

ORIGINAL ARTICLE

WILEY

Gender and Race in the International Sciences: Organizational Practices of Diversity

Faculty allyship: Differences by gender, race, and rank at a single U.S. University

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Funding information

United States National Science Foundation,
Grant/Award Number: #1760389

Abstract

Within the growing literature about allyship in the workplace, few studies have specifically addressed faculty allyship for faculty colleagues. Previous studies on faculty allyship for inclusive academic environments address only men's contributions as allies. Using an expansive definition of faculty allyship and including any faculty members with membership in at least one dominant social group, we sought to better understand how faculty members perceive allyship, their concerns about allyship, and how those perceptions vary by gender, race, and rank. We examined the responses of faculty who participated in an allyship training program that was offered at a university in Ohio, USA as part of a National Science Foundation ADVANCE grant intended to reduce gender inequity among science, technology, engineering, and mathematics faculty. We framed this study by employing Hardiman et al.'s (2007) three-dimensional matrix of oppression and used a mixed-method research design. Participants' primary concerns about engaging in allyship related to their academic rank. We offer several implications for policies, practices, and future research on faculty allyship for faculty colleagues by considering positional power and rank as well as race and gender.

KEYWORDS

faculty allyship, gender equity, higher education

1 | INTRODUCTION

Ally actions among higher education students, staff, and faculty can help transform campus communities into more equitable, anti-oppressive, and inclusive organizations (Broido, 2000b; Erskine & Bilimoria, 2019). According to Adams and Zúñiga (2016), people who have one or more dominant group memberships (e.g., people who are White, non-disabled, and/or cisgender men) are acting as allies when they “work in an alliance with [minoritized people] toward a shared goal of change” (p. 114) to combat societal disparities that are “systemic, avoidable, and unfair” (Nixon, 2019, p. 2). While there is a growing body of literature about allyship within various workplace settings (Erskine & Bilimoria, 2019; Nixon, 2019; Salter & Migliaccio, 2019), only a few studies (e.g., Anicha et al., 2015; Bilen-Green et al., 2013; Haynes-Baratz et al., 2022) have specifically addressed how people enact allyship to support faculty colleagues. The U.S. higher education literature is focused primarily on how faculty and staff practice allyship to support college students (e.g., Broido, 2000a; Patton & Bondi, 2015; Sumerau et al., 2021). However, it is also imperative to understand how faculty are enacting allyship to support their colleagues (Bilen-Green et al., 2013).

Institutional inequities, exacerbated by the COVID-19 pandemic, along with everyday acts of discrimination, disproportionately harm minoritized faculty (Cho et al., 2022). To begin, women and faculty of color (FOC) are more likely to hold precarious, non-tenured faculty positions (National Center for Educational Statistics [NCSE], 2021) than White men faculty. They are also less likely to hold upper administration positions at institutions of higher education (American Council on Education [ACE], 2017). In addition to generally holding less institutional power, minoritized faculty face many organizational barriers (e.g., tenure-stop policies that widen gender wage gaps, inadequate parental leave policies, promotion and reappointment procedures that depend heavily on biased course evaluations) and social biases. For example, colleagues and students tend to expect women and FOC to perform disproportionately high levels of institutionally invisible and devalued service, which can worsen minoritized faculty members' workloads and hinder their career advancement (e.g., Hanasono et al., 2019; O'Meara et al., 2017). Minoritized faculty also have to respond to everyday microaggressions and macroaggressions (e.g., Niemann et al., 2020). Instead of placing the burden of removing institutional barriers and interpersonal biases solely on minoritized faculty, allies can work with their colleagues to transform their institutions and stop discrimination.

Although allyship has the potential to make a positive impact, we acknowledge that ally actions sometimes can be superficial and counterproductive to equity-driven outcomes; allyship also can be performative (e.g., done more to enhance the status of the actor than to work toward equity; Kutlaca et al., 2020; Nixon, 2019; Sumerau et al., 2021). However, our decision to use the term *allyship* stems from the fact that we view *true* allyship as engagement in ongoing actions that leverage one's privilege to end systems of oppression and fight for equity alongside marginalized groups (Patton & Bondi, 2015). True allyship can bring meaningful, positive change to the gendered academic norms and culture of U.S. higher education.

Because people hold myriad social identities that are situated within broader systems of power, a person can experience marginalization in some ways (e.g., as a person of color) and privilege in others (e.g., as a cisgender man). Therefore, our study embraces an expansive definition of faculty allyship, given that previous studies on faculty allyship for inclusive academic environments address only men's contributions as allies (Anicha et al., 2015; Bilen-Green et al., 2013; Warren et al., 2021). We are particularly interested in differences in allyship by faculty gender, race, and job rank. Unlike the growing number of contingent part-time and full-time faculty, colleagues with tenure at U.S. universities and colleges often experience higher levels of job security, social capital, and institutional power. Only one study has explored how job rank influences faculty allyship (Haynes-Baratz et al., 2022). We believe that access to organizational power may influence allyship and chose to explore that dynamic in addition to gender and racial identities in this current study.

The purpose of this study is to better understand how faculty perceived allyship, their concerns about allyship, and how those perceptions varied by gender, race, and rank. Specifically, we examined the responses of faculty who participated in an allyship training program that was offered in 2019, 2020, and 2021 at a single U.S. university as part of a National Science Foundation (NSF) ADVANCE grant intended to reduce gender inequity among science,

technology, engineering, and mathematics (STEM) faculty. Using a mixed-method research design, we analyzed data collected during an allyship training workshop to answer two research questions, informed by Hardiman et al.'s (2007, 2013) three-dimensional matrix of oppression:

1. To what extent did faculty's self-evaluation of their knowledge of allyship concepts, self-efficacy, and actions differ by gender, race, and rank after an ally training workshop?
2. What individual-level and institutional-level allyship strategies do faculty intend to enact and concerns do faculty identify about enacting ally actions after an ally training workshop and are there differences by gender, race, and rank in the types of strategies and concerns faculty discuss?

2 | LITERATURE REVIEW

Organized into three overarching foci, we begin our literature review by discussing how scholars have defined allyship and the prevalent criticisms of allyship. Next, we review the existing research on faculty allyship, particularly demographic correlates of allyship. We then discuss Hardiman et al.'s (2007, 2013) three-dimensional matrix of oppression as a conceptual framework. We note that all empirical studies reviewed here were conducted in the United States; we also draw from two literature reviews authored in Canada (Nixon, 2019; Salter & Migliaccio, 2019) and one literature review with a pan-European focus (Kutlaca et al., 2020).

2.1 | Conceptualizations and criticisms of allyship

There is consensus among scholars that the term *allies* refers to people from majoritized groups (i.e., having dominant social identities) using their privilege to work in alliance with marginalized people to end systems of oppression (e.g., racism, sexism, ableism, classism; see Broido, 2000a; Nixon, 2019). Allyship is possible across all dimensions of social identity (e.g., ability, ethnicity, gender, race, religion, sex, socio-economic status, etc.). It is not a static identity marker but rather an iterative process of enacting anti-oppressive practices guided by egalitarian and social justice values (Brown & Ostrove, 2013; Carlson et al., 2020). Allyship for social justice requires an ongoing process of developing anti-oppressive and equity-minded attitudes and challenging inequitable societal structures (Anicha et al., 2015; Erskine & Bilimoria, 2019).

While there is not yet formal consensus on what exact behaviors constitute allyship and how they might differ for different minoritized groups (Erskine & Bilimoria, 2019), a review of both theoretical and empirical literature about allyship makes it clear that ally actions have been clustered into two broad categories: actions that support and respond to the needs of marginalized groups and actions that challenge the oppressive status quo, both by addressing individual-level actions (e.g., microaggressions) and by changing oppressive institutional norms, practices, and policies (e.g., Broido, 2000b; Brown & Ostrove, 2013; Cheng et al., 2019; Kutlaca et al., 2020; Salter & Migliaccio, 2019). For example, Brown and Ostrove's (2013) research demonstrated two broad categories of ally actions: affirmation (communicating respect and care) and informed action (participating in actions aimed at societal change).

There is some debate about whether supporting marginalized groups is allyship. Some writers perceive this as infantilizing or treating minoritized group members as needy, framing privileged group members as experts, and failing to challenge the systemic perpetuation of oppression (see Kutlaca et al., 2020; Nixon, 2019). However, multiple studies (e.g., Cheng et al., 2019; Warren & Bordoloi, 2021; Warren et al., 2021) have asked minoritized people what behaviors they experience as allyship; these studies indicate that, when done well (e.g., without condescension or presumption), personally supportive behaviors often are perceived as allyship.

One important criticism of allyship is the emphasis placed on individual-level strategies without working to change inequitable structures and systems (i.e., using institutional-level strategies; Patton & Bondi, 2015; Nixon, 2019).

Scholars and activists also have argued that claiming to be an ally, rather than acting as an ally, can be a way for people to align themselves with social justice causes without disrupting structural barriers for marginalized people. While interpersonal strategies, such as intervening when one witnesses a microaggression, are needed to create equity, people must also revise policies and practices of organizations (Nixon, 2019).

Workshops and other educational opportunities are beneficial to ally development and professional growth among faculty (Bilen-Green et al., 2013). There are concerns that these professional development initiatives have limitations, however, because of the focus on individual-level interpersonal interactions (e.g., microaggressions and bystander intervention; Carlson et al., 2020; Patton & Bondi, 2015; Sumerau et al., 2021). Such workshops focusing on individual-level content often do not help participants learn to disrupt institutional-level oppression (e.g., policies and practices).

2.2 | Faculty allyship and demographics

2.2.1 | Differences in gender and race

Literature on ally actions specific to faculty supporting their colleagues is sparse. Most of the research on faculty acting as allies for other faculty is focused on how men faculty can support women faculty (e.g., Anicha et al., 2015; Bilen-Green et al., 2013; Warren et al., 2021). For example, the Advocates and Allies program at North Dakota State University was created to engage men faculty in gender equity and advocacy. Focusing on men faculty in STEM fields, the program used ongoing trainings and discussion groups to improve the campus climate for women STEM faculty (Anicha et al., 2015; Bilen-Green et al., 2013).

Faculty enacting ally actions tend to prioritize individual-level actions, a recurring criticism of ally practices (Haynes-Baratz et al., 2022; Patton & Bondi, 2015; Warren et al., 2021). Studying how White men faculty and administrators participated in allyship for students, Patton and Bondi (2015) hypothesized that their study participants acted as allies at the individual level rather than at an institutional level because of the immediate gratification and acknowledgment they received from students. These individual-level ally efforts do not require White men faculty to take risks that may be associated with advocating for institutional change. No findings indicated that the White men faculty and administrators enacted institutional-level strategies or jeopardized their power by the ally actions they took (Patton & Bondi, 2015).

