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A Creativity Stereotype Perspective on the Bamboo Ceiling: Low Perceived Creativity Explains the Underrepresentation of East Asian Leaders in the United States

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The "Bamboo Ceiling" refers to the perplexing phenomenon that, despite the educational and economic achievements of East Asians (e.g., ethnic Chinese, Koreans) in the United States, they are disproportionately underrepresented in leadership positions. To help elucidate this phenomenon, we propose a novel theoretical perspective: East Asians are underselected for leadership positions partially because they are stereotyped as lacking creativity, a prized leadership attribute in U.S. culture. We first tested our proposition in two field studies in a natural setting: Across 33 full class sections of 2,304 Master of Business Administration (MBA) students in a U.S. business program, East Asians were perceived by their classmates as less creative than other ethnicities (e.g., South Asian, White) at the beginning of the MBA program—when the students had limited interactions and thus were likely influenced by creativity stereotypes. Lower perceived creativity mediated why East Asians were less likely than other ethnicities to be nominated (Study 1) and elected (Study 2) as class-section leaders by their classmates. These patterns were robust after accounting for variables such as assertiveness (parallel mediator), leadership motivation, English proficiency, and demographics. These findings were conceptually replicated in two preregistered vignette experiments of non-Asian Americans with managerial experience (Studies 3 and 4, $N = 1{,}775$): Compared to candidates of other ethnicities, East Asian American candidates with a substantively identical profile were viewed as less leader-like as a function of lower perceived creativity. Overall, although East Asians are commonly stereotyped as competent, they are also stereotyped as lacking creativity, which can hinder their leadership emergence in U.S. organizations.

Keywords: Bamboo Ceiling, culture, leadership, stereotypes, creativity evaluation

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> You know how the caricature goes: We're STEM-brained but inarticulate. Industrious but uninspired. Capable but lacking in creativity. We're robots who can only copy and clone and grub and grind.
>
> —East Asian American author Jeff Yang (CNN, 2015)

In the United States, Asians outperform other ethnic groups in educational achievement (Ryan & Bauman, 2016), median income (U.S. Census Bureau, 2022), and employment rate (U.S. Bureau of Labor Statistics, 2022). Given these statistics, Asians are often stereotyped as the competent and successful "model minority" (Chou & Feagin, 2015). Nonetheless, some people surmise that Asians are disproportionately underrepresented in leadership positions in the United States, a phenomenon labeled the "Bamboo Ceiling" (Gee & Peck, 2018; Hyun, 2005). Recent studies have begun to dig deeper into this phenomenon, revealing mounting evidence that the Bamboo Ceiling exists for East Asians (EAs; e.g., ethnic Chinese, Korean, Japanese) but not South Asians (SAs; e.g., ethnic Indians, Pakistanis; Lu, 2022; Lu et al., 2020; Zhu, 2023). Across nine studies employing mixed methods, Lu et al. (2020) consistently found a disproportionate underrepresentation of EAs—but not SAs—in leadership roles in the United States across different domains (archival analyses of CEOs, field surveys in large U.S. companies, student leader nominations and elections). For example, their 8-year study on S&P500 CEOs found that EAs were disproportionately underrepresented, whereas SAs were well-represented and led prominent U.S. companies like Adobe, Citigroup, Google, Mastercard, Microsoft, Motorola, and PepsiCo (Lu et al., 2020, Supplemental Table S1). Notably, this leadership gap was even more salient after adjusting for population size in the United States: (a) the CEO-to-general-population ratio (per million) was 0.59 for EAs, 2.82 for SAs, and 1.92 for White people and (b) the CEO-to-working-population ratio (per million) was 1.12 for EAs, 5.75 for SAs, and 3.60 for White people (Lu et al., 2020). Similarly, subsequent studies on Master of Business Administration (MBA) students found that, among all ethnic groups, EAs were the least likely to be nominated and elected as student leaders (Lu, 2022).

This puzzle of why only EAs, but not SAs, experience the Bamboo Ceiling is starting to attract attention from researchers. As we elaborate below, recent studies have identified EAs' low verbal assertiveness (the tendency to stand up and speak out for one's interests and concerns when appropriate) and high ethnic homophily (the tendency to interact with individuals of the same ethnicity) as two

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mechanisms responsible for EAs' underrepresentation in leadership positions (Lu, 2022; Lu et al., 2020). Despite these valuable findings, our understanding of the Bamboo Ceiling phenomenon remains incomplete. In particular, assertiveness and ethnic homophily explain only a moderate amount of variation in EAs' leadership underrepresentation (Lu, 2022; Lu et al., 2020), suggesting that other mechanisms are also at play. Moreover, assertiveness and ethnic homophily have primarily been examined as "supply-side" mechanisms concerning the attitudes and behaviors of EAs themselves, which risks placing the onus of cracking the Bamboo Ceiling on EAs themselves (e.g., "EAs ought to improve their assertiveness").

To address these limitations and provide a more comprehensive understanding of the Bamboo Ceiling phenomenon, we examine a novel, "demand-side" mechanism: the stereotype that EAs lack creativity. Drawing on leadership categorization theory (Lord et al., 1984, 2020) as an overarching framework, we propose that EAs are underselected for leadership positions partially because they are stereotyped as lacking creativity, a valued leadership attribute in U.S. culture (Offermann & Coats, 2018). The focus on creativity stereotypes is valuable especially because EAs are commonly stereotyped as high in competence (Ho & Jackson, 2001; Lin et al., 2005), which is often assumed to encompass "intelligence, skill, *creativity*, and efficacy" (Fiske et al., 2007, p. 77). We challenge this assumption by suggesting that although EAs are stereotyped as high in competence (e.g., due to their stellar grades, high education, lucrative jobs), they are also stereotyped as low in creativity. This contrast underscores the importance of taking a more nuanced approach to understanding stereotypes and indicates that perceptions of overall competence may be insufficient to explain group-specific leadership perceptions.

To test our theoretical perspective, we first ran two field studies to investigate the natural process of leadership emergence of MBA students within a U.S. business program. We tested whether EAs were perceived by their classmates as less creative than other ethnicities and therefore less likely to be nominated (Study 1) and elected (Study 2) as class-section leaders. To provide causal evidence, we then conducted two preregistered vignette experiments (Studies 3 and 4) to test whether, compared to leadership candidates of other ethnicities, EA American candidates with a substantively identical profile were viewed as less leader-like due to lower perceived creativity.

The present research aims to make several contributions. First, we contribute to the nascent Bamboo Ceiling literature by uncovering a novel mechanism (the stereotype that EAs lack creativity), thereby providing a deeper understanding of the Bamboo Ceiling phenomenon. Second, we extend the literature about creativity evaluation. Whereas past studies have focused on *gender* stereotypes about creativity (Luksyte et al., 2018; Proudfoot et al., 2015), our research reveals *ethnic* stereotypes about creativity. Third, we contribute to leadership categorization theory (Lord et al., 1984, 2020) by highlighting perceived creativity as a predictor of leadership emergence in U.S. culture. Fourth, we contribute to the stereotype literature. One implicit assumption in this literature is that positive stereotypes about competence co-occur with positive stereotypes about creativity (Cuddy et al., 2008; Eagly et al., 2020; Fiske et al., 2007). We modulate this assumption by showing that EAs are stereotyped as high in competence but low in creativity, thereby disentangling creativity stereotypes from competence stereotypes.

Our theory section unfolds with the following structure. First, we summarize the incipient literature about the Bamboo Ceiling phenomenon and reveal knowledge gaps. Second, we draw on the dignity–face–honor culture framework (Leung & Cohen, 2011) to theorize why EAs are stereotyped as less creative than other ethnic groups. Third, we draw on leadership categorization theory (Lord et al., 1984, 2020) to identify creativity as a prized leadership attribute in U.S. culture. Integrating these insights, we propose perceived creativity as a mechanism that contributes to why EAs are less likely than other ethnic groups to emerge as leaders in U.S. culture.

Understanding the Bamboo Ceiling: East Asians Versus South Asians

Leadership emergence is defined as "whether (or to what degree) an individual is viewed as a leader by others" (Judge et al., 2002, p. 767). According to leadership categorization theory (Lord et al., 1984), people develop an abstract set of attributes that cognitively distinguish leaders from nonleaders. People automatically and implicitly compare a target person to these attributes to form leadership perceptions (Lord et al., 2020). Thus, individuals are more likely to emerge as leaders when their attributes match the prototype of a leader.

In light of leadership categorization theory, some scholars and practitioners have started exploring what factors may prevent Asians from emerging as leaders in the United States, though they did not distinguish between different Asian subgroups (Johnson & Sy, 2016; Sy et al., 2010, 2017). Johnson and Sy (2016) surmised, "we believe that stereotypes about Asians contribute to the problem in two ways: Stereotypes about Asians being highly competent can make Asians appear threatening in the workplace, and stereotypes about Asians lacking social skills make them seem unfit for leadership." Their conclusion was based on earlier research by Ho and Jackson (2001) and Lin et al. (2005), who examined attitudes toward Asians *in general* (rather than in the specific context of leadership). Ho and Jackson (2001) found that the perception of Asians as highly competent engendered envy, while the perception of Asians as lacking social skills engendered hostility. Moreover, Lin et al. (2005) found that people who held these perceptions exhibited more prejudice toward Asians in the form of social antipathy, defined as "antipathy toward close interactions with members of a group" (Lu et al., 2020, p. 4597). In addition, Asian Americans—even those born and raised in the United States—are sometimes perceived as "perpetual foreigners" and less "American" than White Americans (Cheryan & Monin, 2005; Devos & Banaji, 2005; S. J. Lee et al., 2008; Zou & Cheryan, 2017).

While this literature offers valuable insights, it has two major limitations. First, although the aforementioned factors may *theoretically* contribute to the Bamboo Ceiling, limited *empirical* research has tested them as mechanisms. Second, this literature did not differentiate between EAs and SAs, thereby failing to explain why only EAs, but not SAs, are disproportionately underrepresented in leadership positions. For example, the "perpetual foreigner" bias can apply to both EAs and SAs, so it cannot explain the puzzle of why only EAs experience the Bamboo Ceiling.

To understand this puzzle, Lu et al. (2020) differentiated between EAs and SAs and tested three potential mechanisms—leadership motivation, social antipathy, and verbal assertiveness—while accounting for relevant demographic variables (e.g., education, English proficiency, birth country, socioeconomic status). First, the

researchers found that EA, SA, and White individuals exhibited similar levels of leadership motivation (i.e., the motivation to be a leader). This finding suggests that leadership motivation may not be a key mechanism for EAs' Bamboo Ceiling (Lu et al., 2020). Meanwhile, other studies, which did not differentiate between EAs and SAs, point to different ethnic patterns in leadership motivation (Chen et al., 2013; Hewlett, 2011).[1]

Second, Lu et al. (2020) tested social antipathy as another potential mechanism. They measured social antipathy with items such as "How comfortable would you be if a [East/South Asian] American dated your sibling/was assigned to be your college roommate/became your next-door neighbor/ …?" with lower scores indicating higher social antipathy. The researchers found that SA Americans experienced *more* social antipathy than EA Americans. This finding suggests that social antipathy was also unlikely a key mechanism for EAs' Bamboo Ceiling.

