gender and race ($F(6, 2500) = 0.89$, $p = .502$, $\eta^2 = .002$) and the three-way interaction between target class, race, and gender were non-significant, $F(12, 2500) = 0.88$, $p = .565$, $\eta^2 = .004$.

Target Competence. Similar to warmth, target class, race, and gender each had an impact on the participants' competence-related stereotypic beliefs toward the target. A main effect of target gender, $F(2, 2500) = 3.07$, $p = .046$, $\eta^2 = .002$; a main effect of target race, $F(3, 2500) = 37.04$, $p < .001$, $\eta^2 = .043$; and a main effect of target class were found, $F(2, 2500) = 231.87$, $p < .001$, $\eta^2 = .156$. Across racial and gender groups, participants evaluated poor targets as lower in competence than wealthy targets. Poor Asian people ($M = 4.78$, $SD = 1.00$) were rated lower in competence than wealthy Asian people ($M = 5.68$, $SD = 1.11$; $p < .001$; $SE = 0.17$; 95%CI [-1.54, -0.27]); poor Black people ($M = 4.72$, $SD = 1.08$) were rated lower in competence than wealthy Black people ($M = 5.98$, $SD = 0.77$); $p < .001$; $SE = 0.16$; 95%CI [-1.89, -0.64]; poor Hispanic people ($M = 4.79$, $SD = 1.11$) were rated lower in competence than wealthy Hispanic people ($M = 5.64$, $SD = 0.87$); $p < .001$; $SE = 0.17$; 95%CI [-1.51, -0.19]; and poor White people ($M = 4.12$, $SD = 1.16$) were rated lower in competence than wealthy White people ($M = 5.13$, $SD = 1.02$); $p < .001$; $SE = 0.17$; 95%CI [-1.65, -0.38].

With respect to target gender, men ($M = 5.03$, $SD = 1.15$) and women ($M = 5.11$, $SD = 1.11$) were evaluated similarly on competence; $p = .192$; $SE = 0.05$; 95%CI [-0.20, 0.03]. The highest competence rating was elicited by the "people" target group ($M = 5.17$, $SD = 1.10$), but

was not significantly different from the women target group; $p = .420$; $SE = 0.05$; 95%CI [-0.05, 0.18]. The only distinct gender groups were found when comparing the high warmth rating of the “people” target group to the low warmth rating of the “men” target group; $p = .008$; $SE = 0.05$; 95%CI [0.03, 0.26].

With respect to target race, the Asian target group was evaluated the highest in competence ($M = 5.32$, $SD = 1.04$), similar to the Hispanic target group ($M = 5.20$, $SD = 1.03$), and above the Black ($M = 5.13$, $SD = 1.21$) target group. The Asian target group was distinct from the Black ($p = .003$; $SE = 0.06$; 95%CI [0.05, 0.34]), but not the Hispanic target group ($p = .104$; $SE = 0.06$; 95%CI [-0.02, 0.27]) and the Black and Hispanic groups were perceived similarly with respect to competence; $p = .651$; $SE = 0.06$; 95%CI [-0.21, 0.08]. The White target group was evaluated the lowest in competence ($M = 4.76$, $SD = 1.13$), and was distinct from both the Hispanic ($p < .001$; $SE = 0.06$; 95%CI [-0.58, -0.29]) and Black target groups ($p < .001$; $SE = 0.06$; 95%CI [-0.52, -0.23]).

Gender and class each operated interactively (or multiplicatively) with race, such that participants’ competence-related stereotypic beliefs for a particular racial identity differed depending on the gender and class status of the target. There was a two-way interaction between target gender and race, $F(6, 2500) = 3.36$, $p = .003$, $\eta^2 = .008$; as well as a two-way interaction between target class and race, $F(6, 2500) = 2.51$, $p = .020$, $\eta^2 = .006$. Generally, the middle-class and the wealthy were rated higher in competence than the poor target group, but the difference between the middle-class and the wealthy was still significant. This was not the case for the White target group.

For example, with respect to target class and race, wealthy Black people ($M = 5.75$, $SD = 0.98$), were rated higher in competence than middle-class Black people ($M = 5.32$, $SD = 0.92$); $p < .001$; $SE = 0.10$; 95%CI [0.11, 0.76]. Middle-class Black people were rated higher in

competence than poor Black people ($M = 4.41$, $SD = 1.24$); $p < .001$; $SE = 0.10$; 95%CI [0.59, 1.23]. This pattern was the same for the Hispanic target group (all p -values $< .001$). The Asian and White target groups diverged from this pattern. Wealthy White ($M = 5.14$, $SD = 0.99$) and middle-class White targets ($M = 4.96$, $SD = 1.02$) were evaluated similarly with respect to competence; $p = .804$, $SE = 0.10$, 95%CI [-0.14, 0.50]. The difference between middle-class and poor White targets ($M = 4.18$, $SD = 1.14$), was significant; $p < .001$, $SE = 0.10$, 95%CI [0.46, 1.10]. The same pattern was found in the Asian target group. Wealthy Asian ($M = 5.73$, $SD = 0.95$) and middle-class Asian targets ($M = 5.48$, $SD = 0.85$) were evaluated similarly with respect to competence; $p = .356$, $SE = 0.10$, 95%CI [-0.08, 0.56]. The difference between middle-class and poor Asian targets ($M = 4.76$, $SD = 1.04$) was significant; $p < .001$, $SE = 0.10$, 95%CI [0.40, 1.04].

With respect to target gender and race, Black men ($M = 4.87$, $SD = 1.26$) were rated similarly in competence to Black women ($M = 5.19$, $SD = 1.22$); $p = .117$; $SE = 0.11$, 95%CI [-0.67, 0.03]. However, Black people ($M = 5.38$, $SD = 1.08$) were evaluated higher in competence than Black men; $p < .001$, $SE = 0.10$, 95%CI [0.18, 0.85]. White men ($M = 4.81$, $SD = 1.16$) were also rated similarly in competence to White women ($M = 4.73$, $SD = 1.09$); $p = .999$; $SE = 0.11$, 95%CI [-0.28, 0.43]. However, White people ($M = 4.73$, $SD = 1.14$) were also evaluated similarly in competence to White men; $p = .999$, $SE = 0.11$, 95%CI [-0.43, 0.28]. Generally, competence scores varied across gender more in the Black target group than the White target group. One possible explanation for this finding is that US Americans have relatively more homogenous competence beliefs about White people, or that gender influences competences stereotypes more for Black people.

The two-way interaction between target gender and class ($F(4, 2500) = 2.07$, $p = .083$, $\eta^2 = .003$) and the three-way interaction between target class, race, and gender were non-

significant, $F(12, 2500) = 1.26, p = .237, \eta^2 = .006$. See Table 4 for a full breakdown of means and standard deviations, and Figure 3 for a visualization of these results by warmth and competence.

Table 4

Warmth and Competence Beliefs by Label (Study 1)

Label	Warmth Mean (SD)	Competence Mean (SD)	N
Poor	4.82 (1.13)	4.51 (1.17)	846
Middle-class	4.93 (1.07)	5.24 (0.94)	847
Wealthy	4.53 (1.23)	5.56 (0.98)	843
Asian	4.71 (1.11)	5.32 (1.04)	638
Black	4.84 (1.13)	5.13 (1.21)	638
Hispanic	5.13 (1.06)	5.20 (1.03)	633
White	4.36 (1.19)	4.76 (1.13)	627
Men	4.60 (1.13)	5.03 (1.15)	845
Women	4.88 (1.19)	5.11 (1.11)	839
People	4.80 (1.14)	5.17 (1.10)	852
Poor Men	4.63 (1.14)	4.35 (1.15)	286
Middle-class Men	4.73 (1.04)	5.17 (0.93)	290
Wealthy Men	4.42 (1.18)	5.59 (1.00)	269
Poor Women	4.99 (1.14)	4.58 (1.22)	270
Middle-class Women	5.13 (1.06)	5.27 (0.96)	300
Wealthy Women	4.50 (1.28)	5.46 (0.95)	269
Poor People	4.85 (1.09)	4.59 (1.12)	290
Middle-class People	4.93 (1.09)	5.30 (0.92)	257
Wealthy People	4.66 (1.21)	5.61 (0.99)	305
Asian Men	4.53 (1.07)	5.30 (1.04)	196
Asian Women	4.84 (1.13)	5.36 (1.00)	227
Asian People	4.73 (1.10)	5.31 (1.08)	215
Black Men	4.63 (1.11)	4.87 (1.26)	245
Black Women	4.94 (1.20)	5.19 (1.22)	180
Black People	5.00 (1.06)	5.38 (1.08)	213
Hispanic Men	4.97 (1.06)	5.18 (1.03)	198
Hispanic Women	5.24 (1.05)	5.16 (1.08)	222
Hispanic People	5.16 (1.07)	5.25 (0.99)	213
White Men	4.27 (1.15)	4.81 (1.16)	206
White Women	4.50 (1.25)	4.73 (1.09)	210
White People	4.32 (1.16)	4.73 (1.14)	211
Poor Asian Men	4.79 (1.02)	4.67 (0.99)	61
Poor Asian Women	5.03 (1.05)	4.83 (1.13)	73
Poor Asian People	4.93 (1.00)	4.78 (1.00)	81
Middle-class Asian Men	4.61 (0.97)	5.35 (0.91)	68
Middle-class Asian Women	5.08 (1.02)	5.51 (0.79)	74
Middle-class Asian People	4.68 (1.17)	5.59 (0.86)	66
Wealthy Asian Men	4.21 (1.15)	5.82 (0.90)	67

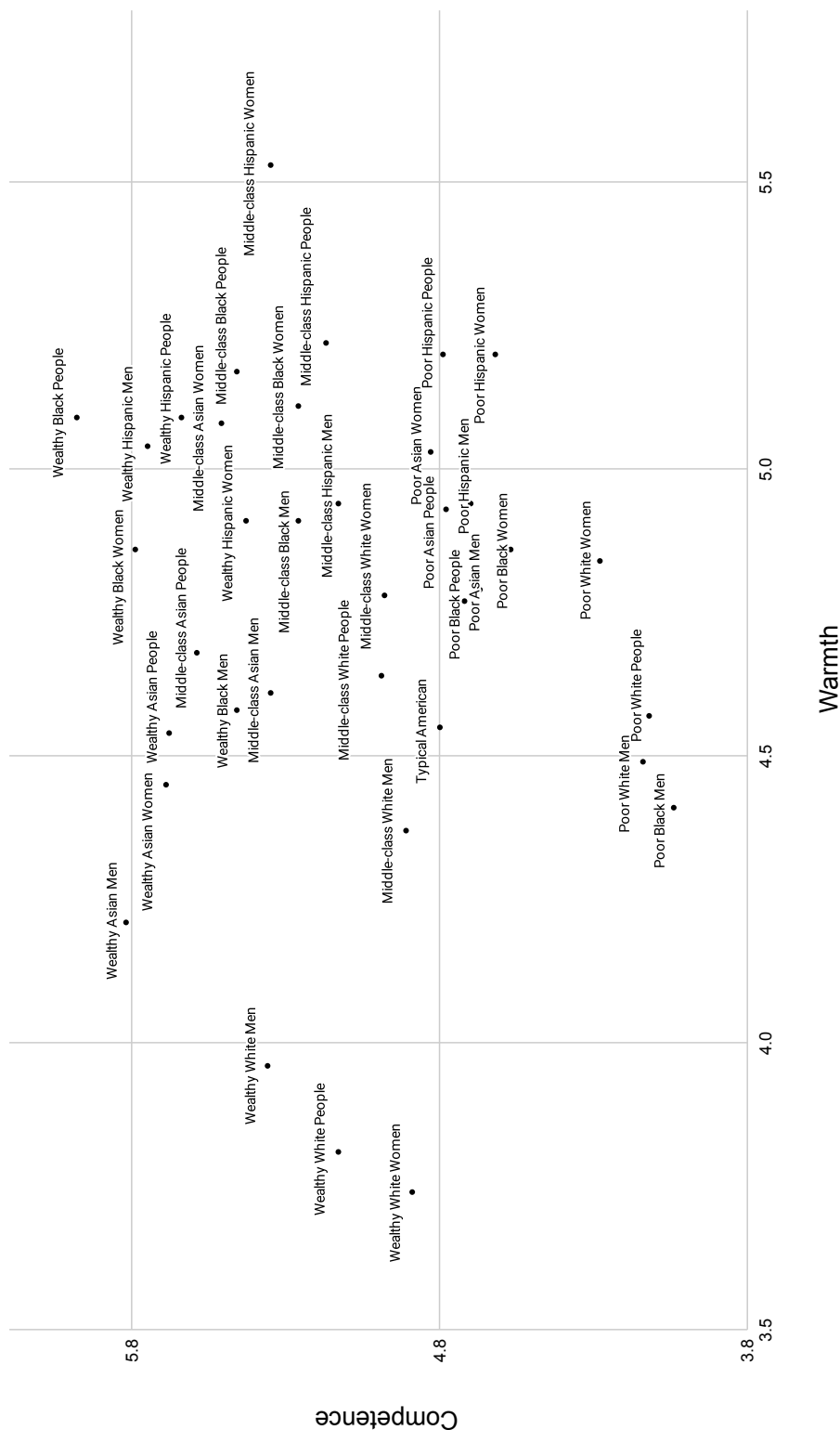
Wealthy Asian Women	4.45 (1.20)	5.69 (0.84)	80
Wealthy Asian People	4.54 (1.13)	5.68 (1.11)	68
Poor Black Men	4.41 (1.10)	4.04 (1.18)	90
Poor Black Women	4.86 (1.28)	4.57 (1.37)	64
Poor Black People	4.77 (1.18)	4.72 (1.08)	77
Middle-class Black Men	4.91 (0.99)	5.26 (0.85)	84
Middle-class Black Women	5.11 (1.07)	5.26 (1.02)	57
Middle-class Black People	5.17 (1.00)	5.46 (0.92)	58
Wealthy Black Men	4.58 (1.21)	5.46 (1.21)	71
Wealthy Black Women	4.86 (1.24)	5.79 (0.84)	59
Wealthy Black People	5.09 (0.94)	5.98 (0.77)	78
Poor Hispanic Men	4.94 (1.18)	4.70 (1.16)	66
Poor Hispanic Women	5.20 (1.13)	4.62 (1.16)	67
Poor Hispanic People	5.20 (1.11)	4.79 (1.11)	58
Middle-class Hispanic Men	4.94 (1.03)	5.13 (0.82)	72
Middle-class Hispanic Women	5.53 (0.93)	5.35 (0.95)	86
Middle-class Hispanic People	5.22 (0.95)	5.17 (0.84)	70
Wealthy Hispanic Men	5.04 (0.96)	5.75 (0.79)	60
Wealthy Hispanic Women	4.91 (1.04)	5.43 (0.96)	69
Wealthy Hispanic People	5.09 (1.14)	5.64 (0.87)	85
Poor White Men	4.49 (1.19)	4.14 (1.10)	69
Poor White Women	4.84 (1.10)	4.28 (1.16)	66
Poor White People	4.57 (1.00)	4.12 (1.16)	74
Middle-class White Men	4.37 (1.10)	4.91 (1.11)	66
Middle-class White Women	4.78 (1.07)	4.98 (1.02)	83
Middle-class White People	4.64 (1.13)	4.99 (0.94)	63
Wealthy White Men	3.96 (1.11)	5.36 (0.95)	71
Wealthy White Women	3.74 (1.32)	4.89 (0.94)	61
Wealthy White People	3.81 (1.19)	5.13 (1.02)	74
Typical American	4.55 (1.03)	4.80 (0.91)	2542

Note. Means, standard deviations, and sample sizes for perceived warmth and competence ratings by group. Both

warmth and competence scales consisted of traits measured on a scale from 1 (not at all) to 7 (very much).