Studying White women and men faculty, Warren et al. (2021) identified actions that distinguish an ally from a good faculty colleague. Warren et al. found that women faculty said that allies participated in "concrete and visible actions" (p. 28) geared toward gender equity and understood structural (i.e., institutional) oppression that negatively affected women faculty in the workplace. While Warren et al. reported that both men and women participants valued ally strategies associated with interpersonal support for women, system level advocacy is what "holds the capacity to shift institutional norms and systems" (p. 30). However, Warren et al.'s sample was predominantly White men and women faculty. We do not know how racially minoritized faculty who hold other privileged social identities, such as gender (e.g., Black men) or those who have more power due to their roles (tenured faculty, chairs, or mentors) behave as allies for their marginalized colleagues.

2.2.2 | Difference in academic rank

Broido's (2000a) research about the development of undergraduate students as social justice allies found that status or seniority was a prerequisite of ally behavior. Haynes-Baratz et al.'s (2022) qualitative study of faculty bystander intervention found that lack of power and hierarchical status was an inhibitor of ally behavior, writing "a central theme that emerged around taking action was the critical role of power and fear of retribution in determining inaction (or

action)" (p. 7). Simultaneously, other participants indicated that holding certain leadership roles (i.e., chair, mentor, senior faculty, etc.) made them feel comfortable and gave them a sense of responsibility to intervene in instances of gender bias. Respondents framed their willingness to act as a consequence of their greater tolerance for conflict, but all those expressing these sentiments had "institutional power, such as being a chairperson or a senior member of their department" (p. 7); these same individuals, however, were reluctant to act as allies when doing so would have caused conflict with those having greater institutional authority. The same study found that faculty of all genders were reluctant to challenge what they perceived as less egregious behavior given that faculty careers tend to be long and location-bound, meaning that any conflict could have decades-long repercussions.

While the influence of hierarchical status on faculty ally actions was not the focus of their study, Anicha et al. (2015) referred to positional power, stating that men who hold senior faculty positions are able to leverage their privilege to advance gender equity due to the small numbers of tenured and tenure-track women faculty at their institutions. Likewise, Patton and Bondi (2015) noted that men faculty who are full professors have access to additional power because of their job rank and gender. Haynes-Baratz et al. (2022) acknowledged that with greater rank comes greater power; this dynamic indicates that positional status is worthy of further study.

2.3 | Conceptual framework

Given the purpose of this paper, it was necessary to use a conceptual framework that could parsimoniously address the ways oppression manifests in higher education. Hardiman et al.'s (2007, 2013) three-dimensional matrix of oppression frames oppression as present in society on three levels: individual, institutional, and social/cultural. Each level manifests in four ways: conscious and unconscious attitudes/thoughts/feelings and conscious and unconscious actions. The individual level refers to attitudes and actions that are carried out by specific faculty members, such as microaggressions. The institutional level refers to oppression created and maintained by the policies and practices of a university, academic discipline, department, or university (Adams & Zúñiga, 2016; Hardiman et al., 2007, 2013). The social/cultural level of the model refers to the norms, beliefs, expectations, and values of a given society that maintain and reproduce oppression and is beyond the scope of this study.

Adams and Zúñiga (2016) stated that the relationship between individual and institutional levels is complex because the two influence each other. For example, individuals' attitudes and actions influence and reinforce policies, practices, and the overall norms of an organization; however, institutions, including those in higher education, reinforce "the socialization of individuals into systems of oppression through discriminatory policies and practices" (p. 102).

3 | METHODS

3.1 | Study site and program description

The institution where the ally training was held and where the data were collected is a regional, public university located in a Midwestern area of the United States. This predominantly and historically White institution serves approximately 20,000 students and has about 900 full-time equivalent faculty members. Faculty equity issues identified prior to the development of this grant included (a) women and FOC being underrepresented in STEM applicant pools and hiring relative to the available pool of doctoral degree holders and (b) women and FOC not being promoted to full professor or leadership positions at an equitable rate.

This research was conducted as part of a larger faculty ally development program funded by the NSF. Participants are the subset of those who engaged in an ally development workshop who agreed to take part in this study. We offered a half-day training in January in three different years (2019–2021), while faculty administrators participated in

the training as part of their regularly scheduled summer meetings. Trainings were conducted by 5–8 faculty members of the grant team; while all trainers were tenured associate or full professors, they differed by academic discipline, gender, race, sexual orientation, and disability status. The trainers have had many years of experience conducting racial and gender equity training for campus audiences and at academic conferences. Pre-training readings addressed privilege and sexism in STEM fields; training activities addressed awareness of one's privilege, its impact on the workplace, bystander intervention strategies, and practice responding to multiple case-studies based on actual incidents of sexism, racism, and other forms of oppression among faculty at this university.

3.2 | Study ethics

Data for this article were a subset of the overall evaluation data, taken only from participants who anonymously consented to have their data used for research purposes. The study had IRB approval, and participants who volunteered their data did so after reviewing an informed consent document. Faculty participation in the workshop was voluntary and compensated. Chairs and directors participated as part of their summer training.

3.3 | Study participants

A total of 142 full-time faculty and faculty administrators participated in the allyship workshops. After cleaning missing cases, we used 137 full-time faculty and faculty administrator participants' responses in this study; 76% of participants self-identified as White, 3% Black, 16% Asian, and 5% other racial groups. About half of the participants identified as women and half as men; no participants identified as trans or nonbinary. Nineteen percent were pre-tenured assistant professors, 28% were tenured associate professors, 37% were tenured full professors, and 16% were non-tenure-track faculty. Because of sample size limitations and occupational power and privilege in the data analysis, we combined assistant professors and non-tenure-track (NTT) faculty as one category and tenured associate and full professors as a second category. The faculty participants were affiliated with STEM departments (49%); social/behavioral sciences (SBS, 35%); and arts, humanities, and pre-professional programs (16%). Participants included both faculty (71%) and faculty administrators (i.e., department chairs and school directors, 29%). In Table 1 we describe the race, gender, and rank of study participants, a description of the two-way intersections (*genderXrace*, *genderXrank*, and *raceXrank*), and the population values. We do not report three-way intersections (*genderXraceXrank*) because some categories (e.g., women of color associate/full professors) were too small.

3.4 | Procedures and instrumentation

We recruited faculty to participate in the ally training workshops through campus announcements and email invitations. After the half-day workshop, participants completed a workshop evaluation to measure their knowledge, attitudes, and experience with faculty allyship. The instrument included quantitative and qualitative items that measured retrospective self-assessments of familiarity with ally concepts, self-efficacy in acting as an ally, frequency of ally actions, and knowledge of oppression as well as post-workshop measures of familiarity with ally concepts, self-efficacy in acting as an ally, and knowledge of oppression. We administered a retrospective pre-test because previous studies (e.g., Drennan & Hyde, 2008; Pratt et al., 2000) indicate that a retrospective pre-test methodology may produce a more accurate assessment of changes in self-reported knowledge, attitude, and behavior than does the traditional pre-test-post-test methodology. Prior to ally training, workshop participants may overestimate their skills/knowledge due to an incomplete understanding of allyship. Attending the faculty allyship workshop may teach participants that they actually knew much less than they reported on the pre-test. In such a case, pre-test/post-test

TABLE 1 Demographic characteristics.

Characteristics	Study participants		Institution population (2021 data)	
	N	%	N	%
Chairs/directors	40	29.20	-	-
Faculty	97	70.80	-	-
Men	64	49.61	378	48.96
Women	65	50.39	394	51.04
White	93	75.61	602	77.98
FOC	30	24.39	170	22.02
Associate and full	79	65.29	404	52.33
Assistant and NTT	42	34.71	368	47.67
STEM departments	66	48.49	170	49.13
Non-STEM departments (SBS and arts, humanities, and pre-professional programs)	69	51.11	176	50.87
Sexual orientation: Heterosexual	102	88.70	-	-
Sexual orientation: Non-heterosexual	13	11.30	-	-
White men	44	36.07	290	37.56
White women	48	39.34	312	40.14
FOC men	17	13.93	88	11.40
FOC women	13	10.66	82	10.62
White associate/Full	55	45.08	312	40.41
FOC associate/Full	9	7.38	92	11.92
White assistant/NTT	17	13.93	290	37.56
FOC assistant/NTT	33	27.05	78	10.10
Associate/full men	39	31.97	220	28.50
Associate/full women	39	31.97	184	23.83
Assistant/NTT men	22	18.03	158	20.47
Assistant/NTT women	20	16.39	210	27.20

Note: STEM departments include Applied Statistics & Operations Research; Biological Sciences; Chemistry; Computer Science; Engineering Technologies; Environment & Sustainability; Geology; Mathematics & Statistics; Physics & Astronomy; School of Earth, Environment and Society; STEM education. Non-STEM departments include SBS and Arts, Humanities, and pre-professional programs. SBS includes Communications; Economics; Ethnic Studies; Geography; Human Development & Family Studies; Media Production & Studies; Political Science; Psychology; Sociology; Women's Gender & Sexuality Studies. Abbreviations: FOC, faculty of color; NTT, non-tenure-track; SBS, Social Behavioral Sciences; STEM, science, technology, engineering, and mathematics.

comparisons are misleading, and the workshop-produced changes in the participants' standards are potential threats to internal validity (Howard & Dailey, 1979, cited in Pratt et al., 2000). Thus, we analyzed the retrospective pre-test and post-test measures to explore the faculty participants' perceptions and commitment related to allyship.

The workshop instrument included four outcome measures: ally concepts; recognizing and responding to oppression; self-efficacy as allies; and actions.¹ The *ally concepts* items measured understanding after the workshop (i.e., "Select the option that best presents your understanding of allies concepts") with five response options (1 = very limited; 2 = limited; 3 = basic; 4 = intermediate; 5 = advanced). We asked participants to indicate the extent to which they understood seven words or phrases: allyship, gender equity, intersectionality, bystander intervention, privilege, bias, and microaggressions.

We asked five questions about participants' *recognition and response to oppression* after the workshop with four response options (1 = never; 2 = rarely; 3 = occasionally; 4 = regularly). We also asked the extent to which participants had *self-efficacy as allies* through four items with five response options (1 = Strongly Disagree; 2 = Disagree; 3 = Sometimes Agree or Sometimes Disagree; 4 = Agree; 5 = Strongly Agree; items adapted from Smith et al., 2008). An example of these items is "I can stop acts of discrimination that target faculty members." We included 10 statements to examine faculty members' *ally actions* for women and FOC with four response options (1 = never; 2 = rarely; 3 = occasionally; 4 = regularly). Examples of these items are "I am personally committed to addressing issues of bias and discrimination against women and other marginalized faculty," and, "I share with my colleagues my commitment to creating a more equitable climate for women and other marginalized faculty." The sample size, mean, and standard deviation for each survey item are included in Appendix A.