Third, the researchers repeatedly found that, among all ethnic groups, EAs had the lowest level of assertiveness, which mediated EAs' low leadership emergence (Lu et al., 2020). This assertiveness mechanism was replicated by Lu's (2022) studies, which consistently found that EAs had lower leadership emergence than SA, White, and Latino individuals partially due to EAs' lower assertiveness.

Besides the assertiveness mechanism, Lu (2022) identified ethnic homophily as another mechanism for EAs' Bamboo Ceiling across three studies. A study of 54,620 Juris Doctor students from 124 U.S. law schools showed that EAs were more ethnically homophilous than SA, Black, Latino, Middle Eastern, and White individuals (e.g., how often a person had serious conversations with individuals of a different ethnicity than his/her own). Additionally, two social network studies conducted with MBAs found that EAs had lower leadership emergence than other ethnic groups partially due to EAs' tendency to interact with other EAs in multiethnic environments, which require leaders who can bond with ethnic out-groups.

Despite these meaningful findings, our understanding of the Bamboo Ceiling phenomenon remains insufficient. First, assertiveness and ethnic homophily only partially explained EAs' low leadership emergence (Lu, 2022; Lu et al., 2020). For example, although Lu et al.'s (2020) studies consistently found assertiveness to be a significant mediator for EAs' low leadership emergence, assertiveness mediated only a limited proportion of the effect of ethnicity on leadership emergence (maximum = 23% among Lu et al.'s studies), suggesting the necessity to identify other mechanisms. Second, assertiveness and ethnic homophily have primarily been examined as "supply-side" mechanisms. One interpretation of these findings is that EAs themselves should bear the burden of improving assertiveness and socializing more with ethnic out-groups in order to break their Bamboo Ceiling. To address these limitations and advance knowledge, we examine a novel, "demand-side" mechanism: the stereotype that EAs lack creativity.

Why East Asians Are Stereotyped as Less Creative

Creativity is defined as the ability to generate novel and useful ideas (Amabile, 1983; Lu et al., 2017; Shalley et al., 2004). Evaluating individuals' creativity is a subjective and social process (Elsbach & Kramer, 2003; Katz et al., 2022; Luksyte et al., 2018; Proudfoot & Fath, 2021; Proudfoot et al., 2015). Whether someone is perceived as creative is influenced by stereotypes, which are cognitive shortcuts that help individuals make sense of the complex social reality (Fiske & Neuberg, 1990; Ma et al., 2019). Whereas past research has examined *gender* stereotypes about creativity (Luksyte et al., 2018; Proudfoot et al., 2015), little research has examined *ethnic* stereotypes about creativity. To fill this knowledge gap, we draw on the dignity–face–honor culture framework (Leung & Cohen, 2011) to propose that EAs are stereotyped as less creative than other ethnic groups.

This increasingly influential framework differentiates between three types of cultures: dignity, face, and honor cultures (Aslani et al., 2013, 2016; Leung & Cohen, 2011; Lu, 2023; Yao et al., 2017). The framework posits that while dignity cultures correspond to individualistic cultures like the United States, face and honor cultures represent two distinctive forms of collectivistic culture (Y.-H. Kim & Cohen, 2010; Leung & Cohen, 2011; Yao et al., 2017). In a measurement study, Yao et al. (2017) provided evidence that Caucasian cultures (e.g., the United States, Canada, Australia) represent dignity cultures, EA cultures (e.g., China, Japan, South Korea) represent face cultures, and SA cultures (e.g., India, Pakistan) represent honor cultures.

The dignity–face–honor culture framework distinguishes these three types of culture based on their different conceptions of the source of self-worth (Yao et al., 2017). In dignity cultures (e.g., mainstream American culture), self-worth is primarily rooted in intrinsic self-assessment, as it is believed that "each individual at birth possesses intrinsic value that, at least theoretically, is equal to that of every other person" (Ayers, 1984, p. 19). Thus, "a dignity culture gives individuals considerable autonomy in defining themselves in terms of their individual achievements" (Yao et al., 2017, p. 717). To enhance self-worth, dignity culture individuals are motivated to express creative ideas that distinguish themselves from others (Markus & Kitayama, 1991).

By contrast, heavily impacted by Confucianism, face cultures (e.g., EA cultures) emphasize conformity, humility, and acceptance (Leung & Cohen, 2011; Lu, 2023). These cultural values are reflected by EA proverbs "The boughs that bear most hang lowest" and "The nail that sticks out gets hammered down"—in clear contrast to the American proverb "Don't hide your light under a bushel" (H. Kim & Markus, 1999; Markus & Kitayama, 1991). Face cultures typically originate from homogeneous and stable environments with strong and centralized governments (Leung & Cohen, 2011). Face culture individuals are socialized to follow "the omnipresent principle of social harmony in order to enhance their face and to avoid losing their face" (Yao et al., 2017, p. 718).

On the other hand, honor cultures (e.g., SA cultures) typically originate from heterogeneous and unstable environments with weak and decentralized governments (Leung & Cohen, 2011). As Nobel Laureate Amartya Sen (2005) observed, SA cultures have an extensive history of heterodoxy, such that Buddhists, Christians, Hindus, Jains, Jews, Muslims, Parsees, Sikhs, and others debate their disparate worldviews. To gain honor in such environments,

[1] A survey by the Center for Work–Life Policy found that 64% of Asians aspired to top-ranked jobs, whereas only 52% of White people did (Hewlett, 2011). On the other hand, Chen et al. (2013) interviewed 29 Asian-born American research scientists and found that few of them sought purely managerial careers, but "38% aspired to be executives while involved in scientific research" (p. 249). Neither of these two studies distinguished between EAs and SAs. Given these mixed findings (Chen et al., 2013; Hewlett, 2011; Lu et al., 2020), more research is needed to examine leadership motivation as a potential mechanism for EAs' Bamboo Ceiling.

individuals are socialized to generate and defend their own ideas rather than simply accepting other people's ideas. As Y.-H. Kim and Cohen (2010) noted, "Face cultures—in contrast to collectivistic Honor cultures—tend to emphasize harmony over conflict, humility over assertiveness, and acceptance rather than defiance" (p. 540).

By definition, creativity requires individuals to stand out and deviate from existing norms and practices (Goncalo & Staw, 2006; Gorodnichenko & Roland, 2011; Proudfoot & Fath, 2021), but doing so may threaten the values embraced by EA cultures. If face culture EAs tend to behave in ways that emphasize conformity, humility, and acceptance, they may be perceived as lacking creativity in U.S. culture (i.e., there is no "light" under their bushels). Relatedly, EAs may be perceived as robotic "machines" that follow orders rather than thinkers that produce their own ideas (Bain et al., 2009; Bui, 2020). Indeed, Bain et al. (2009) found that compared to White individuals, EAs were more associated with robot-related words (e.g., android, computer, cyborg, machine, robot). As a real-world example, after the EA American figure skater Nathan Chen won a gold medal at the 2022 Winter Olympics, a Washington Post article credited his win to an "almost robotic zeal" and his technical mastery of quadruple jumps, rather than his creative flair (Bui, 2022).

The "natural experiment" of Joyce Hatto and Yuki Matsuzawa exemplifies the stereotype that EAs are less creative than other ethnic groups (Koh, 2021). In 2007, it came to light that White British pianist Joyce Hatto had stolen recordings of other pianists and released them as her own. One of the recordings was performed by Japanese pianist Yuki Matsuzawa. Tom Deacon, an influential arbiter in classical music and a former record executive, had posted separate comments about Hatto's and Matsuzawa's performances—without realizing that they were identical. When believing that the recording was performed by Hatto, Deacon praised it: "My oh my, this is a beautiful recording of Chopin's music. The pieces flow so naturally and so completely, without precious effects." When believing that it was performed by Matsuzawa, Deacon lambasted it: "Faceless, typewriter, neat as a pin but utterly flaccid performances."

> *Hypothesis 1:* East Asian individuals are perceived as less creative than South Asian and White individuals in the United States.

Having theorized that EAs are perceived as lacking creativity, we next theorize that perceived creativity is conducive to leadership emergence in U.S. culture.

Creativity as a Valued Leadership Attribute in U.S. Culture

According to leadership categorization theory, the process of leadership categorization "is subject to top-down constraints from factors such as culture" (Lord et al., 2020, p. 52). Thus, individuals are more likely to emerge as leaders when their attributes match the valued leadership attributes in a given culture. For example, in U.S. culture, individuals who are perceived as taller (Blaker et al., 2013), more "American" (Cheryan & Monin, 2005), and more assertive (Lu et al., 2020) are more likely to emerge as leaders.

We extend leadership categorization theory by highlighting perceived creativity as a predictor of leadership emergence in U.S. culture. Leader creativity is considered critical for organizations to survive and thrive in a rapidly changing environment filled with unexpected challenges and possibilities (Wingard, 2020). Upon inspecting the most populous jobs in the United States, Mumford et al. (1999) found that senior leadership roles tended to require higher levels of creative problem solving than other roles. In a large-scale survey of 1,541 CEOs from 33 industries, creativity was ranked as the most important leadership quality, surpassing attributes such as integrity and influence (IBM, 2010, Figure 7). Similarly, a recent analysis of implicit theories of leadership revealed creativity as a key leadership attribute in the United States (Offermann & Coats, 2018). As Offermann and Coats (2018) noted: "The media has highlighted (even glorified) high-tech leaders such as Steve Jobs, attributing his success and that of his company to his creativity, imagination, and entrepreneurial abilities" (pp. 519–520). In cross-cultural research on leadership imagery, Menon et al. (2010) suggested that culture shapes how individuals mentally represent a leader's position in a group. These researchers found that Americans were more likely to represent leaders paving new paths at the forefront of the group and evaluate such leaders as more effective, whereas EAs were more likely to represent leaders trailing behind the group as protectors and evaluate such leaders as more effective (Menon et al., 2010). These findings converge to suggest that U.S. culture lionizes creative leaders who push the frontier (S. M. Lee & Farh, 2019; Offermann & Coats, 2018; Puccio et al., 2010).

Hence, we hypothesize that individuals who are perceived as creative are more likely to emerge as leaders in the United States. This effect should persist even after accounting for other potential predictors of leadership emergence (e.g., perceived competence, warmth, assertiveness, leadership motivation).

> *Hypothesis 2:* Perceived creativity predicts leadership emergence in the United States. This effect occurs even after accounting for other factors (e.g., perceived competence, warmth, assertiveness, leadership motivation).

