Spring 2022

The Effect of Economic Scarcity on Racial Perceptions

Michael Brooks
Western Washington University, mbrooks3291@gmail.com

The Effect of Economic Scarcity on Racial Perceptions

By

Michael “Gus” Brooks

Accepted in Partial Completion
of the Requirements for the Degree
Master of Science

ADVISORY COMMITTEE

Dr. Antonya Gonzalez, Co-Chair

Dr. Kelly Jantzen, Co-Chair

Dr. Alex Czopp

Dr. Larry Symons

GRADUATE SCHOOL

David L. Patrick, Dean

Master's Thesis

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Michael "Gus" Brooks

April 26th, 2022

The Effect of Economic Scarcity on Racial Perceptions

A Thesis

Presented to

The Faculty of

Western Washington University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

by

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Abstract

During economic downturns, socioeconomic and health disparities between Whites and BIPOC tend to widen, and negative attitudes towards BIPOC increase - a pattern most recently seen during the COVID-19 pandemic. While structural inequalities likely contribute to these effects, contemporary work suggests that conditions of scarcity can influence racial perception and categorization, leading to discrimination. Indeed, White individuals are biased to categorize racially ambiguous individuals as Black, more often than White, in times of economic scarcity, which is then linked to discriminatory behavior toward those individuals. However, it remains unclear if this phenomenon persists when categorizing members from two racial outgroups. Across six studies, the following thesis tests how scarcity alters Whites' perception and categorization of racially ambiguous faces along a Black to White, Asian to White, and Black to Asian continuum. Using a meta-analytic approach, results indicate that financial stress and experiencing events that negatively impact financial security prompt a perceptual bias among White perceivers to categorize faces as Black. In contrast to previous research, we did not find robust evidence that subliminally priming scarcity, negative concepts, or neutral concepts influences racial categorization. However, negative associations with Asians that have arisen during the COVID-19 pandemic appear to interact with perceivers' financial security to elicit a perceptual bias to categorize faces as Asian. Taken together, the present work provides novel insights into the mechanisms and contexts possibly requisite for economic scarcity to influence perceivers' intergroup boundaries at a perceptual level.

Acknowledgments

Firstly, I would like to acknowledge my graduate advisors: Dr. Antonya Gonzalez and Dr. Kelly Jantzen. Thank you for your guidance, support, and encouragement over the past two years. Though I still have much to learn, I know I will be leaving Western a better and slightly less anxious scholar. Notably, as a queer student of color, I feel privileged to be Dr. Gonzalez's first mentee; your success in academia – though unsurprising – as a woman of color inspires and motivates me. I would also like to acknowledge my committee members: Dr. Alex Czopp and Dr. Larry Symons. Thank you for sharing your time and knowledge to help me develop and complete this project. Further, Dr. Czopp, your guidance over the past several years has been invaluable and affirming; I am grateful to have had a Korean academic to look up to while at Western. Additionally, I would like to thank my cohort members, Haley Bock, Paige Michel, Brook Smith, Kit Turner, and Brennen Risch. Despite our limited time together in person, your (virtual) support motivated me to finish this project. Finally, I would like to acknowledge my close support system. To my friends, thank you for all the little ways you helped make finishing this thesis project just a bit easier. Finally, I would like to acknowledge my partner, Luke. Thank you for your unwavering belief in me and for standing with me through the highs and lows; I am immensely grateful for your presence in my life.

The research presented in this thesis was funded by two grants from the Center for Cross-Cultural Research and the Office of Research and Sponsored Programs at Western Washington University.

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Chapter 1: Introduction

Overview

Black, Indigenous, and People of Color (BIPOC) in the United States share an extensive history of discrimination and oppression, which has led to significant societal disparities, most notably, socioeconomic status and health outcomes. The most considerable disparities often appear when comparing Whites to Black, Hispanic or Latino/a/x, and American Indian or Alaskan Native communities (PEW Research Center, 2016; Singh et al., 2017; U.S. Census Bureau, 2017a, 2017b). However, in times when these marginalized communities need the most support, such as during an economic recession, they appear to face even more adversity – a pattern most recently observed during the COVID-19 pandemic (Long et al., 2020; Margerison-Zilko, 2016). Namely, BIPOC in the U.S. have experienced the greatest job losses and highest COVID-19 infection and death rates since early 2020 (Carethers, 2021; Congressional Research Service, 2021).

Pre-existing structural inequalities can, in part, help explain growing inequality during economic downturns. For example, Black Americans disproportionately occupy less secure and more volatile workforce sectors than White Americans (Hardy & Logan, 2020). Further, Black workers with equivalent levels of education earn less than their White counterparts (Darity et al., 2018). Cumulatively, these structural factors render Black Americans more vulnerable to job loss during economic downturns while also leaving them with less monetary capital to buffer the effects of a recession. In the U.S., loss of employment often results in loss of health insurance, which is associated with reduced use of health services, and this effect is particularly strong during recessions (Mortensen & Chen, 2013).

It is evident that structural factors contribute to growing inequality during economic downturns, but theoretical and empirical work suggests that conditions of economic scarcity give rise to psychological mechanisms that promote racial discrimination. For example, resource competition promotes out-group antipathy and disproportionate resource allocation favoring one's in-group (Chang et al., 2016; Riek et al., 2006). Indeed, framing resources as scarce increases the likelihood that a sample of predominately White participants will allocate money to White rather than Black recipients (Krosch et al., 2017). However, general perceptions of interracial competition may be a direct causal antecedent of interracial conflict, and monetary scarcity may amplify this effect. For example, Gordils et al. (2021) found that greater perceived Black-White competition among Black and White participants increased reports that the opposite racial group was more discriminatory and avoidant and held more anxiety and mistrust against their racial in-group. Furthermore, these "competition effects" were moderated by zip code, such that those living in areas with greater objective racial income inequality reported the most pronounced effects.

Although societal structures and recent empirical evidence suggest that economic scarcity and resource competition can foster racial discrimination and amplify disparities, much of this research has focused on contexts where intergroup boundaries are clearly defined. However, recent demographic shifts, such as the growing multiracial population (Pauker et al., 2015), have underscored the complexities of person perception and categorization when category membership is ambiguous. Contemporary evidence suggests that monetary scarcity may affect social perception and categorization of racially ambiguous targets,[1] a process that precedes

[1] Previous work (e.g., Young et al., 2021) differentiates the terms racially ambiguous (i.e., not visually prototypical of one racial or ethnic group) and multiracial or mixed-race (i.e., an individual with an explicit multiracial heritage or identity). The present work solely uses the term racially ambiguous defined as not visually prototypical of a single

discrimination and amplifies racial disparities (Kawakami et al., 2017; Krosch & Amodio, 2014). Indeed, a sample of predominately White decision-makers was biased to categorize racially ambiguous targets as Black, more often than White, when non-consciously primed with scarcity. Further, participants internal visual representation of Black faces – determined via reverse correlation image classification – was significantly darker and more stereotypically Black when allocated scarce (v. abundant) monetary resources in a game (Krosch & Amodio, 2014).

This prior research demonstrates scarcity's effects within a Black-White context. However, the effect of scarcity on social perception and categorization, to the best of our knowledge, has not been investigated within any other racial context. It remains unclear how scarcity influences the perception and categorization of individuals from two racial out-groups or a dual-minority background (i.e., not Black and White). The present work sets out to take novel steps towards clarifying how economic scarcity affects the social perception and categorization of racially ambiguous individuals. Across six studies, we will examine the effect of economic scarcity on White individuals' perception and categorization of racially ambiguous faces along a Black-White, Asian-White, and Black-Asian continuum.

Racial Bias

Scholars have written extensively on race as a social construction (e.g., Richeson & Sommers, 2016). Neither biological markers (e.g., genetic variation) nor traits and abilities can corroborate the existence of relatively distinct and homogenous racial groups (Harris & Sim, 2002; Tishkoff & Kidd, 2004). However, like many cultural ideas (e.g., marriage), race is neither insignificant nor inconsequential. A more comprehensive and practical definition of race may be

racial or ethnic group, regardless of explicit heritage and identity or artificial composition via face morphing. Literature where the term racially ambiguous is inappropriate or misinterprets the findings will be explicitly stated.

a social construction that arbitrarily and poorly describes a phenomenon (i.e., lineage), which has been used to justify the devastating maltreatment of others.

Indeed, the United States has an extensive history of enslaving, discriminating, and persecuting groups based on race. To only scratch the surface, the enslavement of African peoples proliferated into the 18th century, with records of slavery in the North American British colonies dating back to the 16th century (Schneider & Schneider, 2007). From 1830 to 1850, more than 100,000 Native Americans were forcefully removed from their ancestral homelands at the hands of the United States government and military, resulting in thousands of deaths (Britannica, 2016). During the Jim Crow era, the federal government suppressed the growth of Black-Americans and other non-White groups by restricting access to housing, education, healthcare, and more (Kenn, 2001; Yearby, 2018). From 1942 to 1945, the U.S. government mandated the internment of people of Japanese descent in isolated camps, which preceded and followed anti-Asian prejudice and discrimination (Thiesmeyer, 1995). Although many of America's past gross policies and practices have been prohibited, their racist ideological roots persist.

Contemporary racism often takes shape in more subtle and covert forms, which some use as evidence of an egalitarian society (Bonilla-Silva, 2015). Even so, embedded in our societal institutions, racist ideology continually reinforces and perpetuates prejudice, discrimination, and inequity. For example, the U.S. has the largest incarceration rate of any other country, and Black Americans disproportionately represent this population. Further, predominantly Black communities are patrolled by police more often, and their members experience worse police encounters, bail settings, and sentence length than their White counterparts (Bailey et al., 2021; Cox & Augustine, 2018; Hetey & Eberhardt, 2018). Outside of the criminal justice system,

majority-Black neighborhoods remain vastly undervalued – a finding that home or neighborhood quality cannot fully account for (Perry, 2019). Since a home is often a family's most significant asset, as a home appreciates, so does the homeowner's wealth, facilitating upward mobility by funding things like retirement, a child's education and local schools, and other significant expenses.

At an interpersonal level, expressions of racial prejudice have transformed alongside cultural and social norms that promote egalitarianism and profoundly discourage acknowledging others' social identities (Dovidio et al., 2017). These shifts have underpinned the development of a prolific amount of research on implicit attitudes and biases (Banaji & Greenwald, 2016; Dasgupta, 2013; Devine, 2001). Since they commonly function beyond an individual's awareness, implicit attitudes are difficult to recognize and control (Banaji & Greenwald, 2016; Dovido et al., 2002). This subconscious quality can ultimately foster intergroup animosity and perpetuate discrimination in subtle (and blatant) ways (for criticism of implicit bias research, see Brownstein et al., 2020). For example, physicians with greater pro-White implicit bias were less likely to prescribe narcotics to Black than White patients, presumably due to stereotypic beliefs about illicit drug use in Black communities (Sabin & Greenwald, 2012).

Even when individuals have the best intentions, subtle expressions of racism can emerge in social contexts. For example, considerable research has documented that stereotype suppression often leads to increased stereotypical thoughts and behavior following suppression attempts (Macrae et al., 1994). That is, trying to suppress a negative stereotype may *rebound*, such that focusing on an unwanted thought makes the thought more accessible and increases the likelihood that a perceiver will behave in a biased manner (Monteith et al., 1998). In related literature, researchers have examined the harmful effect of racial expressions used by others to

be prosocial. For instance, positive stereotypes can create unrealistic expectations, leading to stereotyped individuals "choking under pressure" (Cheryan & Bodenhausen, 2000), or may cause offense by implying a deficit in a separate domain (e.g., Black individuals being athletically superior but academically inferior; Walzer & Czopp, 2011). Similarly, researchers have examined the effects of a colorblind racial ideology (Mazzocco, 2017). Although those who endorse racial colorblindness believe doing so is beneficial, evidence consistently suggests that espousing racial attitudes that emphasize sameness and equality is harmful, insofar that it invalidates the experience of many racial and ethnic minorities and conveys a message that racism no longer exists (Neville et al., 2013).

Social Categorization

Racial categorization is ubiquitous in daily life, in part, due to the implicit and explicit salience placed on race by societies that emphasize it as a natural and immutable category (Bigler & Liben, 2007). Indeed, social categorization lies at the center of social interaction, and empirical evidence continues to demonstrate that race is a robust dimension for such categorization (Kinzler et al., 2010). As such, revisiting principles of racial categorization in combination with new insights from *social vision* has theoretical and practical importance for understanding racial discrimination.

Decades of research has focused on how people efficiently and automatically categorize themselves and others into racial groups (Amodio et al., 2014; Ito & Urland, 2003; Trepte & Loy, 2017). This capacity reflects a powerful aspect of human cognition that helps simplify the social world's nuances and complexities (Liberman et al., 2017). Indeed, compartmentalizing and organizing classes of stimuli that share salient properties provides perceivers a sense of coherence to the vast array of socioconceptual knowledge encountered daily. For example, due

to a priori assumptions about a group's homogeneity, category-based knowledge allows people to quickly attribute stereotyped characteristics or traits from a group to an individual and vice versa. Despite its utility, social categorization is arguably only as meaningful as the subjective classifications it implements. This idea is consistent with the notion that meaningful social categories are indispensable to social categorization (Tajfel, 1982). "Meaningful" in this context primarily refers to the functionally relevant knowledge that social categories hold, in which broader social and cultural influences often dictate relevance, and perceptual cues indicate group membership.

The development of social categories begins with attending to criteria relevant for classification, and faces are arguably one of the most dominant and informative percepts for gleaning information about and categorizing others (Brooks & Freeman, 2018; Hehman et al., 2017). Although it is possible to differentiate two stimuli without capitalizing on those differences to construct meaningful or distinct categories, it appears that infants and children predominantly attend to perceptual differences that correspond with prevailing social categories (e.g., race; Bigler and Liben, 2007), then gradually develop tendencies to classify faces based on these criteria (Rhodes and Baron, 2019). Indeed, humans deploy a disproportional amount of attention towards faces early in development (Leppänen, 2016; Reynolds & Roth, 2018). While there is evidence that this attentional bias towards faces reflects an innate predisposition to serve social environments (Frank et al., 2014), others have argued that this bias indicates an attentional preference for general perceptual structural properties among face and non-face stimuli (e.g., high-contrast stimuli; Simion & Di Giorgio, 2015). Regardless, this bias appears to influence the development of racial category differences in conjunction with generally homogenous racial environments and gradually developing biases that favor own-race faces – made evident through

research integrating looking-time measures, recognition paradigms, and eye-tracking (for review, see Quinn et al., 2019).

People continue developing and maintaining their conceptual representations of racial groups throughout the lifespan, partially by updating their knowledge of the perceptual cues that best indicate group membership, then using this information to systematically categorize others across contexts (for review, see Bodenhausen et al., 2012). However, perceptual cues operate in tandem with higher-order factors (e.g., expectations) to achieve racial categorization.

A Dynamic Approach to Person Construal

Traditional approaches to person construal – the initial perceptual encoding and categorization of someone – often assumed a *feed-forward approach* (Freeman & Johnson, 2016; Macrae & Bodenhausen, 2000; Martin & Macrae, 2007). Broadly, this approach assumes that perceptual cues (e.g., thinner eyes) activate a single, dominant social category representation (e.g., Asian). In turn, the activated social category prompts explicit or implicit stereotypes, attitudes, or goals, which are often considered antecedents to prejudice or discrimination. However, scholars have critiqued the feed-forward approach for neglecting context and processes harbored within the perceiver that may shape perception (Freeman & Ambady, 2011).

A feed-forward emphasis proposes that faces directly convey socioconceptual knowledge from specific combinations of features in a universal and generalizable way. However, the perceiver's own socioconceptual knowledge and beliefs may be just as influential in shaping their perception. For example, using inversion stereotypes (e.g., equating gay men to women) is associated with a greater likelihood of categorizing gender-atypical faces (e.g., female faces with masculine features) as gay or lesbian (Freeman et al., 2010). Speaking to this shortcoming, a

more integrative approach has grown in popularity over recent years that speaks to the pitfalls of a feed-forward emphasis while also accounting for multiple-category membership.

Dynamic Interactive Theory (DIT), or the dynamic interactive model, uses domain-general cognitive and computational principles to support the synchronous interplay between bottom-up visual perception and higher-order factors (Freeman & Ambady, 2011). Specifically, DIT puts forth that visual cues and top-down effects mutually constrain and inform one another, such that socioconceptual structures and context interact with perceptual processes to dynamically shape initial perception and categorization (Collins & Olson, 2014; Hehman et al., 2017; Mattan et al., 2017; for review, see Freeman et al., 2020).

The dynamic interactive approach relies on computational models of social perception that assume socioconceptual representations (e.g., social categories, trait associations) are reflected by patterns of activity distributed across large populations of neurons (e.g., social trait space; Freeman et al., 2018; Stolier et al., 2018). As such, activation of a social category representation involves a continuous change in neural activity patterns (Spivey & Dale, 2006). DIT further rests upon the assumption that visual information from a face accumulates incrementally, such that the brain's perceptual system has only rudimentary information about a face in the early stages of perception. Specifically, neuronal recordings in non-human primates have shown that roughly 50% of a face's visual information rapidly accumulates in the brain's perceptual system by 80 ms, while the remaining information gradually accumulates over hundreds of milliseconds (Rolls & Tovee, 1995). Similarly, humans' transient interpretation of a face is rudimentary and partially consistent with multiple representations during early perception (e.g., both male and female). Then across a span of hundreds of milliseconds, information about the face accumulates, leading to representations becoming more fine-tuned, reflected by dynamic

patterns of neuronal activity becoming increasingly stable until a complete representation of a category is reached (e.g., 100% female). Notably, a dynamic competition characterizes this latter process, where each conceptual representation either stabilizes (e.g., 100% female) or is pushed out (e.g., 0% male).

The premise of dynamic competition is fundamental to DIT (Freeman & Johnson, 2016) as it allows the perceptual system to take various visual cues (e.g., masculine features on a woman's face) and slot them into stable categories.[2] Moreover, during the time neuronal activity takes to achieve a stable pattern, top-down factors (e.g., attitudes, goals, stereotypes) can exert influence, thereby partly determining the pattern that the system settles into (Freeman et al., 2020). Accordingly, social category perception is rendered a compromise between perceptual cues, social cognitive factors, and pre-existing assumptions perceivers bring to the perceptual process (see also, Xiao et al., 2016).

Debate continues as to whether higher-order influences operate at the level of perception itself or merely on attentional or post-perceptual decision processes (Firestone & Scholl, 2015). For example, faces are more likely to be judged as Black and to have more Afrocentric features if they have a stereotypical Black hairstyle (Maclin & Malpass, 2001), but it is unclear if this reflects a bias in perception itself or a post-perceptual stage. However, evidence in support of the former has been growing. For example, functional magnetic resonance imaging (fMRI) studies suggest that facial encoding is a rapid iterative process in which representations of social categories in the anterior temporal lobe and orbital frontal cortex converge with visual input in the fusiform cortex to shape the perception of social category membership (Amodio & Cikara,

[2] DIT contrasts from traditional literature that suggested the activation of a single dominant social category and suppression of others when a target inhabited multiple categories (e.g., gay Black male; Bodenhausen & Macrae, 1988). DIT proposes that multiple categories, across (e.g., races) and within dimensions (e.g., gender), coexist throughout processing.

2021; Kawakami et al., 2017; Stolier & Freeman, 2017; for additional support, see Freeman et al., 2020, pp. 243-244).

Racial Ambiguity

Evidence suggests social categorization becomes increasingly difficult (i.e., slower) when confronted with faces that do not clearly fall into a social category, specifically when faces are racially ambiguous. Event-related potential (ERP) research indicates that racially ambiguous faces are processed differently than monoracial faces (Willadsen-Jensen & Ito, 2006). While White participants distinguished Asian and Black faces from White (in-group) faces by 200 ms, they did not differentiate racially ambiguous faces (i.e., Black-White, Asian-White) from monoracial faces until roughly 580 ms (in the P3 component). This delay is also apparent in behavioral responses; perceivers express more difficulty and take more time to categorize racially ambiguous targets (Blascovich et al., 1997). Consistent with a dynamic approach, Freeman et al. (2016) found that White participants may exhibit a less stable dynamic competition or perceptual process when perceiving and resolving a mixed-race face before final categorization. That is, as individuals' bottom-up visual processing of a mixed-race face activates both a White and Black category representation, top-down conceptual knowledge may be more critical for weighting activity towards a single category.

Overall, a perceptual and categorical delay may serve as an index of how pervasive racial categories are cognitively and culturally. Although people are more likely to categorize racially ambiguous targets as multiracial when provided the option, this takes longer than categorizing ambiguous targets as a monoracial category (Chen & Hamilton, 2012) – moreover, categorizing ambiguous targets as multiracial, rather than a monoracial category, decreases under cognitive

load and when perceivers are primed with information legitimizing racial dichotomies, further underscoring cultural or societal influence.

Scarcity-Induced Discrimination

In line with a dynamic approach, a racially ambiguous face would prompt a competition between racial categories, reflected by dynamic changes in neuronal activity. Simultaneously, while the transient interpretation of the racially ambiguous face is still rudimentary (i.e., information about the face is still accumulating), socioconceptual knowledge may influence the categorization process. Several studies have investigated the effects of attitudes, beliefs, and other higher-order cognitive factors on the perception and categorization of racially ambiguous targets (Chao et al., 2013; Krosch et al., 2021; Rodeheffer et al., 2012). However, of particular interest, researchers have examined how economic scarcity may give rise to perceptual biases that skew an individual's racial perceptions and contribute to growing racial antipathy during economic downturns.

Krosch and Amodio (2014) demonstrated across several studies the effects of economic scarcity on a predominantly White sample's perception and categorization of racially ambiguous targets. Notably, a predominantly White sample primed with words concerning scarcity, compared to neutral or negative words, was more likely to judge racially ambiguous faces as Black despite their objective racial composition being predominantly White (Study 2). In Study 3, White participants played a money allocation game to manipulate the perception of monetary scarcity. Following this, they completed a reverse correlation image classification (RCIC) task designed to assess their internal visual representation of a face. In each trial of the RCIC, participants were presented with two degraded images of the same base face, overlaid with different patterns of sinusoidal noise that create variation in physiognomy and skin tone.

Participants were then instructed to choose the face that they perceive as most representative of a Black individual. The images selected as Black on each trial – across 400 trials – were then averaged for each subject, then within each condition (i.e., scarcity or neutral). Importantly, independent raters found that the face composite corresponding to the scarcity condition was darker and more Afrocentric than the face composite from the control condition. Further, White subjects allocated significantly less money to the face composed under scarcity than in the control condition when asked to do so based solely on appearance (Study 4).

