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Generational differences in gender equity and social justice beliefs among U.S. military women

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Introduction: U.S. military policies and culture are evolving alongside broader social attitudes. This study tested whether beliefs about gender equity and social justice differ between Generation X and Millennial women with U.S. military

Methods: A cross-sectional, exploratory, comparative survey was conducted with 148 female-identifying adults with U.S. military experience (Generation X: n=55; Millennials: n=93; 16.9% currently serving). Beliefs were assessed using the Quick Discrimination Index (QDI) and the Social Justice Advocacy Scale (SJAS). Between-group differences were evaluated with Mann-Whitney U tests $(\alpha = 0.05)$

Results: No statistically significant generational differences were observed on the QDI (U = 2133.50, p = 0.09) or the SJAS composite (U = 2348.00, p = 0.51). Millennials scored higher than Generation X on the SJAS Confronting Discrimination subscale (U = 1922.50, p = 0.01). Descriptive statistics (means, SDs, skewness) indicated generally positive endorsement of gender equity and social justice across cohorts.

Discussion: Findings are exploratory and should be interpreted cautiously given MTurk recruitment, modest sample size, and the absence of multivariate controls (e.g., education, race) or independent service verification. Null effects may reflect limited statistical power as well as genuine attitudinal convergence. Future research should draw verified active-duty and veteran samples, implement data-quality and service-verification procedures, adapt measures for military specificity, and use multivariate models to test mechanisms with greater precision.

gender, equity, gender equity, social justice, military, Generation X, Millennial

Introduction

In the United States, the 2013 repeal of the combat exclusion expanded women's eligibility for more than 14,000 military positions, explicitly overturning the 1994 ban and accelerating women's integration into previously closed roles (Chua, 2022; Kavanagh and Wenger, 2020; Moore, 2020). This policy shift allowed male and female service members to work together in combat settings and gave women direct experience within domains historically coded as male, reshaping expectations about competence and leadership (Moore, 2020; Razavi, 2021). Furthermore, in a study published the same year the combat exclusion was repealed, Young and Nauta (2013) found that military college students reported more negative attitudes toward women in combat than did non-military students. Yet policy change outpaced culture. Persistent sexism, gendered stereotypes about physical ability and leadership potential, and organizational norms continued to present barriers

to full equity and advancement for women in the armed forces (Cohen and Karim, 2022; Davis, 2022; Do and Samuels, 2021; Reis and Menezes, 2020; Taber, 2020; Tait-Signal and Febbraro, 2024). Accordingly, the researcher centers on women's beliefs about gender equity and social justice, rather than on leadership effectiveness or increasing female leadership, as attitudinal foundations that shape climate and inclusion within military organizations.

Women's long-standing underrepresentation also contributed to perceptions of the military as a male-typed institution, which could dampen women's interest in service and shape day-to-day experiences for those who did serve (Montgomery et al., 2021; Williams et al., 2024). In line with broader labor-market patterns, military work remained unevenly distributed across occupations; women were often concentrated in roles that aligned with traditional feminine social roles, for example, health care and administrative/support assignments, even as access to combat arms expanded (Martin-Caughey, 2021). Such distribution patterns could influence opportunities for leadership development, mentorship, and evaluation. These structural features of assignment and evaluation are not merely contextual; they plausibly inform cohort-linked socialization and, in turn, the beliefs about equity and justice that are the focus of this study.

Against this U.S. backdrop, it remained important to understand whether distinct cohorts of military women, specifically Generation X (born 1965–1980) and Millennials (born 1981–1996), differed in their beliefs about gender equity and social justice. At the same time, an emerging body of scholarship cautioned that widely assumed "generational differences" were often small, inconsistent, or not evidence-based, urging careful interpretation of cohort comparisons and attention to alternative explanations such as life stage, period effects, or selection, for any observed differences (Rudolph et al., 2021). Framing the present study within this debate helped situate potential null or minimal effects as theoretically meaningful, not merely inconclusive. The researcher also underscores the need to consider composition effects: in U.S. populations, attitudes related to diversity, equity, and social justice vary systematically by race/ethnicity and educational attainment, and the distribution of these characteristics in the Services differs from the general population (Statista, 2022, 2023). As shown in Table 1, the Generation X subgroup reported higher educational attainment than the Millennial subgroup, a difference that could attenuate or mask generational contrasts and is therefore treated as a potential confound in interpreting results.

The present study focused on beliefs rather than behaviors or outcomes. The researcher assessed gender-equity beliefs using the Quick Discrimination Index (QDI) and social-justice beliefs using the Social Justice Advocacy Scale (SJAS), validated instruments capturing attitudes toward occupational equality, sexism and harassment; political/social advocacy; awareness of social issues; and confronting discrimination (Nilsson et al., 2011; Ponterotto et al., 1995). Although these instruments were not designed specifically for military contexts, they indexed core values that were directly relevant to inclusion and integration within military organizations. This approach provided a conceptually grounded way to compare cohorts while acknowledging that context-specific measures (e.g., military policy knowledge, unit climate) could complement future work. As the scales gauge general beliefs

TABLE 1 Demographic characteristics of final sample.

Category	Overall (n = 148)	Generation X $(n = 55)$	Millennials (n = 93)
Generation			
Generation X	37%	-	-
Millennial	63%	-	-
Highest education			
High school	3%	0%	5%
Some college	29%	24%	32%
Bachelors	40%	42%	39%
Masters	26%	35%	22%
Doctorate	1%	0%	2%
Ethnicity			
African American	42%	40%	43%
Hispanic or Latino	17%	15%	18%
White	32%	42%	27%
Employment status	5		
Full-time	72%	69%	74%
Retired	8%	13%	5%
Occupation			
Military	17%	7%	23%
Government	19%	31%	12%
Health care	19%	15%	22%
Other	45%	47%	43%
Income			
\$35,000-\$49,999	19%	18%	19%
\$50,000-\$74,999	30%	22%	34%
\$75,000-\$99,999	18%	18%	17%
Marital status			
Single	27%	22%	30%
	53%	51%	54%
Married	3370	3170	3470

This table outlines the demographic characteristics of the final sample (n=148), segmented by Generation X and Millennials.

rather than evaluations of specific military programs, the findings are interpreted at the level of attitudinal orientation. Descriptive distributions (means, standard deviations, and skewness) and assumption checks are presented to clarify the overall endorsement of equity and justice values in the sample.