Combining the two sections above, if EAs are perceived as less creative than other ethnic groups (Hypothesis 1) and if perceived creativity positively predicts leadership emergence in the United States (Hypothesis 2), EAs may struggle to emerge as leaders in the United States. To put it another way, consistent with leadership categorization theory (Lord et al., 2020), we hypothesize that EAs are less likely to be categorized as leaders in the United States partially because they are perceived as less creative than other ethnic groups (Hypothesis 3).[2]

[2] This hypothesis is exemplified by EAs' disproportionate underrepresentation in leadership positions in classical music. According to the League of American Orchestras' recent diversity report, although there were numerous EA musicians, there were so few EA executives that they were not even included in the relevant figure (Doeser, 2016). Jennifer Koh, an acclaimed Korean American violinist, attributed this Bamboo Ceiling to the stereotype that EA musicians are uncreative: "I have witnessed throughout my career that those of us who are ethnically Asian but were born, raised or trained in America and Europe, are burdened with the belief that musicians of Asian descent are diligent, hard-working and technically perfect … not organically creative" (Koh, 2021). In other words, in some people's eyes, the perception that EAs are uncreative disqualifies them from being leaders in the world of classical music.

Hypothesis 3: Perceived creativity mediates the relationship between ethnicity (East Asian vs. South Asian/White) and leadership emergence in the United States. This mediation effect occurs even after accounting for other factors (e.g., perceived competence, warmth, assertiveness, leadership motivation).

Overview of Studies

To test our hypotheses, we ran two field studies and two preregistered vignette experiments. Studies 1 and 2 examined the leadership emergence of new MBA students ($N = 2{,}304$) within a U.S. business school. Similar to many other U.S. organizations, this MBA program prizes the creativity of student leaders. For example, class-section leaders are responsible for creating the slogan of their class section, organizing creative social events, and producing a show that highlights student life in a creative way. We tested whether, compared to other ethnic groups, EAs would be less likely to be nominated (Study 1) and elected (Study 2) as class-section leaders partially because they are perceived as less creative by their classmates. To establish causal evidence, Studies 3 and 4 utilized two vignette experiments of non-Asian Americans with managerial experience ($N = 1{,}775$): We tested whether, compared to leadership candidates of other ethnicities, EA American candidates with a substantively identical profile would be viewed as less leader-like due to lower perceived creativity.

Given that assertiveness has been consistently identified as a mechanism for EAs' Bamboo Ceiling (Lu, 2022; Lu et al., 2020), we examined assertiveness as a parallel mediator. In addition, across our studies, we explored perceived competence, warmth, masculinity, and leadership motivation to ascertain perceived creativity as a unique mechanism over and above these factors. First, we measured perceived competence and warmth as exploratory variables because prior research—without distinguishing between EAs and SAs—surmised that perceived high competence and low warmth can render Asians threatening and unfit for leadership (Johnson & Sy, 2016). Second, we measured perceived masculinity as an exploratory variable because past studies suggest that Asians are perceived as less masculine than Black and White individuals (Galinsky et al., 2013; Hall et al., 2015; Schug et al., 2015) and meta-analyses suggest that perceived masculinity positively predicts an individual's leadership emergence (Ensari et al., 2011; Lord et al., 1986). Third, we measured leadership motivation because past studies found mixed evidence regarding whether Asians have lower leadership motivation than other ethnic groups (Chen et al., 2013; Hewlett, 2011; Lu et al., 2020).

Transparency and Openness

The Institutional Review Board of the Massachusetts Institute of Technology approved this research (Protocol No. 4205: "A Creativity Stereotype Perspective on the Bamboo Ceiling"). The data have not been used in previous publications. We adhered to the *Journal of Applied Psychology* methodological checklist and described our sampling plan, all measures, and data exclusions. Data were analyzed using R and Stata. Studies 1 and 2's MBA data are unavailable due to their proprietary nature; Studies 3 and 4's data are available upon request. Studies 3 and 4 were preregistered at https://aspredicted.org/LCD_Z4Z and https://aspredicted.org/FRX_DR7, respectively.

Study 1

Study 1 tested whether EAs are perceived as less creative by their classmates and therefore less likely to be nominated as leaders in a U.S. business school. This study features noteworthy methodological strengths. First, we observed the natural process of leadership emergence of MBA students (i.e., high ecological validity). Second, the absence of designated student leaders prior to the program ruled out the possibility of reverse causality, where occupying a leadership role might subsequently affect how one's creativity is perceived by classmates. Third, class sections were assigned by the school rather than self-selected by students. Fourth, all MBA students completed all surveys as required assignments, eliminating self-selection bias in survey participation. Fifth, to achieve temporal precedence, we assessed our predictor (ethnicity), focal mediator (perceived creativity), parallel mediator (assertiveness), and the outcome variable (leadership emergence) at different points in time as opposed to in the same survey. Sixth, we precluded common-method bias by measuring these focal variables in different ways: Ethnicity was self-reported, perceived creativity was classmate-rated, assertiveness was self-rated, and the number of leader nominations was tallied.

Method

Participants

A complete class year of 774 MBA students in a U.S. business program participated in our study (61.2% male, 49.0% U.S. born; $M_{age} = 28.05$, $SD = 2.59$). Among the students, 19.6% were EA, 8.4% were SA, 50.0% were White, 9.0% were Latino, 4.1% were Black, 3.1% were Middle Eastern, and the remaining students belonged to other ethnic groups.

When students entered the MBA program, the school divided them into 11 class sections. Each section had around 70 students (with an average of 13.8 EAs in each section), who completed all core courses together. Within each class section, the school further assigned students to learning groups of six or seven students. The students had no influence on section assignment or learning group assignment, which precluded self-selection bias.

Measures

Perceived Creativity. About 2 weeks after the MBA program began, every student was anonymously rated by their learning group members in a required peer evaluation. Although the students had started to interact with their group members, they had not had a chance to work together closely (e.g., on a group project), so they were unlikely to have a well-informed judgment of how creative a group member was. Hence, the creativity ratings were likely to be influenced by creativity stereotypes.

To measure perceived creativity, we used three items from a widely used scale (Liu et al., 2011; Zhou & George, 2001): "This person is a good source of creative ideas"; "This person comes up with new and practical ideas to improve performance"; "This person comes up with creative solutions to problems" (1 = *strongly disagree*, 7 = *strongly agree*; $\alpha = .71$).

Leadership Emergence. Two weeks after the creativity ratings, students completed another confidential survey in a required assignment. Each student was asked: "Who do you view as leaders in your

class section? Please select 1 to 5 students." To simplify the process of leader nominations, we displayed the class-section roster along with students' headshots. We recorded the number of times a person was nominated as a leader.

Assertiveness. During the first week of the MBA program, all students rated their assertiveness in a required self-evaluation. We measured assertiveness with a commonly used three-item measure from Wallen et al. (2017): "I speak up and share my views when appropriate"; "I am able to stand my ground in a heated conflict"; "I am willing to engage in constructive interpersonal confrontations" (1 = *strongly disagree*, 7 = *strongly agree*; α = .72).

Control Variables. We accounted for various control variables to rule out potential confounding effects. First, to control for aptitude, we obtained quantitative and verbal scores on the mandatory MBA admissions tests: the Graduate Record Examinations (GRE) and the Graduate Management Admissions Test (GMAT). Of the students, 8% chose the GRE and 92% chose the GMAT. To make the two tests comparable across years, we examined the official GRE and GMAT websites to convert scores to percentiles. Notably, past studies have used the GRE/GMAT verbal score as a trusted indicator of English proficiency (e.g., Lu et al., 2022). Indeed, research has shown that scores of GRE verbal and Test of English as a Foreign Language (TOEFL) were strongly correlated ($r = .82$) among nonnative speakers who completed both tests (Pesta et al., 2019). Thus, controlling for GRE/GMAT verbal helped account for English proficiency.

Second, we accounted for whether a person was U.S. born for several reasons. To begin, American students might be perceived as more suitable leaders in an *American* business program (e.g., presumed familiarity with U.S. culture). Moreover, American students might be perceived as more creative given that the United States is celebrated for its innovations (e.g., Silicon Valley); meanwhile, foreign-born students might be perceived as more creative given the creative benefits of international experiences (Godart et al., 2015; Leung & Chiu, 2010; Lu et al., 2019; Maddux et al., 2021). Notably, controlling for U.S.-born/foreign-born status also helped account for English proficiency indirectly.

Third, we controlled for gender and age. The highest education level was controlled for implicitly, as all students were enrolled in the same MBA degree program.

Results

Table 1 exhibits descriptive statistics and bivariate correlations. For our main analyses, we conducted regressions with cluster-robust standard errors (clustered by class section). All 95% confidence intervals (CIs) in mediation analyses are bias corrected and bootstrapped.

Hypothesis Testing

Perceived Creativity. Supporting Hypothesis 1, EAs were perceived as the least creative of all ethnic groups. As shown in Table 2 Model 1, EAs were perceived as less creative than SAs ($B = -.21$, $SE = .07$, $p = .003$), White individuals ($B = -.24$, $SE = .06$, $p < .001$), Latino individuals ($B = -.31$, $SE = .08$, $p < .001$), Black individuals ($B = -.19$, $SE = .08$, $p = .018$), and Middle Easterners ($B = -.43$, $SE = .12$, $p < .001$). These results were similar after accounting for the control variables (Table 2 Models 2 and 3). By contrast, regressions comparing SA and White individuals found no significant difference (without controls: $B = -.03$, $SE = .05$, $p = .51$; with controls: $B = -.11$, $SE = .06$, $p = .08$).

Assertiveness. Prior studies have consistently identified EAs' low assertiveness as a mechanism for their Bamboo Ceiling in leadership (Lu, 2022; Lu et al., 2020). Consistent with prior studies, EAs were the least assertive of all ethnic groups. Specifically, EAs were less assertive than SAs ($B = -.31$, $SE = .12$, $p = .008$), White individuals ($B = -.37$, $SE = .06$, $p < .001$), Latino individuals ($B = -.38$, $SE = .16$, $p = .020$), and Middle Easterners ($B = -.35$, $SE = .16$, $p = .023$), and were not significantly different from Black individuals at the $p = .05$ significance level ($B = -.35$, $SE = .19$, $p = .068$). These results were similar after accounting for the control variables. By contrast, regressions comparing SA and White individuals found no significant difference (without controls: $B = -.06$, $SE = .12$, $p = .62$; with controls: $B = -.17$, $SE = .15$, $p = .26$).

