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Racial differences in job attitudes of early-career academics: the experiences of Asian Americans in higher education

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Abstract

Asian Americans have a unique positionality in higher education because they are racially marginalized while being overrepresented in some science and technology fields. Being stereotyped as the "model minority," Asian Americans' experiences and job outcomes differ from both the majority and other racial minority groups. However, there is limited research on their experiences in higher education, particularly regarding job attitudes. We studied the experiences of Asian American scholars to understand their job attitudes compared with scholars with different racial/ethnic identities and the impact of inclusive academic climates on those attitudes. We conducted a national survey of early-career scholars (i.e., doctoral students, postdoctoral researchers, and assistant professors) in four science fields (two each in the natural and social sciences). Our analysis of the sample ($N = 2866$) showed that Asian American scholars had lower professional role confidence and work withdrawal than scholars in all other racial groups and also lower affective job commitment than scholars from other racial minority groups. Citizenship was significantly associated with work withdrawal, indicating its potential role in lower work withdrawal among Asian American scholars who were disproportionately foreign nationals. Doctoral students had lower commitment and professional role confidence than assistant professors but were more confident than postdocs. Inclusive departmental and professional field climates positively shaped job attitudes and helped to reduce racial differences among early career scholars. This research extends the current understanding about the experiences of Asian American scholars and highlights racial differences in job attitudes in higher education.

Keywords Asian American · Job attitude · Higher education · Inclusive climate · Early career

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Introduction

Asian Americans[1] aged 25 and older have the highest educational attainment across racial/ethnic groups in the USA, with 61% having a bachelor's degree or higher in 2021, compared to 41% of non-Hispanic White, 28% of Black, and 21% of Hispanic adults, respectively (Census Bureau, 2022). Accounting for only 7% of the US population aged 20–34, Asian Americans earned 11% of total science and engineering degrees across all degree levels in 2019 and, along with people who are White, are the only racial/ethnic group overrepresented in some science and engineering fields (National Science Board [NSB], 2022). However, the high levels of educational attainment of Asian Americans and numerical overrepresentation in some fields mask the racial discrimination they experience in the workplace (Chou & Feagin, 2015; Sabharwal, 2017).

Asian Americans in higher education experience discrimination as racial minorities and face unique challenges as a marginalized group (McGee et al., 2017; Poon et al., 2016). Asian American faculty often encounter discriminatory practices such as unfair job evaluations and fewer promotion opportunities (Lawrence et al., 2014; Thomson et al., 2020). Asian Americans are also considerably influenced by their immigrant status due to a significant proportion being foreign-born (Weaver, 2000), leading to heightened insecurity and intentions to leave among faculty (Bookman, 2020; Feeney et al., 2023), especially if there are better career prospects in their home countries (van Holm et al., 2019). They also have to overcome the Asian success stereotype and adapt to the norms of American culture (Chen & Buell, 2018; Chen & Fouad, 2013). These additional difficulties distinguish them from other racially minoritized groups. Despite their significant presence in higher education and unique social, cultural, and political status, the experiences of Asian Americans have been comparatively overlooked in higher education research (McGee et al., 2017; Zhou & Bankston, 2020).

The limited research on job attitudes by race that includes Asian Americans primarily focuses on faculty job satisfaction and turnover intentions. Although racial minority faculty exhibited lower job satisfaction and higher turnover intentions compared to White faculty, the differences among faculty from different racial minority groups were not clear (Ali, 2009; Bender & Heywood, 2006; Thomson et al., 2020). Asian American faculty derived higher job satisfaction from their research achievements than faculty from other racially minoritized groups (Ali, 2009), but when they perceived the work environment as unfair, they reported lower job satisfaction and higher turnover intentions (Lawrence et al., 2014; Lin et al., 2009).

Racial minorities are particularly attentive to an inclusive and accepting environment where personal opinions are valued and procedures are fair (Purdie-Vaughns et al., 2008). On average, they perceive the work climate in academic sciences as less inclusive, collaborative, and fair than White academics (Settles et al., 2019). These perceptions may, in turn, negatively affect their job attitudes, such as satisfaction, commitment, and retention in academia (Hesli & Lee, 2013; Settles et al., 2013). However, little research has examined the role of an inclusive climate on Asian American scholars' job attitudes.

[1] "Asian Americans" is often used as an umbrella term to encompass all individuals of Asian descent (sometimes also including Pacific Islanders), regardless of citizenship, or to refer specifically to US citizens of Asian descent. This research adopts the first definition, consistent with most Asian American studies and the references cited in this paper.