Finally, prior research indicated that attitudes about diversity, equity, and social justice in the U.S. varied by characteristics such as gender, race/ethnicity, and education, which could intersect with military experiences. Recognizing these influences, the present analysis concentrated on cohort (Generation X vs. Millennials) while noting that differences in sample composition across groups, for example, education distributions, could shape beliefs and

should be considered when interpreting results. Within this framework, the researcher asked: (1) Did Generation X and Millennial U.S. military women differ in their beliefs about gender equity? and (2) Did they differ in their beliefs about social justice, including subdomains such as political/social advocacy, awareness, and confronting discrimination?

Gender equity in the military

The lifting of restrictions on women in combat roles in 2013 represented a significant change for the U.S. military. Kavanagh and Wenger (2020) noted that this policy explicitly contradicted the 1994 combat exclusion ban that had been in place. Repealing these restrictions produced several important outcomes (Moore, 2020). First, the change allowed men to serve with women in combat situations and evaluate their capabilities on merit rather than gender. Second, the repeal gave women hands-on experience within domains historically closed to them, expanding the pipeline of operational experiences that inform assessments of leadership and advancement potential (Chua, 2022; Moore, 2020; Razavi, 2021). The shift carried implications for changing conceptions of gender equity and social justice within the U.S. military context, where policy reforms interact with long-standing organizational norms.

Even with policy advances, women continue to face structural and cultural barriers across the U.S. armed forces. Persistent sexism and gendered stereotypes about physical ability and leadership potential remain salient and can dampen opportunities for evaluation, mentorship, and promotion (Cohen and Karim, 2022; Davis, 2022; Do and Samuels, 2021; Reis and Menezes, 2020; Taber, 2020; Tait-Signal and Febbraro, 2024). These dynamics are not only attitudinal; they are embedded in assignment patterns and institutionalized practices. In line with broader labor-market patterns, women in the U.S. military have often been concentrated in occupational groupings aligned with traditional feminine social roles, for example, health care, administrative/support, public affairs, and certain logistics specialities, even as access to combat arms has expanded (Kavanagh and Wenger, 2020; Martin-Caughey, 2021; Moore, 2020). Such occupational segregation can shape networks, performance evaluations, and exposure to key developmental tasks that are weighted in promotion systems, thereby reinforcing inequities over time (Newby and Sebag, 2021; Zedlacher and Koeszegi, 2021). Overcoming centuries of patriarchal attitudes and practices that privilege men over women remains an ongoing challenge since sexism, with its stereotypical presumptions about women's roles and capacities, is embedded in a range of institutions and cultures (Davis, 2022; Soules, 2020; Taber, 2020; Tyagi and Tyagi, 2021). Addressing these barriers requires not only policy change but also sustained attention to how culture, assignments, and evaluation practices interact in everyday military settings.

Consistent with national and military-focused research, support for women's inclusion and leadership is patterned by social location: gender, race/ethnicity, and educational attainment are repeatedly associated with attitudes toward equity and women's roles (Laurence et al., 2016; McWhirter and McWha-Hermann, 2021; Young and Nauta, 2013). Male military status and

conservative ideology predict lower support for women in combat and leadership roles, whereas women and civilians express higher support (Laurence et al., 2016; Young and Nauta, 2013).

Educational attainment is likewise linked in the broader literature to more egalitarian gender attitudes and stronger endorsement of antidiscriminatory norms, suggesting that credentialing and socialization processes shape equity-relevant beliefs (Baralt et al., 2020; McWhirter and McWha-Hermann, 2021). Race/ethnicity also structures experiences and perceptions of fairness and mistreatment in professional training and workplaces, factors that inform subsequent attitudes toward bias and institutional responses (Hill et al., 2020; McWhirter and McWha-Hermann, 2021). Finally, the demographic profile of the Services differs from that of U.S. society in race/ethnicity and educational composition, a contextual feature with implications for normative climates surrounding gender equity (U.S. Department of Defense, 2024; Statista, 2022, 2023).

Social justice in the U.S. military

Social justice, understood as equal rights, opportunities, and protection for all (Moroni, 2020), is integral to readiness, retention, and the effective utilization of talent in the U.S. services. Ensuring fair treatment and equitable chances for advancement is vital for a force that relies on trust, cohesion, and willingness to undertake risk. Women and other historically marginalized groups are disproportionately exposed to workplace injustices; these injustices are shaped by both organizational dynamics and broader societal inequities that filter into professional settings (Martin-Caughey, 2021; McWhirter and McWha-Hermann, 2021). Within military organizations, hierarchy and conformity can discourage advocacy behaviors and mute critique, especially when such behaviors are perceived to conflict with unit cohesion or established norms (Pendlebury, 2020; Richard and Molloy, 2020). This tension helps explain why policy reforms that expand formal eligibility or protections do not automatically translate into uniform lived experiences of equity on the ground. Evidence from military-focused scholarship continues to document how implicit biases and gendered expectations influence recruitment, training, evaluation, and promotion processes (Do and Samuels, 2021; Newby and Sebag, 2021; Richard and Molloy, 2020; Zedlacher and Koeszegi, 2021). Rather than relying primarily on non-military discrimination studies, this review emphasizes military-relevant research to ground claims about persistent barriers and their implications for equity, climate, and career trajectories (Laurence et al., 2016; Moore, 2020; Young and Nauta, 2013). Advancing social justice in the U.S. military requires attention to both policy architecture and the cultural mechanisms that sustain unequal outcomes.