Leadership Emergence. To examine ethnic differences in leadership emergence, we ran Poisson regressions predicting leader nominations because this outcome was a positively skewed, count variable with only nonnegative integer values. Replicating prior research on the Bamboo Ceiling (Lu et al., 2020), EAs received the fewest leader nominations of all ethnic groups. As shown in Table 3 Model 1, EAs received significantly fewer leader nominations than SAs ($B = -1.78$, $SE = .21$, $p < .001$), White individuals ($B = -1.79$, $SE = .20$, $p < .001$), Latino individuals ($B = -.92$, $SE = .25$,

Table 1
Study 1: Descriptive Statistics and Bivariate Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. East Asian (vs. other)	0.21	0.41	—							
2. Leader nominations received	3.54	7.56	−.19**	—						
3. Perceived creativity	5.36	0.53	−.19**	.17**	—					
4. Assertiveness	5.36	0.96	−.16**	.20**	.09*	—				
5. Gender (0 = female, 1 = male)	0.61	0.49	−.11**	.04	.03	.11**	—			
6. Age	28.05	2.59	.14**	.06	−.03	.07	.14**	—		
7. Foreign-born (0 = no, 1 = yes)	0.51	0.50	.34**	−.18**	.00	.02	.01	.08*	—	
8. GRE/GMAT verbal percentile	89.68	9.38	−.11**	.01	.01	−.04	.10**	−.14**	−.22**	—
9. GRE/GMAT quant percentile	68.74	15.47	.43**	−.18**	−.10**	−.07	.20**	.07*	.34**	−.04

Note. "other" = South Asian, White, Latino, Black, or Middle Eastern; GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test.
* $p < .05$. ** $p < .01$.

Table 2
Study 1: Linear Regressions Predicting Perceived Creativity

Variable	Model 1	Model 2	Model 3
East Asian (reference group)			
South Asian	.21** (.07)	.20** (.07)	.18** (.07)
White	.24*** (.06)	.27*** (.06)	.24** (.08)
Latino	.31*** (.08)	.31*** (.08)	.28** (.10)
Black	.19* (.08)	.23** (.09)	.18 (.11)
Middle Eastern	.43*** (.12)	.43*** (.12)	.42** (.13)
Gender (0 = female, 1 = male)		.02 (.03)	.03 (.03)
Age (years)		−.001 (.01)	.003 (.01)
Foreign-born (0 = no, 1 = yes)		.07 (.04)	.09* (.04)
GRE/GMAT verbal percentile			.001 (.002)
GRE/GMAT quant percentile			−.002† (.001)
AIC	1111.70	1115.32	1097.82
BIC	1143.78	1161.15	1152.69
Log likelihood	−548.85	−547.66	−536.91
N	723	723	715

Note. Unstandardized regression coefficients are displayed, with cluster-robust standard errors in parentheses. GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test; AIC = Akaike information criterion; BIC = Bayesian information criterion.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

$p < .001$), Black individuals ($B = -2.49$, $SE = .41$, $p < .001$), and Middle Easterners ($B = -2.05$, $SE = .32$, $p < .001$). These results were similar after accounting for the control variables (Table 3 Models 2 and 3). By contrast, Poisson regressions comparing SA and White individuals found no significant difference (without controls: $B = -.009$, $SE = .21$, $p = .96$; with controls: $B = .21$, $SE = .30$, $p = .49$).

Supporting Hypothesis 2, perceived creativity positively predicted the number of leader nominations received (without controls: $B = .76$, $SE = .12$, $p < .001$; with controls: $B = .72$, $SE = .12$, $p < .001$). This effect remained robust ($B = .69$, $SE = .12$, $p < .001$) after we controlled for assertiveness, which also positively predicted leader nominations in the same regression ($B = .52$, $SE = .07$, $p < .001$).

Mediation Analysis. Supporting Hypothesis 3, perceived creativity significantly mediated the effect of ethnicity (1 = EA, 0 = other ethnicities) on the number of leader nominations received (indirect effect = −.51, 95% CI [−.77, −.30], proportion of total effect mediated = 14%). Replicating prior research (Lu et al., 2020), assertiveness also significantly mediated the effect of ethnicity (1 = EA, 0 = other ethnicities) on leader nominations (indirect effect = −.52, 95% CI [−.76, −.36], proportion of total effect mediated = 14%).

Given that perceived creativity and assertiveness were both significant mediators individually, we tested them as parallel mediators in a simultaneous mediation analysis (Preacher & Hayes, 2008) that accounted for the controls. Both perceived creativity (indirect effect = −.51, 95% CI [−.95, −.25]) and assertiveness

Table 3
Study 1: Poisson Regressions Predicting the Number of Leader Nominations Received

Variable	Model 1	Model 2	Model 3
East Asian (reference group)			
South Asian	1.78*** (.21)	1.83*** (.23)	1.74*** (.21)
White	1.79*** (.20)	1.53*** (.30)	1.38*** (.32)
Latino	.92*** (.25)	.93*** (.22)	.77** (.24)
Black	2.49*** (.41)	2.19*** (.38)	1.90*** (.48)
Middle Eastern	2.05*** (.32)	2.05*** (.31)	2.00*** (.33)
Gender (0 = female, 1 = male)		.13 (.15)	.22 (.14)
Age (years)		.06* (.03)	.08** (.03)
Foreign-born (0 = no, 1 = yes)		−.51* (.22)	−.48* (.23)
GRE/GMAT verbal percentile			−.0003 (.01)
GRE/GMAT quant percentile			−.01* (.004)
AIC	7152.62	6938.83	6768.70
BIC	7180.18	6980.15	6819.07
Log likelihood	−3570.31	−3460.41	−3373.35
N	730	729	720

Note. Unstandardized regression coefficients are displayed, with cluster-robust standard errors in parentheses. GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test; AIC = Akaike information criterion; BIC = Bayesian information criterion.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

(indirect effect = −.56, 95% CI [−.99, −.29]) emerged as significant mediators (proportion of total effect mediated = 44%). Using R package *brms* (Bürkner, 2017), a Bayesian analysis found that the two indirect effects were not significantly different (B = .03, 95% CI [−.41, .50]).

Exploratory Analyses

In light of intersectionality research (Rosette et al., 2016), to examine whether the observed effects were driven more by EA men or EA women, we explored the Ethnicity × Gender interaction. Similarly, to examine whether the observed effects were driven more by U.S.-born EAs or foreign-born EAs, we explored the Ethnicity × U.S.-Born/Foreign-Born Status interaction. As detailed in Supplemental Table S1, none of the interaction effects were significant. These results suggest that the observed effects were similar for EA men and women, and similar for U.S.-born EAs and foreign-born EAs.

Discussion

By analyzing 11 full MBA class sections, Study 1 provided evidence for our hypotheses. First, EAs were perceived by their classmates as the least creative of all ethnic groups at the beginning of the MBA program—when the students had only limited interactions and thus were likely influenced by stereotypes about creativity. This finding suggests that the perception of low creativity was unique to EAs and not a result of general bias against ethnic minorities (e.g., all Asians); rather, it suggests a negative stereotype about EAs' creativity. Second, consistent with prior research on the Bamboo Ceiling phenomenon (Lu et al., 2020), EAs received the fewest leader nominations of all ethnic groups. Third, this effect was mediated by EAs' low perceived creativity—along with the parallel mediator assertiveness—suggesting that EAs were less likely to emerge as leaders as a function of lower perceived creativity.

Study 2

Study 2 built on Study 1 in three noteworthy ways. First, we aimed to conceptually replicate Study 1's findings by analyzing a different sample twice as large. Second, whereas Study 1 examined leader *nominations*, Study 2 examined whether a student was actually *elected* as a leader in their class section. This outcome is meaningful because many organizations prefer hiring candidates with such leadership experiences, which are often highlighted on résumés and LinkedIn profiles by MBA students. Third, to ascertain perceived creativity as a unique mechanism, we measured leadership motivation, especially because past studies found mixed evidence regarding whether Asians have lower leadership motivation than other ethnic groups (Chen et al., 2013; Hewlett, 2011; Lu et al., 2020).

Method

Participants

Two complete class years of 1,530 MBA students in the same U.S. business program participated in our study (61.3% male, 49.2% U.S. born; M_{age} = 27.95, SD = 2.53). Among the students, 20.1% were EA, 9.9% were SA, 49.0% were White, 7.5% were Latino, 4.4% were Black, 3.6% were Middle Eastern, and the remaining students belonged to other ethnic groups. After entering the business school, the students were divided into class sections of about 70 students (with an average of 14.0 EAs in each section). Whereas Study 1 analyzed 11 sections, Study 2 analyzed 22 sections.

Measures

Perceived Creativity. As in Study 1, about 2 weeks after the program began (when students had limited interactions), each student was anonymously rated by their learning group members in a required peer evaluation. To assess perceived creativity, we employed the same three-item measure as in Study 1 (Zhou & George, 2001; α = .72).

Leadership Emergence. Two weeks after the creativity ratings, each of the 22 class sections held an election for its leadership roles (e.g., class-section representative, social representative, career representative). As noted earlier, this MBA program prizes student governance, such that the elected leaders are in charge of class-section activities, many of which involve creativity. We procured data from the Student Life Office on whether an individual was elected as a leader in their class section (0 = no, 1 = yes).

Exploratory Measures for Testing Incremental Prediction.

Assertiveness. As in Study 1, during the first week of the MBA program, all students rated their assertiveness in a required self-evaluation. We used the same three-item measure as in Study 1 (Wallen et al., 2017; α = .72).

Leadership Motivation. In the same self-evaluation, each student was asked: "How likely are you to run for a leadership position in your class section?" (1 = *very unlikely*, 7 = *very likely*).

Control Variables. We included the same control variables as in Study 1: GRE/GMAT quant percentile, GRE/GMAT verbal percentile, U.S.-born/foreign-born status, age, and gender.

Results

Table 4 exhibits descriptive statistics and bivariate correlations. For our main analyses, we conducted regressions with cluster-robust standard errors (clustered by class section). All 95% of CIs in mediation analyses are bias corrected and bootstrapped.

Hypothesis Testing

Perceived Creativity. Consistent with Hypothesis 1 and Study 1, EAs were perceived as the least creative of all ethnic groups. As shown in Table 5 Model 1, EAs were perceived as less creative than SAs (B = −.15, SE = .04, p < .001), White individuals (B = −.19, SE = .03, p < .001), Latino individuals (B = −.31, SE = .05, p < .001), Black individuals (B = −.15, SE = .07, p = .028), and Middle Easterners (B = −.40, SE = .07, p < .001). These results were similar after accounting for the control variables (Table 5 Models 2 and 3). By contrast, regressions comparing SA and White individuals found no significant difference (B = −.04, SE = .04, p = .40).

Assertiveness. Consistent with Study 1 and prior research (Lu et al., 2020), EAs were the least assertive of all ethnic groups. Specifically, EAs were less assertive than SAs (B = −.28, SE = .07, p < .001), White individuals (B = −.36, SE = .05, p < .001), Latino individuals (B = −.39, SE = .10, p < .001), Black individuals (B = −.25, SE = .09, p = .005), and Middle Easterners (B = −.60, SE = .10, p < .001). These results were similar after accounting for the control variables. By contrast, regressions comparing SA and White

Table 4
Study 2: Descriptive Statistics and Bivariate Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. East Asian (vs. other)	0.21	0.41	—								
2. Elected leader (0 = no, 1 = yes)	0.17	0.37	−.11**	—							
3. Perceived creativity	5.34	0.53	−.16**	.09**	—						
4. Assertiveness	5.29	1.00	−.15**	.07*	.06*	—					
5. Leadership motivation	5.31	1.38	−.02	−.03	−.01	.05*	—				
6. Gender (0 = female, 1 = male)	0.61	0.49	−.06*	−.09**	.03	.08**	.19**	—			
7. Age	27.95	2.53	.15**	−.05	−.03	.03	.02	.10**	—		
8. Foreign-born (0 = no, 1 = yes)	0.51	0.50	.32**	−.14**	.05*	−.01	−.04	.06*	.08**	—	
9. GRE/GMAT verbal percentile	90.83	9.30	−.08**	.00	−.01	−.02	.01	.10**	−.11**	−.16**	—
10. GRE/GMAT quant percentile	69.57	15.74	.42**	−.10**	−.06*	−.11**	.00	.20**	.03	.37**	.01

Note. "other" = South Asian, White, Latino, Black, or Middle Eastern; GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test.
* $p < .05$. ** $p < .01$.

individuals found no significant difference ($B = -.08$, $SE = .08$, $p = .29$).

