**Not Your Model Minority: Workplace Outcomes among Asian Pacific Islander Americans**

By

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**DEDICATION**

To all Asian Americans who live and work in systems of racial injustice and oppression.

**TABLE OF CONTENTS**

# LIST OF TABLES

TABLE

# LIST OF FIGURES

FIGURE

**ABSTRACT**

In this dissertation, I explored the ways in which race influence workplace advancement and well-being among Asian Americans. Asian Americans are the fastest growing racial group in the United States. Yet, historically, Asian Americans been excluded from dialogue on the success and well-being of employees of color. This, in part, can be attributed to the stereotype that *all* Asian Americans are high achievers in their academic and career pursuits. The perceived high achievements of Asian Americans, leads to the misconception that they do not experience disadvantages or challenges because of their race. However, as evidenced from past research, Asian Americans are disproportionately less likely to be promoted to leadership and Asian Americans continue to face stressors from racial discrimination. In my first two studies, I examined reasons why Asian Americans face a leadership glass ceiling. While there are plenty of Asian American employees in the general workforce, few are being promoted to leadership. For my last study, I used a sample of Asian American working adults to better understand the role of mindful mindset in reducing stress associated with coping with discrimination.

In chapter two, I assessed glass ceilings Asian Americans face at the organizational level. The absence of Asian Americans in leadership has been coined by past scholars as the "bamboo ceiling." Reasons for the bamboo ceiling have been attributed to several individual-level predictors. For example, some have attributed the lack of Asian Americans in leadership to length of employment/seniority (i.e., Asian Americans are not senior enough or have not been employed

long enough to be eligible for a leadership promotion). Others have attributed the lack of Asian Americans in leadership to job productivity, motivation to lead, familiarity with U.S. cultural norms, and gender. Using a secondary data set of faculty members from colleges/universities across the United States, I found that regardless of gender, job productivity, academic rank, number of years since finishing the Ph.D., familiarity with U.S. cultural norms, motivation to lead, or the racial climate of the college/university, Asian American faculty are less likely to hold positions of leadership compared to White faculty and underrepresented minority faculty (i.e., Black and Latinx faculty). These findings emphasize that race matters when thinking about the bamboo ceiling and individual-level predictors do not sufficiently explain the bamboo ceiling.

Chapter three further examines the role that race and racial stereotypes play in explaining the bamboo ceiling. Because the study in chapter two found that race matters above and beyond individual-level predictors in explaining the bamboo ceiling, chapter three examined how racial stereotypes influence perceptions of effective leadership. Two stereotypes Asian Americans face is that they are highly competent, but are also socially inept and emotionally cold. Since social skills are essential for leadership, chapter three tested whether Asian Americans are penalized in leadership evaluations when they present themselves as consistent with racial stereotypes. Using an experimental design where respondents are randomly assigned to read about fictitious employees, I found that stereotype-consistent Asian Americans are viewed as doing a worse job in leadership and are rated as less hirable for leadership compared to a White employees and stereotype inconsistent Asian Americans.

Lastly, in chapter four, I shift from focusing specifically on racial biases in leadership to focusing on how Asian American professionals can navigate strategies for coping with racial discrimination broadly. Using a multidimensional coping model, I examined the moderating role

of a mindful mindset in explaining the relationship between a chosen coping strategy and reported stress. Mindful mindset is an emotion regulation technique. People who have cultivated a mindful mindset are better able to recover from negative emotions, better able to let go of negative thoughts, and react more objectively to stressful events. Using a sample of Asian American working adults from Amazon's Mechanical Turk, I found that mindful mindset buffers the relationship between coping with racial discrimination and perceived stress. Detailed findings are discussed in chapter four.

*Keywords:* Asian Americans; leadership; workplace; mindful mindset; discrimination; well-being

## CHAPTER I

## Introduction

Compared to other racial groups, Asian Americans are the fastest growing racial group in the U.S. (U.S. Census, 2016). As the nation's workforce becomes increasingly diverse, there is a growing interest in understanding employment experiences and outcomes among marginalized groups. However, because racial stereotypes ascribed to Asian Americans are often labeled as being "positive" (i.e., being stereotyped as highly competent), the experiences of Asian American professionals have often been excluded from conversations on workplace marginalization (Wong & Halgin, 2006). Over the next few chapters, I will present a series of studies on employment outcomes for Asian Americans. These studies will examine how Asian Americans can navigate the workforce both in terms of leadership and strategies for coping with discrimination.

## Historical Origins

The prevailing image of Asian Americans as career savvy high achievers can be traced back to 1966 when popular news outlets highlighted the achievements of Asian Americans to discredit the civil rights movement (Peterson, 1966). Opponents of the civil rights movement pitted Asian Americans against other racially marginalized groups by arguing that if Asian Americans can achieve economic success, other groups should also be able to achieve success. Specifically, Asian Americans were used as platform to argue that the high achievements of Asians Americans serve as evidence that inequality based on skin color is non-existent (Peterson, 1966).

Following this colorblind rhetoric, *Time Magazine* later published an article about Asian Americans as "Whiz Kids" (Brand, 1987). The *Time* article, published nearly two decades after the civil rights movement, emphasized Asian Americans' economic and education achievements, portraying Asian Americans as a "model minority" for other racially marginalized groups. More recently, the image of Asian Americans as a highly successful model minority was reiterated in the 2012 PEW Research Center report, "The Rise of Asian Americans."

The portrayal of Asian Americans as model minorities has been criticized since as early as 1977 when Suzuki (1977) argued that the model minority stereotype denies and distorts the racial realities for Asian Americans. The model minority stereotype makes the false assertion that experiences of racial marginalization and discrimination do not impact economic success. This not only pits Asian Americans against other racially marginalized groups, but also serves to silence and deny Asian Americans' lived experiences of racial marginalization (Yu, 2006).

**Racial Stereotypes in the Workplace**

The stereotype that all Asian Americans are highly competent and do not experience any barriers in the workplace has been widely disputed among scholars (e.g., Museus & Kiang, 2009; Ng, Lee, & Pak, 2007). For instance, Barringer, Takeuchi, & Xenos (1990) found that Asian American employees received lower salaries compared to White workers with similar educational backgrounds and job titles. Similarly, other studies found that Asian Americans are underpaid for their level of education when compared to White employees (Tang, 1997; Zhen & Xie, 2004). These findings emphasize that even when Asian Americans are hard workers in their educational and career pursuits, it does not erase racial disparities in career prospects (Barringer, Takeuchi, & Xenos, 1990)

Similarly, studies on leadership in the workplace have challenged the assumption that hard work pays off. In a report on leadership disparities in Silicon Valley's technology industry, (i.e., Google, Hewlett-Packard, Intel, LinkdIn, Yahoo), Gee, Peck, & Wong (2015) found that although the proportion of Asian American employees is similar to White employees, White employees are still 154% more likely to hold an executive leadership position – compared to Asian employees. Suggesting that among Asian Americans in Silicon Valley, a race-based leadership disparity is not a pipeline issue. Even when there are Asian Americans in the general workforce, Asian Americans continue to be looked over for leadership promotion compared to their White coworkers. Findings by Mosenkis (2010) expand on this point by finding that despite their qualifications, Asian American employees face barriers in leadership promotion. The term "bamboo ceiling" was coined to refer to the glass ceiling Asian Americans face in gaining positions of leadership (Hyun, 2005).

Sy and colleagues (2010) theorize that the reason Asian Americans are excluded from holding certain positions at work is because of race-occupation fit. As a group, Asian Americans are stereotyped to be highly competent and proficient in technical skills, but lacking in social or interpersonal skills (Berdahl & Min, 2012; Osajima, 2005; Wong, Lai, Nagasawa, & Lin, 1998). In essence, Asian Americans are stereotyped to be "nerds" (with respect to being perceived as highly competent in science, technology, engineering, and math) at the expense of being socially gregarious or outgoing (Lee, 2015; Zhang, 2010). Related to race-occupation fit, when Asian Americans are employed in professions that place a high value on communication and social skills (e.g., sales), they are perceived to be especially unfit for leadership compared to White employees. This is because the skill set needed for a job that relies on communication and social skills is inconsistent with attributes associated with the model minority myth (Sy et al., 2010)

3

However, Museus & Kiang (2009) argue that even in occupations where there is a high race-occupation fit (i.e., faculty positions in colleges/universities), Asian Americans remain an invisible minority. One reason Asian Americans are invisible is because many colleges/universities categorize race based on numeric representation. The term, "underrepresented minority" is often used by college/universities to refer to Black and Latinx people. However, because Asian Americans are not considered to be underrepresented in higher education, Asian Americans are often not considered to be an underrepresented minority (Austin, 1982). Not being considered a "underrepresent minority" has measurable consequences for Asian Americans. Often, when higher education data are analyzed, Asian Americans are either excluded from the analyses or Asian Americans are recoded as being 'White' (Museus & Kiang, 2009). How researchers handle higher education data is reflective of broader assumptions about race. Asian Americans are often judged as not being "real" racial minorities and are instead viewed as "the new Whites" (Chou & Feagin, 2008). Museus & Kiang (2009) argue that the invisibility of Asian Americans in higher education leads to misconceptions that Asian Americans do not face racial marginalization This belief that Asian Americans are not an underrepresented minority also leads to the assumption that high performance or doing well in one's academic or career pursuits indicates that Asian Americans do not need resources or support (Museus & Kiang, 2009; Qin, 2007).

Lastly, expanding on the assumption that Asian Americans do not experience racial marginalization, there is general lack of knowledge as to how Asian American working professionals can combat and cope with the negative effects of racial discrimination. As of 2018, there are only 12 empirical articles on how Asians cope with racial discrimination (Alvarez & Juang, 2010; Kuo, 1995; Huynh, Devos, & Goldberg, 2013; Liang et al., 2007; Mossakowski &

4

Zhang, 2010; Noh & Kaspar, 2003; Tummala-Narra, Inman, & Ettigi, 2011; Wei, Alvarez, Ku, Russell, & Bonnett, 2010; Wei, Heppner, Ku, & Lia, 2010; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Yoo & Lee, 2005). Additionally, only a subset of the articles includes a U.S. working adult sample (Alvarez & Juang, 2010; Kuo, 1995; Mossakowski & Zhang, 2010; Tummala-Narra, Inman, & Ettigi, 2011). While it has been well-documented that more frequent exposure to racial discrimination is linked to higher levels of stress and other negative health outcomes (see Lee & Ahn, 2011 for a review), findings are inconsistent as to which coping strategies are most effective in buffering the relationship between racial discrimination and negative health outcomes.

There is some evidence, however, that people with certain personality dispositions are better equipped to handle stressful events. Specifically, people who have cultivated a mindful mindset (Mahalingam, 2017) are better able to recover from negative emotions (Coffey, Hartman, & Fredrickson, 2010), better able to let go of negative thoughts (Frewen, Evans, Maraj, Dozois, & Partridge, 2008), and react more objectively to stressful events (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007). While there is some evidence that mindful mindset buffers the relationship between racial discrimination and poor mental health, less is known about how the disposition of a mindful mindset interacts with how people choose to cope with racial discrimination in predicting stress (Brown-Iannuzzi et al., 2014; Graham, West, & Roemer, 2012)

**Defining Key Terms: Race, Ethnicity, and Culture**

Before outlining the three studies in the present dissertation, it is important to define a few key terms. Namely, it is important to define race, ethnicity, and culture. Note that there are no agreed-upon definitions for race, ethnicity, and culture. The definitions I provide below relate

to how I define the terms related to Asian and Asian American professionals. The definitions below are not definitive and may or may not be consistent with how other scholars define the terms.

*Race.* Race is broadly defined as labels of Asian and Asian American. As you will notice from the secondary data set in chapter two, it cannot be determined whether or not respondents were born in the United States. Because of this, I often use the terms Asian and Asian American interchangeably.

*Ethnicity.* Ethnicity is defined as the specific country or place of origin tied to a person's biological family lineage. For example, ethnicity in the context of Asian and Asian Americans might include Korean, Japanese, Indian, Chinese, Hmong, Laotian, Vietnamese, Filipino, etc.

*Culture.* Culture is a term that is used less frequently in this manuscript. However, for the sake of clarity, culture refers to traditions and behaviors that are passed down from one generation to the next. For example, culture encompasses the types of food a person prefers, the language(s) a person grew up speaking, specific mannerisms (e.g., removing shoes before entering a home), communication styles, etc. Compared to race and ethnicity, culture is practiced. While a person may be born into a specific country or place of origin (ethnicity) or be assigned the label Asian or Asian American (race), people are not inherently born into culture. Culture must be taught, behaviors passed down, or norms/behaviors agreed upon and practiced.

**Outline for Dissertation**

In the current investigation, I examine the impact of racial stereotypes on Asian American working professionals. Chapter two diagnoses the presence of a bamboo ceiling among Asian faculty members in U.S. colleges/universities. Chapter three tests the role of racial stereotypes in leadership evaluations of Asian Americans. Chapter four uses a multidimensional

coping model to examine how mindful mindset moderates the relationship between coping with racial discrimination and perceived stress.

In chapter two, I present a paper using a national data set of faculty at two-year and four-year colleges/universities in the U.S. In this paper, I test for the presence of a bamboo ceiling among Asian American faculty. After accounting for potential variables that might explain a leadership disparity (i.e., seniority, job performance, motivation to serve in leadership, familiarity with U.S. cultural norms, gender, and racial climate), I find that Asian American faculty are less likely to have served in leadership (i.e., department chair, dean, provost, president) compared to White, Black, and Latinx faculty. These findings echo previous research conducted in other professions (e.g., technology, law, etc.) in establishing the presence of a bamboo ceiling for Asian American working professionals.

In chapter three, I present a paper on how racial stereotypes influence leadership evaluations of Asian Americans. Using an experimental design with fictitious employees, I find that Asian American professionals who present themselves as being consistent with racial stereotypes are judged less favorably for leadership, compared to both White employees and stereotype inconsistent Asian American employees. These findings were replicated in two organizational contexts (1) higher education, a context where there is a high race-occupation fit between job expectations and Asian American stereotypes and (2) retail, a context where there is low race-occupation fit between job expectations and Asian American stereotypes.

In chapter four, I present a paper on how mindful mindset moderates the relationship between coping with racial discrimination and perceived stress among a sample of working Asian American adults. Because people with a high mindful mindset are less likely to ruminate about stressful events and are better able to let go of negative thoughts, I predicted that mindful

7

mindset would moderate the relationship between approach/avoidant-type coping strategies and perceived stress. Such that among people with high mindful mindset, approach-type coping will be associated with lower perceived stress – compared to people with low mindful mindsets. Because avoidant-type coping strategies are often inconsistent with a mindful mindset, I predicted that mindful mindset would moderate the relationship between avoidant-type coping strategies and perceived stress. Such that among people with high mindful mindset, avoidant-type strategies will be associated with higher perceived stress – compared to people with low mindful mindsets. Based on the findings, I found partial support for my predictions.

Across these three papers, I explore how racial stereotypes impacts Asian American working professionals. This work has implications for understanding predictors of success and well-being in an increasingly diverse workforce. Further, this work will help challenge how we define and use the term "underrepresented minorities", how Asian Americans can navigate racial inequalities in promotion, and how mental health resources can be better tailored to help Asian American professionals cope with racial discrimination.

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**CHAPTER 2**

**Race Matters: Explaining Leadership Disparities among Asian Faculty Members**

In the U.S., Asians are frequently perceived as model minorities. 52.3% of Asians have attained a bachelor's degree or higher, while the same statistic for Black or Latinx people is 35% (Census, 2016). Compared to other racial minority groups, there is a higher proportion of Asians in high-status, high-paying careers such as medical scientists, computer engineers, and post-secondary educators (Census, 2016). However, even though Asians are well represented in many high-status, high-paying professions, they remain underrepresented in positions of leadership. This phenomenon is generally known as the "bamboo ceiling" (Hyun, 2005). In this paper, I examine the extent to which the bamboo ceiling exists using a national sample of faculty within colleges/universities in the U.S.

**The Bamboo Ceiling and Higher Education**

There are several key advantages for contextualizing the bamboo ceiling within the context of colleges/universities. For instance, there is generally a common hierarchy found in institutes of higher education. Different colleges and universities across the country have similar leadership positions such as deans, department chairs, presidents, or provosts. These positions, widely regarded as positions of leadership, encompass largely similar responsibilities and roles across universities (Carpenter-Hubin, & Snover, 2013). Also, colleges and universities tend to have similar titles for faculty members (such as lecturers, adjunct, assistant, associate and full professors) to indicate rank and seniority. Because work and leadership titles in academia are

13

standardized, higher education serves as an ideal context for understanding the presence of the bamboo ceiling across a geographically diverse sample.

Based on a recent 2013 report published by the American Council on Education (ACE), in colleges/universities in the U.S., Asians hold 7% of full time tenure track faculty positions (more than any other racial minority group), but constitute only 3% of deans, 2% of chief academic officers, and 1.5% of college presidents. Meanwhile, 4.5% of college presidents are Black and 3.1% are Latinx (Davis & Huang., 2013). Similarly, other studies found that although Asians are overrepresented in the professoriate, they remain underrepresented in administrative and leadership positions (Gasman, Abiola, & Travers, 2015; Turner, Myers, & Creswell, 1999).

One challenge in explaining *why* Asians are underrepresented leadership is due to the lack of empirical data for testing potential third variables that could explain the racial disparity in leadership appointments. Past work has reported descriptive statistics on the percent of faculty in leadership by different racial groups. However, while descriptive statistics are useful for recognizing and establishing a disparity it does not replace the need for inferential statistics to understand *why* the disparity exists (Davis & Huang, 2013; Gasman, Abiola, & Travers, 2015).

**Potential Explanations for the Bamboo Ceiling**

Theoretical explanations for the bamboo ceiling in higher education have identified several potential explanations that may account for the absence of Asian faculty in leadership. Specifically, the absence of Asians in positions of leadership has been attributed to gender biases, seniority, job performance, a lack of familiarity with U.S. cultural norms, motivation to lead, and the racial climate of an organization.

For example, past work has found that men are often seen as the prototypic leader (i.e., Eagly & Johnson, 1990; Scott & Brown, 2006). Therefore, if men are seen as the default leader,

it may be the case that the bamboo ceiling does not exist when comparing Asian and White men. Also, even though Asians are well-represented among the college professoriate, it may be the case that their tenure within colleges and universities are still relatively short compared to their White counterparts. As such, there may be a pipeline issue where Asians may not be senior enough or may not have the prerequisite job performance to qualify for leadership (Yamagata-Noji, 2005). Others have conjectured that the bamboo ceiling can be attributed to Confucian and collectivist values endorsed by many Asian cultures. These values generally encourage "blending in" and eschew "standing out" (Akutagawa, 2013; Hyun, 2005; Zane, Sue, Hu, & Kwon, 1991). As such, Asians may be underrepresented in leadership because they are unwilling or unmotivated to take on leadership positions and Asians may be unfamiliar with U.S. cultural norms.

Related to institutional or organizational-level differences, some suggest that cultivating a positive, warm, and inclusive racial climate can potentially attract more faculty of color to leadership (Gasman, Abiola, & Travers, 2015). Thus, it may be the case that any racial disparities in leadership will disappear as the surrounding organizational climate becomes more supportive of faculty of color.

**Present Study**

In the present study, I first establish the presence of the bamboo ceiling in a national sample of colleges and universities. As evidenced in other studies, Asian faculty are underrepresented in positions of leadership (Davis & Huang, 2013; Gasman, Abiola, & Travers, 2015; Turner, Myers, & Creswell, 1999). I seek to replicate this finding in a national sample of faculty members by predicting that Asian faculty will be less likely than faculty of other races to serve in leadership. Separate analyses will be conducted to explore whether the bamboo ceiling

differs in the humanities, social sciences, and natural sciences. Past work has suggested that Asians are more likely to be evaluated favorably for leadership when working in occupations with high race-occupation fit (i.e., an Asian faculty in a natural science department) as opposed to occupations with low race-occupation fit (i.e., an Asian faculty in the humanities or social sciences) (Sy et al., 2010). However, others suggest that Asians face disadvantages regardless of their academic discipline (Museus & Kiang, 2009).

After establishing a leadership disparity, I then test the following question: Do potential explanations for the bamboo ceiling explain why Asian faculty are less likely to serve in leadership compared to faculty of other races? Specifically, I test whether (1) gender, (2) seniority, (3) job performance, (4) familiarity with U.S. cultural norms, (5) motivation to lead and (6) campus racial climate explains the bamboo ceiling. If any of the six potential explanations moderate the relationship between race and leadership, I would expect to find significant interactions such that (1) Asian men will be equally likely as men of other races to have served in leadership, (2) senior Asian faculty will be equally likely as senior faculty of other races to have served in leadership, (3) Asian faculty with good job performance will be equally likely as faculty of other races with good job performance to have served in leadership, (4) Among faculty who are more familiar with U.S. cultural norms, Asian faculty will be equally likely as faculty of other races to have served in leadership (5) Among faculty who are highly motivated to lead, Asian faculty will be equally likely as faculty of other races to have served in leadership, and (6) At colleges/universities with positive racial climates, Asian faculty will be equally likely as faculty of other races to have served in leadership. Separate analyses will be conducted to examine how Asian faculty compare to White and traditionally underrepresented (i.e., Black and Latinx) faculty.

**Method**

**Data Set and Participants**

I used data from the Higher Education Research Initiative (HERI) Faculty Survey, a survey of faculty members at public and private 2-and-4 year U.S. colleges/universities (HERI, 1989—2016).