Although the empirical work by Krosch and Amodio (2014), in combination with the previously cited literature, provides a basis for how economic scarcity may be influential in facilitating discrimination and perpetuating inequality via perceptual biases, the specific conditions sufficient for scarcity-induced discrimination remain unclear. Specifically, it remains unclear if the effects of economic scarcity are (at least partially) governed by a general intergroup bias, anti-Black or pro-White bias, or hypodescent.

General Intergroup Bias

It is plausible that a broader motivation to treat racially ambiguous targets as out-group members under conditions of economic scarcity can explain why White participants are more likely to judge faces as "Blacker" than their objective racial composition when primed with economic scarcity (in Study 2). That is, the representation of a person's race may shift as a function of an individual's motivations (Freeman et al., 2020; Rodeheffer et al., 2012). Indeed, perceivers' intrinsic motivation to protect their in-group can foster a predisposition to circumscribe in-group boundaries and over-exclude others (Castano et al., 2002; Leyens & Yzerbyt, 1992), which is a process that appears to strengthen under threats (e.g., scarcity; Chang et al., 2016). In particular, high-power racial and ethnic groups (e.g., European Americans) may

react more intensely to threats compared to low-power groups (e.g., Black Americans), despite being less likely to experience threats (Johnson et al., 2005; Stephan et al., 2002). Notably, restricting in-group boundaries may include restricting visual criteria for who counts as an in-group member, exaggerating pre-existing biases to recognize in-group faces better, and be vigilant towards out-group members' features (Benton & Skinner, 2015; Hugenberg et al., 2010; Kruschke, 2003).

In further support of general group membership influencing the effect of economic scarcity, a large body of work has documented intergroup bias emerging in allocation decisions. Decision-makers consistently allocate more resources to in-group members than out-group members, even when all other factors are equal and in minimal-group paradigms (Ben-Ner et al., 2009; Böhm et al., 2020; Hewstone et al., 2002). Moreover, competitive or threatening contexts, such as those that arise under economic scarcity, are theorized to amplify intergroup bias and discrimination (e.g., Realistic Group Conflict Theory; Esses et al., 1998; McLaren & Johnson, 2007; Riek et al., 2006).

Anti-Blackness or Pro-White Bias

Rather than group membership or general in-group favoritism, it is plausible that a scarcity-induced perceptual bias stems from a specific bias against Blackness or in favor of Whiteness. Anti-Blackness and pro-Whiteness are thought as indivisible (Gerald, 2020; Ross, 2020), unlike pro-Blackness and anti-Whiteness (Herring et al., 1999; Norton and Sommers, 2011). Namely, anti-Blackness reflects an irreconcilable relationship between humanity and Blackness; it reflects society's hatred of Blackness and violence against Black people, which reinforces Whites' humanness, power, and privilege (Ross, 2020). Importantly, implicit racial

bias can influence behavior in several domains, perpetuating racial prejudice (Greenwald et al., 2009).

Several studies indicate that an implicit bias favoring socially advantaged groups (e.g., Whites) emerges at a young age and remains stable across development (Dunham et al., 2008; Dunham et al., 2014). The privileging of Whiteness in our society may lead to the development of a pro-White bias among non-Whites. To access forms of power, resources, and socioeconomic or cultural standing constructed for the advantage of White Americans, non-White individuals may "shed" their social and cultural identities (e.g., codeswitching) to assimilate with Whites and distance themselves from Blackness. For example, endorsement of the *model minority myth* – argued to be a wedge designed to drive a wedge between Asian Americans and other culturally marginalized groups – provides Asian Americans with adjacency to Whiteness and is tied to anti-Black attitudes (Chow, 2017; Yi & Todd, 2021).

An anti-Black bias or pro-White bias are also plausible explanations for why White participants are more likely to judge faces as "Blacker" than their objective racial composition when primed with economic scarcity (in Study 2). Indeed, highly prejudiced Whites may have an exaggerated shift in perception, potentially as a motivation to recognize what they view as a threatening social group (Brooks & Freeman, 2018). For example, participants with high racial bias associate Black and angry individuals with hostility (Devine, 1989) and are more likely to perceive a racially ambiguous angry face as Black (Hugenberg & Bodenhausen, 2004). In addition, the finding that participants' mental representation of Black individuals under conditions of scarcity were darker and more Afrocentric (in Study 3), which then predicted reduced monetary allocations to those "individuals" (in Study 4), remains consistent with a

broader set of literature linking Afrocentric features to devaluation and discrimination (e.g., Blair et al., 2004).

In further support of an anti-Black or pro-White bias influencing the effect of economic scarcity, White university students who reported a high motivation to respond without prejudice were more likely to allocate fellowship funding to Black than White recipients during the 2009 financial crisis (Krosch et al., 2017). Notably, those with low motivation demonstrated the opposite effect, suggesting that vigilance towards their prejudice may prevent harmful responses or even reverse them (e.g., allocating more resources to a minority group). Nonetheless, Bianchi et al. (2018) revealed that during economic downturns from 1964 through 2012, White Americans held more negative explicit and implicit attitudes about Black-Americans, were more likely to condone stereotype use, and were more willing to regard intergroup inequality as natural and acceptable. Concerning more subtle manifestations of racial antipathy, the researchers found that economic downturns corresponded to Black musicians being less likely to have a *Billboard* top 10 song and Black politicians being less likely to win congressional elections.

Hypodescent

Hypodescent may also serve as a plausible explanation for why participants are more likely to judge faces as "Blacker" than their objective racial composition when primed with economic scarcity (Krosch & Amodio, 2014; Study 2). Hypodescent stems from the era of slavery in the U.S. (Davis, 1991); to maintain social stratification between Black slaves and Whites, states enforced a “one-drop rule,” which proclaimed that individuals with a single “drop” of “Black blood” were legally classified as Black (Hickman, 1997). Though now a defunct legal practice, the results of several studies indicate that a bias to categorize others by

their lowest-status racial or ethnic group persists today. Indeed, Black-Americans are persistently considered a stereotypically lower-status racial group (Zou & Cheryan, 2017), and White individuals are biased to categorize racially ambiguous Black-White individuals as Black (Ho et al., 2011, 2013).

Additionally, hypodescent in combination with racial bias (e.g., anti-Blackness) may explain the effect of economic scarcity on the construal of racially ambiguous individuals (Ho et al., 2015). Black-Americans categorize ambiguous Black-White individuals as Black, but this practice was associated with intergroup egalitarianism and feeling a sense of linked fate due to experiencing discrimination, while the practice among Whites was associated with anti-egalitarianism (Ho et al., 2011; 2017). Thus, hypodescent may interact with other social or cognitive mechanisms leading White perceivers to excessively categorize ambiguous Black-White individuals as Black.

Importantly, the extant literature examining the use of hypodescent in racial categorization is not consistent (see Young et al., 2021). For example, Roberts et al. (2020) found that neither a preference for a novel high-status over low-status group alone nor a desire among high-status group members to "protect" their in-group (within a minimal group paradigm) was sufficient in eliciting hypodescent among children or adults (i.e., high-status positioning or preference need not result in the use of hypodescent). However, the authors' use of novel groups may underscore the importance of other factors, such as racial bias, in an explanation endorsing hypodescent. That is, a history of racial discrimination, limited resources, or other real-world factors may be indispensable to hypodescent.

The Present Research

Previous research has indicated that economic scarcity results in a bias toward categorizing faces on a Black to White continuum as Black; however, the circumstances that lead to this effect remain unclear. Specifically, research concerning the perception and categorization of racially ambiguous targets has focused mainly on a majority-minority group context (e.g., Black-White). Further – to the best of our knowledge – research has yet to examine the effects of economic scarcity upon person construal in any other racial context, but specifically within a dual-minority context (e.g., Black-Asian). To that end, we sought to examine the effect of economic scarcity on perceivers' construal of racially ambiguous Black-White, Asian-White, and Black-Asian faces.

To conceptually replicate and extend previous work (Krosch & Amodio, 2014; Study 2), we examined how subliminally priming scarcity influenced White perceivers' categorization of racially ambiguous Black-White, Asian-White, and Black-Asian faces. These racial pairings are examined in separate chapters, with two studies composing each chapter: an original study and a direct replication. To maximize statistical power, we also chose to conduct a mega-analysis on combined datasets, composed by aggregating the two studies associated with each racial pairing. Each chapter presents the results of a mega-analysis first, followed by the original study, then a replication.

Additionally, we aimed to begin disentangling the possible mechanisms underlying a scarcity-induced perceptual bias. Specifically, we examined the moderating role of racial attitudes and status bias to substantiate conclusions that economic scarcity prompted a perceptual bias governed by racial bias or hypodescent; due to constricted funding and insignificant findings, racial attitudes and status bias were not examined in the series of replication studies. We also investigated the moderating role of two indicators of financial scarcity spurred by the

COVID-19 pandemic: financial stress and events threatening financial security (i.e., negative financial events). Due to the ongoing financial downturn whilst conducting the present research, we believed it plausible that actively experiencing financial scarcity may override subliminal priming effects. Further, actual indicators of financial scarcity provide further support that economic scarcity impacts perceptual judgments of racially ambiguous individuals.

Based on previous studies, we hypothesized that White perceivers would demonstrate a Black perceptual bias while categorizing racially ambiguous Black-White faces under conditions of scarcity. As stated previously, to the best of our knowledge, little to no research exists exploring the effect of economic scarcity on the categorization of racially ambiguous Black-Asian or Asian-White faces. Therefore, we did not have specific hypotheses for the Black-Asian or Asian-White studies.

In summary, the present work aimed to conceptually replicate previous work while also disentangling possible mechanisms underlying a scarcity-induced perceptual bias. Although each chapter examines the effect of scarcity on the perceptual judgments of a different racial pairing, they constitute a larger goal to understand how financial scarcity influences our perception and categorization of mixed-race individuals. Each chapter works to substantiate and add depth to the inferences made in the others while also licensing direct comparisons across all racial pairing conditions with comparable samples recruited from the same source.

Interpretation of Possible Results

Although not unequivocal, the biased categorization of faces as Black and Asian in the Black-White and Asian-White pairing conditions, respectively, together with null results in the Black-Asian pairing condition, would suggest that the effect of economic scarcity is (at least partially) governed by general intergroup bias or a pro-White bias.

Alternatively, biased categorization of faces as Black in the Black-Asian and Black-White pairing conditions, together with null results in the Asian-White pairing condition, would suggest that the effect of economic scarcity is (at least partially) governed by an anti-Black bias. However, this interpretation would change with a biased categorization of faces as Asian in the Asian-White condition, which may suggest that the effect of economic scarcity is (at least partially) governed by hypodescent – given that participants perceive Asians as lower in social status than Whites.

Importantly, each of the possible outcomes and interpretations listed reflects the most likely results, void of any ambiguity, given the previously cited literature. The results will likely be less transparent, thus requiring a more nuanced interpretation. Furthermore, some outcomes may be less interpretable. Specifically, rating faces as Asian in the Black-Asian and Asian-White pairing conditions, together with null results in the Black-White pairing condition, would be an obscure outcome.

Table 1

Interpretation of Possible Outcomes

Chapter 2: Black-White	Chapter 3: Asian-White	Chapter 4: Black-Asian	Possible Interpretation
Black	Asian	Null	Intergroup Bias
Black	Null	Black	Anti-Blackness
Black	Asian	Black	Hypodescent

Chapter 2: Racially Ambiguous Black-White Faces

Synopsis

In Chapter 2, we conceptually replicated the work of Krosch and Amodio (2014; Study 2), by probing the relationship between scarcity and one's mental representation of race. Specifically, we examined whether scarcity affected White perceivers' perceptual threshold for categorizing racially ambiguous faces along a Black to White continuum as Black or White. Additionally, we tested if several variables moderated the relationship between scarcity and individuals' mental representation of race to help disentangle possible mechanisms underlying a scarcity-induced perceptual bias.

Method

Open Practices Statement

The Institutional Review Board at Western Washington University approved this research, and all participants received informed consent. The methods and analyses for Study 1 and Study 2 were preregistered; additionally, we preregistered combining the data from both studies to increase the power of our analyses. The preregistrations, data, script files, and materials for both studies can be found on the Open Science Framework (OSF) project page (https://osf.io/n7w4g/).

Participants

We recruited 293 participants across both studies (Study 1 = 164; Study 2 = 128) from the online platform Prolific. Participants recruited in Study 1 were compensated $3.24 for 20 minutes of participation time, while participants in Study 2 were compensated $1.65 for 10 minutes of participation time. Congruent with our preregistration, we excluded participants who were able to identify word primes from the racial identification task (n = 2) or responded faster

than 1370 ms on five or more trials (n = 3). Additional exclusions were made for participants who completed the study on a cell phone (n = 14), indicated a racial identity other than White/European American in the demographics (n = 7), or exited prior to completing the demographics sections (n = 1). Together, this resulted in a final sample of 266 (women = 132; men = 130; genderqueer = 2; non-binary man = 1; M_{age} = 37.42; SD_{age} = 12.76).

Procedure

All participants were recruited via Prolific; the study's ostensible stated purpose on Prolific was to develop stimuli and measures for use in future psychology research. After choosing to participate in our study, participants were redirected from Prolific to Millisecond, where instructions were provided to download Inquisit Web. After Inquisit Web finished downloading, participants were able to begin the study.

In both studies, participants were first provided with informed consent, then presented with the racial identification task. The identification task instructions stated that participants would see several faces and to categorize each face as Black or White, as quickly as possible. Additionally, participants were told that although faces may not clearly align with one racial group (Black or White), they should select the category they believe is most representative. In Study 1 only, the racial identification task was followed by two Brief Implicit Association Tests (BIATs), for which the order was counterbalanced. All participants finished the study by submitting demographic information, which included measures of financial strain and financial stress experienced during the COVID-19 pandemic, then were debriefed on the aim of the research.

Materials and Measures

Scarcity Manipulation. A subliminal word prime appeared prior to each face during the racial identification task. Participants were randomly assigned to one of three priming conditions: scarcity (the primes were: scarce, resource, sparse, limited), neutral (the primes were: fluffy, appetite, scenic, antique), or negative (the primes were: brutal, confront, odious, fragile). We tested the effect of these prime categories on subjects' threshold for categorizing faces as Black. The word primes were chosen because of their equivalent length and frequency in the English language (Krosch & Amodio, 2014).

Ambiguous Faces. Forty standardized male faces (20 Black and 20 White) were selected from the main Chicago Face Database 2.5 (Ma et al., 2015) to create stimuli for the racial identification task. All faces were as closely matched for racial probability (Black or White), racial prototypicality, gender probability (male and female), attractiveness, and threat (see OSF for norming data). Faces were all front-facing adults with a neutral expression, displayed in full color. WebMorph (DeBruine, 2018) was used to standardize pupil level and face size across all images; faces were individually delineated by manually placing specific coordinates over each image's facial landmarks (e.g., jawline). All faces were symmetrized (Li et al., 2021). The 40 delineated faces were divided into 20 same-race face pairs; each pair was then averaged to create 20 unique parent faces (10 Black and 10 White). The final stimuli were created by randomly selecting one unique Black face and one unique White face, then digitally morphing the unique face pair at 25% increments of racial ambiguity yielding five faces (e.g., 100% Black, 75% Black … 0% Black). This process was iterated ten times, giving us a total of 50 faces to use in the racial identification task.

Subsequent image processing was performed in Adobe Photoshop to replicate the presentation of the stimuli in Krosch and Amodio (2014; Study 2). Images were converted to

grayscale by eliminating hue and saturation but maintaining luminance. To account for differences in contrast among stimuli, the mean and standard deviation of all non-White voxels was made equivalent across face images. The outline of each face, defined by the jawline and hairline, was used to mask out the ears, hair, and neck so that only the face of each image was visible. The stimuli were placed in a 293 x 400 pixel oval against a White background.

Racial Identification Task. The 50 racially ambiguous faces were presented in randomized, sequential order. Participants used their index fingers to press the 'e' or 'i' keys to select a racial group, and race/key assignment was counterbalanced across participants to control for handedness. Each trial of the racial identification task included the chronological presentation of a fixation cross (1000 ms), forward mask (20 ms), word prime (30 ms), backward mask (20 ms), and a face.[3] Each face remained on the screen until a racial group was chosen or 2 seconds passed, at which the next trial would begin. The inclusion of masked priming diverged from the methods of Krosch and Amodio (2014; Study 2) but was necessary to make the word primes subliminal.

Point of Subjective Equality (PSE). Using a psychophysics approach to obtain an index of perceptual bias, we computed each participant's point of subjective equality (PSE)—the point at which a face is equally likely to be categorized as Black or White (i.e., perceptual threshold for categorizing face as Black or White; Vidotto et al., 2019). PSE was estimated by fitting each participant's responses to a cumulative standard normal curve that plots the categorization frequency against the racial composition of each face stimulus. We then identified the racial composition value (between 0 and 1) at which the participants' categorization frequency was 50%. A PSE of .50 indicates that faces composed of 50% Black content and 50% White content

[3] Stimuli presentation times and duration were automatically matched to the nearest frame available given each participants' computer system refresh rate.

have an equal probability of being categorized as Black or White. To the extent that faces are categorized more often as Black than White, participants' mean PSE will be lower than .50. For example, a value of .40 would indicate that participants are equally likely to categorize a face with 40% Black face content as Black or White, indicating a Black perceptual bias.

Brief Implicit Association Test (BIAT). In Study 1, following the racial identification task, participants completed two BIATs to index implicit racial attitudes and social status associations for each racial group. Each BIAT measured the strength of associations between two target categories (Black and White) and two attributes. The target categories were represented with eight pictures of adult faces (two Black men, two Black women, two White men, and two White women) from the Chicago Face Database 2.5 (Ma et al., 2015); none of the faces representing the target categories were used in the face morphing procedure. Faces were closely matched for racial probability (Black or White), racial prototypicality, gender probability (male and female), attractiveness, and threat (See OSF for norming data).

The attitudes BIAT used the attributes good (freedom, peace, joy, honest, smile) and bad (abuse, poison, ugly, sick, frown), and the status BIAT used the attributes high status (intelligent, worthy competent, better, able) and low status (unintelligent, unworthy, incompetent, worse, unable). Both BIATs contained four response blocks with 20 trials each. Participants are focus on only one category and attribute. That is, participants are instructed to categorize items from the focal category and focal attribute with one key and everything else with another key. For each block, across both BIATs, the focal attribute is fixed as the positive attribute (i.e., good or high-status; for best BIAT practices, see Nosek et al., 2014). Order and block presentation were counterbalanced across participants. Whichever BIAT was presented to the participant first

included two extra practice blocks with 12 trials each. Both BIATs were modeled after that reported by Melamed et al. (2020).[4]

D-scores were calculated for each participant and each BIAT using the recommendations of Nosek and colleagues (2014). As such, we removed trials greater than 10,000 ms and the first four trials of each response block, retained error trials, recoded trials less than 400 ms to 400 ms and greater than 2000 ms to 2000 ms, removed tasks where greater than 10% of responses were faster than 300 ms, and computed *D* separately for each pair of two consecutive blocks separately prior to averaging. D-scores were coded such that higher scores indicate stronger associations between White = good/Black = bad on the attitude BIAT and stronger associations between White = high-status/Black = low-status on the status BIAT.

Negative Financial Events (NFE) and Financial Stress. Four items were adapted from Nelson et al. (2020) to measure negative financial events during COVID-19 and were incorporated into the demographics section ("Have you lost your job due to COVID-19?" "Has someone in your household lost their job due to COVID-19" "At any time, were you unable to go to work due to COVID-19 related work changes?" "Have you lost income due to COVID-19 related work changes?"). Each item asked participants to dichotomously (yes/no) indicate if the negative event occurred, and if so, how stressful the event was on a 4-point scale ranging from 1 (*not at all*) to 4 (*very*). A fifth item was included pertaining to food insecurity ("In the past 12 months, how often has the statement in your household been true: The food we bought ran out and we didn't have money to get more.") on a 4-point scale ranging from 1 (*never true*) to 4 (*often true*).

[4] The attributes from the attitudes BIAT were originally reported by Greenwald et al. (1998).

The four dichotomous items were split from their corresponding stress items to create variables indexing negative financial events and financial stress. A standardized negative financial events variable was created by summing the number of negative financial events participants reported experiencing. The four items assessing stress and the item concerning food insecurity were standardized; financial stress was calculated by taking an average of the items participants provided a response to (i.e., the denominator used to calculate participants' mean stress rating varied depending on the number of items they responded to). Therefore, participants who did not experience any negative financial events, were not assigned a value for financial stress.

Mega-Analysis Results

Analytic Approach

To maximize statistical power, we first present the results conducted on the combined dataset created by aggregating Study 1 and Study 2 (N = 266; see Open Practices statement above), followed by the results from each individual study. We aimed for a sample size of 135 per study based on an a priori power analysis using G*Power; this sample size would allow us to attain greater than 95% power to detect a medium-size effect ($f^2 = 0.17$) for our main analysis (one-way ANOVA with three groups).[5] A mega-analytic approach is generally preferable to meta-analysis (i.e., estimating the true effect size from sample-level effects) when the raw data are available (Costafreda, 2009; Sung et al., 2014). This approach is congruent with growing preference for fewer well-powered studies (Ioannidis, 2005). Combining multiple small samples provides greater power to test higher order interactions and more stable estimates of effect sizes (Schimmack, 2012).

[5] The power analysis was originally conducted in reference to all three racial pairings (Black-White, Asian-White, Black-Asian), ultimately providing a total sample size of N = 405 (i.e., 135 per study).

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their perceptual threshold for categorizing the racially ambiguous faces as Black or White. Indeed, a one-sample t-test revealed that participants' mean PSE (*M* = .46; *SD* = .09) across all conditions was significantly different than objective equality (.50), $t(265) = -7.73$, $p = < .001$, $d = .47$, indicating that participants were equally likely to categorize faces containing 46% Black face content as Black or White.

Next, we conducted a between-subjects ANOVA to examine whether there were significant effects of condition on mean PSE. In contrast to previous findings and our hypotheses, the analysis did not indicate a main effect of condition, $F(2, 263) = 0.72$, $p = .49$, $\eta^2 = .005$ (see Figure 1.1 – 1.2). That is, no differences were detected between the scarcity (*M* = .46, *SD* = .09), negative (*M* = .47, *SD* = .07), and neutral condition (*M* = .45, *SD* = .09).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE scores by performing a three-step hierarchical multiple regression (see Table 4.1). To control for each study, we created a dummy coded variable (0 = Study 2, 1 = Study 1); we entered this study variable as a predictor in Step 1. We then entered financial stress and condition variables in Step 2. Finally, each financial stress by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference condition. [6]

[6] For all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Results of analyses are reported relative to the neutral condition (i.e., neutral as the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

At Step 1, study was not a significant predictor, with no difference detected between mean PSE scores from Study 1 and Study 2, β = .01, 95% CI [-.02, .04], SE = .01, *t* = 0.82, *p* = .41. At Step 2 – controlling for financial stress and study – we did not find a significant difference between the neutral and negative condition, β = .01, 95% CI [-.03, .05], SE = .02, *t* = 0.57, *p* = .57, or the neutral and scarcity condition, β = .01, 95% CI [-.03, .05], SE = .02, *t* = 0.66, *p* = .51. Notably, financial stress was a significant predictor of mean PSE; perceivers experiencing greater financial stress were more likely to categorize faces as Black than White, β = -.02, 95% CI [-.04, -.002], SE = .01, *t* = -2.28, *p* = .024.