Participants responded to two open-ended questions asked only on the post-test: (1) "What are the top allyship strategies you will take with you to implement in the future to promote a more equitable campus climate for women and other minoritized faculty?" and (2) "What questions do you still have about being an ally for faculty equity after attending this workshop?" Each open-ended question was accompanied by a large essay text box for participants to share their responses.

3.5 | Data analysis

For RQ 1, which aimed to understand how faculty's self-evaluation of their knowledge of allyship concepts, self-efficacy, and actions differ by gender, race, and rank after an ally training workshop, we used ordinary least squares regression for each item as workshop outcome measures. We report correlations between item scores on the retrospective pre-test and the post-test in Table 2. The correlations range between 0.48 and 0.71 (Retrospective Pre-test Ally Concepts), between 0.38 and 0.62 (Post-test Ally Concepts), between 0.40 and 0.78 (Retrospective Pre-test Recognizing and Responding to Oppression), between 0.31 and 0.65 (Post-test Recognizing and Responding to Oppression), between 0.42 and 0.88 (Retrospective Pre-test Self-efficacy as Allies), between 0.18 and 0.84

TABLE 2 Correlations among retrospective pre-test and post-test items.

Ally concepts	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Retrospective pre-test							
Concept (1)	1.00						
Concept (2)	0.48***	1.00					
Concept (3)	0.54***	0.71***	1.00				
Concept (4)	0.48***	0.52***	0.57***	1.00			
Concept (5)	0.49***	0.62***	0.68***	0.51***	1.00		
Concept (6)	0.51***	0.63***	0.65***	0.57***	0.65***	1.00	
Concept (7)	0.58***	0.59***	0.67***	0.55***	0.59***	0.68***	1.00
Post-test							
Concept (1)	1.00						
Concept (2)	0.55***	1.00					
Concept (3)	0.46***	0.62***	1.00				
Concept (4)	0.57***	0.41***	0.38***	1.00			
Concept (5)	0.57***	0.55***	0.58***	0.39***	1.00		
Concept (6)	0.45***	0.56***	0.61***	0.39***	0.59***	1.00	
Concept (7)	0.56***	0.54***	0.48***	0.44***	0.51***	0.47***	1.00

TABLE 2 (Continued)

Recognizing and responding to oppression				(1)	(2)	(3)	(4)	(5)			
Retrospective pre-test											
Recognition (1)				1.00							
Recognition (2)				0.63***	1.00						
Recognition (3)				0.52***	0.59***	1.00					
Recognition (4)				0.45***	0.49***	0.52***	1.00				
Recognition (5)				0.40***	0.45***	0.48***	0.78***	1.00			
Post-test											
Recognition (1)				1.00							
Recognition (2)				0.63***	1.00						
Recognition (3)				0.41***	0.44***	1.00					
Recognition (4)				0.31***	0.37***	0.33***	1.00				
Recognition (5)				0.31***	0.42***	0.35***	0.65***	1.00			
Self-efficacy as allies		(1)		(2)		(3)		(4)			
Retrospective pre-test											
Efficacy (1)		1									
Efficacy (2)		0.88***		1.00							
Efficacy (3)		0.67***		0.63***		1.00					
Efficacy (4)		0.42***		0.42***		0.42***		1.00			
Post-test											
Efficacy (1)		1									
Efficacy (2)		0.84***		1.00							
Efficacy (3)		0.54***		0.40***		1.00					
Efficacy (4)		0.23		0.18		0.36***		1.00			
Self-evaluation of ally actions		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Retrospective pre-test											
Action (1)		1.00									
Action (2)		0.66***	1.00								
Action (3)		0.49***	0.36***	1.00							
Action (4)		0.50***	0.53***	0.30**	1.00						
Action (5)		0.48***	0.45***	0.37***	0.55***	1.00					
Action (6)		0.44***	0.30**	0.35***	0.38***	0.51***	1.00				
Action (7)		0.40***	0.36***	0.40***	0.39***	0.42***	0.63***	1.00			
Action (8)		0.28**	0.36***	0.20*	0.36***	0.39***	0.37***	0.44***	1.00		
Action (9)		0.41***	0.47***	0.41***	0.47***	0.56***	0.33***	0.35***	0.46***	1.00	
Action (10)		0.50***	0.52***	0.21*	0.68***	0.45***	0.32***	0.27***	0.30**	0.41***	1.00

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

(Post-test Self-efficacy as Allies), and between 0.21 and 0.66 (Retrospective Pre-test Ally Actions). Effect sizes of the correlations among the items ranged from small (0.2) to large (0.8; Cohen, 1988).

The correlations among many items are high because we developed the items to assess the content of the workshop and were grounded in relevant literature. However, the items were not tested for the validity or reliability of the

construct, such as allyship self-efficacy or actions. Because we designed the instrument as a workshop evaluation tool, we were not intending to construct a scale and thus, we did not conduct factor analysis or use item response theory. We instead conducted a regression analysis on each item and organized the results by the three topics: self-evaluation of knowledge of concepts, self-efficacy, and actions. By individually analyzing each item on the questionnaire it is possible to offer implications to faculty and administrators about the specific outcomes of the training.

We used a binary measure of faculty gender (1 = women, 0 = men as a reference), race (1 = FOC, 0 = White as a reference), and rank (1 = Assistant/NTT, 0 = Associate/Full as a reference) as independent variables. We controlled for the retrospective pre-test measures of all post-test measures, academic discipline (STEM vs. non-STEM), and faculty participants' self-reported sexual orientation. We also controlled for the retrospective pre-test measures to account for participants' prior knowledge and actions. Because of the small sample, we did not delete any missing cases; thus, each regression has a different sample size. We report effect sizes by using Cohen's *d*; a value of 0.2 is a small, 0.5 is a medium, and 0.8 is a large effect (Cohen, 1988).

We used the Validating Quantitative Data Model to expand on the quantitative findings using the two open-ended qualitative questions (Creswell & Plano Clark, 2018). While open-ended survey items generally do not allow for rigorous qualitative data analysis, they provide researchers with quotes that can be used to validate the survey findings (Creswell & Plano Clark, 2018). In this study, the qualitative findings validate the quantitative findings that address differences in faculty perception of allyship awareness and actions by gender, race, and rank. The qualitative data also offer more specific findings about the kinds of concerns faculty had after the allyship training and their intended ally actions.

For RQ 2 (What individual-level and institutional-level allyship strategies do faculty intend to enact and concerns do faculty identify about enacting ally actions after their training participation and are there differences by gender, race, and rank in the types of strategies and concerns faculty discuss?), we analyzed 105 open-ended responses to the post-workshop question about what ally strategies participants would take with them from the workshop, and 77 open-ended responses regarding the questions or concerns participants still had about allyship and the additional training and support they might need. We used both inductive and deductive coding to analyze the data. While we created a priori codes based on the theoretical framework (i.e., strategies/actions, attitudes/perceptions, and individual level/institutional level, we also allowed codes to emerge through our analysis; Miles et al., 2020).

After reading all the data for familiarity, we conducted a first coding cycle by applying the code "strategy" to participant responses that reflected strategies and applied the code "concerns" to responses reflecting concerns participants indicated in their responses. We then extracted those words or phrases into a Word document. This extraction process was important because although the question asked faculty to reflect on strategies and concerns, not all responses answered the specific open-ended question asked. Next, we conducted a second coding cycle, including an additional code to the extracted codes labeled "strategy" or "concern" by categorizing these responses as either "individual level" or "institutional level." We then read through the responses a fourth time to understand the data beyond our a priori codes. This fourth reading revealed 30 inductive concept codes. Concept codes are words or short phrases that "symbolically represent a suggested meaning broader than a single item or action" (Miles et al., 2020, p. 66). Examples concept codes include "speak up," "using resources," and "workplace courage." We then reorganized the codes into overarching themes (Miles et al., 2020).

3.6 | Limitations

This study has several limitations. We were unable to consider the interaction effect of participants' gender, race, and rank on their allyship in the quantitative data analysis because of sample size restrictions. We did run a series of regression analyses that included two-way interactions among faculty characteristics (gender X race and gender X rank), and we did not find any statistically significant interaction effects. We did not test interaction effects between race and rank because the number of full/associate FOC was too small ($n = 9$, see Table 1). We sought to address this gap through our analysis of the qualitative data.

We measured the study participants' ally behaviors using their self-reflection on their behaviors rather than actual behaviors observed by others in the retrospective pre-test. We also did not ask about their behaviors following the workshop given that the data were collected as a post-test taken at the conclusion of the training. Finally, we acknowledge that the characteristics of the study participants are not generalizable in the population of faculty at 4-year institutions in the U.S. Our study participants may have participated in the workshop because they already were interested in faculty allyship. Their attitudes toward social justice efforts or awareness of the need for allyship may be higher than other faculty members. Our study participants work at a predominately White, rural, comprehensive institution in the United States; our study findings may not be generalizable to other types of institutions or contexts. We address these limitations in the Future Research portion of the article.

4 | FINDINGS

In this study, we aimed to understand to what extent faculty's knowledge of allyship concepts, understanding of and response to oppression, self-efficacy, and actions differed by gender, race, and rank after allyship training. We also aimed to identify the individual- and institutional-level allyship strategies that faculty intend to enact and how faculty members' intended strategies and concerns about enacting ally actions differ by gender, race, and rank.

4.1 | Quantitative findings: Understanding how faculty's knowledge differed by gender, race, and rank

4.1.1 | Ally concepts

We asked seven questions about participants' understanding of ally concepts: allyship, gender equity, intersectionality, bystander intervention, privilege, implicit bias, and microaggressions. Table 3 presents the retrospective pre-test and post-test results. The proportions of variance explained (R^2 scores) in the pre-test measures range between 16% and 35%, and post-test measures range from 38% to 58%. The R^2 scores of post-test measures are higher because we included the retrospective pre-test measures in the post-test measure model. There were no gender differences in either pre-test and post-test measures of participants' understanding of ally concepts after we controlled for faculty race, rank, departments, and sexual orientation. We did not find racial differences in self-reported understanding of ally concepts on the retrospective pre-test. On the post-test, however, FOC reported greater understanding of some ally concepts than did their White colleagues: *allyship* ($B = 0.36, p < 0.01$; Cohen's $d = -0.26$), *gender equity* ($B = 0.25, p < 0.5$; Cohen's $d = -0.32$), *intersectionality* ($B = 0.37, p < 0.05$; Cohen's $d = -0.21$) with small effect sizes.

We also found that assistant professors and NTT faculty reported a lower level of understanding of *gender equity* ($B = -0.33, p < 0.5$; Cohen's $d = 0.45$) and *bystander intervention* ($B = -0.43, p < 0.5$; Cohen's $d = 0.45$) than did associate and full professors on the retrospective pre-test with a medium effect size; however, this pattern was not statistically significant on the post-test. Assistant professors and NTT faculty reported a lower level of understanding of *implicit bias* than did associate and full professors in their post-test ($B = -0.21, p < 0.5$; Cohen's $d = 0.49$) with a medium effect size.