Leadership Motivation. Consistent with Lu et al. (2020), there was no significant ethnic difference in leadership motivation—whether with or without controls (all ps > .25). These results suggest that EAs were as motivated as other ethnic groups to run for leadership positions.

Leadership Emergence. As shown in Table 6 Model 1, logistic regressions found that EAs were significantly less likely to be elected as class-section leaders than SAs ($B = -1.06$, $SE = .28$, Wald $z = -3.85$, $p < .001$), White individuals ($B = -.92$, $SE = .20$, Wald $z = -4.59$, $p < .001$), Black individuals ($B = -.88$, $SE = .36$, Wald $z = -2.47$, $p = .014$), and Middle Easterners ($B = -1.03$, $SE = .41$, Wald $z = -2.48$, $p = .013$). These results were similar after accounting for the control variables (Table 6 Models 2 and 3). By contrast, regressions comparing SA and White individuals found no significant difference ($B = .14$, $SE = 18$, Wald $z = .79$, $p = .43$).

Supporting Hypothesis 2, perceived creativity positively predicted whether a person was elected as a leader (without controls: $B = .50$, $SE = .16$, Wald $z = 3.13$, $p = .002$; with controls: $B = .55$, $SE = .16$, Wald $z = 3.34$, $p < .001$). This effect remained robust ($B = .54$, $SE = .17$, Wald $z = 3.25$, $p = .001$) after we controlled for assertiveness, which also positively predicted leader election in the same regression ($B = .19$, $SE = .07$, Wald $z = 2.62$, $p = .009$).

Mediation Analysis. Supporting Hypothesis 3, perceived creativity significantly mediated the effect of ethnicity (1 = EA, 0 = other ethnicities) on leader election (indirect effect = −.011, 95% CI [−.019, −.002], proportion of total effect mediated = 11%). Consistent with Study 1 and prior research (Lu et al., 2020), assertiveness also significantly mediated the effect of ethnicity (1 = EA, 0 = other ethnicities) on leader election (indirect effect = −.008, 95% CI [−.015, −.002], proportion of total effect mediated = 8%).

Given that perceived creativity and assertiveness were both significant mediators individually, we tested them as parallel mediators in a simultaneous mediation analysis (Preacher & Hayes, 2008) that accounted for the controls and leadership motivation. Consistent with Study 1, both perceived creativity (indirect

Table 5
Study 2: Linear Regressions Predicting Perceived Creativity

Variable	Model 1	Model 2	Model 3
East Asian (reference group)			
South Asian	.15*** (.04)	.14** (.04)	.13** (.05)
White	.19*** (.03)	.25*** (.04)	.23*** (.04)
Latino	.31*** (.05)	.31*** (.05)	.29*** (.06)
Black	.15* (.07)	.22** (.07)	.19* (.09)
Middle Eastern	.40*** (.07)	.39*** (.07)	.39*** (.07)
Gender (0 = female, 1 = male)		.03 (.03)	.03 (.03)
Age (years)		−.003 (.01)	.0002 (.01)
Foreign-born (0 = no, 1 = yes)		.12*** (.03)	.14*** (.03)
GRE/GMAT verbal percentile			.001 (.002)
GRE/GMAT quant percentile			−.001 (.001)
AIC	2222.19	2212.62	2180.30
BIC	2259.09	2265.33	2243.38
Log likelihood	−1104.10	−1096.31	−1078.15
N	1,438	1,438	1,418

Note. Unstandardized regression coefficients are displayed, with cluster-robust standard errors in parentheses. GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test; AIC = Akaike information criterion; BIC = Bayesian information criterion.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6
Study 2: Logistic Regressions Predicting Whether a Person Was Elected as a Class-Section Leader

Variable	Model 1	Model 2	Model 3
East Asian (reference group)			
South Asian	1.06*** (.28)	1.08*** (.28)	1.08*** (.28)
White	.92*** (.20)	.59** (.22)	.52* (.23)
Latino	−.16 (.33)	−.17 (.34)	−.24 (.32)
Black	.88* (.36)	.44 (.35)	.28 (.40)
Middle Eastern	1.03* (.41)	1.04** (.40)	1.03** (.38)
Gender (0 = female, 1 = male)		−.42* (.18)	−.39* (.19)
Age (years)		−.02 (.03)	−.01 (.04)
Foreign-born (0 = no, 1 = yes)		−.66*** (.19)	−.65** (.20)
GRE/GMAT verbal percentile			−.005 (.01)
GRE/GMAT quant percentile			−.01 (.01)
AIC	1298.62	1277.54	1265.34
BIC	1330.28	1325.02	1323.22
Log likelihood	−643.31	−629.77	−621.67
N	1,447	1,445	1,424

Note. Unstandardized regression coefficients are displayed, with cluster-robust standard errors in parentheses. GRE = Graduate Record Examinations; GMAT = Graduate Management Admissions Test; AIC = Akaike information criterion; BIC = Bayesian information criterion.
$^{\dagger} p < .10$. $^{*} p < .05$. $^{**} p < .01$. $^{***} p < .001$.

effect = −.014, 95% CI [−.024, −.007]) and assertiveness (indirect effect = −.008, 95% CI [−.017, −.003]) emerged as significant mediators (proportion of total effect mediated = 33%). Using R package *brms* (Bürkner, 2017), a Bayesian analysis found that the two indirect effects were not significantly different ($B = -.003$, 95% CI [−.02, .01]).

Exploratory Analyses

As in Study 1, we also explored (a) the Ethnicity × Gender interaction and (b) the Ethnicity × U.S.-Born/Foreign-Born Status interaction. As detailed in Supplemental Table S2, none of the interaction effects were consistently significant. These results suggest that the observed effects were similar for EA men and women, and similar for U.S.-born EAs and foreign-born EAs.

Discussion

Study 2 replicated and extended Study 1's results by analyzing leader election outcomes in another 22 full class sections of MBA students. First, EAs were perceived by their classmates as the least creative of all ethnic groups at the beginning of the MBA program—when the students had only limited interactions and thus were likely influenced by stereotypes about creativity. Second, consistent with prior research on the Bamboo Ceiling phenomenon (Lu et al., 2020), although EAs had high leadership motivation, they were less likely to be elected as class-section leaders, a valuable experience that can render MBA students more attractive to organizational recruiters. Third, EAs' low leadership emergence was mediated by perceived creativity—along with the parallel mediator assertiveness—suggesting that EAs were less likely to be elected as leaders as a function of lower perceived creativity. Together, these findings provide further support for our creativity stereotype perspective on the Bamboo Ceiling.

Study 3

Study 3 complemented the first two studies in seven ways. First, although Studies 1 and 2 strengthened causal inference by including relevant control variables and measuring the predictor, mediators, and outcome at different points in time, both studies were correlational. To causally test our theoretical perspective, Study 3 used a vignette experiment (preregistered at https://aspredicted.org/LCD_Z4Z). Specifically, we tested whether, compared to SA American and White American candidates, EA American candidates with a substantively identical profile would be viewed as less leader-like due to lower perceived creativity.

Second, the creativity ratings in Studies 1 and 2 likely reflected *stereotypes* because the students had known one another for only a brief period before providing the creativity ratings. Nevertheless, it is still possible (though improbable) that the EA students actually exhibited low creativity during this brief period. Study 3 precluded any actual differences in creativity by using a standardized vignette.

Third, although Studies 1 and 2 controlled for GRE/GMAT verbal percentile (which has been shown to correlate strongly with English oral proficiency; Pesta et al., 2019), we did not have a direct measure of English oral proficiency, which may be vital to leadership emergence. To preclude this concern, Study 3 emphasized that the leadership candidate in the vignette was a native English-speaking American citizen born in the United States.

Fourth, Studies 1 and 2 measured assertiveness via self-report, which can be prone to self-report biases. For example, face culture EAs might have self-reported low assertiveness due to cultural habits of humility (H. I. Lee et al., 2014). To avoid such biases, Study 3 measured *perceived* assertiveness.

Fifth, Studies 1 and 2 measured perceived creativity 1 week after assertiveness rather than simultaneously. To address this limitation, Study 3 measured perceived creativity and assertiveness at the same time (order counterbalanced).

Sixth, Study 3 also measured perceived competence and warmth as potential mediators because prior research—without distinguishing between EAs and SAs—surmised that perceived high competence and low warmth can render Asians threatening and unfit for leadership (Johnson & Sy, 2016). Measuring perceived competence and warmth also allowed us to ascertain perceived creativity as a unique mechanism over and above them. Including multiple attributes also concealed the study's focus on the creativity stereotype and mitigated potential demand effects.

Seventh, while Studies 1 and 2 feature notable methodological strengths (e.g., high ecological validity), the methodology and MBA samples were similar to those of Lu et al.'s (2020) studies. To diversify our methodology and examine the generalizability of our findings, Study 3 used an experimental design and recruited participants with managerial experience.

Participants

G*Power was used to specify the sample size needed for a small-to-medium-sized effect in a between-subjects design with three conditions: 246 participants were needed for the study to have 80% power. To surpass this threshold, we preregistered to recruit at least 600 participants.

We recruited participants with managerial experience via CloudResearch (Chandler et al., 2019). As preregistered, only participants who met the following criteria were eligible. First, to alleviate potential confounds, we recruited only non-Asian, U.S.-born, native English-speaking Americans. Second, participants were excluded if they (a) failed the attention check ("Please select 'Very unlikely' for this question") or (b) misidentified the ethnicity of the leadership candidate in their condition at the end of the study.

These criteria yielded 671 valid participants (51.9% male; M_{age} = 42.9 years, SD = 12.5). 80.2% were White, 11.2% were Black, 4.6% were Latino, and the rest were other ethnicities. Their educational backgrounds were as follows: 35.8% some college or lower, 45.8% bachelor's degree, and 18.4% master's degree or higher. To enhance data quality, we assured participants that their responses were confidential and anonymous.