PhD students in the USA are primarily funded by assistantships (56.8%) and fellowships (24.6%) (National Center for Science and Engineering Statistics [NCSES], 2024). In return, they engage in teaching and research work. However, the job attitudes of this large group of early-career scholars remain understudied. While one study explores the connection between working hours and commitment to research among doctoral students (van Tienoven et al., 2024), most research on graduate students addresses their overall experiences, such as relationships with supervisors (Cohen & Baruch, 2022) and satisfaction with doctoral programs (Barnes & Randal, 2012), rather than attitudes toward work. Therefore, a large knowledge gap exists regarding PhD students' job attitudes.

Our research seeks to understand racial differences in job attitudes and the impact of inclusive academic climates on these attitudes in higher education. We use national survey data of early-career scholars, including doctoral students, postdoctoral researchers, and assistant professors, in two natural science fields (biology and physics) and two social science (psychology and economics) fields from US doctoral-granting institutions. Specifically, we ask (1) how do job attitudes of early-career Asian American scholars compare to those of scholars with different racial/ethnic identities and (2) how do inclusive climates at the levels of the department and profession affect their job attitudes?

Theoretical framework

Race and ethnicity in higher education

Critical race theory emphasizes the pivotal role of race and racism in creating and perpetuating inequality (Delgado & Stefancic, 2023), providing a valuable perspective to understand the experiences of racial/ethnic minority scholars, as well as the distinctions among them. It highlights that racial minorities encounter racism routinely in hierarchical systems, where Whites are ranked as superior to all other groups (Delgado & Stefancic, 2023). Asian Americans, similar to other racial minorities, face racial discrimination on a daily basis, despite their overrepresentation in certain science and technology fields and higher levels of education degree attainment (NSB, 2022).

Critical race theory also challenges the racial inequalities and oppression in higher education that are underpinned by the principles of meritocracy, race neutrality, and equal opportunity (Poon et al., 2016; Solórzano & Yosso, 2001). By upholding such values, systemic factors that shape racial minorities' opportunities and success are erased. Indeed, meritocratic ideology serves as a justification for racial stratification that legitimizes White superiority over other race/ethnicity groups in higher education, while the claims of race neutrality and equal opportunity mask racial inequalities (Poon et al., 2016; Solórzano & Yosso, 2001; Wang, 2014).

According to critical race theory, racial minority groups experience differential racialization based on their positions in the racial hierarchy in response to the needs of the majority group (Delgado & Stefancic, 2023). Kim (1999) suggests that Asian Americans are situated within a racial triangulation between Whites and Blacks, where they are perceived, like Blacks, as inferior to Whites but also viewed as perpetual foreigners. This racial triangulation theory highlights how Asian Americans are both subordinate and alienated from American society.

However, Asian Americans are depicted as the "model minority" due to their high educational attainment (Chen & Fouad, 2013; Chou & Feagin, 2015; Lai, 2013; Sabharwal,

2017). The model minority portrayal not only obscures the entrenched racial hierarchy that sustains inequalities in socioeconomic achievements between White people and people of color but also pits Asian Americans against other racial minority groups (Chen & Buell, 2018; Poon et al., 2016; Wang, 2014). As a result, Asian Americans have been deminoritized and marginalized from both majority and minority groups (Kim, 1999; Lai, 2013; Lee, 2006). For example, Asian Americans are often excluded from diversity initiatives and efforts targeted at racial minority groups because they are overrepresented, albeit only in some academic fields (Museus & Kiang, 2009; Teranishi et al., 2009). Therefore, Asian Americans have limited access to services and programs that promote diversity in higher education (Lee, 2006; Trytten et al., 2012), making their struggles against racial discrimination invisible (McGee et al., 2017; Zhou & Bankston, 2020). Most importantly, the model minority myth supports discrimination against racial minorities based on meritocracy ideology and denies equal rights to all racial minority groups (Poon et al., 2016; Yu, 2006).

Although structural barriers and persistent discrimination are common to all racial minority groups in higher education (Brunsma et al., 2017; Settles et al., 2022), research demonstrates differences in experiences among race/ethnicity groups. Asian Americans experience anti-Asian discrimination (Trytten et al., 2012), are less likely to be accepted into non-science disciplines (Poon, 2014), and experience glass ceilings that result in low representation in managerial positions (U.S. Department of Labor, 2010). Such workplace disadvantages and consequently lower career attainment compared to their White counterparts are especially true for Asian Americans in science and engineering, where their overrepresentation leads to presumed advantage (McGee et al., 2017; Thomson et al., 2020). For example, Asian American scholars have the lowest overall proposal funding rates from the National Science Foundation among all race/ethnicity groups while White scholars have been funded above the overall funding rates (Chen et al., 2022). Asian American women in academic science, engineering, and math fields face even stricter expectations for aligning with hegemonic femininity and presumptions that they lack assertiveness (Blair-Loy & Cech, 2022).