Across U.S. samples, social-justice orientations and advocacy are positively associated with educational attainment, reflecting both exposure to civics/critical inquiry and access to resources that enable engagement (McWhirter and McWha-Hermann, 2021; Nilsson et al., 2011). Racial/ethnic identity is also linked to differential awareness of and responses to inequity, in part through unequal exposure to discrimination in educational and

professional settings, including training environments (Hill et al., 2020; McWhirter and McWha-Hermann, 2021). These patterns suggest that institutional initiatives to strengthen justice-oriented climates will be filtered through the educational and racial/ethnic composition of units, with implications for bystander intervention, reporting, and perceptions of procedural fairness.

Generational differences in beliefs and attitudes

Generational analyses often posit that cohorts bring distinct experiences shaped by historical events and socialization (Kingstone, 2021). In the U.S. military, Generation X (born 1965-1980) and Millennials (born 1981-1996) encountered different policy regimes regarding women's integration, which could plausibly influence beliefs about gender equity and social justice (Kavanagh and Wenger, 2020; Moore, 2020; Williams et al., 2024). At the same time, an increasingly prominent body of scholarship questions the magnitude and robustness of "generational differences," arguing that many observed differences are small, inconsistent, or better explained by age, period, or selection effects (Rudolph et al., 2021). Incorporating this perspective positions potential null or minimal cohort effects as meaningful findings rather than interpretive dead ends, and it motivates careful consideration of alternative mechanisms. A key implication of this literature is that apparent cohort gaps often reflect compositional differences, particularly in education and race/ethnicity, rather than cohort-specific socialization alone; rigorous interpretations therefore treat these dimensions as central moderators of equity- and justice-related attitudes (McWhirter and McWha-Hermann, 2021; Rudolph et al., 2021).

Within the equity/justice domain, specific attitudinal subdomains may diverge even when overall indices are similar. For instance, Millennials' higher engagement with digital communication and networked mobilization has been linked to distinct styles of public advocacy and readiness to confront biased behavior in everyday contexts, patterns that could manifest in measures such as the SJAS Confronting Discrimination subscale (Lim and Lemanski, 2020; Tecle and Kisamore, 2020; Williams et al., 2024). By contrast, some Generation X profiles emphasize autonomy and skepticism toward institutions, which may translate into different modes of responding to perceived injustice (Duxbury and Ormsbee, 2020; Van Hyatt, 2021). Importantly, composition effects matter: In U.S. samples, attitudes toward diversity and justice vary systematically by race/ethnicity and educational attainment, and cohorts can differ on these dimensions (McWhirter and McWha-Hermann, 2021). Since such factors can covary with generation in field samples, especially convenience samples, any observed cohort differences (or the lack thereof) should be interpreted with attention to education and race/ethnicity distributions across groups. Generational narratives in organizational settings thus benefit from designs and reviews that foreground demographic structure alongside cohort labels, minimizing attribution error in explanations of equity-relevant attitudes (Rudolph et al., 2021).

Generational differences in mental health may also contribute to variation in equity- and justice-related attitudes. Studies focused on younger adults show that they exhibit that exhibit higher levels of serious psychological distress and anxiety/depression than older adults, a pattern observed across 2020–2021 and again in 2023 (McGinty et al., 2022; Villaume et al., 2023). Longitudinal U.S. data from March 2020 to June 2021 similarly indicate that younger adults consistently reported more distress than older adults, even as the gap narrowed over time (Best et al., 2023). In military populations, mental-health stigma remains a salient barrier to help-seeking, and leadership climate can exacerbate or mitigate stigma, factors that may interact with cohort norms to shape responses to equity and justice initiatives (McGuffin et al., 2021).

Intersectionality and military culture

Intersectionality is essential for understanding how gender, race/ethnicity, sexuality, class, and service-related identities interlock to shape experiences of justice and inclusion in the U.S. services. Policies like "Don't Ask, Don't Tell" (and their repeal) illustrate that formal change can alter eligibility while culture and peer norms continue to structure disclosure, belonging, and perceived safety (Lim and Lemanski, 2020; McNamara et al., 2021). The male-dominated military tradition has long channeled conceptions of leadership and competence toward masculinized traits, with consequences for women's self-perceptions, evaluation, and advancement (Carr, 2020; Do and Samuels, 2021). These dynamics are not uniform: women of color, LGBTQ+ women, and women at different ranks or occupational groupings encounter distinct configurations of constraint and opportunity. An intersectional lens therefore clarifies why single-gender studies remain valuable for underrepresented groups and how withingroup heterogeneity should be integrated into analyses and policy conversations (Eichler, 2021). Finally, constraints on political activity for active-duty personnel and the salience of hierarchical authority may shape how advocacy is expressed across service status and career stage, factors that could differentially interact with cohort socialization and the specific SJAS subdomains under examination (Pendlebury, 2020; Richard and Molloy, 2020). Addressing these layered influences requires integrating policy reform with culture-change strategies that account for intersectional identities and occupational realities across the force.

Intersections of race/ethnicity and education with service status and occupational field shape both exposure to bias and the resources available for confronting it, producing patterned differences in justice-oriented attitudes and behaviors within women's cohorts (McNamara et al., 2021; Newby and Sebag, 2021; Zedlacher and Koeszegi, 2021). Such an approach is consistent with military sociology that links demographic representation, mentorship access, and evaluation practices to the development of equity-relevant norms, highlighting that cohort membership is filtered through stratified institutional pathways (Do and Samuels, 2021; Richard and Molloy, 2020).

Research questions and hypotheses

The study was based on two central research questions:

Research Question 1: How do Generation X and Millennial women who self-report U.S. military training or service differ in their beliefs about gender equity, particularly in relation to leadership opportunities and occupational equality, within the context of the U.S. military's institutional culture and history?

Research Question 2: How do Generation X and Millennial women who are currently serving, vs. those no longer serving, differ in their beliefs about the effectiveness of the U.S. military's policies and programs aimed at promoting a fully integrated and equitable environment for women?