The HERI Faculty Survey is a cross-sectional survey that examines faculty advancement, job performance, and campus climate. Administered by the University of California, Los Angeles, data were collected every 3 years from 1989 to 2016. Because leadership in the professoriate typically consists of positions similar to department chair, dean, provost, etc., the present study only included tenure track faculty at the assistant, associate, and full professor levels. Typically, non-tenure track faculty (e.g., instructors and lecturers) are not eligible to hold a department chair or more senior leadership position. Also, I focused the analyses on data collected in 2010, as data from 2013 and 2016 were not available at the time of this study. The final sample includes 27,128 faculty members, most faculty, 54.75%, $n$=16,174, were men and the majority, 59.21%, $n$=12,836, self-identified as 54 years of age or younger. Most respondents, $n$=26,528, 89.60%, self-identified as White, followed by Asian, $n$=1,545, 5.22%, Black, $n$=784, 2.65%, and Latinx, $n$=751, 2.54%.

**Measures**

**Leadership history.** Leadership history is defined to include Department Chair, Dean, Provost, Vice President, and President. Because serving in any one of these positions is a relatively rare event (i.e., less than one percent of faculty surveyed ($n$=9) have ever served as the President of a college/university), I created a composite score to indicate whether respondents have served in any of these positions during his/her academic career (1=Yes, has served in a

leadership position, 0=No, has never served in a leadership position). Overall, *n*=9,540, 32.22% of faculty have served as a Department Chair, Dean, Provost, Vice President, or President, at least once during their academic career.

**Race.** Faculty members self-reported their race. Faculty selected their race from the following categories: (1) White/Caucasian, (2) African American/Black, (3) Asian American/Asian, (4) Latinx (includes Mexican American/Chicano, Puerto Rican, and Other Latinx), (5) American Indian/Alaska Native, (6) Native Hawaiian/Pacific Islander, (7) Other, and (8) Two or more races. I excluded respondents who either did not report their race, *n*=11,049, 22.8%, or reported their race as "Other," *n*=820, 1.7%. Also, due to insufficient sample sizes, I excluded respondents who reported their race as American Indian, *n*=91, 0.2%, Also, due to ambiguity as to how multiracial faculty were coded, we also excluded faculty who identified with two or more racial groups, *n*=1,466, 3.0%, leaving *N*=29,608 faculty in the final sample.

**Gender.** Faculty members self-reported their gender. Faculty self-reported their sex as being either 1=Male, 2=Female.

**Seniority**. As mentioned, leadership may be linked to seniority. The pipeline explanation of the bamboo ceiling contends that Asians may not be senior enough or experienced enough to qualify for leadership. To examine this mechanism, I included two variables to measure seniority: and (1) Academic rank (1=Assistant Professor, 2=Associate Professor, 3=Full Professor), and (2) Number of years since faculty received doctoral degree.

**Job performance.** Job performance was measured using self-reported number of publications over the past two years. This is the most common, albeit imperfect, way to measure faculty performance (Fox, 1983). Higher education researchers have argued that, generally, reviewers and editors of journals are reliable and valid judges of research performance in their

respective fields, and thus publications provide a reasonable proxy for academic performance (Lee & Bozeman, 2005). Based on the past 2 years, faculty indicated whether they have 1=no publications, 1=1 to 2 publications, 3=3 to 4 publications, 4=5 to 10 publications, 5=11 to 20 publications, or 6=21 or more publications. Most faculty, $n$=18,793, 63.6%, had two or fewer publications that have been accepted or published in the past two years.

**Familiarity with U.S. cultural norms.** Two variables were used to measure familiarity with U.S. cultural norms: (1) U.S citizenship status, and (2) English as a native language. While citizenship and language do not serve as a replacement for more established measures of acculturation or assimilation; citizenship and language may be indicative of an individual's familiarity and adeptness with U.S. cultural norms (Swierczek, 1991). U.S. citizenship was measured with the self-reported item: "Are you a U.S. citizen" (1=No, 2=Yes). The majority of faculty indicated that they were a U.S. citizen, $n$=27,758, 93.8%. Native language was measured with the self-reported item: "Is English your native language?" (1=No, 2=Yes). The majority of faculty reported that English was their native language ($n$=26,584, 89.8%).

**Motivation to lead.** Motivation to lead was measured with a single item. On a Likert-type scale of 1 to 4 (1=Not Important to 4=Essential), participants responded to the following item: "Personally, how important to you is service" ($M$=2.85, $SD$=0.77). Although service and leadership are not synonymous, this item may capture respondents' willingness to take on a leadership role. Within academia, many leadership positions require substantial service and committee work (Gmelch & Burns, 1993). If faculty do not view service as important, it is unlikely that they would pursue a leadership position.

**Campus racial climate**. Campus racial climate was measured with 5-items created by the Principal Investigators of the HERI Faculty Survey. On a 1 to 5 Likert type scale

(1=Disagree Strongly, 5=Agree Strongly), faculty responded to the following statements: (1) "There is a lot of campus racial conflict here" (reverse coded), (2) "Faculty of color are treated fairly here." Also, on a 1 to 5 Likert-type scale (1=Low Priority, 5=Highest Priority), faculty indicated whether there is a priority at their college/university to engage in the following: (1) "To create a diverse multi-cultural campus environment" (2) "To increase the representation of minorities in the faculty and administration", (3) "To develop an appreciation for multiculturalism" Internal consistency reliability as demonstrated by the Cronbach's alpha coefficient was satisfactory ($\alpha$=.72).

## Results

### Initial Analyses

For the initial analyses, I first tested whether faculty should be nested within colleges/universities. For example, it may be the case, that racial climate, publishing expectations, or motivation to lead varies between colleges/universities. However, after calculating an intraclass correlation coefficient (ICC), I found that, on average, 7.83% of the variance in the predictors (i.e., gender, seniority, job performance, motivation to lead, familiarity with U.S. cultural norms, and campus racial climate) can be explained by variations between colleges/universities, $ICC_{average}$=0.078. Given that Lee (2000) recommends to only consider multilevel modeling when the ICC is greater than 10%, I decided to proceed with non-nested models for the main analyses.

### Establishing the Bamboo Ceiling

The first goal of this study was to establish the presence of a bamboo ceiling in a national sample of faculty members. I predicted that Asian faculty will be less likely than White faculty and underrepresented minority (URM) faculty (i.e., Black and Latinx faculty) to serve in

leadership. A binary logistic regression was used to examine the relationship between faculty race (0=White, 1=URM, 2=Asian) and leadership history (1=yes, has served in a leadership position, 0=no, has never served in a leadership position).

The results are listed in Table II.1. The model was statistically significant, $\chi^2(2)$=111.96, $p < .001$, explaining less than one percent of the variance in leadership history (Nagelkerke $R^2 =$ .005) and correctly classifying 67.80% of cases. Faculty race, with Asian faculty as the reference category compared to White and URM faculty, was significantly related to leadership history. Compared to Asian faculty, both White faculty, OR=1.90, $B$=0.64, $p < .001$, and URM faculty, OR=1.77, $B$=0.64, $p < .001$, were more likely to have at least one past leadership experience as a Department Chair, Dean, Provost, Vice President, or President.

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Separate binary logistic regression models were conducted to examine the relationship between faculty race and leadership history by academic discipline (e.g., humanities, social sciences, natural sciences).

**Humanities.** The model for faculty in the humanities was statistically significant, $\chi^2(2)$=7.86, $p = .020$, explaining less than one percent of the variance in leadership history (Nagelkerke $R^2 = .002$) and correctly classifying 64.7% of cases (see Table II.2). Compared to Asian faculty, White faculty, OR=1.51, $B$=0.43, $p = .009$, were more likely to have at least one part leadership experience as a Department Chair, Dean, Provost, Vice President, or President. There was no significant difference between Asian and URM humanities faculty on leadership history, OR=1.35, $B$=0.29, $p = .146$.

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**Social sciences.** The model for faculty in the social sciences was statistically significant, $\chi^2(2)$=42.43, $p < .001$, explaining less than one percent of the variance in leadership history (Nagelkerke $R^2$ = .007) and correctly classifying 67.0% of cases (see Table II.3). Compared to Asian faculty, both White faculty, OR=2.35, $B$=0.85, $p < .001$, and URM faculty, OR=1.94, $B$=0.66, $p < .001$, were more likely to have at least one past leadership experience as a Department Chair, Dean, Provost, Vice President, or President.

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**Natural sciences.** The model for faculty in the natural sciences was statistically significant, $\chi^2(2)$=20.05, $p < .001$, explaining less than one percent of the variance in leadership history (Nagelkerke $R^2$ = .002) and correctly classifying 72.9% of cases (see Table II.4). Compared to Asian faculty, White faculty, OR=1.59, $B$=0.46, $p < .001$, were more likely to have at least one past leadership experience as a Department Chair, Dean, Provost, Vice President, or President. There was no significant difference between Asian and URM humanities faculty on leadership history, OR=1.31, $B$=0.27, $p = .157$.

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**Main Analyses**

In establishing the bamboo ceiling, I found that White faculty were more likely to have served in leadership, compared to Asian faculty, regardless of academic field (e.g., Humanities, Social Sciences, Natural Sciences). However, comparing URM to Asian faculty, I found

variation by field. In the social sciences, URM faculty are more likely to have served in leadership, compared to Asian faculty. However, in the humanities and natural sciences, there was no significant difference in leadership history between URM and Asian faculty. Because there were some subfield differences comparing URM to Asian faculty, I tested the amount of variance between faculty race and leadership history that can be attributed to academic field. However, after calculating an intraclass correlation coefficient (ICC), I found that less than 1% of the variance race predicting leadership history can be explained academic field, ICC(1)=0.005. Therefore, I decided to proceed with non-nested analyses

**Likelihood ratio test.** Before testing the individual effects of each potential explanation for the bamboo ceiling, I first calculated a likelihood ratio test between two nested binary logistic regression models. If a bamboo ceiling remains after considering potential explanations, I would expect that faculty race would add a statistically significant improvement in overall model fit above and beyond the potential explanations for the bamboo ceiling.

For both models, the dependent variable was leadership history (1=yes, has served in a leadership position, 0=no, has never served in a leadership position). The first model included the potential explanations for the bamboo ceiling (i.e., gender, seniority, job performance, U.S. cultural norms, motivation to lead, and racial climate). In the second model, faculty race was added to the predictors listed in the first model.

The first model was statistically significant, $\chi^2(8)=2131.91$, $p < .001$, explaining 6.40% of the variance and correctly classifying 67.48% of cases (see Table II.5). Except for gender, OR=1.05, $B$=0.05, p=.071, all predictors were statistically significant. Faculty with higher academic ranks, OR=2.04, $B$=0.72, $p < .001$, and more years since completing the Ph.D., OR=0.99, $B$=-0.01, $p < .001$, were more likely to have served in leadership. Faculty with higher

job performance (i.e., more publications) were more likely to have served in leadership, OR=0.93, *B*=-0.07, *p* < .001. U.S. citizens, OR=1.23, *B*=0.21, *p* = .004, and faculty who spoke English as their native language, OR=1.23, *B*=0.28, *p* < .001, were more likely to have served in leadership. Faculty with higher motivation to lead were more likely to have served in leadership, OR=1.54, *B*=0.43, *p* < .001. And faculty who work at colleges/universities with better racial climates were more likely to have served in leadership, OR=1.53, *B*=0.01, *p* < .001.

The second model was also statistically significant, $\chi^2(10)$=2150.93, *p* < .001, explaining 6.46% of the variance and correctly classifying 67.48% of cases (see Table II.5). Race, with Asian as the reference category compared to the other racial groups, was significantly related to leadership. Compared to Asian faculty, White faculty, OR=1.38, *B*=032, *p* < .001, and URM faculty, OR=1.46, *B*=0.38, *p* < .001, were more likely to have served in leadership.

In testing whether faculty race (model 2) added a statistically significant improvement in overall model fit above and beyond the variables that offer an alternative explanation for the bamboo ceiling (model 1), we calculated a likelihood ratio test with model 1 nested in model 2. Based on the likelihood ratio test, faculty race (model 2) adds a significant improvement in model fit above and beyond alternative explanations for the bamboo ceiling (model 1), $\chi^2(2)$=19.02 *p* < .001. Suggesting that after accounting for potential explanations for the bamboo ceiling (i.e., gender, seniority, job performance, U.S. cultural norms, motivation to lead, racial climate), faculty race is a significant predictor for a leadership disparity in higher education.

One limitation of the likelihood ratio test, is that the likelihood ratio test may have only been significant because model two had more predictors compared to model one. Model two may have demonstrated better model fit because model two had additional variables to explain the variance in leadership history.

To better understand the individual impact of each potential explanation of the bamboo ceiling, we used the Preacher Hayes (2003) PROCESS macro 1 to test whether each of the potential explanations moderates the relationship between faculty race and leadership history. See Table II.6 for a summary of the moderation models.

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**Gender**

If gender moderates the bamboo ceiling, in that men are stereotyped as the prototypic leader (Eagly & Johnson, 1990; Scott & Brown, 2006), I would expect to find that Asian men are equally likely as White men and URM men to have served in leadership.

Based on the analyses, the main effect for gender was not significant, OR=0.98, $B$=-0.02, $p$=0.889, and the main effect for race was significant. With Asian faculty as the reference category, both White faculty, OR=1.92 $B$=0.65, $p < .001$, and URM faculty, OR=1.39 $B$=0.33, $p < .001$, were more likely to have served in leadership. The interaction effect of gender x race was not significant comparing Asian faculty to White faculty, OR=0.98, $B$=-0.02, $p = .868$, and was marginally significant comparing Asian faculty to URM faculty, OR=0.84, $B$=-0.17, $p = .081$.

Probing the interaction to determine the conditional effects of race on leadership history between men and women, I found that Asian men were less likely to have served in leadership compared to URM men, $B$=0.64, $SE$=0.11, $p < .001$, and Asian women were less likely to have served in leadership compared to URM women, $B$=0.51, $SE$=0.12, $p < .001$.

**Seniority**

If seniority explains the bamboo ceiling, I would expect to find that senior Asian faculty will be equally likely as senior faculty of other races to have served in leadership.

**Academic rank.** Based on the analyses, the main effects for academic rank and race were both significant. Faculty with more senior academic ranks were more likely to have served in leadership, OR=2.34, *B*=0.87, *p* < .001. Also, Asian faculty were less likely than both White faculty, OR=5.11 *B*=1.63, *p* < .001, and URM faculty, OR=5.42 *B*=1.69, *p* < .001, to have served in leadership. The interaction effect of academic rank x race was significant comparing Asian faculty to White faculty, OR=0.77, *B*=-0.26, *p* = .003, and comparing Asian faculty to URM faculty, OR=0.77, *B*=-0.26, *p* = .025.

Probing the interaction to determine the conditional effects of race on leadership history when academic rank is at the mean and one standard deviation above and below the mean, I found that Asian faculty were less likely to have served in leadership compared to White faculty and URM faculty at low academic ranks, *B*=0.76, *SE*=0.11, *p* < .001 (White faculty), *B*=0.89, *SE*=0.15, *p* < .001 (URM faculty), mid academic ranks, *B*=0.54, *SE*=0.07, *p* < .001 (White faculty), *B*=0.69, *SE*=0.10, *p* < .001 (URM faculty), and high academic ranks, *B*=0.33, *SE*=0.09, *p* = .003 (White faculty), *B*=0.48, *SE*=0.11, *p* < .001 (URM faculty). While the effect between race and leadership history were the smallest at high academic ranks, Asian faculty were still significantly less likely to have served in leadership compared to White and URM faculty.

**Years since Ph.D.** Based on the analyses, the main effects for years since Ph.D. and race were both significant. More senior faculty were more likely to have served in leadership, OR=1.04, *B*=0.04, *p* < .001. Also, Asian faculty were less likely than both White faculty, OR=2.53, *B*=0.93, *p* < .001, and URM faculty, OR=1.94, *B*=0.66, *p* < .001, to have served in leadership. The interaction effect of years since Ph.D. x race was significant comparing Asian faculty to White faculty, OR=0.98, *B*=-0.02, *p* = .003, and was not significant comparing Asian faculty to URM faculty, OR=0.99, *B*=-0.01, *p* = .511.

Probing the interaction to determine the conditional effects of race on leadership history when years since Ph.D. is at the mean and one standard deviation above and below the mean, I found that Asian faculty were less likely to have served in leadership compared to White faculty when years since Ph.D. is one standard deviation below the mean, $B$=0.76, $SE$=0.09, $p < .001$, at the mean, $B$=0.49, $SE$=0.07, $p < .001$, and one standard deviation above the mean, $B$=0.23, $SE$=0.11, $p$ =.030. While the effect between race and leadership history was the smallest when years since Ph.D. was one standard deviation above the mean, Asian faculty were still significantly less likely to have served in leadership compared to White faculty.

**Job Performance**

If job performance explains the bamboo ceiling, I would expect to find that Asian faculty with good job performance will be equally likely as faculty of other races with good job performance to have served in leadership.

Based on the analyses, the main effect for job performance was not significant, OR=1.08, $B$=0.05, $p = .146$. The main effect for race was significant. Asian faculty were less likely than both White faculty, OR=2.40. $B$=0.15, $p < .001$, and URM faculty, OR=1.85, $B$=0.62, $p = .002$, to have served in leadership. The interaction effect of job performance x race was marginally significant comparing Asian faculty to White faculty, OR=0.91, $B$=-0.09, $p = .077$, and not significant comparing Asian faculty to URM faculty, OR=0.99, $B$=-0.01, $p = .929$.

Probing the interaction to determine the conditional effects of race on leadership history when job performance is at the mean and one standard deviation above and below the mean, I found that Asian faculty were less likely to have served in leadership compared White faculty when job performance is one standard deviation below the mean, $B$=0.77, $SE$=0.10, $p < .001$, at the mean, $B$=0.67, $SE$=0.07, $p < .001$, and one standard deviation above the mean, $B$=0.56, $SE$=0.07

*p* < .001. While the effect between race and leadership history was the smallest when job performance was one standard deviation above the mean, Asian faculty were still significantly less likely to have served in leadership compared to White and URM faculty.

**Familiarity with U.S. Cultural Norms**

If familiarity with U.S. cultural norms explains the bamboo ceiling, I would expect to find that among U.S. citizens and faculty who speak English as their native language, Asian faculty will be equally likely as White and URM faculty to have served in leadership.

**U.S. citizenship.** Based on the analyses, the main effects for U.S. citizenship and race were both significant. U.S. citizens were more likely than non-citizens to have served in leadership, OR=2.69, *B*=0.15, *p* < 0.001, and both White faculty, OR=4.49, *B*=1.50, *p* < .001, and URM faculty, OR=2.68, *B*=0.98, *p* = .041, were more likely than Asian faculty to have served in leadership. The interaction effect of U.S. citizenship x race was significant comparing Asian faculty to White faculty, OR=0.57, *B*=-0.57, *p* = .001, and was not significant comparing Asian faculty to URM faculty, OR=0.73, *B*=-0.32, *p* = .210.

Probing the interaction to determine the conditional effects of race on leadership history between U.S. citizens and non-U.S. citizens, I found that among both non-U.S. citizens, *B*=0.93, *SE*=0.15, *p* < .001, and U.S. citizens, *B*=0.37, *SE*=0.07, *p* < .001, Asian were less likely than White faculty to have served in leadership. While the effect was smaller among U.S. citizens, Asian faculty were still significantly less likely to have served in leadership compared to White faculty.

**English as native language.** Based on the analyses, the main effects for English as the faculty's native language was not significant, OR=1.09, *B*=0.09, *p* = .569. Also, the main effect for race was not significant comparing Asian faculty to White faculty, OR=1.26, *B*=0.23, *p* = .351, and comparing Asian faculty to URM faculty, OR=1.35, *B*=0.30, *p* = .281. And the interaction

effect of English as native language x race was not significant comparing Asian faculty to White faculty, OR=1.08, *B*=0.08, *p* = .632, and comparing Asian faculty to URM faculty, OR=1.13, *B*=0.12, *p* = .502.

**Motivation to Lead**

If motivation to lead explains the bamboo ceiling, I would expect to find that among faculty who are highly motivated to lead, Asian faculty will be equally likely as faculty of other races to have served in leadership.

Based on the analyses, the main effects for motivation to lead and race were significant. Faculty who reported being highly motivated to lead were more likely to have served in leadership, OR=1.67, *B*=0.51, *p* < .001. Also, Asian faculty were less likely than both White faculty, OR=2.27. *B*=0.82, *p* = .001, and URM faculty, OR=4.18, *B*=1.43, *p* < .001, to have served in leadership. The interaction effect of motivation to lead x race was not significant comparing Asian faculty to White faculty, OR=0.93, *B*=-0.07, *p* = .424, and was significant comparing Asian faculty to URM faculty, OR=0.73, *B*=-0.31, *p*=.004.

Probing the interaction to determine the conditional effects of race on leadership history when motivation to lead is at the mean and one standard deviation above and below the mean, I found that Asian faculty were less likely to have served in leadership compared URM faculty when motivation to lead is one standard deviation below the mean, *B*=0.77, *SE*=0.13, *p* < .001, at the mean, *B*=0.52, *SE*=0.08, *p* < .001, and one standard deviation above the mean, *B*=0.27, *SE*=0.11, *p* = .016. While the effect between race and leadership history was the smallest when motivation to lead was one standard deviation above the mean, Asian faculty were still significantly less likely to have served in leadership compared to URM faculty.

**Racial Climate**

If racial climate explains the bamboo ceiling, I would expect to find that among faculty at colleges/universities with positive racial climates, Asian faculty will be equally likely as faculty of other races to have served in leadership.

Based on the analyses, the main effect for racial climate was not significant, OR = 0.88, $B$ = -0.13, $p$ = .207. Also, the main effect for race was not significant comparing Asian faculty to White faculty, OR=1.02, $B$=0.02, $p$ = .945, and comparing Asian faculty to URM faculty, OR=1.03, $B$=0.03, $p$ = .927. The interaction effect of racial climate x race was significant comparing Asian faculty to White faculty, OR=1.25, $B$=0.22, $p$ = .035, and was not significant comparing Asian faculty to URM faculty, OR=1.22, $B$=0.19, $p$ = .123.