Job attitudes

Job attitudes are "feelings toward, beliefs about, and attachment to one's job" (Judge & Kammeyer-Mueller, 2012, p. 344); they are often measured by job satisfaction, organizational commitment, work withdrawal, and professional role confidence. In higher education, research on job attitudes focuses primarily on faculty, with little attention given to PhD students. van Tienoven et al. (2024) argue that doctoral students are part of the academic workforce due to their teaching and research roles. Their study found that long, irregular working hours may reflect PhD students' engagement in research while also contributing to stress.

Job satisfaction is the individual evaluation of one's job, including work tasks, pay, promotions, supervision, and relationships with coworkers (Warr et al., 1979). Faculty of color report lower job satisfaction than White faculty because of discrimination against them (Bender & Heywood, 2006; Hesli & Lee, 2013). However, research findings are inconsistent regarding differences in job satisfaction among racially minoritized groups. One study showed that racialized experiences affect job satisfaction for all but Hispanic faculty (Ali, 2009), while another study found this only among Asian American and African American faculty (Bender & Heywood, 2006). Other research found that African American and

Hispanic faculty were less satisfied, while Asian American faculty were more satisfied with their jobs than White faculty (Niemann & Dovidio, 1998).

Organizational commitment, particularly its affective dimension, refers to employees' sense of attachment and dedication to their work organization (McGhee & Satcher, 1995; Mercurio, 2015). Prior studies have documented racial differences in organizational commitment among faculty. For example, scholars have shown that White tenure-track faculty had higher organizational commitment than all faculty of color (Ott & Cisneros, 2015) and underrepresented minority faculty were less likely to say they were committed to their institutions than their White counterparts (Lawrence et al., 2012).

Job involvement is the investment of energy into job performance and the cognitive and emotional connections to the job (Judge et al., 2017). A lack of job involvement can induce work withdrawal such as lateness, absenteeism, avoiding work, and turnover intentions (Hanisch & Hulin, 1990; Judge & Kammeyer-Mueller, 2012). Faculty from racial minority groups are more likely to report higher turnover intentions than White faculty due to dissatisfaction with compensation (Zhou & Volkwein, 2004) and discrimination in the workplace (Settles et al., 2022).

Professional role confidence is individuals' confidence in fulfilling expected responsibilities with the required competencies, and in identifying with their profession while finding satisfaction (Cech et al., 2011). As professional role confidence is strongly related to persistence in professions, racial differences are particularly important to understand (Cech et al., 2011). Although most research has been conducted on gender differences in professional role confidence, one study found that underrepresented science students have lower overall confidence than White students (Litzler et al., 2014).

In addition to racial differences, job attitudes also vary by citizenship status. International scholars tend to express lower satisfaction with their academic jobs than their US citizen counterparts (Bender & Heywood, 2006; Corley & Sabharwal, 2007). They are less satisfied with research and teaching resources, compensation, advancement opportunities, departmental collegiality, and fairness than their citizen counterparts (Lawrence et al., 2014; Lin et al., 2009; Skachkova, 2007). In the past decade, an average of 78% of Asian Americans receiving a doctorate in science and engineering fields in the USA held temporary visas (NCSES, 2024). Their job satisfaction was particularly affected by their citizenship (Weaver, 2000). In fact, Asian American scholars who were not US citizens were less satisfied with their jobs and less sure about their future than US citizens and other non-US citizen scholars in academia (Lin et al., 2009; Sabharwal, 2017).

There are other demographic factors that may affect job attitudes. For example, job satisfaction is lower among academics who are women, older, or in postdoctoral positions (Bender & Heywood, 2006; Settles et al., 2022). Salary is also associated with job satisfaction and retention among faculty (Jayakumar et al., 2009; Zhou & Volkwein, 2004). Organizational commitment among faculty also varies by career stage, field (Neumann & Finaly-Neumann, 1990), age, and gender (Marchiori & Henkin, 2004). Therefore, we must consider multiple identities to understand the job attitudes of Asian Americans in higher education.