At Step 3, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = .005, 95% CI [-.04, .05], SE = .02, *t* = 0.23, *p* = .82, or financial stress and the scarcity condition, β = .003, 95% CI [-.04, .04], SE = .02, *t* = 0.15, *p* = .88, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a three-step hierarchical multiple regression (see Table 4.2). To control for each study, we created a dummy coded variable (0 = Study 2, 1 = Study 1); we entered this study variable as a predictor in Step 1. We then entered NFE and condition variables in Step 2. Finally, each NFE by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference condition.

At Step 1, study was not a significant predictor, with no difference detected between mean PSE scores from Study 1 and Study 2, β = .01, 95% CI [-.02, .03], SE = .01, *t* = 0.82, *p* = .41. At Step 2 – controlling for NFE and study – we did not find a significant difference between the neutral and negative condition, β = .01, 95% CI [-.02, .04], SE = .01, *t* = 0.73, *p* = .47, or the

neutral and scarcity condition, β = .01, 95% CI [-.02, .04], SE = .01, t = 0.52, p = .60. Additionally, NFE was not a significant predictor of PSE, β = .001, 95% CI [-.01, .02], SE = .01, t = 0.17, p = .86. At Step 3, we examined the potential interactions between NFE and condition. We did not find a significant interaction between NFE and the negative condition, β = .005, 95% CI [-.03, .04], SE = .01, t = 0.38, p = .70, or NFE and the scarcity condition, β = .006, 95% CI [-.02, .04], SE = .01, t = 0.48, p = .64, when predicting PSE.

Study 1 Results

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their perceptual threshold for categorizing the racially ambiguous faces as Black or White. Indeed, a one-sample t-test revealed that participants' mean PSE (M = .46; SD = .09) was significantly lower than objective equality (.50), $t(147)$ = -5.02, p = < .001, d = 0.41, indicating that the faces were equally likely to be categorized as Black or White with 46% Black face content.

Next, we conducted a between-subjects ANOVA to examine whether there were significant effects of condition on mean PSE. In contrast to previous findings and our hypotheses, the analysis did not indicate a main effect of condition on mean PSE, $F(2, 145)$ = 1.57, p = .21, η^2 = .02. That is, no differences were detected between the scarcity (M = .46, SD = .10), negative (M = .47, SD = .07), and neutral condition (M = .45, SD = .10).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 5.1). We entered financial stress and condition variables in Step 1. Each financial

stress by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for financial stress – we did not find a significant difference between the neutral and negative condition, β = .02, 95% CI [-.05, .08], SE = .03, t = 0.53, p = .60, or the neutral and scarcity condition, β = .02, 95% CI [-.03, .08], SE = .02, t = 0.90, p = .37. Notably, financial stress was a significant predictor of PSE; participants experiencing greater financial stress were more likely to categorize faces as Black, β = -.03, 95% CI [-.06, -.003], SE = .01, t = -2.27, p = .026.

At Step 2, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = -.01, 95% CI [-.09, .07], SE = .04, t = -0.24, p = .81, or financial stress and the scarcity condition, β = -.04, 95% CI [-.10, .02], SE = .03, t = -1.34, p = .19, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 5.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for NFE – we did not find a significant difference between the neutral and negative condition, β = .02, 95% CI [-.03, .06], SE = .02, t = 0.88, p = .38, or the neutral and scarcity condition, β = .02, 95% CI [-.02, .06], SE = .02, t = 0.99, p = .32. Additionally, NFE was not a significant predictor of mean PSE, β = -.01, 95% CI [-.03, .06], SE = .01, t = -1.16, p = .25.

At Step 2, we examined the potential interactions between NFE and condition. We did not find a significant interaction between NFE and the negative condition, β = .01, 95% CI [-.04, .05], SE = .02, t = 0.33, p = .74, or NFE and the scarcity condition, β = .01, 95% CI [-.03, .05], SE = .02, t = 0.50, p = .62, when predicting mean PSE.

Implicit Associations Predicting Mean PSE

Finally, as a pre-registered exploratory analysis, we examined whether participants' racial attitudes and/or status bias moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 5.3). We entered racial attitudes, status bias, and condition variables in Step 1. Each racial attitude by condition variable interaction, and each status bias by condition variable interaction, were entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for racial attitudes and status bias – we did not find a significant difference between the neutral and negative condition, β = .02, 95% CI [-.02, .07], SE = .02, t = 1.26, p = .21, or the neutral and scarcity condition, β = .02, 95% CI [-.02, .06], SE = .02, t = 1.04, p = .30. Additionally, racial attitudes, β = -.01, 95% CI [-.03, .02], SE = .01, t = -0.70, p = .49, and status bias, β = .01, 95% CI [-.01, .03], SE = .01, t = 0.97, p = .34, were not significant predictors of mean PSE.

At Step 2, we examined the potential interactions between racial attitudes and condition, and status bias and condition. We did not find significant interaction between racial attitudes and the negative condition, β = .001, 95% CI [-.05, .05], SE = .02, t = 0.05, p = .96, or racial attitudes and the scarcity condition, β = .02, 95% CI [-.02, .07], SE = .02, t = 1.01, p = .31, when predicting PSE. However, the interaction between status bias and the negative condition, β = -

.05, 95% CI [-.09, -.003], SE = .02, t = -2.14, p = .03, and status bias and the scarcity condition, β = -.05, 95% CI [-.10, -.01], SE = .02, t = -2.62, p = .01, were significant predictors of PSE.

Examined as simple effects, those in the neutral condition who displayed a greater status bias (i.e., a stronger White = high-status/Black = low-status association) were more likely to categorize faces as White, β = .04, $CI_{95\%}$ [.01, .08], SE = .02, t = 2.77, p = .006. The simple effect of status bias was not significant in the negative condition, β = -.004, 95% CI [-.04, .03], SE = .02, t = -0.24, p = .81, or scarcity condition, β = -.01, 95% CI [-.04, .02], SE = .01, t = -0.83, p = .41.

Examined as simple slopes, there was not a significant difference between the neutral and negative condition among those who displayed the greatest status bias (+1SD from the mean = .14), β = -.02, 95% CI [-.08, .04], SE = .03, t = -0.73, p = .47. Further, there was not a significant difference between the neutral and scarcity condition, β = -.03, 95% CI [-.08, .03], SE = .03, t = -1.02, p = .31, or the negative and scarcity condition, β = -.01, 95% CI [-.06, .05], SE = .03, t = -0.20, p = .84. Interestingly, among those displaying the lowest levels of status bias (-1SD from the mean = .14), perceivers in the negative condition were less likely to categorize faces as Black (v. White) than those in the neutral condition, β = .07, 95% CI [.01, .12], SE = .03, t = 2.53, p = .013. Similarly, perceivers in the scarcity condition were less likely to categorize faces as Black compared to those in the neutral condition, β = .06, 95% CI [.01, .12], SE = .03, t = 2.48, p = .015. We did not find a significant difference between the negative and scarcity condition, β = -.004, 95% CI [-.06, .05], SE = .03, t = -0.16, p = .87.

Study 2 Results

Priming Condition Predicting Mean PSE

Consistent with our-registration, we first tested whether participants demonstrated any shift in their perceptual threshold for categorizing the racially ambiguous faces as Black or White. Indeed, a one-sample t-test revealed that participants' mean PSE (M = .45; SD = .08) was significantly lower than objective equality (.50), $t(117) = -6.11$, $p = < .001$, $d = 0.56$, indicating that faces were equally likely to be categorized as Black or White with 45% Black face content. In contrast to previous findings and our hypotheses, a between-subjects ANOVA did not indicate a main effect of condition on mean PSE, $F(2, 115) = 0.16$, $p = .85$, $\eta^2 = .003$. That is, no differences were detected between the scarcity (M = .45; SD = .09), negative (M = .46; SD = .06), and neutral condition (M = .46; SD = .08).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 6.1). We entered financial stress and condition variables in Step 1. Each financial stress by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference category.

At Step 1 – controlling for financial stress – we did not find a significant difference between the neutral and negative condition, β = .004, 95% CI [-.05, .05], SE = .02, t = 0.15, p = .88, or the neutral and scarcity condition, β = -.005, 95% CI [-.05, .04], SE = .02, t = -0.22, p = .83. And financial stress was not a significant predictor of PSE, β = -.01, 95% CI [-.03, .01], SE = .01, t = -0.94, p = .35. At Step 2, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = .012, 95% CI [-.04, .06], SE = .02, t = 0.53, p = .60, or financial stress

and the scarcity condition, β = .04, 95% CI [-.001, .09], SE = .02, *t* = 1.96, *p* = .054, when predicting PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 6.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for NFE – we did not find a significant difference between the neutral and negative condition, β = -.01, 95% CI [-.05, .04], SE = .02, *t* = -0.33, *p* = .75, or the neutral and scarcity condition, β = -.01, 95% CI [-.05, .03], SE = .02, *t* = -0.69, *p* = .50. Finally, NFE was not a significant predictor of PSE, β = .01, 95% CI [-.02, .03], SE = .01, *t* = 1.78, *p* = .08. When examining potential interactions between NFE and condition at Step 2, we did not find a significant interaction in the negative condition, β = -.002, CI_{95} [-.04, .04], SE = .02, *t* = -0.13, *p* = .90, or the scarcity condition, β = -.0003, 95% CI [-.04, .04], SE = .02, *t* = 0.02, *p* = .99.

Discussion

Our results only partially replicated those of Krosch and Amodio (2014; Study 2). White perceivers were biased to categorize the ambiguous Black-White faces as Black but were no more likely to do so when subliminally primed with scarcity. However, participants experiencing greater financial stress were more likely to categorize faces as Black, suggesting that financial scarcity fosters a perceptual bias. In Study 1, participants displaying a weak status bias (White = high-status/Black = low-status) were biased to categorize faces as Black when primed with neutral concepts relative to scarcity and negative concepts. This finding appears to suggest that

hypodescent does not underlie a scarcity induced perceptual bias, as hypodescent necessitates beliefs that two groups are unequal in status.

Chapter 3: Racially Ambiguous Asian-White Faces

Synopsis

In Chapter 3, we again conceptually replicated the work of Krosch and Amodio (2014; Study 2) but extended our replication to examine the effect of scarcity on subjects' perceptual threshold for categorizing other racial group members. Specifically, we examined whether White perceivers would be more likely to categorize racially ambiguous faces along an Asian to White continuum as Asian or White under conditions of scarcity. In doing so, we may draw inferences concerning if a scarcity-induced perceptual bias extends to non-Black targets. Moreover, while Asians are also considered to be a culturally higher status group, Asians are still perceived as lower in status relative to Whites (Zou & Cheryan, 2017). As such, we may draw stronger conclusions concerning the role of hypodescent in this phenomenon.

Method

The method and procedure for Study 3 and Study 4 is largely identical to Study 1 and Study 2, respectively, other than the images used in the racial identification task. Only critical differences between the studies are described below.

Open Practices Statement

The Institutional Review Board at Western Washington University approved this research, and all participants received informed consent. The methods and analyses for Study 3 and Study 4 were preregistered; additionally, we preregistered combining the data from both studies to increase the power of our analyses. The preregistrations, data, script files, and materials for both studies can be found on the Open Science Framework (OSF) project page (https://osf.io/n7w4g/).

Participants and Procedure

We recruited 307 participants from Prolific (Study 3 = 155; Study 4 = 152). Congruent with our preregistration, we excluded participants who listed any of the word primes from the racial identification task (n = 1) or who responded faster than 1370 ms on 5 or more trials (n = 2). Additional exclusions were made for participants were able to complete the study on a cell phone (n = 14) or indicated a racial identity other than White/European American in the demographics (n = 3). Post-hoc exclusions were made for participants whose mean PSE score was equal to 0 (n = 2) or 1 (n = 2).[7] Together, this resulted in a final sample of 284 (women = 154; men = 127; genderqueer = 3; M_{age} = 36.80; SD_{age} = 12.49). The procedure remained the same as Study 1 and Study 2.

Materials and Measures

Ambiguous Faces. Twenty standardized male faces (20 Asian) were selected from the Chicago Face Database 2.5 (Ma et al., 2015) to create stimuli for the racial identification task. All Asian faces were as closely matched for racial probability (Asian), racial prototypicality, gender probability (male and female), attractiveness, and threat. Faces were all front-facing adults with a neutral expression, displayed in full color (see OSF for norming data). Processing in WebMorph yielded 10 unique Asian parent faces. To create the final racial identification task stimuli, the 10 unique Asian parent faces were morphed with the 10 unique White parent faces from Study 1. Thus, the faces that constitute the final stimuli will remain consistent across studies, potentially reducing variability in responses attributable to idiosyncratic facial differences (i.e., differences that would contribute to a significant effect of priming in one study

[7] PSE scores of 0 or 1 were the product of participants primarily or solely categorizing faces as one racial category and, in some cases, being unresponsive on several trials. This pattern seems indicative of inattentive participation. Moreover, a mean PSE score of 0 or 1 suggests that participants perceived all the faces as Asian or White. It is entirely implausible that individuals would perceive all the faces, including those composed of 100% White and 100% Asian composition, as solely Asian or White. Together, we found this to be sufficient justification for exclusion.

only; Oh et al., 2019). Subsequent image face processing in Adobe Photoshop was identical to Study 1.

Point of Subjective Equality (PSE). Again, using a psychophysics approach to obtain an index of perceptual bias, we computed each participant's PSE – the point at which a face is equally likely to be categorized as Asian or White (i.e., the perceptual threshold for categorizing a face as Asian or White; Vidotto et al., 2019). For the present study, A PSE of .50 indicates that faces composed of 50% Asian content and 50% White content have an equal probability of being categorized as Asian or White. To the extent that faces are categorized more often as Asian, participants' mean PSE will be lower than .50.

Brief Implicit Association Test (BIAT). In Study 3, the target categories for each BIAT were updated to reflect Asian and White. The target category Asian was represented with four pictures of adult faces (two Asian men, two Asian women) from the Chicago Face Database 2.5 (Ma et al., 2015). Faces were closely matched for racial probability, racial prototypicality, gender probability (male and female), attractiveness, and threat (See OSF for norming data). The White faces used in the Study 1 BIATs were used for the Study 3 BIATs for consistency purposes; however, none of the faces representing the target categories were used in the face morphing procedure. For the racial attitude BIAT, higher scores indicate stronger associations between White = good/Asian = bad. For the status BIAT, higher scores indicate stronger associations between White = high-status/Asian = low-status.

Mega-Analysis Results

Analytic Approach

We took a similar meta-analytic approach to that of Chapter 2. Namely, to maximize statistical power, we present the results conducted on a combined dataset created by aggregating

Study 3 and Study 4 (N = 284). Recall that we aimed for a sample size of 135 per study based on an a priori power analysis using G*Power; this sample size would allow us to attain greater than 95% power to detect a medium-size effect ($f^2 = 0.17$) for our main analysis (one-way ANOVA with three groups).[8]

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their perceptual threshold for categorizing the racially ambiguous faces as Asian or White. A one-sample t-test revealed that participants' mean PSE (*M* = .49; *SD* = .10) across all conditions did not differ from objective equality (.50), $t(283) = -1.19$, $p = .23$, $d = .07$, indicating that faces were equally likely to be categorized as Asian or White (with 50% Asian face content). Next, we conducted a between-subjects ANOVA, finding no effect of condition on mean PSE, $F(2, 281) = 0.82$, $p = .44$, $\eta^2 = .006$ (see Figures 2.1 – 2.2). That is, no differences were detected between the scarcity (*M* = .49; *SD* = .11), negative (*M* = .48; *SD* = .10), and neutral condition (*M* = .50; *SD* = .09).

Financial Stress Predicting Mean PSE

As pre-registered, we explored whether financial stress moderated the effect of condition on mean PSE by performing a three-step hierarchical multiple regression (see Table 7.1). To control for each study, we created a dummy coded variable (0 = Study 4, 1 = Study 3); we entered this study variable as a predictor in Step 1. We then entered financial stress and condition variables in Step 2. Finally, each financial stress by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference.

[8] The power analysis was conducted initially in reference to all three racial pairings (Black-White, Black-Asian, Asian-White) ultimately providing a total sample size of N = 405 (i.e., 135 per study).

At Step 1, study number was not a significant predictor, with no difference detected between mean PSE scores from Study 3 and Study 4, β = -.004, 95% CI [-.04, .03], SE = .02, *t* = -0.22, *p* = .83. At Step 2 – controlling for financial stress and study number – we did not find a significant difference between the neutral and negative condition, β = -.04, 95% CI [-.08, .01], SE = .02, *t* = -1.77, *p* = .08, or the neutral and scarcity condition, β = -.03, 95% CI [-.07, .02], SE = .02, *t* = -1.35, *p* = .18. Further, financial stress was not a significant predictor of PSE, β = -.01, 95% CI [-.03, .01], SE = .01, *t* = -0.90, *p* = .37.

At Step 3, we examined the potential interactions between financial stress and condition using neutral as the reference condition. We did not find a significant interaction between financial stress and the negative condition, β = -.02, CI_{95} [-.07, .04], SE = .03, *t* = -0.66, *p* = .51, or financial stress and the scarcity condition, β = -.0004, CI_{95} [-.05, .05], SE = .02, *t* = -0.02, *p* = .99, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether NFE moderates the effect of condition on mean PSE by performing a three-step hierarchical multiple regression (see Table 7.2). To control for each study, we created a dummy coded variable (0 = Study 4, 1 = Study 3); we entered this study variable as a predictor in Step 1. We then entered NFE and condition variables in Step 2. Finally, each NFE by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference condition.

At Step 1, study was not a significant predictor, with no difference detected between mean PSE scores from Study 3 and Study 4, β = .01, 95% CI [-.02, .04], SE = .01, *t* = 1.05, *p* = .29. At Step 2 – when controlling for NFE and study number – we did not find a significant difference between the neutral and negative condition, β = -.01, 95% CI [-.05, .02], SE = .02, *t* =

-0.72, p = .47, or the neutral and scarcity condition, β = -.002, 95% CI [-.04, .03], SE = .01, t = -0.15, p = .88. NFE was not a significant predictor of PSE, β = -.01, 95% CI [-.03, .002], SE = .01, t = -1.70, p = .09.

At Step 3, we examined the potential interactions between NFE and condition. Consistent with previous analyses, we did not find a significant interaction between NFE and the negative condition, β = -.003, 95% CI [-.04, .03], SE = .02, t = -0.20, p = .84, or NFE and the scarcity condition, β = -.01, 95% CI [-.05, .03], SE = .02, t = -0.64, p = .53.

Study 3 Results

Priming Condition predicting PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their in their perceptual threshold for categorizing the racially ambiguous faces as Asian or White. A one-sample t-test indicated that participants' mean PSE (M = .50; SD = .11) across all conditions did not differ from objective equality (.50), $t(144)$ = -0.27, p = 0.79, d = .02, indicating that faces were equally likely to be categorized as Asian or White (with 50% Asian face content). Next, we conducted a between-subjects ANOVA, finding no effect of condition on mean PSE, $F(2, 142)$ = 2.23, p = .11, η^2 = .03. That is, no differences were detected between the scarcity (M = .50; SD = .12), negative (M = .47; SD = .11), and neutral condition (M = .52; SD = .10).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 8.1). We entered financial stress and condition variables in Step 1. Each financial

stress by condition variable interaction was then entered in Step 2. The following results are reported relative to the neutral condition.

At Step 1 – controlling for financial stress – we found that participants' mean PSE scores in the negative condition (*M* = .47; *SD* = .11) were significantly lower than those in the neutral condition (*M* = .52; *SD* = .10), β = -.07, 95% CI [-.14, -.001], SE = .03, *t* = -2.03, *p* = .046. There was not a significant difference between the neutral and scarcity condition, β = -.04, 95% CI [-.10, .03], SE = .03, *t* = -1.15, *p* = .25. And financial stress was not a significant predictor of PSE, β = -.006, 95% CI [-.04, .03], SE = .02, *t* = -0.39, *p* = .70.

At Step 2, we examined the potential interactions between financial stress and condition. Consistent with previous analyses, we did not find a significant interaction between financial stress and the negative condition, β = -.02, 95% CI [-.11, .07], SE = .04, *t* = -0.40, *p* = .69, or financial stress and the scarcity condition, β = -.003, 95% CI [-.09, .08], SE = .04, *t* = -0.08, *p* = .94, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 8.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference.

At Step 1 – controlling for NFE – we did not find a significant difference between the neutral and negative condition, β = -.04, 95% CI [-.09, .01], SE = .02, *t* = -1.62, *p* = .11, or the neutral and scarcity condition, β = -.01, 95% CI [-.06, .04], SE = .02, *t* = -0.29, *p* = .77. Additionally, NFE was not a significant predictor of mean PSE, β = -.01, CI_{95} [-.03 .01], SE =

.01, t = -1.04, p = .30. At Step 2, we examined the potential interactions between NFE and condition. We did not find a significant interaction between NFE and the negative condition, β = -.01, 95% CI [-.07, .06], SE = .03, t = -0.22, p = .83, or NFE and the scarcity condition, β = -.02, 95% CI [-.08, .04], SE = .03, t = -0.65, p = .52, when predicting mean PSE.

Implicit Associations Predicting Mean PSE

Finally, As a pre-registered exploratory analysis, we examined whether participants' racial attitudes and/or status bias moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 8.3). We entered racial attitudes, status bias, and condition variables in Step 1. Each racial attitude by condition variable interaction, and each status bias by condition variable interaction, were entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for racial attitudes and status associations – we did not find a significant difference between the neutral and negative condition, β = -.04, 95% CI [-.09, .004], SE = .02, t = -1.79, p = .076, or the neutral and scarcity condition, β = -.02, 95% CI [-.07, .03], SE = .02, t = -0.94, p = .35. Further, racial attitudes, β = .02, 95% CI [-.003, .04], SE = .01, t = 1.73, p = .09, and status bias, β = .01, 95% CI [-.01, .03], SE = .01, t = 1.15, p = .25, were not significant predictors of PSE.