Probing the interaction to determine the conditional effects of race on leadership history when racial climate is at the mean and one standard deviation above and below the mean, I found that Asian faculty were less likely to have served in leadership compared White faculty when the racial climate is one standard deviation below the mean, $B$=0.52, $SE$=0.08, $p$ < .001, at the mean, $B$=0.65, $SE$=0.06, $p$ < .001, and one standard deviation above the mean, $B$=0.77, $SE$=0.09, $p$ < .001. In contrast to previous moderators, the effect between race and leadership history was the smallest when the racial climate was one standard deviation *below* the mean.

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## Discussion

The purpose of this study was to examine potential reasons why Asians face a leadership glass ceiling. Past studies have documented a bamboo ceiling for Asian employees in multiple industries (i.e., technology, law, and academia (Eagly & Chin, 2010; Katarina, 2011; Kawahara,

Pal, & Chin, 2014; Le, 2012; Ruttiman, 2009). However, few studies have examined potential solutions for the bamboo ceiling. In this study, I focused on faculty in colleges/universities and examined whether the bamboo ceiling can be explained by gender biases, seniority, job performance, U.S. cultural norms, motivation to lead, or the racial climate of a college/university.

Using a national survey of colleges and universities, the present study replicated past research in finding that Asian faculty are less likely than faculty of other races to serve in leadership (Davis et al., 2013; Gasman, Abiola, & Travers, 2015; Turner, Myers, & Creswell, 1999). Comparing Asian faculty to White faculty, I found that regardless of the broader academic discipline (i.e., Humanities, Social Sciences, Natural Sciences), White faculty were more likely to have served in leadership compared to Asian faculty. Comparing Asian faculty to URM faculty I found that in the Social Sciences, URM faculty were more likely to have served in leadership compared to Asian faculty. However, there was no significant difference between Asian and URM faculty in the Natural Sciences or Humanities. Given that Asians are thought of as being overrepresented in the Natural Sciences (Landivar, 2013; PEW 2018), it is particularly interesting to find that Asians are no different from other faculty of color in leadership history. Future works should seek to replicate these findings.

When testing the individual impact of each potential explanation for the bamboo ceiling with a series of moderation models, I only found significant interaction effects for the following moderators:  gender x race (URM vs. Asian only), academic rank x race, years since Ph.D. x race (White vs Asian only),  job performance x race (White vs. Asian only), motivation to lead x race (URM vs Asian only), and racial climate x race (White vs. Asian only). When academic rank, years since Ph.D., job performance, and motivation to lead are one standard deviation above the

mean, I see the smallest effect between Asian faculty and faculty of other races on leadership history. However, in the opposite direction, when racial climate is one standard deviation *below* the mean, I saw the smallest effect between Asian faculty and White faculty on leadership history.

However, even among senior faculty, high job performers, faculty who are highly motivated to lead, and faculty at a college/university with a positive racial climate, Asian faculty are significantly less likely to have served in leadership compared to faculty of other races. Simply put, although the interaction effects were significant and trending towards the predicted direction, the findings should not be interpreted to mean that seniority, job performance, motivation to lead, or racial climate explains the bamboo ceiling. Rather, the findings indicate that the bamboo ceiling is weaker, yet still present, when faculty are more senior, when faculty are high performers, when faculty are highly motivated to lead, and when faculty work in an environment with positive racial climate. One potential reason why the effect between faculty race and leadership history is the smallest when the racial climate is *poor* (one standard deviation below the mean), is because research has found that Asians are typically excluded from conversations on workplace diversity (Chou & Feagin, 2008; Museus & Kiang, 2009). Because Asians are thought of as being overrepresented in the workplace, Asians are often excluded from racial climate initiatives. Therefore, Asians may not benefit from a positive racial climate in the same way that other employees of color may benefit.

It is also important to note that the interactions of U.S. citizenship x race and English as a native language x race were not significant. Namely, regardless of whether faculty were a U.S. citizen and regardless whether faculty speak English as their native language, Asian faculty are significantly less likely than faculty of other races to serve in leadership.

Overall, the resounding takeaway from this study is that *race matters*. The bamboo ceiling cannot be explained away by gender biases, by a faulty pipeline, by job performance, by a lack of familiarity with U.S. cultural norms, by a lack of motivation to lead, or by a poor racial climate. As observed in the likelihood ratio test, even after controlling for potential explanations of the bamboo ceiling, race adds a significant improvement in model fit in explaining the bamboo ceiling. Future work should examine the ways in which race matters in explaining the bamboo ceiling. Past research suggests that racial stereotypes of Asians contributes to the bamboo ceiling (Kibria, 2003; Lai & Barbcock, 2013; Leong, 2014; Sy et al., 2001; Woo, 2000). While Asians are stereotyped as being highly competent, Asians are also stereotyped to lack social and interpersonal skills (Berdahl & Min; 2012; Osajima, 2005; Wong, Lai, Nagasawa, & Lin, 1998). Because effective social and communication skills are generally valued in a good leader (Madlock, 2008), the stereotype that Asians lack social skills could limit their chances for leadership promotion. Future work should continue to explore how racial stereotypes and impacts perceptions of Asians' leadership potential.

Although there are several strengths in the present paper, including the use of a national sample in finding race as a unique predictor of the bamboo ceiling, there are also limitations to the study. Because the Asian racial category was not disaggregated in the HERI Faculty Survey, it was not possible to examine leadership disparities by different Asian ethnic groups. Past work has found that South and Southeast Asians have unique barriers in upward mobility compared to other Asian groups (Gee, Ro, Shariff-Marco, & Chae, 2009; Zhou & Xiong, 2005). More work is need to uncover whether the bamboo ceiling has differential outcomes for different Asian ethnic groups. Similarly, future work should continue to explore the intersections between gender and race in understanding leadership disparities. Although the present study did not find a significant

moderating effect for gender, the sub-samples for gender by each racial group were relatively small. Future research should continue to examine the intersection between gender and race. Second, familiarity with U.S. cultural norms was measured with U.S. citizenship status and whether the faculty speaks English as their native language. These variables are imperfect ways of measuring familiarity with U.S. cultural norms. Future studies should incorporate established measures on acculturation and assimilation. Third, the leadership experiences in the present study were relatively prestigious. Being a Department Chair, Dean, Provost, Vice President, and President are all high-status roles and being elected to any one of the leadership positions in the present study is relatively rare. This study did not include other types of leadership roles that exist in academia, such as committee chairs, project directors, etc. Finally, because this study is cross-sectional, longitudinal studies would be needed in order to understand how the bamboo ceiling changes over a person's lifespan.

Regardless of the limitations, the present studies makes an important contribution to our understanding of glass ceilings in the workplace. The lack of Asian faculty in leadership, cannot by individual difference variables (e.g., gender, seniority, job performance, etc.). Regardless of whether Asian faculty are U.S. citizens or non-U.S. citizens, regardless of whether Asians speak English as their first language or not, regardless of how much importance Asians place of leadership, Asian faculty are significantly less likely than faculty of other races to serve in leadership. Also, the lack of Asian faculty in leadership, cannot be explained by the fact that certain colleges/universities may have better racial climates than others. The most consistent variable in explaining the glass ceiling is race. The essential takeaway from this paper is that *race matters* and in order to better understand strategies for breaking the bamboo ceiling, we

must shift our attention from trying to change the person to understanding how to dismantle

systematic racial barriers in the workplace.

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# CHAPTER 3

## Navigating the Bamboo Ceiling: Stereotypes of Asians Affects Perceptions of Leader Effectiveness

In the U.S., Asians are frequently perceived as "model minorities" who are more educated and successful in their careers compared to other racial groups. For example, 53.9% of Asians have attained a bachelor's degree or higher, while the same statistic for other racial minority groups is 22.5%. Compared to Black or Latinx people, there is a higher proportion of Asians in high-status, high-paying careers such as medical science, computer engineering, and post-secondary education (U.S. Census, 2016). Yet, Asians remain underrepresented in positions of leadership (Kawahara, Pal, & Chin, 2014; Ruttiman, 2009). In business, White employees are 154% more likely to be executives compared to Asians (Gee, Peck, & Wong, 2015). Asians constitute fewer than 2% of executives, and are the least represented racial group compared to White, Black, and Latinx employees (Eagly & Chin, 2010; Katarina, 2011; Le, 2012). In law, 10.93% of associates are Asian, while only 2.89% of partners are Asian (NALP Bulletin, 2016). In higher education in the U.S., Asians hold 7% of full time tenure track faculty positions (more than any other racial minority group), but constitute only 3% of deans, 2% of chief academic officers, and 1.5% of college presidents. Meanwhile, 4.5% of college presidents are Black and 3.1% are Latinx (Davis, Huang, Lee, Yamagata-Noji, & Suzuki, 2013).

**The Bamboo Ceiling**

The under-representation of Asians in leadership is generally known as the "Bamboo Ceiling" (Hyun, 2005). Although the bamboo ceiling has been observed in multiple industries and occupations, little is known about why it exists. I draw on the Stereotype Content Model, one of the most frequently employed conceptualizations of stereotypes in the psychological literature, to argue that racial stereotypes of Asians contribute to the perceptions of Asians as ineffective leaders, which in turn leads to the bamboo ceiling (Davis & Huang, 2013; Fiske, Cuddy, Glick, & Xu, 2002; Sy, Tram-Quon, Leung, 2017). The Stereotype Content Model conceptualizes stereotypes of different groups along two dimensions: competence and warmth. Asians, in particular are stereotyped as high on the competence dimension; Asians are typically perceived to be hard-working, economically successful, and intelligent. Asians are also stereotyped as low on the warmth dimension; Asians are generally seen as cold, shy, and lacking in social skills and charisma (Berdahl & Min, 2012; Osajima, 2005; Wong, Lai, Nagasawa, & Lin, 1998).

The stereotype content of Asians is consistent with evidence showing that Chinese people have been more frequently described using words indicative of high competence – such as "disciplined" and "hardworking" – as well as words indicative of low warmth – such as "uptight", "reserved", and "nervous" (Cheng, Lee, & Benet-Martinez, 2006). Asians are perceived as "nerds", or social outcasts despite being technically adept (Kibria, 2003). This stereotype contributes to perceptions of Asians as fit for technical jobs such as information technology or engineering, but unfit for jobs that require social skills such as public relations or retail (Lai & Barbcock, 2013; Leong, 2014; Sy et al., 2010). This stereotype has been found in both work and non-work contexts (Ralston, Gustafson, Elsass, Cheung, & Terpstra, 1992).

Importantly, stereotypes of Asians as high on competence and low on warmth undermine perceptions of Asians as effective leaders (Eagly & Karau, 2002; Heilman, 2001 Sy et al., 2010; Woo, 2000). First, effective leadership is more strongly associated with social skills than technical skills. When asked to list characteristics of a good leader, the most commonly listed items are social skills such as communication, charisma, and team building (Madlock, 2008). Yet, according to the Stereotype Content Model, these are precisely the characteristics in which Asians are seen as especially deficient. Thus, stereotypes of Asians as low in warmth can lead to negative assessments of Asians' leadership ability. Second, stereotypes of Asians as highly competent can also undermine Asians' ability to ascend to leadership positions (Lin, Kwan, Cheung, & Fiske, 2005). According to System Justification Theory, highly competent Asians can threaten the existing meritocracy (Jost, Pelham, Sheldon, & Sullivan, 2003). As a result of this perceived threat, Asians are not only less liked, but are less likely to be selected for leadership positions (Berdahl & Min, 2013; Maddux, Galinsky, Cuddy, & Polifroni, 2008). Indeed, between 2005-2015, Asians became the largest proportion of employees in Silicon Valley, exceeding even White employees. However, Asians were the least successful in climbing the corporate ladder (Gee & Peck, 2017). In all, Asians are not chosen for leadership positions in fields that require social skills (e.g., retail) because they are stereotyped as low in warmth, yet they are also not chosen for leadership positions in fields that require technical skills because they are seen as most threatening.

**Stereotype-Consistent vs. Stereotype Inconsistent Asians**

To examine the extent to which stereotypes of Asians as high in competence and low in warmth contribute to the bamboo ceiling, I examined perceptions of leadership effectiveness for stereotype-consistent and stereotype-inconsistent Asians. According to Stereotype Subtyping

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Theory, stereotype inconsistent individuals are often subtyped or "fenced off" from their larger group. As a result, stereotypes associated with the larger group are not applied to stereotype-inconsistent individuals (Allport, 1954; Lambert & Wyer, 1990). This way, stereotypes associated with the larger group remain unchanged even when people are exposed to stereotype-inconsistent individuals (Wigboldus, Dijksterhuis, & Knippenberg, 2003). Thus, stereotype inconsistent Asians who are low in competence and high in warmth are subtyped as "not really Asian", and group-based perceptions of Asians as unfit leaders are not applied to these individuals (Kunda & Oleson, 1995).

**Summary and Hypothesis**

Drawing on stereotype content and subtyping theories, I predict that everything else being equal, a stereotype-consistent Asian employee (high competence/low warmth) will be seen as a less effective leader compared to a White employee with the same skill sets. In addition, they will be seen as a less effective leader compared to a stereotype-inconsistent Asian employee (low competence, high warmth). Note that the purpose of this paper is to examine the effect of racial stereotypes of Asians on the bamboo ceiling, rather than the effects of competence or warmth as separate determinants of the bamboo ceiling. As such, I compare stereotype-consistent and stereotype-inconsistent conditions, rather than other combinations of competence and warmth that do not clearly represent stereotype consistency (e.g., conditions such as high competence/high warmth or low competence/low warmth represent a mixture of stereotype consistent and inconsistent traits). I test this prediction using a classic experimental paradigm where participants make inferences about an employee's leadership fitness based on his or her job performance report. Race was manipulated using the employee's name, and stereotype consistency was manipulated using ratings of skills in a job performance report.

## Study 1

Study 1 focused on leadership within a university. Briefly, participants read a job performance report of a faculty member working in a university, and evaluated the faculty member's fitness to serve as President of a university. The faculty member had a prototypically Asian name or a prototypically White name. The job performance report had ratings of the faculty member's technical and social skills, and these are manipulated to relate stereotype consistency (high ratings on competence and low ratings on warmth) or stereotype-inconsistency (low ratings on competence and high ratings on warmth). Leadership fitness was measured using three variables: the extent to which the faculty would do a good job as the University President, the faculty member's qualifications to be the University President, and whether the faculty should be promoted to University President.

## Method

### Participants

Participants were $N$=178 working adults in the U.S. recruited from Amazon's Mechanical Turk. On average, respondents were 36.27 years of age 58.40% of respondents identified as female. Most of the respondents were White (75.30%), followed by Asian (10.70%), Black (7.30%), Latinx (4.50%), Native American (1.70%), and Multiracial (0.60%). Respondents received a small financial incentive.

### Procedure

Participants filled out an online survey where they were told to evaluate a faculty member as a potential candidate for President of a university, an important leadership position. Participants were first given a job performance report that included ratings of the faculty member's various skills. These included 5 skills related to competence (e.g., "publishing

research papers") and 5 skills related to warmth or sociability (e.g., "being an excellent team member"). These are listed in Table III.1. In the job performance report, each skill was given a high rating on a scale of 1 to 10, with higher ratings representing better performance. Ratings of high performing skills (either the 5 competence skills or the 5 warmth skills) had an average score of 9.6 out of 10. Ratings of low performing skills had an average score of 3.0 out of 10.

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insert table III.1 about here
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As mentioned, I predict that everything else being equal, a stereotype-consistent Asian faculty member will be seen as a less effective leader compared to a White faculty and stereotype-inconsistent Asian faculty. To test this prediction, participants were randomly assigned to evaluate one of the following faculty members: (1) Hanyu Lee, a stereotype-consistent Asian faculty, (2) Jaime Peterson, a faculty with identical skills as the stereotype-consistent Asian faculty, and (3) Hanyu Lee, a stereotype-inconsistent Asian faculty. The first names of Hanyu and Jaime were chosen to be gender neutral. Because men are typically stereotyped as being the prototypic leader (Eagly & Johnson, 1990; Scott & Brown, 2006), I did not want to conflate racial stereotypes with gender stereotypes. Also, due to budget constraints, I decided to use gender neutral names in order to isolate the effects of race – rather than choosing explicit female or male names. The practice of choosing gender neutral names has been used in similar resume studies examining racial biases in hiring and promotion (see Issac, Lee, & Carnes, 2009).

After reading about the faculty member, participants were asked to rate the faculty member's effectiveness as the President of the university. This was measured using three items. Using a 5-point Likert-type scale (1=Strongly Disagree, 5=Strongly Agree), participants rated:

(1) whether the faculty member is qualified for the position of University President ("qualified"),

(2) whether the faculty member will do a good job as University President ("good job"), and (3)

whether the faculty member should be hired as University President ("should hire").

As a control variable, I measured participants' endorsement of Asian stereotypes using

the 25-item Scale of Anti-Asian American Stereotypes (SAAAS) (Lin, Kwan, Cheung, & Fiske,

2005). The SAAAS is a continuous measure and consists of 2 sub-scales: perceptions of Asians'

competence (sample item: "When it comes to education, Asian Americans aim to achieve too

much") and perceptions of Asians' warmth (sample item: "The majority of Asian Americans

tend to be shy and quiet" reverse scored). Both subscales were reliable ($\alpha$=.89 for competence

and $\alpha$=.90 for warmth). Participants also rated the gender of the faculty member (1=male,

2=female). Last, as manipulation checks, participants were asked to recall the name of the

faculty member and indicated their perceptions of the race of the faculty member.

## Results

### Pretesting

Before conducting the experiment, I pre-tested whether the fictional names of Hanyu Lee

and Jaime Peterson are associated with Asian and White racial groups. I also pre-tested whether

the names were gender neutral. Using a between-subjects experimental design, 19 participants

were randomly assigned to either see the name "Jaime Peterson" or "Hanyu Lee." Participants

rated the likelihood of Hanyu Lee or Jaime Peterson as being White, Asian, male, or female

using a Likert-type scale (1=Not at all likely, 4=Extremely likely).

As expected, Jaime Peterson was rated as significantly more likely to be White, *M*=3.60,

*SD*=0.52, compared to Hanyu Lee, M=1.33, SD=0.70; *t*(17)=8.03, *p* < .001. Similarly, Hanyu

Lee was rated as significantly more likely to be Asian, *M*=3.70, *SD*=0.67, compared to Jaime

Peterson, *M*=1.50, *SD*=0.53; *t*(18)=-8.12, p < .001. Using paired-sample t-tests, Jaime Peterson

was rated as equally likely to be a man, $M=2.90$, $SD=0.57$, as a woman, $M=2.50$, $SD=.95$, $t(9)=1.00$, $p=.343$. And Hanyu Lee was rated as equally likely to be a man, $M=3.11$, $SD=0.57$, as a woman, $M=2.40$, $SD=0.84$, $t(9)=1.77$, $p=.111$.

**Preliminary Considerations**

The original sample size for the main study included 178 participants. However, I restricted the analysis to participants who accurately remembered the name of the target, and those who thought that "Hanyu Lee" was Asian or "Jaime Peterson" was White. The final sample included 177 participants, $n=1$ participant failed to remember the correct name of Jaime Peterson. Table III.2 lists the means, standard deviations, and intercorrelations between the three leadership measures – "should hire", "good job", and "qualified" – and the SAAAS subscales. The three leadership effectiveness measures were highly correlated. The two subscales of the SAAAS were also highly correlated. This partially supports the Stereotype Content Model, as it shows that those who endorsed the stereotype that Asians are highly competent also endorsed the stereotype that Asians are less warm. Across the three experimental conditions, endorsement of Asian stereotypes, as measured by the SAAAS, was not correlated to ratings of leadership effectiveness.

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insert table III.2 about here
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**Hypothesis Testing**

I tested the prediction that a stereotype-consistent Asian faculty will be judged as a less effective leader compared to a White faculty with identical skills and a stereotype-inconsistent Asian faculty. First, I conducted a one-way multivariate analysis of covariance (MANCOVA) on the three items measuring perceived leadership effectiveness, with the three experimental

conditions as the independent variable. The participant race (1=Asian, 2=Not Asian), endorsement of Asian stereotypes (SAAAS) and perceived gender of the faculty member were included as covariates. The MANCOVA showed a significant effect for condition, $F(6, 338)=5.09$, $p < .001$; Wilks' $\Lambda=.84$; partial $\eta^2= .08$. None of the covariates were significant (see Table III.3). Next, a planned contrast was conducted with the following weights assigned to each experimental condition: -2 (Asian stereotype-consistent), 1 (White), 1 (Asian stereotype inconsistent). These contrast weights are aligned with the prediction that leadership effectiveness would be lowest in the Asian stereotype-consistent condition compared to the White condition and the Asian stereotype-inconsistent condition. The multivariate contrast showed a significant effect of experimental condition, $F(3, 168)=5.65$; $p=.001$, Wilk's $\Lambda=.91$; partial $\eta^2=.09$. I then conducted the univariate contrasts for each of the three leadership effectiveness measures. The contrast was significant for "good job", $F(1, 170)=10.00$; $p=.002$; partial $\eta^2=.06$. and "should hire", $F(1, 170)=13.16$; $p=.001$; partial $\eta^2=.07$. However, the contrast for "qualified" was not significant, $F(1, 170)=2.89$; $p=.091$; partial $\eta^2=.02$.