4.1.2 | Recognizing and responding to oppression

Table 4 presents the five items that measured the participants' recognition and response to oppression in the workplace on their retrospective pre-test and post-test. The proportions of variance explained (R^2 scores) in the pre-test measures range from 9% to 20% and post-test measures from 25% to 43%. We did not find a statistically significant difference by gender or race in either the retrospective pre-tests or post-tests in the extent to which participants indicated they recognized and knew about varying forms of oppression, after accounting for rank, department, and sexual orientation. Compared to associate and full professors, assistant professors and NTT faculty reported less *recognition*

TABLE 3 Ordinary least squares regression estimates of ally concept by faculty gender, race, and rank.

	Pre-test			Post-test		
	Coef.	SE	Cohen's <i>d</i>	Coef.	SE	Cohen's <i>d</i>
Allyship						
Women faculty	0.18	0.22		-0.12	0.10	
Faculty of color	-0.03	0.27		0.36	0.13	**
Assistant/NTT faculty	-0.14	0.20		-0.11	0.10	
STEM departments	0.65	0.21	**	0.05	0.11	
Non-heterosexual	0.55	0.32		0.07	0.16	
Pre-measure				0.31	0.05	***
(Constant)	1.96	0.35	***	3.39	0.19	***
	$R^2 = 0.19, F(5,92) = 4.24, p = 0.002$			$R^2 = 0.39, F(6,89) = 9.46, p = 0.000$		
Gender equity						
Women faculty	0.22	0.16		0.08	0.09	
Faculty of color	0.22	0.20		0.25	0.12	*
Assistant/NTT faculty	-0.33	0.15	*	0.08	0.09	
STEM departments	0.62	0.16	***	0.04	0.10	
Non-heterosexual	0.17	0.24		0.08	0.14	
Pre-measure				0.56	0.06	***
(Constant)	2.95	0.26	*	1.96	0.23	***
	$R^2 = 0.26, F(5,92) = 6.43, p = 0.000$			$R^2 = 0.58, F(6,91) = 21.32, p = 0.000$		
Intersectionality						
Women faculty	0.19	0.23		-0.18	0.14	
Faculty of color	-0.07	0.28		0.37	0.17	*
Assistant/NTT faculty	-0.02	0.22		-0.11	0.13	
STEM departments	1.26	0.23	***	0.06	0.16	
Non-heterosexual	0.64	0.34		0.07	0.21	
Pre-measure				0.52	0.06	***
(Constant)	1.17	0.37	**	2.35	0.24	***
	$R^2 = 0.35, F(5,92) = 10.07, p = 0.000$			$R^2 = 0.53, F(6,90) = 17.25, p = 0.000$		
Bystander intervention						
Women faculty	-0.15	0.20		-0.18	0.12	
Faculty of color	0.00	0.25		-0.05	0.15	
Assistant/NTT faculty	-0.43	0.19	*	-0.06	0.11	
STEM departments	0.63	0.20	**	0.01	0.12	
Non-heterosexual	0.13	0.29		0.04	0.18	
Pre-measure				0.40	0.06	***
(Constant)	2.41	0.32	***	3.17	0.24	***
	$R^2 = 0.16, F(5,91) = 3.51, p = 0.006$			$R^2 = 0.38, F(6,89) = 9.08, p = 0.000$		
Privilege						
Women faculty	-0.12	0.20		0.00	0.11	
Faculty of color	0.44	0.24		0.24	0.14	
Assistant/NTT faculty	-0.12	0.19		-0.08	0.10	

TABLE 3 (Continued)

	Pre-test			Post-test			
	Coef.	SE	Cohen's <i>d</i>	Coef.	SE	Cohen's <i>d</i>	
STEM departments	0.78	0.20	***	0.01	0.12		
Non-heterosexual	0.42	0.29		0.12	0.16		
Pre-measure				0.39	0.06	***	
(Constant)	2.60	0.32	***	2.99	0.23	***	
	$R^2 = 0.20, F(5,91) = 4.46, p = 0.001$			$R^2 = 0.42, F(6,90) = 11.08, p = 0.000$			
Implicit bias							
Women faculty	0.12	0.19		0.00	0.10		
Faculty of color	0.36	0.24		0.25	0.13		
Assistant/NTT faculty	-0.28	0.18		-0.21	0.10	*	0.49
STEM departments	0.68	0.19	**	0.13	0.11		
Non-heterosexual	0.06	0.28		0.06	0.15		
Pre-measure				0.54	0.06	***	
(Constant)	2.69	0.31	***	2.11	0.23	***	
	$R^2 = 0.19, F(5,91) = 4.18, p = 0.002$			$R^2 = 0.61, F(6,90) = 23.62, p = 0.000$			
Microaggression							
Women faculty	0.15	0.22		0.17	0.13		
Faculty of color	0.24	0.27		0.32	0.17		
Assistant/NTT faculty	-0.13	0.20		0.17	0.13		
STEM departments	1.00	0.22	***	0.01	0.15		
Non-heterosexual	0.11	0.32		0.08	0.19		
Pre-measure				0.42	0.06	***	
(Constant)	1.82	0.35	***	2.62	0.24	***	
	$R^2 = 0.24, F(5,92) = 5.91, p = 0.000$			$R^2 = 0.43, F(6,91) = 11.49, p = 0.000$			

Note: The reference groups are Men, White, Associate/Full professors, non-STEM departments, and Heterosexual. All analyses for the post-test outcomes controlled for retrospective pre-test measures. We reported unstandardized coefficients (*B*), standard errors (SE), and Cohen's *d* for effect size.

Abbreviations: NTT, non-tenure-track; STEM, science, technology, engineering, and mathematics.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

of privilege ($B = -0.32, p < 0.5$; Cohen's $d = 0.44$) with a medium effect size in their retrospective pre-test after controlling for the other variables. Assistant professors and NTT faculty, as compared to associate and full professors, were less likely to indicate that they *recognized when to intervene* on their retrospective pre-test ($B = -0.38, p < 0.5$; Cohen's $d = 0.49$) and to use *effective intervention strategies* in their retrospective pre-test ($B = -0.34, p < 0.5$; Cohen's $d = 0.44$) with medium effect sizes. Assistant and NTT faculty still scored less than tenured faculty on these two items in their post-test ($B = -0.24, p < 0.5$; Cohen's $d = 0.65$ and $B = -0.27, p < 0.5$; Cohen's $d = 0.57$, respectively) with medium effect sizes after accounting for their retrospective pre-test.

4.1.3 | Self-efficacy as allies

Table 5 presents the extent of participants' beliefs about their ally self-efficacy by gender, race, and rank. The proportions of variance explained (R^2 scores) in the pre-test measures vary from 10% to 12% and post-test measures

TABLE 4 Ordinary least squares regression estimates of recognizing and responding to oppression by faculty gender, race, and rank.

	Pre-test				Post-test		
I am able to...	Coef.	SE		Cohen's <i>d</i>	Coef.	SE	Cohen's <i>d</i>
Recognize privilege in the workplace							
Women faculty	0.07	0.16			0.04	0.08	
Faculty of color	0.10	0.20			0.02	0.09	
Assistant/NTT faculty	-0.32	0.15	*	0.44	0.07	0.07	
STEM departments	0.48	0.16	**		0.05	0.08	
Non-heterosexual	0.00	0.24			-0.07	0.11	
Pre-measure					0.35	0.05	***
(Constant)	2.49	0.26	***		2.54	0.17	***
	$R^2 = 0.16, F(5,92) = 3.46, p = 0.007$				$R^2 = 0.41, F(6,91) = 10.55, p = 0.000$		
Recognize bias in the workplace							
Women faculty	0.05	0.15			0.14	0.09	
Faculty of color	0.00	0.18			-0.12	0.11	
Assistant/NTT faculty	-0.17	0.14			0.00	0.08	
STEM departments	0.33	0.15	*		0.13	0.09	
Non-heterosexual	-0.05	0.22			-0.18	0.13	
Pre-measure					0.26	0.06	***
(Constant)	2.67	0.24	***		2.66	0.22	***
	$R^2 = 0.09, F(5,92) = 1.75, p = 0.132$				$R^2 = 0.27, F(6,91) = 5.66, p = 0.000$		
Recognize microaggressions in the workplace							
Women faculty	0.16	0.15			0.07	0.10	
Faculty of color	0.14	0.19			0.02	0.13	
Assistant/NTT faculty	-0.10	0.14			-0.06	0.10	
STEM departments	0.57	0.15	***		-0.02	0.11	
Non-heterosexual	0.10	0.22			-0.01	0.15	
Pre-measure					0.33	0.07	***
(Constant)	1.90	0.24	***		2.65	0.21	***
	$R^2 = 0.20, F(5,92) = 4.63, p = 0.001$				$R^2 = 0.25, F(6,91) = 5.05, p = 0.001$		
Recognize when to intervene in a bias incident							
Women faculty	-0.16	0.16			-0.09	0.09	
Faculty of color	0.02	0.20			-0.05	0.11	
Assistant/NTT faculty	-0.38	0.15	*	0.49	-0.24	0.09	**
STEM departments	0.50	0.16	**		0.23	0.10	*
Non-heterosexual	0.00	0.24			-0.13	0.14	
Pre-measure					0.32	0.06	***
(Constant)	2.08	0.26	***		2.57	0.19	***
	$R^2 = 0.16, F(5,92) = 3.51, p = 0.006$				$R^2 = 0.43, F(6,91) = 11.31, p = 0.000$		
Know effective intervention strategies when I witness a bias incident							
Women faculty	-0.13	0.16			-0.13	0.11	
Faculty of color	-0.14	0.20			-0.13	0.14	

TABLE 4 (Continued)

I am able to...	Pre-test			Cohen's <i>d</i>	Post-test			Cohen's <i>d</i>
	Coef.	SE			Coef.	SE		
Assistant/NTT faculty	−0.34	0.15	*	0.44	−0.27	0.11	*	0.57
STEM departments	0.41	0.16	*		0.29	0.12	*	
Non-heterosexual	−0.10	0.23			−0.11	0.17		
Pre-measure					0.19	0.07	*	
(Constant)	1.97	0.25	***		2.79	0.23	***	
	$R^2 = 0.14, F(5,92) = 2.91, p = 0.017$				$R^2 = 0.26, F(6,91) = 5.40, p = 0.000$			

Note: The reference groups are Men, White, Associate/Full professors, non-STEM departments, and Heterosexual. All analyses for the post-test outcomes controlled for retrospective pre-test measures. We reported unstandardized coefficients (*B*), standard errors (*SE*), and Cohen's *d* for effect size.