Experimental Design and Procedure

Participants were randomly assigned to one of three conditions in a between-subjects design: EA condition, SA condition, or White condition. Each participant read a profile of a candidate for a senior leadership position in a U.S. consulting firm (Supplemental Figure S1). We chose this context because creativity is prized in consulting (Birt, 2022), as it is argued that "the ability to bring novel ideas and open new conversations to actionable solutions is where the true value of consulting lies" (Dean, 2015).

Manipulating Ethnicity

The only difference across the three conditions was the leadership candidate's name and stated ethnicity on the profile ("East Asian," "South Asian," or "Caucasian"). We used ethnically prototypical names validated by past research. Similar to Lu et al. (2020), we used A. Wang (ethnic Chinese name) and A. Kim (ethnic Korean name) for EA names, and A. Patel (ethnic Indian name) and A. Bakhash (ethnic Pakistani name) for SA names. For White names, we used A. Becker and A. Meyer because Gaddis (2017, Table 1) found that Becker and Meyer are two highly prototypical White surnames in the United States. Notably, by including *two* ethnic names per condition, we tested whether there was no significant difference between the two same-ethnicity candidates *within* each condition (e.g., Wang vs. Kim) while testing whether there were significant differences *between* the three ethnicities (e.g., Wang vs. Patel vs. Becker).

The rest of the leadership candidates' profiles were identical: a male, native English-speaking American citizen born in the United States with an MBA degree and 7 years of work experience in consulting. We carefully crafted this profile with the following considerations. First, to preclude the possibility that Asian names may be more associated with foreigners, we stated that the candidate is a native English-speaking American citizen born in the United States. Second, the candidate's education and work experience were appropriate for a senior leadership position in consulting. Third, to ascertain the effect of ethnicity, we followed prior experiments (e.g., Gerhards et al., 2021; Hershcovis & Bhatnagar, 2017; Lyons-Padilla et al., 2019) and held gender constant.

Measures

Leadership Emergence. To assess the extent to which a candidate was viewed as leader-like, we used a three-item measure from Porath et al. (2015): "I view this person as a leader"; "I believe this person possesses leadership qualities"; "I would recommend this person as a leader" (1 = *strongly disagree*, 6 = *strongly agree*; α = .89).

Potential Mechanisms. To explore potential mechanisms, we measured perceived creativity, assertiveness, competence, and warmth; their display order was randomized across participants. For each of the variables, participants were asked: "How likely is this person to exhibit the following characteristics?" (1 = *very unlikely*, 6 = *very likely*).

Perceived Creativity. We assessed perceived creativity with the same three-item measure (Zhou & George, 2001) used in Studies 1 and 2: "This person is a good source of creative ideas"; "This person comes up with new and practical ideas to improve performance"; "This person comes up with creative solutions to problems" (α = .90).

Perceived Assertiveness. We assessed perceived assertiveness with the commonly used three-item measure from Wallen et al. (2017): "This person speaks up and shares his own views when appropriate"; "This person is able to stand his ground in a heated conflict"; "This person is willing to engage in constructive interpersonal confrontations" (α = .83).

Perceived Competence and Warmth. Following Fiske and colleagues (Cuddy et al., 2004; Fiske et al., 2002), we measured perceived competence with three items (competent, capable, intelligent; α = .92) and perceived warmth with three items (warm, friendly, agreeable; α = .88).

Results

There was no significant difference in any of the variables between the two EA profiles, between the two SA profiles, or between the two White profiles (all pairwise comparison ps > .25). As preregistered, we thus averaged ratings of the two EA profiles (for the EA condition), the two SA profiles (for the SA condition), and the two White profiles (for the White condition), respectively.

Comparing Across Conditions

Leadership Emergence. Even though the candidate profiles were substantively identical, the EA condition ($M = 4.83$, $SD = .60$), the SA condition ($M = 4.96$, $SD = .69$), and the White condition ($M = 4.94$, $SD = .61$) differed significantly in leadership emergence: Consistent with Studies 1 and 2, planned comparisons found that the EA candidates were viewed as significantly less leader-like than the SA candidates ($t = -2.26$, $p = .02$, $d = -.21$, 95% CI [−.26, −.02]). A similar difference was found between the EA and White candidates ($t = -1.93$, $p = .054$, $d = -.18$, 95% CI [−.23, .002]), though this difference did not reach the $p = .05$ significance level. Meanwhile, the SA and White candidates did not differ significantly ($t = .41$, $p = .69$, 95% CI [−.10, .14]), suggesting that our results could not be merely explained by a general preference for White individuals (the ethnic majority in the United States).

Perceived Creativity. Consistent with Hypothesis 1 and the first two studies, planned comparisons found that the EA candidates ($M = 4.51$, $SD = .69$) were perceived as significantly less creative than the SA candidates ($M = 4.71$, $SD = .76$; $t = -2.96$, $p = .003$, $d = -.28$, 95% CI [−.34, −.07]) and the White candidates ($M = 4.66$, $SD = .72$; $t = -2.34$, $p = .02$, $d = -.22$, 95% CI [−.29, −.02]). By contrast, the SA and White candidates did not differ significantly ($t = .66$, $p = .51$, 95% CI [−.09, .18]).

Perceived Assertiveness. In line with previous research (Lu et al., 2020), planned comparisons found that the EA candidates ($M = 4.66$, $SD = .66$) were also perceived as significantly less assertive than the SA candidates ($M = 4.80$, $SD = .73$; $t = -2.19$, $p = .03$, $d = -.21$, 95% CI [−.27, −.01]) and the White candidates ($M = 4.84$, $SD = .75$; $t = -2.62$, $p = .009$, $d = -.25$, 95% CI [−.31, −.04]). By contrast, the SA and White candidates did not differ significantly ($t = -.49$, $p = .63$, 95% CI [−.17, .10]).

Perceived Competence and Warmth. The EA, SA, and White candidates did not differ significantly in perceived competence, one-way analysis of variance (ANOVA) $F(2, 668) = 1.54$, $p = .21$, or perceived warmth, one-way ANOVA $F(2, 668) = .99$, $p = .37$.

Mediation Analysis

Supporting Hypothesis 2, perceived creativity positively predicted leadership emergence ($B = .48$, $SE = .03$, $p < .001$). This effect remained robust ($B = .33$, $SE = .03$, $p < .001$) after we controlled for perceived assertiveness, which also positively predicted leadership emergence in the same regression ($B = .25$, $SE = .03$, $p < .001$).

Perceived competence and warmth were not significant mediators (bootstrapped 95% CIs included zero), as the EA, SA, and White candidates did not differ significantly in either perceived competence or warmth (as detailed above).

Mediation Analysis: East Asian Condition Versus South Asian Condition. Supporting Hypothesis 3, perceived creativity significantly mediated the effect of ethnicity condition (1 = EA, 0 = SA) on leadership emergence (indirect effect = −.10, 95% CI [−.17, −.04], $p < .001$). Perceived assertiveness also significantly mediated the effect of ethnicity condition (1 = EA, 0 = SA) on leadership emergence (indirect effect = −.06, 95% CI [−.13, −.01], $p = .018$).

Given that perceived creativity and assertiveness were both significant mediators individually, we tested them as parallel mediators in a simultaneous mediation analysis (Preacher & Hayes, 2008). Consistent with Studies 1 and 2, both perceived creativity (indirect effect = −.07, 95% CI [−.14, −.03]) and perceived assertiveness (indirect effect = −.03, 95% CI [−.08, −.003]) emerged as significant mediators (proportion of total effect mediated = 74%). Using R package *brms* (Bürkner, 2017), a Bayesian analysis found that the two indirect effects were not significantly different ($B = -.04$, 95% CI [−.01, .03]).

Mediation Analysis: East Asian Condition Versus White Condition. Supporting Hypothesis 3, perceived creativity significantly mediated the effect of ethnicity condition (1 = EA, 0 = White) on leadership emergence (indirect effect = −.07, 95% CI [−.13, −.02], $p = .008$). Perceived assertiveness also significantly mediated the effect of ethnicity condition (1 = EA, 0 = White) on leadership emergence (indirect effect = −.07, 95% CI [−.14, −.02], $p = .006$).

Given that perceived creativity and assertiveness were both significant mediators individually, we tested them as parallel mediators in a simultaneous mediation analysis (Preacher & Hayes, 2008). Consistent with Studies 1 and 2, both perceived creativity (indirect effect = −.04, 95% CI [−.10, −.01]) and perceived assertiveness (indirect effect = −.05, 95% CI [−.10, −.01]) emerged as significant mediators (proportion of total effect mediated = 70%). Using R package *brms* (Bürkner, 2017), a Bayesian analysis found that the two indirect effects were not significantly different ($B = .004$, 95% CI [−.05, .06]).

Discussion

Complementing the previous two studies, Study 3 provided experimental evidence for our theoretical perspective. First, the EA American candidates were viewed as less leader-like than substantively identical SA and White American candidates. Second, the EA American candidates were perceived as less creative and assertive, even though there was no actual difference in creativity or assertiveness among the candidates. Third, perceived creativity—in addition to perceived assertiveness—mediated why the EA American candidates were viewed as less leader-like. Meanwhile, perceived competence and warmth were not significant mediators. Together, these results suggest that the stereotype that EAs lack creativity can contribute to their low leadership emergence in the United States.

Study 4

Study 4 had three goals. First, we aimed to replicate Study 3's findings in another preregistered experiment (preregistered at https://aspredicted.org/FRX_DR7). Whereas Study 3's vignette involved the consulting industry, Study 4's vignette involved the marketing industry to further examine the generalizability of our findings. Like consulting, the marketing industry also prizes creativity; indeed, the CMO Survey found that marketers "ranked creativity first of all of the qualities they look for when they hire, nearly 10 points ahead of the next quality (tech fluency)" (Deloitte, 2018). Second, whereas Study 3 had only three conditions (EA, SA, and White), Study 4 added three new conditions (Black, Latino, and Middle Eastern) to provide a more comprehensive ethnic comparison. Third, Study 4 further measured perceived masculinity as an exploratory variable because past studies suggest that EAs are perceived as less masculine than other ethnicities (Galinsky et al., 2013; Hall et al., 2015; Schug et al., 2015),

and meta-analyses suggest that perceived masculinity positively predicts an individual's leadership emergence (Ensari et al., 2011; Lord et al., 1986). Measuring perceived masculinity thus enabled us to ascertain perceived creativity as a unique mechanism over and above perceived masculinity.

Participants

G*Power was used to specify the sample size needed for a small-to-medium-sized effect in a between-subjects design with six conditions: 330 participants were needed for the study to have 80% power. To surpass this threshold, we preregistered to recruit at least 600 participants.

We recruited participants with managerial experience via CloudResearch. As preregistered, only participants who met the following criteria were eligible. First, to alleviate potential confounds, we recruited only non-Asian, U.S.-born, native English-speaking Americans. Second, participants were excluded if they (a) failed the attention check ("Please select 'Very unlikely' for this question") or (b) misidentified the ethnicity of the leadership candidate in their condition at the end of the study.