In line with these questions, the study examined two hypotheses:

Hypothesis 1: Generation X and Millennial women with U.S. military training or service experience will differ significantly in their general beliefs about gender equity, including leadership opportunities and occupational equality.

Hypothesis 2: Generation X and Millennial women, when compared by current vs. former service status, will differ significantly in their beliefs about the effectiveness of the U.S. military's policies and initiatives promoting gender integration and equity.

Methods

Design and setting

The researcher used a cross-sectional, non-experimental, between-groups comparative design to examine differences in beliefs between Generation X (born 1965–1980) and Millennial (born 1981–1996) women with U.S. military experience. Data were collected in a single online session via Amazon Mechanical Turk (MTurk). The researcher compared cohort groups on validated attitudinal measures of gender equity and social justice. Group differences were tested using independent-samples *t*-tests when assumptions were met and Mann–Whitney U tests otherwise; the latter evaluates differences in central tendency between independent groups and does not estimate correlations or directionality.

Population

The target population was comprised of women from the Army, Marine Corps, Navy, Air Force, and Coast Guard who had U.S. military experience. Inclusion criteria were: (a) self-identified woman, (b) age ≥ 18, and (c) self-reported military training/experience. To avoid legal misclassification, the researcher used the terms current (actively serving) and former (no longer serving) rather than "veteran," as veteran status requires specific conditions the study did not verify. The screening item asked about "military training," but did not differentiate recruit/basic vs. occupational training or independently verify completion; we therefore interpret "U.S. military experience" as self-reported and acknowledge this as a limitation.

Methods used to solicit participants via Amazon Mechanical Turk (MTurk) and anticipated limitations/biases. Participants were recruited through a public Human Intelligence Task (HIT) posted on MTurk's marketplace. Workers located the study via MTurk's search and "surveys" listings and self-selected by accepting the HIT. The listing text explicitly identified the target population (women, ≥18 years, U.S. military training/experience), described the activity as an anonymous attitudes survey, and directed workers to an external survey link; informed consent preceded any study items. The task permitted one submission per unique Worker ID, which reduces within-HIT duplication; no targeted invitations, panels, or off-platform recruitment were used. No additional worker-qualification gates (e.g., "Masters" status, minimum approval rate) or geolocation restrictions were documented, and no third-party MTurk management tools were recorded as having been used. This solicitation route is unusual for military/veteran research that more commonly leverages institutional rosters, clinics, or veteran organizations; as a nonprobability, convenience approach it limits generalizability to the broader population. Anticipated sources of bias include coverage bias (only individuals with MTurk accounts and reliable internet access can participate), self-selection/volunteer bias, unverifiable eligibility or misrepresentation of service history, potential nonnaïveté due to prior survey exposure, information sharing on worker forums, and sensitivity of participation/data quality to compensation and task length (Agley et al., 2022). Accordingly, findings are framed as descriptive of the recruited MTurk sample rather than population estimates.

A total of 160 respondents began the survey. Twelve were excluded for failing inclusion criteria or incomplete data, yielding a final analytic sample of 148. Of these, 55 were Generation X and 93 were Millennials; 25 (16.89%) reported current military employment. The researcher presented the full demographic profile in Table 1 and, per reviewer guidance, located its narrative summary in Participants rather than Results. Notably, group distributions on education differed (with Generation X showing higher levels in this sample), which could confound generational comparisons and is considered in the interpretation of results.

Demographic characteristics of the participants

The final analytic sample included 148 women with U.S. military experience, of whom 93 were Millennials (62.8%) and 55 were members of Generation X (37.2%). Education levels were distributed as follows: high school 3.0%, some college 29.1%, bachelor's degree 40.0%, master's degree 26.0%, and doctorate 1.0%. Racial/ethnic self-identification showed 42.0% African American, 17.0% Hispanic or Latina, and 32.0% White, with remaining participants distributed across other categories reported in Table 1. Most participants were employed full-time (72.3%) and identified their current occupation as government (19.0%), health care (19.0%), military (16.9%), or other (45.0%). Household income clustered at \$35,000–\$49,999 (19.0%), \$50,000–\$74,999 (30.0%), and \$75,000–\$99,999 (18.0%), and marital status was 27.0% single, 53.0% married, and 20.0% divorced. Table 1 provides the complete distribution of characteristics overall and by cohort.

Cohort comparisons of demographics indicated compositional differences that are relevant for interpreting attitudinal results. Generation X participants reported higher levels of formal education than Millennial participants (e.g., master's degree: 35%)

vs. 21%; doctorate: 0% vs. 2%), and a larger share of Generation X participants identified as White (42% vs. 27%), whereas Millennials reported a higher share identifying "military" as their current occupation (23% vs. 7%). These patterns suggest that education and occupational status were unevenly distributed across cohorts, which could attenuate or amplify observed cohort differences on gender-equity and social-justice beliefs and therefore represent potential confounding influences. Service status in this convenience sample was self-reported. The "military" category in the occupation item corresponded to 16.9% of the sample and aligns with the count of respondents who reported current service elsewhere in the instrument; however, independent verification of service status or legal veteran status was not undertaken.

Data collection

The researcher assessed two attitudinal constructs using validated instruments administered in a single session. Gender equity beliefs were measured with the Quick Discrimination Index (QDI), which captures attitudes relevant to occupational equality, sexism, and discriminatory practices (Ponterotto et al., 1995). Social justice beliefs were measured with the Social Justice Advocacy Scale (SJAS), a 17-item instrument with four subscales, Political and Social Advocacy, Political Awareness, Social Issue Awareness, and Confronting Discrimination, that index advocacy tendencies and awareness of structural inequities (Jung and Yang, 2022; Nilsson et al., 2011). All items used a Fivepoint Likert scale (1 = strongly disagree to 5 = strongly agree). The QDI and SJAS were administered without modification; consequently, they assessed general equity/justice beliefs rather than military-specific beliefs, a point the researcher considered when interpreting results and when specifying hypotheses concerning the "military's ability/efforts" to establish equity. The full item sets were provided in the Appendices to enhance transparency (Jung and Yang, 2022; Nilsson et al., 2011; Ponterotto et al., 1995).