Figure 3
Warmth and Competence Beliefs by Label (Study 1)

Note. Scores were obtained through mean warmth and competence scales for each target group. Both warmth and competence were measured on a scale from 1 (not at all) to 7 (very much).



“Typical American” Warmth and Competence. Theoretically, the target class, race, and gender assigned to the participant should solely impact stereotypic beliefs toward the target with those identities—not the participants’ perceptions of the “typical American”. Thus, I would not expect to find any main effects nor interactions on warmth- or competence-related stereotypic beliefs toward the “typical American”. However, I checked for such differences anyway to make sure that the manipulation did not have unintended side effects.

To test this, I ran an ANOVA with target class, race, and gender as predictors and the participants’ warmth- and then competence- related stereotypic beliefs toward the “typical American” as outcome variables. The class, race, and gender of the target did not have an impact on the participants’ warmth-related stereotypic beliefs toward the “typical American”. There were no main effects nor interactions between target class, race, and gender (all p s > .347). However, with respect to competence, there was a main effect of target race, $F(3, 2506) = 3.23$, $p = .022$, $\eta p^2 = .004$.

This suggests that the target race the participant was exposed to may have influenced the way the participant rated the competence of a “typical American”. For example, if participants assessed their intersectional target first, this finding suggests that the race of their target was likely salient and operating as a comparison point when the participant subsequently rated the competence of the “typical American”. Participants completed the warmth and competence assessments for their intersectional target and the “typical American” in a counter-balanced order. This means that participants who were randomly assigned to assess the “typical American” first did so without yet knowing the intersectional target they were assigned to. Conversely, participants who were randomly assigned to assess their intersectional target first would have seen their class-race-gender target prior to assessing the “typical American”.

To address this concern, I ran independent samples *t*-tests for order with competence as the outcome variable for each target racial group. The mean differences by order were non-significant in both the Asian ($p = .623$, $d = 0.04$, 95%CI [-0.12, 0.20]) and White target groups ($p = .295$, $d = 0.08$, 95%CI [-0.27, 0.08]). In the Black target group condition, participant exposure to the target prior to rating the Typical American led to lower overall competence ratings (i.e., when rating the target first; $M = 5.02$, $SD = 1.18$). Competence ratings were higher when participants were unaware they would later evaluate a Black target group when assessing the Typical American (i.e., when rating the typical American first; $M = 5.24$, $SD = 1.23$); $t(1, 636) = 2.27$, $p = .023$, $d = 0.18$, 95%CI [0.03, 0.40]). The same pattern was found in the Hispanic target group; participant exposure to target race prior to rating the typical American led to lower overall competence ratings (i.e., when rating the target first; $M = 5.04$, $SD = 1.01$). Competence ratings were higher when participants were unaware they would later evaluate a Hispanic target group while assessing the typical American (i.e., when rating the typical American first; $M = 5.37$, $SD = 1.03$); $t(1, 631) = 4.14$, $p < .001$, $d = 0.33$, 95%CI [0.18, 0.50].

Collapsing across conditions, with the goal of identifying an overall warmth and competence mean from all participants, the mean for warmth for the “typical American” was 4.55 ($SD = 1.03$, $n = 2542$). The mean for competence for the “typical American” was 4.80 ($SD = 0.91$, $n = 2542$). I ran independent samples *t*-tests comparing all 36 targets to the “typical American” with respect to both warmth and competence. I accounted for the inflated alpha level by adjusting the threshold used for significance: a *p*-value of .05 divided by 36 provided an adjusted significance cut-off of $p = .001$. The only group that was significantly different from the typical American target with respect to warmth was middle class Hispanic women. The groups that were significantly different from the typical American target with respect to competence

were wealthy Asian men, wealthy Asian women, wealthy Asian people, wealthy Black women, wealthy Black people, wealthy Hispanic men, and wealthy Hispanic people.

Colorism Measure. Participants' warmth-related stereotypic beliefs based on target race were moderated by target skin tone; $F(19, 2506) = 2.29, p = .001, \eta^2 = .017$, but competence-related beliefs were not; $F(19, 2506) = 1.50, p = .077, \eta^2 = .011$. Specifically, in the Black target group, lighter skin tones were perceived as stereotypically warmer than darker skin tones. Participants chose from 1 of 7 skin tones. For Black targets, the most frequently chosen skin tones were 5 ($n = 54$), 6 ($n = 282$), and 7 ($n = 245$). The lightest skin tone (5) received the highest warmth ratings ($M = 5.21, SD = 0.88$), followed by the "6" skin tone, although they were not significantly different ($M = 4.85, SD = 1.11$); $p = .149$; $SE = 0.11$, 95%CI [-0.04, 0.59]. The darkest skin tone (7) received the lowest warmth ratings ($M = 4.74, SD = 1.17$), but was similar in rating to the "6" skin tone; $p = .952$; $SE = 0.10$, 95%CI [-0.19, 0.41]. The "7" and "5" skin tone were significantly different with respect to perceived warmth ratings; $p = .010$; $SE = 0.11$, 95%CI [-0.71, 0.05].

The two-way interactions between target race and class on warmth ($F(28, 2456) = 0.88, p = .641, \eta^2 = .010$) and competence ($F(28, 2456) = 1.47, p = .053, \eta^2 = .017$) were not moderated by target skin tone.

I also tested whether wealthy Black people would be perceived as having lighter skin tones than poor Black people. I ran an ANOVA with target class as the predictor variable and skin tone as the outcome variable in only the Black target race condition. The effect of class on skin tone was non-significant; $F(2, 623) = 0.11, p = .892, \eta^2 = .000$. Given the high proportion of participants that selected the darker skin tones, I ran this test again examining just the participants that responded with skin tones "4" to "7" and (separately) with responses "1" to "3"

recoded as “4”. Both tests were nonsignificant; $F(2, 367) = 0.03, p = .974, \eta^2 = .000$; and $F(2, 277) = 0.48, p = .622, \eta^2 = .003$, respectively.

Addressing Individual Hypotheses

I made three hypotheses in line with the additive perspective, suggesting that something can be learned by combining class, race, and gender identities additively. While there were main effects of target class, race, and gender across both warmth and competence measures, they were not necessarily in the predicted direction.

Hypothesis 1. I first predicted that there would be a main effect of class across both the warmth and competence measures, such that the “poor” group would be evaluated less positively relative to the “middle-class” and “wealthy” groups. While I found support for the predicted main effect of class; $F(2, 2500) = 30.46, p < .001, \eta^2 = .024$; the group rated the lowest was the wealthy group ($M = 4.53, SD = 1.23$), followed by the poor ($M = 4.82, SD = 1.13$), with the highest rated being the middle-class ($M = 4.93, SD = 1.07$). The difference between the wealthy and the poor was significant ($p < .001, SE = 0.05, 95\%CI [-0.41, -0.16]$), but the poor and the middle class ($p = .094, SE = 0.05, 95\%CI [-0.24, 0.01]$), were not significantly different with respect to warmth.

The main effect of class was also found for competence; $F(2, 2500) = 231.87, p < .001, \eta^2 = .156$; following the predicted direction. The group rated the lowest in competence was the poor group ($M = 4.51, SD = 1.17$), followed by the middle-class ($M = 5.24, SD = 0.94$), with the wealthy being rated the highest ($M = 5.56, SD = 0.98$). The differences between the poor and the middle-class ($p < .001, SE = 0.05, 95\%CI [-0.85, -0.62]$), as well as the middle-class and the wealthy ($p < .001, SE = 0.05, 95\%CI [-0.43, -0.20]$), were significant.

Hypothesis 2. Secondly, I predicted that there would be a main effect of race, such that the “White” target group would be evaluated the highest in warmth, while the “Asian” and “White” target groups would be evaluated the highest in competence. Target race did influence warmth beliefs; $F(3, 2500) = 53.08, p < .001, \eta^2 = .060$. However, the “Hispanic” target group was rated the highest in warmth ($M = 5.13, SD = 1.06$), followed by the Black target group ($M = 4.84, SD = 1.13$); $p < .001; SE = 0.06; 95\%CI [0.13, 0.45]$. The “Asian” target group ($M = 4.71, SD = 1.11$) was rated relatively higher than the White target group ($M = 4.36, SD = 1.19$), which received the lowest warmth rating; $p < .001; SE = 0.06; 95\%CI [0.19, 0.50]$. The difference between the Asian and Hispanic target groups was also significant; $p < .001; SE = 0.06; 95\%CI [-0.58, -0.26]$.

Target race also influenced competence beliefs; $F(3, 2500) = 37.04, p < .001, \eta^2 = .043$. I found support for my prediction that the “Asian” target group would be rated high in competence, being the target group rated highest on this outcome measure ($M = 5.32, SD = 1.04$), but not significantly higher than the next highest group (the “Hispanic” target group, $M = 5.20, SD = 1.03$); $p = .104; SE = 0.06; 95\%CI [-0.02, 0.27]$. The group rated third highest in perceived competence was the Black target group ($M = 5.13, SD = 1.21$), followed by the “White” target group ($M = 4.76, SD = 1.13$); the Black target group and the White target group ($p < .001; SE = 0.06; 95\%CI [0.23, 0.52]$), were significantly different. However, the difference between the Hispanic target group and the Black target group was not significant ($p = .651; SE = 0.06; 95\%CI [-0.08, 0.21]$).

Hypothesis 3. My third prediction was that there would be a main effect of gender, such that “women” would be evaluated higher in warmth relative to “men”, and that “men” would be evaluated higher in competence relative to “women”. As expected, I did find a main effect of

gender for warmth; $F(2, 2500) = 13.18, p < .001, \eta^2 = .010$; such that the women target group was rated higher in warmth ($M = 4.88, SD = 1.19$) relative to the men target group ($M = 4.60, SD = 1.13$); $p < .001; SE = 0.05; 95\%CI [0.16, 0.41]$. Women and people ($M = 4.80, SD = 1.14$) were rated similarly in warmth; $p = .320; SE = 0.05; 95\%CI [-0.05, 0.20]$. The difference between the people target group and the men target group was significant; $p < .001; SE = 0.05; 95\%CI [0.08, 0.33]$. For competence; $F(2, 2500) = 3.07, p = .046, \eta^2 = .002$; women were rated similarly ($M = 5.11, SD = 1.11$) to the men target group ($M = 5.03, SD = 1.15$), although I predicted that men would be evaluated higher in competence relative to women; $p = .192; SE = 0.05; 95\%CI [-0.20, 0.03]$. Women and people ($M = 5.17, SD = 1.10$) were rated similarly in competence; $p = .420; SE = 0.05; 95\%CI [-0.18, 0.05]$. The people target group was rated higher than the men target group with respect to competence; $p = .008; SE = 0.05; 95\%CI [0.03, 0.26]$.

Hypothesis 4. I also made two hypotheses in line with the multiplicative perspective, which suggests that when individuals experience stereotyping based on multiple identities, the stigma associated with one identity can alter stigma associated with another—resulting in a different severity of stereotyping than the additive perspective alone could suggest. While two-way interactions provided some support for the multiplicative perspective, my specific hypotheses were not supported.

In my fourth hypothesis, I predicted that Black women would be evaluated lower in warmth than White women and evaluated similarly in warmth to Black men. The interaction between target race and target gender on warmth was not significant; $F(6, 2500) = 0.89, p = .502, \eta^2 = .002$. Black women ($M = 4.94, SD = 1.20$) were evaluated similarly to Black men ($M = 4.63, SD = 1.11$) with respect to warmth; $p = .156; SE = 0.11; 95\%CI [-0.05, 0.67]$. Black

women were evaluated higher than White women ($M = 4.50$, $SD = 1.25$) with respect to warmth; $p = .005$; $SE = 0.11$; 95%CI [0.08, 0.82].

I also predicted that Black women would be evaluated lower in competence than Black men and White women. The interaction between target race and target gender on competence was significant; $F(6, 2500) = 3.36$, $p = .003$, $\eta^2 = .008$. Black women ($M = 5.19$, $SD = 1.22$) were evaluated similarly in competence to Black men ($M = 4.87$, $SD = 1.26$; $p = .117$, $SE = 0.11$; 95%CI [-0.03, 0.67]. Black women were rated higher than White women ($M = 4.73$, $SD = 1.09$) with respect to competence; $p = .003$, $SE = 0.11$; 95%CI [0.09, 0.82]. White men ($M = 4.81$, $SD = 1.16$) were rated similarly in competence to White women; $p = .999$, $SE = 0.11$; 95%CI [-0.28, 0.43].

Hypothesis 5. In my fifth hypothesis, I predicted that the “poor Black women” target group would be stereotyped as lower in warmth and competence relative to other class and gender groups within the Black and White race/ethnicity groups. There was no three-way interaction between target class, race, and gender for warmth; $F(12, 2500) = 0.88$, $p = .565$, $\eta^2 = .004$; nor competence; $F(12, 2500) = 1.26$, $p = .237$, $\eta^2 = .006$. Although the overall three-way interaction was non-significant, below I report details of comparisons relevant to this hypothesis.