Abbreviations: NTT, non-tenure-track; STEM, science, technology, engineering, and mathematics.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

between 31% and 44%. We did not find any gender difference in retrospective pre-tests after we accounted for race, rank, department, and sexual orientation. On the post-test, women faculty participants rated themselves less able than did men in *helping faculty members who are coping with discrimination* ($B = -0.36, p < 0.01$; Cohen's $d = 0.41$) and in knowing how to detect if a behavior is biased ($B = -0.27, p < 0.5$; Cohen's $d = 0.17$) with a small effect size. We did not find racial differences on either the retrospective pre-tests or post-tests after we accounted for gender, rank, department, and sexual orientation.

On their retrospective pre-tests, assistant professors and NTT professors reported less *self-efficacy when stopping* ($B = -0.53, p < 0.5$; Cohen's $d = 0.47$) or *preventing* ($B = -0.53, p < 0.5$; Cohen's $d = 0.47$) *acts of discrimination* with medium effect sizes in comparison to associate and full professors. Assistant and NTT faculty still reported a lower level of *self-efficacy when stopping* ($B = -0.41, p < 0.01$; Cohen's $d = 0.77$) or *preventing* ($B = -0.34, p < 0.5$; Cohen's $d = 0.62$) *acts of discrimination* and *helping faculty who are coping with discrimination* ($B = -0.26, p < 0.5$; Cohen's $d = 0.57$) with medium to large effect sizes, compared to associate and full professors, in their post-test survey.

4.1.4 | Self-evaluation of ally actions

In Table 6, we present the extent of participants' ally actions on the retrospective pre-test after the workshop (we did not ask action items after the workshop because we designed this study as a post-test taken immediately after the training). The proportions of variance explained (R^2 scores) in the pre-test measures vary between 5% and 32%. In their retrospective pre-test, women reported that they *read about bias and discrimination* more than men ($B = 0.40, p < 0.05$; Cohen's $d = -0.77$) with a large effect size. In their retrospective pre-test, women reported they were less likely than men to *intervene if they witnessed a bias incident* ($B = -0.38, p < 0.05$; Cohen's $d = 0.17$) after controlling for race, rank, department, and sexual orientation with a small effect size. In the retrospective pre-test, FOC reported they tended to *ask marginalized colleagues about the institutional climate* ($B = -0.56, p < 0.05$; Cohen's $d = 0.62$) less frequently than did White faculty with medium effect sizes.

We also found differences in ally actions by faculty rank in the retrospective pre-test. Assistant professors and NTT faculty reported that they *shared their commitment to creating a more equitable institutional climate* ($B = -0.50, p < 0.01$; Cohen's $d = 0.56$), *spoke up when marginalized colleagues were interrupted* ($B = -0.47, p < 0.05$; Cohen's $d = 0.48$), *asked marginalized colleagues about the institutional climate* ($B = -0.45, p < 0.05$; Cohen's $d = 0.55$), *nominated marginalized colleagues for awards* ($B = -0.87, p < 0.001$; Cohen's $d = 0.87$), *served on committees as an ally for faculty equity* ($B = -0.50, p < 0.05$; Cohen's $d = 0.51$), and *intervened if they witnessed a bias incident* ($B = -0.51, p < 0.01$;

TABLE 5 Ordinary least squares regression estimates of ally self-efficacy by faculty gender, race, and rank.

	Pre-test			Post-test		
	Coef.	SE	Cohen's <i>d</i>	Coef.	SE	Cohen's <i>d</i>
I can stop acts of discrimination that target faculty members						
Women faculty	-0.37	0.23		-0.23	0.16	
Faculty of color	-0.23	0.29		-0.10	0.19	
Assistant/NTT faculty	-0.53	0.22	*	-0.41	0.15	**
STEM departments	0.46	0.23		0.07	0.16	
Non-heterosexual	-0.08	0.34		0.13	0.23	
Pre-measure				0.43	0.07	***
(Constant)	2.96	0.38	***	2.84	0.33	***
	$R^2 = 0.12, F(5,88) = 2.49, p = 0.037$			$R^2 = 0.44, F(6,88) = 11.32, p = 0.000$		
I can prevent acts of discrimination that target faculty members						
Women faculty	-0.34	0.22		-0.07	0.17	
Faculty of color	-0.24	0.28		0.00	0.21	
Assistant/NTT faculty	-0.53	0.21	*	-0.34	0.16	*
STEM departments	0.38	0.22		0.18	0.16	
Non-heterosexual	0.00	0.32		0.10	0.24	
Pre-measure				0.34	0.07	***
(Constant)	3.01	0.36	***	2.78	0.35	***
	$R^2 = 0.12, F(5,87) = 2.39, p = 0.044$			$R^2 = 0.30, F(6,89) = 6.48, p = 0.000$		
I can help faculty members who are coping with discrimination						
Women faculty	-0.27	0.20		-0.36	0.13	**
Faculty of color	-0.27	0.25		-0.14	0.16	
Assistant/NTT faculty	-0.21	0.19		-0.26	0.13	*
STEM departments	0.57	0.20	**	0.09	0.14	
Non-heterosexual	0.04	0.30		0.20	0.20	
Pre-measure				0.30	0.07	***
(Constant)	3.03	0.32	***	3.48	0.31	***
	$R^2 = 0.12, F(5,87) = 2.43, p = 0.041$			$R^2 = 0.33, F(6,84) = 6.78, p = 0.000$		
I know how to detect if a behavior is biased						
Women faculty	-0.13	0.18		-0.27	0.12	*
Faculty of color	0.37	0.22		-0.12	0.15	
Assistant/NTT faculty	-0.34	0.17		-0.03	0.11	
STEM departments	0.27	0.18		0.22	0.12	
Non-heterosexual	0.37	0.26		0.38	0.18	*
Pre-measure				0.33	0.07	***
(Constant)	3.24	0.29	***	2.89	0.30	***
	$R^2 = 0.10, F(5,90) = 1.91, p = 0.101$			$R^2 = 0.31, F(6,87) = 6.37, p = 0.000$		

Note: The reference groups are Men, White, Associate/Full professors, non-STEM departments, and Heterosexual. All analyses for the post-test outcomes controlled for retrospective pre-test measures. We reported unstandardized coefficients (*B*), standard errors (*SE*), and Cohen's *d* for effect size.

Abbreviations: NTT, non-tenure-track; STEM, science, technology, engineering, and mathematics.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

TABLE 6 Ordinary least squares regression estimates of ally actions by faculty gender, race, and rank.

	Pre-test			
	Coef.	SE		Cohen's <i>d</i>
I am personally committed to addressing issues of bias and discrimination against women and other marginalized faculty				
Women faculty	0.04	0.14		
Faculty of color	−0.18	0.17		
Assistant/NTT faculty	−0.22	0.13		
STEM departments	0.32	0.14	*	
Non-heterosexual	0.03	0.20		
(Constant)	3.13	0.22	***	
$R^2 = 0.12, F(5,91) = 2.71, p = 0.025$				
I share with my colleagues my commitment to creating a more equitable climate for women and other marginalized faculty				
Women faculty	−0.27	0.16		
Faculty of color	0.27	0.21		
Assistant/NTT faculty	−0.50	0.16	**	0.56
STEM departments	0.74	0.16	***	
Non-heterosexual	0.64	0.24	**	
(Constant)	2.08	0.27	***	
$R^2 = 0.32, F(5,89) = 8.47, p = 0.000$				
I have read about bias and discrimination against women and other marginalized faculty in academia				
Women faculty	0.40	0.16	*	−0.77
Faculty of color	−0.27	0.20		
Assistant/NTT faculty	−0.15	0.15		
STEM departments	0.42	0.16	*	
Non-heterosexual	0.20	0.24		
(Constant)	2.38	0.26	***	
$R^2 = 0.25, F(5,90) = 5.95, p = 0.000$				
I have spoken up when I notice a woman and other marginalized colleague being interrupted				
Women faculty	0.00	0.19		
Faculty of color	0.00	0.24		
Assistant/NTT faculty	−0.47	0.18	*	0.48
STEM departments	0.23	0.19		
Non-heterosexual	0.36	0.28		
(Constant)	2.27	0.31	***	
$R^2 = 0.11, F(5,89) = 2.28, p = 0.054$				
I ask women and other marginalized colleagues about their experiences of the climate within their department				
Women faculty	0.02	0.20		

(Continues)

TABLE 6 (Continued)

	Pre-test			Cohen's <i>d</i>
	Coef.	SE		
Faculty of color	-0.56	0.25	*	0.62
Assistant/NTT faculty	-0.45	0.19	*	0.55
STEM departments	0.33	0.20		
Non-heterosexual	0.00	0.30		
(Constant)	2.25	0.33	***	
$R^2 = 0.15, F(5,91) = 3.32, p = 0.009$				
I invite women and other marginalized colleagues to informal gatherings where work-related discussions are likely to occur				
Women faculty	-0.15	0.21		
Faculty of color	-0.36	0.26		
Assistant/NTT faculty	-0.24	0.20		
STEM departments	0.15	0.21		
Non-heterosexual	-0.09	0.30		
(Constant)	2.80	0.35	***	
$R^2 = 0.05, F(5,88) = 0.98, p = 0.433$				
I talk to women and other marginalized colleagues about their research				
Women faculty	-0.23	0.19		
Faculty of color	-0.08	0.23		
Assistant/NTT faculty	-0.28	0.17		
STEM departments	0.24	0.18		
Non-heterosexual	-0.24	0.27		
(Constant)	3.21	0.30	***	
$R^2 = 0.07, F(5,90) = 1.33, p = 0.258$				
I nominate women and other marginalized colleagues for university awards				
Women faculty	-0.26	0.22		
Faculty of color	-0.32	0.27		
Assistant/NTT faculty	-0.81	0.21	***	0.87
STEM departments	0.41	0.22		
Non-heterosexual	0.14	0.33		
(Constant)	2.66	0.36	***	
$R^2 = 0.21, F(5,90) = 4.71, p = 0.001$				
I volunteer to serve on departmental and college committees with the specific purpose of being an ally for faculty equity				
Women faculty	0.01	0.24		
Faculty of color	-0.23	0.29		
Assistant/NTT faculty	-0.50	0.22	*	0.51
STEM departments	0.45	0.24		

TABLE 6 (Continued)

	Pre-test			Cohen's <i>d</i>
	Coef.	SE		
Non-heterosexual	0.41	0.34		
(Constant)	2.08	0.38	***	
$R^2 = 0.14, F(5,90) = 2.90, p = 0.018$				
I intervene if I witness a bias incident				
Women faculty	-0.38	0.18	*	0.17
Faculty of color	-0.20	0.22		
Assistant/NTT faculty	-0.51	0.17	**	0.52
STEM departments	0.25	0.18		
Non-heterosexual	0.32	0.26		
(Constant)	2.61	0.28	***	
$R^2 = 0.16, F(5,90) = 3.53, p = 0.006$				

Note: The reference groups are Men, White, Associate/Full professors, non-STEM departments, and Heterosexual. All analyses for the post-test outcomes controlled for retrospective pre-test measures. We reported unstandardized coefficients (B), standard errors (SE), and Cohen's *d* for effect size.