Academic climate

Another key factor shaping job attitudes is climate, including organizational values, procedures, and practices (Jayakumar et al., 2009; Judge & Kammeyer-Mueller, 2012). In higher education, perceived inclusive climate is positively related to organizational commitment

and work engagement (Elliott et al., 2017; Innstrand & Grødal, 2022). Faculty have higher job satisfaction and lower turnover intentions when their departments provide research support, advancement opportunities, and inclusive department conversations and decision-making (Lawrence et al., 2014; Xu, 2008). A positive culture, collegiality, and institutional procedures that encourage a sense of belonging and commitment reduce faculty members' turnover intentions (Burnett et al., 2012; Daly & Dee, 2006). In contrast, perceived injustices and scholarly isolation are related to lower job satisfaction and higher turnover intentions among faculty (Minnotte & Pedersen, 2021; Riffle et al., 2013).

However, faculty of color often face negative climates characterized by discrimination including scholarly devaluation, invisibility, racism, and exclusion, all of which led to their less positive job attitudes compared to White faculty (Lawrence et al., 2012; Settles et al., 2022). Although an inclusive climate can have a mitigating effect on negative job attitudes among racial minorities (Lawrence et al., 2012), research has found job attitudes and their responses to academic climate vary by race/ethnicity and citizenship. For example, a hostile racial climate more negatively affected Black and Latina/o faculty job satisfaction than Asian American faculty and that climate was positively related to greater retention for White faculty (Jayakumar et al., 2009). Foreign-born faculty were also more likely to be dissatisfied with the work environment than US-born faculty (Corley & Sabharwal, 2007). Among Asian faculty who were not US citizens, lower levels of satisfaction with work climates predicted higher levels of turnover intentions (Lawrence et al., 2014).

This study

Our research aims to fill three important knowledge gaps in understanding racial differences in job attitudes. First, we study job attitudes among racial/ethnic minority groups in higher education, with an emphasis on the experiences of Asian American scholars. Second, we focus on the experiences of early-career scholars (i.e., doctoral students, postdoctoral researchers, and assistant professors), who are particularly vulnerable to academic climate, essential for the future of science, yet are often omitted from research on job attitudes in higher education. Third, we examine multiple dimensions of job attitudes and link them with different measures of academic climate.

Sample

We sampled doctoral-granting institutions of higher education across the USA, focusing on four science disciplines (non-medical biology, physics, economics, psychology) because these four fields provide a wide range in the proportion of racial minority scholars and women. We categorized these disciplines into natural sciences (biology and physics) and social sciences (economics and psychology) based on differences in job outcomes between these two science branches (Neumann & Finaly-Neumann, 1990). We divided the National Research Council's (2011) ranking of each field's departments into the upper, middle, and lower terciles and then randomly selected 10 departments in each field and each tercile. We oversampled minority-serving institutions to ensure there was at least one such institution within each field/tercile category.

Our online Qualtrics survey was administered to a sample of 10,658 persons from 157 departments within 94 US doctoral-granting institutions during April–May 2021. We sent invitations to the survey via email and received 3512 responses (33% response rate).

Participants were given a check for $20–$35 depending on the timing of survey completion. We excluded respondents who left the department from which they were recruited or did not complete relevant survey measures, resulting in a total of 2866 participants in this analysis.

For this study focused on Asian American experiences, we used a three-category race/ethnicity classification: Asian American, White, and other racial minorities. We kept two categories of race/ethnicity from our survey: Asian American (self-identified as Asian, Asian American, or Pacific Islander) and White (self-identified as White or Caucasian). The remaining respondents, including 79 African Americans, 128 Hispanics, and those identifying with multiple races/ethnicities, were grouped into an "Aggregated Racial Minority" category, as their small numbers did not provide sufficient power to make meaningful comparisons between them and Asian Americans. This classification allowed us to center our analysis on Asian American scholars and examine their similarities and differences with other racial minorities.

Among the 2866 early-career respondents to our survey, the majority were White scholars, with Asian Americans accounting for 27% (759 respondents), and the Aggregated Racial Minority comprising the remaining 19% (531 respondents). Other demographic variables are age, gender, income, citizenship, and academic field. In this sample, Asian American scholars had the highest percentage of scholars in the two natural science fields, in doctoral programs, and who were non-US citizens or permanent residents, and had the lowest income (Table 1).

Measures

This study uses summative scales to tap various facets of the job attitude indicators (job satisfaction, affective commitment, professional role confidence, and work withdrawal) and two academic climate indicators (inclusive scholarly climate and department diversity climate). The Cronbach's alpha values for these composite variables fall between 0.80 and 0.90, which indicates satisfactory internal consistency (Table 2). The means are all above the midpoint of each variable's scale (ranging from 1 to 5), which shows that respondents are generally positive about job attitudes and academic climates.