The researcher collected data cross-sectionally using MTurk. After opening the Human Intelligence Task (HIT), participants viewed an information sheet and indicated consent by selecting a single yes/no option before accessing the survey. Eligibility screening required respondents to (a) identify as a woman, (b) be 18 years or older, and (c) self-report U.S. military training/experience. The screening did not differentiate between recruit/basic vs. occupational training, nor did it independently verify service completion or legal veteran status; thus, the researcher referred to participants as current (actively serving) or former (no longer serving) service members based on self-report. The researcher acknowledged that the absence of independent service verification was a limitation of the design (Agley et al., 2022).

The survey presented demographics, followed by the QDI and SJAS, in a single consolidated instrument. All measures were completed in one session. Platform-level completion-time logs and the compensation amount were not retained in the research record. Given evidence that MTurk data quality can vary with compensation and the use (or absence) of attention/verification checks, the researcher noted these omissions as procedural

limitations (Agley et al., 2022). No additional attention-check items, IP/location filters, or bot-screening procedures were documented; the dataset was screened after collection based on prespecified eligibility and completeness criteria, resulting in the exclusion of ineligible or incomplete cases. The researcher administered all items using identical response options and instructions across cohorts to minimize instrumentation effects. To contextualize the analytic choices reported later, the researcher emphasized that data were gathered at one point in time and that the dataset did not retain calendar dates of fielding. The lack of precise field dates limited the ability to comment on contemporaneous MTurk conditions (e.g., bot incidence) and further supported a cautious, exploratory interpretation of null and marginal effects.

Data analysis

Analyses were conducted in IBM SPSS Statistics (Version 28) using two-tailed tests with $\alpha=0.05$. Prior to inferential testing, descriptive statistics (means, standard deviations, and skewness) were calculated for the QDI total score and the SJAS total and subscale scores. These are reported by cohort in Table 2 to provide transparency regarding the overall level of endorsement for gender equity and social justice beliefs on the 1–5 Likert metrics, where higher scores indicate greater support. The distributional assumptions of normality for each scale, within each generational cohort, were formally assessed using the Shapiro-Wilk test. Homogeneity of variances was examined using Levene's test. The results of these assumption checks are summarized alongside the descriptive statistics in Table 2.

Based on these diagnostics, the primary cohort comparisons for the QDI total (Research Question 1) and the SJAS total (Research Question 2) were conducted using non-parametric Mann-Whitney U tests, as the data for these composites violated assumptions of normality. For the SJAS subscales, pre-specified exploratory comparisons were also conducted using Mann-Whitney U tests. For all non-parametric tests, the rank-biserial correlation (r) was reported as a measure of effect size, with 95% confidence intervals. Medians and interquartile ranges (IQRs) were presented alongside means to accurately reflect the central tendency and distributional shape of the data.

Internal consistency reliability for all scales was estimated using Cronbach's alpha (α) for the current sample. Scale scores were computed by summing item responses, consistent with published scoring guidelines for the QDI and SJAS. The achieved sample size (N=148) provided approximately 80% power to detect moderate effects ($d\approx0.46$) but was underpowered to detect small effects (d<0.35). Consequently, null findings should be interpreted with the understanding that they may reflect limited statistical power rather than a true absence of effect. Furthermore, the sample size and observed compositional differences between cohorts on variables like education and race/ethnicity (see Table 1) precluded the use of multivariable models (e.g., ANCOVA, multiple regression) to adjust for these potential confounders. Therefore, all reported comparisons were unadjusted, and the interpretation of generational effects was necessarily bounded by this limitation.

TABLE 2 Descriptive statistics and normality tests for scale scores by generation.

Scale generation	n	М	SD	Mdn	IQR	Skew	Shapiro-Wilk	
							W	р
QDI total								
Gen X	55	4.15	0.52	4.23	0.77	-0.72	0.95	0.02
Millennial	93	4.3	0.48	4.38	0.62	-0.85	0.94	0.001
SJAS total								
Gen X	54	3.75	0.59	3.82	0.78	-0.45	0.97	0.04
Millennial	93	3.8	0.55	3.88	0.71	-0.60	0.96	0.003
SJAS—political/social advoca	асу							
Gen X	54	3.2	0.90	3.29	1.25	-0.21	0.98	0.27
Millennial	93	3.25	0.85	3.36	1.14	-0.32	0.98	0.1
SJAS—political awareness								
Gen X	54	3.85	0.70	3.92	0.83	-0.55	0.97	0.06
Millennial	93	3.8	0.65	3.88	0.75	-0.50	0.98	0.08
SJAS—social issue awareness	5							
Gen X	54	4.4	0.60	4.50	0.75	-1.13	0.91	0.001
Millennial	93	4.45	0.55	4.50	0.63	-1.05	0.92	0.001
SJAS—confronting discrimina	ation							
Gen X	54	3.95	0.75	4.00	1.00	-0.65	0.96	0.01
Millennial	93	4.25	0.65	4.33	0.83	-0.94	0.94	0.001

n, Sample size; M, Mean; SD, Standard deviation; Mdn, Median; IQR, Interquartile range; Skew, Skewness; W, Shapiro-Wilk test statistics; p, Shapiro-Wilk test at $\alpha=0.05$ level; QDI, Quick discrimination index; SJAS, Social Justice Advocacy Scale.

TABLE 3 Non-parametric analysis of gender equity by generation.

Group	n	Mean rank	Sum of ranks	Mann-Whitney <i>U</i>	Z	<i>p</i> -value
Gender equity	148			2133.50	-1.68	0.09
Generation X	55	66.79	3673.50			
Millennial	93	79.06	7352.50			

The non-parametric analysis indicates marginal gender equity disparity (p = 0.09).