Abbreviations: NTT, non-tenure-track; STEM, science, technology, engineering, and mathematics.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Cohen's $d = 0.52$) less frequently than their associate and full professor colleagues after controlling for their gender, race, department, and sexual orientation with medium to large effect sizes.

4.2 | Qualitative findings: Understanding how concerns and allyship strategies differed by gender, race, and rank

While 105 participants provided answers to the two open-ended questions on the post-test, White participants were far more likely to answer these questions than were FOC. Moreover, the majority of qualitative data from FOC came from Asian participants; Black, Hispanic/Latinx and other racially minoritized faculty provided almost no responses to the open-ended questions. We encourage readers to use caution in transferring the findings from FOC or comparisons between White and FOC responses.

4.2.1 | Academic rank concerns

The Academic Rank Concerns theme reflects responses from participants who grappled with how to enact ally actions when they felt their professional rank lacked institutional power. Pre-tenured faculty of all genders and races mentioned lacking power as a concern about acting as an ally. A White man assistant professor participant said, "As a junior faculty, I still feel limited to act on my own but will try to get the help of senior faculty with similar beliefs to act together." Other participants had similar sentiments; a White man NTT faculty member stated, "How can I stand and be an ally for racial, gender, age, etc., discrimination if my colleagues don't value me because of my rank?" and another White man in a NTT position stated, "I still wonder about some of the nuances to being an ally as someone with lower privilege." These quotes make clear that, despite having power from their gender and racial identities, White men faculty without tenure felt it was particularly risky for them to confront oppression.

Some women faculty, regardless of tenure status, also expressed the need for more ally strategies. A FOC women assistant professor stated she still needed help with “[how to be an] ally and [use] strategies for intervention [when] not yet tenured,” a White woman associate professor stated that she would have liked the workshop facilitators to “suggest more ways and details to mitigate risk and harm to career.” These quotes indicate that men without tenure and women of all tenure statuses express a need for additional strategies that might mitigate concerns about continued employment if they act as allies.

4.2.2 | Individual-level strategies

Participants described two individual-level strategies for acting as an ally: Enact Bystander Interventions and Mentor Marginalized Faculty. These themes were evident in participants of all genders, races, and academic ranks.

Enact bystander interventions

It is not surprising that this was a central theme throughout the open-ended responses, as the workshop emphasized bystander intervention. Faculty members discussed bystander intervention strategies they planned to use if they witnessed biased or microaggressive interactions. Both White men and women participants often paired reflections on their increased ability to recognize biased actions with greater responsibility to intervene. For example, most responses included variations of the phrase “speak up” or “act” when discussing the ally behaviors they would enact. One White man NTT faculty member stated, “The strategy [I] will [use is] to speak up appropriately when [I] observe bias... I will also be more cognizant of these cases to better recognize what types of things we need to respond to.” Participants of all genders, races, and ranks also wrote that the workshop helped them know how to voice their concerns. A White woman NTT faculty member stated that she would “verbalize when I am uncomfortable or when I see something that makes me uncomfortable.” This theme demonstrates that the workshop enabled participants to act as allies by intervening as bystanders.

Additionally, White participants across academic ranks described gaining courage and confidence to intervene when they encounter problematic actions or comments. A White woman full professor stated that the workshop helped “build... [her] confidence to speak up to support colleagues.” and another White woman (rank unreported) wrote, “I feel more confident in strategies for [using] bystander intervention.” A White man full professor stated that he now has “the courage and strategies (wording) to intervene.” No FOC made specific reference to gaining courage or confidence from the workshop.

Another intervention strategy White participants discussed was calling people “in” rather than “out,” which refers to the practice of intervening in a way that is educational and developmental and invites the recipient to stay engaged in diversity work rather than being confronted with a harsh, combative, or belittling intervention. A White woman assistant professor wrote that she would “let [the] perpetrator save face and be more likely to respond to criticism constructively,” and a White man associate professor indicated he would intercede “in ways that support my colleagues without alienating other members of the community.” A White man assistant professor planned to use “non-confrontational bystander intervention.” While faculty understood it was important to intervene, their responses seem to prioritize being as non-confrontational as possible when interacting with a colleague. Only one FOC mentioned using a non-confrontational response (i.e., “acknowledge the action,” from a woman assistant professor) but otherwise FOC did not make a reference to the strategy of calling in rather than out.

Mentor Marginalized Faculty

Another overarching theme for individual-level strategies was the commitment to support marginalized faculty, expressed by participants across gender, race, and rank. A White man associate professor indicated he would, “continue to mentor women in STEM; use my privilege to advance women and minoritized faculty.” A FOC woman associate professor wrote that she would “provide support to junior female faculty members and graduate students.” Although this participant has two marginalized identities (i.e., FOC and woman), she saw her professional rank as a

position from which to act as an ally for women junior faculty and graduate students. This finding shows that participants viewed supporting and mentoring minoritized faculty as a way to act as allies.

4.2.3 | Individual-level concerns

Participants expressed an interest in further developing their allyship knowledge, skills, and experience. At the individual-level, participant responses illustrated three themes.

Practice speaking up

While White men and women faculty expressed that they learned strategies to enact bystander interventions, White women who had tenure also indicated that they would need more support to speak up. A White women associate professor stated, "I could use a bit more support and practice in how to have uncomfortable conversations." Another White woman associate professor stated, "I love the idea of 'calling in, not calling out' but I am not confident in my ability to enact the strategy." While most participants stated they would intervene as bystanders, tenured White women repeatedly asked for additional practice speaking up.

Addressing colleagues' lack of knowledge

A few participants raised concerns about how to involve their colleagues in allyship efforts and colleagues' lack of understanding of equity issues. One participant (a woman associate professor, race unreported) asked, "What structures can we put in place to disseminate workshop readings to our colleagues?" A White women NTT faculty member wrote, "some of the men at my table still don't seem to understand the concept of gender privilege." These quotes indicate that faculty who participated in the faculty ally workshop may have differing levels of understanding of allyship, a finding that parallels the quantitative results.

4.2.4 | Institutional-level strategies

Responses categorized within this theme show that the workshop helped faculty explore institutional-level strategies, but to a lesser extent than individual-level strategies. The participants who mentioned institutional-level strategies in their responses wrote they would examine systems and procedures that could be impacting groups differentially. Participants of all genders, races, and ranks suggested ways they could address institutional-level change. Responses included "look for systematic bias, look also at how working people on campus have been marginalized by out-sourcing, low-pay" (FOC man full professor), and "[I] plan to emphasize [allyship] during the next faculty search" (FOC man associate professor). A White faculty member (gender and rank unreported) planned to "create a department document outlining a commitment to allyship." A White woman assistant professor wrote, "I'm motivated to join faculty committees or other groups where I can potentially use my privilege and be an effective ally." Although institutional-level strategies were less specific and less frequent than the individual-level strategies discussed by participants, some faculty did point out concrete actions they planned to take at the institutional level.

4.2.5 | Institutional-level concerns

Overall, participants across gender, race, and rank wanted more information and help identifying strategies they could enact at the institutional level. A White man full professor participant indicated he needed "more work on policy-making and leadership actions." A White man assistant professor wanted more information "on best practices at other universities that the allies' network should push for at [my university]." A FOC woman full professor asked,

"how can we move from individual allyship to structural intervention?" A number of faculty participants also expressed a desire that this training be extended to senior administrators, faculty in non-STEM/SBS units, and university staff. Overall, participants desired more information about how to enact institution-level change.

5 | DISCUSSION

Findings from this study both substantiate and extend prior research. We first connect our findings to our theoretical framework, then integrate our quantitative and qualitative findings with prior literature by using the Validating Quantitative Data Model (Creswell & Plano Clark, 2018). After summarizing the key findings, we explore those connections and the implications of this study for future research and practice.

As suggested in Hardiman et al.'s (2007) three-dimensional framework, our findings indicate participants differentiated individual-level ally actions and concerns from institutional change. Most participants described engaging in individual-level ally strategies more often than institutional-level strategies. This may indicate that in a hierarchical, bureaucratic system like higher education, it is easier to discern what one might do in interacting with others than in trying to create institutional change (Nixon, 2019; Patton & Bondi, 2015; Warren et al., 2021). In addition, faculty systems are notoriously siloed, with faculty focused on their teaching, research, and service within their departments or schools, making it less likely they will consider institution-wide actions (Kezar & Eckel, 2002). While institution-wide ally actions may be unlikely, faculty acting as allies can address department-level policies and practices; however, only a few participants planned to engage in this level of action, such as in faculty searches.

We found statistically significant differences by gender in a few survey items relating to individual-level ally self-efficacy and acts, after we controlled for rank, department, and sexual orientation. For example, women rated themselves less able than did men in helping faculty who are coping with discrimination and knowing how to detect biased behaviors (Table 5). Women also reported they had read about bias and discrimination more than had men but intervened in bias incidents less than men (Table 6). While this might reflect women's personal interest in combatting gender-based bias and discrimination, the system of higher education or academic norms that have favored White men faculty (Niemann et al., 2020) may not make women faculty feel protected enough to intervene in bias incidents. In the qualitative data, women (mostly White women) faculty did not reference lack of confidence because of their gender but because of their rank or tenure status.

Our quantitative findings show that there are not differences between FOC and White faculty in both retrospective pre-test and post-test understandings of allyship-related concepts, recognizing oppression, and ally self-efficacy, after taking into account faculty rank, department, and sexual orientation, except for one item. FOC reported less frequently than White faculty that they had asked marginalized colleagues about the institutional climate in the retrospective pre-test (Table 6). More specific comments on the individual actions, however, were evident in the qualitative data from White faculty. White faculty participants described two strategies for acting as an ally: enacting bystander interventions such as speaking up or calling in and mentoring marginalized faculty. This finding aligns with existing literature that highlights these as preferred ally strategies for White faculty members (Anicha et al., 2015; Bilen-Green et al., 2013; Haynes-Baratz et al., 2022). White participants stated that they gained courage and confidence to intervene when they encountered problematic actions or comments. Interestingly, FOC did not make any specific comments about gaining courage or confidence in their individual-level ally actions from the workshop. Their comments were limited to thoughts on strategies for systematic change or institutional-level concerns. Due to the interaction of structural racism and significant institutional underrepresentation, FOC may have greater reason to focus on institution-level change than on individual ally strategies.