At Step 2, we examined the potential interactions between racial attitudes and condition, and status bias and condition. We did not find a significant interaction between racial attitudes and the negative condition, β = .006, 95% CI [-.05, .06], SE = .03, t = 0.25, p = .80, or racial attitudes and the scarcity condition, β = .003, 95% CI [-.05, .06], SE = .03, t = 0.14, p = .89, when predicting mean PSE. Additionally, we did not find a significant interaction between status bias and the negative condition, β = -.02, 95% CI [-.07, .04], SE = .02, t = -0.67, p = .50, or

status bias and the scarcity condition, β = -.02, 95% CI [-.08, .03], SE = .02, t = -0.99, p = .33, when predicting mean PSE.

Study 4 Results

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their in their perceptual threshold for categorizing the racially ambiguous faces as Asian or White. A one-sample t-test revealed that participants' mean PSE (M = .49; SD = .09) across all conditions did not differ from objective equality (.50), $t(138) = -1.60$, p = .11, d = 0.14, indicating that faces were equally likely to be categorized as Asian or White (with 50% Asian face content). Next, we conducted a between subjects ANOVA, finding no effect of condition on mean PSE, $F(2, 136) = 0.28$, p = .76, η^2 = .004. That is, no differences were detected between the scarcity (M = .48; SD = .10), negative (M = .50; SD = .09), and neutral condition (M = .49; SD = .08).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 9.1). We entered financial stress and priming condition variables in Step 1. Each financial stress by priming condition variable interaction was then entered in Step 2. The following results are reported relative to the neutral condition.

At Step 1 – controlling for financial stress – we did not find a significant difference between the neutral and negative condition, β = -.01, 95% CI [-.06, .04], SE = .02, t = -0.31, p = .76, or the neutral and scarcity condition, β = -.02, 95% CI [-.08, .03], SE = .02, t = -0.92, p = .36. And financial stress was not a significant predictor of mean PSE, β = -.01, 95% CI [-.04,

.01], SE = .01, t = -0.90, p = .37. At Step 2, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = -.02, 95% CI [-.08, .04], SE = .03, *t* = -0.69, *p* = .49, or financial stress and the scarcity condition, β = -.002, 95% CI [-.06, .05], SE = .03, *t* = -0.09, *p* = .93, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 9.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for NFE – we did not find a significant difference between the neutral and negative condition, β = .02, CI_{95} [-.03, .06], SE = .02, *t* = 0.80, *p* = .43, or the neutral and scarcity condition, β = -.001, CI_{95} [-.04, .04], SE = .02, *t* = -1.56, *p* = .12. And NFE was not a significant predictor of mean PSE, β = -.01, CI_{95} [-.03, .01], SE = .01, *t* = -1.56, *p* = .12. When examining potential interactions between NFE and condition at Step 2, we did not find a significant interaction in the negative condition, β = -.004, CI_{95} [-.04, .04], SE = .02, *t* = -0.23, *p* = .82, or the scarcity condition, β = -.01, CI_{95} [-.05, .04], SE = .02, *t* = -0.40, *p* = .69.

Discussion

White perceivers' categorization of racially ambiguous Asian-White faces did not differ from objective equality or when subliminally primed with scarcity. This finding serves as evidence that anti-Blackness may underlie a scarcity-induced perceptual bias rather than group membership or hypodescent. Namely, if participants demonstrated an Asian perceptual bias, this

would seem to indicate that a scarcity-induced perceptual bias stemmed from either a group membership effect or a difference in social status. In Study 3, participants' racial attitudes and social status associations did not predict their categorization responses, supporting that anti-Blackness may underlie a scarcity-induced perceptual bias.

Chapter 4: Racially Ambiguous Black-Asian Faces

Synopsis

In Chapter 4, we again conceptually replicated the work of Krosch and Amodio (2014; Study 2) but extended our replication to examine the effect of scarcity on individuals' perceptual threshold for categorizing racially ambiguous faces as Black or Asian. By examining White perceivers' judgments of racially ambiguous faces composed of two out-groups, we can control for perceiver contribution. Specifically, we can account for a bias stemming from motivation to over-exclude ambiguous others from one's in-group. Ultimately, this allows us to strengthen our inferences about the mechanisms underlying a scarcity-induced perceptual bias.

Method

The method and procedure for Study 5 and Study 6 is largely identical to those presented in Chapter 3 and Chapter 4, other than the images used in the racial categorization task and the Brief IAT. Only critical differences between the studies are described below.

Open Practices Statement

The Institutional Review Board at Western Washington University approved this research, and all participants received informed consent. The methods and analyses for Study 5 and Study 6 were preregistered; additionally, we preregistered combining the data from both studies to increase the power of our analyses. The preregistrations, data, script files, and materials for both studies can be found on the Open Science Framework (OSF) project page (https://osf.io/n7w4g/).

Participants and Procedure

We recruited 272 participants from Prolific (Study 5 = 124; Study 6 = 148). Congruent with our preregistration, we excluded participants who responded faster than 1370 ms on 5 or

more trials of the racial identification task (n = 3). Additional exclusions were made for participants who were able to complete the study on a cell phone (n = 13), who indicated a racial identity other than White/European American in the demographics (n = 5). Together, this resulted in a final sample of 250 (women = 121; men = 126; genderqueer = 3; M_{age} = 37.90; SD_{age} = 13.60). The procedure remained the same as the previously presented studies.

Materials and Measures

Ambiguous Faces. To create the final racial identification task stimuli, the 10 unique Black parent faces from Chapter 2 and the 10 unique Asian parent faces from Chapter 3 were morphed. Ultimately, the faces that constitute the final stimuli will remain consistent across studies, potentially reducing variability in responses attributable to idiosyncratic facial differences (i.e., differences that would contribute to a significant effect of priming in one study only; Oh et al., 2019).

Point of Subjective Equality (PSE). Again, using a psychophysics approach to obtain an index of perceptual bias, we computed each participant's PSE – the point at which a face is equally likely to be categorized as Black or Asian (i.e., the perceptual threshold for categorizing a face as Black or Asian; Vidotto et al., 2019). For the present study, A PSE of .50 indicates that faces composed of 50% Black content and 50% Asian content have an equal probability of being categorized as Black or Asian. To the extent that faces are categorized more often as Black, participants' mean PSE will be lower than .50.

Brief Implicit Association Test (BIAT). The target categories for each BIAT were updated to reflect Black and Asian. The target categories Black and Asian were represented with the photos from Study 1 and Study 3, respectively.[9] For the racial attitude BIAT, higher scores

[9] Recall that neither the Black nor Asian target category photos were used in any of the racial morphing procedures.

indicate stronger associations between Asian = good/Black = bad. For the status BIAT, higher scores indicate stronger associations between Asian = high-status/Black = low-status.

Mega-Analysis Results

Analytical Approach

We took a similar meta-analytic approach to that of Chapter 2 and Chapter 3. Namely, to maximize statistical power, we present the results conducted on a combined dataset created by aggregating Study 5 and Study 6 (N = 250). Recall, we aimed for a sample size of 135 per study based on an a priori power analysis using G*Power; this sample size would allow us to attain greater than 95% power to detect a medium-size effect ($f^2 = 0.17$) for our main analysis (one-way ANOVA with three groups).[10]

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first tested whether participants demonstrated a shift in their perceptual threshold for categorizing the racially ambiguous faces as Black or Asian. A one-sample t-test indicated that participants' mean PSE (*M* = .49; *SD* = .10) across all conditions did not differ from objective equality (.50), $t(250) = -1.19$, $p = .054$, $d = .12$, indicating that faces were equally likely to be categorized as Black or Asian with 50% Black face content.

Importantly, a between-subjects ANOVA indicated a main effect of condition $F(2, 248) = 5.42$, $p = .005$, $\eta^2 = .04$ (see Figures 3.1 – 3.2). Planned comparisons using Holm's indicated a significant difference between the negative (*M* = .51, *SD* = .10) and neutral condition (*M* = .46; *SD* = .08; $p = .004$). There was not a difference detected between the neutral and scarcity condition (*M* = .49; *SD* = .08; $p = .051$) or between the negative and scarcity condition ($p = .26$).

[10] The power analysis was originally conducted in reference to all three racial pairings (Black-White, Asian-White, Black-Asian), ultimately providing a total sample size of N = 405 (i.e., 135 per study).

Together, the results indicate that those in the negative condition were more likely to categorize faces as Asian than Black relative to the neutral condition.

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a three-step hierarchical multiple regression (see Table 10.1). To control for each study, we created a dummy coded variable (0 = Study 6, 1 = Study 5); we entered this study variable as a predictor in Step 1. We then entered financial stress and condition variables in Step 2. Finally, each financial stress by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference condition.

At Step 1, study was not a significant predictor, with no difference detected between PSE scores from Study 5 and Study 6, β = -.02, 95% CI [-.06, .005], SE = .01, t = -1.67, p = .10. At Step 2 – controlling for financial stress and study – we found that PSE scores from those in the negative condition were significantly higher (M = .51, SD = .10) than those in the neutral condition (M = .46; SD = .08), β = .06, 95% CI [.02, .10], SE = .02, t = 3.46, p < .001. Additionally, PSE scores from those in the scarcity condition were significantly higher (M = .49; SD = .08) than those in the neutral condition, β = .06, 95% CI [.02, .10], SE = .02, t = 3.24, p = .002. But financial stress was a not a significant predictor of PSE, β = .007, 95% CI [-.01, .03], SE = .01, t = 0.83, p = .41.

At Step 3, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = .02, 95% CI [-.03, .07], SE = .02, t = 0.87, p = .39, or financial stress and the scarcity condition, β = .04, 95% CI [-.001, .085], SE = .02, t = 1.95, p = .054, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a three-step hierarchical multiple regression (see Table 10.2). To control for each study, we created a dummy coded variable (0 = Study 6, 1 = Study 5); we entered this study variable as a predictor in Step 1. We then entered NFE and condition variables in Step 2. Finally, each NFE by condition variable interaction was entered in Step 3. The following results are reported using neutral as the reference condition.

At Step 1, study was not a significant predictor, with no difference detected between mean PSE scores from Study 5 and Study 6, β = -.01, 95% CI [-.04, .01], SE = .01, t = -1.22, p = .22. At Step 2 – controlling for NFE and study number – we found that mean PSE scores from those in the negative condition were significantly higher (M = .51, SD = .10) than those in the neutral condition (M = .46; SD = .08), β = .05, 95% CI [.01, .08], SE = .01, t = 3.24, p = .001. Further, mean PSE scores from those in the scarcity condition were significantly higher (M = .49; SD = .08) than those in the neutral condition, β = .04, 95% CI [.008, .07], SE = .01, t = 2.59, p = .01. However, NFE was not a significant predictor of mean PSE, β = .004, 95% CI [-.01, .03], SE = .01, t = 0.66, p = .51.

When examining the potential interactions between NFE and condition at Step 2, we found this interaction was significant for the negative condition, β = .05, 95% CI [.01, .08], SE = .01, t = 3.25, p = .001. Additionally, the interaction between financial strain and the scarcity condition was significant, β = .03, 95% CI [.007, .07], SE = .01, t = 2.52, p = .012.

Examined as simple slope effects, NFE did not predict mean PSE in the neutral condition, β = -.01, 95% CI [-.05, .02], SE = .02, t = -0.82, p = .41, or for those in the scarcity condition, β = -.001, 95% CI [-.03, .03], SE = .01, t = -.04, p = .97. However, perceivers in the negative

condition experiencing greater NFE were more likely to categorize faces as Asian than Black, β = .04, 95% CI [.004, .07], SE = .02, t = 2.24, p = .027.

Examined as simple slopes, among those experiencing more NFE (+1SD from the mean = -4.05), perceivers in the negative condition were more likely to categorize faces as Asian (v. Black) relative to those in the neutral condition, β = .09, 95% CI [.04, .13], SE = .02, t = 4.56, p < .001. Similarly, individuals in the scarcity condition were more likely to categorize faces as Asian (v. Black) relative to those in the neutral condition, β = .07, 95% CI [.02, .10], SE = .02, t = 3.46, p < .001. There was not a difference between the negative and scarcity condition for those experiencing more NFE, β = -.02, 95% CI [-.07, .02], SE = .02, t = -1.12, p = .26. For those experiencing the least NFE (-1SD from the mean = -4.05), we did not find significant differences between those in the neutral and negative condition, β = -.004, 95% CI [-.05, .04], SE = .02, t = -0.21, p = .84, neutral and scarcity condition, β = -.003, 95% CI [-.05, .04], SE = .02, t = -0.16, p = .87, or negative and scarcity condition, β = .001, 95% CI [-.04, .04], SE = .02, t = 0.07, p = .95.

Study 5 Results

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first examined whether participants demonstrated a shift in their in their perceptual threshold for categorizing the racially ambiguous faces as Black or Asian. Indeed, a one-sample t-test revealed that participants' mean PSE (M = .48; SD = .09) was significantly lower than objective equality (.50), $t(117)$ = -2.14, p = .035, d = .20, indicating that faces with 48% Black face content were equally likely to be categorized as Black or Asian.

Notably, a between-subjects ANOVA indicated a main effect of condition, $F(2, 115)$ = 3.54, p = .032, η^2 = .06. Planned comparisons corrected using Holm's indicated a significant

difference between the neutral condition (M = .45, SD = .08) and the scarcity condition (M = .50, SD = .08; p = .04). There was not a significant difference detected between the neutral and negative condition (M = .50; SD = .11; p = .055), or between the negative and scarcity condition (p = .93). Together, the results indicate that perceivers in the scarcity condition were more likely to categorize faces as Asian than Black relative to the neutral condition.

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 11.1). We entered financial stress and condition variables in Step 1. Each financial stress by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for financial stress – we found that mean PSE scores from those in the negative condition (M = .50; SD = .11) were significantly higher than those in the neutral condition (M = .45, SD = .08), β = .06, CI_{95} [.001, .12], SE = .03, t = 2.06, p = .044. Similarly, PSE scores from those in the scarcity condition (M = .50, SD = .08) were significantly higher than those in the neutral condition, β = .06, CI_{95} [.006, .12], SE = .03, t = 2.24, p = .028. Together, these results indicate that perceivers in the neutral condition were more likely to categorize faces as Black than Asian relative to the negative and scarcity condition, when controlling for financial stress. Finally, financial stress was not a significant predictor of mean PSE, β = -.003, CI_{95} [-.04, .03], SE = .01, t = -0.23, p = .82.

At Step 2, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = -.01, CI_{95} [-.09, .06], SE = .04, t = -0.40, p = .69, or financial stress and the scarcity condition, β

= .05, CI_{95} [-.02, .12], SE = .04, *t* = 1.48, *p* = .14, when predicting mean PSE. However, when using negative as the reference condition, there was a significant interaction between financial stress and the scarcity condition, β = .07, CI_{95} [.001, .14], SE = .03, *t* = 2.03, *p* = .047. As such, we chose to decompose this interaction.

We did not find a simple effect of financial stress in the neutral condition, β = -.02, CI_{95} [-.08, .04], SE = .03, *t* = -0.72, *p* = .48, negative condition, β = -.03, CI_{95} [-.09, .01], SE = .02, *t* = -1.41, *p* = .16, or scarcity condition, β = .03, CI_{95} [-.02, .08], SE = .02, *t* = 1.47, *p* = .15.

Examined as simple slopes, among those experiencing the greatest levels of financial stress (+1SD above the mean = -.02), perceivers in the scarcity condition were more likely to categorize faces as Asian than those in the neutral condition, β = .12, CI_{95} [.02, .21], SE = .05, *t* = 2.58, *p* = .012. There was not a significant difference between the neutral and negative condition, β = .05, CI_{95} [-.05, .14], SE = .05, *t* = 1.00, *p* = .32, or the negative and scarcity condition, β = .07, CI_{95} [-.02, .16], SE = .04, *t* = 1.59, *p* = .12. Among those experiencing the lowest levels of financial stress (-1SD below the mean = -.02), there was not a significant difference between the neutral and negative condition, β = .08, CI_{95} [-.02, .17], SE = .05, *t* = 1.61, *p* = .11, neutral and scarcity condition, β = .01, CI_{95} [-.08, .10], SE = .04, *t* = 0.27, *p* = .79, or negative and scarcity condition, β = -.06, CI_{95} [-.15, .02], SE = .04, *t* = -1.51, *p* = .14.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 11.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for NFE – we found that mean PSE scores from those in the negative condition were significantly higher than those in the neutral condition, β = .05, CI_{95} [.002, .10], SE = .02, *t* = 2.09, *p* = .039. Similarly, PSE scores from those in the scarcity condition were significantly higher than those in the neutral condition, β = .06, CI_{95} [.01, .10], SE = .02, *t* = 2.63, *p* = .010. However, NFE was not a significant predictor of PSE, β = .006, CI_{95} [-.02, .03], SE = .01, *t* = 0.68, *p* = .50. When examining the potential interactions between NFE and priming condition at Step 2, we found that this was significant for the negative condition, β = .05, CI_{95} [.004, .10], SE = .02, *t* = 2.19, *p* = .03; this was not the case for the scarcity condition, β = .01, CI_{95} [-.03, .06], SE = .02, *t* = 0.60, *p* = .55.

Examined as simple effects, we found that perceivers experiencing more NFE in the negative condition were more likely to categorize faces as Asian than Black, β = .037, CI_{95} [.004, .070], SE = .016, *t* = 2.240, *p* = .027. There was not a simple effect of NFE in the neutral condition, β = -.012, CI_{95} [-.044, .018], SE = .015, *t* = -0.823, *p* = .412, or scarcity condition, β = -.0005, CI_{95} [-.027, .026], SE = .013, *t* = -0.041, *p* = .967.

Examined as simple slopes, among those experiencing more NFE (+1SD from the mean = 0), perceivers in the negative condition were more likely to categorize faces as Asian (v. Black) relative to those in the neutral condition, β = .10, CI_{95} [.03, .16], SE = .03, *t* = 3.10, *p* = .002. Similarly, perceivers in the scarcity condition were more likely to categorize faces as Asian (v. Black) relative to those in the neutral condition, β = .06, CI_{95} [.006, .12], SE = .03, *t* = 2.21, *p* = .029. There was not a difference detected between the negative and scarcity conditions at greater NFE, β = -.04, CI_{95} [-.10, .03], SE = .03, *t* = -1.11, *p* = .27. Among those experiencing the least NFE (-1SD from the mean = 0), there was not a significant difference between the neutral and negative condition, β = -.004, CI_{95} [-.08, .07], SE = .03, *t* = -0.12, *p* = .90, the neutral

and scarcity condition, β = .04, CI_{95} [-.03, .10], SE = .03, *t* = 1.13, *p* = .26, or the negative and scarcity condition, β = .04, CI_{95} [-.02, .10], SE = .03, *t* = 1.49, *p* = .14.

Implicit Associations Predicting Mean PSE

Finally, as a pre-registered exploratory analysis, we examined whether participants' racial attitudes and/or status bias moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 11.3). We entered racial attitudes, status bias, and condition variables in Step 1. Each racial attitude by condition variable interaction, and each status bias by condition variable interaction, were entered in Step 2. The following results are using neutral as the reference condition.

At Step 1 – controlling for racial attitudes and status bias – we did not find a significant difference between the neutral and negative condition, β = .04, CI_{95} = [-.001, .09], SE = .02, *t* = 1.94, *p* = .056. However, perceivers in the scarcity condition were more likely to categorize faces as Asian than Black relative to those in the neutral condition, β = .05, CI_{95} = [.01, .10], SE = .02, *t* = 2.51, *p* = .014. Racial attitudes, β = .001, CI_{95} = [-.02, .02], SE = .01, *t* = 0.11, *p* = .92, and status bias, β = -.01, CI_{95} = [-.03, .01], SE = .01, *t* = -1.42, *p* = .16, were not significant predictors of PSE.

At Step 2, we examined the potential interactions between racial attitudes and priming condition, and status associations and priming condition. The interaction between racial attitudes and the negative condition was not significant, β = .04, CI_{95} = [-.005, .09], SE = .02, *t* = 1.78, *p* = .08. And the interaction between racial attitudes and the scarcity condition was not significant, β = .03, CI_{95} = [-.006, .08], SE = .02, *t* = 1.69, *p* = .09. When examining the potential interactions between status bias and priming condition, we found this interaction was not significant for the

negative condition, β = -.004, CI_{95} = [-.05, .04], SE = .02, *t* = -0.23, *p* = .82, or the scarcity condition, β = .01, CI_{95} = [-.04, .06], SE = .02, *t* = 0.49, *p* = .62.

Study 6 Results

Priming Condition Predicting Mean PSE

Consistent with our pre-registration, we first examined whether perceivers demonstrated a shift in their perceptual threshold for categorizing faces as Black or Asian. A one-sample t-test indicated that participants' mean PSE (*M* = .50; SD = .09) across all condition did not differ from objective equality (.50), *t*(132) = -0.60, *p* = .55, *d* = 0.52. Next, we conducted a between-subjects ANOVA, finding no effect of condition on mean PSE, *F*(2, 130) = 2.99, *p* = .054, , η^2 = 0.04. That is, no differences were detected between the scarcity (*M* = .49; *SD* = .08), negative (*M* = .52; *SD* = .09), and neutral condition (*M* = .48; *SD* = .09).

Financial Stress Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether financial stress moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 12.1). We entered financial stress and condition variables in Step 1. Each financial stress by condition variable interaction was then entered in Step 2. The following results are reported using neutral as the reference condition.

At Step 1 – controlling for financial stress – we found that mean PSE scores from those in the negative condition (*M* = .52; *SD* = .09) were significantly higher than those in the neutral condition (*M* = .48; *SD* = .09), β = .06, CI_{95} [.02, .11], SE = .02, *t* = 2.93, *p* = .004. Similarly, PSE from those in the scarcity condition (*M* = .49; *SD* = .08) were significantly higher than those in the neutral condition, β = .06, CI_{95} [.009, .10], SE = .02, *t* = 2.41, *p* = .018. However, financial stress was not a significant predictor of mean PSE, β = .01, CI_{95} [-.01, .04], SE = .01, *t* = 1.40, *p*

= .16. Together, these results indicate that perceivers in the negative and scarcity condition were more likely to categorize faces as Asian than Black relative to the neutral condition, while controlling for financial stress.

At Step 2, we examined the potential interactions between financial stress and condition. We did not find a significant interaction between financial stress and the negative condition, β = .04, CI_{95} [-.01, .10], SE = .03, *t* = 1.61, *p* = .11, or financial stress and the scarcity condition, β = .03, CI_{95} [-.02, .09], SE = .03, *t* = 1.26, *p* = .21, when predicting mean PSE.