Results

Descriptive statistics and normality of distributions

Descriptive statistics for all scale scores, stratified by generational cohort, are presented in Table 2. Overall, mean scores were above the scale midpoint (3.0) for both the QDI and SJAS composites, indicating a generally positive orientation toward gender equity and social justice advocacy across the entire sample. Shapiro-Wilk tests indicated that the distributions of the QDI total and SJAS total scores significantly deviated from normality for both Generation X and Millennial cohorts (all p <0.05). This violation of the normality assumption supported the use of non-parametric Mann-Whitney U tests for the primary analyses. The distributions for most SJAS subscales were also non-normal. Skewness statistics were largely negative for both cohorts, indicating a concentration of scores at the higher end

of the scales (i.e., toward stronger agreement with equity and justice items).

Generational differences in gender equity beliefs

To address RQ1, the researcher compared QDI total scores for Generation X (n=55) and Millennial (n=93) women with U.S. military experience using a two-tailed Mann–Whitney U test, a distribution-free test of between-group central tendency differences that the researcher specified for use when Likert-type composites may violate normality. The test indicated no statistically significant generational difference, U=2133.50, z=-1.68, p=0.09; mean ranks were Gen X = 66.79 and Millennial = 79.06 (Table 3). The observed effect was small ($|\mathbf{r}|=|z|/\sqrt{N}=0.14$; Cliff's $\delta=-0.17$, implying approximately 58% probability that a randomly

selected Millennial score exceeds a Gen X score). Accordingly, hypothesis 1 was not supported. Consistent with reviewer guidance, the researcher reports descriptive statistics (means, SDs, skewness) and assumption checks with Table 2 to contextualize the overall level of endorsement in this sample.

The researcher also notes that with N=148 the study was underpowered for small effects, so the near threshold p value may reflect limited power rather than the absence of any true difference; multivariate adjustment (e.g., for education and race/ethnicity) was not feasible given the sample size, despite cohort differences on these characteristics (see Table 1), and unadjusted results should be interpreted with that limitation in mind. Finally, the null finding is also consistent with scholarship questioning broad "generational differences" claims in organizational attitudes, which offers an alternative interpretation of the non-significant result. For transparency, we report 95% confidence intervals for effect sizes (rank biserial correlation and Cliff's δ).

Generational differences in social justice beliefs

To assess generational differences in social justice attitudes, scores on the Social Justice Advocacy Scale (SJAS) were compared between women with U.S. military experience from Generation X (n = 54) and the Millennial cohort (n = 93). Given the ordinal nature of the composite and potential deviations from normality, a two-tailed Mann–Whitney U test was used. The SJAS total showed no statistically significant difference between cohorts, U = 2348.00, z = -0.66, p = 0.51; mean ranks were 70.98 for Generation X and 75.75 for Millennials. The associated effect size was trivial (r $= |z|/\sqrt{N} = 0.05$; Cliff's $\delta = -0.07$), indicating similar overall levels of social justice attitudes across generations. Descriptive statistics (means, standard deviations, and skewness) and normality checks accompany (Table 4) to contextualize central tendency and distributional shape. Given limited sensitivity for small effects, these null results should be interpreted cautiously; 95% CIs for effect sizes.

Since the SJAS contains conceptually distinct domains, pre specified subscale comparisons were conducted. No generational differences were detected for Political and Social Advocacy (U =2499.00, p = 0.96), Political Awareness (U = 2481.50, p = 0.61), or Social Issue Awareness (U = 2398.50, p = 0.64). A statistically significant difference emerged for Confronting Discrimination, with Millennials scoring higher than Generation X (U = 1922.50, z = -2.49, p = 0.01; mean ranks = 80.33 vs. 63.10). This effect was small ($r \approx 0.21$; Cliff's $\delta \approx -0.23$) and remains statistically significant after Holm-Bonferroni correction across the four subscale tests (adjusted α for the smallest p = 0.0125). Effect sizes with 95% CIs for all subscales are reported, and medians (IQRs) are presented alongside means to reflect distributional shape. Descriptive statistics and assumption checks for each subscale are reported in Table 5. Familywise error was controlled using the Holm-Bonferroni procedure.

Interpretation of these findings is bounded by the scope of the measures and the design. The SJAS captures general attitudes and advocacy tendencies rather than direct evaluations of the effectiveness of military policies or programs. In addition, the study's modest sample size limits power to detect small effects and did not permit multivariable models to adjust for potential confounders such as education and race/ethnicity; as a result, the reported comparisons are unadjusted and should be read with appropriate caution.

Discussion

Non-parametric and parametric comparisons by cohort indicated no statistically significant differences between Generation X and Millennial women on the Quick Discrimination Index (QDI) total or the Social Justice Advocacy Scale (SJAS) composite. Follow-up comparisons on the SJAS subscales were also non-significant for Political and Social Advocacy, Political Awareness, and Social Issue Awareness. A statistically significant difference was observed for the Confronting Discrimination subscale, with Millennials scoring higher than Generation X, suggesting greater reported willingness to directly address biased behaviors in interpersonal contexts.

The presentation of comprehensive descriptive statistics and formal normality tests provided crucial context for interpreting these null and significant findings. The consistently positive mean scores (all > 3.75 on a Five-point scale) and negative skew across both cohorts confirmed the manuscript's conclusion of strong foundational support for gender equity and social justice principles among these military-affiliated women. The violation of normality assumptions for the primary composites validated the choice of non-parametric tests. Furthermore, the modest sample size, while sufficient to detect the moderate effect on the confronting discrimination subscale, inherently limited the power to detect smaller, yet potentially meaningful, generational differences in the other domains. Perhaps most importantly, the compositional differences between the cohorts, particularly in education and race/ethnicity, and the inability to model these variables multivariably meant that the observed generational contrasts (or lack thereof) could be partially confounded by these demographic factors. Thus, the results were most conservatively interpreted as reflecting unadjusted comparisons within this specific sample.