The biggest contribution to the literature on workplace allyship from our study was participants' concerns related to their academic rank, reflected in both the quantitative and qualitative findings. Typically, issues of power and oppression are discussed in terms of social identities such as gender and race. However, our findings illustrate that workplace hierarchies also have a role in people's confidence, self-efficacy, and willingness to enact allyship actions

in their organizations. Both quantitative and qualitative data showing tenured faculty demonstrated greater recognition of their own privilege and greater self-efficacy in acting as allies and indicated they were more willing to intervene when they witnessed a bias incident than pre-tenured and NTT faculty. In the quantitative data, assistant/NTT faculty reported less frequently than associate/full professors that they had nominated marginalized colleagues for awards or served on committees as an ally for faculty equity (Table 6). Because of their lower positional power, these types of opportunities may not be available to NTT or pre-tenured faculty. Our quantitative and qualitative findings align with Haynes-Baratz et al.'s (2022) qualitative study on faculty response to gender-based microaggressions, which found that faculty who have greater positional power feel a sense of responsibility to enact allyship.

Reluctance to engage in confrontation was also a pervasive theme as well as seeking ways to advocate without risking employment. We found that faculty rank was a more statistically significant predictor of hesitancy to engage in confrontation than was gender or race. The qualitative findings further support these results. Tenured faculty, regardless of gender or race, indicated that they were more willing to confront oppression than were pre-tenure or NTT faculty. The qualitative data also indicated that non-tenured White men faculty members shared concerns about their lack of positional power when they contemplated confronting discriminatory behavior. However, they did not acknowledge their gender and racial privilege. These findings align with many of the criticisms of allyship, primarily that White allies are not willing to risk their own privilege to work for social justice (Patton & Bondi, 2015).

Current literature on allyship is focused on men's allyship for gender equity (Anicha et al., 2015; Bilen-Green et al., 2013; Warren et al., 2021); our study illuminates how the ally actions of faculty of all genders and races are influenced by their rank/tenure status. Absence of privileged rank, even when they were privileged by race and/or gender, diminished the confidence of faculty in acting as allies. As noted by Patton and Bondi (2015), acting as allies may put people in a position where they must contend with those having more power in the organizational system, resulting in loss of employment, status, opportunity for advancement, resources, or other forms of privilege. This could have a chilling effect on faculty members without the protection of tenure and may create reluctance to act as allies if those actions might put their own careers at risk.

6 | IMPLICATIONS

6.1 | Policy and practice

We offer policy implications aligned with the broader social and political context of the United States. Our findings indicate that much of what participants focused on related to individual-level interventions, which aligns with a main criticism of allyship; namely, the lack of institutional-level interventions. Training faculty to more fully understand larger societal dynamics that sustain oppression is necessary. We suggest the NSF encourage institutions awarded ADVANCE grants to address structural/institutional manifestations of oppression in addition to individual-level ally actions. Recently, some regions in the United States have outlawed diversity training and discussions of systematic oppression based on critical race theory (June & O'Leary, 2021). Faculty allyship training should develop the skills necessary to challenge oppression in contexts larger than one specific university.

Ally training also should motivate and enable participants to challenge inequitable institutional policies and practices. Because oppression occurs at different levels of an organization, workplace ally training must equip participants with information about different types of ally actions that support equity and inclusion at both the individual and institutional levels of an organization. Our findings indicate that faculty ally actions reflect the focus of the training they were provided; faculty most often mentioned individual change strategies that aligned with the workshop's focus on bystander intervention. Allies also should be engaged in crafting and advocating for institution-wide policies that create inclusive environments, such as flexible reappointment, tenure, and promotion criteria; transparency in assigning faculty workloads; and regular assessment of the equity impacts of policies and practices campus-wide (e.g., Hanasono et al., 2019; O'Meara et al., 2017), all of which would reduce marginalization of minoritized faculty

members. Ally training must be expanded to include discussions of how to influence departmental and college dynamics as well as university-wide policies and practices.

Our participants seemed to prioritize non-confrontational bystander interventions and were most concerned about confrontation as an ally strategy. However, criticism of allyship often highlights the unwillingness of allies to take risks and engage in confrontation (Erskine & Bilimoria, 2019), so it is important to teach strategic confrontation. We echo Goodman's (2011) suggestions that privileged people engaging in social justice work try to assess risks realistically, strategize how to minimize risk, and "develop back-up plans in case some of the feared consequences do occur" (p. 164). Simultaneously, trainers should remind trainees that not all forms of allyship entail the same amount of risk, which would be critical to encouraging faculty without tenure to enact interpersonal and institutional ally behaviors.

Given our findings that faculty rank influences people's willingness to challenge other faculty members about the issues of oppression, it is important that those conducting ally training work closely with non-tenured faculty to identify ways to change the institution to enable lower risk ally actions, given non-tenured faculty members greater job precarity. This might include using anonymous reporting structures and addressing the actions of equal-status peers. With the growing number of NTT faculty in higher education, inclusion of this population is necessary to build a critical mass of faculty allies. While allyship is defined by the use of one's privilege, focusing solely on an individual's privilege deflects attention from ways in which they may be marginalized in other respects. Individuals' privilege and marginality exist simultaneously.

Given that acting as an ally has some level of inherent risk, it is important that all potential allies consider what risks and consequences they are willing to incur. Ally training should include activities that help participants articulate how ally action aligns with their values and what that implies for their risk-tolerance. Through these conversations, those providing ally training must attend to the ways in which identities and hierarchical status interact to influence the level of risk of ally actions.

6.2 | Directions for future research

We can identify several implications for future research based on the limitations of our study. The issue of faculty rank and hierarchical status merits further investigation, particularly in considering how it interacts with social identities. It may be especially valuable to explore how faculty minoritized in terms of gender and race who have earned tenure and/or occupy administrator positions understand the interaction between their privileged and minoritized identities and how that interaction shapes their allyship. Future researchers should recruit more FOC of different ranks. Furthermore, to explore more nuanced differences between the allyship of tenure-track and NTT faculty or between associate and full professors, future researchers should separately consider each rank rather than combining the groups.

We recommend that future research consider both short-term and long-term behavioral change after ally training. At the completion of ally training, participants may express intentions to engage in ally behaviors but when they encounter challenges in real situations, they may show more performative types of allyship (Erskine & Bilimoria, 2019) or fail to act at all. We suggest that evaluations of ally training include both self-reported ally behaviors and observations from those receiving allyship and that both be measured at multiple points following training.

Future researchers should explore how additional social identities, such as social class, citizenship, age, and disability intersect in the context of faculty allyship. This line of scholarship can investigate how faculty can enact allyship, build alliances across differences, and support solidarity. Future research should also examine faculty allyship in diverse types of higher education institutions, including universities serving racially minoritized students and community colleges.

7 | CONCLUSION

As inequities for minoritized faculty in the U.S. higher education setting continue to be exposed, the need for faculty allyship at individual and institutional levels is paramount. However, faculty members' knowledge, skills, and concerns

regarding allyship differ in meaningful ways. Our study represents an important step in demonstrating how faculty allyship differs systematically by gender, race, and rank and highlights the importance of broadening the focus of faculty allyship beyond individual-level actions.

ACKNOWLEDGMENTS

This work was supported by the United States National Science Foundation, through the ADVANCE program, via Award #1760389: "BGSU ALLIES: Building Inclusive Leadership Practices and Policies to Transform the Institution."

DATA AVAILABILITY STATEMENT

Research data are not shared.

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ENDNOTE

¹ Ally actions were asked about only in the retrospective pre-test; the research team did not measure the participants' actions after the workshop as data were collected in the final minutes of the workshop and participants had not had time to engage in new actions.

REFERENCES

- Adams, Maurianne, and Ximena Zúñiga. 2016. "Getting Started: Core Concepts for Social Justice Education." In *Teaching for Diversity and Social Justice*, edited by Maurianne Adams and Lee Anne Bell, 3rd ed., 95–130. New York: Routledge.
- American Council on Education. 2017. *Pipelines, Pathways, and Institutional Leadership: An Update on the Status of Women in Higher Education*. Washington, DC: ACE. <https://www.acenet.edu/Documents/HES-Pipelines-Pathways-and-Institutional-Leadership-2017.pdf>.
- Anicha, Cali L., Ann Burnett, and Canan Bilen-Green. 2015. "Men Faculty Gender-Equity Advocates: A Qualitative Analysis of Theory and Praxis." *The Journal of Men's Studies* 23(1): 21–43. <https://doi.org/10.1177/1060826514561974>.
- Bilen-Green, Canan, Roger A. Green, Christi McGeorge, Cali L. Anicha, and Ann Burnett. "Engaging Male Faculty in Institutional Transformation." [Paper presentation] In 2013 ASEE Annual Conference & Exposition, 23–490.
- Broido, Ellen M. 2000a. "The Development of Social Justice Allies during College: A Phenomenological Investigation." *Journal of College Student Development* 41(1): 3–18.
- Broido, Ellen M. 2000b. "Ways of Being an Ally to Lesbian, Gay, and Bisexual Students." In *Toward Acceptance: Sexual Orientation Issues on Campus*, edited by Vernon A. Wall and Nancy J. Evans, 345–69. Lanham: University Press of America.
- Brown, Kendrick T., and Joan M. Ostrove. 2013. "What Does it Mean to Be an Ally?: The Perception of Allies from the Perspective of People of Color." *Journal of Applied Social Psychology* 43(11): 2211–22. <https://doi.org/10.1111/jasp.12172>.
- Carlson, Juliana, Cliff Leek, Erin Casey, Rich Tolman, and Christopher Allen. 2020. "What's in a Name? A Synthesis of 'Allyship' Elements from Academic and Activist Literature." *Journal of Family Violence* 35(8): 889–98. <https://doi.org/10.1007/s10896-019-00073-z>.
- Cheng, Shannon K., Linnea C. Ng, Allison M. T aylor, and Eden B. King. 2019. "Helping or Hurting?: Understanding Women's Perceptions of Male Allies." *Personnel Assessment and Decisions* 5(2): 44–54. <https://doi.org/10.25035/pad.2019.02.006>.
- Cho, Katherine S., Racheal M. Banda, Érica Fernández, and Brittany Aronson. 2022. "Testimonios de las Atravesadas: A Borderland Existence of Women of Color Faculty." *Gender, Work and Organization* 30(2): 724–43. <https://doi.org/10.1111/gwao.12894>.
- Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Hillsdale: Erlbaum.
- Creswell, John W., and Vicki L. Plano Clark. 2018. *Designing and Conducting Mixed Methods Research*. Thousand Oaks: SAGE.
- Drennan, Jonathan, and Abbey Hyde. 2008. "Controlling Response Shift Bias: The Use of the Retrospective Pre-Test Design in the Evaluation of a Master's Programme." *Assessment & Evaluation in Higher Education* 33(6): 699–709. <https://doi.org/10.1080/02602930701773026>.
- Erskine, Samantha E., and Diana Bilimoria. 2019. "White Allyship of Afro-Diasporic Women in the Workplace: A Transformative Strategy for Organizational Change." *Journal of Leadership and Organizational Studies* 26(3): 319–38. <https://doi.org/10.1177/1548051819848993>.
- Goodman, Diane J. 2011. *Promoting diversity and social justice: Educating people from privileged groups*. Routledge.