Warmth. Relative to poor Black women ($M = 4.86$, $SD = 1.28$), poor Black men ($M = 4.41$, $SD = 1.10$) were rated similarly in warmth; $p = .830$; $SE = 0.18$; 95%CI [-0.23, 1.14]; poor White men ($M = 4.49$, $SD = 1.19$) were rated similarly in warmth; $p = .995$; $SE = 0.19$; 95%CI [-0.36, 1.10]; and poor White women ($M = 4.84$, $SD = 1.10$) were rated similarly in warmth; $p = .999$; $SE = 0.19$; 95%CI [-0.71, 0.76]. Relative to wealthy Black women ($M = 4.86$, $SD = 1.24$), wealthy Black men ($M = 4.58$, $SD = 1.21$) were rated similarly in warmth; $p = .999$; $SE = 0.19$; 95%CI [-0.45, 1.03]; wealthy White men ($M = 3.96$, $SD = 1.11$) were rated lower in warmth; $p =$

.002; $SE = 0.19$; 95%CI [0.17, 1.65]; and wealthy White women ($M = 3.74$, $SD = 1.32$) were rated lower in warmth; $p < .001$; $SE = 0.20$; 95%CI [0.36, 1.90]. Poor Black women ($M = 4.86$, $SD = 1.28$) were rated similarly to middle-class Black women ($M = 5.11$, $SD = 1.07$; $p = .999$; $SE = 0.20$; 95%CI [-1.02, 0.52]) and wealthy Black women with respect to warmth ($M = 4.86$, $SD = 1.24$; $p = .999$; $SE = 0.20$; 95%CI [-0.76, 0.76]).

Competence. Relative to poor Black women ($M = 4.57$, $SD = 1.37$), poor Black men ($M = 4.04$, $SD = 1.18$) were rated similarly in competence; $p = .306$. $SE = 0.16$; 95%CI [-0.10, 1.16]; poor White men ($M = 4.14$, $SD = 1.10$) were rated similarly in competence; $p = .898$; $SE = 0.17$; 95%CI [-0.25, 1.09]; and poor White women ($M = 4.28$, $SD = 1.16$) were also rated similarly in competence; $p = .999$; $SE = 0.17$; 95%CI [-0.39, 0.97]. Relative to wealthy Black women ($M = 5.79$, $SD = 0.84$), wealthy Black men ($M = 5.46$, $SD = 1.21$) were rated similarly in competence; $p = .996$; $SE = 0.18$; 95%CI [-0.34, 1.02]; wealthy White men ($M = 5.36$, $SD = 0.95$) were rated similarly in competence; $p = .883$; $SE = 0.18$; 95%CI [-0.25, 1.11]; and wealthy White women ($M = 4.89$, $SD = 0.94$) were rated lower in competence; $p < .001$; $SE = 0.18$; 95%CI [0.20, 1.61]. Poor Black women were rated marginally lower than middle-class ($M = 5.26$, $SD = 1.02$; $p = .059$; $SE = 0.18$; 95%CI [-1.40, 0.01]) and significantly lower than wealthy Black women with respect to competence ($M = 5.79$, $SD = 0.84$); $p < .001$; $SE = 0.18$; 95%CI [-1.92, -0.53]. As discussed above, among Black-White, men-women groups, Black women were rated highest with respect to both warmth and competence. This pattern (and generally the pattern described above), persisted regardless of class status (see Figure 3). See appendix for information about interactions with participant race, class, and gender.

Social Desirability Concerns

In study 1, White targets were perceived relatively negatively with respect to warmth and competence. The sample of predominately White participants may have felt inclined to derogate their ingroup, inflate positive perceptions of racial outgroups, or both, to appear non-prejudiced. It is also possible that participants expressed genuine beliefs, particularly toward their own ingroup. Socially desirable responding likely played a bigger role in perceptions of Asian, Black, and Hispanic targets. Socially desirable responding impacts both comparisons between White people and racial outgroups, as well as comparisons between racial minority groups. In this sample of predominately White participants, a pattern of socially desirable responding may have led to more homogenous depictions of stereotypes of racial minority targets, focusing primarily on positive (rather than negative) stereotypes and potentially obscuring distinct stereotypes between these groups. For more comments on this idea, see the general discussion section.

Study 2

Building on study 1, the aim of study 2 was to further investigate the content of stereotypes at the intersection of race, class, and gender. There were two key goals:

1. To conceptually replicate quantitative warmth and competence findings from study 1, but with fewer intersectional group labels
2. To obtain rich, qualitative stereotypic data on 12 class-race-gender identities.

In study 2, participants once again evaluated intersectional class, race, and gender labels. In study 2, the number of labels were reduced from 36 to 12 to accommodate a smaller sample size and data coding methods. Instead of providing solely a quantitative evaluation, participants in study 2 were asked to engage in a narrative story-telling activity. In this task, participants were instructed to fill in prompts imagining a day in the life of a typical person with an assigned class, race, and gender identity. This “day in the life” paradigm has been used in prior stereotyping research (Macrae, Bodenhausen, Milne, & Jetten, 1994; Monteith, Sherman, & Devine, 1998) and has been found to be effective at picking up on stereotypic responding. When details about a (potentially marginalized) target are left intentionally vague or ambiguous, those who endorse stereotypes may, consciously or unconsciously, describe details of the target’s hypothetical day that are congruent with target stereotypes.

The purpose of collecting warmth and competence evaluations in study 2 serve primarily as an opportunity to conceptually replicate the results from study 1 in a similar sample. The purpose of the narrative task was to obtain qualitative data on intersectional identities—likely picking up on stereotypic beliefs about these groups. The overarching goal was to capture unique stereotypes by systematically identifying themes from the qualitative data within each condition.

Hypotheses

All hypotheses were preregistered prior to data collection

(https://aspredicted.org/C17_95D). I predicted the following:

H1: The relevant hypotheses predicted for study 1 with respect to warmth and competence would be conceptually replicated in study 2.

H2: Without knowing the group labels participants were describing, coders of the open-ended responses would be able to notice traits mentioned for Black women that were not mentioned above chance levels for Black men or White women.

Pilot Study, Regarding Target Names for Study 2

Before carrying out Study 2, I conducted a pilot study to determine the connotations of several names to be used for the main character in a “day in the life” narrative task.

Data were collected on March 8th, 2023. Participants were recruited from the online survey platform, Prolific. Participants were shown 10 names obtained from a separate study examining perceptions of names (Newman, Tan, Caldwell, Duff, & Winer, 2018). The names chosen were Curtis, Dean, Grant, Heidi, Jacqueline, Lisa, Melissa, Scott, Shelby, and Todd (5 names of men and 5 names of women). Names were selected from the paper based on proximity to the scale midpoint for warmth and competence. Based on prior Prolific data, I expected an average sample age around 35 years old. Newman and colleagues (2018) provided data on participants’ perceptions of the typical age of a person with each name. In addition to selecting names near the midpoint of warmth and competence, I also selected names based on perceived age ratings near 35 years (my expected sample age). Participants were asked to rate all 10 names with respect to their perception of the name’s warmth, competence, masculinity, femininity, and age.

Pilot Study Participants

Data was collected from 101 US participants, defined as people currently residing in the United States. Participants were primarily White (65 participants, 64.4%). The mean age was 37.22 ($SD = 12.99$). The study contained 50 men and 50 women; 1 participant declined to disclose their gender.

Pilot Study Results

For the men's names, the three closest to the midpoint for warmth were Grant ($M = 4.48$), Dean ($M = 4.47$), and Todd ($M = 4.49$). For competence, Scott ($M = 4.85$), Curtis ($M = 4.71$), and Todd ($M = 4.40$) were closest to the midpoint. With respect to age, Scott ($M = 39.80$), Grant ($M = 39.81$), and Todd ($M = 40.27$) were closest to the perceived age aim of roughly 35 years old. All the man names were perceived high in masculinity/low in femininity, with Dean, Grant, and Scott receiving the highest masculinity ratings, respectively ($M = 6.18$, $M = 6.07$, $M = 6.02$). The name Dean had the lowest warmth and highest competence score of any of the men's names, and the name was perceived as the oldest men's name. The name Curtis was perceived the highest in warmth of all the male names and was also rated as relatively old (similar to Dean's perceived age). Thus, the names Scott, Grant, and Todd were chosen for study 2.

For the women's names, the three closest to the midpoint for warmth were Jaqueline ($M = 4.65$), Melissa ($M = 4.74$), and Lisa ($M = 4.79$). For competence, Melissa ($M = 4.79$), Shelby ($M = 4.63$), and Heidi ($M = 4.59$) were closest to the midpoint. With respect to age, Jaqueline ($M = 37.75$), Melissa ($M = 34.72$), and Shelby ($M = 37.14$) were closest to the perceived age aim of roughly 35 years old. All the woman names were perceived high in femininity/low in masculinity, with Lisa, Jaqueline, and Melissa receiving the highest femininity ratings, respectively ($M = 6.25$, $M = 6.16$, $M = 6.14$). Heidi had the highest warmth rating, lowest

competence rating, and highest perceived age of the women's names. The name Shelby was perceived the lowest in femininity, with the next highest name (Heidi) rated 0.75 points higher on a 1-7 scale. Given these results, Jaqueline, Melissa, and Lisa were chosen for study 2. For further details on all key descriptive results, see Table 5.

Table 5

Warmth, Competence, Age, and Masculinity/Femininity Perceptions for All Names

Name	Warmth Mean (SD)	Competence Mean (SD)	Perceived Age Mean (SD)	Masculinity Mean (SD)	Femininity Mean (SD)
Male Names					
Scott	4.57 (1.16)	4.85 (1.10)	39.80 (13.15)	6.02 (1.30)	1.45 (0.89)
Grant	4.48 (1.24)	4.97 (1.13)	39.81 (16.83)	6.07 (1.29)	1.62 (1.16)
Dean	4.47 (1.18)	5.06 (1.06)	42.38 (16.43)	6.18 (1.10)	1.72 (1.19)
Curtis	4.63 (1.14)	4.71 (0.94)	42.31 (14.28)	5.92 (1.24)	1.77 (1.26)
Todd	4.49 (1.20)	4.40 (1.07)	40.27 (13.80)	5.86 (1.37)	1.62 (1.11)
Female Names					
Jaqueline	4.65 (1.17)	4.89 (1.11)	37.75 (15.22)	1.77 (1.24)	6.16 (1.28)
Melissa	4.74 (1.21)	4.79 (0.99)	34.72 (12.37)	1.60 (1.21)	6.14 (1.36)
Shelby	4.80 (1.26)	4.63 (1.12)	37.14 (17.68)	2.42 (1.45)	5.38 (1.52)
Heidi	4.96 (1.20)	4.59 (1.03)	40.06 (16.55)	1.81 (1.37)	6.13 (1.38)
Lisa	4.79 (1.18)	4.90 (1.11)	39.82 (13.79)	1.57 (1.11)	6.25 (1.25)

Note. Participants responded to warmth, competence scales and masculinity, femininity items on a 1-7 scale, with higher values indicating stronger agreement.

Method

Participants

Data were collected from 482 adult US Americans, defined as people currently living in the United States, from an online sample of Prolific users. People who took part in study 1 were not eligible to participate in study 2. A sensitivity analysis suggested that this sample provided 95% power to detect main effects and interactions in an ANOVA model at effect sizes of $d = 0.36$ ($\eta^2 = 0.04$) or larger.

Race and Gender. The sample contained 237 women (49.2%), 240 men (49.8%), 3 non-binary people (0.6%), and 2 agender people (0.4%). The mean age was 41.95 years ($SD = 14.11$).

Most participants were White (383; 79.5%); 25 participants (5.2%) were East Asian, 8 participants were South Asian (1.7%), 34 participants (7.1%) were Hispanic, and 46 participants (9.5%) were Black/African American. The sample contained 9 participants who selected a different race/ethnicity option.⁷

Education and Income. Regarding educational attainment, 14.1% of participants had formal education less than or up to a high school degree, 22.0% reported having some college, 9.3% had a 2-year degree, 39.0% had a 4-year degree, and 15.5% of participants had formal education beyond a 4-year degree. Regarding income, 27.0% of participants reported a total combined family or household annual income of \$34,999 or less, 14.8% reported 35,000 to \$49,999, 23.9% reported \$50,000 to \$74,999, 11.9% reported \$75,000 to \$99,999, 13.7% reported \$100,000 to \$149,999, and 6.5% reported a total combined family or household annual income greater than \$150,000. 11 participants (2.3%) reported that they were unsure or declined to state.⁸ See Table 6 for a full description of participant demographics.

⁷ We had 5 participants indicate that they were either Native Hawaiian/Pacific Islander (1.0%) or Native American/Alaska Native (7, 1.5%). We had 27 participants indicate being biracial, multiracial, or selected “other.” Multiple options could be selected for race/ethnicity. Thus, the percentages and participants reported for race described here do not add up to 100 percent or 482 participants. Of the 383 participants who selected White, 355 participants selected only White (not biracial or multiracial).

⁸ In study 2, 12 participants (2.5%) failed to indicate that their answers were not jokes. Per the preregistration, results are reported with these participants included. However, I note that all analyses were run with these participants excluded and all key results remain the same.

Table 6*Participant Demographics*

Income		Education		Race		Gender		Sexual Orientation	
Less than 34,999	130 27.0%	High School Degree	68 14.1%	White	383 79.5%	Men	240 49.8%	Straight	386 80.1%
35,000 to 74,999	186 38.7%	Some College/ 2-year Degree	151 31.3%	Hispanic	34 7.1%	Women	237 49.2%	Gay /Lesbian	28 5.8%
75,000 to 149,999	123 25.6%	4-year Degree	188 39.0%	Black/ African American	46 9.5%	Nonbinary	3 0.6%	Bisexual	42 8.7%
More than 150,000	31 6.5%	Graduate Degree	75 15.5%	East Asian	25 5.2%	Agender	2 0.4%	Pansexual	13 2.7%
Unsure/ Declined to state	11 2.3%			Other	29 6.1%			Asexual	13 2.7%

Materials and Measures

Target Social Groups. In study 2, the number of target social groups was brought down from 36 to 12. By focusing on fewer social groups, I was able to determine trait-based stereotypic profiles from a set of rich, qualitative data on each of the 12 class-race-gender identities. The following labels were chosen to be evaluated by participants for study 2 (see Table 7).

Table 7*All Labels for Study 2*

Race (3)	Class (2)	Gender (2)	Labels
Black	Poor	Men	Poor Black Men
		Women	Poor Black Women
	Wealthy	Men	Wealthy Black Men
		Women	Wealthy Black Women
Hispanic	Poor	Men	Poor Hispanic Men
		Women	Poor Hispanic Women
	Wealthy	Men	Wealthy Hispanic Men
		Women	Wealthy Hispanic Women
White	Poor	Men	Poor White Men
		Women	Poor White Women
	Wealthy	Men	Wealthy White Men
		Women	Wealthy White Women

Note. There were 12 target groups total: 3 race/ethnicity groups, 2 class groups, and 2 gender groups.