PhD students often serve as researchers and/or instructors within the same academic settings as postdocs and faculty (NCSES, 2024), although their roles differ. We selected job attitude measures appropriate for doctoral students, postdocs, and faculty and, if needed, slightly adapted the wording of existing scales to improve applicability across academic positions. To ensure the job attitude measures resonated with PhD students' experiences, we also conducted a pre-test survey with graduates. Our formal survey received significant responses from PhD students.

Table 1 Demographics of the respondents across racial/ethnic categories ($N = 2866$)

Racial/ethnic category	Natural sciences (%)	Ph.D. student (%)	Age < 35 (%)	Median income	Women (%)	Foreign national (%)
Asian American	55.3	87.1	86.2	$15,001–$25,000	42.8	72.5
Aggregated Racial Minority	43.5	86.1	84.9	$25,001–$50,000	52.8	29.2
White	52.4	80.2	84.2	$25,001–$50,000	53.8	9.8
Total	51.5	83.2	58.3	$25,001–$50,000	50.6	30.0

Table 2 Description of composite job attitude and climate variables

Variable	*N*	No. of items	Mean	Min	Max	Std. Dev	Cronbach's alpha
Job satisfaction	2813	10	3.64	1	5	0.68	0.83
Affective Commitment	2738	6	3.79	1	5	0.78	0.87
Professional role confidence	2747	5	3.83	1	5	0.80	0.86
Work withdrawal	2805	7	2.82	1	5	0.88	0.80
Department diversity climate	2715	5	3.42	1	5	0.95	0.89
Scholarly inclusion climate	2775	12	3.45	1.08	5	0.59	0.82

Job satisfaction was assessed by 10 items developed from the Job Descriptive Index originated by Warr et al. (1979). Participants responded to how satisfied they were with their experiences in academia including working conditions, income, and "relationship with mentor(s)" (1, extremely dissatisfied, to 5, extremely satisfied). Following McGhee and Satcher (1995), we measured *affective commitment* with six items such as "very happy to spend the rest of my career in this field" and "feel a strong sense of belonging to my field" (1, strongly disagree, to 5, strongly agree). The *professional role confidence* measurement was adapted from Cech et al.'s (2011) five items regarding anticipated advancements in the field, such as "I am able to be successful in my career" and "I can have a satisfying job in my field" (1, not at all confident, to 5, very confident). *Work withdrawal* was measured with four items from Hanisch and Hulin's (1990) and three items from Demerouti et al. (2010) rated from never (1) to once a week or more (5). Questions include "How often have you completed work or school assignments late" and "thought about quitting because of school or work-related issues" within the past year.

Two climate variables measure department diversity climate and scholarly inclusion climate in the field on a 5-point Likert scale (1, strongly disagree, to 5, strongly agree). The department diversity climate is an adapted scale from Pugh et al. (2008) that includes five statements such as "People are given research opportunities without regard to their gender, race, religion, or cultural background" and "It is easy for people from diverse backgrounds to fit in and be accepted." The scholarly inclusion variable combines the professional scale of scholarly inclusion adapted from Cech (2022) and the epistemic exclusion scale from Settles et al. (2022). The professional scale of scholarly inclusion assesses whether the respondents are valued in their professional fields with eight statements, including "My values are reflected in my field" and "I am held to the same standards as others for promotion and advancement in my field." The epistemic exclusion scale measures how disciplinary biases exclude marginalized scholars with four items, such as "I have had to change my research to better fit the norms of my professional field" and "I often have to defend the quality of my research to others." When necessary, reverse coding was employed to ensure an accurate interpretation of the results.

Analytical method

We performed hierarchical linear regression with robust standard errors to adjust for correlations within departments. We first fitted regression models of job attitudes and climates on demographic variables, respectively. Then, we included both demographic variables and climate factors to assess their impact on job attitudes in the final models. In supplemental analyses, we (1) tested interactions between race/ethnicity and gender and between race/

ethnicity and academic climates and (2) estimated the models for only doctoral students. The results show little difference from the original models and thus are not presented.