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To examine this further, I conducted a univariate analysis of covariance (ANCOVA) for "good job" and "should hire", while holding constant "qualified." I found that, when controlling for "qualified", the contrast remained significant for "good job", $F(2, 169)=5.88$; $p=.003$; partial $\eta^2=.02$. and "should hire", $F(2, 169)=7.23$; $p=.001$; partial $\eta^2=.08$. In short, even when holding constant perceptions of qualifications, a stereotype-consistent Asian faculty was still seen as less likely to do a good job as a University President and less likely to be selected as University

President compared to a White faculty with the same skills and a stereotype-inconsistent Asian faculty.

Next, I conducted pairwise comparisons. For a summary of the pairwise comparisons, see Table III.5. All pairwise comparisons used a Bonferroni multiple comparison adjustment. When not controlling for qualified, the stereotype-consistent Asian faculty was rated as significantly less qualified, less likely to do a good job, and less likely to be selected as University President compared to a stereotype-inconsistent Asian faculty. Also, the stereotype-inconsistent Asian faculty was rated as significantly more qualified, more likely to do a good job, and more likely to be selected as University President compared to the White faculty. After controlling for perceptions of qualifications, the stereotype-consistent Asian faculty was rated as significantly less likely to do a good job compared to the stereotype-inconsistent Asian faculty. Also, the stereotype-consistent Asian faculty was significantly less likely to be selected as leaders compared to stereotype-inconsistent Asians and Whites.

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insert table III.5 about here
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Next, I tested whether the findings differ by Asian and non-Asian participants. Using the same model as Table III.3, I tested a MANCOVA with the experimental manipulation predicting leadership outcomes. Covariates included SAAAS competence, SAAAS warmth, and the perceived gender of the faculty member. However, instead of controlling for participants' race, I conducted two separate models: one model for Asian participants and one model for non-Asian participants. For both Asians, $F(6, 22)=2.88$, $p = .037$; Wilks' $\Lambda=.32$; partial $\eta^2= .43$, and Non-Asians, $F(6, 300)=5.40$, $p < .001$; Wilks' $\Lambda=.81$; partial $\eta^2= .10$, the MANCOVA showed a significant effect for condition. In testing the contrast effect of: -2 (Asian stereotype-consistent),

1 (White), 1 (Asian stereotype inconsistent), the multivariate contrast only showed a significant effect of experimental condition among non-Asian participants, $F(3, 150)=7.49$; $p < .001$, Wilk's $\Lambda=.89$; partial $\eta^2=.13$. The multivariate contrast for Asian participants was not significant, $F(3, 11)=1.37$; $p = .303$, Wilk's $\Lambda=.73$, partial $\eta^2=.27$. The univariate contrasts among non-Asian participants was significant for "good job", $F(1, 152)=11.05$; $p=.001$; partial $\eta^2=.07$, and "should hire", $F(1, 152)=11.48$; $p=.001$; partial $\eta^2=.07$. Among non-Asian participants, the univariate contrast for "qualified" was not significant, $F(1, 152)=1.49$; $p=.224$; partial $\eta^2=.01$. None of the univariate contrasts among Asian participants were significant. Similar findings were observed among Asian and non-Asian participants when controlling for qualified.

Last, I tested whether the findings differ between participants who endorse or do not endorse Asian American stereotypes. To create the dichotomy of endorsing or not endorsing stereotypes, I created a median split of the SAAAS Competency and SAAAS Warmth scales. Participants were categorized as low stereotype endorsement if they scored below the median split on both SAAAS Competency and SAAAS Warmth ($n=70$, 39.3%). Participants were categorized as high stereotype endorsement if they scored above the median split on SAAAS Competency and/or SAAAS Warmth ($n=108$, 60.70%). Using the same model as Table III.3, I tested a MANCOVA with the experimental manipulation predicting leadership outcomes. Covariates included participants' race and the perceived gender of the faculty member. However, instead of controlling for participants' Asian American stereotypes, I conducted two separate models: one model for low racial stereotypes and one model for high racial stereotypes. For both participants with low racial stereotypes, $F(6, 126)=3.59$, $p = .003$; Wilks' $\Lambda=.73$; partial $\eta^2= .15$, and high racial stereotypes, $F(6, 200)=2.49$, $p = .024$; Wilks' $\Lambda=.87$; partial $\eta^2= .07$, the MANCOVA showed a significant effect for condition. In testing the contrast effect of: -2 (Asian

stereotype-consistent), 1 (White), 1 (Asian stereotype inconsistent), the multivariate contrast only showed a significant effect of experimental condition among participants with high racial stereotypes, $F(3, 100)=4.19$; $p = .008$, Wilk's $\Lambda=.89$; partial $\eta^2=.11$. The multivariate contrast for participants with low racial stereotypes was not significant, $F(3, 63)=1.52$; $p = .217$, Wilk's $\Lambda=.93$, partial $\eta^2=.07$. The univariate contrasts among participants with high racial stereotypes were significant for "good job", $F(1, 102)=7.90$; $p=.006$; partial $\eta^2=.07$, and "should hire", $F(1, 102)=8.74$; $p=.004$; partial $\eta^2=.08$. Among respondents with high racial stereotypes, the univariate contrast for "qualified" was not significant, $F(1, 110)=1.70$; $p=.195$; partial $\eta^2=.02$. None of the univariate contrasts among participants with low racial stereotypes were significant. Similar findings were observed among participants with high and low racial stereotypes when controlling for qualified.

## Discussion

Drawing on stereotype content and stereotype subtyping theories, I proposed that racial stereotypes of Asians contribute to perceptions of Asians as unfit leaders. Consist with this prediction, the multivariate contrast analysis comparing all three conditions simultaneously showed that Asian faculty who conform to racial stereotypes (high competence, low warmth) were judged to do a worse job as University President and less likely to be chosen as University President when compared to White faculty with identical skills and stereotype-inconsistent Asian faculty. However, after examining the pairwise comparisons, I found that although stereotype-consistent Asian faculty were rated as significantly less qualified, less likely to do a good job, and less likely to be chosen as president compared to stereotype-inconsistent Asians, stereotype-consistent Asian faculty were no different from White faculty on qualified, good job, or should hire. However, after controlling for perceived qualifications, the stereotype-inconsistent Asian

faculty was rated as significantly less likely to be chosen as University President compared to the White faculty. Also, in testing models with Asian vs. Non-Asian participants and participants with high vs. low racial stereotypes, I only found support for the main hypothesis among non-Asian participants and respondents with high racial stereotypes. These effects held even when controlling for perceptions of qualifications.

I probe these results in Study 2 by replicating the study within the context of the retail profession. The participants in Study 1, recruited from M-Turk, may be unfamiliar with occupations in higher education. As such, evaluating faculty candidates for university president may be an unrealistic scenario. Study 2 addresses this issue by examining my prediction within the retail profession. I reasoned that retail is an industry that is more generally familiar to most individuals. People regularly encounter individuals working in the retail industry in their everyday lives, and may have a better understanding of occupations demands related to being a leader within this professional domain.

There are additional reasons to replicate Study 1 in the retail industry. Study 1 focuses on faculty within a university, a professional domain where there is high race-occupation fit for Asians. Race-occupation fit refers to the extent to which stereotypes are aligned with occupational values. Specifically, technical competence is highly valued in occupations such as research. Because Asians are stereotyped as high in competence, there is high race-occupation fit for Asians in these professions. In contrast, social skills and warmth are highly valued in the retail industry. Because Asians are stereotyped as low in warmth, there is low race-occupation fit for Asians in the retail professions (Sy et al., 2010).

The high race-occupation fit for Asians in academic research may lead to possible confounds. Leaders are expected to act in ways that are unconventional and distinctive from the

rest of the group (Estrada, Brown, & Lee, 1996; Hollander, 2006; Swierczek, 1991). A stereotype inconsistent Asian in a high race-occupation fit context may be violating professional norms, making them appear more unconventional, distinctive, and in turn more leader-like. To rule out this alternative explanation, I replicate Study 1 in a professional domain where Asians experience low race-occupation fit. I expect stereotype-consistent Asians to be seen as less effective leaders in both high and low race-occupation fit contexts, as race-occupation fit speaks to perceptions of how well individuals will perform in different occupations, but not perceptions of leadership effectiveness.

## Study 2

Study 2 uses a similar experimental paradigm as Study 1, except participants were asked to rate employees in a retail store rather than a university. The leadership position was an Assistant Manager for a retail store, and the skills in the job performance report were adjusted to reflect those relevant to the retail industry.

## Method

### Participants

Participants were 203 U.S. college students (n=87 men) recruited from an undergraduate psychology class and the subject pool of a large university in the U.S. The majority (77.83%) of the respondents did not identify as being Asian. Participants received partial course credit.

### Procedure

Study 2 used the same between-subjects design as Study 1 except that the candidate for promotion was an employee of a retail store who was being considered for Assistant Manager, an important leadership position in the store. Again, the employee was either named "Hanyu Lee" or "Jaime Peterson." The employee was rated on five technical skills (e.g., "keeping an accurate

count of the store's inventory") and 5 social skills (e.g., "being an excellent team member").

These skills are listed in Table III.6. Participants rated their perceptions of the employee's

leadership effectiveness using the same measures as Study 1: "good job", "should hire", and

"qualified." Covariates included respondents' gender, race, the two subscales of Anti-Asian

American Stereotypes (SAAAS): warmth ($\alpha = .91$) and competence ($\alpha = .85$), and the perceived

gender of the employee (0=male, 1=female). Both of the SAAAS subscales were treated as

continuous measures.

## Results

The original sample size included 209 participants. However, I restricted the analysis to

participants who accurately remembered the name of the target, and those who thought that

"Hanyu Lee" was Asian or "Jaime Peterson" was White. The final sample included 203

participants, $n$=2 participants failed to remember the correct name of Jaime Peterson and n=4

participants failed to indicate the correct race of Hanyu Lee or Jaime Peterson. The analysis

followed the same plan as Study 1. The means, standard deviations, and intercorrelations

between the three measures of leadership effectiveness and SAAAS subscales are shown in

Table III.7.

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insert tables III.6 and III.7 about here
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**Hypothesis Testing**

I first conducted a one-way MANCOVA and found a significant effect for the

experimental condition, $F(6, 386) = 3.30$, $p = .004$; Wilks' $\Lambda$=.90; partial $\eta^2$=.05. None of the

covariates – respondent's gender, respondent's race, endorsement of Asian stereotypes, or

perceived gender of the employee – were significant (see Table III.8). Further analyses with the

univariate effects found similar results, with a significant effect for the experimental condition for "good job", $F(2, 195) = 4.24$, $p = .016$; partial $\eta^2 = .04$, and "should hire", $F(2, 195) = 3.05$, $p = .049$; partial $\eta^2 = .03$. The effect was not significant for "qualified", $F(2, 195) = .30$, $p = .738$; partial $\eta^2 = .01$ (see Table III.9).

To test the hypothesis, I conducted a multivariate contrast using the same weights as Study 1. As predicted, I found a significant effect, $F(3, 193) = 6.05$, $p = .001$; Wilks' $\Lambda = .91$; partial $\eta^2 = .09$. This supports the prediction that stereotype-consistent Asians would be seen as less effective leaders than Whites with the same skills and stereotype-inconsistent Asians.

Univariate contrasts were significant for "good job", $F(1, 195) = 8.47$, $p = .004$; partial $\eta^2 = .04$, and "should hire", $F(1, 195) = 5.94$, $p = .016$; partial $\eta^2 = .03$, but not for "qualified", $F(1, 195) = .12$, $p = .727$; partial $\eta^2 < .01$. When controlling for "qualified", the effects remained significant for "good job", $F(2, 194) = 6.74$, $p = .001$; partial $\eta^2 = .06$, and "should hire", $F(2, 194) = 7.83$, $p = .001$; partial $\eta^2 = .07$.

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insert tables III.8 and III.9 about here
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Next, I conducted pairwise comparisons. For a summary of the pairwise comparisons, see Table III.10. All pairwise comparisons used a Bonferroni multiple comparison adjustment. When not controlling for qualified, the stereotype-consistent Asian employee was rated as significantly less likely to do a good job compared to a stereotype-inconsistent Asian employee and a White employee. After controlling for qualified, the stereotype-consistent Asian employee was rated as significantly less likely to do a good job and significantly less likely to be selected as Assistant Manager compared to the stereotype-inconsistent Asian employee and the White employee.

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insert table III.10 about here

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Next, I tested whether the findings differ by Asian and non-Asian respondents. Using the same model as Table III.8, I tested a MANCOVA with the experimental manipulation predicting leadership outcomes. Covariates included SAAAS competence, SAAAS warmth, and the perceived gender of the faculty member. Both of the SAAAS subscales were treated as continuous measures. However, instead of controlling for participants' race, I conducted two separate models: one model for Asian participants and one model for non-Asian participants. For non-Asian participants, the MANCOVA showed a significant effect for condition $F(6, 298)=2.23$, $p = .040$; Wilks' $\Lambda=.92$; partial $\eta^2= .04$. The effect for condition was not significant among Asian respondents, $F(6, 70)=1.45$, $p = .346$; Wilks' $\Lambda=.83$; partial $\eta^2= .09$. In testing the contrast effect of: -2 (Asian stereotype-consistent), 1 (White), 1 (Asian stereotype inconsistent), the multivariate contrast showed a significant effect among non-Asian respondents, $F(3, 149)=4.10$; $p = .008$, Wilk's $\Lambda=.92$; partial $\eta^2=.08$. The multivariate contrast for Asian respondents was not significant, $F(3, 35)=1.63$; $p = .1.99$, Wilk's $\Lambda=.88$, partial $\eta^2=.12$. The univariate contrasts among non-Asian respondents was significant for "good job", $F(1, 151)=5.06$; $p=.032$; partial $\eta^2=.03$, and marginally significant for "should hire", $F(1, 151)=2.61$; $p=.108$; partial $\eta^2=.02$. Among non-Asian respondents, the univariate contrast for "qualified" was not significant, $F(1, 151)=0.47$; $p=.496$; partial $\eta^2<.01$. However, after controlling for qualified, the univariate contrast among non-Asian respondents was significant for "should hire", $F(1, 150)=8.57$; $p=.004$.

Last, I tested whether the findings differ between participants who endorse or do not endorse Asian American stereotypes. To create the dichotomy of endorsing or not endorsing stereotypes, I created a median split of the SAAAS Competency and SAAAS Warmth scales.

Participants were categorized as low stereotype endorsement if they scored below the median split on both SAAAS Competency and SAAAS Warmth ($n$=91, 32.90%). Participants were categorized as high stereotype endorsement if they scored above the median split on SAAAS Competency and/or SAAAS Warmth ($n$=179, 64.60%). Using the same model as Table III.8, I tested a MANCOVA with the experimental manipulation predicting leadership outcomes. Covariates included participants' race and the perceived gender of the employee. However, instead of controlling for participants' Asian American stereotypes, I conducted two separate models: one model for low racial stereotypes and one model for high racial stereotypes. Among participants with high racial stereotypes, the MANCOVA showed a significant effect for condition, $F(6, 246)$=2.25, $p$ = .040; Wilks' $\Lambda$=.90; partial $\eta^2$= .05. The effect for condition was not significant among respondents with low racial stereotypes, $F(6, 128)$=1.13, $p$ = .351; Wilks' $\Lambda$=.90; partial $\eta^2$= .05. In testing the contrast effect of: -2 (Asian stereotype-consistent), 1 (White), 1 (Asian stereotype inconsistent), the multivariate contrast showed a significant effect of experimental condition among respondents with high racial stereotypes, $F(3, 123)$=4.01; $p$ = .009, Wilk's $\Lambda$=.91; partial $\eta^2$=.09. The multivariate contrast for respondents with low racial stereotypes was not significant, $F(3, 64)$=1.82; $p$ = .153, Wilk's $\Lambda$=.92, partial $\eta^2$=.08. The univariate contrast among respondents with high racial stereotypes was significant for "good job", $F(1, 125)$=4.80; $p$=.030; partial $\eta^2$=.04. The univariate contrasts for "qualified", $F(1, 125)$=0.86; $p$=.355; partial $\eta^2$=.01, and "should hire", $F(1, 125)$=1.92; $p$=.168; partial $\eta^2$=.01, were not significant. However after controlling for qualified, the univariate contrast among respondents with high racial stereotypes was significant for "should hire", $F(1, 124)$=7.94; $p$=.006; partial $\eta^2$=.06.

**General Discussion**

Two experiments found that racial stereotypes of Asians are a contributing factor to the bamboo ceiling. I found that stereotype-consistent Asians were seen as less effective leaders and less likely to be chosen as leaders than Whites with the same skills and stereotype-inconsistent Asians. These effects were true even when controlling for qualifications for leadership. This finding was replicated in professional domains where Asians experience high and low race-occupation fit.

These findings show that the role of stereotypes in driving the bamboo ceiling is evident in two professional domains with divergent values and norms – higher education and retail. These two domains differ in their relative emphasis on competence vs. warmth. In, higher education, professional values tend to emphasize task competence over warmth/social skills, while the reverse is true in retail. However, when it comes to perceptions of leadership effectiveness, *both* professions disadvantage stereotype-consistent Asians over Whites with the same skills and stereotype-inconsistent Asians. This reinforces the idea that expectations associated with racial stereotypes, rather than expectations associated with professional norms, may be stronger determinants in people's assessments of Asians' leadership effectiveness.

This finding was especially supported among (1) participants that highly endorse racial stereotypes and (2) among non-Asian participants. When controlling for perceived qualifications, participants with high racial stereotypes and non-Asian participants were more likely to rate the stereotype-consistent Asian employee as doing a worse job in leadership and less hirable for leadership compared to a White employee with the same skill sets and a stereotype-inconsistent Asian employee. However, while this finding was replicated in both professional domains, caution should be exercised. Both experiments included a relatively small

portion of Asian participants to non-Asian participants. Also, while not included in the original prediction, stereotype-inconsistent Asian professors were rated as doing a better job as a leader and more hirable for leadership compared to White professors. However, after controlling for perceived qualifications, this effect was no longer significant. Also, this effect was not significant in the low race-occupation fit profession (i.e., retail). Relating back to the race-occupation fit literature, perhaps an Asian employee who violates both racial stereotypes and professional norms may be seen as especially distinct from an Asian employee who only violates racial stereotypes. Future work should seek to replicate this unexpected finding.

There are limitations to the present studies that should be noted and addressed in future research. Both experiments could have benefited from a condition with a White low competence, high warmth employee. Without including a White low competence, high warmth condition, it is difficult to determine how the Asian stereotype-inconsistent employee compares to a White employee with a similar skill set. To better understand the relationship between skill set and race in leadership evaluations, future work should examine how Asian and White employees compare when both employees have low competence and high warmth skills.

Also, the participants may not have actual experience evaluating candidates for leadership in higher education or retail. Future work should sample individuals who have working experiences in these professional domains, and would understand the idiosyncratic norms, values, and requirements for leadership. Also, Asians represent a highly heterogeneous group with many cultural/ethnic subgroups, each with different political, cultural, economic, and historical relationships with mainstream American society. Indeed, the stereotypes applied to East Asians (e.g., Chinese, Japanese, Koreans) are very different than those applied to South Asians (e.g., Indians) or South-East Asians (e.g., Thais, Vietnamese) (Gee, Ro, Shariff-Marco, &

Chae, 2009; Zhou & Xiong, 2005). Along the same vein, research has also found that different stereotypes are applied to Asian men and Asian women. For example, Asian women are more likely to be stereotyped as passive than Asian men (Louie, 2000; Shek, 2006; Sue, 2005), and this may account for why the bamboo ceiling disadvantages Asian women more than Asian men (Gee, Peck, & Wong, 2015; Kawahara, Pal, & Chi, 2013). Future research needs to adopt a more fine grained and intersectional approach, where cultural/ethnic subgroups and other social identities (such as gender, class, nationality) are taken into account.

In addition, the present study focused on stereotypes of Asians as high in competence and low in warmth. However, there are other stereotypes of Asians that can also potentially undermine perceptions of Asians as effective leaders. For example, Asians are more likely to be stereotyped as submissive and lacking in assertiveness, traits that are inconsistent with leadership (Berdahl & Min, 2012; Kim & Yeh, 2002; Nye & Donelson, 1991). Asians are also stereotyped as "perpetual foreigners" who are perceived as illegitimate in the U.S. (Ng, Lee, & Pak, 2007; Tran & Lee, 2014). These stereotypes are also inconsistent with expectations that leaders should be familiar with and proficient in the norms and customs of the organizations they lead.

Relatedly, there may be other factors beyond racial stereotypes that could account for the bamboo ceiling. For example, even though Asians are well-represented in high-status occupations such as law and academia, there may be a "pipleline" issue where Asians may not be senior enough or experienced enough to qualify for leadership. The bamboo ceiling may also be attributed to Confucian and collectivist values – values that are adopted by many Asian cultures – that encourage "blending in" and eschew "standing out" (Akutaga, 2013; Hyun, 2005; Zane, Su, Hu, & Kwon, 1991). As such, being in a leadership position may violate Asian cultural norms.

Finally, our findings suggest that behaving in a stereotype-consistent way is one factor that can prevent Asians from climbing the bamboo ceiling in their professional lives. Also, while unexpected, inconsistent Asians are rated as equally likely to be selected for leadership as White employees. This is consistent with recommendations put forth by Asian advocacy groups advising Asian employees to exaggerate their warmth and friendliness, but also to downplay their competence – essentially to act in ways that are inconsistent with Asian stereotypes (Gee, Peck, & Wong, 2015; Lai & Babcock, 2013). However, it is important to note that racial barriers in the U.S. have deep institutional, structural, and societal roots, and efforts to exaggerate some behaviors and deemphasizing others do little to dismantle an inequitable system that makes it difficult for individuals with marginalized social identities to reach their goals.