Procedure

Study 2 took place online, using the survey recruitment platform, Prolific. After accessing the survey, reviewing the consent document, and agreeing to participate, participants read about a typical workday in the life of a hypothetical character whose multiple identities are salient in this story-telling context. To avoid any confounds introduced by the name of the target, a set of names were chosen and randomly piped in (see pilot study, above).

The “Day in the Life” Narrative Script. Participants were given the cover story that we were investigating creativity in semi-structured narratives. They were instructed to imagine a day in the life of a person with a manipulated class, race, and gender identity. Details about the person's day contained a structure (e.g., going to work) but were left intentionally vague to encourage the participant to embellish the story with details, including, potentially, stereotypic information.

The survey was created using Qualtrics and all participants (via Prolific) were directed to the survey from the Prolific site. Qualtrics provides researchers tools to dynamically change survey text depending on survey logic. In the script below, [*bracketed and italicized text*]

indicate where I used an embedded data field to insert dynamic text specific to condition, including class, race, and gender target information, as well as gender-matched possessive, personal pronouns, and target name. Target name was further randomized within the appropriate gender condition. Text that is **[bracketed and bolded]** represents where participants were prompted to provide a response regarding the narrative of their assigned target.

Paragraphs one and two were primarily designed to place participants in the mindset of developing a narrative about a hypothetical target. The prompts in paragraph 3 centered around the workplace, including the participants' ideas of the targets' coworkers' and supervisor's beliefs about the target (potentially related to competency). The prompts in paragraph 4 focused on the target's leisure time outside of work and interpersonal relationships (potentially related to warmth). While the script and prompts were designed to capture potential instances of stereotyping, coding of the responses was not divided by section. Rather, coders considered all participant responses from the script together and not by paragraph.

Study 2 Script.

[Name] is a [class] [Race] [gender]. Using your imagination and creativity, think about what a day in [Name]'s life might be like. For example, where does [Name] live? **[living location]**. Using your perspective-taking skills, consider what [his/her] life is like. What is [his/her] living situation? Does [he/she] live alone, with a partner, with family, or friends? **[living with people]**. What sort of home does [he/she] live in? **[housing situation]**.

It's morning! Time to get ready for another day on the job. What should [Name] wear? Describe the clothes you imagine picking out for [his/her] workday **[outfit description]**. After getting dressed, [he/she] still has some time for breakfast before

heading out. What do you think *[Name]* might make? **[meal description]**. *[Name]* is just about to leave for work, but *[he/she]* has a few more things to do before heading out. What tasks might *[he/she]* do? **[tasks]**. Now that *[Name]* is ready to head out, how is *[he/she]* getting to work? **[transport]**.

[Name] arrives at work. Right away, *[he/she]* sees that *[he/she]* has a meeting with *[his/her]* supervisor, and a huge list of tasks to complete. Again, using your creativity and imagination, fill in the blanks in this story. What is *[Name]*'s job? **[job title]**. What sort of tasks is *[he/she]* completing today? **[job tasks]**. Now, think about *[Name]*'s meeting with the supervisor. What three emotion words would you use to describe that interaction? **[supervisor meeting emotion words]**. How would *[Name]*'s supervisor describe *[him/her]*? **[supervisor's description]**. How would *[Name]*'s coworkers describe *[him/her]*? **[coworkers' description]**.

Finally, work is over for the day! It's been a busy day, and now it's time to relax. Just before *[he/she]* heads home, *[his/her]* phone lights up with a text. Remember, you're the storyteller! Who is the text from? **[text sender]**. What might the text say? **[text content]**. What emotions does *[Name]* feel as *[he/she]* reads the text? **[text emotion]**. If *[Name]*'s friends described *[him/her]* in 3 words, what would they be? **[friend description]**. *[Name]* heads home, and is ready to enjoy some time away from work. What activity does *[Name]* decide to do for fun and relaxation? For example, does *[he/she]* choose to meet up with anyone, or does *[he/she]* prefer to spend time alone? **[leisure activities]**.

After completing these qualitative measures, participants were asked to list five personality traits that describe their target: ("If you had to choose 5 personality traits to describe

[*Target Name*], which would you choose? List them here.”). They then completed the same warmth and competence assessments (of their target character and the “typical American”) from study 1. Finally, participants completed the same demographic measures from study 1, were thanked for their participation, and compensated for their time.

Results and Discussion

This was a between-subjects, experimental study. Each participant evaluated one person previously described with an intersectional label (e.g., “Jaqueline”) and the “typical American” after completing their narrative task. There were 12 total groups composed of three manipulated variables: target race (Black, Hispanic, White), target class (poor, wealthy), and target gender (man, woman). I provide *p*-values, confidence intervals, and (in some cases) effect sizes to describe pairwise comparisons. I ran Tukey post-hoc tests to obtain these values. In cases where there were less than three groups to analyze, I used *t*-tests to describe comparisons.

Overall Patterns of Target Group Differences

Using the same organizational structure from study 1, I first provide an overview of the overall patterns of stereotyping. A subsequent section (“Addressing Individual Hypotheses”) provides a less detailed description of the overall results but addresses each hypothesis directly. As some overall patterns (e.g., main effects) overlap with specific hypotheses, some results are described in both sections.

Coding Process. Each participant supplied responses to prompts during their “day in the life” narrative task. There were 17 total prompts, two of which asked for three words: participants described the target’s supervisor meeting with three words, as well as the target’s friend’s description of the target. This provided 21 total responses comprising the narrative of a typical day in a hypothetical target’s life from each of the 482 participants.

Phase 1. The goal for phase 1 was to create a bank of words that summarized the themes and traits participants communicated in their narratives. This word bank would then be used to identify the most salient themes for a coding scale.

I first had six pairs of research assistants examine each individual response and identify three words that summarized the theme of the participant's narrative, focusing on the personality of the main character (as opposed to the tone or writing style). These teams of research assistants were naïve to condition, so by identifying words that thematically summarized each narrative, they were also able to identify potentially stereotypic information—regardless of whether those stereotypes were congruent with expectations for that group's class, race, and gender.

More specifically, the 482 responses were broken up into six sections (~80 responses/section). Each section had two coders independently examining the participants' responses to the narrative prompts. All coders were naïve to condition to the extent that could be reasonably assured, as some participants did include information about their condition within their responses. At the conclusion of this phase, we had generated 2,880 words to describe characters belonging to 12 unique class-race-gender identities.

Phase 2. Two independent coders, not involved in the phase 1 coding, identified overarching trait categories by grouping together similar words generated from phase 1. Specifically, we looked at trait and theme words that were used most frequently or redundantly in the narratives (both by condition and across conditions). Our goal was to develop a coding scale that was well-equipped to capture stereotypic beliefs across a wide, diverse group of identities. We each developed scales independently, compared, and came to our final scale through mutual agreement.

The final coding scale was comprised of 5 sections: warmth, competence, mood, lifestyle, and personality/other. The warmth section contained the theme categories “warm/caring/kind”, “warmth toward family/family-oriented”, “friendly/polite”, “fun/outgoing/social”, and “easygoing/humble.” The competence section contained the themes “hardworking/busy/active”, “ambitious/independent”, “successful/professional”, “confident”, “competent/smart/wise”, “reliable/efficient/responsible”, and “resilient/tough”. The mood section contained “happy/optimistic”, “sad/depressed”, and “stressed/anxious” while the lifestyle section contained “stylish/classy” and “materialistic/superficial/shallow”. The personality/other section included “calm/serious”, “shy/lonely/reclusive”, and “dominant/arrogant”.

Phase 3. In the final stage of coding, the two coders from phase 2 examined the participant-generated data from the narrative “day in the life” task and rated it according to the scale developed in phase 2. These coders had not previously been exposed to this data, as it was a different set of coders who developed the word bank in phase 1. These coders were also naïve to condition, again to the extent that was feasible, as some participants included information about their condition within their responses. All responses were rated on each of the 20 traits (separated into 5 sections, as described above) using a 5-point scale from -1 to +1, with higher scores indicating greater agreement that the trait was represented in the narrative and negative scores indicating that the opposite of the trait was represented. One coder rated all responses ($n = 482$), while the other rated approximately half ($n = 259$; correlation between coders for all trait categories combined: $r = .61$).⁹ For the half with two ratings available, the midpoint of the ratings was used. Because 0 indicated that the trait was not mentioned and 1 indicated that it was

⁹ Raters had correlations above .5 for most (15) of the individual trait categories, and above .39 for all but one. Ratings for the materialistic/superficial/shallow trait category only had $r = .18$, but this was largely due to the second coder rarely using this category (rated at the midpoint for all but seven of the narratives), so ratings of materialism were almost entirely due to the first coder.

fully displayed, the resulting scores can be interpreted as analogous to a proportion of profiles that displayed the trait in question, modified with a penalty factor for profiles that displayed the opposite of the trait.

Day in the Life Narrative Task and Personality Trait Ratings.

Stereotypic Profiles. After completing the coding process described above, I computed the mean ratings of the characters matching each of the 12 demographic profiles. For descriptive purposes, I examined the ten traits that came up most frequently (highest mean ratings) for each group. Across these top ten traits, five were shared across 11 of the 12 groups: “warm/caring/kind”, “friendly/polite”, “fun/outgoing/social”, “hardworking/busy/active”, and “reliable/efficient/responsible”. The only exception to this is the wealthy White woman target group, which was not coded with “warm/caring/kind” as often. After disregarding shared traits, the stereotypic profiles of each identity demonstrated both distinct and shared stereotypes toward the 12 groups. Stereotypic profiles were determined using the mean ratings from the coding scale described above, and are presented without shared traits included:

Poor Black Men: Easygoing/humble (0.63), family-oriented/warmth toward family (0.40), shy/lonely/reclusive (0.29), happy/optimistic (0.29), and stressed/anxious (0.28).

Poor Black Woman: Family-oriented/warmth toward family (0.62), stressed/anxious (0.5), resilient/tough (0.24), easygoing/humble (0.22), and happy/optimistic (0.22).

Wealthy Black Man: Competent/smart/wise (0.51), family-oriented/warmth toward family (0.45), successful/professional (0.43), confident (0.32), and calm/serious (0.29).

Wealthy Black Woman: Stylish/classy (0.59), competent/smart/wise (0.55), successful/professional (0.49), confident (0.34), and family-oriented/warmth toward family (0.27).

Poor Hispanic Man: Family-oriented/warmth toward family (0.54), easygoing/humble (0.46), stressed/anxious (0.29), shy/lonely/reclusive (0.25), and happy/optimistic (0.21).

Poor Hispanic Woman: Family-oriented/warmth toward family (0.70), stressed/anxious (0.41), resilient/tough (0.36), shy/lonely/reclusive (0.24), and competent/smart/wise (0.18).

Wealthy Hispanic Man: Successful/professional (0.45), competent/smart/wise (0.44), family-oriented/warmth toward family (0.42), ambitious/independent (0.33), and confident (0.25).

Wealthy Hispanic Woman: Competent/smart/wise (0.54), stylish/classy (0.37), family-oriented/warmth toward family (0.36), successful/professional (0.35), and confident (0.29).

Poor White Man: Easygoing/humble (0.64), stressed/anxious (0.36), shy/lonely/reclusive (0.28), resilient/tough (0.24), and sad/depressed (0.24).

Poor White Woman: stressed/anxious (0.42), family-oriented/warmth toward family (0.36), shy/lonely/reclusive (0.30), sad/depressed (0.27), and easygoing/humble (0.21).

Wealthy White Man: Successful/professional (0.54), competent/smart/wise (0.46), materialistic/superficial/shallow (0.45), stylish/classy (0.38), and confident (0.30).

Wealthy White Woman: Stylish/classy (0.65), family-oriented/warmth toward family (0.34), successful/professional (0.32), competent/smart/wise (0.30), materialistic/superficial/shallow (0.30), and dominant/arrogant (0.29). This group has 6 traits included because “warm/caring/kind” was not in the top half of mean traits for this group. See Table 8a-c for all means and standard deviations from the qualitative data coding (bolded means represent the top half highest means for each group).

Table 8a*Stereotypic Profiles of Warmth Traits by Group*

Stereotypic Trait (Warmth Subscale)		Warm, Caring, Kind	Family-oriented, Warmth toward Family	Friendly, Polite	Fun, Outgoing, Social	Easygoing, Humble
Poor Black Man	Mean	0.67	0.40	0.79	0.43	0.63
	SD	0.46	0.46	0.38	0.45	0.44
Poor Black Woman	Mean	0.75	0.62	0.67	0.37	0.22
	SD	0.41	0.44	0.43	0.47	0.40
Wealthy Black Man	Mean	0.60	0.45	0.66	0.57	0.16
	SD	0.48	0.48	0.50	0.49	0.36
Wealthy Black Woman	Mean	0.66	0.27	0.68	0.53	0.08
	SD	0.56	0.40	0.44	0.48	0.27
Poor Hispanic Man	Mean	0.61	0.54	0.68	0.45	0.46
	SD	0.42	0.47	0.39	0.53	0.44
Poor Hispanic Woman	Mean	0.74	0.70	0.60	0.24	0.13
	SD	0.42	0.37	0.44	0.42	0.31
Wealthy Hispanic Man	Mean	0.44	0.42	0.67	0.50	0.09
	SD	0.53	0.57	0.57	0.49	0.30
Wealthy Hispanic Woman	Mean	0.64	0.36	0.67	0.66	0.15
	SD	0.56	0.47	0.55	0.47	0.38
Poor White Man	Mean	0.47	0.21	0.71	0.45	0.64
	SD	0.48	0.47	0.43	0.47	0.44
Poor White Woman	Mean	0.62	0.36	0.68	0.33	0.21
	SD	0.56	0.43	0.48	0.45	0.38
Wealthy White Man	Mean	0.30	0.27	0.47	0.47	0.12
	SD	0.55	0.54	0.60	0.45	0.33
Wealthy White Woman	Mean	0.26	0.34	0.45	0.45	0.18
	SD	0.69	0.46	0.70	0.44	0.46

Note for Tables 8a-c. Scores were obtained through coding of participants' narrative day in the life task. Responses were rated using a 5-point scale from -1 to +1, with higher scores indicating greater agreement that the trait was represented in the narrative and negative scores indicating that the opposite of the trait was represented. Bolded means represent the top half highest means for each group.