Results

Racial/ethnic differences in job attitudes

We found that Asian Americans differed significantly from the two other racial/ethnic categories in all job attitudes except job satisfaction, when controlling for other demographics (Table 3). Specifically, Asian American scholars, compared to White and Aggregated Racial Minority scholars, reported lower affective commitment, indicating less emotional attachment to their fields. They were also less confident in their future success. Despite their relatively lower job commitment and professional role confidence, Asian American

Table 3 Regression results of job attitudes on demographic variables

Demographics	Job satisfaction	Affective commitment	Professional role confidence	Work withdrawal
Racial/ethnic category (ref, Asian American)				
White	0.082	0.150***	0.223***	0.210***
	(0.045)	(0.045)	(0.048)	(0.057)
Aggregated Racial Minority	0.011	0.127*	0.227***	0.252***
	(0.048)	(0.053)	(0.055)	(0.058)
Position (ref, PhD students)				
Postdoc	0.082	0.177**	−0.148*	−0.156*
	(0.052)	(0.056)	(0.071)	(0.065)
Assistant professor	0.063	0.549***	0.396***	−0.142
	(0.097)	(0.112)	(0.097)	(0.120)
US citizenship (1, yes)	−0.043	0.005	0.041	0.288***
	(0.042)	(0.045)	(0.046)	(0.051)
Natural sciences (1, yes)	0.085*	−0.059	−0.084*	0.028
	(0.034)	(0.039)	(0.042)	(0.045)
Age	−0.022***	−0.005	−0.007	−0.008
	(0.004)	(0.005)	(0.004)	(0.005)
Gender (1, woman)	−0.038	0.061	−0.021	0.161***
	(0.028)	(0.031)	(0.033)	(0.034)
Median income	0.118***	−0.073**	−0.018	0.020
	(0.021)	(0.025)	(0.027)	(0.030)
Constant	3.789***	4.055***	3.956***	2.563***
	(0.138)	(0.182)	(0.159)	(0.194)
R^2	0.046	0.025	0.040	0.078
N	2473	2470	2468	2473

Standard errors in parentheses

$^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Table 4 Regression results of academic climates on demographics

Demographics	Scholarly inclusion climate	Department diversity climate
Racial/ethnic category (ref, Asian American)		
White	0.206***	−0.027
	(0.031)	(0.056)
Aggregated Racial Minority	−0.058	−0.152*
	(0.040)	(0.073)
Position (ref, PhD students)		
Postdoc	0.140**	0.221**
	(0.046)	(0.082)
Assistant professor	0.164*	0.479**
	(0.080)	(0.159)
US citizenship (1, yes)	0.015	−0.317***
	(0.030)	(0.059)
Natural sciences (1, yes)	0.109***	0.092
	(0.028)	(0.070)
Age	−0.015***	−0.023***
	(0.003)	(0.005)
Gender (1, woman)	−0.135***	−0.348***
	(0.027)	(0.036)
Median income	0.038*	−0.017
	(0.019)	(0.039)
Constant	3.630***	4.517***
	(0.108)	(0.206)
R^2	0.088	0.087
N	2468	2463

Standard errors in parentheses

$^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

scholars reported lower withdrawal from work, i.e., neglecting tasks and intending to leave, than scholars in the other two racial/ethnic categories.

Doctoral students exhibited lower affective commitment and role confidence than assistant professors, while they displayed lower affective commitment, higher role confidence, and greater work withdrawal than postdocs (Table 3). Scholars in natural sciences tended to have lower levels of confidence in their professional roles compared to those in social sciences, although they were more likely to be satisfied with their jobs. Citizens and permanent residents were more likely to withdraw from work than international scholars. Younger scholars were more satisfied with their job, while women scholars were more likely to withdraw from work. Income was positively correlated with job satisfaction but negatively associated with affective commitment.

Racial/ethnic differences in perceptions of academic climate

Asian American scholars had different perceptions of scholarly inclusion and departmental diversity climate compared to scholars from other racial/ethnic categories, and

Table 5 Regression results of job attitudes on demographic and academic climate variables

Variables	Job satisfaction	Affective commitment	Professional role confidence	Work withdrawal
Racial/ethnic category (ref, Asian American)				
White	−0.032	0.059	0.103*	0.280***
	(0.037)	(0.041)	(0.043)	(0.052)
Aggregated Racial Minority	0.063	0.164**	0.270***	0.200***
	(0.037)	(0.053)	(0.050)	(0.053)
Position (ref, PhD students)				
Postdoc	−0.028	0.107	−0.240***	−0.075
	(0.043)	(0.056)	(0.065)	(0.065)
Assistant professor	−0.092	0.441***	0.263**	0.001
	(0.075)	(0.113)	(0.083)	(0.109)
US citizenship (1, yes)	−0.011	0.017	0.055	0.231***
	(0.036)	(0.044)	(0.039)	(0.046)
Natural sciences (1, yes)	0.012	−0.115**	−0.155***	0.085*
	(0.028)	(0.041)	(0.039)	(0.042)
Age	−0.010***	0.003	0.003	−0.018***
	(0.003)	(0.004)	(0.004)	(0.005)
Gender (1, woman)	0.083**	0.146***	0.082*	0.048
	(0.026)	(0.030)	(0.032)	(0.032)
Median income	0.097***	−0.088***	−0.038	0.032
	(0.016)	(0.026)	(0.023)	(0.027)
Scholarly inclusion climate	0.561***	0.458***	0.582***	−0.365***
	(0.022)	(0.029)	(0.031)	(0.028)
Department diversity climate	0.137***	0.065***	0.068***	−0.191***
	(0.016)	(0.019)	(0.020)	(0.021)
Constant	1.140***	2.106***	1.532***	4.749***
	(0.141)	(0.212)	(0.165)	(0.210)
R^2	0.375	0.160	0.241	0.213
N	2459	2459	2457	2459