These criteria yielded 1,104 valid participants (50.5% male; M_{age} = 45.7 years, SD = 13.3). 85.1% were White, 7.7% were Black, 3.9% were Latino, and the rest were other ethnicities. Their educational backgrounds were as follows: 35.4% some college or lower, 45.8% bachelor's degree, and 18.8% master's degree or higher. To enhance data quality, we assured participants that their responses were confidential and anonymous.

Experimental Design and Procedure

Participants were randomly assigned to one of six conditions in a between-subjects design: EA, SA, White, Black, Latino, or Middle Eastern condition. Each participant read a profile of a candidate for a senior leadership position in a U.S. marketing firm (Supplemental Figure S2).

Manipulating Ethnicity

As in Study 3, the only difference across the six conditions was the leadership candidate's name and stated ethnicity on the profile ("East Asian," "South Asian," "Caucasian," "Black," "Latino," or "Middle Eastern"). Because Study 3 found no significant differences in any variables between the two EA profiles (A. Kim and A. Wang), between the two SA profiles (A. Patel and A. Bakhash), or between the two White profiles (A. Becker and A. Meyer), Study 4 used only one prototypical name for each ethnicity: Wang (EA), Patel (SA), and Becker (White). For Black and Latino surnames, we used Washington and Hernandez, respectively, because Gaddis (2017, Table 1) identified them as ethnically prototypical surnames. For the Middle Eastern surname, we used the ethnically prototypical name Mohamed (https://forebears.io/surnames/mohamed). In sum, the six profiles were as follows: A. Wang (EA), A. Patel (SA), A. Becker (White), A. Washington (Black), A. Hernandez (Latino), and A. Mohamed (Middle Eastern). The rest of the leadership candidates' profiles were identical: a male, native English-speaking American citizen born in the United States with a bachelor's degree and 7 years of work experience (Supplemental Figure S2).

Measures

Leadership Emergence. To assess the extent to which a candidate was viewed as leader-like, we used the same three-item measure as in Study 3 (Porath et al., 2015; α = .94).

Potential Mechanisms. To examine potential mechanisms more comprehensively, we measured not only perceived creativity and assertiveness but also perceived competence, warmth, and masculinity. Their display order was randomized across participants. For each of the variables, participants were asked: "How likely is this person to exhibit the following characteristics?" (1 = *very unlikely*, 6 = *very likely*).

We assessed perceived creativity (α = .92), assertiveness (α = .86), competence (α = .93), and warmth (α = .89) with the same scales as in Study 3.

In the literature, perceived masculinity is often assessed by the adjective "masculine" (e.g., van Leeuwen et al., 2018). In addition to this one-item measure of high face validity, we included a second item "feminine" (reverse-coded); unsurprisingly, the two items were strongly correlated ($|r|$ = .55). Results were robust when we used just the one-item measure "masculine."

Exploratory Open-Ended Question. To explore why EAs are stereotyped as lacking creativity, we collected qualitative data in the form of an open-ended question, asking (non-Asian American) participants why ethnic EAs might be stereotyped as less creative than other ethnic groups in the United States. Three coders independently categorized participants' answers and discussed to resolve any coding differences.

Results

Comparing Across Conditions

Leadership Emergence. Consistent with the first three studies, planned comparisons found that the EA candidate (M = 4.39, SD = 1.01) was viewed as less leader-like than the SA candidate (M = 4.61, SD = .84; t = −2.24, p = .026, d = −.23, 95% CI [−.41, −.03]), the White candidate (M = 4.64, SD = .81; t = −2.60, p = .010, d = −.28, 95% CI [−.44, −.06]), the Black candidate (M = 4.72, SD = .93; t = −3.20, p = .001, d = −.33, 95% CI [−.52, −.12]), the Latino candidate (M = 4.66, SD = .87; t = −2.71, p = .007, d = −.29, 95% CI [−.47, −.07]), and the Middle Eastern candidate (M = 4.74, SD = .71; t = −3.71, p < .001, d = −.40, 95% CI [−.53, −.16])—even though the candidate profiles were substantively identical. The five non-EA conditions did not differ significantly, one-way ANOVA F(4, 924) = .72, p = .58.

Perceived Creativity. Consistent with Hypothesis 1 and the first three studies, planned comparisons found that the EA candidate (M = 4.71, SD = .79) was perceived as significantly less creative than the SA candidate (M = 4.92, SD = .76; t = −2.59, p = .009, d = −.27, 95% CI [−.37, −.05]), the White candidate (M = 4.88, SD = .68; t = −2.11, p = .036, d = −.22, 95% CI [−.32, −.01]), the Black candidate (M = 4.92, SD = .84; t = −2.50, p = .013, d = −.26, 95% CI [−.38, −.04]), the Latino candidate (M = 4.90, SD = .74; t = −2.27, p = .024, d = −.24, 95% CI [−.34, −.02]), and the Middle Eastern candidate (M = 4.93, SD = .74; t = −2.66, p = .008, d = −.28, 95% CI [−.38, −.06]). The five non-EA conditions did not differ significantly, one-way ANOVA F(4, 924) = .16, p = .96.

Perceived Assertiveness. Consistent with Study 3, planned comparisons found that the EA candidate ($M = 4.52$, $SD = .72$) was perceived as significantly less assertive than the SA candidate ($M = 4.68$, $SD = .73$; $t = -2.13$, $p = .034$, $d = -.22$, 95% CI [−.31, −.01]), the White candidate ($M = 4.74$, $SD = .69$; $t = -2.99$, $p = .003$, $d = -.32$, 95% CI [−.37, −.08]), the Black candidate ($M = 4.78$, $SD = .81$; $t = -3.37$, $p < .001$, $d = -.35$, 95% CI [−.42, −.11]), the Latino candidate ($M = 4.73$, $SD = .70$; $t = -2.88$, $p = .004$, $d = -.31$, 95% CI [−.36, −.07]), and the Middle Eastern candidate ($M = 4.72$, $SD = .77$; $t = -2.49$, $p = .013$, $d = -.27$, 95% CI [−.36, −.04]). The five non-EA conditions did not differ significantly, one-way ANOVA $F(4, 924) = .52$, $p = .72$.

Perceived Competence and Warmth. In line with Study 3's results, the six conditions did not differ significantly in perceived competence, one-way ANOVA $F(5, 1098) = 1.23$, $p = .29$, or warmth, one-way ANOVA $F(5, 1098) = 1.69$, $p = .13$.

Perceived Masculinity. In line with prior studies (Galinsky et al., 2013; Hall et al., 2015; Schug et al., 2015), the EA candidate was perceived as the least masculine, whereas the Black candidate was perceived as the most masculine. Specifically, planned comparisons found that the EA candidate ($M = 4.30$, $SD = .83$) was perceived as significantly less masculine than the SA candidate ($M = 4.49$, $SD = .76$; $t = -2.25$, $p = .025$, $d = -.24$, 95% CI [−.35, −.02]), the Black candidate ($M = 4.66$, $SD = .78$; $t = -4.24$, $p < .001$, $d = -.44$, 95% CI [−.52, −.19]), the Latino candidate ($M = 4.48$, $SD = .75$; $t = -2.12$, $p = .034$, $d = -.23$, 95% CI [−.34, −.01]), the Middle Eastern candidate ($M = 4.58$, $SD = .79$; $t = -3.20$, $p = .002$, $d = -.34$, 95% CI [−.45, −.11]), and was not significantly different from the White candidate at the $p = .05$ significance level ($M = 4.45$, $SD = .82$; $t = -1.70$, $p = .09$, 95% CI [−.32, .02]).

Mediation Analysis

As detailed above, we found significant ethnic differences in perceived creativity, assertiveness, and masculinity. When alone, perceived creativity ($B = .51$, $SE = .03$, $p < .001$), perceived assertiveness ($B = .63$, $SE = .03$, $p < .001$), and perceived masculinity ($B = .23$, $SE = .03$, $p < .001$) each positively predicted leadership emergence. However, when we entered them as simultaneous predictors in the same regression predicting leadership emergence, perceived masculinity became nonsignificant ($B = .05$, $SE = .03$, $p = .11$), while perceived creativity ($B = .24$, $SE = .03$, $p < .001$) and perceived assertiveness ($B = .48$, $SE = .04$, $p < .001$) remained significant.

Supporting Hypothesis 3, perceived creativity significantly mediated the effect of ethnicity condition (1 = EA, 0 = other ethnicities) on leadership emergence (indirect effect = −.10, 95% CI [−.18, −.03], $p < .001$). Perceived assertiveness also significantly mediated the effect of ethnicity condition (1 = EA, 0 = other ethnicities) on leadership emergence (indirect effect = −.13, 95% CI [−.21, −.06], $p < .001$).

Given that perceived creativity and assertiveness were both significant mediators individually, we tested them as parallel mediators in a simultaneous mediation analysis (Preacher & Hayes, 2008). Consistent with the first three studies, both perceived creativity (indirect effect = −.05, 95% CI [−.09, −.02]) and perceived assertiveness (indirect effect = −.10, 95% CI [−.17, −.04]) emerged as significant mediators (proportion of total effect mediated = 54%). Using R package *brms* (Bürkner, 2017), a Bayesian analysis found that the two indirect effects were not significantly different ($B = .06$, 95% CI [−.02, .13]).

By contrast, perceived competence, warmth, and masculinity were not significant mediators (bootstrapped 95% CIs included zero).

Exploratory Analyses

Qualitative data from the open-ended question provided insights into why EAs are stereotyped as lacking creativity.[3] Consistent with our theorization, the most common category of explanation (33%) is that EAs are perceived as conforming, rigid, and robotic. For example, some participants wrote: "I think East Asians are viewed as uncreative because they are usually raised in a home atmosphere of compliance and proper behavior. These types of influences are contrary to creativity"; "I think it is because there is a stereotype that their educational upbringing and culture is very rigid and disciplined, which leads them to not be as likely to think outside the box when it comes to issues and solutions."

Within this category of explanation, some participants explicitly noted the negative association between face culture and perceived creativity: "East Asian culture is often thought to be stultifying due to the emphasis on 'face' in the workplace, with stability prized over innovation"; "I think because East Asians tend to be very conforming by nature, or at least that is also a stereotype, so straying outside of that conformity, which would be seen as being creative, is frowned upon and since saving face is important for most East Asians, then they don't want to appear too creative."

The second most common category of explanation (22%) is that EAs are only competent in quantitative domains. "Quant" subjects (e.g., science, technology, engineering, math) often involve a single, predefined answer that requires rote memorization and deductive reasoning, whereas "poet" subjects (e.g., literature, arts) are associated with divergent thinking (Jeon et al., 2011). For example, some participants wrote: "East Asians are portrayed as intelligent, loving math, etc. and typically that is seen as the opposite of creative"; "I think the reason that East Asians are perceived as uncreative is because they are known for being logical and intelligent as far as math and science. Math and science are very black and white, so there is not a lot of room for creativity."