Table 8b

Stereotypic Profiles of Competency Traits by Group

Stereotypic Trait (Competence Subscale)		Hardworking, Busy, Active	Ambitious, Independent	Successful, Professional	Confident	Competent, Smart, Wise	Reliable, Efficient, Diligent, Responsible, Dependable, Organized	Resilient, Tough
Poor Black Man	Mean	0.78	0.08	0.01	-0.04	0.14	0.63	0.12
	SD	0.39	0.24	0.08	0.18	0.41	0.47	0.31
Poor Black Woman	Mean	0.77	0.04	0.03	0.03	0.07	0.57	0.24
	SD	0.48	0.17	0.16	0.19	0.27	0.49	0.40
Wealthy Black Man	Mean	0.63	0.24	0.43	0.32	0.51	0.57	0.05
	SD	0.48	0.38	0.42	0.44	0.48	0.48	0.22
Wealthy Black Woman	Mean	0.59	0.24	0.49	0.34	0.55	0.51	0.09
	SD	0.49	0.38	0.45	0.44	0.49	0.47	0.28
Poor Hispanic Man	Mean	0.86	0.07	0.01	0.00	0.05	0.61	0.15
	SD	0.37	0.26	0.22	0.00	0.31	0.47	0.35
Poor Hispanic Woman	Mean	0.83	0.01	0.05	0.02	0.18	0.81	0.36
	SD	0.34	0.09	0.19	0.19	0.36	0.37	0.45
Wealthy Hispanic Man	Mean	0.67	0.33	0.45	0.25	0.44	0.55	0.03
	SD	0.50	0.45	0.54	0.41	0.54	0.47	0.11
Wealthy Hispanic Woman	Mean	0.63	0.28	0.35	0.29	0.54	0.47	0.01
	SD	0.52	0.45	0.46	0.44	0.53	0.56	0.09
Poor White Man	Mean	0.68	0.00	0.00	0.03	0.06	0.61	0.24
	SD	0.53	0.00	0.00	0.17	0.48	0.48	0.42
Poor White Woman	Mean	0.68	-0.03	0.03	0.00	0.13	0.58	0.19
	SD	0.56	0.11	0.16	0.00	0.34	0.51	0.37
Wealthy White Man	Mean	0.58	0.24	0.54	0.30	0.46	0.46	0.03
	SD	0.48	0.37	0.45	0.42	0.52	0.47	0.16
Wealthy White Woman	Mean	0.53	0.27	0.32	0.26	0.30	0.41	0.05
	SD	0.52	0.38	0.44	0.40	0.48	0.44	0.20

Table 8c

Stereotypic Profiles of Non-Warmth, Competency Traits by Group

Stereotypic Trait (Other Traits)		Calm, Serious	Shy, Lonely, Reclusive	Dominant, Arrogant	Happy, Optimistic	Sad, Depressed	Stressed, Anxious	Materialistic, Superficial, Shallow	Stylish, Classy
Poor Black Man	Mean	0.17	0.29	0.00	0.29	0.08	0.28	0.00	-0.01
	SD	0.35	0.44	0.00	0.44	0.25	0.41	0.00	0.08
Poor Black Woman	Mean	0.14	0.18	0.01	0.22	0.16	0.50	0.01	0.01
	SD	0.32	0.38	0.04	0.37	0.36	0.48	0.07	0.07
Wealthy Black Man	Mean	0.29	0.12	0.08	0.13	0.00	0.12	0.17	0.17
	SD	0.44	0.33	0.26	0.29	0.00	0.31	0.31	0.32
Wealthy Black Woman	Mean	0.25	0.03	0.14	0.14	0.00	0.07	0.27	0.59
	SD	0.42	0.16	0.31	0.33	0.00	0.24	0.37	0.49
Poor Hispanic Man	Mean	0.18	0.25	0.00	0.21	0.11	0.29	0.00	0.00
	SD	0.38	0.40	0.00	0.38	0.31	0.43	0.00	0.00
Poor Hispanic Woman	Mean	0.16	0.24	-0.01	0.07	0.12	0.41	0.00	0.01
	SD	0.32	0.40	0.09	0.26	0.31	0.43	0.00	0.08
Wealthy Hispanic Man	Mean	0.17	0.01	0.23	0.14	0.00	0.08	0.19	0.17
	SD	0.35	0.08	0.41	0.32	0.00	0.24	0.36	0.35
Wealthy Hispanic Woman	Mean	0.18	0.04	0.08	0.19	0.00	0.15	0.16	0.37
	SD	0.39	0.19	0.18	0.35	0.00	0.34	0.34	0.47
Poor White Man	Mean	0.18	0.28	0.00	0.10	0.24	0.36	0.00	0.00
	SD	0.37	0.41	0.00	0.27	0.44	0.42	0.00	0.00
Poor White Woman	Mean	0.08	0.30	0.00	0.10	0.27	0.42	0.00	0.01
	SD	0.27	0.43	0.00	0.28	0.43	0.46	0.00	0.08
Wealthy White Man	Mean	0.21	0.10	0.19	0.15	0.04	0.09	0.45	0.38
	SD	0.38	0.28	0.31	0.32	0.20	0.26	0.42	0.44
Wealthy White Woman	Mean	0.19	0.05	0.29	0.22	0.03	0.11	0.30	0.65
	SD	0.36	0.23	0.42	0.40	0.17	0.29	0.40	0.44

Personality Traits Warmth and Competence. Participants were asked to provide five personality traits describing their target immediately after completing their “day in the life” narrative. Three coders, who were not exposed to the prompts from the “day in the life” narrative nor participant condition, examined only the five personality traits and rated the target with respect to perceived warmth and competence. In an exploratory fashion, I was interested in how the coding of isolated target personality traits on constructs like warmth and competence might compare to participants’ own target warmth and competence ratings. I conducted an ANOVA with target class, race, and gender as the predictor variables and coder-rated warmth, and then competence, as the outcome variables. There were no main effects, two-, nor three-way

interactions between target race, class, or gender on coder-rated warmth or competence (all $ps > .056$).

Participant-Supplied Warmth and Competence Target Ratings.

Warmth and Competence Measure. Participants were asked to assess the warmth and competence of both the character they imagined and their interpretation of the “typical American” (using the same items as Study 1). The scales had the following reliabilities: target warmth, $\alpha = .95$; target competence, $\alpha = .91$; “typical American” warmth, $\alpha = .93$; and “typical American” competence, $\alpha = .89$. See Table 9 for details on each scale.

Table 9

Descriptive Statistics for Key Outcome Measures

	Twarmth	Tcomp	TAwarmth	TAcomp
N	482	482	482	482
Mean	5.32	5.60	4.61	4.85
Mean SE	0.06	0.05	0.05	0.05
SD	1.28	1.14	1.12	1.03
Skewness	-0.81	-0.77	-0.25	-0.08
S.E. Skewness	0.11	0.11	0.11	0.11
Minimum	1.00	1.00	1.00	1.20
Maximum	7.00	7.00	7.00	7.00

Note. Twarmth = target warmth rating, Tcomp = target competence rating, TAwarmth = “typical American” warmth rating, TAcomp = “typical American” competence rating.

Target Warmth. The class and race of the target had an impact on the participants’ warmth-related stereotypic beliefs toward the target. A main effect of target race, $F(2, 470) = 32.49, p < .001, \eta^2 = .121$; and a main effect of target class was found, $F(1, 470) = 8.66, p = .003, \eta^2 = .018$. With respect to target race, the Black ($M = 5.50, SD = 1.16$) and Hispanic target

groups ($M = 5.76$, $SD = 1.03$) were evaluated similarly; $p = .124$; $SE = 0.13$; 95%CI [-0.57, 0.05]. The White target group ($M = 4.70$, $SD = 1.38$) was evaluated lower in warmth than both the Black ($p < .001$; $SE = 0.13$; 95%CI [-1.12, -0.50]) and Hispanic target groups ($p < .001$; $SE = 0.13$; 95%CI [-1.38, -0.75]). With respect to target class, poor targets ($M = 5.50$, $SD = 1.21$) were evaluated higher in warmth than wealthy targets ($M = 5.14$, $SD = 1.33$); $p = .002$; $SE = 0.12$; 95%CI [0.13, 0.59], $d = 0.29$. The effect of target gender was non-significant: $F(1, 470) = 0.52$, $p = .471$, $\eta^2 = .001$.

Although not significant, the pattern of results was similar to a two-way interaction found in study 1, such that race operated multiplicatively with class: $F(2, 470) = 2.86$, $p = .058$, $\eta^2 = .012$. In other words, participants' warmth-related stereotypic beliefs for a particular class status differed depending on the race of the target. For example, poor White people were rated higher in warmth relative to wealthy White people; $p = .027$; $SE = 0.19$; 95%CI [0.04, 1.12]; but poor and wealthy Black people were rated similarly; $p = .999$; $SE = 0.18$; 95%CI [-0.53, 0.53]. All other two- and three-way interactions between target class, race, and gender were non-significant (all $ps > .235$).

Target Competence. The results for target competence in study 2 were very similar to the patterns found for target warmth. Similarly, the target's class and race had an impact on the participants' competence-related stereotypic beliefs toward the target. A main effect of target race, $F(2, 470) = 15.62$, $p < .001$, $\eta^2 = .062$; and a main effect of target class were found, $F(1, 470) = 95.24$, $p < .001$, $\eta^2 = .168$. With respect to target race, the Black ($M = 5.73$, $SD = 1.12$) and Hispanic target groups ($M = 5.78$, $SD = 1.05$) were evaluated similarly; $p = .886$; $SE = 0.11$; 95%CI [-0.32, 0.21]. The White target group ($M = 5.28$, $SD = 1.18$) was evaluated lower in

competence than both the Black ($p < .001$; $SE = 0.11$; 95%CI [-0.72, -0.18]) and Hispanic target groups ($p < .001$; $SE = 0.12$; 95%CI [-0.77, -0.23]).

Poor targets were rated lower in competence than wealthy targets. Poor Black people ($M = 5.29$, $SD = 1.11$) were rated lower in competence than wealthy Black people ($M = 6.22$, $SD = 0.93$; $p < .001$; $SE = 0.16$; 95%CI [-1.38, -0.47]); poor Hispanic people ($M = 5.45$, $SD = 1.10$) were rated lower in competence than wealthy Hispanic people ($M = 6.15$, $SD = 0.87$; $p < .001$; $SE = 0.17$; 95%CI [-1.17, -0.23]); and poor White people ($M = 4.66$, $SD = 1.03$) were rated lower in competence than wealthy White people ($M = 5.79$, $SD = 1.04$; $p < .001$; $SE = 0.16$; 95%CI [-1.60, -0.67]). Again, the effect of target gender was non-significant: $F(1, 470) = 0.08$, $p = .776$, $\eta^2 = .000$.

All two- and three-way interactions between target class, race, and gender were non-significant in study 2 (all $ps > .235$ for competence). See Table 10 for a full breakdown of means and standard deviations, and Figure 4 for a visualization of these results by warmth and competence.

Table 10

Warmth and Competence Beliefs by Label (Study 2)

Label	Warmth Mean (SD)	Competence Mean (SD)	N
Poor	5.50 (1.21)	5.15 (1.13)	240
Wealthy	5.14 (1.33)	6.04 (0.97)	240
Black	5.50 (1.16)	5.73 (1.12)	168
Hispanic	5.76 (1.03)	5.78 (1.05)	154
White	4.70 (1.38)	5.28 (1.18)	160
Men	5.33 (1.25)	5.65 (1.12)	243
Women	5.30 (1.31)	5.55 (1.16)	239
Poor Men	5.58 (1.18)	5.17 (1.15)	110
Wealthy Men	5.13 (1.28)	6.04 (0.94)	133
Poor Women	5.43 (1.24)	5.14 (1.12)	130

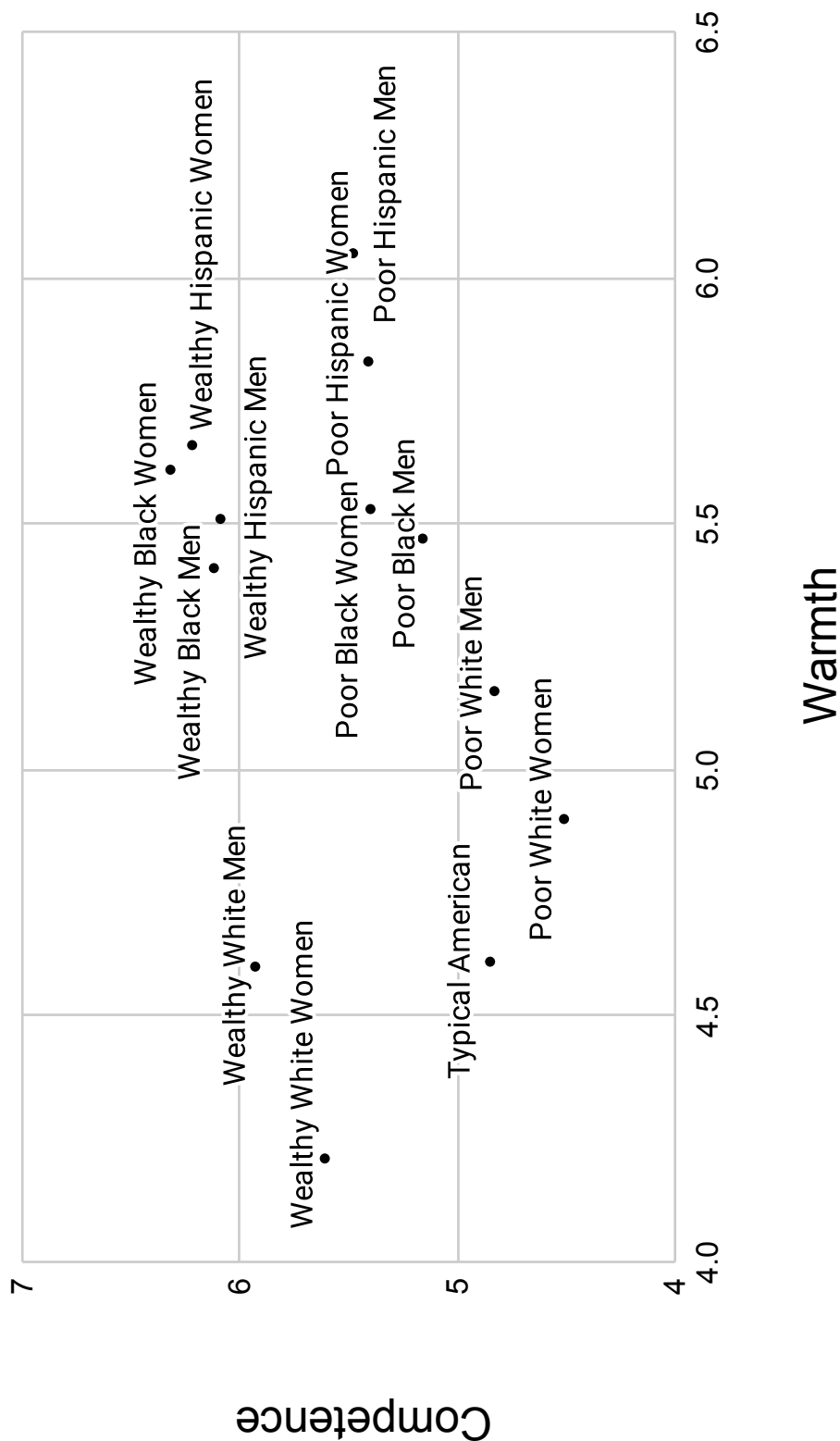
Wealthy Women	5.15 (1.39)	6.04 (1.01)	109
Black Men	5.44 (1.16)	5.66 (1.18)	81
Black Women	5.56 (1.17)	5.80 (1.07)	87
Hispanic Men	5.77 (1.02)	5.79 (1.02)	78
Hispanic Women	5.75 (1.05)	5.77 (1.09)	76
White Men	4.82 (1.36)	5.50 (1.14)	84
White Women	4.56 (1.41)	5.04 (1.18)	76
Poor Black Men	5.47 (1.24)	5.16 (1.10)	39
Poor Black Women	5.53 (1.24)	5.40 (1.12)	49
Wealthy Black Men	5.41 (1.10)	6.12 (1.07)	42
Wealthy Black Women	5.61 (1.08)	6.32 (0.73)	38
Poor Hispanic Men	6.05 (1.04)	5.48 (1.22)	38
Poor Hispanic Women	5.83 (0.84)	5.41 (1.00)	42
Wealthy Hispanic Men	5.51 (0.93)	6.09 (0.69)	40
Wealthy Hispanic Women	5.66 (1.27)	6.22 (1.04)	34
Poor White Men	5.16 (1.10)	4.83 (1.04)	33
Poor White Women	4.90 (1.43)	4.51 (1.02)	39
Wealthy White Men	4.60 (1.48)	5.93 (0.99)	51
Wealthy White Women	4.21 (1.31)	5.61 (1.09)	37
Typical American	4.61 (1.12)	4.85 (1.03)	482