Standard errors in parentheses

$^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

these climate perceptions also varied by other demographics (Table 4). Asian Americans had less positive perceptions of scholarly inclusion than White scholars and more positive perceptions of department diversity climate than Aggregated Racial Minority scholars. Doctoral students were less positive about both academic climates than postdocs and assistant professors. Foreign nationals were more likely to feel their departments value diversity than US citizens or permanent residents. Scholars in natural sciences had a more positive perception of scholarly inclusion than those in social sciences. Younger, men scholars had more positive views of academic climates, while income was only correlated with scholarly inclusion.

Racial/ethnic differences in job attitudes, accounting for academic climates

Except for job satisfaction, job attitudes significantly varied by race/ethnicity when also accounting for academic climates (Table 5). While Asian American scholars remained less emotionally attached to their jobs and less confident in their future career development than Aggregated Racial Minority scholars, they no longer exhibited significantly lower affective commitment than White scholars. Asian American scholars also reported lower work withdrawal than scholars in two other groups (Table 5). Doctoral students demonstrated less commitment and professional role confidence than assistant professors but greater role confidence than postdocs. Citizenship was strongly and positively associated with work withdrawal, suggesting that foreign nationals were less likely to withdraw from work. Scholars in natural sciences exhibited lower affective commitment and role confidence, but higher withdrawal intentions compared to those in social sciences. These findings are intriguing, especially given that Asian American scholars are predominantly foreign nationals and are more likely to concentrate on natural sciences than other racial groups. Younger and women scholars tended to have more positive job attitudes, whereas income was associated with greater job satisfaction but lower affective commitment.

Both scholarly inclusion and department diversity climate were strongly associated with all four measures of job attitudes. When scholars perceived that their department and field value diversity and inclusion, they reported higher levels of job satisfaction, affective commitment, and professional role confidence, as well as lower work withdrawal. However, no interactions were found between racial/ethnic categories and academic climates on job attitudes (results not presented), indicating that racial differences in job attitudes did not depend on differences in perceived academic climates.

Discussion and conclusion

Asian American scholars confront the inequalities encountered by other scholars of color as well as distinct challenges due to their unique racial identity (Chen & Buell, 2018; McGee et al., 2017; Poon et al., 2016). However, Asian Americans in higher education are often de-minoritized and their experiences are understudied because they are thought to be overrepresented and successful, which, paradoxically, creates additional challenges for Asian American scholars (Lee, 2006; Zhou & Bankston, 2020). Informed by critical race theory's perspective on differential racialization among racial/ethnic minorities, we studied job attitudes among Asian American, White, and Aggregated Racial Minority early-career scholars in the natural and social sciences and how academic climates and other demographic characteristics are related to those racialized job attitudes.

Aligned with existing data about the overrepresentation of Asian Americans in the fields of science and technology (NSB, 2022), our sample of doctoral students, postdoctoral researchers, and assistant professors at higher education institutions across the USA included a higher proportion of Asian American scholars in the natural sciences than in the social sciences compared to the two other racial/ethnic categories. The Asian American respondents, primarily PhD students and earning the least in the sample, were also predominantly neither US citizens nor permanent residents (at over double the rate of the Aggregated Racial Minority scholars). This striking difference may contribute to distinct experiences of racialization, which, in turn, could influence job attitudes differently.

We found that Asian American scholars had different job attitudes compared to scholars in the other two racial/ethnic categories and that many of these results remained after controlling for both demographics and academic climates. Notably, Asian American scholars had lower professional role confidence and work withdrawal compared to scholars in all other groups, while also demonstrating less affective commitment than their counterparts in the Aggregated Racial Minority category. These results support previous research on racial differences in job attitudes (Ott & Cisneros, 2015; Settles et al., 2022) and highlight the nuanced disparities within minority groups. They also align with the differential racialization of minorities posited by critical race theory (Delgado & Stefancic, 2023) and the unique positionality of Asian Americans in the racial triangulation (Kim, 1999). Furthermore, the observed perception of greater career disadvantages among Asian American scholars debunks the model minority myth, which portrays Asian Americans as advantaged minorities (Chen & Fouad, 2013; Chou & Feagin, 2015; Sabharwal, 2017).