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**CHAPTER 4**

**Coping with Racial Discrimination, Mindful Mindset, and Perceived Stress among Asian**

**American Working Adults**

In the workplace, people are exposed to a variety of stressors that can negatively impact their physical and psychological well-being (Deitch et al., 2003; Triana, Jayasinghe, & Pieper, 2015). A common stressor among Asian Americans, the fastest growing racial group in the United States, is racial discrimination (U.S. Census, 2016). Frequent exposure to racial discrimination is associated with higher rates of perceived stress, higher rates of depression, and higher rates of suicide ideation (see Lee & Ahn, 2011). Because of the negative effects of racial discrimination, there is growing interest in identifying effective coping strategies (see Brondolo et al., 2009). People with higher mindfulness are better able to recover from negative emotions (Coffey, Hartman, & Fredrickson, 2010), better able to let go of negative thoughts (Frewen, Evans, Maraj, Dozois, & Partridge, 2008), and react more objectively to stressful events (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007). Mindfulness influences how people appraise and regulate negative emotions (Kabat-Zinn, 1994) and has been found to moderate the relationship between various coping strategies and mental health outcomes (Garland, 2007; Repta, 2012). The effectiveness of certain coping strategies in reducing stress may be partially explained by mindfulness, or the ways in which people assess and appraise stressful events. Evidence of this was found in a study on general stressors wherein respondents with high mindfulness were more likely to report lower levels of stress when they engaged in approach-

type coping strategies, rather than avoidant-type coping strategies (Weinstein, Brown, & Ryan, 2009).

One key limitation of mindfulness is that it does not take into account issues related to privilege awareness, social inequalities, oppression, and systemic discrimination. To address these limitations, Mahalingam (2017) developed mindful mindset, an interdisciplinary framework drawing from critical feminist theory and social justice (Mahalingam, 2017). Mindful mindset is a broader framework that includes seven features: (a) compassion; (b) sympathetic joy; (c) critical intersectional awareness; (d) cultural humility; (e) generosity; (f) wonder and (g) negative capability (Mahalingam, 2017). Higher levels of mindful mindset is associated with lower levels of stress, greater well-being, lower levels of depression, and less frequent rumination of stressful events (Mahalingam, Westmoreland & Xiao, 2017).

However, while mindful mindset has been more attuned to the experiences of marginalized groups, much of past research has focused on how mindful mindset moderates the relationship between coping strategies for *general* stressors and perceived stress. Less is known as to whether mindful mindset, a holistic critical framework to study mindfulness, moderates the relationship between coping strategies for *racial discrimination* and perceived stress. In the present study, I focus on a sample of Asian American working adults and I explore how mindful mindset moderates the relationship between coping strategies for racial discrimination and reported levels of perceived stress.

**The Multidimensional Model of Coping**

Carver, Weintraub, and Scheier's (1989) multidimensional coping model identified two strategies for coping with stressors: approach-type coping and avoidant-type coping. Approach-type coping refers to strategies people use to directly deal with a stressor (Carver & Vargas,

2011). For example, related to coping with racial discrimination, approach-type coping might include confronting the perpetrator, educating the perpetrator, and/or seeking social support. Avoidant-type coping, on the other hand, refers to strategies people use to escape from having to deal with the stressor or associated emotions (Carver & Vargas, 2011). For example, related to coping with racial discrimination, avoidant-type coping might include ignoring, trivializing, or internalizing the stressor.

Carver, Weintraub, and Scheier's (1989) multidimensional coping model is similar to Lazarus & Folkman's (1984) stress and coping model. In the stress and coping model, coping strategies are categorized as either being emotion-focused or problem-focused. Emotion-focused strategies include responses that attempt to change the way a stressor is experienced and problem-focused strategies involve generating, evaluating, and implementing solutions to resolve a stressor. However, a challenge with the stress and coping model is that emotion-focused strategies often overlap with problem-focused strategies. For example, coping with a stressor using social/emotional support may either be an emotion-focused or problem-focused strategy, depending on how the support is utilized (Carver, 2011).

Also, framing coping strategies as emotion-focused or problem-focused does not provide insight on whether a coping strategy is helpful or unhelpful in relieving a stressor. The multidimensional coping model, on the other hand, has found that approach coping is particularly useful when people believe that they have control over their situation and avoidant coping is useful when people believe they have limited control over their situation (McCullough, Orsulak, Brandon, & Akers, 2007). In other words, how people appraise a stressful situation influences whether a chosen coping strategy increases or reduces stress levels.

**Stress Appraisals and Mindful Mindset**

Stress appraisals refer to the cognitive processes people use to evaluate a stressful event as being positive, negative, or neutral (Cohen, Kessler, & Underwood Gordon, 1995; Gross & Thompson, 2007). Related to racial discrimination, for example, experiences of stress not only result from racial discrimination itself but also from how people appraise the stressor of racial discrimination (e.g., Cohen, Kamarack, & Melmelstein, 1983; Lazarus & Cohen, 1977).

Mindful mindset plays a key role in how people appraise stressful life events. Because people with high mindful mindset are less likely to ruminate and are more likely to take an objective stance in situations, past work has found that mindful mindset reduces emotional reactivity to potentially threatening stimuli (Arch & Craske, 2006; Broderwick, 2005; Creswell, Way, & Eisenberger & Lieberman, 2007). More simply, people with high mindful mindsets are less likely to experience stress after encountering stressful situations.

Related to Lazarus & Folkman's (1984) stress and coping model, mindful mindset is theorized to help people develop a more holistic view of stressful events. By encouraging people to take a step back and evaluate stressful events more objectively, mindful mindset may help people escape a binary appraisal of stressful events as being exclusively positive or negative (Carver & Scheier, 1994).

Connecting mindful mindset to the multidimensional model of coping, past work has suggested that a high mindful mindset is most helpful with approach-type coping and less helpful with avoidant-type coping. As mentioned, avoidant coping refers to strategies people use to escape from having to deal with the stressor or associated emotions (Carver & Vargas, 2011). Avoidant-type coping strategies are typically defensive and involves ignoring, distorting, disengaging, or denying the stressor (e.g., Deisinger, Cassisi, & Whitaker, 1996; Fontaine,

Manstead, & Wagner, 1993; Stowell, Kiecolt-Glaser, & Glaser, 2001). Because mindful mindset discourages rumination and encourages people to live in the present moment, high mindful mindset is inconsistent with avoidant-type coping. Approach-type coping, on the other hand, includes strategies people use to directly deal with the stressor (Carver & Vargas, 2011). Approach-type coping, or 'turning-towards' a stressor is consistent with characteristics of a high mindful mindset.

**Coping with Racial Discrimination**

Related to strategies Asian Americans use to cope with racial discrimination, there is some inconsistency as to which coping strategies are most effective. For example, Noh and colleagues (1999) found that avoidant-type coping strategies (i.e., accepting racial discrimination as a fact of life, not responding to experiences of racial discrimination) buffered the association between racial discrimination and depression. This buffering effect was particularly strong among the study's sample of Southeast Asian refugees in Canada who identified more strongly with their ethnic identity (Noh et al., 1999). In a study by Alvarez & Juang (2010), however, the avoidant-type coping strategies exacerbated the relationship between racial discrimination and negative psychological outcomes (i.e., psychological distress, poor self-esteem). With respect to approach-type coping strategies, Yoo & Lee (2005) found that problem solving coping among Asian American college students buffered the relationship between racial discrimination and poor well-being, but only when Asian Americans both identified strongly with their ethnic identity *and* reported less frequent experiences of racial discrimination. In the study by Noh and colleagues (1999), however, the approach-type coping strategy of confrontation had no effect on the relationship between racial discrimination and depression.

One potential reason why past research has been inconsistent is because much of the past work has not examined how Asian Americans appraise the stressor of racial discrimination. Given that past research suggests that mindful mindset plays a critical role in how people appraise and cope with stressful events (Arch & Craske, 2006; Broderwick, 2005; Creswell, Way, & Eisenberger & Lieberman, 2007), I predict that mindful mindset will moderate the relationship between how Asian Americans cope with racial discrimination and perceived stress. Specifically, because approach-type coping is consistent with the characteristics of a mindful mindset, I predict that mindful mindset will moderate the relationship between approach-type coping strategies and perceived stress – such that Asian Americans will demonstrate *lower* levels of perceived stress when they have high mindful mindset and engage in approach-type coping strategies. Also, because avoidant-type coping is inconsistent with the characteristics of a mindful mindset, I predict that mindful mindset will moderate the relationship between avoidant-type coping strategies and perceived stress – such that Asian Americans will demonstrate *higher* levels of perceived stress when they have high mindful mindset and engage in avoidant-type coping strategies.

## Method

### Participants

Participants included $N=143$ Amazon Mechanical Turk. Given that experiences of racial discrimination vary by country, only respondents residing in the United States were invited to complete the survey. After consenting to participate in the study, respondents completed an online questionnaire, read a debriefing statement, and received a small monetary incentive.

The average age was $M=28.99$, $SD=9.15$ with a relatively equal distribution of male ($n=80$, 55.9%) and female ($n=63$, 44.1%) participants. The majority of participants ($n=120$,

83.9%) report earning $80,000 or less per year. Respondents were from 27 continental states, with the majority from California (*n*=41, 28.7%). With respect to nationality, the majority of the participants identified as Chinese (*n*=64, 44.8%), followed by Korean *(n*=40, 28.0%), Japanese *(n*=30, 21.0%), Taiwanese (*n*=7, 4.9%), and Mongolian (*n*=2, 1.4%). Most of the participants were born in the United States (*n*=113, 79.0%). Most of the *n*=30 participants born outside the United States, immigrated to the United States at 9 years of age or younger (*n*=17, 56.7%). All participants received a small financial incentive for completing the study.

**Measures**

The outcome variable was perceived stress, the independent variable was coping with discrimination, and the moderator was mindful mindset. Additional covariates included experiences of racial discrimination and demographic variables.

**Perceived stress scale (PSS).** Using the 10-item Perceived Stress Scale (PSS) (Cohen, Kamarack, & Mermelstein, 1983), participants responded to all items on a 5-point Likert-type scale (1=Never, 5=Very Often). Sample items include: "In the last month, how often have you been able to control irritations in your life?" and "In the last month, how often have you felt that you were on top of things?" In this study, the Cronbach alpha internal consistency reliability coefficient is $\alpha$=.76.

**Coping with discrimination (CDS).** The 25-item Coping with Discrimination Scale (CDS) included 5 coping sub-scales (Wei, Alvarez, Ku, Russell, & Bonnett, 2010). Avoidant-type coping strategies included: (1) internalizing or blaming oneself for being targeted for racial discrimination, (2) engaging in drug or alcohol use, and (3) detaching from others. Approach-type coping strategies included: (1) educating the perpetrator of discrimination, and (2) resisting or speaking up to the perpetrator of discrimination. All coping sub-scales use a 6-point Likert-

type response scale (1=never like me, 6=always like me). Sample items include: "I wonder if I did something to provoke this incident" (internalizing), "I use drugs and alcohol to numb my feelings" (drug or alcohol use), "I do not have anyone to turn to for support" (detachment), "I educate others about the negative impact of discrimination" (educating the perpetrator), I respond by attacking others' ignorant beliefs" (resisting the perpetrator), In this study, Cronbach alpha internal consistency reliability coefficients ranged between α=.62 and α=.88.

**Mindful Mindset Scale (MMSS).** Using the 36-item unidimensional Mindful Mindset Scale (MMSS) (Mahalingam, 2011), participants responded to all items on a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree). Sample items include: "When I feel discriminated against because of one or more of my identities, I observe the emotions I experience" and "Accepting my own advantages and disadvantages help me to cultivate kindness towards others." In this study, the Cronbach alpha internal consistency reliability coefficient was α=.93.

**Asian American racism related stress inventory (AARSI).** Racial discrimination was measured with the 29-item Asian American Racism-Related Stress Inventory (AARSI) (Liang, Li, & Kim, 2004). Participants responded on a 5-point Likert-type response scale (1=this event has never happened to me or someone I know, 5=This event happened and I was extremely upset). Subscales for the AARSI included general discrimination, sociohistorical discrimination, and perpetual foreigner discrimination. Sample items include: "Someone tells you that they heard that there is a gene that makes Asians smart" (general discrimination), "You notice that Asian characters in American TV shows either speak bad or heavily accented English" (sociohistorical discrimination), and "Someone you do not know speaks slow and loud at you" (perpetual foreigner discrimination). In this study, Cronbach alpha internal consistency reliability coefficient was α=.87 for general discrimination, α=.91 for sociohistorical discrimination, and

72

α=.88 for perpetual foreigner discrimination. The majority of participants (*N*=142, 99.30%) reported experiencing at least two of the 29-items related to racial discrimination.

**Demographic questionnaire.** The demographic questionnaire asked participants to self-report their gender, age, income, and place of birth.

## Results

The prediction that mindful mindset moderates the relationship between approach-type/avoidant-type coping strategies and perceived stress (PSS) was tested using a series of hierarchical multiple regression models. The covariates of gender, age, income, place of birth, and the AARSI were entered into the first step of the model, the coping strategy (CDS) was entered into the second step of the model, mindful mindset (MMS) was entered into the third step of the model, and the fourth step of the model included the interaction effect between coping strategy (CDS) and mindful mindset (MM). To reduce issues of multicollinearity, a composite score of the three AARSI sub-scales was created. The internal consistency reliability for the AARSI composite score, as measured by cronbach's alpha, was acceptable (α=.95).

As recommended by Aiken & West, 1991, variables that were predicted to have problematically high multicollinearity were centered (i.e, CDS sub-scales, MMS, PSS, AARSI). See Tables IV.1 and IV.2 for summary statistics and correlations among all variables.

## Avoidant-Type Coping Strategies

I predicted that mindful mindset will moderate the relationship between avoidant-type coping strategies and perceived stress. Because avoidant-type coping strategies (i.e., ignoring, trivializing, or minimalizing stressors) are inconsistent with the characteristics of mindful mindset, I predicted that Asian Americans will be especially likely to demonstrate high levels of perceived stress when they have high mindful mindset and engage in avoidant-type coping

strategies. Avoidant-type coping strategies in this study included: (1) internalizing or blaming oneself for being targeted for racial discrimination, (2) engaging in drug or alcohol use, and (3) detaching from others.

**Internalizing Discrimination.** For internalizing or blaming oneself for being targeted for racial discrimination, the overall hierarchical multiple regression model was significant, $R^2 = .143$, $F(8, 134) = 2.79$, $p = .007$. Multicollinearity diagnostics were assessed and tolerance values were within an acceptable range (i.e., .88 to .96) (see Table IV.3).

The first step of the model included the five covariates: gender, age, income, place of birth and the AARSI composite scale. These variables did not account for a significant amount of the variance in perceived stress scores, $R^2 = .030$, $F(5, 137) = 0.86$, $p = .513$.

The second step of the model included the avoidant-type coping strategy of internalizing discrimination. Internalizing discrimination marginally added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .026$, $\Delta F (1, 136) = 3.70$, $p = .057$, $b = .16$, $t(136) = 1.92$, $p = .057$.

The third step of the model included mindful mindset. Mindful mindset accounted for a significant amount of additional variance in perceived stress scores, $\Delta R^2 = .067$, $\Delta F(1, 135) = 2.70$ $p = .002$, $b = -.26$, $t(135) = -3.21$, $p = .002$.

To test the moderating effect of mindful mindset, an interaction term between internalizing discrimination and mindful mindset was added to the fourth and final step of the regression model. The interaction term marginally added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .020$, $\Delta F(1, 134) = 3.13$, $p = .079$, $b = .16$, $t(134) = 1.77$, $p = .079$.

The Preacher & Hayes (2004) PROCESS macro was used to probe the interaction between internalizing discrimination and mindful mindset. I tested the conditional effects of

internalizing discrimination when mindful mindset was one standard deviation below the mean, at the mean, and one standard deviation above the mean.

As expected, internalizing discrimination was significantly related to higher perceived stress levels when mindful mindset was one standard deviation above the mean, $B= .16$, $SE=.05$, $CI= .05, .26$, $p = .005$. This relationship was also significant when mindful mindset was at the mean, $B= .08$, $SE=.04$, $CI= .01, .16$, $p = .048$, and was not significant when mindful mindset was one standard deviation below the mean, $B < .01$, $SE=.06$, $CI= -.12, .13$, $p = .947$ (see Figure IV.1).

**Drug and Alcohol Use.** For using drugs and alcohol as a coping response to experiences of racial discrimination, the overall hierarchical multiple regression model was significant, $R^2 = .136$, $F(8, 134) = 2.64$, $p = .010$. Multicollinearity diagnostics were assessed and tolerance values were within an acceptable range (i.e., .81 to .96) (see Table IV.4).

The first step of the model included the five covariates: gender, age, income, place of birth and the AARSI composite scale. These variables did not account for a significant amount of the variance in perceived stress scores, $R^2 = .030$, $F(5, 137) = 0.86$, $p = .513$.

The second step of the model included the avoidant-type coping strategy of coping with discrimination with drugs and alcohol. Coping with discrimination with drugs and alcohol significantly added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .030$, $\Delta F (1, 136) = 4.39$, $p = .038$, $b = .19$, $t(136) = 2.09$, $p = .038$.

The third step of the model included mindful mindset. Mindful mindset accounted for a significant amount of additional variance in perceived stress scores, $\Delta R^2 = .045$, $\Delta F(1, 135) = 6.85$ $p = .010$, $b = -.22$, $t(135) = -2.62$, $p = .010$.

To test the moderating effect of mindfulness, an interaction term between mindful mindset

and drug and alcohol use was added to the fourth and final step of the regression model. The interaction term significantly added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .030$, $\Delta F(1, 134) = 4.70$, $p = .032$, $b = .19$, $t(134) = 2.17$, $p = .032$.

The Preacher & Hayes (2004) PROCESS macro was used to probe the interaction between coping with discrimination with drugs and alcohol and mindful mindset. I tested the conditional effects of coping with drugs and alcohol when mindful mindset was one standard deviation below the mean, at the mean, and one standard deviation above the mean.

As expected, coping with drugs and alcohol was significantly related to higher perceived stress levels when mindful mindset was one standard deviation above the mean, $B = .14$, $SE = .05$, $CI = .03, .24$, $p = .010$. This relationship was also not significant when mindful mindset was at the mean, $B = .05$, $SE = .04$, $CI = -.03, .13$, $p = .186$, or one standard deviation below the mean, $B = -.03$, $SE = .06$, $CI = -.15, .09$, $p = .601$ (see Figure IV.2).

**Detaching from Others.** For detaching from others, the overall hierarchical multiple regression model was significant, $R^2 = .121$, $F(8, 134) = 2.30$, $p = .024$. Multicollinearity diagnostics were assessed and tolerance values were within an acceptable range (i.e., .87 to .95). The first step of the model included the five covariates: gender, age, income, place of birth and the AARSI composite scale. These variables did not account for a significant amount of the variance in perceived stress scores, $R^2 = .030$, $F(5, 137) = 0.86$, $p = .513$ (see Table IV.5).

The second step of the model included the avoidant-type coping strategy of detaching from others. Detaching from others significantly added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .052$, $\Delta F (1, 136) = 7.66$, $p = .006$, $b = .13$, $t(136) = 1.61$, $p = .006$.

The third step of the model included mindful mindset. Mindful mindset accounted for a significant amount of additional variance in perceived stress scores, $\Delta R^2 = .038$, $\Delta F(1, 135) = 5.81$, $p = .017$, $b = -.20$, $t(135) = -2.41$, $p = .017$.

To test the moderating effect of mindfulness, an interaction term between detaching from others and mindful mindset was added to the fourth and final step of the regression model. The interaction term did not significantly add to the amount of variance explained in perceived stress scores, $\Delta R^2 = .001$, $\Delta F(1, 134) = 0.13$, $p = .719$, $b = -0.03$, $t(134) = -0.36$, $p = .719$. Because of the absence of a moderating effect of mindful mindset, additional tests to probe the interaction were not performed (see Figure IV.3).

**Approach-Type Coping Strategies**

I predicted that mindful mindset will moderate the relationship between approach-type coping strategies and perceived stress. Because approach-type coping strategies are consistent with the characteristics of mindful mindset of 'turning towards' or not ignoring stressful events, I predicted that Asian Americans will be especially likely to demonstrate low levels of perceived stress when they have high mindful mindset and engage in approach-type coping strategies. Approach-type coping strategies in this study included: (1) resisting the perpetrator and (2) educating the perpetrator.

**Resisting the Perpetrator.** For resisting or speaking up to the perpetrator of discrimination, the overall hierarchical multiple regression model was significant, $R^2 = .144$, $F(8, 134) = 2.81$, $p = .007$. Multicollinearity diagnostics were assessed and tolerance values were within an acceptable range (i.e., .84 to .97) (see Table IV.6).

The first step of the model included the five covariates: gender, age, income, place of birth and the AARSI composite scale. These variables did not account for a significant amount of the variance in perceived stress scores, $R^2 = .030$, $F(5, 137) = 0.86$, $p = .513$.

The second step of the model included the approach-type coping strategy of resisting the perpetrator. Resisting the perpetrator marginally added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .020$, $\Delta F (1, 136) = 2.82$, $p = .095$, $b = -.15$, $t(136) = -1.68$, $p = .095$.

The third step of the model included mindful mindset. Mindful mindset accounted for a significant amount of additional variance in perceived stress scores, $\Delta R^2 = .063$, $\Delta F(1, 135) = 9.57$, $p = .002$, $b = -.25$, $t(135) = -3.09$, $p = .002$.

To test the moderating effect of mindfulness, the fourth and final step of the model included an interaction term between resisting the perpetrator and mindful mindset. The interaction significantly added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .031$, $\Delta F(1, 134) = 4.83$, $p = .030$, $b = .18$, $t(134) = 2.20$, $p = .030$.

The Preacher & Hayes (2004) PROCESS macro was used to probe the interaction between resisting the perpetrator and mindful mindset. I tested the conditional effects of resisting the perpetrator when mindful mindset was one standard deviation below the mean, at the mean, and one standard deviation above the mean.