Negative Financial Events (NFE) Predicting Mean PSE

As a pre-registered exploratory analysis, we examined whether negative financial events moderated the effect of condition on mean PSE by performing a two-step hierarchical multiple regression (see Table 12.2). We entered NFE and condition variables in Step 1. Each NFE by condition variable interaction was then entered in Step 2. The following results are reported relative to the neutral condition.

At Step 1 – controlling for NFE – we found that mean PSE scores from those in the negative condition (*M* = .52; *SD* = .09) were significantly higher than those in the neutral condition (*M* = .48; *SD* = .09), β = .05, CI_{95} [.009, .09], SE = .02, *t* = 2.50, *p* = .014. However, we did not find a significant difference between the neutral and scarcity condition, β = .02, CI_{95} [-.02, .06], SE = .02, *t* = 1.00, *p* = .32. Additionally, NFE was not a significant predictor of PSE, β = .002, CI_{95} [-.02, .02], SE = .01, *t* = 0.28, *p* = .78.

When examining potential interactions between financial stress and condition at Step 2, this interaction was significant for the negative condition, β = .04, CI_{95} [.006, .08], SE = .02, *t* = 2.35, *p* = .021. Additionally, the interaction between NFE and the scarcity condition was significant, β = .05, CI_{95} [.01, .09], SE = .02, *t* = 2.95, *p* = .004.

Examined as simple effects, perceivers experiencing more NFE in the neutral condition were more likely to categorize faces as Black than Asian, β = -.03, CI_{95} [-.06, -.004], SE = .01, *t* = -2.33, *p* = .022. There was not a significant simple effect of NFE within the negative condition, β = .01, CI_{95} [-.02, .04], SE = .01, *t* = 0.99, *p* = .33, or scarcity condition, β = .02, CI_{95} [-.002, .05], SE = .01, *t* = 1.85, *p* = .067.

Examined as simple slopes, among those experiencing the most NFE (+1SD from the mean = 0), perceivers in the negative condition were more likely to categorize faces as Asian than Black relative to those in the neutral condition, β = .08, CI_{95} [.03, .14], SE = .02, *t* = 3.44, *p* < .001. Similarly, perceivers in the scarcity condition were more likely to categorize faces as Asian than Black relative to those in the neutral condition, β = .07, CI_{95} [.02, .13], SE = .03, *t* = 2.76, *p* = .007. There was not a significant difference in PSE between the negative and scarcity condition at the greatest levels of financial strain, β = -.01, CI_{95} [-.07, .04], SE = .03, *t* = -0.52, *p* = .60. At the least NFE (-1SD from the mean = 0), we did not find significant differences between those in the neutral and negative condition, β = .0002, CI_{95} [-.06, .06], SE = .03, *t* = 0.01, *p* = .99, neutral and scarcity condition, β = -.04, CI_{95} [-.09, .02], SE = .03, *t* = -1.40, *p* = .17, or negative and scarcity condition, β = -.04, CI_{95} [-.09, .02], SE = .02, *t* = -1.47, *p* = .14.

Discussion

White perceivers were less likely to categorize faces as Black than Asian when subliminally primed with negative concepts relative to neutral concepts. Although a difference in categorization did not emerge between the neutral and scarcity condition, the trend was consistent (i.e., group means showed that the neutral condition was more likely to categorize as Black, and the p-value bordered traditional significance). Additionally, perceivers primed with

neutral concepts were more likely to categorize faces as Black in Study 6, and when controlling for study differences and financial stress across all studies.

Negative financial events moderated this effect of condition on perceivers' judgment; among those who reported experiencing more negative financial events, participants primed with scarcity and negative concepts were less likely to categorize faces as Black relative to those primed with neutral concepts. Finally, we did not find evidence that participants' racial attitudes towards Black or Asian individuals, or a status bias (Black = low-status / Asian = high-status), moderated the effect of condition on perceivers' judgments.

Chapter 5: General Discussion

Recent empirical research indicates that scarcity can shift perceivers' group boundaries at the perceptual level – acting as a possible mechanism through which scarcity gives rise to interpersonal discrimination. Most germane to the present work, non-Black perceivers demonstrated a lower perceptual threshold for categorizing racially ambiguous Black-White faces as Black when being subliminally primed with scarcity (Krosch & Amodio, 2014). Across six studies, we aimed to conceptually replicate and extend these findings by examining the effect of scarcity on White perceivers' threshold for categorizing racially ambiguous Black-White, Asian-White, and Black-Asian faces.

Overall, our results suggest that subliminally priming scarcity does not influence White perceivers' categorization of racially ambiguous faces. Participants were more likely to categorize racially ambiguous Black-White faces as Black generally – a finding consistent with patterns of hypodescent – but were no more likely to categorize faces as Black than White when subliminally primed with scarcity, negative concepts, or neutral concepts. Additionally, participants' categorization of racially ambiguous Asian-White faces did not differ from random chance or by priming condition. While participants' categorization of racially ambiguous Black-Asian faces also did not differ from random chance, those primed with scarcity and negative concepts were more likely to categorize the faces as Asian than Black.

Our methods diverged from Krosch and Amodio's (2014; Study 2) in two ways, possibly contributing to why we failed to conceptually replicate their findings. First, we employed forward and backward masking (i.e., sandwich masking). In Krosch and Amodio's work, the racially ambiguous face following the word prime purportedly acted as a backward mask, rendering the prime subliminal; we could not mimic such an effect, thus employed forward and

backward masking. However, we believe it unlikely that the use of sandwich masking affected the influence of subliminal priming (Breitmeyer, 2015).

Additionally, we made each stimulus face symmetrical to account for people's tendency to bias their attention towards the left side of faces (Guo et al., 2012; Li et al., 2021). Scholars have presumed that visually processing symmetrical features or patterns is easier and more efficient; however, Bittner and Gold (2017) found that symmetry did not affect face processing efficiency. Although symmetry may not influence face processing, evidence suggests that greater symmetry increases perceptions of attractiveness (Fink et al., 2006; Perrett et al., 1999). Since individuals respond positively toward attractive individuals, it is plausible that an increase in attraction may affect how perceivers categorize them. Stepanova and Strube (2018) observed that symmetry did increase perceptions of attractiveness, but perceptions of attractiveness were relatively independent of racial categorization.

Importantly, our findings still complement existing research suggesting that economic scarcity prompts a scarcity mindset which can shift where perceivers perceptually draw intergroup boundaries. Namely, White perceivers experiencing greater financial stress were more likely to categorize racially ambiguous Black-White faces as Black. Moreover, participants experiencing a greater number of adverse financial events were more likely to categorize Black-Asian faces as Asian when subliminally primed with scarcity and negative concepts. These measures of financial stress and negative financial events (e.g., "Have you lost income due to COVID-19 related work changes?") are likely a strong indication that participants are under conditions of economic scarcity. Indeed, unemployment is tightly tied to perceptions of the economy, more so than other economic indicators; thus, it seems likely that unemployment is closely linked to perceptions of economic scarcity (Bianchi, 2016; Bianchi et al., 2018).

However, it remains unclear why financial stress and negative financial events predicted participants' racial categorization differently for ambiguous Black-White and Black-Asian faces.

Ultimately, our findings suggest that financial scarcity may differentially impact White perceivers' categorization of racially ambiguous faces depending on the target's racial background. While the specific mechanisms underlying this phenomenon remain unclear, no out-group effect emerged in participants' categorization of ambiguous Asian-White faces. Thus, it seems more likely that an anti-Black bias is underlying White perceivers' biased categorization rather than a generalized group membership effect, hypodescent, or minority bias (Chen, 2018).

However, we recognize that our ability to make inferences about a hypodescent bias, or lack thereof, is not remarkably straightforward. Namely, we argue that hypodescent is a less likely explanation for a scarcity-induced perceptual bias since participants did not demonstrate an Asian perceptual bias while viewing ambiguous Asian-White faces. Though it is plausible that hypodescent still affects perceivers' judgments but less robustly due to a smaller difference in status between Asian-White (v. Asian-Black or Black-White; Kahn et al., 2009; Zou & Cheryan, 2017). Additionally, participants' bias to categorize ambiguous Black-Asian faces as Black (in the neutral condition) reflects both anti-Blackness and hypodescent.

Nonetheless, participants' status bias (White = high-status and Asian = low-status association) did not predict perceivers' categorization. And when examining social status associations for participants who categorized Black-White faces, we found that those with less status bias (i.e., weaker White = high-status and Black = low-status association) were more likely to categorize ambiguous Black-White faces as Black – albeit this finding only emerged among participants subliminally primed with neutral concepts. Given this evidence, it seems unlikely that hypodescent affects participants' categorization. Moreover, other recent work has found that

hypodescent may only emerge under specific circumstances. For instance, Young and colleagues (2021) found that hypodescent patterns emerge with multiracial individuals when targets are male and when categorization measures are binary; however, when examining different operationalizations of multiracial, the scholars found that studies using visual ambiguity as an operational definition did not support hypodescent patterns.

Concerning the different effects of subliminal priming on those viewing Black-Asian faces, we may be observing two effects. When subliminally primed with neutral concepts (v. scarcity and negative concepts), participants who experienced a greater number of negative financial events were more likely to categorize Black-Asian faces as Black. As we have suggested, this bias may reflect an anti-Black bias. Anti-Blackness is deeply rooted in American history and the minds of Americans. White perceivers may be particularly vigilant toward group members already deemed threatening in the face of financial threat. Indeed, Black Americans are perceived to pose a greater threat relative to other culturally marginalized groups (Cottrell & Neuberg, 2005). Moreover, White Americans appear to evaluate Black men as a survival threat automatically, and they more strongly associate Black (v. Asian or White) men with threat than general negativity (March et al., 2021). As such – and aligning with a dynamic interactive approach – a unique Black perceptual bias may emerge (at least among White individuals) in response to ambiguous others under conditions of financial scarcity, such that Black Americans are particularly associated with threat, even if not personally endorsed. Additionally, March and colleagues' (2021) finding that Black men are associated more so with threat than general negativity may account for why participants' racial attitudes (i.e., White = good / Black = bad association) did not directly predict their categorization, as our BIATs measured associations between race and general affect.

On the other hand, the activation of scarcity and negative concepts may have prompted over categorization of Black-Asian faces as Asian. Indeed, the COVID-19 pandemic sparked a notable increase in Anti-Asian sentiments as people blamed Asians as the source of the pandemic (Cheng et al., 2021; Roberto et al., 2020; Tessler et al., 2020). As such, an association between negativity and Asians and scarcity and Asians among individuals is likely prevalent, even if not explicitly endorsed. Indeed, racism and xenophobia, particularly towards Asians, are not new to the United States. Asian Americans have long been painted as foreigners associated with disease, even when depicted seemingly positively (Kawai, 2005; Le et al., 2020).

Importantly, the present research is situated within broader bodies of literature on racial ambiguity and face perception. Our findings raise questions regarding the influence of economic scarcity and how it may interact with other mechanisms previously reported to influence the perception of racially ambiguous faces. For example, scholars have found evidence that social belonging (Gaither et al., 2016), essentialist beliefs (Ho et al., 2015), and ideological motives (Krosch et al., 2021) influence perceivers' judgments of racially ambiguous faces.

Additionally, the *own-race bias* (ORB; also known as the cross-race effect and other-race effect) is one of the most reliable phenomena reported in face perception literature (Sporer, 2001; Wong et al., 2020). One explanation for the occurrence of the ORB is that while viewing other-race faces, people attend to cues of racial category rather than cues of individual identity (Levin, 2000; MacLin & Malpass, 2003). Theoretically, this facilitates people's ability to classify other-race faces by race but hinders accuracy in individually identifying those same other-race faces (i.e., ORB). In support of this, past research has revealed that racial differences are detected faster than other social differences, such as gender, age, or emotional expression (Ito & Urland, 2003; Montepare & Opeyo, 2002). Further, Levin (1996) found that people were significantly

faster at racially categorizing cross-race faces than own-race faces, and this pattern was associated with an impaired ability to recognize other-face faces (Levin, 1996). Scarcity may increase sensitivity to out-group cues (i.e., amplifying categorical processing), explaining how scarcity influences visual perception. Indeed, Krosch and Amodio (2019) found that scarcity led to a delay in the N170 ERP, suggesting a decrement in configural processing.

Limitations

The findings of this study should be considered bearing in mind a few limitations. First and foremost, our sample was solely composed of White identifying individuals. As such, our conclusions seem best, or only, applicable to White perceivers. Indeed, research examining non-White perceivers' perceptions of racially ambiguous targets indicates that perceiver race or ethnic identity heavily influences perception (Pauker et al., 2018; Willadsen-Jensen & Ito, 2008; Young et al., 2017).

Secondly, although the recession stemming from the COVID-19 pandemic was one of the worst for the U.S., some have determined it to be the shortest (Business Cycle Dating Committee 2021). Further painting a positive outlook, according to many standard benchmarks, the U.S. is amid a relatively robust economic recovery (Barnes et al., 2021). Nonetheless, pre-existing socioeconomic inequities and other disparities in social determinants of health amplified pandemic-related hardships for many families (Hamad et al., 2022; Tai et al., 2021). In turn, societal disparities have grown more expansive in the U.S., creating an unequal journey to recovery, particularly for Black and Latino/a/x families (Tai et al., 2021). The present challenges so many are facing, such as financial scarcity, may have rendered any effect of subliminal priming negligible in comparison – albeit White individuals have financially recovered far better than any other racial or ethnic group in the U.S.

While the current financial landscape may have thwarted our manipulation, it is also possible that subliminal priming is not an abundantly efficacious method to prompt a scarcity mindset. Artificially evoking a scarce mindset, particularly related to financial scarcity, is challenging because individuals must perceive that their resources are endangered. Unlike the loss of employment, priming scarcity may not be sufficient to elicit motivated perception.

Further limitations to the present research pertain to our financial stress and negative financial events data. Specifically, a limited number of participants reported experiencing any negative events, particularly a higher number of negative events. Additionally, mean financial stress scores were only computed for participants who reported experiencing at least one negative event; thus, participants who experienced "no financial stress" were not included in our analyses. Statistically, the data's limited variability, or restricted ranged, lends to poor predictability. Similarly, the limited amount of data available decreased our statistical power.

Finally, contemporary research has aimed to examine how racially ambiguous or multiracial faces differ when they are computer-morphed compared to actual. Notably, Gaither and colleagues (2019) found that non-Black participants (though predominantly White) were more likely to categorize real biracial (Black-White) faces as Black than computer-generated biracial (Black-White) faces. This finding suggests our effects may be underpowered, so to speak, insofar that our choice to use computer-morphed stimuli did not increase our likelihood of finding an effect. Along similar lines, we employed computer morphing procedures such that our racially ambiguous faces changed in 25% increments. It is plausible that using a smaller incremental change would yield greater sensitivity in detecting differences between faces. Even so, evidence suggests that a more significant perceptual bias may emerge with larger increments. For example, Krosch and Amodio (2014) found that participants' mean PSE when judging

ambiguous Black-White faces was higher (*M* = .47; Study 1) when using 10% increments than when using 25% increments (*M* = .40; Study 2). Although the two studies differed in that Study 2 used subliminal priming, participants' mean PSE while primed with neutral concepts (.41) in Study 2 was still lower than participants' mean PSE in Study 1. It is unclear why larger incremental change would lead to a larger perceptual bias, a possible route for future research.

Conclusions

Our findings suggest that economic scarcity may prompt a perceptual bias among White individuals – an effect associated with acts of discrimination. Specifically, financial scarcity may prompt a bias to judge racially ambiguous others as Black, ultimately reflecting a pernicious manifestation of anti-Black racism. To our knowledge, this is the first line of research to examine how scarcity affects individuals' perception of racially ambiguous Black-White, Asian-White, and Black-Asian faces. As financial inequality and the mixed-race population grows in America, it will be important to understand how our perceptions of mixed-race individuals may be biased.

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Appendix A

Demographic Items

Gender

What is your gender identity?

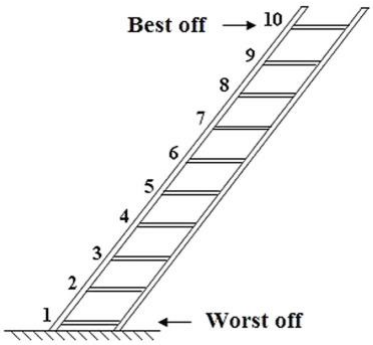
SES 1

What was your pre-tax personal income last year? That is, how much did you make last year before tax?

SES 2

What was your pre-tax household income last year? That is, how much did all contributing members of your household combined make last year before tax?

Ladder



Think of the ladder above as representing where people stand in the U.S. At the top of this ladder are the people who are best off – those who have the most money, the most education, and the

most respected jobs. At the bottom are the people who are worst off – those who have the least money, least education, and least respected jobs. The higher up you are on this ladder, the closer you are to the people at the very top, the lower you are, the closer you are to the people at the very bottom. Where would you place yourself on this ladder? Please specify in the space provided below where you think you stand at this time in your life, relative to other people in the U.S.

Ideology I

We hear a lot of talk these days about liberals and conservatives. Here is a seven-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, generally speaking?

Ideology II

In terms of social and cultural issues (e.g., abortion, separation of church and state, affirmative action), where would you place yourself on the following scale?

Ideology III

In terms of economic issues (e.g., taxation, welfare, privatization of social security) where would you place yourself on the following scale?

Religion

In general, how religious would you consider yourself?

Education I

What is the highest level of education completed by any parent?

Education II

What is the highest level of education you have completed?

Language I

What is your first language?

Language II

Are you bi- or multi-lingual?