Many factors likely contribute to the racial differences we identified. Despite facing discrimination like other racial minorities, Asian Americans are often excluded from minority status due to their perceived success (Kim, 1999; Lai, 2013). For instance, the de-minoritization of Asian Americans in higher education restricts their access to diversity initiatives and services (Lee, 2006; Trytten et al., 2012). The double disadvantage of racial discrimination and marginalization within minority groups can profoundly impact the job attitudes of Asian American scholars, leading to lower levels of affective commitment due to a lack of inclusion and belonging, and lower professional role confidence due to limited career support, compared to other racial minorities. Moreover, given their high proportion of foreign nationals, Asian Americans are more subject to immigration penalties than other racial minorities. For example, immigrants from India and mainland China experience the longest waiting times for employment-based permanent residency applications (U.S. Department of State, 2024). Prior studies suggest that the job attitudes of Asian American scholars are shaped by citizenship (Lawrence et al., 2014; Sabharwal, 2017). In our sample, nearly three out of four Asian American respondents were not US citizens or permanent residents. We found that citizenship is strongly associated with work withdrawal, with foreign nationals being less likely to disengage, probably due to the prolonged and challenging work visa applications, along with associated restrictions and uncertainties. Additionally, our survey was conducted during COVID-19, amid rising anti-Asian racism (Gao & Liu, 2021), which may have contributed to Asian American respondents' negative job attitudes.

We also found that Asian American scholars had different perceptions of academic climates compared to the other two racial/ethnic categories. They perceived a more diverse departmental climate than Aggregated Racial Minority scholars but had significantly lower perceptions of scholarly inclusion in their fields compared to White scholars. Perceptions of inclusion and climate at the departmental and field levels were associated with positive job attitudes and may reduce racial differences in job attitudes. These findings add to the existing literature documenting the negative perceptions of climate among racial minorities (Lawrence et al., 2012; Settles et al., 2022) and extend our understanding of the differences between Asian Americans and other racial minorities in higher education.

In addition, our results show that PhD students had lower job commitment and professional role confidence than assistant professors, but higher professional role confidence than postdocs. This finding sheds light on studies of PhD students' job attitudes, as they are often overlooked in research on work-related issues in higher education.

It is necessary to recognize the context of our research and how that may limit its scope of inference. Although the three racial/ethnic categories we use allow us to better understand the

experiences of Asian American scholars compared to other major groups, these overarching categories do not capture the nuanced experiences of scholars of color across diverse subgroups. In addition, our survey question about race/ethnicity combined Asian Americans with Pacific Islanders, which limits our ability to understand the experiences of these two distinct racial/ethnic groups. We were also unable to compare each racial group due to the small sample sizes of other racial minorities. Although we examined the differences in job attitudes by academic position, our sample of early-career scholars was predominantly doctoral students, which may not fully represent the broader population of early-career scholars. Lastly, because academic fields have different climates and demographic compositions that can affect attitudes and perceptions, inferences ought to stay within the four fields of biology, physics, economics, and psychology.

Nevertheless, our research builds an understanding of racial differences in job attitudes. First, we enhance research on racial minorities by centering Asian American scholars' experiences and differential racialization in higher education, as their experiences are often overlooked. Second, we examine four measures of job attitudes to provide a more comprehensive insight into racial differences in academia, contributing to existing studies that often analyze job attitudes separately and primarily in terms of job satisfaction and turnover intentions. Third, we extend past research focused on faculty by including the experiences of doctoral students and postdoctoral fellows. Finally, we measure both scholarly inclusion within the field and the department's diversity climate to understand their connection with job attitudes. Our results open valuable avenues for future studies to explore the complexities of Asian American experiences in higher education and the impact of professional practices on their success.

The significantly lower confidence in career success and sense of belonging to their fields among Asian American scholars, compared to other racial groups, highlights the need to recognize the challenges they face and address their marginalization in higher education practices and policies. Inclusive practices could support Asian American scholars, including valuing their work, ensuring fair treatment in career advancement and promotion, offering targeted career support programs, and addressing disproportionately low funding rates. Policy reforms addressing immigration restrictions on Asian American scholars could allow them to fully commit to their profession. Positive job attitudes can be fostered through respect and inclusion. This approach will benefit not only Asian Americans but also all scholars of color.

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Declarations

Conflict of interest The authors declare no competing interests.

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