Based on the findings, when mindful mindset was one standard deviation above the mean there was no significant relationship between coping with discrimination by resisting the perpetrator and perceived stress scores, $B = -.01$, $SE = .07$, $CI = -.16, .13$, $p = .850$. However, while unexpected, when mindful mindset was one standard deviation below the mean, $B = -.24$, $SE = .08$, $CI = -.39, -.08$, $p = .004$, and when mindful mindset was at the mean, $B = -.12$, $SE = .06$, $CI = -.24, -$

.01, $p = .028$, resisting the perpetrator was related to significantly lower perceived stress scores (see Figure IV.4).

**Educating the Perpetrator.** For educating the perpetrator of discrimination, the overall hierarchical multiple regression model was significant, $R^2 = .131$, $F(8, 134) = 2.52$, $p = .014$. Multicollinearity diagnostics were assessed and tolerance values were within an acceptable range (i.e., .67 to .96) (see Table IV.7).

The first step of the model included the five covariates. These variables did not account for a significant amount of the variance in perceived stress scores, $R^2 = .030$, $F(5, 137) = 0.86$, $p = .513$.

The second step of the model included the approach-type coping strategy of educating the perpetrator. Educating the perpetrator significantly added to the amount of variance explained in perceived stress scores, $\Delta R^2 = .078$, $\Delta F(1, 136) = 11.91$, $p = .001$, $b = -.32$, $t(136) = -3.45$, $p = .001$.

The third step of the model included mindful mindset. Mindful mindset marginally added to the amount of additional variance in perceived stress scores, $\Delta R^2 = .022$, $\Delta F(1, 135) = 3.41$, $p = .067$, $b = -.16$, $t(135) = -1.85$, $p = .067$.

To test the moderating effect of mindfulness, the fourth and final step of the model included an interaction term between educating the perpetrator and mindful mindset. The interaction term did not significantly add to the amount of variance explained in perceived stress scores, $\Delta R^2 = < .001$, $\Delta F(1, 134) = 0.04$, $p = .835$, $b = -0.02$, $t(134) = -0.21$, $p = .835$. Because of the absence of a moderating effect of mindfulness, additional tests to probe the interaction were not performed (see Figure IV.5).

**Discussion**

The benefits of mindful mindset in improving mental health outcomes is well-documented (see Baer, 2003; Brown-Iannuzzi, Adair, Payne, Richman, & Fredrickson, 2014; Grossman et al., 2004). The present findings support the notion that mindful mindset plays a key role in mental health. To date, few studies have examined the benefits of mindful mindset as it relates to how Asian Americans cope with racial discrimination.

Using a working adult sample, the present study predicted that mindful mindset would moderate the relationship between a chosen coping strategy and perceived stress scores. More specifically, Asian Americans will report higher perceived stress scores when they have high mindful mindsets and engage in avoidant-type coping strategies. Because avoidant-type coping strategies (i.e., minimalizing, ignoring, detaching from the stressor) are inconsistent with characteristics of a mindful mindset (i.e., being present in the moment in a non-judgmental way), I hypothesized that avoidant-type coping will be particularly harmful for Asian Americans with high mindful mindsets (Carver & Vargas, 2011).

Based on the findings, I found partial support for my prediction. For the avoidant-type coping styles of internalizing discrimination and coping with discrimination with drug and alcohol use, high mindful mindset (i.e., mindful mindset one standard deviation above the mean) was associated with significantly higher levels of perceived stress. When mindful mindset was low (i.e., one standard deviation below the mean), there was no significant relationship between internalizing or coping with drugs and alcohol and perceived stress. However, for the avoidant-type coping strategy of detaching from others, there was no significant interaction effect between detaching from others and mindful mindset.

In essence, although past research has suggested that avoidant-type coping strategies are worse for mental health compared to approach-type coping (McCullough, Orsulak, Brandon, & Akers, 2007), the present study found that the consequences of avoidant-type coping are most detrimental to Asian Americans with high mindful mindsets. Interestingly, when mindful mindset was low (i.e., one standard deviation below the mean), there was no significant relationship between avoidant-type coping strategies and perceived stress scores. It was only when mindful mindset was high when avoidant-type coping strategies resulted in higher stress.

Also, I predicted that Asian Americans will report lower perceived stress scores when they have high mindful mindsets and engage in approach-type coping strategies. Because approach-type coping strategies (i.e., confronting the stressor) are consistent with characteristics of a mindful mindset, I hypothesized that approach-type coping will be particularly useful for Asian Americans with high mindful mindsets (Carver & Vargas, 2011).

Based on the findings, I did not find support for my prediction. For the approach-type coping strategy of resisting the perpetrator, low and average levels of mindful mindset were significantly related to lower perceived stress scores. However, among respondents with high mindful mindsets, coping by resisting the perpetrator was not significantly related to perceived stress scores. It was only among participants with low mindful mindsets where resisting the perpetrator was associated with lower stress. There was no significant interaction between educating the perpetrator of discrimination and perceived stress scores.

Taken as a whole, past research has suggested that avoidant-type coping is less adaptive than approach-type coping (McCullough, Orsulak, Brandon, & Akers, 2007). This study adds to the conversation by finding that avoidant-type coping strategies are particularly harmful when people hold a worldview that is inconsistent with the coping strategy of ignoring, distorting, or

escaping stressful stimuli. When Asian Americans have a low mindful mindset, coping through internalizing or drug and alcohol use has no significant impact on stress levels. However, when Asian Americans have a high mindful mindset, coping through internalizing or drug and alcohol use leads to significantly higher stress levels.

This study has several key limitations. First, I did not find support my prediction for approach-type coping strategies. In fact, I found that resisting the perpetrator only related to lower stress levels among Asian Americans low and average mindful mindsets. For Asian Americans with high mindful mindsets resisting the perpetrator was not significantly related to perceived stress scores. One potential reason behind this unexpected finding could be attributed to the perpetrator's response to being confronted. In the racial discrimination literature, researchers have examined the role of microinvalidations. Microinvalidations refer to denying or distorting people's lived experiences of racial marginalization (Sue, Bucceri, Lin, Nadal, & Torino, 2007). Often, targets of microinvalidations engage in cycles of self-doubt and rumination over whether they "truly" experienced racial discrimination (Sue et al., 2007). Simply put, microinvalidations encourage targets of discrimination to engage in thought patterns that are inconsistent with a mindful mindset. In the case of the present study, it is unclear whether the perpetrator responded by listening compassionately or by microinvalidating. Future work should examine the role microinvalidations play in resisting the perpetrator (an approach-type coping strategy) and well-being.

There was no significant interaction between educating the perpetrator and perceived stress scores. Judging from Figure IV.5, the benefits of educating the perpetrator on reducing stress appear to be consistent regardless of whether the respondent has low, mid, or high mindful mindset. Future research should seek to replicate this findings.

82

Also, the sample for the present study only included East Asian Americans. Future studies should seek to understand how mindful mindset influences how South and Southeast Asian Americans cope with racial discrimination. Last, the coping with discrimination measure in the present study measured how respondents *generally* cope with discrimination in their everyday lives. It is unclear whether responses would differ if respondents were asked about specific experiences of racial discrimination they encounter at work versus everyday experiences of racial discrimination they encounter outside of work.

However, regardless of the limitations, the present study has important implications for how researchers and mental health practitioners understand stress and coping as it relates to racial discrimination. Particularly, cautioning against the avoidant-type coping strategies of internalizing discrimination and drug and alcohol use is particularly important when mental health practitioners are working with clients with high mindful mindsets. To best understand how to reduce stressors associated with racial discrimination, researchers and practitioners need to take into account the *whole* person in understanding individual differences of how people appraise and cope with stressors.

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**GENERAL DISCUSSION**

Using organizational, experimental, and cross-sectional designs, I explored the ways in which race influences workplace advancement and well-being among Asian Americans. To summarize, the present studies suggest that Asian Americans face racial barriers in the workplace. Specifically, in higher education, Asian faculty are less likely than faculty of other races to have served in leadership. This effect was especially apparent comparing Asian and White faculty. Compared to White faculty, Asian faculty were less likely to have served in leadership regardless of whether they were in an area of study with low race-occupation fit (i.e., humanities, social sciences) or an area of study with high race-occupation fit (i.e., natural sciences). This finding echoes past research that has found that regardless of race-occupation fit, Asian Americans in higher education are disadvantaged compared their White colleagues (Museus & Kiang, 2009; Qin, 2007).

When testing for potential explanations of the bamboo ceiling, I found that overall, faculty are more likely to have served in leadership if they had a more senior academic rank, if they spoke English as their native language, if they were a U.S. citizen, if they self-reported a high motivation to lead, and if they worked at a college/university with a positive racial climate. However, in testing the interaction effects between race and the potential explanations of the bamboo ceiling, I only found significant interactions for the following: race x gender (Asian vs. URM only), race x academic rank, race x years since Ph.D. (Asian vs. White only), race x job performance (Asian vs. White only), race x motivation to lead (Asian vs. URM only), and race x racial climate (Asian vs. White only). However, even though several of the interactions were

significant, after probing the interactions it was suggested that none of the interactions fully erase the bamboo ceiling. For example, although the relationship between race and leadership history was slightly weaker among men, both Asian men and women were less likely to have served in leadership compared to URM men and women. Similarly although the effect was slightly weaker among more senior faculty (i.e., more senior academic ranks, more years since Ph.D.), Asian faculty of all academic ranks were less likely to have served in leadership compared to White and URM faculty. Specifically, although the bamboo ceiling appears to be weaker among men, faculty at more senior ranks, faculty with higher job performance, and faculty who are more motivated to lead, Asian faculty remain significantly less likely to be leaders compared to faculty of other races. The essential takeaway from chapter two was that *race matters* and in order to better understand strategies for breaking the bamboo ceiling, we must shift our attention from trying to change the person to understanding how dismantle systematic racial barriers in the workplace.

Furthermore, the present analysis found that racial stereotypes influence perceptions of Asian Americans as effective leaders. The findings suggest that when an Asian employee presents themselves as being consistent with racial stereotypes (i.e., emphasize competence, downplay warmth), they were rated as less likely to do a good job and less likely to be selected for the leadership compared to a White employee with a similar skill set and a stereotype-inconsistent Asian employee. This finding was supported even when holding constant perceptions of qualifications. Evidence of a bias against stereotype-consistent Asian employees was found both in a profession with high race-occupation fit (i.e., academia) and a profession with low-race occupation fit (i.e., retail).

When testing separate models by Asian vs. Non-Asian participants and participants with high vs. low racial stereotypes, this bias against stereotype-consistent Asian employees was particularly evident among non-Asian participants and participants with high racial stereotypes. However, given the relatively small proportion of Asian participants and given that it was not possible to test within-group differences among Asians by different ethnic groups, gender, or immigrant generations statues, caution should be exercised in interpreting findings that compare Asians and Non-Asians. Previous work has found that Asian Americans are susceptible of internalizing racial stereotypes (Alvarez, Juang, & Liang, 2006; Pyke & Dang, 2003). For example, in a study by Pyke & Dang (2003), Asian Americans mocked other Asian Americans for speaking English with an accent or for failing to "live up" to the model minority stereotype. Future work should examine the role of internalized racism in leadership evaluations of Asian Americans.

Also, while not part of the original prediction, when controlling for perceptions of qualifications, the stereotype-inconsistent Asian employee was rated as *equally* likely to do a good job and *equally* likely to be chosen as a leader as the White employee (i.e., $p > .05$). This is consistent with recommendations put forth by Asian advocacy groups advising Asian employees to exaggerate their warmth and friendliness, but also to downplay their competence – essentially act in ways that are inconsistent with Asian stereotypes (Gee, Peck, & Wong, 2015; Lai & Babcock, 2013). This finding was replicated in both the high race-occupation fit (academia) and low race-occupation fit (retail) professions.

Lastly, in order to reduce stressors associated with racial discrimination, the findings from chapter four suggest that Asian Americans with high mindful mindset should avoid choosing coping strategies that conflict with the tenants of a mindful mindset. Using a

multidimensional coping model (Carver, Weintraub, & Scheier, 1989), past research has suggested that avoidant-type coping strategies (e.g., ignoring or ruminating about the stressor) are less effective in improving well-being compared to approach-type coping strategies (e.g., confronting or directly dealing with the stressor. (Carver, 2011; Kochenderfer & Ladd, 1996). However, in chapter four, I found that the negative effects of avoidant-type coping strategies (i.e., internalizing discrimination, coping with drugs and alcohol) were most damaging among Asian Americans with a high mindful mindset. When mindful mindset was one standard deviation above the mean, internalizing discrimination and coping with drugs and alcohol was positively related to perceived stress scores. Interestingly, when mindful mindset was low (i.e., one standard deviation below the mean), there was no significant relationship between internalizing discrimination and coping with drugs and alcohol. Taken as a whole, this finding suggests that the potential harm of avoidant-type coping is especially harmful among people who have a worldview/mindful mindset that directly contradicts with the strategies to ignore the stressor. There was no significant interaction between mindful mindset and detaching from the stressor. Based on the findings, detaching from the stressor is positively correlated with perceived stress regardless of the level of mindful mindset.

Related to approach-type coping, Asian Americans who resist the perpetrator are more likely to report lower perceived stress scores at low levels of mindful mindset (i.e., one standard deviation below the mean). At high levels of mindful mindset (i.e., one standard deviation above the mean), there is no significant relationship between resisting the perpetrator and perceived stress scores. Namely, the payoffs of approach-type coping appear to be most beneficial among people with low mindful mindsets. One potential reason behind this unexpected finding could be attributed to the perpetrator's response to being confronted. In the racial discrimination literature,

researchers have examined the role of microinvalidations. Microinvalidations refer to denying or distorting people's lived experiences of racial marginalization (Sue, Bucceri, Lin, Nadal, & Torino, 2007). Often, targets of microinvalidations engage in cycles of self-doubt and rumination over whether they "truly" experienced racial discrimination (Sue et al., 2007). In short, microinvalidations encourage targets of discrimination to engage in thought patterns that are inconsistent with a mindful mindset. In the case of the present study, it is unclear whether the perpetrator responded by listening compassionately or by microinvalidating. Future work should examine the role microinvalidations play in resisting the perpetrator (an approach-type coping strategy) and well-being.  Based on the findings, educating the perpetrator is negatively correlated with perceived stress regardless of the level of mindful mindset.

**Limitations**

Although this dissertation provides important insights on how Asian American professionals navigate the workplace, there are limitations that should be noted and addressed in future research. Future work should use a longitudinal design to better understand racial biases in leadership. Although study two utilized a national sample of college faculty (HERI, 1989-2016), the HERI Faculty Survey only reports snapshots of faculty at a given point in time. Even though the HERI Faculty Survey is administered every three years, the survey does not include a way to identify individual respondents over time. Similar types of longitudinal studies have been conducted examining gender biases in leadership. For example, in a longitudinal study on physicians, Reed, Enders, Lindor, McClees, & Lindor (2011) found that even when women increase their publishing productivity to match men, women are still significantly less likely to be selected for leadership. Future research should conduct a longitudinal analysis of the bamboo ceiling to better understand how Asian professionals can navigate racial biases in leadership.

In addition, both chapters three and four focused specifically on East Asian Americans. The HERI Faculty Survey (chapter one) did not include information on the ethnic background(s) of Asian faculty. Asians represent a highly heterogeneous group with many cultural/ethnic subgroups, each with different political, cultural, economic, and historical relationships with mainstream American society. Indeed, the stereotypes applied to East Asians (e.g., Chinese, Japanese, Koreans) are very different than those applied to South Asians (e.g., Indians) or South-East Asians (e.g., Thais, Vietnamese) (Gee, Ro, Shariff-Marco, & Chae, 2009; Zhou & Xiong, 2005). Much of the existing knowledgebase on Asian Americans has either focused exclusively on the experiences of East Asians or have aggregated the experiences of Asian people by combining people from East, Southeast and South Asia (David & Okazaki, 2006). Related to the present studies, disaggregating Asian Americans by ethnicity/ethnicities has a large impact on how we understand biases in the workplace. For example, a report by Gee & Wong (2016) found that in the Bay Area, CA, the representation of South Asians in leadership grew from 3% (2009) to 7% (2014). However, among East Asians, the representation declined. 6% of all leaders were East Asian in 2009 and 5% of all leaders were East Asian in 2014. Because the Equal Employment Opportunity Commission (EEOC) does not disaggregate by ethnicity, future research should examine variations within the Asian American umbrella.

Related to disaggregation, all the studies presented did not examine how intersectional identities influence chances for leadership or inform how people cope with racial discrimination. Although chapter two found that Asian men and women are less likely to be leaders compared to men and women of other races, this finding should not be interpreted to mean that the solutions for Asian men in breaking the glass ceiling are identical to the solutions for Asian women. Based on data from the EEOC, one out of every 30 Asian American men are executives and one out of

every 64 Asian American women are executives (Gee & Wong, 2016). Suggesting that the prospects of breaking the bamboo ceiling are more favorable for Asian men over Asian women. In a study on Asian American faculty leaders, many women reported that they had self-present themselves in a way that was assertive, but not "too assertive." For example, instead of telling someone: "You need to consider…," many women instead said: "Anything thing to consider is.." (Reeves, 2014). While accusations of being "too assertive" apply to women of all races, future work should examine how stereotypes specific to Asian women (e.g., the overly submissive geisha or the overly assertive dragon lady) influences perceptions of Asian women at work (Prasso, 2009).

On a similar vein, future work should examine intersections between race and immigrant generation status. In chapter two, proxies of familiarity with U.S. cultural norms included U.S. citizenship and speaking English as the faculty's first language. Both citizenship and English language did not explain the bamboo ceiling. Regardless of whether faculty were a U.S. citizen or not and regardless of whether faculty spoke English as their native language or not, Asian faculty were less likely than faculty of other races to serve in leadership. An obvious limitation of these variables, however, is that they are imperfect measures of immigrations generation status. Immigration generation status is more complex than the binary of being a U.S. citizen versus not being a U.S. citizen. A person's immigration generation status is defined based on the age they moved to the U.S., whether their parents were born or moved to the U.S., and whether their grandparents and other extended family members were born or moved to the U.S.

Finally, chapter two examined an occupation with high race-occupation fit (academia) and an occupation with low race-occupation fit (retail). The decision to include occupations with both high and low race-occupation fits was driven by past research. Based on past research,

Asians are not chosen for leadership positions in fields that require social skills (e.g., retail) because they are stereotyped as low in warmth, yet they are also not chosen for leadership positions in fields that require technical skills because the perceived high competence of Asians threatens the status quo (Berdahl & Min, 2013; Eagly & Karau, 2000; Gee & Peck, 2017; Heilman, 2001; Jost, Pelham, Sheldon, & Sullivan, 2003; Maddux, Galinsky, Cuddy, & Polifroni, 2008; Sy et al., 2010; Woo, 2000). However, a limitation with looking at academia and retail is that academia is a relatively prestigious career while retail is a blue-collar carrier. For instance, while the median income of U.S. households is $53,718 (U.S. Census, 2014), the average salaries for faculty on the tenure track at four-year public colleges/universities ranges between $70,246 (assistant professors) and $113,738 (full professors) (Chronicle, 2015-2016). Rather than comparing occupations with different earning potentials, future work might examine how academia compares to a similarly prestigious occupation with low race-occupation fit  (e.g., Director of Public Relations for a well-known social media company). Similarly, future work might examine how retail compares to a similar occupation with high race-occupation fit (e.g., Assistant Manager at a local computer store).

Also related to chapter two, both experiments could have benefited from a condition with a White low competence, high warmth employee. Without including a White low competence, high warmth condition, it is difficult to determine how the Asian stereotype-inconsistent employee compares to a White employee with a similar skill set. To better understand the relationship between skill set and race in leadership evaluations, future work should examine how Asian and White employees compare when both employees have low competence and high warmth skills.

A final limitation is more general to the field of race research as a whole. Despite that Asians are not considered to be an underrepresented minority (Chou & Feagin, 2008), the present studies suggest that Asians are especially disadvantaged with respect to leadership promotions and Asian employees are in need of strategies to cope with discrimination. The present studies challenge the notion of *underrepresented minority,* by finding that even when employees are well-represented in the workplace it does not erase barriers related to systemic discrimination. Rather than continuing to use the term *underrepresented minority,* I suggest using the term *marginalized minority* to better capture the findings from the present studies – overrepresentation does not erase systemic marginalization.

**Future Directions and Implications**

Asian Americans have largely been excluded from conversations on racial disparities in the workplace (e.g., Museus & Kiang, 2009; Ng, Lee, & Pak, 2007). The present studies highlight how Asian Americans can navigate leadership glass ceilings and cope with racial discrimination. Although Asian Americans are often not considered to be "underrepresented minorities" (URM), chapter two found that when it comes to leadership, Asians are disadvantaged compared to both White and URM faculty. Although the model minority myth portrays Asian Americans as more successful than other racially marginalized groups (Brand, 1987; Barringer, Takeuchi, & Xenos, 1990; Peterson, 1966), Asian Americans never outperformed URM faculty with respect to leadership. This was observed regardless of whether race-occupation fit was low (i.e., humanities and social sciences) or high (i.e., natural sciences). As such, the present analysis lends evidence that the term "underrepresented minority" leads to a misrepresentation of the lived experiences of racially marginalized groups. Although Asian faculty are *not* underrepresented in the professoriate, they *are* underrepresented in leadership.

Rather than focusing on numerical representation, future scholarship/ practice should shift from focusing on "*underrepresented* minorities" to "*marginalized* minorities." The language shift to marginalization also opens doors to consider how multiple marginalized and intersectional identities influences work outcomes.