- Hanasono, Lisa K., Ellen M. Broido, Margaret M. Yacobucci, Karen V. Root, Susana Peña, and Deborah A. O'Neil. 2019. "Secret Service: Revealing Gender Biases in the Visibility and Value of Faculty Service." *Journal of Diversity in Higher Education* 12(1): 85–98. <https://doi.org/10.1037/dhe0000081>.
- Hardiman, Rita, Bailey W. Jackson, and Pat Griffin. 2007. "Conceptual Foundations for Social Justice Education." In *Teaching for Diversity and Social Justice*, edited by Maurianne Adams, Lee Anne Bell and Pat Griffin, 2nd ed., 35–66. New York: Routledge.
- Hardiman, Rita, Bailey W. Jackson, and Pat Griffin. 2013. "Conceptual foundations." In *Readings for Diversity and Social Justice*, edited by Maurianne Adams, Warren J. Blumenfeld, Carmelita (Rosie) Castañeda, Heather W. Hackman, Madeline L. Peters, and Ximena Zúñiga, 3rd ed. 26–35. New York: Routledge.
- Haynes-Baratz, Michelle C., Meg A. Bond, Christopher T. Allen, Yun L. Li, and Tuğba Metinyurt. 2022. "Challenging Gendered Microaggressions in the Academy: A Social–Ecological Analysis of Bystander Action Among Faculty." *Journal of Diversity in Higher Education* 15(4): 521–35. <https://doi.org/10.1037/dhe0000315>.
- Howard, George S., and Patrick R. Dailey. 1979. "Response-Shift Bias: A Source of Contamination of Self-Report Measures." *Journal of Applied Psychology* 64(2): 144–50. <https://doi.org/10.1037/0021-9010.64.2.144>.
- June, Audrey W., and Brian O'Leary. 2021. "These States Are Trying to Limit Talk about Race." *The Chronicle of Higher Education*, August 12, 2021. <https://www.chronicle.com/article/these-states-are-taking-aim-at-talking-about-race>.
- Kezar, Adrianna, and Peter Eckel. 2002. "Examining the Institutional Transformation Process: The Importance of Sensemaking, Interrelated Strategies, and Balance." *Research in Higher Education* 43(3): 295–328. <https://doi.org/10.1023/a:1014889001242>. <http://www.jstor.org.ezproxy.lib.vt.edu/stable/40196456>.
- Kutlaca, Maja, Helena R. M. Radke, Aarti Iyer, and Julia C. Becker. 2020. "Understanding Allies' Participation in Social Change: A Multiple Perspectives Approach." *European Journal of Social Psychology* 50(6): 1248–58. <https://doi.org/10.1002/ejsp.2720>.
- Miles, Matthew B., A. Michael Huberman, and Johnny Saldaña. 2020. *Qualitative Data Analysis: A Methods Sourcebook*, 4th ed. Los Angeles: Sage.
- National Center for Educational Statistics. 2021. Full-Time Faculty in Degree-Granting Postsecondary Institutions, by Race/Ethnicity, Sex, and Academic Rank: Fall 2018, Fall 2019, and Fall 2020. https://nces.ed.gov/programs/digest/d21/tables/dt21_315.20.asp.
- Niemann, Yolanda F., Gabriella Gutiérrez y Muhs, and Carmen G. González. 2020. *Presumed Incompetent II: Race, Class, Power, and Resistance of Women in Academia*. Logan: Utah State University Press. <https://doi.org/10.7330/9781607329664>.
- Nixon, Stephanie A. 2019. "The Coin Model of Privilege and Critical Allyship: Implications for Health." *BMC Public Health* 19(1): 1–13. <https://doi.org/10.1186/s12889-019-7884-9>.
- O'Meara, Kerry Ann, Alexandra Kuvaeva, Gudrun Nyunt, Chelsea Waugaman, and Rose Jackson. 2017. "Asked More Often: Gender Differences in Faculty Workload in Research Universities and the Work Interactions that Shape Them." *American Educational Research Journal* 54(6): 1154–86. <https://doi.org/10.3102/0002831217716767>.
- Patton, Lori D., and Stephanie Bondi. 2015. "Nice White Men or Social Justice Allies?: Using Critical Race Theory to Examine How White Male Faculty and Administrators Engage in Ally Work." *Race, Ethnicity and Education* 18(4): 488–514. <https://doi.org/10.1080/13613324.2014.1000289>.
- Pratt, Clara C., William M. McGuigan, and Aphra R. Katzev. 2000. "Measuring Program Outcomes: Using Retrospective Pretest Methodology." *American Journal of Evaluation* 21(3): 341–9. [https://doi.org/10.1016/s1098-2140\(00\)00089-8](https://doi.org/10.1016/s1098-2140(00)00089-8).
- Salter, Nicholas P., and Leslie Migliaccio. 2019. "Allyship as a Diversity and Inclusion Tool in the Workplace." In *Diversity within Diversity Management*, edited by Andri Georgiadou, Maria A. Gonzalez-Perez and Miguel R. Olivas-Luján, 131–52. Emerald Publishing Limited. <https://doi.org/10.1108/S1877-636120190000022008>.
- Smith, Sandi W., Kenneth D. Rosenman, Michael R. Kotowski, Edward Glazer, Courtney McFeters, Nicole M. Keesecker, and Angela Law. 2008. "Using the EPPM to Create and Evaluate the Effectiveness of Brochures to Increase the Use of Hearing Protection in Farmers and Landscape Workers." *Journal of Applied Communication Research* 36(2): 200–18. <https://doi.org/10.1080/00909880801922862>.
- Sumerau, J. E., TehQuin D. Forbes, Eric A. Grollman, and Lain A. Mathers. 2021. "Constructing Allyship and the Persistence of Inequality." *Social Problems* 68(2): 358–73. <https://doi.org/10.1093/socpro/spaa003>.
- Warren, Meg A., and Samit D. Bordoloi. 2021. "Going beyond Good Colleagues: Male and Female Perspectives on Allyship Behaviors toward Women Faculty in Male-Dominated Disciplines in Academia." *Journal of Diversity in Higher Education*. Advance online publication. <https://doi.org/10.1037/dhe0000369>.

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How to cite this article: Ro, Hyun Kyoung, Blaze Campbell-Jacobs, Ellen M. Broido, Lisa K. Hanasono, Deborah A. O'Neil, Margaret M. Yacobucci, and Karen V. Root. 2023. "Faculty Allyship: Differences by Gender, Race, and Rank at a Single U.S. University." *Gender, Work & Organization* 1–29. <https://doi.org/10.1111/gwao.12988>.

APPENDIX A

TABLE A1 Descriptive statistics of retrospective pre-test and post-test items

Items	Retrospective pre-test					Post-test				
	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
Ally concepts ^a										
(1) Allyship	122	2.98	1.11	1	5	120	4.36	0.59	3	5
(2) Gender equity	122	3.89	0.86	2	5	122	4.36	0.63	3	5
(3) Intersectionality	122	3.23	1.28	1	5	121	4.12	0.88	1	5
(4) Bystander intervention	121	3.11	0.97	1	5	120	4.33	0.65	2	5
(5) Privilege	120	3.71	1.02	2	5	119	4.49	0.62	3	5
(6) Implicit bias	121	3.65	1.04	1	5	121	4.28	0.73	2	5
(7) Microaggression	122	3.32	1.14	1	5	122	4.25	0.81	1	5
Recognizing and responding to oppression ^b										
(1) I am able to recognize privilege in the workplace	122	3.11	0.79	1	4	122	3.75	0.44	3	4
(2) I am able to recognize bias in the workplace	122	3.09	0.69	1	4	122	3.71	0.45	3	4
(3) I am able to recognize microaggressions in the workplace	121	2.80	0.77	1	4	121	3.55	0.59	1	4
(4) I am able to recognize when to intervene in a bias incident	122	2.57	0.82	1	4	122	3.55	0.55	2	4
(5) I am able to know effective intervention strategies when I witness a bias incident	121	2.31	0.75	1	4	122	3.44	0.59	2	4
Self-efficacy as allies ^c										
(1) I can stop acts of discrimination that target faculty members	116	3.21	1.09	1	5	118	4.13	0.92	1	5
(2) I can prevent acts of discrimination that target faculty members	114	3.17	1.03	1	5	118	4.03	0.88	1	5
(3) I can help faculty members who are coping with discrimination	115	3.60	0.96	1	5	112	4.46	0.67	2	5
(4) I know how to detect if a behavior is biased	118	3.53	0.87	1	5	115	4.30	0.66	2	5
Self-evaluation of ally actions ^d										
(1) I am personally committed to addressing issues of bias and discrimination against women and other marginalized faculty	120	3.44	0.73	1	4	-	-	-	-	-
(2) I share with my colleagues my commitment to creating a more equitable climate for women and other marginalized faculty	118	2.93	0.89	1	4	-	-	-	-	-

TABLE A1 (Continued)

Items	Retrospective pre-test					Post-test				
	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
(3) I have read about bias and discrimination against women and other marginalized faculty in academia	119	3.04	0.88	1	4	-	-	-	-	-
(4) I have spoken up when I notice a woman and other marginalized colleague being interrupted	118	2.42	0.91	1	4	-	-	-	-	-
(5) I ask women and other marginalized colleagues about their experiences of the climate within their department	120	2.51	1.01	1	4	-	-	-	-	-
(6) I invite women and other marginalized colleagues to informal gatherings where work-related discussions are likely to occur	117	2.73	0.98	1	4	-	-	-	-	-
(7) I talk to women and other marginalized colleagues about their research	118	3.24	0.88	1	4	-	-	-	-	-
(8) I nominate women and other marginalized colleagues for university awards	117	2.77	1.10	1	4	-	-	-	-	-
(9) I volunteer to serve on departmental and college committees with the specific purpose of being an ally for faculty equity	119	2.53	1.13	1	4	-	-	-	-	-
(10) I intervene if I witness a bias incident	119	2.57	0.88	1	4	-	-	-	-	-

^aPlease place an X in the box that best represents your understanding of the ALLIES concepts both PRIOR TO the workshop and AFTER the workshop. (1 = very limited; 2 = limited; 3 = basic; 4 = intermediate; 5 = advanced).

^bPlease place an X in the box that best represents your recognition and knowledge both PRIOR TO the workshop and AFTER the workshop. (1 = never; 2 = rarely; 3 = occasionally; 4 = regularly).

^cPlease place an X in the box that best represents your current beliefs about allyship self-efficacy both PRIOR TO the workshop and AFTER the workshop. (1 = Strongly Disagree; 2 = Disagree; 3 = Sometimes Agree or Sometimes Disagree; 4 = Agree; 5 = Strongly Agree).

^dPlease place an X in the box that best represents your behaviors both PRIOR TO the workshop and AFTER the workshop. (1 = never; 2 = rarely; 3 = occasionally; 4 = regularly).