Other categories of explanation include taste-based prejudice against and ignorance about EAs (15%), the perception that EAs are "book smart" but not "street smart" (12%), the perception that EAs have a low presence in creativity-related fields (8%), the perception that EAs are reserved, meek, and quiet (8%), media portrayal and influence (4%), the perception that EAs copy and imitate (2%), the perception that EAs are foreign (2%), envy or feelings of threats toward EAs (2%), and historical influence (2%; e.g., World War II with Japan, COVID-19).

[3] Unsurprisingly, some participants provided answers that touched on multiple categories. Consider the following answer: "I think in part because they tend to be more reserved in their personalities, and aren't as present in creative fields compared to others. We tend to associate them as working in STEM fields, which people don't always think of as being creative." This example touches on three categories of explanation: (a) EAs are reserved; (b) EAs have low presence in creativity-related fields; (c) the association between EAs and STEM.

Discussion

Replicating and extending Study 3, Study 4 provided further experimental evidence for our theoretical perspective in another context that values creativity (marketing). First, compared to candidates of other ethnicities, the EA American candidate with a substantively identical profile was viewed as less leader-like. Second, the EA American candidate was perceived as less creative, assertive, and masculine than candidates of other ethnicities with identical profiles. Third, perceived creativity and assertiveness—but not perceived masculinity—significantly mediated why the EA American candidate was viewed as less leader-like. Together, these results further demonstrate that low perceived creativity contributes to EAs' low leadership emergence in the United States. Furthermore, consistent with our theorization, an exploratory question suggests that perceptions of EAs as conforming, rigid, and robotic may contribute to the creativity bias against EAs.

General Discussion

Our four studies provided converging evidence supporting our creativity stereotype perspective on the Bamboo Ceiling phenomenon. Across 33 class sections of MBA students, EAs were perceived by their classmates as less creative than other ethnicities and thus less likely to be nominated (Study 1) and elected (Study 2) as class-section leaders. These findings were conceptually replicated in two preregistered vignette experiments involving non-Asian Americans with managerial experience (Studies 3 and 4): Compared to candidates of other ethnicities, EA American candidates with a substantively identical profile were viewed as less leader-like as a function of lower perceived creativity. Across the four studies, perceived creativity emerged as a unique mechanism along with assertiveness (parallel mechanism).

Theoretical Contributions

The current research provides four theoretical contributions. First and foremost, we extend the emerging research on the Bamboo Ceiling phenomenon by elucidating its mechanisms and scope. Regarding *mechanisms*, our research uncovered a novel mechanism for EAs' underrepresentation in leadership positions: the stereotype that EAs lack creativity. This perception clashes with the emphasis on leader creativity in U.S. culture, thereby partially accounting for the Bamboo Ceiling. Whereas past research on the Bamboo Ceiling has focused on "supply-side" mechanisms concerning EAs' own attitudes and behaviors (Lu, 2022; Lu et al., 2020), we revealed a "demand-side" mechanism concerning a stereotype about EAs, thereby providing a more balanced understanding of the Bamboo Ceiling phenomenon. Notably, one debate in the literature about ethnic inequality is whether it is primarily driven by biases favoring White people or biases against ethnic minorities (Brewer, 1999; DiTomaso, 2013, 2015). Our studies consistently found that EAs were uniquely stereotyped as less creative and thus were less likely than other ethnic groups to emerge as leaders. These findings suggest that the Bamboo Ceiling is explained partly by a creativity stereotype against EAs rather than biases favoring White people.

Regarding the *scope* of the Bamboo Ceiling phenomenon, our research found that only EAs—not SAs—struggle to emerge as leaders in the United States, demonstrating that the Bamboo Ceiling applies primarily to EAs. In doing so, we extend beyond the prevailing paradigm of East versus West in cross-cultural research and underscore the importance of recognizing differences within the broad "Asian" umbrella (Gelfand & Denison, 2020; Lu et al., 2023), especially given the distinction between face and honor cultures (Leung & Cohen, 2011; Yao et al., 2017). Instead of treating all Asians as one monolithic group, researchers should differentiate between EAs and SAs in both theorization and empirics (e.g., when surveying demographics and performing analyses).

Second, we contribute to the growing body of work on biases in creativity evaluation (Elsbach & Kramer, 2003; Kay et al., 2018; Luksyte et al., 2018; Proudfoot & Fath, 2021; Proudfoot et al., 2015). Whereas past research has focused on *gender* stereotypes about creativity (Luksyte et al., 2018; Proudfoot et al., 2015), our research is among the first to uncover *ethnic* stereotypes about creativity. Even when MBA students had limited interactions with one another (Studies 1 and 2) and when participants read substantively identical profiles (Studies 3 and 4), EAs were still perceived as less creative than other ethnic groups. More broadly, our research substantiates the view that creativity evaluation is a subjective and social process.

Third, we contribute to the leadership literature. By empirically establishing the link between perceived creativity and leadership emergence in the United States, we add to leadership categorization theory (Lord et al., 1984, 2020; Rosette et al., 2008), which has focused on other valued leadership attributes (e.g., assertiveness, height) as predictors of leadership emergence. We highlight perceived creativity as an underexamined predictor of leadership emergence in U.S. culture, thereby providing insight into why individuals like Steve Jobs and Elon Musk are viewed as "leaders" in the United States (Offermann & Coats, 2018). Moreover, we enrich leadership categorization theory by demonstrating that the process of leadership categorization "is subject to top-down constraints from factors such as culture" (Lord et al., 2020, p. 52).

Fourth, we expand the literature about stereotypes. One implicit assumption in this literature is that positive stereotypes about competence coincide with positive stereotypes about creativity (Cuddy et al., 2008; Eagly et al., 2020; Fiske et al., 2007). In fact, the influential stereotype content model assumes creativity to be a subdimension of "competence" in social cognition (Cuddy et al., 2008; Fiske et al., 2007). We challenge these assumptions by suggesting that although EAs are stereotyped as overall competent, they are also stereotyped as less creative than other ethnic groups. Our qualitative data suggest that the perception that EAs are competent in "book smart" (vs. "street smart") and "quant" (vs. "poet") ways was enumerated by many non-Asian Americans as an explanation for why EAs are stereotyped as lacking creativity. These findings demonstrate that social groups stereotyped as broadly competent may still experience unfavorable stereotypes regarding specific capabilities. To comprehensively understand ethnic biases and their consequences, it is critical to understand the nuances in stereotype content.

Practical Implications

This research carries meaningful practical implications. First, individuals and organizations should recognize EAs' Bamboo Ceiling as opposed to presuming EAs to be the model minority who are "doing just fine" (Chou & Feagin, 2015). In particular, if EAs and SAs are aggregated as one monolithic group, EAs' disproportionate underrepresentation in leadership roles may be

obscured. Importantly, EAs' underrepresentation may fortify their nonleader image, producing a vicious cycle that aggravates their Bamboo Ceiling.

Second, individuals and organizations should reflect on whether they hold the negative creativity stereotype about EAs, as it can contribute to EAs' Bamboo Ceiling and other pernicious ramifications in everyday life. For example, this stereotype was mentioned in a high-profile lawsuit against Harvard University, whose admissions officers allegedly discriminated against EA applicants (Cheng, 2018; J. Lee, 2021). The Harvard Interview Handbook emphasizes: "More than presenting the Committee with superior testing and strong academic records in competitive secondary school classrooms, the applicant admitted primarily for unusual intelligence also presents compelling evidence of creativity and originality." As Studies 3 and 4 demonstrated, the stereotype that EAs lack creativity is salient even in the absence of information about actual differences in creativity. This stereotype can disadvantage EAs in the U.S. workplace (e.g., recruiters may disfavor EA candidates when screening résumés).

Third, U.S. organizations should encourage EAs to showcase their creative ideas, especially if face culture EAs hesitate to do so due to cultural habits of humility (Lu et al., 2020). Simultaneously, rather than overemphasizing the creativity of leaders themselves, organizations could urge leaders to foster the creativity of others (Mainemelis et al., 2015). As Amabile and Khaire (2008) recommended: "The leader's job is not to be the source of ideas but to encourage and champion ideas."

Limitations and Future Directions

Our research has a number of limitations that can steer future research. First, more research is needed to pinpoint mediators of the focal mediator—that is, what mediates the relationship between our predictor (EA ethnicity) and focal mediator (perceived creativity). Our theory section discussed perceptions about EAs' conformity, acceptance, and roboticism as potential explanations for why EAs are stereotyped as less creative than other ethnic groups. Although our qualitative data provided preliminary evidence for these explanations, a more systematic investigation would be informative.

Second, while prior research has identified ethnic homophily in social networks as a "supply-side" mechanism for EAs' Bamboo Ceiling (Lu, 2022), we did not collect social network data on ethnic homophily and urge future research to do so. Notably, ethnic homophily was precluded as a mechanism in our experiments (Studies 3 and 4), as participants were only presented with a leadership candidate's profile without any interaction with the candidate. In other words, we identified perceived creativity as a mechanism in an experimental setting where ethnic homophily was irrelevant.

Third, our studies are well suited for testing the creativity stereotype perspective on the Bamboo Ceiling because (a) Studies 1 and 2 examined perceived creativity at the beginning of the MBA program when the students had limited interactions and thus were likely influenced by creativity stereotypes and (b) Studies 3 and 4 used standardized vignettes to preclude any actual differences in creativity. Nevertheless, it would be fruitful to examine whether our findings are generalizable to other organizational contexts, especially those characterized by more frequent and extended social interactions. In such organizational contexts, the creativity bias against EAs may be stronger than the small effect sizes observed in our vignette experiments (Studies 3 and 4).

Leadership emergence is a complex process influenced by various individual, organizational, and social factors (Badura et al., 2022). EAs may be less disadvantaged in organizations where leaders' creativity is less emphasized. Recent research indicates that the underrepresentation of EA leaders is attenuated when organizations experience performance decline because EAs are perceived as self-sacrificing and protective of others' welfare (Gündemir et al., 2019). Conversely, EAs may encounter a more severe Bamboo Ceiling in domains that prize leader creativity, such as art, design, and fashion. These possibilities present promising avenues for future investigation.

Fourth, it is worth exploring interventions to mitigate the negative stereotype about EAs' creativity. For example, one can point out unwarranted cases of this stereotype (e.g., the "natural experiment" of Joyce Hatto and Yuki Matsuzawa) and highlight examples of creative EAs. Furthermore, perspective-taking has been shown to reduce stereotyping (Galinsky & Moskowitz, 2000; Wang et al., 2014).

Conclusion

The current research presented a creativity stereotype perspective on the Bamboo Ceiling phenomenon. Four complementary studies suggest that ethnic EAs are less likely to emerge as leaders than other ethnicities partially because they are stereotyped as lacking creativity—a valued leadership attribute in U.S. culture. In other words, the Bamboo Ceiling phenomenon exists partially because the perception of EAs as lacking creativity is culturally incongruent with the emphasis on leader creativity in U.S. organizations. Although EAs are commonly stereotyped as competent, they are also stereotyped as lacking creativity, which can hinder their leadership emergence in the United States.

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