Tables and Figures

Figure 1.1

Sigmoid Function of Mean PSE by Condition for Black-White Mega-Analysis

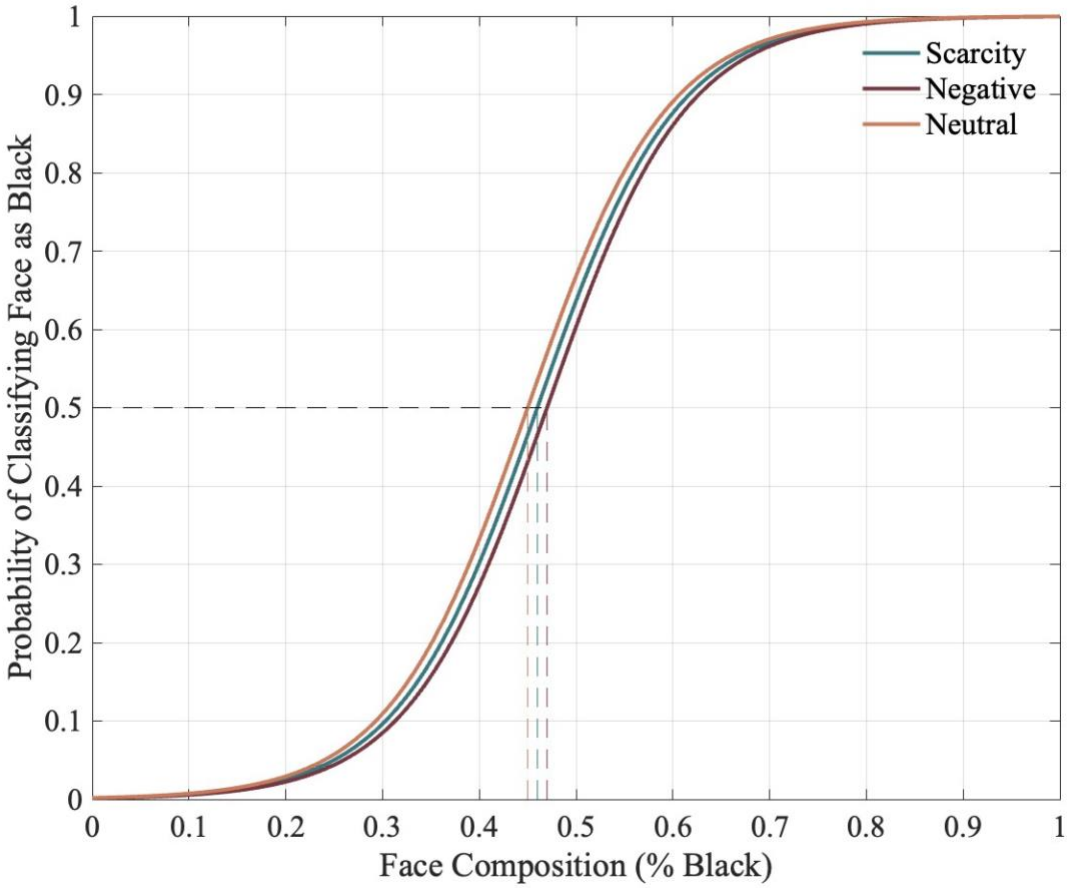


Figure 1.2

Mean PSE by Condition for Black White Mega-Analysis

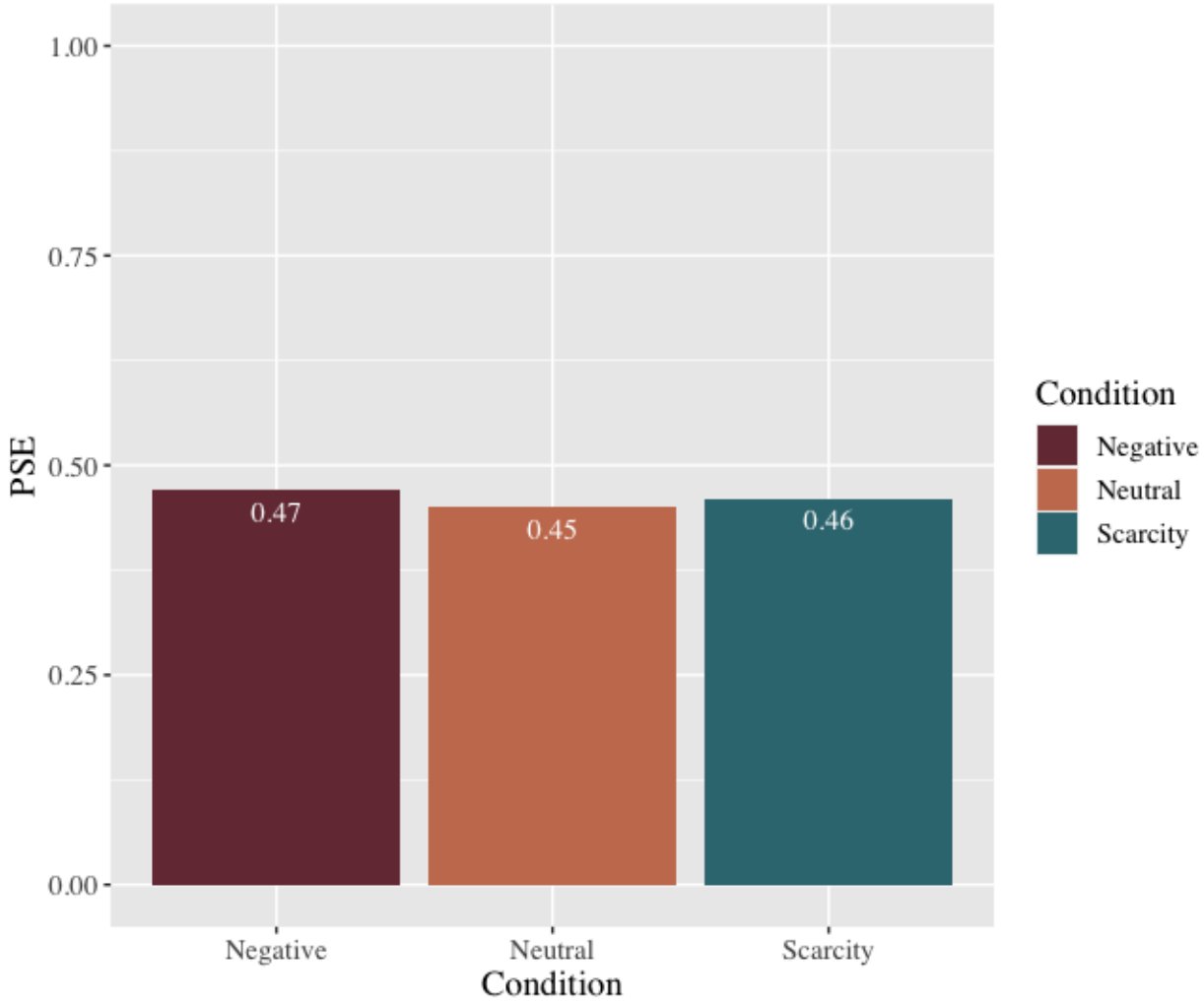


Figure 2.1

Sigmoid Function of Mean PSE by Condition for Asian-White Mega-Analysis

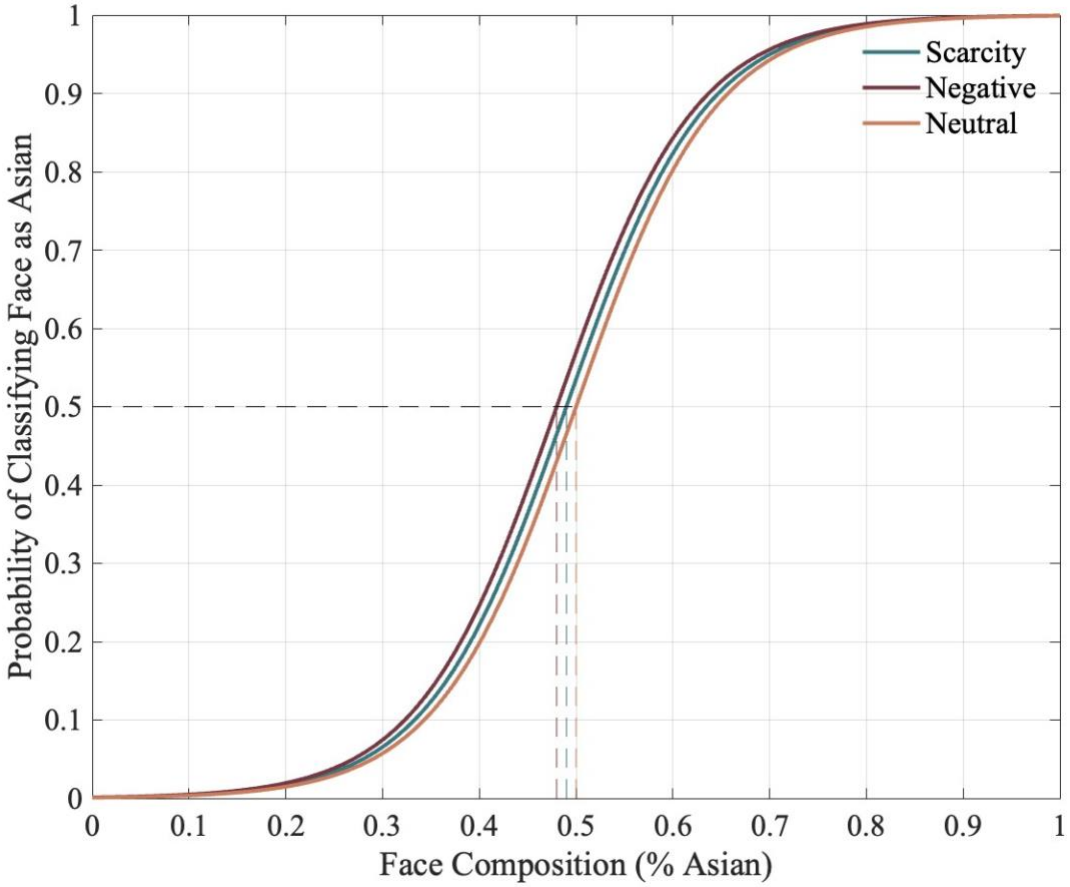


Figure 2.2

Mean PSE by Condition for Asian-White Mega-Analysis

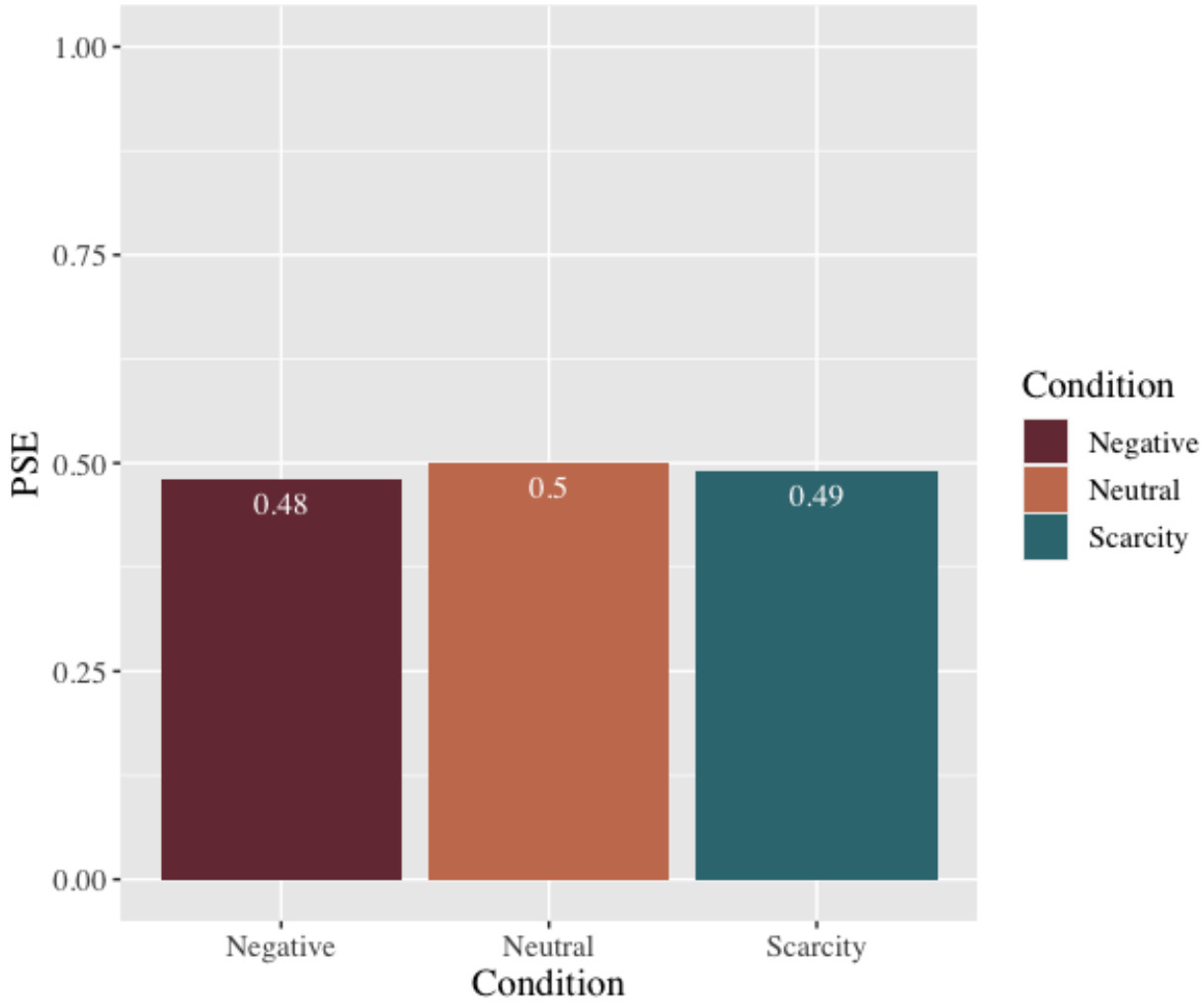


Figure 3.1

Sigmoid Function of Mean PSE by Condition for Black-Asian Mega-Analysis

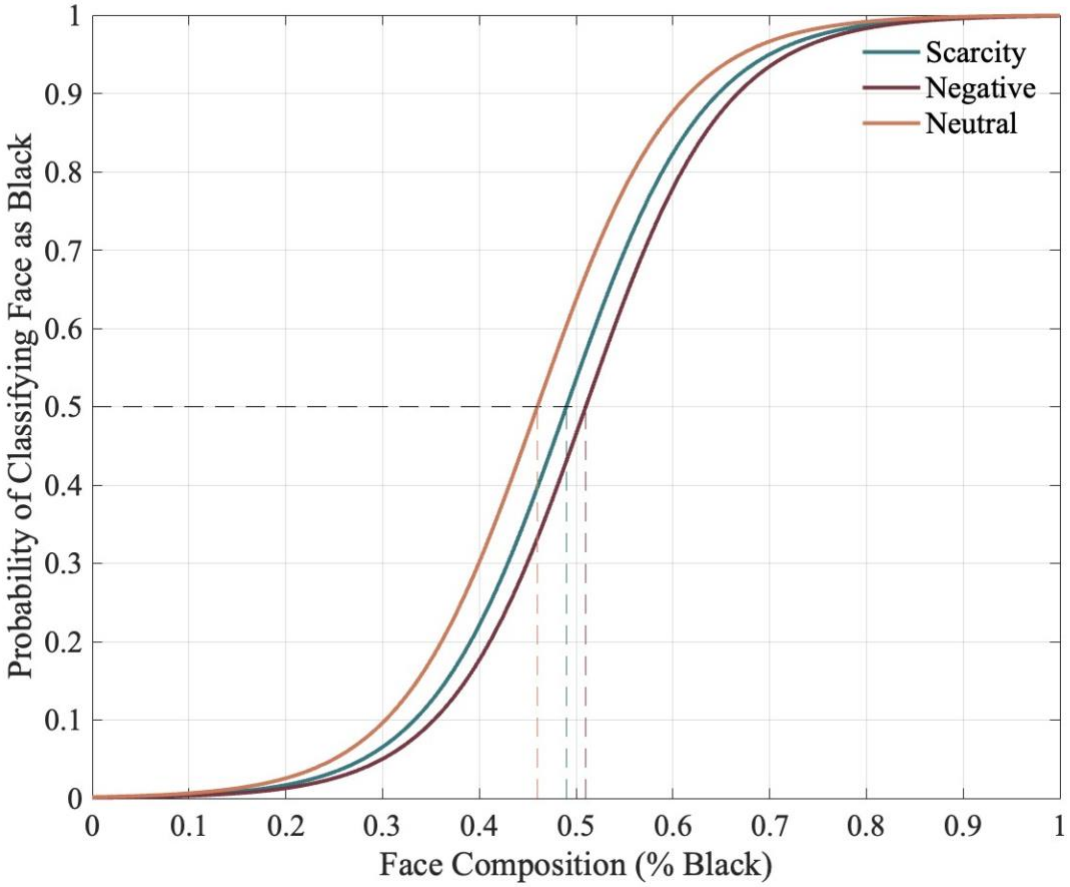


Figure 3.2

PSE Means by Condition for Black-Asian Mega-Analysis

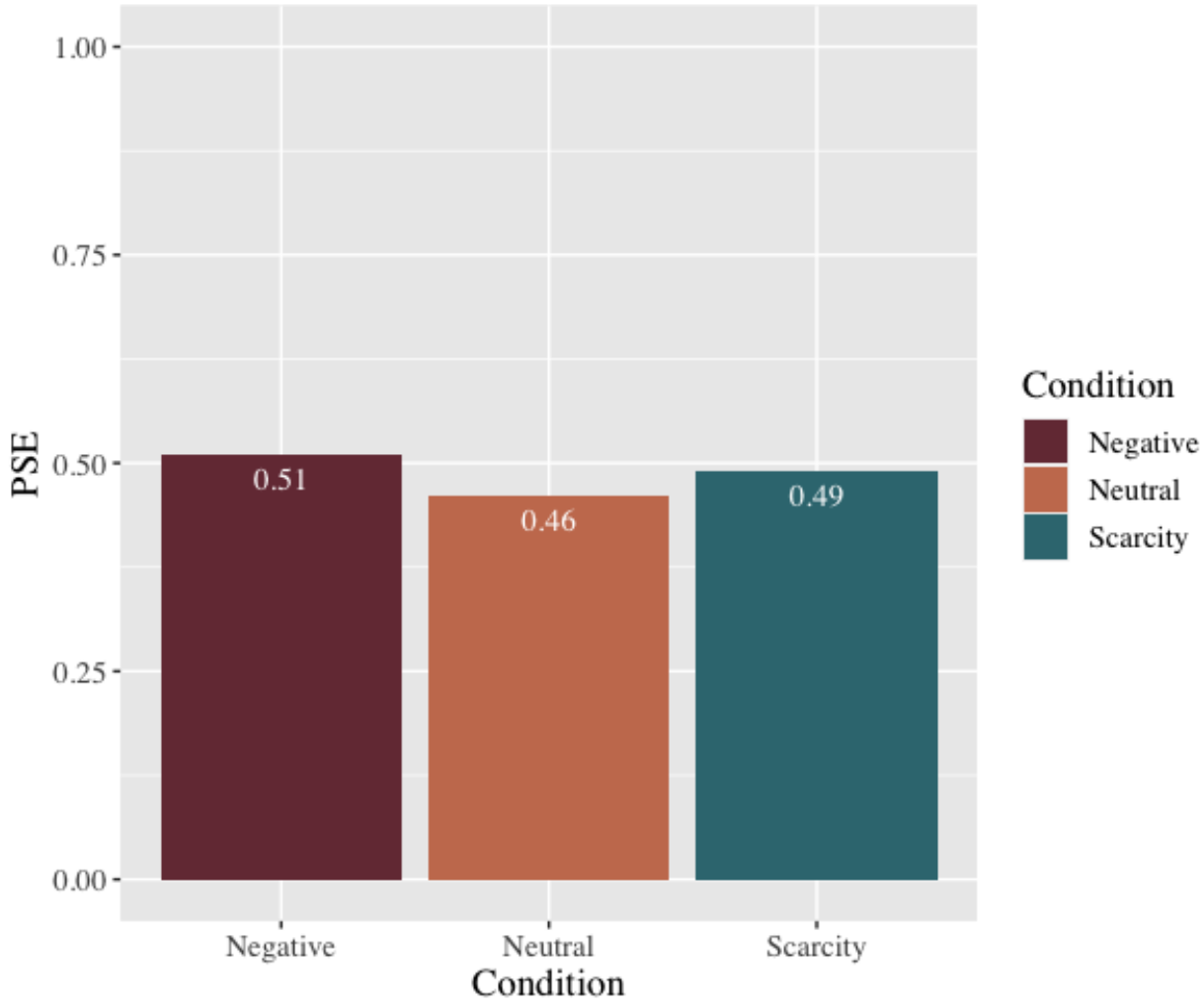


Table 2

Subliminal Word Primes by Condition

Scarcity	Neutral	Negative
Scarce	Fluffy	Brutal
Resource	Appetite	Confront
Sparse	Scenic	Odious
Limited	Antique	Fragile

Note. Words were chosen because of their equivalent length and frequency in the English language (Krosch & Amodio, 2014).

Table 3

Items Used in Brief Implicit Association Tests

Racial Bias		Racial (Social) Status Associations	
Good	Bad	High-Status	Low Status
Freedom	Abuse	Intelligent	Unintelligent
Peace	Poison	Worthy	Unworthy
Joy	Ugly	Competent	Incompetent
Honest	Sick	Better	Worse
Smile	Frown	Able	Unable

Note. In response to Bursell and Olsson (2020), Melamed et al. (2020) demonstrated that the racial status BIAT was capturing status beliefs rather than an evaluative bias (i.e., that status and evaluations load on distinct underlying constructs). The good and bad items were originally pulled from the standard racial bias IAT literature (e.g., Greenwald et al., 1998).

Table 4.1

Financial Stress Predicting Mean PSE for Black-White Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	.011	.014	0.822	.412
Step 2				
Financial Stress	-.017	.007	-2.283	.023
Neutral/Negative	.010	.018	0.566	.572
Neutral/Scarcity	.010	.016	0.657	.512
Step 3				
Financial Stress x Negative	.004	.020	0.226	.821
Financial Stress x Scarcity	.002	.017	0.154	.878
Financial Stress (Simple Effects)				
Neutral	-.019	.011	-1.713	.088
Negative	-.014	.017	-0.821	.413
Scarcity	-.017	.013	-1.298	.196
Financial Stress (+1 SD)				
Neutral/Negative	.013	.028	.483	.630
Neutral/Scarcity	.011	.024	.458	.647
Negative/Scarcity	-.002	.030	-.084	.933
Financial Stress (-1 SD)				
Neutral/Negative	.003	.026	.116	.908
Neutral/Scarcity	.007	.022	.329	.742
Negative/Scarcity	.004	.026	.167	.867

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 4.2

Negative Financial Events Predicting Mean PSE for Black-White Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	.011	.014	0.822	.412
Step 2				
Negative Financial Events	.001	.005	0.174	.862
Neutral/Negative	.010	.013	0.729	.467
Neutral/Scarcity	.006	.012	0.523	.601
Step 3				
Negative Financial Events x Negative	.005	.013	0.381	.703
Negative Financial Events x Scarcity	.006	.013	0.476	.635
Negative Financial Events (Simple Effects)				
Neutral	-.002	.008	-0.273	.785
Negative	.002	.010	0.270	.787
Scarcity	.003	.009	0.392	.695
Negative Financial Events (+1 SD)				
Neutral/Negative	.015	.019	0.775	.439
Neutral/Scarcity	.012	.018	0.699	.485
Negative/Scarcity	-.002	.020	-0.113	.910
Negative Financial Events (-1 SD)				
Neutral/Negative	.004	.019	0.240	.810
Neutral/Scarcity	.0003	.018	.018	.985
Negative/Scarcity	-.004	.019	-0.227	.821

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 5.1

Financial Stress Predicting Mean PSE for Study 1 (Black-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	-.030	.013	-2.274	.026
Neutral/Negative	.015	.029	0.530	.597
Neutral/Scarcity	.022	.024	0.899	.371
Step 2				
Financial Stress x Negative	-.008	.037	-0.237	.813
Financial Stress x Scarcity	-.038	.029	-1.340	.185
Financial Stress (Simple Effects)				
Neutral	-.012	.020	-0.597	.533
Negative	-.021	.031	-0.669	.506
Scarcity	-.051	.020	-2.499	.015
Financial Stress (+1 SD)				
Neutral/Negative	.007	.047	0.151	.880
Neutral/Scarcity	-.020	.039	-0.503	.617
Negative/Scarcity	-.027	.049	-.0548	.586
Financial Stress (-1 SD)				
Neutral/Negative	.025	.048	0.519	.606
Neutral/Scarcity	.057	.036	1.580	.119
Negative/Scarcity	.032	.046	0.700	.606

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 5.2

Negative Financial Events Predicting Mean PSE for Study 1 (Black-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	-.009	.007	-1.158	.249
Neutral/Negative	.017	.019	0.875	.383
Neutral/Scarcity	.018	.018	0.993	.323
Step 2				
Negative Financial Events x Negative	.006	.020	0.329	.743
Negative Financial Events x Scarcity	.009	.018	0.501	.617
Negative Financial Events (Simple Effects)				
Neutral	-.013	.011	-1.183	.239
Negative	-.006	.017	-0.378	.706
Scarcity	-.003	.015	-0.252	.802
Negative Financial Events (+1 SD)				
Neutral/Negative	.023	.029	0.799	.426
Neutral/Scarcity	.027	.026	1.042	.300
Negative/Scarcity	.003	.032	0.121	.904
Negative Financial Events (-1 SD)				
Neutral/Negative	.010	.028	0.357	.722
Neutral/Scarcity	.008	.026	0.319	.751
Negative/Scarcity	-.001	.027	-0.051	.959

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 5.3

Brief Implicit Association Tests Predicting Mean PSE for Study 1 (Black-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Racial Attitudes	-.006	.008	-0.699	.485
Status Bias	.008	.008	0.968	.335
Neutral/Negative	.024	.019	1.264	.208
Neutral/Scarcity	.018	.018	1.035	.302
Step 2				
Racial Attitudes x Negative	.001	.023	0.052	.958
Racial Attitudes x Scarcity	.021	.021	1.010	.314
Status Bias x Negative	-.046	.021	-2.140	.034
Status Bias x Scarcity	-.054	.020	-2.617	.009
Racial Attitudes (Simple Effects)				
Neutral	-.015	.016	-0.948	.345
Negative	-.014	.016	-0.885	.377
Scarcity	.005	.013	0.432	.666
Status Bias (Simple Effects)				
Neutral	.042	.015	2.773	.006
Negative	-.003	.015	-0.237	.812
Scarcity	-.011	.013	-0.826	.410
Racial Attitudes (+1 SD)				
Neutral/Negative	.002	.030	0.057	.955
Neutral/Scarcity	.014	.024	0.582	.562
Negative/Scarcity	.012	.029	0.431	.667
Racial Attitudes (-1 SD)				
Neutral/Negative	.047	.028	1.686	.094
Neutral/Scarcity	.029	.027	1.061	.290
Negative/Scarcity	-.018	.026	-0.684	.495
Status Bias (+1 SD)				
Neutral/Negative	-.020	.027	-0.728	.468
Neutral/Scarcity	-.025	.024	-1.017	.310
Negative/Scarcity	-.005	.025	-0.198	.843
Status Bias (-1SD)				

Neutral/Negative	.067	.026	2.530	.012
Neutral/Scarcity	.062	.025	2.476	.014
Negative/Scarcity	-.004	.027	-0.163	.870