Relatedly, the main takeaway from chapter two was that race matters. The stereotype of perpetual foreigner syndrome often paints Asian Americans as recent immigrants who are unfamiliar with U.S. cultural norms. This stereotype has also been observed from within academic literature. For example, attributing the bamboo ceiling to Confucian and collectivist values is an example of how researchers perpetuate perpetual foreigner syndrome (Akutagawa, 2013; Hyun, 2005; Zane, Su, Hu, & Kwon, 1991). While culture is important, researchers must be cognizant in measuring indicators of cultural identity versus assuming that all Asians are collectivist. In fact, in chapter two there were no significant interaction effects for race x English as a native language or for race x U.S. citizenship status. Suggesting that even when Asians are U.S. citizens and speak English as their native language, they are still less likely than faculty of other races to serve in leadership. While this finding should not be interpreted to mean that culture has no importance in understanding workplace experiences of Asian Americans, this finding should be interpreted to mean that culture only explains part of story. Research on Asian Americans in the U.S. must also examine how historically rooted systems of racial oppression influence chances for success.

Overall, the present dissertation bridges literature on racial stereotypes, leadership, and mental health to advance our understanding of how Asian Americans can thrive at work. Using a combination of experimental and cross-sectional data, this work provides insights into how Asian Americans can navigate racial discrimination in the workplace.

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Table II.1. Summary of Logistic Regression Model with Faculty Race Predicting Leadership History

Table II.1.

*Summary of Logistic Regression Model with Faculty Race Predicting Leadership History*

| Variable | B | SE | OR | 95% CI | Wald statistic | p |
|---|---|---|---|---|---|---|
| *Race* | | | | | | |
| White v Asian | 0.64 | 0.06 | 1.90 | 1.68, 2.16 | 100.13 | < .001 |
| URM vs Asian | 0.57 | 0.08 | 1.77 | 1.50, 2.09 | 46.91 | < .001 |

Note. Underrepresented minorities (URM) includes Black and Latinx faculty

Table II.2. Summary of Logistic Regression Model with Faculty Race Predicting Leadership History, Humanities Faculty Only

Table II.2.

*Summary of Logistic Regression Model with Faculty Race Predicting Leadership History, Humanities Faculty Only*

| Variable | B | SE | OR | 95% CI | Wald statistic | p |
|---|---|---|---|---|---|---|
| *Race* | | | | | | |
| White v Asian | 0.43 | 0.16 | 1.53 | 1.11, 2.11 | 6.76 | .009 |
| URM vs Asian | 0.30 | 0.20 | 1.35 | 0.90, 2.01 | 2.11 | .146 |

Note. Underrepresented minorities (URM) includes Black and Latinx faculty

Table II.3. Summary of Logistic Regression Model with Faculty Race Predicting Leadership History, Social Sciences Faculty Only

Table II.3.

*Summary of Logistic Regression Analysis with Faculty Race Predicting Leadership History, Social Sciences Faculty Only*

| Variable | *B* | *SE* | *OR* | 95% CI | Wald statistic | *p* |
|---|---|---|---|---|---|---|
| *Race* | | | | | | |
| White v Asian | 0.85 | 0.15 | 2.35 | 1.76, 3.13 | 33.64 | < .001 |
| URM vs Asian | 0.66 | 0.17 | 1.94 | 1.39, 2.71 | 15.02 | < .001 |

Note. Underrepresented minorities (URM) includes Black and Latinx faculty

Table II.4. Summary of Logistic Regression Model with Faculty Race Predicting Leadership History, Natural Sciences Faculty Only

Table II.4.

*Summary of Logistic Regression Analysis with Faculty Race Predicting Leadership History, Natural Sciences Faculty Only*

| Variable | B | SE | OR | 95% CI | Wald statistic | p |
|---|---|---|---|---|---|---|
| *Race* | | | | | | |
| White v Asian | 0.46 | 0.11 | 1.59 | 1.28, 1.97 | 17.67 | < .001 |
| URM vs Asian | 0.27 | 0.19 | 1.31 | 0.90, 1.91 | 2.00 | 0.157 |

Note. Underrepresented minorities (URM) includes Black and Latinx faculty

Table II.5. Summary of Logistic Regression Models Predicting Leadership Experience

Table II.5.

*Summary of Logistic Regression Models Predicting Leadership Experience*

| Variable | *B* | *SE* | *OR* | 95% CI | *p* |
|---|---|---|---|---|---|
| **Model 1** | | | | | |
| Gender (women) | 0.05 | 0.02 | 1.05 | [0.99, 1.11] | 0.071 |
| Seniority | | | | | |
|    Academic Rank | 0.72 | 0.02 | 2.04 | [1.96, 2.14] | < .001 |
|    Years Since Ph.D. | -0.01 | 0.01 | 0.99 | [0.99, 0.99] | < .001 |
| Job Performance | -0.07 | 0.02 | 0.93 | [0.91, 0.96] | < .001 |
| U.S. Cultural Norms | | | | | |
|    U.S. Citizens | 0.21 | 0.07 | 1.23 | [1.07, 1.42] | 0.004 |
|    English Native Language | 0.28 | 0.05 | 1.23 | [1.07, 1.42] | < .001 |
| Motivation to Lead | 0.43 | 0.02 | 1.54 | [1.48, 1.59] | < .001 |
| Racial Climate | 0.01 | 0.02 | 1.53 | [1.48, 1.59] | < .001 |
| | | | | | |
| **Model 2** | | | | | |
| Gender (women) | 0.05 | 0.03 | 1.05 | [0.99, 1.11] | 0.076 |
| Seniority | | | | | |
|    Academic Rank | 0.71 | 0.02 | 2.05 | [1.96, 2.14] | < .001 |
|    Years Since Ph.D. | -0.01 | 0.01 | 0.99 | [0.99, 0.99] | < .001 |
| Job Performance | -0.07 | 0.02 | 0.93 | [0.91, 0.96] | < .001 |
| U.S. Cultural Norms | | | | | |
|    U.S. Citizens | 0.19 | 0.07 | 1.21 | [1.05, 1.40] | 0.009 |
|    English Native Language | 0.20 | 0.06 | 1.22 | [1.07, 1.38] | 0.002 |
| Motivation to Lead | 0.43 | 0.02 | 1.53 | [1.48, 1.59] | < .001 |
| Racial Climate | 0.01 | 0.02 | 1.00 | [0.95, 1.05] | .923 |
| Race | | | | | |
|    White vs. Asian | 0.32 | 0.08 | 1.38 | [1.18, 1.61] | < .001 |
|    White vs. URM | 0.38 | 0.08 | 1.46 | [1.21, 1.76] | < .001 |

*Note.* Women are compared against men, U.S. citizens are compared against non-U.S. citizens, English native language speakers are compared against non-native English speakers. For academic rank, years since Ph.D., job performance, motivation to lead, and racial climate, a higher score indicates more senior academic rank, more years since Ph.D., more publications, more importance placed on service, and more positive racial climate respectively.

# Table II.6. Summary of Moderation Models on the Relationship between Race and Leadership History

Table 6.

*Summary of Moderation Models on the Relationship between Race and Leadership History*

| | Faculty Race | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Asian vs White Faculty | | | | | Asian vs. URM Faculty | | | | |
| Moderator | *B* | *SE* | *OR* | 95% CI | *p* | *B* | *SE* | *OR* | 95% CI | *p* |
| *Gender* | | | | | | | | | | |
| Gender | -0.02 | 0.13 | 0.98 | [0.76, 1.26] | 0.889 | -0.02 | 0.13 | 0.98 | [0.76, 1.26] | 0.889 |
| Race | 0.65 | 0.08 | 1.92 | [1.63, 2.27] | < 0.001 | 0.33 | 0.03 | 1.39 | [1.32, 1.47] | < 0.001 |
| Gender x Race | -0.02 | 0.13 | 0.98 | [0.76, 1.26] | 0.868 | -0.17 | 0.10 | 0.84 | [0.69, 1.02] | 0.081 |
| *Seniority* | | | | | | | | | | |
| Academic Rank | 0.87 | 0.09 | 2.34 | [2.02, 2.83] | < 0.001 | 0.87 | 0.09 | 2.39 | [2.02, 2.83] | < .001 |
| Race | 1.63 | 0.38 | 5.11 | [2.43, 10.73] | < 0.001 | 1.69 | 0.48 | 5.42 | [2.10, 14.02] | 0.001 |
| Race x Academic Rank | -0.26 | 0.09 | 0.77 | [0.65, 0.91] | 0.003 | -0.26 | 0.11 | 0.77 | [0.62, 0.97] | 0.025 |
| *Years Since Ph.D.* | 0.04 | 0.01 | 1.04 | [1.03, 1.05] | < 0.001 | 0.04 | 0.01 | 1.04 | [1.03, 1.05] | < .001 |
| Race | 0.93 | 0.13 | 2.53 | [1.98, 3.25] | < 0.001 | 0.66 | 0.16 | 1.94 | [1.42, 2.66] | < .001 |
| Race x Years Since Ph.D. | -0.02 | 0.01 | 0.98 | [0.96, 0.99] | 0.003 | -0.01 | 0.01 | 0.99 | [0.98, 1.01] | 0.511 |
| Job Performance | | | | | | | | | | |
| Job Performance | 0.07 | 0.05 | 1.08 | [0.97, 1.19] | 0.146 | 0.07 | 0.05 | 1.08 | [0.97, 1.18] | 0.146 |
| Race | 0.88 | 0.15 | 2.40 | [1.78, 3.22] | < 0.001 | 0.62 | 0.19 | 1.85 | [1.26, 2.73] | 0.002 |
| Race x Job Performance | -0.09 | 0.05 | 0.91 | [0.82, 1.01] | 0.077 | -0.01 | 0.07 | 0.99 | [0.86, 1.14] | 0.929 |
| *U.S. Cultural Norms* | | | | | | | | | | |
| U.S. Citizenship | 0.99 | 0.15 | 2.69 | [1.99, 3.62] | < 0.001 | 0.99 | 0.15 | 2.69 | [1.99, 3.62] | < .001 |
| Race | 1.50 | 0.31 | 4.49 | [2.44, 8.25] | < 0.001 | 0.98 | 0.48 | 2.68 | [1.04, 6.88] | 0.041 |
| Race x U.S. Citizenship | -0.57 | 0.17 | 0.57 | [0.41, 0.79] | 0.001 | -0.32 | 0.25 | 0.73 | [0.44, 1.20] | 0.210 |
| *English Native Language* | 0.09 | 0.15 | 1.09 | [0.81, 1.47] | 0.569 | 0.20 | 0.14 | 1.22 | [0.93, 1.60] | 0.158 |
| Race | 0.23 | 0.25 | 1.26 | [0.77, 2.08] | 0.351 | 0.30 | 0.28 | 1.35 | [0.78, 2.32] | 0.281 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Race x Language | 0.08 | 0.17 | 1.08 | [0.78, 1.50] | 0.632 | 0.12 | 0.18 | 1.13 | [0.79, 1.61] | 0.502 |
| *Motivation to Lead* | | | | | | | | | | |
| Motivation to Lead | 0.51 | 0.08 | 1.67 | [1.42, 1.96] | < 0.001 | 0.51 | 0.08 | 1.67 | [1.42, 1.96] | < .001 |
| Race | 0.82 | 0.26 | 2.27 | [1.37, 3.75] | 0.001 | 1.43 | 0.34 | 4.18 | [2.14, 8.14] | < .001 |
| Race x Motivation to Lead | -0.07 | 0.08 | 0.93 | [0.79, 1.10] | 0.424 | -0.31 | 0.11 | 0.73 | [0.59, 0.91] | 0.004 |
| *Racial Climate* | | | | | | | | | | |
| Racial Climate | -0.13 | 0.10 | 0.88 | [0.72, 1.07] | 0.207 | -0.13 | 0.10 | 0.88 | [0.72, 1.07] | 0.207 |
| Race | 0.02 | 0.30 | 1.02 | [0.57, 1.84] | 0.945 | 0.03 | 0.36 | 1.03 | [0.51, 2.09] | 0.927 |
| Race x Racial Climate | 0.22 | 0.10 | 1.25 | [1.01, 1.53] | 0.035 | 0.19 | 0.13 | 1.22 | [0.95, 1.56] | 0.123 |

Table III.1. Study 1 Summary of Task Competence Skills and Sociability Skills

Table III.1.

*Study 1 summary of task competence skills and sociability skills*

| | Condition | | |
|---|---|---|---|
| Skill | White High Competence/Low Warmth | Asian Stereotype Consistent | Asian Stereotype Inconsistent |
| *Task Competence Skills* | | | |
| Publishing research papers | 9 | 9 | 4 |
| Getting prestigious research awards | 10 | 10 | 3 |
| Developing an ethics code | 9 | 9 | 5 |
| Increasing efficiency in the research laboratory | 10 | 10 | 1 |
| Receiving large research grants | 10 | 10 | 2 |
| Average competence skills | 9.60 | 9.60 | 3.00 |
| | | | |
| *Sociability Skills* | | | |
| Working with department chairs | 4 | 4 | 9 |
| Networking with alumni | 3 | 3 | 10 |
| Being an excellent team member | 2 | 2 | 10 |
| Negotiating with union members | 5 | 5 | 10 |
| Helping out student organizations | 1 | 1 | 9 |
| Average sociability skills | 3.00 | 3.00 | 9.60 |

*Note.* For each skill, 1=very poor, 10=excellent

Table III.2. Study 1 Means, Standard Deviations, and Intercorrelations for Leadership and Asian Stereotypes Measures

Table III.2.

*Study 1 means, standard deviations, and intercorrelations for leadership and Asian stereotypes measures*

| Measure | *M* | *SD* | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. Qualified for President | 2.75 | 1.15 | --- | | | | |
| 2. Good Job as President | 2.69 | 1.08 | .76*** | --- | | | |
| 3. Should Hire for President | 2.40 | 1.10 | .79*** | .82*** | --- | | |
| 4. SAAAS Competence | 3.62 | 0.93 | .06 | -.01 | < -.04 | --- | |
| 5. SAAAS Warmth | 3.30 | 0.86 | -.05 | -.09 | .09 | .68*** | --- |

*Note.* SAAAS=Scale of Anti Asian American Stereotypes
*** $p < .001$

Table III.3. Study 1 Multivariate Analysis of Covariance for Experimental Manipulation Predicting Leadership Outcomes

Table III.3.

*Study 1 multivariate analysis of covariance for experimental manipulation predicting leadership outcomes*

| | Multivariate | | |
|---|---|---|---|
| Source | *F* | *p* | $\eta^2$ |
| *Independent Variable* | | | |
| Experimental Manipulation | 5.09 | .001 | .08 |
| | | | |
| *Covariates* | | | |
| Respondent Race | 0.71 | .544 | .01 |
| SAAAS Competence | 1.03 | .383 | .02 |
| SAAAS Warmth | 0.92 | .731 | .01 |
| Perceived Gender | 0.99 | .487 | .01 |

*Note.* SAAAS = Scale of Anti Asian American Stereotypes. Multivariate F ratios were generated from Wilk's statistic. Respondent Race (0=Asian, 1=Non-Asian), Perceived Gender (1=Male, 2=Female). Multivariate *df*=6, 336.

Table III.4. Study 1 Univariate Analyses of Covariance for Experimental Manipulations Predicting Leadership Outcomes

Table III.4.

*Study 1 univariate analyses of covariance for experimental manipulation predicting leadership outcomes*

| | Univariate | | | | | | | | |
| | Should Hire for President | | | Good Job as President | | | Qualified for President | | |
| Source | *F* | *p* | $\eta^2$ | *F* | *p* | $\eta^2$ | *F* | *p* | $\eta^2$ |
| Independent Variable | | | | | | | | | |
| Experimental Manipulation | 12.25 | < .001 | .13 | 11.95 | < .001 | .13 | 6.36 | .002 | .07 |
| | | | | | | | | | |
| Covariates | | | | | | | | | |
| Respondent Race | 1.84 | .177 | .01 | 0.90 | .177 | .01 | 1.79 | .183 | .01 |
| SAAAS Competence | 0.60 | .439 | .01 | 0.30 | .439 | .01 | 2.25 | .135 | .01 |
| SAAAS Warmth | 0.72 | .397 | .01 | 0.49 | .397 | .01 | 1.26 | .264 | .01 |
| Perceived Gender | 0.01 | .921 | .01 | 0.01 | .921 | .01 | 0.76 | .384 | .01 |

*Note.* SAAAS = Scale of Anti Asian American Stereotypes. Respondent Race (0=Asian, 1=Non-Asian), Perceived Gender (1=Male, 2=Female). Univariate *df*=2, 170.

Table III.5. Study 1 Estimated Marginal Means and Standard Errors by Experimental Condition Comparing Models Controlling for and Not Controlling for Perceptions of Qualifications

Table III.5.

*Study 1 estimated marginal means and standard errors by experimental condition comparing models controlling for and not controlling for perceptions of qualifications*

| | Not Controlling for Qualified | | | | | | Controlling for Qualified | | | |
| | Qualified | | Good Job | | Should Hire | | Good Job | | Should Hire | |
| Condition | M | SE | M | SE | M | SE | M | SE | M | SE |
|---|---|---|---|---|---|---|---|---|---|---|
| Asian stereotype-consistent | 2.54 a | .14 | 2.33 a | .13 | 2.01 a | .13 | 2.48 a | .09 | 2.16 a, b | .08 |
| Asian stereotype-inconsistent | 3.15 a, b | .14 | 3.21 a, b | .13 | 2.93 a, b | .13 | 2.91 a | .09 | 2.62 a | .08 |
| White | 2.50 b | .15 | 2.51 b | .14 | 2.27 b | .14 | 2.67 | .09 | 2.44 b | .09 |

Note. Shared subscripts represent Bonferroni-corrected statistically significant difference p < .05

Table III.6. Study 2 Summary of Task Competence Skills and Sociability Skills

Table III.6.

*Study 2 summary of task competence skills and sociability skills*

| | Condition | | |
|---|---|---|---|
| Skill | White High Competence/Low Sociability | Asian Stereotype Consistent | Asian Stereotype Inconsistent |
| *Task Competence Skills* | | | |
| Keeping an accurate count of the store's inventory | 9 | 9 | 4 |
| Maintaining an accurate timesheet | 10 | 10 | 3 |
| Maintaining clean and organized dressing rooms | 9 | 9 | 5 |
| Demonstrating a superior understanding of the employee manual | 10 | 10 | 1 |
| Receiving large research grants | 10 | 10 | 2 |
| Average competence skills | 9.60 | 9.60 | 3.00 |
| | | | |
| *Sociability Skills* | | | |
| Getting along with coworkers | 4 | 4 | 9 |
| Greeting customers cheerfully | 3 | 3 | 10 |
| Being an excellent team member | 2 | 2 | 10 |
| Negotiating with dissatisfied customers | 5 | 5 | 10 |
| Helping out student organizations | 1 | 1 | 9 |
| Average sociability skills | 3.00 | 3.00 | 9.60 |

*Note.* For each skill, 1=very poor, 10=excellent

112

Table III.7. Study 2 Means, Standard Deviations, and Intercorrelations for Leadership and Asian Stereotypes Measures

Table III.7.

*Study 2 means, standard deviations, and intercorrelations for leadership and Asian stereotypes measures*

| Measure | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. Qualified for Assistant Manager | 2.41 | 0.96 | --- | | | | |
| 2. Good Job as Assistant Manager | 2.51 | 0.94 | .51*** | --- | | | |
| 3. Should Hire for Assistant Manager | 2.12 | 0.90 | .62*** | .69*** | --- | | |
| 4. SAAAS Competence | 3.69 | 0.72 | .03 | < .01 | -.01 | --- | |
| 5. SAAAS Warmth | 3.24 | 0.80 | .02 | -.02 | .01 | .63*** | --- |

*Note.* SAAAS=Scale of Anti Asian American Stereotypes
*** p < .001

Table III.8 Study 2 Multivariate Analysis of Covariance for Experimental Manipulation Predicting Leadership Outcomes

Table III.8.

*Study 2 multivariate analysis of covariance for experimental manipulation predicting leadership outcomes*

| | Multivariate | | |
|---|---|---|---|
| Source | *F* | *p* | $\eta^2$ |
| *Independent Variable* | | | |
| Experimental Manipulation | 3.30 | .004 | .05 |
| | | | |
| *Covariates* | | | |
| Respondent Race | 0.99 | .401 | .01 |
| Respondent Gender | 2.09 | .103 | .03 |
| SAAAS Competence | 1.02 | .383 | .02 |
| SAAAS Warmth | 0.50 | .680 | < .01 |
| Perceived Gender | 0.47 | .705 | < .01 |

*Note.* SAAAS = Scale of Anti Asian American Stereotypes. Multivariate F ratios were generated from Wilk's statistic. Respondent Race (0=Asian, 1=Non-Asian), Respondent Gender (1=Male, 2=Female), Perceived Gender (1=Male, 2=Female). Multivariate *df*=6, 386.

Table III.9 Study 2 Univariate Analyses of Covariance for Experimental Manipulation Prediction Leadership Outcomes

Table III.9.

*Univariate analyses of covariance for experimental manipulation predicting leadership outcomes*

| | Univariate | | | | | | | | |
| | Should Hire for Assistant Manager | | | Good Job as Assistant Manager | | | Qualified for Assistant Manager | | |
| Source | $F$ | $p$ | $\eta^2$ | $F$ | $p$ | $\eta^2$ | $F$ | $p$ | $\eta^2$ |
| Independent Variable | | | | | | | | | |
| Experimental Manipulation | 3.05 | .049 | .030 | 4.24 | 016 | .04 | 0.30 | .738 | .01 |
| | | | | | | | | | |
| Covariates | | | | | | | | | |
| Respondent Race | 1.47 | .227 | .01 | 0.01 | .953 | .01 | 0.33 | .564 | .01 |
| Respondent Gender | 2.45 | .119 | .01 | 0.03 | .870 | .01 | 0.01 | .935 | .01 |
| SAAAS Competence | 1.86 | .175 | .01 | 0.21 | .645 | .01 | 0.07 | .797 | .01 |
| SAAAS Warmth | 0.01 | .905 | .01 | 0.44 | .508 | .01 | 0.23 | .629 | .01 |
| Perceived Gender | 0.03 | .852 | .01 | 0.48 | .488 | .01 | 0.09 | .761 | .01 |

*Note.* SAAAS = Scale of Anti Asian American Stereotypes. Respondent Race (0=Asian, 1=Non-Asian), Perceived Gender (1=Male, 2=Female). Univariate *df*=2, 195.