Note. Means, standard deviations, and sample sizes for perceived warmth and competence ratings by group. Both

warmth and competence scales consisted of traits measured on a scale from 1 (not at all) to 7 (very much). Note that these are not ratings of the specified target groups, but rather ratings of the individual characters that participants invented as examples of the specified target groups.

Figure 4*Warmth and Competence Beliefs by Label (Study 2)*

Note. Scores were obtained through mean warmth and competence scales for each target group. Both warmth and competence were measured on a scale from 1 (not at all) to 7 (very much).



“Typical American” Warmth and Competence. As with study 1, I would expect to find no main effects nor interactions on warmth- or competence-related stereotypic beliefs toward the “typical American”. The target class, race, and gender assigned to the participant should solely impact stereotypic beliefs toward the target with those identities—but should not impact participants’ perceptions of the “typical American”.

The class, race, and gender of the target did not have an impact on the participants’ warmth-related stereotypic beliefs toward the “typical American”. There were no main effects nor interactions between target class, race, and gender (all $ps > .217$). This was also the case for competence (all $ps > .189$), except for one marginal case. Similar to study 1, there was a main effect of target race, $F(2, 470) = 2.82, p = .061, \eta^2 = .012$ (significant in study 1, marginal in study 2). A main effect of target race in the “typical American” outcome variable suggests that the target race the participant was exposed to may have subtly influenced participants’ competence ratings of the “typical American”.

Following the same procedure from study 1, I addressed this concern by running independent samples t -tests for order with competence as the outcome variable for each target racial group. The mean differences by order were non-significant in the Black ($t(166) = 0.21; p = .834, d = 0.03, 95\%CI [-0.31, 0.38]$), Hispanic ($t(152) = 1.51; p = .133, d = 0.24, 95\%CI [-0.08, 0.59]$), and the White target groups; $t(158) = -0.03; p = .977, d = 0.00, 95\%CI [-0.38, 0.36]$.

Collapsing across conditions, with the goal of identifying an overall warmth and competence mean from all participants, the mean for warmth for the “typical American” was 4.61 ($SD = 1.12, n = 482$). The mean for competence for the “typical American” was 4.85 ($SD = 1.03, n = 482$).

Addressing Individual Hypotheses

Building on study 1, I made two key predictions for study 2:

H1: The relevant hypotheses predicted for study 1 with respect to warmth and competence would be conceptually replicated in study 2.

H2: Without knowing the group labels participants were describing, coders of the open-ended responses would be able to notice traits mentioned for Black women that were not mentioned above chance levels for Black men or White women.

Hypothesis 1(a-e). As with study 1, I made three hypotheses in line with the additive perspective. The main effects of class and race were again found in study 2, but the main effect of gender from study 1 was not replicated.

Hypothesis 1a. Consistent with Study 1, there was a main effect of class on warmth; $F(1, 470) = 8.66, p = .003, \eta^2 = .018$; the group rated the lowest was the wealthy group ($M = 5.14, SD = 1.34$), followed by the poor ($M = 5.50, SD = 1.21$). The wealthy and poor target groups were significantly different; $p = .002, SE = 0.12, d = 0.29, 95\%CI [0.13, 0.59]$. The main effect of class was also found for competence; $F(1, 470) = 95.24, p < .001, \eta^2 = .168$; following the predicted direction. The group rated the lowest in competence was the poor ($M = 5.15, SD = 1.13$), followed by the wealthy target group ($M = 6.04, SD = 0.97$). The poor and wealthy target groups were significantly different from each other; $p < .001, SE = 0.10, d = 0.84, 95\%CI [-1.08, -0.70]$.

Hypothesis 1b. Secondly, I predicted that there would be a main effect of race, such that the White target group would be evaluated the highest in warmth and competence. Target race did influence warmth beliefs; $F(2, 470) = 32.49, p < .001, \eta^2 = .121$. The Hispanic target group was rated the highest in warmth ($M = 5.76, SD = 1.03$), followed by the Black target group ($M =$

5.50, $SD = 1.16$), although this mean difference did not reach significance; $p = .129$; $SE = 0.13$; 95%CI [-0.06, 0.58]. The White target group was rated the lowest in warmth ($M = 4.70$, $SD = 1.38$). The difference between the Black and White target groups was significant; $p < .001$; $SE = 0.13$; 95%CI [-1.12, -0.49].

Target race also influenced competence beliefs; $F(2, 470) = 15.62$, $p < .001$, $\eta^2 = .062$. The group rated the highest in competence was the Hispanic target group ($M = 5.78$, $SD = 1.05$) which was rated similarly to the Black target group ($M = 5.73$, $SD = 1.12$; $p = .904$; $SE = 0.13$; 95%CI [-0.24, 0.35]). The White target group was rated lower than both the Black ($p < .001$; $SE = 0.12$; 95%CI [-0.74, -0.16]) and Hispanic target groups ($p < .001$; $SE = 0.13$; 95%CI [-0.80, -0.21]). I did not find support for this hypothesis with respect to the direction of the main effect of target race, as the White target group was rated the lowest in warmth and competence. However, the patterns of results (where relevant, given the fewer number of target groups in study 2) were similar to those found in study 1.

Hypothesis 1c. I predicted that there would be a main effect of gender, such that women would be evaluated higher in warmth relative to men, and that men would be evaluated higher in competence relative to women. The main effect of gender for warmth was non-significant; $F(1, 470) = 0.08$, $p = .776$, $\eta^2 = .000$. The main effect of target gender on competence was also not significant; $F(1, 470) = 0.52$, $p = .471$, $\eta^2 = .001$. Hypothesis 3 from Study 1 failed to replicate in study 2.

Hypothesis 1d. Following study 1, I made two hypotheses in line with the multiplicative perspective. In my fourth hypothesis, I predicted that Black women would be evaluated lower in warmth than White women and evaluated similarly in warmth to Black men. The interaction between target race and target gender on warmth was not significant; $F(2, 470) = 1.45$, $p = .235$,

$\eta^2 = .006$. Black women ($M = 5.56$, $SD = 1.17$) were evaluated similarly in warmth to Black men ($M = 5.44$, $SD = 1.16$); $p = .988$; $SE = 0.19$; 95%CI [-0.41, 0.65]. However, Black women were evaluated higher than White women ($M = 4.56$, $SD = 1.41$) with respect to warmth; $p < .001$; $SE = 0.19$; 95%CI [0.46, 1.54].

I also predicted that Black women would be evaluated lower in competence than Black men and White women. The interaction between target race and target gender on competence did not reach significance in study 2 (unlike study 1); $F(2, 470) = 2.86$, $p = .058$, $\eta^2 = .012$. Black women ($M = 5.80$, $SD = 1.07$) were evaluated similarly to Black men ($M = 5.66$, $SD = 1.18$) with respect to competence; $p = .967$; $SE = 0.17$; 95%CI [-0.36, 0.63]. Black women were rated higher than White women ($M = 5.04$, $SD = 1.18$) with respect to competence; $p < .001$; $SE = 0.18$; 95%CI [0.25, 1.26]. White men ($M = 5.50$, $SD = 1.14$) were rated similarly in competence to White women; $p = .105$, $SE = 0.18$; 95%CI [-0.05, 0.96].

Hypothesis 1e. In my fifth hypothesis, I predicted that the “poor Black women” target group would be stereotyped as lower in warmth and competence relative to other class and gender groups within the Black and White race/ethnicity groups. As with study 1, there was no three-way interaction between target class, race, and gender for warmth; $F(2, 470) = 0.42$, $p = .659$, $\eta^2 = .002$; nor competence; $F(2, 470) = 0.16$, $p = .855$, $\eta^2 = .001$.

With respect to warmth, poor Black women ($M = 5.53$, $SD = 1.24$) were rated similarly to poor Black men ($M = 5.47$, $SD = 1.24$); $p = .999$; $SE = 0.26$; 95%CI [-0.79, 0.89]. Poor White men ($M = 5.16$, $SD = 1.10$) were rated similarly to poor Black women in warmth; $p = .970$; $SE = 0.27$; 95%CI [-0.52, 1.25]; and poor White women ($M = 4.90$, $SD = 1.43$) were rated similarly in warmth; $p = .372$; $SE = 0.26$; 95%CI [-0.21, 1.47].

Relative to wealthy Black women ($M = 5.61$, $SD = 1.08$), wealthy Black men ($M = 5.41$, $SD = 1.10$) were rated similarly in warmth; $p = .999$; $SE = 0.27$; 95%CI [-0.68, 1.07]; wealthy White men ($M = 4.60$, $SD = 1.48$) were rated lower in warmth; $p = .005$; $SE = 0.26$; 95%CI [0.17, 1.85]; and wealthy White women ($M = 4.21$, $SD = 1.31$) were rated lower in warmth; $p < .001$; $SE = 0.28$; 95%CI [0.49, 2.30]. Poor Black women ($M = 5.53$, $SD = 1.24$) were rated similarly to wealthy Black women with respect to warmth ($M = 5.61$, $SD = 1.08$; $p = .999$; $SE = 0.26$; 95%CI [-0.93, 0.77]). The results described in this paragraph are the same as those found in study 1 (disregarding the middle-class Black women target group).

With respect to competence, poor Black women ($M = 5.40$, $SD = 1.12$) were rated similarly to poor Black men ($M = 5.16$, $SD = 1.10$); $p = .995$; $SE = 0.22$; 95%CI [-0.48, 0.96]. Relative to poor Black women, poor White men ($M = 4.83$, $SD = 1.04$) were rated similarly in competence; $p = .369$; $SE = 0.23$; 95%CI [-0.19, 1.32]; and poor White women ($M = 4.51$, $SD = 1.02$) were rated lower in competence; $p = .003$; $SE = 0.22$; 95%CI [0.17, 1.61]. Relative to wealthy Black women ($M = 6.32$, $SD = 0.73$), wealthy Black men ($M = 6.12$, $SD = 1.07$) were rated similarly in competence; $p = .999$; $SE = 0.23$; 95%CI [-0.56, 0.94]; wealthy White men ($M = 5.93$, $SD = 0.99$) were rated similarly in competence; $p = .836$; $SE = 0.22$; 95%CI [-0.33, 1.11]; and wealthy White women ($M = 5.61$, $SD = 1.09$) were rated similarly in competence; $p = .109$; $SE = 0.24$; 95%CI [0.25, 1.17]. Poor Black women were rated lower than wealthy Black women with respect to competence; $p < .001$; 95%CI [-0.06, 1.49].

Hypothesis 2. I predicted that coders of the open-ended responses (naïve to condition), would be able to notice traits mentioned for Black women that were not mentioned above chance levels for Black men or White women. To test this, I ran independent samples *t*-tests comparing

poor Black women to poor Black men, poor White men, and poor White women, with the trait scores from the coding procedure as outcome variables.

Poor Black women were perceived as stereotypically distinct from poor Black men in the trait categories “family-oriented, warmth toward family”, “easygoing, humble”, and “stressed, anxious”. Poor Black women were perceived as more family-oriented ($M = 0.62$, $SD = 0.44$) and stressed/anxious ($M = 0.50$, $SD = 0.48$) relative to perceptions of poor Black men as family-oriented ($M = 0.40$, $SD = 0.46$) or stressed ($M = 0.28$, $SD = 0.41$); $t(85) = 2.30$, $p = .024$, $SE = 0.10$, $d = 0.50$, 95%CI [0.03 , 0.42]; $t(85) = 2.30$, $p = .024$, $SE = 0.10$, $d = 0.50$, 95%CI [0.03 , 0.42]. Poor Black women were perceived as less easygoing ($M = 0.22$, $SD = 0.40$) than poor Black men ($M = 0.63$, $SD = 0.44$); $t(85) = -4.55$, $p < .001$, $SE = 0.09$, $d = 0.98$, 95%CI [-0.59 , -0.23].