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 6.1

Financial Stress Predicting Mean PSE for Study 2 (Black-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	-.008	.009	-0.942	.350
Neutral/Negative	.004	.023	0.152	.879
Neutral/Scarcity	-.005	.021	-0.220	.826
Step 2				
Financial Stress x Negative	.012	.023	0.525	.601
Financial Stress x Scarcity	.040	.021	1.958	.054
Financial Stress (Simple Effects)				
Neutral	-.023	.012	-1.824	.073
Negative	-.010	.020	-0.521	.604
Scarcity	.018	.016	1.076	.286
Financial Stress (+1 SD)				
Neutral/Negative	.016	.035	0.460	.647
Neutral/Scarcity	.039	.031	1.260	.212
Negative/Scarcity	.022	.036	0.621	.536
Financial Stress (-1 SD)				
Neutral/Negative	-.009	.031	-0.281	.780
Neutral/Scarcity	-.042	.029	-1.481	.143
Negative/Scarcity	-.034	.031	-1.095	.278

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 6.2

Negative Financial Events Predicting Mean PSE for Study 2 (Black-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	.013	.007	1.777	.078
Neutral/Negative	-.006	.019	-0.325	.746
Neutral/Scarcity	-.012	.017	-0.685	.495
Step 2				
Negative Financial Events x Negative	-.002	.019	-0.128	.898
Negative Financial Events x Scarcity	-.0003	.018	-0.016	.987
Negative Financial Events (Simple Effects)				
Neutral	.014	.013	1.126	.263
Negative	.012	.014	0.854	.395
Scarcity	.014	.013	1.060	.292
Negative Financial Events (+1 SD)				
Neutral/Negative	-.009	.027	-0.322	.748
Neutral/Scarcity	-.012	.026	-0.478	.633
Negative/Scarcity	-.004	.026	-0.141	.888
Negative Financial Events (-1 SD)				
Neutral/Negative	-.004	.027	-0.140	.889
Neutral/Scarcity	-.012	.025	-0.470	.639
Negative/Scarcity	-.008	.027	-0.291	.772

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 7.1

Financial Stress Predicting Mean PSE for Asian-White Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	.009	.012	0.790	.430
Step 2				
Financial Stress	-.008	.009	-0.902	.368
Neutral/Negative	-.037	.020	-1.773	.078
Neutral/Scarcity	-.027	.020	-1.354	.177
Step 3				
Financial Stress x Negative	-.017	.025	-0.663	.508
Financial Stress x Scarcity	-.0003	.023	-0.016	.987
Financial Stress (Simple Effects)				
Neutral	-.003	.018	-0.206	.837
Negative	-.020	.018	-1.139	.256
Scarcity	-.004	.014	-0.284	.777
Financial Stress (+1 SD)				
Neutral/Negative	-.005	.036	-1.536	.127
Neutral/Scarcity	-.028	.034	-0.828	.409
Negative/Scarcity	.026	.030	0.862	.390
Financial Stress (-1 SD)				
Neutral/Negative	-.021	.030	-0.708	.480
Neutral/Scarcity	-.028	.027	-1.030	.305
Negative/Scarcity	-.006	.029	-0.228	.820

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 7.2

Negative Financial Events Predicting Mean PSE for Asian-White Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	.009	.012	0.790	.430
Step 2				
Negative Financial Events	-.010	.006	-1.704	.089
Neutral/Negative	-.011	.015	-0.720	.472
Neutral/Scarcity	-.002	.014	-0.151	.879
Step 3				
Negative Financial Events x Negative	-.003	.016	-0.200	.842
Negative Financial Events x Scarcity	-.010	.016	-0.635	.526
Negative Financial Events (Simple Effects)				
Neutral	-.005	.012	-0.410	.682
Negative	-.008	.010	-0.838	.403
Scarcity	-.015	.009	-1.575	.116
Negative Financial Events (+1 SD)				
Neutral/Negative	-.015	.023	-0.677	.499
Neutral/Scarcity	-.013	.023	-0.574	.567
Negative/Scarcity	.002	.019	0.123	.900
Negative Financial Events (-1 SD)				
Neutral/Negative	-.009	.022	-0.421	.674
Neutral/Scarcity	.007	.020	0.343	.732
Negative/Scarcity	.016	.021	0.772	.441

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 8.1

Financial Stress Predicting Mean PSE for Study 3 (Asian-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	-.006	.015	-0.392	.696
Neutral/Negative	-.069	.034	-2.027	.046
Neutral/Scarcity	-.036	.032	-1.148	.254
Step 2				
Financial Stress x Negative	-.017	.044	-0.404	.687
Financial Stress x Scarcity	-.003	.039	-0.082	.935
Financial Stress (Simple Effects)				
Neutral	.001	.032	0.018	.986
Negative	-.017	.029	-0.587	.559
Scarcity	-.002	.022	-0.120	.905
Financial Stress (+1 SD)				
Neutral/Negative	-.089	.064	-1.398	.166
Neutral/Scarcity	-.042	.060	-0.692	.491
Negative/Scarcity	.047	.048	0.982	.329
Financial Stress (-1 SD)				
Neutral/Negative	-.052	.049	-1.094	.278
Neutral/Scarcity	-.035	.042	-0.832	.408
Negative/Scarcity	.018	.045	0.398	.691

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 8.2

Negative Financial Events Predicting Mean PSE for Study 3 (Asian-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	-.009	.009	-1.039	.300
Neutral/Negative	-.040	.024	-1.624	.107
Neutral/Scarcity	-.006	.022	-0.029	.770
Step 2				
Negative Financial Events x Negative	-.006	.029	-0.220	.826
Negative Financial Events x Scarcity	-.018	.027	-0.653	.515
Negative Financial Events (Simple Effects)				
Neutral	.001	.024	0.075	.940
Negative	-.004	.016	-0.283	.777
Scarcity	-.016	.013	-1.246	.215
Negative Financial Events (+1 SD)				
Neutral/Negative	-.049	.041	-1.199	.497
Neutral/Scarcity	-.026	.039	-0.681	.497
Negative/Scarcity	.023	.029	0.778	.438
Negative Financial Events (-1 SD)				
Neutral/Negative	-.036	.036	-1.012	.313
Neutral/Scarcity	.009	.033	0.291	.771
Negative/Scarcity	.046	.032	1.450	.149

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 8.3

Brief Implicit Association Tests Predicting Mean PSE for Study 3 (Asian-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Racial Attitudes	.016	.009	1.725	.086
Status Bias	.010	.009	1.150	.252
Neutral/Negative	-.042	.023	-1.789	.075
Neutral/Scarcity	-.020	.021	-0.938	.349
Step 2				
Racial Attitudes x Negative	.006	.025	0.248	.804
Racial Attitudes x Scarcity	.003	.024	0.135	.892
Status Bias x Negative	-.016	.024	-0.672	.502
Status Bias x Scarcity	-.024	.024	-0.958	.326
Racial Attitudes (Simple Effects)				
Neutral	.012	.019	0.621	.535
Negative	.018	.016	1.157	.249
Scarcity	.015	.014	1.056	.293
Status Bias (Simple Effects)				
Neutral	.025	.018	1.376	.171
Negative	.008	.015	0.572	.568
Scarcity	.001	.016	0.071	.944
Racial Attitudes (+1 SD)				
Neutral/Negative	-.044	.036	-1.231	.220
Neutral/Scarcity	-.022	.032	-0.694	.489
Negative/Scarcity	.022	.032	0.685	.494
Racial Attitudes (-1 SD)				
Neutral/Negative	-.045	.035	-1.290	.199
Neutral/Scarcity	-.004	.035	-0.124	.902
Negative/Scarcity	.041	.030	1.333	.185
Status Bias (+1 SD)				
Neutral/Negative	-.058	.036	-1.622	.107
Neutral/Scarcity	-.039	.032	-1.229	.221
Negative/Scarcity	.019	.033	0.585	.560
Status Bias (-1SD)				

Neutral/Negative	-.031	.033	-0.936	.351
Neutral/Scarcity	.014	.035	0.401	.689
Negative/Scarcity	.045	.031	1.445	.151

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 9.1

Financial Stress Predicting Mean PSE for Study 4 (Asian-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	-.010	.011	-0.902	.370
Neutral/Negative	-.008	.024	-0.312	.756
Neutral/Scarcity	-.023	.025	-0.923	.359
Step 2				
Financial Stress x Negative	-.020	.029	-0.692	.492
Financial Stress x Scarcity	-.002	.027	-0.089	.929
Financial Stress (Simple Effects)				
Neutral	-.004	.020	-0.184	.855
Negative	-.024	.022	-1.103	.274
Scarcity	-.006	.018	-0.331	.742
Financial Stress (+1 SD)				
Neutral/Negative	-.029	.040	-0.724	.471
Neutral/Scarcity	-.026	.040	-0.652	.517
Negative/Scarcity	.003	.038	0.083	.934
Financial Stress (-1 SD)				
Neutral/Negative	.011	.036	0.310	.758
Neutral/Scarcity	-.021	.034	-0.631	.530
Negative/Scarcity	-.032	.035	-0.916	.363

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 9.2

Negative Financial Events Predicting Mean PSE for Study 4 (Asian-White)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	-.012	.008	-1.560	.121
Neutral/Negative	.015	.019	0.790	.431
Neutral/Scarcity	-.001	.019	-0.045	.964
Step 2				
Negative Financial Events x Negative	-.004	.018	-0.225	.822
Negative Financial Events x Scarcity	-.008	.021	-0.395	.693
Negative Financial Events (Simple Effects)				
Neutral	-.009	.013	-0.637	.525
Negative	-.013	.012	-1.044	.298
Scarcity	-.017	.016	-1.031	.305
Negative Financial Events (+1 SD)				
Neutral/Negative	.011	.026	0.404	.687
Neutral/Scarcity	-.010	.030	-0.336	.737
Negative/Scarcity	-.021	.027	-0.759	.449
Negative Financial Events (-1 SD)				
Neutral/Negative	.019	.027	0.704	.482
Neutral/Scarcity	.007	.027	0.247	.805
Negative/Scarcity	-.012	.028	-0.426	.670

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 10.1

Financial Stress Predicting Mean PSE for Black-Asian Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	-.024	.014	-1.666	.097
Step 2				
Financial Stress	.007	.008	0.825	.410
Neutral/Negative	.061	.017	3.459	< .001
Neutral/Scarcity	.056	.017	3.238	.002
Step 3				
Financial Stress x Negative	.019	.021	0.870	.386
Financial Stress x Scarcity	.042	.021	1.947	.053
Financial Stress (Simple Effects)				
Neutral	-.015	.016	-0.950	.343
Negative	.003	.014	0.233	.816
Scarcity	.024	.013	1.745	.083
Financial Stress (+1 SD)				
Neutral/Negative	.077	.027	2.719	.007
Neutral/Scarcity	.094	.028	3.338	.001
Negative/Scarcity	.018	.028	0.646	.519
Financial Stress (-1 SD)				
Neutral/Negative	.044	.028	1.558	.121
Neutral/Scarcity	.019	.027	0.690	.491
Negative/Scarcity	-.025	.024	-1.047	.297

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 10.2

Negative Financial Events Predicting Mean PSE for Black-Asian Mega-Analysis

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Study	-.014	.011	-1.223	.223
Step 2				
Negative Financial Events	.003	.005	0.655	.513
Neutral/Negative	.046	.0144	3.236	.001
Neutral/Scarcity	.036	.014	2.592	.010
Step 3				
Negative Financial Events x Negative	.045	.014	3.251	.001
Negative Financial Events x Scarcity	.034	.013	2.519	.012
Negative Financial Events (Simple Effects)				
Neutral	-.023	.009	-2.330	.020
Negative	.022	.010	2.275	.023
Scarcity	.011	.009	1.201	.230
Negative Financial Events (+1 SD)				
Neutral/Negative	.087	.019	4.558	< .001
Neutral/Scarcity	.065	.018	3.463	< .001
Negative/Scarcity	-.022	.019	-1.117	.264
Negative Financial Events (-1 SD)				
Neutral/Negative	-.004	.020	-0.208	.835
Neutral/Scarcity	-.003	.020	-0.159	.873
Negative/Scarcity	.001	.018	0.065	.948

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 11.1

Financial Stress Predicting Mean PSE for Study 5 (Black-Asian)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	-.003	.014	-0.230	.819
Neutral/Negative	.060	.029	2.058	.043
Neutral/Scarcity	.061	.027	2.243	.028
Step 2				
Financial Stress x Negative	-.014	.036	-0.399	.691
Financial Stress x Scarcity	.052	.035	1.1479	.144
Financial Stress (Simple Effects)				
Neutral	-.019	.027	-0.719	.475
Negative	-.034	.024	-1.409	.163
Scarcity	.032	.022	1.471	.146
Financial Stress (+1 SD)				
Neutral/Negative	.046	.046	0.998	.322
Neutral/Scarcity	.116	.045	2.578	.012
Negative/Scarcity	.069	.043	1.591	.116
Financial Stress (-1 SD)				
Neutral/Negative	.075	.047	1.607	.113
Neutral/Scarcity	.011	.043	0.270	.788
Negative/Scarcity	-.064	.042	-1.508	.136

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 11.2

Negative Financial Events Predicting Mean PSE for Study 5 (Black-Asian)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	.006	.008	0.682	.496
Neutral/Negative	.048	.023	2.093	.038
Neutral/Scarcity	.056	.021	2.628	.009
Step 2				
Negative Financial Events x Negative	.050	.022	2.193	.030
Negative Financial Events x Scarcity	.012	.020	0.597	.551
Negative Financial Events (Simple Effects)				
Neutral	-.012	.015	-0.823	.412
Negative	.037	.016	2.240	.027
Scarcity	-.001	.013	-0.041	.967
Negative Financial Events (+1 SD)				
Neutral/Negative	.096	.030	3.102	.002
Neutral/Scarcity	.061	.027	2.211	.029
Negative/Scarcity	-.035	.031	-1.109	.269
Negative Financial Events (-1 SD)				
Neutral/Negative	-.004	.034	-0.120	.904
Neutral/Scarcity	.036	.032	1.125	.263
Negative/Scarcity	.040	.027	1.487	.140

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 11.3

Brief Implicit Association Tests Predicting Mean PSE for Study 5 (Black-Asian)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Racial Attitudes	.001	.008	0.105	.916
Status Bias	-.012	.008	-1.442	.157
Neutral/Negative	.042	.021	1.935	.055
Neutral/Scarcity	.052	.020	2.512	.013
Step 2				
Racial Attitudes x Negative	.039	.022	1.775	.078
Racial Attitudes x Scarcity	.032	.019	1.688	.094
Status Bias x Negative	-.004	.020	-0.225	.822
Status Bias x Scarcity	.010	.022	0.493	.622
Racial Attitudes (Simple Effects)				
Neutral	-.021	.014	-1.507	.134
Negative	.018	.017	1.060	.296
Scarcity	.011	.013	0.868	.387
Status Bias (Simple Effects)				
Neutral	-.011	.014	-0.831	.407
Negative	-.016	.015	-1.078	.283
Scarcity	-.001	.017	-0.045	.964
Racial Attitudes (+1 SD)				
Neutral/Negative	.084	.030	2.837	.005
Neutral/Scarcity	.089	.028	3.213	.002
Negative/Scarcity	.005	.030	0.162	.872
Racial Attitudes (-1 SD)				
Neutral/Negative	.001	.032	0.027	.979
Neutral/Scarcity	.016	.028	0.576	.566
Negative/Scarcity	.016	.029	0.538	.592
Status Bias (+1 SD)				
Neutral/Negative	.043	.029	1.471	.144
Neutral/Scarcity	.069	.029	2.372	.020
Negative/Scarcity	.026	.031	0.819	.415

Status Bias (-1SD)				
Neutral/Negative	.039	.031	1.262	.210
Neutral/Scarcity	.034	.031	1.076	.284
Negative/Scarcity	-.005	.030	-0.163	.871

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 12.1

Financial Stress Predicting Mean PSE for Study 6 (Black-Asian)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Financial Stress	.015	.010	1.403	.165
Neutral/Negative	.064	.022	2.934	.004
Neutral/Scarcity	.055	.023	2.412	.018
Step 2				
Financial Stress x Negative	.061	.022	2.783	.007
Financial Stress x Scarcity	.052	.023	2.241	.028
Financial Stress (Simple Effects)				
Neutral	-.013	.020	-0.657	.513
Negative	.029	.017	1.717	.090
Scarcity	.020	.017	1.163	.249
Financial Stress (+1 SD)				
Neutral/Negative	.104	.033	3.110	.003
Neutral/Scarcity	.085	.036	2.379	.020
Negative/Scarcity	-.018	.037	-0.496	.621
Financial Stress (-1 SD)				
Neutral/Negative	.019	.035	0.529	.599
Neutral/Scarcity	.018	.035	0.533	.596
Negative/Scarcity	-.0002	.029	-0.008	.994

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 12.2

Negative Financial Events Predicting Mean PSE for Study 6 (Black-Asian)

Predictor	***β***	***SE***	***t***	***p***
Step 1				
Negative Financial Events	.002	.008	0.279	.781
Neutral/Negative	.046	.019	2.500	.014
Neutral/Scarcity	.019	.019	0.998	.320
Step 2				
Negative Financial Events x Negative	.042	.018	2.346	.021
Negative Financial Events x Scarcity	.053	.018	2.950	.004
Negative Financial Events (Simple Effects)				
Neutral	-.030	.013	-2.328	.022
Negative	.012	.013	0.986	.326
Scarcity	.024	.013	1.846	.067
Negative Financial Events (+1 SD)				
Neutral/Negative	.085	.025	3.439	.001
Neutral/Scarcity	.071	.026	2.757	.007
Negative/Scarcity	-.014	.026	-0.521	.603
Negative Financial Events (-1 SD)				
Neutral/Negative	.0002	.026	0.008	.993
Neutral/Scarcity	-.036	.026	-1.395	.166
Negative/Scarcity	-.036	.024	-1.469	.144

Note. In all hierarchical regressions, conditions in the model were dummy coded, which were always orthogonal to each other, centered around zero, and which always summed to one (i.e., scarcity = [0, 0, 1], negative = [0, 1, 0], neutral = [1, 0 ,0]). Step 1, Step 2, and Step 3 are reported relative to the neutral condition (i.e., the reference condition). To compute standardized betas (β), outcomes were z-standardized in advance of running each model.

Table 13.1

Descriptive Statistics of Demographic Variables for Original Studies

Demographic	Study 1 (Black-White)		Study 3 (Asian-White)		Study 5 (Black-Asian)		Total	
	n	%	n	%	n	%	n	%
Gender								
Man	85	57.43	74	51.03	71	60.17	230	55.96
Woman	61	41.22	70	48.28	47	39.83	178	43.31
Non-binary [a]	1	0.68	--	--	--	--	1	0.24
Genderqueer	1	0.68	1	0.69	--	--	2	0.49
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
SES I								
Less than $20,000	13	8.78	17	11.72	12	10.17	42	10.22
$20,000 – $29,000	5	3.38	8	5.52	9	7.63	22	5.35
$30,000 – $39,000	16	10.81	9	6.21	15	12.71	40	9.73
$40,000 – $49,000	9	6.08	9	6.21	4	3.39	22	5.35
$50,000 – $59,000	9	6.08	13	8.97	14	11.86	36	8.76
$60,000 – $69,000	12	8.11	10	6.90	7	5.93	29	7.06
$70,000 – $79,000	16	10.81	11	7.59	4	3.39	31	7.54
$80,000 – $89,000	9	6.08	9	6.21	9	7.63	27	6.57
$90,000 – $99,000	5	3.38	7	4.83	8	6.78	20	4.87
$100,000 – $149,000	28	18.92	30	20.69	23	19.49	81	19.71

$150,000 – $199,999	16	10.81	12	8.28	1	0.85	29	7.06
$200,000 or more	3	2.03	8	5.52	6	5.08	17	4.14
I don’t know	4	2.70	1	0.69	5	4.24	10	2.43
I prefer not to answer	3	2.03	1	0.69	1	0.85	5	1.22
No response	--	--	--	--	--	--	--	--
SES II								
Less than $20,000	12	8.11	19	13.10	12	10.34	43	10.51
$20,000 – $29,000	5	3.38	7	4.83	9	7.76	21	5.13
$30,000 – $39,000	21	14.19	9	6.21	14	12.07	44	10.76
$40,000 – $49,000	9	6.08	9	6.21	2	1.72	20	4.89
$50,000 – $59,000	10	6.76	15	10.34	11	9.48	36	8.80
$60,000 – $69,000	8	5.41	8	5.52	8	6.90	24	5.87
$70,000 – $79,000	15	10.14	10	6.90	5	4.31	30	7.33
$80,000 – $89,000	12	8.11	12	8.28	9	7.76	33	8.07
$90,000 – $99,000	6	4.05	7	4.83	9	7.76	22	5.38
$100,000 – $149,000	22	14.86	30	20.69	25	21.55	77	18.83
$150,000 – $199,999	16	10.81	10	6.90	1	0.86	27	6.60
$200,000 or more	3	2.03	7	4.83	5	4.31	15	3.67
I don’t know	6	4.05	1	0.69	5	4.31	12	2.93
I prefer not to answer	3	2.03	1	0.69	1	0.86	5	1.22
No response	--	--	--	--	--	--	--	--
Ladder								

10	5	3.38	2	1.38	2	1.69	9	2.19
9	11	7.43	14	9.66	11	9.32	36	8.76
8	10	6.76	10	6.90	11	9.32	31	7.54
7	28	18.92	32	22.07	17	14.41	77	18.73
6	37	25.00	35	24.14	24	20.34	96	23.36
5	23	15.54	19	13.10	17	14.41	59	14.36
4	16	10.81	17	11.72	16	13.56	49	11.92
3	10	6.76	8	5.52	14	11.86	32	7.79
2	8	5.41	7	4.83	5	4.24	20	4.87
1	--	--	1	0.69	1	0.85	2	0.49
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
Ideology I								
Extremely Liberal	24	16.20	26	17.9	22	18.6	72	17.52
Liberal	44	29.70	51	35.2	35	29.7	130	31.63
Slightly Liberal	18	12.20	20	13.8	17	14.4	55	13.38
Moderate	16	10.8	17	11.7	15	12.7	48	11.68
Slightly Conservative	12	8.1	5	3.4	8	6.8	25	6.08
Conservative	23	15.5	21	14.5	14	11.9	58	14.11
Extremely Conservative	9	6.1	4	2.8	7	5.9	20	4.87
I prefer not to say	2	1.4	1	.7	--	--	3	0.73