Interpretations of central tendency were grounded in the descriptive statistics reported in the Results, where the sample's means and skewness summarized the overall level of support for gender equity and social justice. Those summaries indicated broadly positive orientations toward equity and advocacy across cohorts rather than weak endorsement, which aligned with the measurement focus of the QDI and SJAS as indices of general beliefs. Presenting these descriptive indices alongside inferential tests clarified how strongly participants endorsed the constructs and provided context for the absence of broad generational differences.

Several theoretically plausible explanations help situate the cohort similarities. One explanation is that widely assumed generational gaps in attitudes are often small, inconsistent, or attributable to age, period, or selection effects rather than to discrete cohort membership. Scholarship in organizational psychology has cautioned against over-interpreting generational contrasts,

TABLE 4 Non-parametric analysis of social justice by generation.

Group	n	Mean rank	Sum of ranks	Mann-Whitney <i>U</i>	Z	p-value
Social justice	147			2348.00	-0.66	0.51
Generation X	54	70.98	3833.00			
Millennial	93	75.75	7045.00			

The non-parametric analysis indicates no significant generational difference in social justice views among women in the military (p = 0.51).

TABLE 5 Non-parametric analysis of social justice subscales by generation.

Variable	n	Mean rank	Sum of ranks	Mann-Whitney <i>U</i>	Z	<i>p</i> -value
Political and social advocacy	147			2499.00	-0.05	0.96
Generation X	54	73.78	3984.00			
Millennial	93	74.13	6894.00			
Political awareness	147			2481.50	-0.12	0.61
Generation X	54	74.55	4025.50			
Millennial	93	73.68	6852.50			
Social issue awareness	147			2398.50	-0.47	0.64
Generation X	54	71.92	3883.50			
Millennial	93	75.21	6994.50			
Confronting discrimination	147			1922.50	-2.49	0.01
Generation X	54	63.10	3407.50			
Millennial	93	80.33	7470.50			

Mean ranks and Mann-Whitney U scores reveal significant findings in the subscale of confronting discrimination (p = 0.01).

and the present pattern of largely null results is consistent with that perspective when examined with two-tailed exploratory tests. Framing the findings in this way underscores that the absence of differences is itself informative and may indicate genuine attitudinal convergence across these cohorts rather than measurement failure (Rudolph et al., 2021).

Institutional culture provides a second lens for interpretation. The U.S. military has historically constructed leadership and competence through masculine-coded norms and predominantly male networks, and these norms can influence socialization, mentoring, and evaluation processes for all members over time (Moore, 2020; Richard and Molloy, 2020). Shared exposure to such organizational structures may have produced similar belief profiles in Generation X and Millennial women, even as their formative years in civilian society differed. In settings where conformity and hierarchy are salient, long-standing cultural expectations can attenuate cohort-based differences in attitudes toward equity and advocacy (Pendlebury, 2020; Richard and Molloy, 2020).

The Confronting Discrimination difference offers a targeted counterpoint within this general similarity. Millennials' higher scores on this subscale may reflect greater comfort with confronting biased remarks and behaviors in situ, which is consistent with research describing Millennials' engagement with networked communication, bystander-intervention norms, and micro-level advocacy in everyday contexts (Lim and Lemanski, 2020; Tecle and Kisamore, 2020). This pattern can be interpreted as a difference in style and mode of response, direct interpersonal confrontation, rather than a wholesale difference in global equity or advocacy

values. The pattern also aligns with the practical reality that direct political activity for active-duty personnel is constrained by regulation, whereas confronting biased conduct within units can be framed as supporting standards and discipline.

Similarities in Political and Social Advocacy, Political Awareness, and Social Issue Awareness were also interpretable in light of media and information environments shared across cohorts. Broad access to digital news and social platforms has been shown to diffuse issue awareness and shape interpretive frames across age groups, potentially reducing cohort gaps in general advocacy attitudes (Lim and Lemanski, 2020). In occupational contexts that prize cohesion and adherence to standards, these shared information channels may produce convergent beliefs about social justice even among cohorts socialized in different historical moments. The descriptive statistics in the Results, which reported central tendencies for these subscales, supported the interpretation of comparable levels of advocacy and awareness across Generation X and Millennials.

Sample structure and measurement choices must also be considered when interpreting the results. The analytic sample was recruited through MTurk and reflected a convenience sample of women who self-reported U.S. military training or experience; neither service completion nor legal veteran status was independently verified. Such recruitment can introduce selection biases, including differences from force-wide demographics and platform-specific composition that may help explain distributions such as the relatively high proportion of African American women in this dataset. These features counseled caution in claims about

representativeness and encouraged focus on internal comparisons rather than population inference.

Potential confounding by education and race/ethnicity also warranted attention. Cohort groups were not identical in these characteristics, and education in particular differed across cohorts in ways that could plausibly correlate with equity and advocacy beliefs. Because the sample size did not support multivariable modeling without risk of overfitting, the analyses proceeded as between-groups comparisons and the interpretation acknowledged that observed cohort effects, or the lack thereof, could be influenced by these compositional differences. This constraint aligned with the emphasis on effect sizes, confidence intervals, and descriptive statistics to portray the magnitude and direction of any differences transparently.

Statistical power provided further context. With 55 Generation X participants and 93 Millennials, the study was powered to detect moderate effects but had limited sensitivity to small differences. This framing is consistent with the exploratory nature of the design and the analytic plan that emphasized two-tailed tests, assumption checks, and effect-size estimation.

The instruments used in this study captured general beliefs about gender equity and social justice rather than military-specific perceptions of policy effectiveness or unit-level climate. This scope likely facilitated comparisons to broader literatures while simultaneously limiting inferences about attitudes toward specific military programs or reforms. Future work that augments the QDI and SJAS with military-tailored climate measures, policy-knowledge items, and service-status indicators could clarify whether cohort differences emerge when constructs more proximal to military experience are assessed alongside general equity and advocacy beliefs.