Poor Black women were perceived as stereotypically distinct from poor White men in the trait categories “warm, caring, kind”, “family-oriented, warmth toward family”, and “easygoing, humble”. Poor Black women were perceived as warmer ($M = 0.75$, $SD = 0.41$) and more family-oriented ($M = 0.62$, $SD = 0.44$) relative to perceptions of poor White men as warm ($M = 0.47$, $SD = 0.48$) or family-oriented ($M = 0.21$, $SD = 0.47$); $t(79) = 2.80$, $p = .006$, $SE = 0.10$, $d = 0.63$, 95%CI [0.08 , 0.48]; $t(79) = 3.99$, $p < .001$, $SE = 0.10$, $d = 0.90$, 95%CI [0.20 , 0.61]. Poor Black women were perceived as less easygoing ($M = 0.22$, $SD = 0.40$) than poor White men ($M = 0.64$, $SD = 0.44$); $t(79) = -4.50$, $p < .001$, $SE = 0.09$, $d = 1.01$, 95%CI [-0.60 , -0.20].

Poor Black women ($M = 0.62$, $SD = 0.44$) were perceived as stereotypically higher than poor White women ($M = 0.36$, $SD = 0.43$) in the trait category “family-oriented, warmth toward family”; $t(85) = 2.78$, $p = .007$, $SE = 0.09$, $d = 0.60$, 95%CI [0.07, 0.45]. Poor Black women ($M =$

0.04, $SD = 0.17$) were also perceived as more “ambitious/independent” relative to poor White women ($M = -0.03$, $SD = 0.11$); $t(85) = 2.09$, $p = .039$, $SE = 0.03$, $d = 0.45$, 95%CI [0.00 , 0.13].

Additionally, I further tested this by running independent samples t -tests comparing wealthy Black women to wealthy Black men, wealthy White men, and wealthy White women, with the trait scores from the coding procedure as outcome variables. Wealthy Black women were perceived as stereotypically distinct from wealthy Black men in only the trait category “stylish, classy”. For this category, wealthy Black women ($M = 0.59$, $SD = 0.49$) were perceived as more stereotypically stylish or classy than wealthy Black men ($M = 0.17$, $SD = 0.32$); $t(78) = 4.55$, $p < .001$, $SE = 0.09$, $d = 1.02$, 95%CI [0.24 , 0.60].

Wealthy Black women were perceived as stereotypically distinct from wealthy White men in the trait categories “warm, caring, kind”, “stylish, classy”, and “materialistic, superficial, shallow”. Wealthy Black women were perceived as warmer ($M = 0.66$, $SD = 0.56$) and more stylish/classy ($M = 0.59$, $SD = 0.49$) relative to perceptions of wealthy White men as warm ($M = 0.30$, $SD = 0.55$) or stylish/classy ($M = 0.38$, $SD = 0.44$); $t(87) = 3.09$, $p = .003$, $SE = 0.12$, $d = 0.66$, 95%CI [0.13 , 0.60]; $t(87) = 2.16$, $p = .034$, $SE = 0.10$, $d = 0.46$, 95%CI [0.02 , 0.41]. Wealthy Black women were perceived as less materialistic, superficial, and shallow ($M = 0.27$, $SD = 0.37$) than wealthy White men ($M = 0.45$, $SD = 0.42$); $t(87) = -2.13$, $p = .036$, $SE = 0.09$, $d = 0.46$, 95%CI [-0.35 , -0.01].

Wealthy Black women were perceived as stereotypically warmer (“warm, caring, kind”; $M = 0.66$, $SD = 0.56$) than wealthy White women ($M = 0.26$, $SD = 0.69$) and more competent (“competent, smart, wise”; $M = 0.55$, $SD = 0.49$) than wealthy White women ($M = 0.30$, $SD = 0.48$); $t(73) = 2.81$, $p = .006$, $SE = 0.15$, $d = 0.65$, 95%CI [0.12 , 0.70]; and $t(73) = 2.28$, $p = .025$,

$SE = 0.11$, $d = 0.53$, 95%CI [0.03 , 0.48], respectively. See appendix for information about interactions with participant race, class, and gender.

General Discussion

In the studies described in this report, I demonstrated support for the three contemporary perspectives within intersectionality scholarship: additive, multiplicative, and intersectional. The additive perspective demonstrates the impact of singular identities in stereotyping when considered individually or combined additively. For example, in study 1, across target race/ethnicity groups, a sample of predominately White US Americans rated poor people lower in competence than wealthy people, consistent with stereotypes of poor people as low in competence (Darley & Gross, 1983).

The multiplicative perspective argues that stereotyping cannot only be explained in terms of singular identities, or combinations of singular identities. This perspective emphasizes how the severity of stereotyping and prejudice changes when multiple identities are considered simultaneously. For example, for racial minority targets, being wealthier meant being seen as more competent, but this relationship did not hold as strongly for White targets. Similar patterns of results were found in study 2, although it was underpowered to detect these effects.

Across two samples of predominately White US Americans, this research supported the idea that stereotypes can fundamentally change when multiple identities are considered, although sometimes in unexpected ways. For example, Black women were evaluated similarly in competence relative to Black men in study 1, suggesting that low competency stereotypes related to women may differ when considering Black women as opposed to White women. This effect was replicated among Black targets in study 2 (Black men and women were evaluated similarly). While this perspective provides a deeper understanding of how stereotypes differ at the intersection of various identities, understanding why US Americans hold stereotypical beliefs toward these groups requires greater context.

The intersectionality perspective argues that identities should not be considered by only the stereotyping elicited by their singular components, nor solely by stronger or weaker versions of those same stereotypes considering the interactive nature of multiple identities. This perspective assumes that stereotypes toward different identities are themselves fundamentally distinct and cannot be captured by additively combining or multiplying the level of stereotyping elicited by individual identities. In study 2, by identifying traits salient for each group separately, we created a coding scheme that could capture distinct stereotypes with greater context. For example, wealthy White targets were perceived as particularly cold in both study 1 and study 2. The stereotypic profiles demonstrate that wealthy White men and women were stereotyped as “materialistic, superficial, or shallow”. This approach provided more specific stereotypic information about each group, as well which groups may share or not share overlap in stereotypes. This process further provides information that contextualizes the stereotypes found in studies 1 and 2 (e.g., the low warmth ratings for wealthy White men and women).

Intersectional Stereotyping

Beyond simply demonstrating support for intersectionality theory, this research contributes to our understandings of stereotypes of multiple identities. Specifically, I examined how warmth and competence stereotypes change as a function of class-race-gender groups. Some of these groups may have shared common stereotypes; for example, both Asian people and men (generally) have historically been stereotyped as high in competence (Cuddy et al., 2008; Glick & Fiske, 1999). Thus, the label “Asian man” should elicit high competence beliefs. In study 1, a sample of predominately White US participants perceived Asian men as one of the most competent race-gender groups ($M = 5.30$, $SD = 1.04$). However, I was interested in how such stereotypes changed when the stereotypes about the identities were not congruent. For

example, women are stereotyped as low in competence (Cuddy et al., 2008; Fiske et al., 2002; Glick & Fiske, 1999). It's difficult to predict when gender or race stereotypes may be more salient. In this research, Asian women ($M = 5.36$, $SD = 1.00$) were evaluated similarly in competence to Asian men. It might have made sense to expect a drop in competence ratings for Asian women, due to competing stereotypes related to women, or perhaps distinct stereotypes associated with "Asian women", specifically. It may be the case that for "Asian" race/ethnicity labels, racial stereotypes are more salient than gender stereotypes. Further, the label "Asian women" may have evoked an entirely distinct mental image (separate from "women", generally, and "Asian men"), resulting in higher perceived competence beliefs than would be expected when considering the two identities additively.

Similarly, Hispanic people (generally) and women both share common stereotypes of high warmth (Cuddy et al., 2008; Glick & Fiske, 1999). In both study 1 ($M = 5.24$, $SD = 1.05$), and study 2 ($M = 5.75$, $SD = 1.05$), samples of predominately White US participants perceived Hispanic women as high in warmth. Men are stereotyped as relatively low in warmth (or even "cold"; Cuddy et al., 2007; Fiske et al., 2002). It would make sense to expect a drop in warmth ratings when comparing Hispanic men to Hispanic women. However, in study 1, Hispanic men ($M = 4.97$, $SD = 1.06$) were evaluated similarly in warmth to Hispanic women. This pattern was replicated in study 2.

When prejudice, or the valence of attitudes, is solely considered, researchers are left with an incomplete picture of bias. In this research, documenting only the valence of attitudes (e.g., positive or negative) would not have been as informative as describing stereotypical warmth and competence beliefs toward each group, as in studies 1 and 2. In study 2, participants completed a narrative day in the life task, which was then coded for salient trait words. A second set of coders

rated the data on these words, identifying a set of stereotypic traits for each group. This further contextualized the quantitative warmth and competence ratings from studies 1 and 2 and provided a better picture of US Americans' stereotypic profiles toward the 12 groups.

Key Stereotypes

Across both studies, target class status and race/ethnicity both influenced stereotypical warmth and competence beliefs. In general, poor targets were perceived as warmer but less competent than the wealthy. Black and Hispanic targets were stereotyped as high in warmth relative to Asian and White targets. Asian and Hispanic targets were perceived particularly high in competence relative to other race groups. White targets were perceived particularly negatively with respect to both warmth and competence. Black women were perceived particularly positively across class groups relative to men, and when compared to other race groups. The main effect of gender on both warmth and competence failed to replicate in study 2, but in general, women were perceived as high in both warmth and competence relative to men. In study 1, the “people” target gender group was perceived the most positively or similar to women with respect to warmth and competence.

Target class and race influenced warmth and competence stereotypes interactively in study 1 (and marginally in study 2). There was an overall preference for the wealthy (and derogation of the poor), that differed in severity depending on the racial group. Further, White people were viewed particularly negatively relative to other racial groups, but wealthy White people were still viewed more positively than poor White people with respect to warmth and competence. In study 2, stereotypes of poor White men and women as distinctly negative (“shy, lonely, reclusive;” “stressed, anxious;” and “sad, depressed”) and wealthy White men and

women as distinctly “materialistic, superficial, and shallow” may provide some context for these results, although social desirability concerns likely played a role as well.

Social Desirability Concerns

White people were perceived particularly negatively in this research, which may have been in part due to participants’ socially desirable responding. The majority White participants may have felt inclined to either derogate their own racial group, exaggerate positive perceptions of minority racial groups, or both, to appear non-prejudiced (see footnote 4). Further, if socially desirable responding led to relatively higher warmth and/or competence scores for racial minority groups, it’s not clear how social desirability might uniquely influence ratings toward the different racial minority groups.

Social desirability concerns impact both comparisons between White people and other racial groups, as well as comparisons among racial minority groups. For example, both the poor Black and Hispanic target groups (excluding Hispanic women) were alone stereotyped as “happy, optimistic”. With poor White people, there was a larger focus on perceptions of being stressed, sad, and depressed. Given the large majority of White participants in study 2 (79.5%), this may represent socially desirable responding such that poor Black and Hispanic people are described as “resilient” (a trait used to describe both poor Black and Hispanic women) rather than suffering. This may have exacerbated the relatively negative and positive depictions of poor White people and poor racial minority groups, respectively. Further, this pattern of socially desirable responding may have led to more homogenous depictions of stereotypes of poor Black and Hispanic people, potentially obscuring distinct stereotypes between racial minority groups.

The previous paragraphs assume that White participants artificially derogated their own racial ingroup, inflated their perceptions of racial outgroups, or both. However, it is also likely

that the extent to which participants shared their genuine views toward a group differed depending on the group's status in society, as well whether it was the participant's ingroup or outgroup. Social desirability likely played a stronger role in evaluations of Asian, Black, and Hispanic targets. White participants can be motivated to avoid expressing negative stereotypes of racial/ethnic outgroups. White participants likely have comparatively less motivation to avoid expressing negative stereotypes of White people, or positive stereotypes of outgroups. White participants may feel on alert about not appearing prejudiced while evaluating racial minority groups, but feel comfortable expressing genuine beliefs toward their racial ingroup.

Samples of predominantly White participants may have shared more genuine stereotypical beliefs of White targets as a function of heightened exposure to stereotypes within the group and participants' lack of recognition of whiteness as an identity. As ingroup members, White participants notice heterogeneity within their own group, and can subsequently report on a diversity of both positively- and negatively-valanced ingroup stereotypes. As whiteness is "invisible", stereotypes of White people are more diverse and heterogenous (Sue, 2006). This is also likely the case for other identities with social power, such as men and the middle-class/wealthy.

Limitations and Future Directions

Class, Race, and Gender Labels

Socioeconomic status is a multifaceted construct, and includes an individual's income, formal educational attainment, employment status, the neighborhood in which one resides, all current assets and liabilities, one's background and upbringing, and the social network an individual has at their disposal (e.g., class differences in the feasibility of reaching out for financial support, loans within one's social network). Results may differ with alternate class cues

(Loughnan, Haslam, Sutton, & Spencer, 2014). Similarly, the use of “Black” versus another racial identifier like “African American” may impact stereotypic attitudes toward these labels, as people respond to racial identifiers differently, even when they ostensibly correspond to the same group or substantially overlapping groups (Hall, Phillips, & Townsend, 2015; Hall, Townsend, & Carter, 2021).

Number of Comparisons and Lack of Statistical Power

Both studies in this report described numerous potential comparisons (36 groups in study 1 and 12 groups in study 2). I used Tukey post hoc tests for pairwise comparisons to account for the inflated familywise error rate. However, with this many comparisons, it is difficult to be certain that any one is not a fluke.

I did not have sufficient power to detect both the warmth and competence three-way interactions in study 1. Study 2 was also underpowered to detect interactions. In intersectional research, obtaining efficient power can be both a methodological and financial challenge, and most studies lack sufficient power to detect three-way interactions (see Parent et al., 2013). The patterns of results would be strengthened through replications in similar samples (i.e., US Americans), with more participants or fewer comparison groups to ensure sufficient statistical power. Despite this limitation, the descriptive results from this research provide a basis for more tailored tests of intergroup stereotypes (e.g., a test examining whether wealthy Asian women are stereotyped as high in confidence, similar to wealthy Black and Hispanic—but not White—women in study 2).

Lack of Sample Diversity

In this research, I aimed to demonstrate the stereotypical beliefs of US Americans toward various target groups. However, both studies obtained data on the beliefs of samples containing

at least two-thirds White participants (67.8% in study 1 and 79.5% in study 2). The patterns of results would be strengthened through replications in distinct samples (e.g., samples controlling for relatively equal proportions of Asian, Black, Hispanic, and White participants). The small sizes of these groups among participants posed obstacles for some analyses, such as moderations by participant race. Further, future research should also continue to explore demographic moderators other than race, including class and gender.