No response	--	--	--	--	--	--	--	--
Ideology II								
Extremely Liberal	39	26.4	44	30.3	32	27.1	115	27.58
Liberal	44	29.7	47	32.4	31	26.3	122	29.26
Slightly Liberal	18	12.2	14	9.7	15	12.7	47	11.27
Moderate	12	8.1	12	8.3	13	11	37	8.87
Slightly Conservative	11	7.4	6	4.1	5	4.2	22	5.28
Conservative	20	13.5	17	11.7	15	12.7	52	12.47
Extremely Conservative	7	4.70	4	2.8	7	5.9	18	4.32
I prefer not to say	3	2.0	1	.7	--	--	4	0.96
No response	--	--	--	--	--	--	--	--
Ideology III								
Extremely Liberal	25	16.9	28	19.3	21	17.8	74	18.00
Liberal	43	29.1	41	28.3	34	28.8	118	28.71
Slightly Liberal	11	7.4	23	15.9	14	11.9	48	11.68
Moderate	13	8.8	10	6.9	14	11.9	37	9.00
Slightly Conservative	22	14.9	12	8.3	12	10.2	46	11.19
Conservative	22	14.9	20	13.8	14	11.9	56	13.63
Extremely Conservative	9	6.1	9	6.2	8	6.8	26	6.33
I prefer not to say	2	1.4	1	.7	--	--	3	0.73

No response	1	.7	1	.7	1	.8	3	0.73
Religious								
Not At All Religious	65	43.92	73	50.69	56	47.46	194	47.32
Slightly Religious	26	17.57	27	18.75	13	11.02	66	16.10
Moderately Religious	27	18.24	21	14.58	21	17.80	69	16.83
Very Religious	16	10.81	16	11.11	17	14.41	49	11.95
Extremely Religious	14	9.46	7	4.86	11	9.32	32	7.80
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
Education I								
High School or GED	33	22.92	35	24.14	31	26.27	99	24.32
Trade School		0.00	5	3.45	2	1.69	7	1.72
2-Year Degree	17	11.81	19	13.10	13	11.02	49	12.04
4-Year Degree	41	28.47	38	26.21	32	27.12	111	27.27
Graduate Degree or Higher	50	34.72	44	30.34	39	33.05	133	32.68
I don’t know	1	0.69	1	0.69	1	0.85	3	0.74
I prefer not to say	1	0.69	3	2.07	--	--	4	0.98
Not applicable	--	--	--	--	--	--	--	--
No response	1	0.69	--	--	--	--	1	0.25
Education II								
High School or GED	--	--	42	28.97	27	22.88	69	16.79

Trade School	6	4.05	3	2.07	2	1.69	11	2.68
2-Year Degree	9	6.08	8	5.52	12	10.17	29	7.06
4-Year Degree	58	39.19	52	35.86	39	33.05	149	36.25
Graduate Degree or Higher	39	26.35	39	26.90	37	31.36	115	27.98
I don't know	36	24.32	--	--	--	--	36	8.76
I prefer not to say	--	--	1	0.69	1	0.85	2	0.49
Not applicable	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
Language I								
English	147	99.32	145	100.00	118	100.00	410	99.76
Russian	1	0.68	--	--	--	--	1	0.24
No response	--	--	--	--	--	--	--	--
Language II								
No	137	92.57	134	92.41	108	91.53	379	92.21
Yes	11	7.43	9	6.21	7	5.93	27	6.57
I prefer not to say	--	--	2	1.38	2	1.69	4	0.97
No response	--	--	--	--	1	0.85	1	0.24

Note. Demographic information represents only participants included in data analyses.

[a] Participant identifies as non-binary and man. Only included in non-binary count.

Table 13.2

Descriptive Statistics of Demographic Variables for Replication Studies

Demographic	Study 2 (Black-White)		Study 4 (Asian-White)		Study 6 (Black-Asian)		Total	
	n	%	n	%	n	%	n	%
Gender								
Man	45	38.14	53	38.13	55	41.35	153	39.23
Woman	71	60.17	84	60.43	74	55.64	229	58.72
Non-binary	1	0.85	--	--	--	--	1	0.26
Genderqueer	1	0.85	2	1.44	3	2.26	6	1.54
No response	--	--	--	--	1	0.75	1	0.26
SES I								
Less than $20,000	55	46.61	42	30.22	46	34.59	143	36.67
$20,000 – $29,000	8	6.78	13	9.35	17	12.78	38	9.74
$30,000 – $39,000	17	14.41	8	5.76	13	9.77	38	9.74
$40,000 – $49,000	3	2.54	23	16.55	11	8.27	37	9.49
$50,000 – $59,000	10	8.47	10	7.19	9	6.77	29	7.44
$60,000 – $69,000	7	5.93	11	7.91	7	5.26	25	6.41
$70,000 – $79,000	5	4.24	8	5.76	8	6.02	21	5.38
$80,000 – $89,000	3	2.54	4	2.88	3	2.26	10	2.56
$90,000 – $99,000	1	0.85	5	3.60	3	2.26	9	2.31
$100,000 – $149,000	3	2.54	8	5.76	5	3.76	16	4.10
$150,000 – $199,999	1	0.85	2	1.44	6	4.51	9	2.31

$200,000 or more	2	1.69	1	0.72	2	1.50	5	1.28
I don’t know	--	--	1	0.72	1	0.75	2	0.51
I prefer not to answer	2	1.69	3	2.16	2	1.50	7	1.79
No response	1	0.85	--	--	--	--	1	0.26
SES II								
Less than $20,000	14	11.86	14	10.07	13	9.77	41	10.51
$20,000 – $29,000	9	7.63	11	7.91	10	7.52	30	7.69
$30,000 – $39,000	16	13.56	6	4.32	15	11.28	37	9.49
$40,000 – $49,000	7	5.93	13	9.35	11	8.27	31	7.95
$50,000 – $59,000	9	7.63	7	5.04	7	5.26	23	5.90
$60,000 – $69,000	6	5.08	9	6.47	8	6.02	23	5.90
$70,000 – $79,000	12	10.17	9	6.47	7	5.26	28	7.18
$80,000 – $89,000	5	4.24	10	7.19	5	3.76	20	5.13
$90,000 – $99,000	8	6.78	14	10.07	12	9.02	34	8.72
$100,000 – $149,000	19	16.10	26	18.71	19	14.29	64	16.41
$150,000 – $199,999	5	4.24	6	4.32	13	9.77	24	6.15
$200,000 or more	5	4.24	8	5.76	7	5.26	20	5.13
I don’t know	3	2.54	3	2.16	4	3.01	10	2.56
I prefer not to answer	--	--	3	2.16	2	1.50	5	1.28
No response	--	--	--	--	--	--	--	--
Ladder								
10	1	0.85	--	--	1	0.75	2	0.51

9	0	0.00	1	0.72	1	0.75	2	0.51
8	7	5.93	13	9.35	7	5.26	27	6.92
7	29	24.58	33	23.74	32	24.06	94	24.10
6	23	19.49	29	20.86	31	23.31	83	21.28
5	20	16.95	21	15.11	22	16.54	63	16.15
4	12	10.17	21	15.11	17	12.78	50	12.82
3	20	16.95	14	10.07	17	12.78	51	13.08
2	5	4.24	7	5.04	3	2.26	15	3.85
1	1	0.85	--	--	2	1.50	3	0.77
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
Ideology I								
Extremely Liberal	29	24.6	29	20.9	25	18.8	83	21.39
Liberal	29	24.6	35	25.2	32	24.1	96	24.74
Slightly Liberal	17	14.4	24	17.3	19	14.3	60	15.46
Moderate	15	12.7	25	18	25	18.8	65	16.75
Slightly Conservative	10	8.5	9	6.5	13	9.8	32	8.25
Conservative	10	8.5	11	7.9	16	12	37	9.54
Extremely Conservative	6	5.1	5	3.6	3	2.3	14	3.61
I prefer not to say	--	--	1	.7	--	--	1	0.26
No response	--	--	--	--	--	--	--	--

Ideology II								
Extremely Liberal	39	33.1	39	28.1	35	26.3	113	29.12
Liberal	27	22.9	39	28.1	37	27.8	103	26.55
Slightly Liberal	12	10.2	18	12.9	16	12	46	11.86
Moderate	13	11	19	13.7	12	9	44	11.34
Slightly Conservative	7	5.9	5	3.6	13	9.8	25	6.44
Conservative	11	9.3	9	6.5	14	10.5	34	8.76
Extremely Conservative	7	5.9	8	5.8	5	3.8	20	5.15
I prefer not to say	--	--	2	1.4	--	--	2	0.52
No response	--	--	--	--	1	.8	1	0.26
Ideology III								
Extremely Liberal	31	26.3	28	20.1	23	17.3	82	21.08
Liberal	24	20.3	24	17.3	29	21.8	77	19.79
Slightly Liberal	16	13.6	26	18.7	21	15.8	63	16.20
Moderate	16	13.6	24	17.3	20	15	60	15.42
Slightly Conservative	10	8.5	17	12.2	22	16.5	49	12.60
Conservative	11	9.3	14	10.1	14	10.5	39	10.03
Extremely Conservative	8	6.8	5	3.6	4	3.0	17	4.37
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	2	1.4	--	--	2	0.51

Religion								
Not At All Religious	55	46.61	75	53.96	68	51.13	198	50.77
Slightly Religious	23	36.51	27	42.19	24	36.92	74	38.54
Moderately Religious	18	25.00	19	25.00	17	22.37	54	24.11
Very Religious	14	23.73	14	22.22	19	27.54	47	24.61
Extremely Religious	6	10.00	3	4.62	5	7.94	14	7.45
I prefer not to say	2	2.17	--	--	--	--	2	0.68
No response	--	--	1	0.72	--	--	1	0.26
Education I								
High School or GED	32	27.12	39	28.06	35	26.32	106	27.18
Trade School	5	4.24	6	4.32	10	7.52	21	5.38
2-Year Degree	15	12.71	16	11.51	13	9.77	44	11.28
4-Year Degree	38	32.20	41	29.50	43	32.33	122	31.28
Graduate Degree or Higher	26	22.03	36	25.90	28	21.05	90	23.08
I don’t know	1	0.85	--	--	1	0.75	2	0.51
I prefer not to say	1	0.85	--	--	1	0.75	2	0.51
Not applicable	--	--	--	--	1	0.75	1	0.26
No response	--	--	1	0.72	1	0.75	2	0.51
Education II								
High School or GED	40	33.90	28	20.14	29	22.66	97	25.19
Trade School	4	3.39	6	4.32	5	3.91	15	3.90

2-Year Degree	20	16.95	18	12.95	14	10.94	52	13.51
4-Year Degree	41	34.75	55	39.57	50	39.06	146	37.92
Graduate Degree or Higher	13	11.02	30	21.58	29	22.66	72	18.70
I don’t know	--	--	--	--	--	--	--	--
I prefer not to say	--	--	--	--	--	--	--	--
Not applicable	--	--	2	1.44	--	--	2	0.52
No response	--	--	--	--	1	0.78	1	0.26
Language I								
English	117	99.15	139	100.00	130	97.74	386	98.97
Hebrew	1	0.85	--	--	--	--	1	0.26
German	--	--	--	--	1	0.75	1	0.26
Slovenian	--	--	--	--	1	0.75	1	0.26
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	1	0.75	1	0.26
Language II								
No	108	91.53	129	92.81	113	84.96	350	89.74
Yes	10	8.47	9	6.47	17	12.78	36	9.23
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	1	0.72	3	2.26	4	1.03

Note. Demographic information represents only participants included in data analyses.

Table 13.3

Descriptive Statistics of Demographic Variables for Mega-Analyses

Demographic	Black-White		Asian-White		Black-Asian		Total	
	n	%	n	%	n	%	n	%
Gender								
Man	130	38.46	127	44.72	126	50.40	383	47.88
Woman	132	59.73	154	54.23	121	48.40	407	50.88
Non-binary	2	0.90	--	--	--	--	2	0.25
Genderqueer	2	0.90	3	1.06	3	1.20	8	1.00
SES I								
Less than $20,000	68	25.56	59	20.77	58	23.11	185	23.10
$20,000 – $29,000	13	4.89	21	7.39	26	10.36	60	7.49
$30,000 – $39,000	33	12.41	17	5.99	28	11.16	78	9.74
$40,000 – $49,000	12	4.51	32	11.27	15	5.98	59	7.37
$50,000 – $59,000	19	7.14	23	8.10	23	9.16	65	8.11
$60,000 – $69,000	19	7.14	21	7.39	14	5.58	54	6.74
$70,000 – $79,000	21	7.89	19	6.69	12	4.78	52	6.49
$80,000 – $89,000	12	4.51	13	4.58	12	4.78	37	4.62
$90,000 – $99,000	6	2.26	12	4.23	11	4.38	29	3.62
$100,000 – $149,000	31	11.65	38	13.38	28	11.16	97	12.11
$150,000 – $199,999	17	6.39	14	4.93	7	2.79	38	4.74
$200,000 or more	5	1.88	9	3.17	8	3.19	22	2.75

I don’t know	4	1.50	2	0.70	6	2.39	12	1.50
I prefer not to answer	5	1.88	4	1.41	3	1.20	12	1.50
No response	1	0.38	--	--	--	--	1	0.12
SES II								
Less than $20,000	26	9.77	33	11.62	25	10.04	84	10.51
$20,000 – $29,000	14	5.26	18	6.34	19	7.63	51	6.38
$30,000 – $39,000	37	13.91	15	5.28	29	11.65	81	10.14
$40,000 – $49,000	16	6.02	22	7.75	13	5.22	51	6.38
$50,000 – $59,000	19	7.14	22	7.75	18	7.23	59	7.38
$60,000 – $69,000	14	5.26	17	5.99	16	6.43	47	5.88
$70,000 – $79,000	27	10.15	19	6.69	12	4.82	58	7.26
$80,000 – $89,000	17	6.39	22	7.75	14	5.62	53	6.63
$90,000 – $99,000	14	5.26	21	7.39	21	8.43	56	7.01
$100,000 – $149,000	41	15.41	56	19.72	44	17.67	141	17.65
$150,000 – $199,999	21	7.89	16	5.63	14	5.62	51	6.38
$200,000 or more	8	3.01	15	5.28	12	4.82	35	4.38
I don’t know	9	3.38	4	1.41	9	3.61	22	2.75
I prefer not to answer	3	1.13	4	1.41	3	1.20	10	1.25
No response	--	--	--	--	--	--	--	--
Ladder								
10	6	2.26	2	0.70	3	1.20	11	1.37
9	11	4.14	15	5.28	12	4.78	38	4.74

8	17	6.39	23	8.10	18	7.17	58	7.24
7	57	21.43	65	22.89	49	19.52	171	21.35
6	60	22.56	64	22.54	55	21.91	179	22.35
5	43	16.17	40	14.08	39	15.54	122	15.23
4	28	10.53	38	13.38	33	13.15	99	12.36
3	30	11.28	22	7.75	31	12.35	83	10.36
2	13	4.89	14	4.93	8	3.19	35	4.37
1	1	0.38	1	0.35	3	1.20	5	0.62
I prefer not to say	--	--	--	--	--	--	--	--
No response	--	--	--	--	--	--	--	--
Ideology I								
Extremely Liberal	53	20.08	55	19.37	47	18.73	155	19.40
Liberal	73	27.65	86	30.28	67	26.69	226	28.29
Slightly Liberal	35	13.26	44	15.49	36	14.34	115	14.39
Moderate	31	11.74	42	14.79	40	15.94	113	14.14
Slightly Conservative	22	8.33	14	4.93	21	8.37	57	7.13
Conservative	33	12.50	32	11.27	30	11.95	95	11.89
Extremely Conservative	15	5.68	9	3.17	10	3.98	34	4.26
I prefer not to say	2	0.76	2	0.70	0	0.00	4	0.50
No response	--	--	--	--	--	--	--	--
Ideology II								

Extremely Liberal	78	28.89	83	29.23	67	26.69	228	28.32
Liberal	71	26.30	86	30.28	68	27.09	225	27.95
Slightly Liberal	30	11.11	32	11.27	31	12.35	93	11.55
Moderate	25	9.26	31	10.92	25	9.96	81	10.06
Slightly Conservative	18	6.67	11	3.87	18	7.17	47	5.84
Conservative	31	11.48	26	9.15	29	11.55	86	10.68
Extremely Conservative	14	5.19	12	4.23	12	4.78	38	4.72
I prefer not to say	3	1.11	3	1.06	--	--	6	0.75
No response	--	--	--	--	1	0.40	1	0.12
Ideology III								
Extremely Liberal	56	21.21	56	19.65	44	17.53	156	19.50
Liberal	67	25.38	65	22.81	63	25.10	195	24.38
Slightly Liberal	27	10.23	49	17.19	35	13.94	111	13.88
Moderate	29	10.98	34	11.93	34	13.55	97	12.13
Slightly Conservative	32	12.12	29	10.18	34	13.55	95	11.88
Conservative	33	12.50	34	11.93	28	11.16	95	11.88
Extremely Conservative	17	6.44	14	4.91	12	4.78	43	5.38
I prefer not to say	2	0.76	1	0.35	--	--	3	0.38
No response	1	0.38	3	1.05	1	0.40	5	0.63
Religion								

Not At All Religious	120	45.11	148	52.30	124	49.40	392	49.00
Slightly Religious	49	18.42	54	19.08	37	14.74	140	17.50
Moderately Religious	45	16.92	40	14.13	38	15.14	123	15.38
Very Religious	30	11.28	30	10.60	36	14.34	96	12.00
Extremely Religious	20	7.52	10	3.53	16	6.37	46	5.75
I prefer not to say	2	0.75	--	--	--	--	2	0.25
No response	--	--	1	0.35	--	--	1	0.13
Education I								
High School or GED	65	24.81	74	26.06	66	26.29	205	25.72
Trade School	5	1.91	11	3.87	12	4.78	28	3.51
2-Year Degree	32	12.21	35	12.32	26	10.36	93	11.67
4-Year Degree	79	30.15	79	27.82	75	29.88	233	29.23
Graduate Degree or Higher	76	29.01	80	28.17	67	26.69	223	27.98
I don’t know	2	0.76	1	0.35	2	0.80	5	0.63
I prefer not to say	2	0.76	3	1.06	1	0.40	6	0.75
Not applicable	--	--	--	--	1	0.40	1	0.13
No response	1	0.38	1	0.35	1	0.40	3	0.38
Education II								
High School or GED	40	15.04	70	24.65	56	22.76	166	20.85
Trade School	10	3.76	9	3.17	7	2.85	26	3.27
2-Year Degree	29	10.90	26	9.15	26	10.57	81	10.18

4-Year Degree	99	37.22	107	37.68	89	36.18	295	37.06
Graduate Degree or Higher	52	19.55	69	24.30	66	26.83	187	23.49
I don't know	36	13.53	--	--	--	--	36	4.52
I prefer not to say	--	--	1	0.35	1	0.41	2	0.25
Not applicable	--	--	2	0.70	--	--	2	0.25
No response	--	--	--	--	1	0.41	1	0.13
Language I								
English	264	98.51	284	99.30	248	98.02	796	98.64
Russian	1	0.37	--	--	--	--	1	0.12
Hebrew	1	0.37	--	--	--	--	1	0.12
German	--	--	--	--	1	0.40	1	0.12
Slovenian	--	--	--	--	1	0.40	1	0.12
I prefer not to say	2	0.75	--	--	--	--	2	0.25
No response	--	--	2	0.70	3	1.19	5	0.62
Language II								
No	245	92.11	263	92.61	221	88.05	729	91.01
Yes	21	7.89	18	6.34	24	9.56	63	7.87
I prefer not to say	--	--	2	0.70	2	0.80	4	0.50
No response	--	--	1	0.35	4	1.59	5	0.62

Note. The demographic information represented is the sum of Table 1 and Table 2, thus the total column represents all demographic information across all studies. Demographic information represents only participants included in data analyses.

Table 14.1

Pearson's Correlations of Demographic Variables for Black-White Mega-Analysis

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-										
2. Negative	0.05	-									
3. Scarcity	0.03	-.48*	-								
4. Neutral	-0.07	-.45*	-.56*	-							
5. SES I	0.07	-0.01	0.05	-0.05	-						
6. SES II	0.04	-0.05	.13*	-0.08	.67*	-					
7. Ladder	0.08	0.01	0.09	-0.1	.57*	.67*	-				
8. Ideology I	0.02	-0.01	0.08	-0.08	-0.1	-0.09	-.14*	-			
9. Ideology II	-0.01	0.02	0.05	-0.07	-0.08	-0.09	-.17*	.92*	-		
10. Ideology III	0	0.01	0.07	-0.08	-0.11	-.13*	-.14*	.92*	.85*	-	
11. Religious	0.02	.13*	0.03	-.15*	.19*	.18*	.37*	-.50*	-.54*	-.43*	-

Note. * $p < .05$

Table 14.2

Pearson's Correlations of Demographic Variables for Asian-White Mega-Analysis

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-										
2. Negative	-0.07	-									
3. Scarcity	0.01	-.54*	-								
4. Neutral	0.06	-.43*	-.52*	-							
5. SES I	0.1	-0.05	0.06	-0.01	-						
6. SES II	0.1	-0.06	0.05	0.01	.71*	-					
7. Ladder	.16*	-0.08	0.09	-0.02	.58*	.64*	-				
8. Ideology I	-0.02	0.02	0.01	-0.03	0.09	.16*	-0.03	-			
9. Ideology II	-0.05	0.02	-0.02	0	.14*	.18*	-0.01	.91*	-		
10. Ideology III	-0.06	0.01	0.01	-0.02	0.04	0.05	-0.11	.89*	.76*	-	
11. Religious	.16*	0	0.04	-0.04	0.04	0.05	.21*	-.43*	-.50*	-.34*	-

Note. * $p < .05$

Table 14.3

Pearson's Correlations of Demographic Variables for Black-Asian Mega-Analysis

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-										
2. Negative	.15*	-									
3. Scarcity	0.04	-.54*	-								
4. Neutral	-.19*	-.45*	-.51*	-							
5. SES I	0.06	-0.1	0.1	0	-						
6. SES II	0.04	-0.08	0.06	0.03	.72*	-					
7. Ladder	-0.02	-0.09	0.02	0.07	.53*	.61*	-				
8. Ideology I	-0.01	-0.01	0	0.02	-0.08	-0.02	-0.06	-			
9. Ideology II	-0.02	0	0	0	-0.09	0.01	-0.04	.92*	-		
10. Ideology III	-0.01	0.02	0	-0.03	-.15*	-0.12	-0.12	.90*	.80*	-	
11. Religious	-0.06	0.04	-0.07	0.03	.16*	0.12	.21*	-.52*	-.55*	-.45*	-

Note. * $p < .05$