Table III.10 Study 2 Estimated Marginal Means and Standard Errors by Experimental Condition comparing Models Controlling for and Not Controlling for Perceptions of Qualifications

Table III.10.

*Study 2 estimated marginal means and standard errors by experimental condition comparing models controlling for and not controlling for perceptions of qualifications*

| | Not Controlling for Qualified | | | | | | Controlling for Qualified | | | |
| | Qualified | | Good Job | | Should Hire | | Good Job | | Should Hire | |
| Condition | M | SE | M | SE | M | SE | M | SE | M | SE |
|---|---|---|---|---|---|---|---|---|---|---|
| Asian stereotype-consistent | 2.44 | .11 | 2.35 a, b | .11 | 1.97 | .11 | 2.33 a, b | .09 | 1.95 a, b | .08 |
| Asian stereotype-inconsistent | 2.33 | .11 | 2.75 a | .11 | 2.32 | .11 | 2.79 a | .09 | 2.37 a | .08 |
| White | 2.45 | .12 | 2.75 b | .12 | 2.27 | .11 | 2.73 b | .10 | 2.24 b | .08 |

Note. Shared subscripts represent Bonferroni-corrected statistically significant difference $p < .05$

Table IV.1 Summary Statistics for all Continuous Variables

Table IV.1.

*Summary statistics for all continuous variables*

|  |  |  | 95% CI | |
| Measure | *M* | *SD* | *LL* | *UL* |
| --- | --- | --- | --- | --- |
| Perceived Stress | 2.91 | .56 | 2.82 | 3.00 |
| Mindful Mindset | 3.61 | .47 | 3.53 | 3.69 |
| SH Racism | 2.75 | .88 | 2.61 | 2.90 |
| General Racism | 2.42 | .91 | 2.27 | 2.57 |
| PF Racism | 2.56 | 1.01 | 2.39 | 2.73 |
| CD Educate | 3.21 | 1.18 | 3.01 | 3.40 |
| CD Internalize | 2.77 | 1.14 | 2.58 | 2.96 |
| CD Drug | 2.18 | 1.21 | 1.97 | 2.38 |
| CD Resistance | 3.05 | .86 | 2.90 | 3.19 |
| CD Detach | 2.79 | 1.07 | 2.61 | 2.97 |

*Note.* SH=Socio-Historical; PF=Perceived Foreigner; CD=Coping with Discrimination Scale

Table IV.2 Intercorrelations for all Continuous Variables

Table IV.2.

*Intercorrelations for all continuous variables*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Perceived Stress | --- | | | | | | | | | |
| 2. Mindful Mindset | -.23** | --- | | | | | | | | |
| 3. SH Racism | .06 | .11 | --- | | | | | | | |
| 4. General Racism | .21* | -.05 | .68*** | --- | | | | | | |
| 5. PF Racism | .19* | -.07 | .66*** | .83*** | --- | | | | | |
| 6. CD Educate | -.17* | .33*** | .42*** | .36*** | .36*** | --- | | | | |
| 7. CD Internalize | .17* | .10 | .06 | .16+ | .10 | .21* | --- | | | |
| 8. CD Drug | .18* | -.20** | -.02. | .25** | .19* | .15+ | .38*** | --- | | |
| 9. CD Resistance | -.09 | -.08 | .17* | .39*** | .32*** | .28** | .05 | .35*** | --- | |
| 10. CD Detach | .23** | -.23** | -.03 | .13 | .17* | .03 | .30*** | .35*** | -.04 | --- |

*Note.* SH=Socio-Historical; PF=Perceived Foreigner; CD=Coping with Discrimination Scale

$^+p < .10$, $*p < .05$, $**p < .01$, $***p < .001$

Table IV.3 Hierarchical Regression Model for Internalizing Discrimination and Mindful Mindset Predicting Perceived Stress

Table IV.3.

*Hierarchical regression model for internalizing discrimination and mindful mindset predicting perceived stress*

| Step and predictor variable | B | SE | β | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Step 1 | | | | .030 | |
|   Gender | < .01 | .10 | < .01 | | |
|   Age | < - .01 | < .01 | - .05 | | |
|   Income | - .01 | .04 | - .03 | | |
|   Place of birth | - .07 | .12 | - .05 | | |
|   AARSI | .10 | .06 | .15[+] | | |
| Step 2 | | | | .056 | .026[+] |
|   Internalizing discrimination | .08 | .04 | .16[+] | | |
| Step 3 | | | | .123* | .067** |
|   Mindful mindset | -.31 | .10 | -.26** | | |
| Step 4 | | | | .143** | .020[+] |
|   Educating the perpetrator x mindful mindset | .16 | .09 | .15[+] | | |

*Note.* Gender (1=Male, 2=Female), Place of Birth (1=Born in USA, 2=Born Outside USA),
AARSI=Asian American Racism Related Stress Inventory
[+]*p* < .10, \**p* < .05, \*\**p* < .01

Table IV.4 Hierarchical Regression Model for Coping with Drugs and Alcohol and Mindful Mindset Predicting Perceived Stress

Table IV.4.

*Hierarchical regression model for coping with drugs and alcohol and mindful mindset predicting perceived stress*

| Step and predictor variable | B | SE | β | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Step 1 | | | | .030 | |
| Gender | < .01 | .10 | < .01 | | |
| Age | < - .01 | < .01 | - .05 | | |
| Income | - .01 | .04 | - .03 | | |
| Place of birth | - .07 | .12 | - .05 | | |
| AARSI | .10 | .06 | .15+ | | |
| Step 2 | | | | .061 | .030* |
| Coping with drugs and alcohol | .09 | .04 | .19* | | |
| Step 3 | | | | .106* | .045** |
| Mindful mindset | -.26 | .10 | -.22** | | |
| Step 4 | | | | .136** | .030* |
| Coping with drugs and alcohol x mindful mindset | .18 | .08 | .19* | | |

*Note.* Gender (1=Male, 2=Female), Place of Birth (1=Born in USA, 2=Born Outside USA), AARSI=Asian American Racism Related Stress Inventory
+$p < .10$, *$p < .05$, **$p < .01$

Table IV.5 Hierarchical Regression Model for Detaching from Others and Mindful Mindset Predicting Perceived Stress

Table IV.5.

*Hierarchical regression model for detaching from others and mindful mindset predicting perceived stress*

| Step and predictor variable | B | SE | β | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Step 1 | | | | .030 | |
|   Gender | < .01 | .10 | < .01 | | |
|   Age | < - .01 | < .01 | - .05 | | |
|   Income | - .01 | .04 | - .03 | | |
|   Place of birth | - .07 | .12 | - .05 | | |
|   AARSI | .10 | .06 | .15[+] | | |
| Step 2 | | | | .082[+] | .052** |
|   Detaching from others | .12 | .04 | .23** | | |
| Step 3 | | | | .120* | .038* |
|   Mindful mindset | -.24 | .10 | -.20* | | |
| Step 4 | | | | .121* | .001 |
|   Detaching from others x mindful mindset | -.03 | .08 | -.03 | | |

*Note.* Gender (1=Male, 2=Female), Place of Birth (1=Born in USA, 2=Born Outside USA), AARSI=Asian American Racism Related Stress Inventory
[+]$p < .10$, *$p < .05$, **$p < .01$

Table IV.6 Hierarchical Regression Model for Resisting the Perpetrator and Mindful Mindset Predicting Perceived Stress

Table IV.6.

*Hierarchical regression model for resisting the perpetrator and mindful mindset predicting perceived stress*

| Step and predictor variable | $B$ | $SE$ | $\beta$ | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Step 1 | | | | .030 | |
| Gender | < .01 | .10 | < .01 | | |
| Age | < - .01 | < .01 | - .05 | | |
| Income | - .01 | .04 | - .03 | | |
| Place of Birth | - .07 | .12 | - .05 | | |
| AARSI | .10 | .06 | .15[+] | | |
| Step 2 | | | | .050 | .020[+] |
| Resisting the perpetrator | - .10 | .12 | -.04[+] | | |
| Step 3 | | | | .113* | .063** |
| Mindful mindset | -.30 | .10 | -.25** | | |
| Step 4 | | | | .114** | .031* |
| Resisting the perpetrator x Mindful mindset | .24 | .11 | .18* | | |

*Note.* Gender (1=Male, 2=Female), Place of Birth (1=Born in USA, 2=Born Outside USA),
AARSI=Asian American Racism Related Stress Inventory
[+]$p < .10$, *$p < .05$, **$p < .01$

Table IV.7 Hierarchical Regression Model for Educating the Perpetrator and Mindful Mindset Predicting Perceived Stress

Table IV.7.

*Hierarchical regression model for educating the perpetrator and mindful mindset predicting perceived stress*

| Step and predictor variable | B | SE | β | $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Step 1 | | | | .030 | |
| Gender | < .01 | .10 | < .01 | | |
| Age | < - .01 | < .01 | - .05 | | |
| Income | - .01 | .04 | - .03 | | |
| Place of birth | - .07 | .12 | - .05 | | |
| AARSI | .10 | .06 | .15[+] | | |
| Step 2 | | | | .108* | .078*** |
| Educating the perpetrator | -.15 | .04 | .28[+] | | |
| Step 3 | | | | .130** | .022[+] |
| Mindful mindset | -.19 | .10 | -.16[+] | | |
| Step 4 | | | | .131* | < .001 |
| Educating the perpetrator x mindful mindset | -.02 | .08 | -.02 | | |

*Note.* Gender (1=Male, 2=Female), Place of Birth (1=Born in USA, 2=Born Outside USA), AARSI=Asian American Racism Related Stress Inventory
[+]$p < .10$, *$p < .05$, **$p < .01$

Figure IV.1 Mindful Mindset Moderating the Relationship Between Coping by Internalizing Discrimination and Perceived Stress Scores

Figure IV.1

*Mindful mindset moderating the relationship between coping by internalizing discrimination and perceived stress scores*
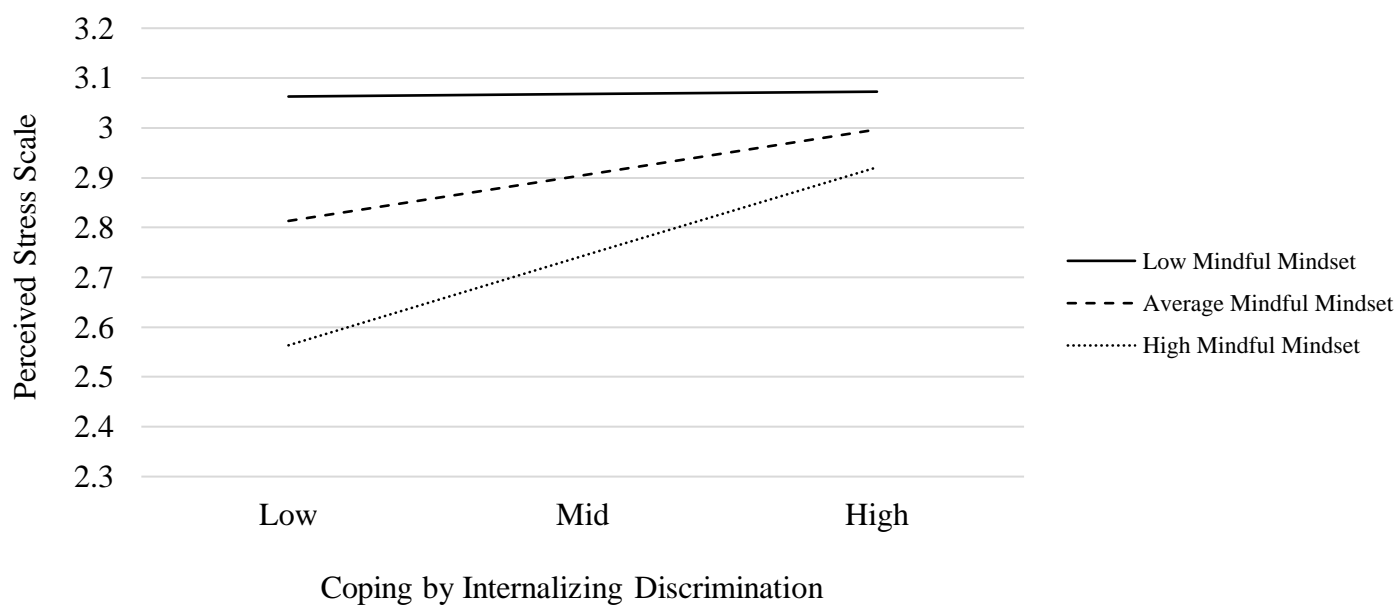
Figure IV.2 Mindful Mindset Moderating the Relationship Between Coping with Drug and Alcohol Use and Perceived Stress Scores

Figure IV.2.

*Mindful mindset moderating the relationship between coping with drug and alcohol use and perceived stress scores*
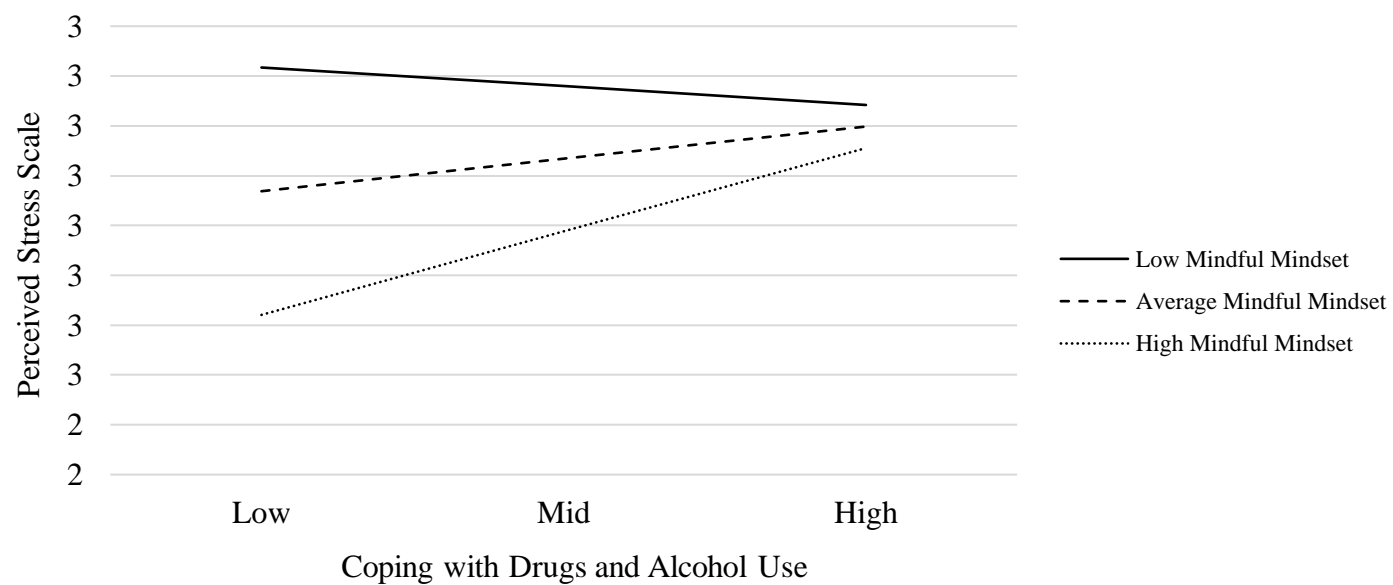
Figure IV.3 Mindful Mindset Moderating the Relationship Between Coping by Detaching from Others and Perceived Stress Scores

Figure IV.3.

*Mindful mindset moderating the relationship between coping by detaching from others and perceived stress scores*
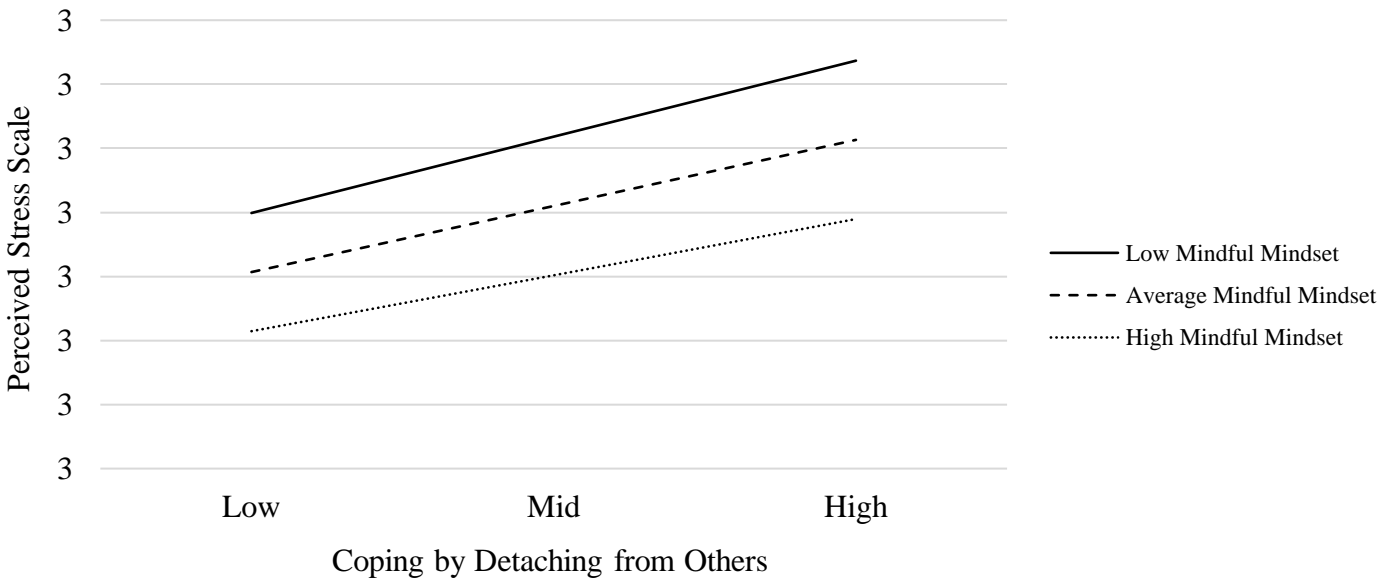
Figure IV.4 Mindful Mindset Moderating the Relationship Between Coping by Resisting the Perpetrator and Perceived Stress Scores

Figure IV.4.

*Mindful mindset moderating the relationship between coping by resisting the perpetrator and perceived stress scores*
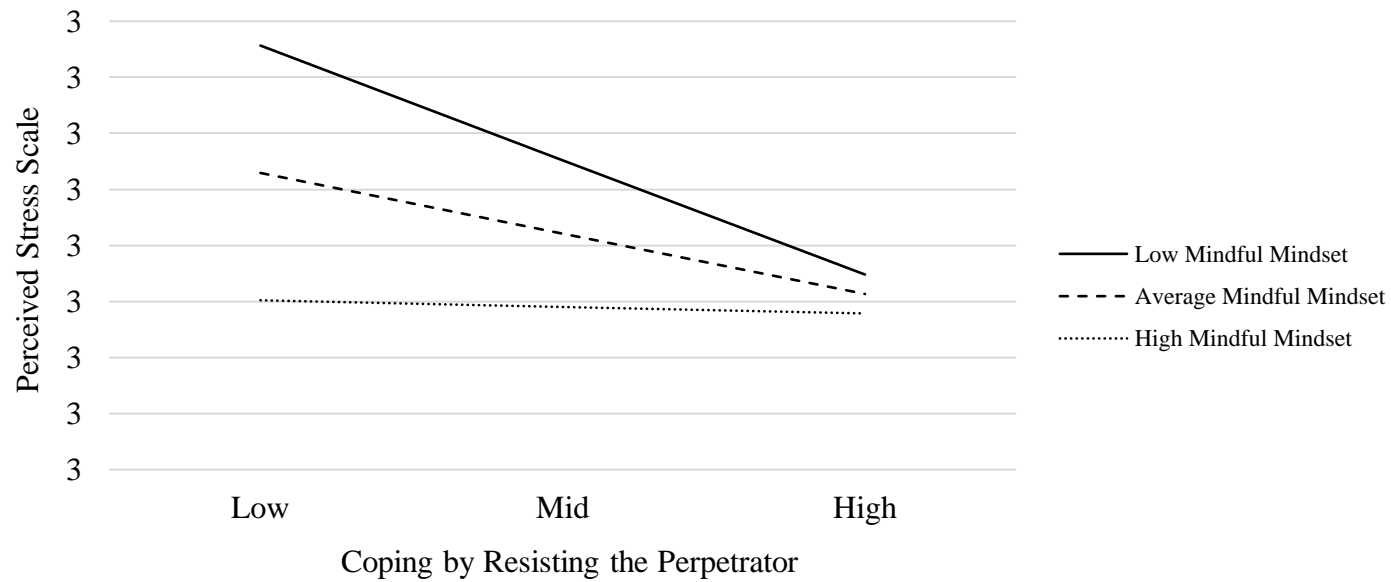
Figure IV.5 Mindful Mindset Moderating the Relationship Between Coping by Educating the Perpetrator and Perceived Stress Scores

Figure IV.5.

*Mindful mindset moderating the relationship between coping by educating the perpetrator and perceived stress scores*