To better understand patterns of class, race, and gender-based stereotypes overall, future research should also examine patterns of stereotypes in samples of exclusively Asian, Black, and Hispanic participants. The proportion of White people in this sample (although not dissimilar from the actual percentage of White US Americans, 75.8%; U.S. Census Bureau, 2022) likely demonstrated a picture of stereotypes that overemphasizes the perspective of White people in intergroup stereotypes. Samples focusing solely on the perspectives of the racial target groups in the research would provide a less narrow perspective on how warmth and competence stereotypes change within and between groups. For example, in a study using the same set of racial target groups but an exclusively Hispanic sample, it would be interesting to see if Hispanic people held similarly high warmth beliefs about their own groups, or if target group values for various Hispanic groups would have more variation (more heterogeneity) relative to a primarily White sample. Further, in this research, White target groups were rated relatively low in both warmth and competence. It would be helpful to understand when samples of primarily Asian, Black, or Hispanic groups might similarly derogate White targets and if they do so based on distinct White stereotypes, such as those described in study 2. It would also be helpful to ascertain whether Asian, Black, or Hispanic participants would show strong social desirability concerns when rating racial minority outgroups.

Limited Variation of Stereotypes

Finally, it's possible that the variation in stereotypes was constrained by the emphasis on warmth and competence. In the narrative task, a typical workday scenario was used to create a vague yet uniform structure for the task that made sense regardless of the participants' target group. The focus on time at work, and later time at home (emphasizing leisure activities and interpersonal relationships), would have encouraged the use of warmth- and competence-related words from participants. That data was later used to develop the coding scale, which may have, in turn, overemphasized warmth and competence traits. In addition to overemphasizing the role of warmth- and competence-related stereotypes in these narratives, this focus may have obscured important but unrelated stereotypic traits. For example, "stylish and classy" was uniquely associated with wealthy people in study 2. This stereotypic trait doesn't fit cleanly into either warmth or competence, but provides a more detailed picture of class-related stereotypes.

Conclusion

Taken together, this research builds on current understandings of intersectionality theory by testing key assumptions of the additive, multiplicative, and intersectional perspectives. In study 1, I experimentally assigned participants to describe stereotypic beliefs associated with a label with multiple identities. By comparing assumptions of the additive model (i.e., main effects) and the multiplicative model (i.e., interactions), I demonstrated that stereotypical beliefs of targets' warmth and competence levels can change when more than one identity is salient. Moving beyond warmth and competence beliefs, study 2 demonstrated that there are unique stereotypes associated with non-prototypical targets (e.g., Black women) that differ from stereotypes associated with more prototypical targets (e.g., Black men, White women).

Appendix

Moderations by Participant Demographics

Income

Participant income did not moderate any key results. With respect to warmth, there were no significant interactions between participant income and target race, class, or gender (study 1: all $ps > .307$; study 2: all $ps > .269$). With respect to competence, there were no significant interactions between participant income and target race, class, or gender (study 1: all $ps > .126$; study 2: all $ps > .381$).

Gender

Participant gender did moderate some key results. With respect to warmth, there were no significant interactions between participant income and target race, class, or gender (study 1: all $ps > .459$; study 2: all $ps > .153$). In study 1, women perceived the poor ($M = 4.68$, $SD = 1.14$) as more competent than men did ($M = 4.35$, $SD = 1.16$); $F(2, 2300) = 2.28$, $p = .044$, $\eta_p^2 = .005$ (all other $ps > .161$). However, women perceived the middle-class ($M = 5.32$, $SD = 0.91$) similarly to men ($M = 5.16$, $SD = 0.98$), and women also perceived the wealthy ($M = 5.59$, $SD = 1.02$) similarly to men ($M = 5.53$, $SD = 0.94$). Participant gender did not moderate target competence in study 2 (all $ps > .197$).

Race

Participant race/ethnicity also moderated some key results. I examined the participant race/ethnicity groups from which I had the highest numbers of participants: Black, Hispanic, East Asian, and White. In study 1, participant race/ethnicity moderated target class such that East Asian participants were especially unfavorable toward poor groups ($M = 4.28$, $SD = 1.14$), relative to others (Hispanic participants: $M = 5.19$, $SD = 1.16$; Black participants: $M = 4.55$, $SD =$

1.36; White participants: $M = 4.92$, $SD = 1.07$); $F(6, 2356) = 3.20$, $p = .009$, $\eta_p^2 = .009$. Most racial/ethnic groups showed racial/ethnic ingroup preferences for both warmth ($F(9, 2356) = 3.03$, $p = .014$, $\eta_p^2 = .001$) and competence ($F(9, 2356) = 3.30$, $p < .001$, $\eta_p^2 = .017$). White participants did not show this racial in-group bias effect for warmth and competence beliefs. Participant race/ethnicity did not moderate any other key findings in study 1 with respect to warmth (all other $ps > .342$) or competence (all other $ps > .243$). Participant race/ethnicity did not moderate any key findings with respect to warmth (all $ps > .095$) or competence (all $ps > .161$) in study 2.

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Mackenzie Ess, MS

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EDUCATION

PhD June 2023	Syracuse University, Social Psychology <i>Advisor:</i> Sara E. Burke, Ph.D. <i>Dissertation:</i> The stereotype content of intersecting race, class, and gender groups
MS 2020	Syracuse University, Psychology <i>Thesis:</i> Class attitudes and endorsement of the Protestant work ethic
BS 2018	Purdue University, Psychological Sciences (with Distinction) <i>Honors Thesis:</i> Teaching inclusivity: Can a diversity intervention impact social media behavior?

SELECTED HONORS

Outstanding Teaching Assistant Award – *Syracuse University*
April 2020

Certificate in University Teaching – *Syracuse University*
May 2020

Research Excellence Doctoral Funding Fellowship – *Syracuse University*
2021–2022

PEER REVIEWED ARTICLES & CHAPTERS

Ess, M. & Burke, S. E. (2022). Class attitudes and the American work ethic: Praise for the hardworking poor and derogation of the lazy rich. *Journal of Experimental and Social Psychology*, 100, 1–16.

Ess, M., Burke, S. E., & LaFrance, M. (2022). Gendered anti-bisexual bias: Heterosexual, bisexual, and gay/lesbian people's willingness to date sexual orientation ingroup and outgroup members. *Journal of Homosexuality*, 1–18.

Houck, S. C., Huber, K. J., **Ess, M.,** & Proulx, M. L. (2020). Cognitive complexity in political contexts. In *Oxford Research Encyclopedia of Politics*.

MANUSCRIPTS UNDER REVIEW

**Denotes undergraduate mentee*

Ess, M., Burke, S. E., & Lott, M. S.* Manipulating attributions for socioeconomic status: Judgments of low-SES individuals and groups in interpersonal and professional contexts. Under review.

CONFERENCE PRESENTATIONS

**Denotes undergraduate mentee*

Symposium Presentations

Ess, M., & Burke, S. E. (2021, February). *Investigating class attitudes: Derogation of the lazy rich and praise for the hardworking poor*. Paper presented at the Annual Convention of the Society for Personality and Social Psychology (conference held virtually).

Ess, M., & Burke, S. E. (2019, May). *A rose by any other name? Labels versus descriptions yield inconsistent evaluations of some sexual minority groups*. Paper presented at the Annual Convention of the Social Psychologists Around Western New York, Syracuse, NY.

Poster Presentations

Ess, M., & Burke, S. E. (2022, February). *Gendered prejudice and stability perceptions of bisexual and pansexual targets*. Poster presented at the Annual Convention of the Society for Personality and Social Psychology, San Francisco, CA.

Lott, M. S.*, **Ess, M.,** & Burke, S. E. (2022, February). *The “lazy poor” or the “unlucky poor”? Manipulating class-based attributions at the group level and in a hiring context*. Poster presented at the Annual Convention of the Society for Personality and Social Psychology, San Francisco, CA.

- *Note:* Undergraduate mentee, Mason Lott, awarded the SPSP Undergraduate Poster Award

Ramdass, J. V., Jaurique, A., Marsden, A. D., **Ess, M.,** & Burke, S. E. (2022, February). *Morality, uncertainty, and group identification influence candidate support, voting behavior, and reactions to the 2020 US elections*. Poster presented at the Annual Convention of the Society for Personality and Social Psychology, San Francisco, CA.

- Quinn, E. A., **Ess, M.**, & Burke, S. E. (2021, August). *Contextual passing and the stigmatization of bisexual individuals*. Poster presented at the Annual Convention of the American Psychological Association (conference held virtually).
- Lott, M. S.*, **Ess, M.**, & Burke, S. E. (2021, February). *Lazy or unlucky? Investigating class attitudes and attribution theory*. Poster presented at the Annual Convention of the Society for Personality and Social Psychology (conference held virtually).
- Ess, M.**, & Burke, S. E. (2020, June). *Class attitudes and endorsement of the Protestant work ethic*. Poster accepted for presentation at the Annual Convention of the Society for the Psychological Study of Social Issues, Denver, CO. (Convention canceled).
- Ess, M.**, & Burke, S. E. (2020, February). *A rose by any other name? Labels versus descriptions yield inconsistent evaluations of some sexual minority groups*. Poster presented at the Annual Convention of the Society for Personality and Social Psychology, New Orleans, LA.
- Ess, M.**, & Monteith, M. J. (2018, March). *Teaching inclusivity: Can a diversity intervention impact social media behavior?* Poster presented at the Annual Convention of the Society for Personality and Social Psychology, Atlanta, GA.
- Ess, M.**, & Monteith, M. J. (2018, April). *Teaching inclusivity: Can a diversity intervention impact social media behavior?* Poster presented at the Annual Convention of the Midwestern Psychological Association, Chicago, IL.
- Ess, M.**, & Monteith, M. J. (2018, April). *Teaching inclusivity: Can a diversity intervention impact social media behavior?* Poster presented at the Annual Purdue Psychology Undergraduate Research Conference, West Lafayette, IN.

MENTORSHIP

Undergraduate Student Mentorship

Mentor, Undergraduate Research

Lott, Mason S. *The “lazy poor” or the “unlucky poor”? Manipulating class-based attributions at the group level and in a hiring context.*
Spring 2020-Present

Kennedy, Frankie. *The lineup of love: Negative judgments of dating profiles that disclose a history of incarceration.*

Fall 2018

Mentor to Undergraduate Research Assistants – *Intergroup Bias Lab*
Fall 2018–Present

Graduate Student Mentorship

Teaching Mentor – *Syracuse University Teaching Assistant Orientation Program*
Summer 2021

Mentor to introductory psychology teaching assistants – *Syracuse University*
Spring 2021

First-Year Graduate Student Mentor – *Syracuse University*
2020–Present

GRANTS

Diversity Graduate Travel Award, \$500 <i>Society for Personality and Social Psychology</i>	2021
Graduate Travel Award, \$300 <i>Graduate Student Organization – Syracuse University</i>	2019
Undergraduate Research Grant, \$500 <i>Purdue University</i>	2017
Office of Undergraduate Research Travel Grant, \$500 <i>Purdue University</i>	2017

TEACHING EXPERIENCE

Instructor of Record

Social Psychology (PSY 274) – *Syracuse University*
Summer 2020, number of students = 23

Recitation Instructor

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Spring 2021, number of students = 48

First Year Experience Course (SEM 100) – *Syracuse University*
Fall 2020, number of students = 19

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Fall 2020, number of students = 98

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Spring 2020, number of students = 68

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Fall 2019, number of students = 71

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Spring 2019, number of students = 66

Foundations of Human Behavior (PSY 205) – *Syracuse University*
Fall 2018, number of students = 95

Teaching Assistant

Abnormal Psychology (PSY 395) – *Syracuse University*
Fall 2022, number of students = 239

Forensic Psychology (PSY 474) – *Syracuse University*
Fall 2022, number of students = 120

Social Psychology (PSY 274) – *Syracuse University*
Fall 2022, number of students = 120

Other Teaching Positions

Teaching Assistant Coordinator, Foundations of Human Behavior (PSY 205) –
Syracuse University
*Spring 2021, number of **teaching assistants** = 15*

GUEST LECTURES

Purdue University

Psychology of Gender (PSY 392)

Research on the Intersection of Sexual Orientation and Gender (online)

August 2022

Syracuse University

Foundations of Human Behavior (PSY 205)

Stereotypes, Prejudice, & Racial Bias (online)

April 2021

Personality Psychology (PSY 393)

Intelligence, number of students = 70

March 2019

Personality Psychology (PSY 393)

The Big 5, number of students = 70

February 2019

Personality Psychology (PSY 393)

Humanistic Psychology, number of students = 77

November 2018

Foundations of Human Behavior (PSY 205)

Prejudice & Discrimination Research, number of students = 15

June 2019

HONORS & AWARDS

Research Excellence Doctoral Funding Fellowship – *Syracuse University*
2021–2022

Certificate in University Teaching – *Syracuse University*
May 2020

Outstanding Teaching Assistant Award – *Syracuse University*
April 2020

Hadley Outstanding Senior in Psychological Sciences – *Purdue University*
2018

Graduated with Distinction, Departmental Honors (Psychology) – *Purdue University*
2018

Summer Stay Scholar Recipient – *Purdue University*

Summer 2017

PROFESSIONAL DEVELOPMENT

R Training and Statistics Workshops – <i>Syracuse University</i>	2018–Present
Scientific Writing Workshop – <i>Syracuse University</i>	2020, 2021
Managing Bias Training – <i>Syracuse University</i>	2020
Women in Science and Engineering (WISE) Program – <i>Syracuse University</i>	2019–2021
Future Professoriate Program – <i>Syracuse University</i>	2018–2020
Safer People, Safer Spaces Training – <i>Syracuse University</i>	2018

SERVICE & COMMITTEES

Graduate Student Organization – *Syracuse University*

Parliamentarian	2021–2022
Vice President, Internal Affairs	2020–2021
Senator, Social Psychology	2018–2020
Chair, Employment Issues Committee	2019–2020, 2021–2022
Member, Civic Engagement Committee	2018–2019
Member, Diversity and Inclusion Committee	2020–2021

Psychology Action Committee – *Syracuse University, Department of Psychology*

Co-President	2019–2020
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Committee for Diversity and Inclusion – *Syracuse University, Department of Psychology*

Committee Member	2019–Present
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MEMBERSHIPS

American Psychological Association

Midwestern Psychological Association

Society for Personality and Social Psychology

Society for the Psychological Study of Social Issues