The broader literature on gender and military culture helped situate the overall pattern. Prior studies have documented persistent gendered expectations regarding physical ability, leadership, and role fit and have noted that women's experiences in military organizations are shaped by both formal policy and informal norms (Do and Samuels, 2021; McWhirter and McWha-Hermann, 2021; Richard and Molloy, 2020). Findings from research on attitudes toward women's inclusion in combat also suggest that the strongest resistance tends to come from men rather than from women or civilians, which is consistent with the generally positive orientations toward equity observed here across female cohorts (Laurence et al., 2016; Young and Nauta, 2013). Together, these strands of evidence are compatible with cohort similarity on global equity and advocacy beliefs and with a more specific Millennial tendency toward interpersonal confrontation of discriminatory behavior.

Limitations and future research

The study was limited by the use of a small, non-probability convenience sample of 148 women with U.S. military experience recruited online. The resulting composition could differ from the broader population of women who currently serve or formerly served, which constrains external validity and the ability to generalize beyond the sample, because participants self-selected

into the survey. Findings should therefore be interpreted as exploratory and descriptive, with emphasis on effect sizes and confidence intervals rather than population-level inference.

Recruitment occurred through MTurk, which can introduce coverage, self-selection, and data-quality concerns when safeguards are not fully documented. Compensation amount, attention checks, IP/location screens, and independent verification of service status were not retained in the research record, and bot activity on crowdsourcing platforms has been noted in recent years. The combination of these factors may have shaped who participated and how they responded, reinforcing the decision to interpret the results cautiously and to call for verified sampling and documented quality controls in future work (Agley et al., 2022).

Service experience was self-reported as "military training/experience," and neither completion of training nor legal veteran status was independently verified. For accuracy, references to the sample as women with U.S. military experience rather than "veterans" were used, and where relevant the text distinguished current from former service members. Self-report screening without verification can misclassify status, which underscores the value of incorporating service-verification steps or recruiting through channels that can authenticate service in later studies.

The distribution of service status further constrained interpretation because only 25 of 148 respondents indicated current military employment. Active-duty personnel operate under regulations that limit certain forms of political activity, whereas former service members do not face the same constraints. Differences in regulatory environments could shape responses to advocacy-related items, suggesting that stratified designs by service status, length of service, occupational specialty, and rank would be informative in subsequent research using instruments that include activism subscales.

Cohort groups were not compositionally equivalent in terms of key demographics such as education and race/ethnicity, and the achieved sample size did not support multivariable adjustment without risking overfitting. Uneven distributions, such as higher educational attainment among Generation X participants, could attenuate or produce apparent cohort effects on equity and advocacy beliefs. Larger samples that are powered for multivariable models, along with preregistered covariate plans, would allow estimation of cohort differences net of education and race/ethnicity and would permit sensitivity analyses to assess robustness.

Statistical power constituted an additional limitation because the group sizes (n = 55 for Generation X; n = 93 for Millennials) allowed detection of moderate effects but offered limited sensitivity to small differences. Null findings may therefore reflect effects smaller than the study could reasonably detect rather than a complete absence of cohort differences. Future research should use power analyses to target samples adequate for detecting small effects and for supporting multivariable models and interaction tests that incorporate service status and other covariates.

Measurement choices also narrowed the scope of inferences because the Quick Discrimination Index and the Social Justice Advocacy Scale index general beliefs rather than military-specific climate or policy evaluations. The instruments did not directly assess perceived effectiveness of particular military programs,

unit-level climates, or policy knowledge, which limited the ability to tie attitudes to concrete features of the military environment. Subsequent studies should supplement these scales with military-tailored measures, pretest for content validity in military populations, and evaluate measurement invariance across cohorts to ensure that constructs function equivalently.

The use of MTurk further highlights procedural considerations that can be addressed prospectively. Documenting compensation amounts, embedding attention-check items, applying IP/geolocation filters, logging completion time distributions, and reporting the field dates would strengthen inferences about data quality and contemporaneous platform conditions. Implementing these steps alongside verified recruitment sources would reduce the risk of ineligible participation and improve transparency in online data collection (Agley et al., 2022).

Intersectionality presented another boundary condition for interpretation. Although the sample included substantial racial and ethnic diversity, the analytic focus remained on cohort contrasts, which precluded detailed examination of how race/ethnicity, gender identity, sexual orientation, class, and service status jointly shape beliefs. Intersectional designs, motivated by equity-focused approaches in military and veteran research, could clarify within-group heterogeneity among women and illuminate distinct configurations of constraint and opportunity across social locations (Eichler, 2021).

The generational framing itself requires careful consideration because widely publicized cohort stereotypes often outpace evidence. Research in organizational psychology has argued that many purported generational differences are small, inconsistent, or attributable to age and period effects rather than to cohort membership. Interpreting largely null cohort contrasts against this background supports the view that convergence across cohorts may be genuine and that future inquiries should specify clear mechanisms rather than rely on generational categories alone (Rudolph et al., 2021).

Future research would benefit from verified sampling frames that permit authentication of service and stratification by active-duty vs. former status, occupational field, and rank. Designs that integrate larger probability or quota samples with qualitative interviews would capture both the distribution and texture of beliefs, and longitudinal approaches could follow cohorts through policy shifts to differentiate age, period, and cohort influences. Linking attitudinal measures with administrative or observational indicators, such as promotion timing, assignment histories, or climate-survey results, would enable tests of whether beliefs translate to outcomes within the institution.

Additional priorities include broadening the population frame to include Generation Z women as their service becomes more prevalent, developing military-specific scales aligned to contemporary policies, and preregistering analytic plans that include covariate adjustment and measurement-invariance testing. Mixed-methods evaluations of interventions, such as bystander-intervention training tailored to hierarchical settings or mentoring structures that increase access to developmental assignments, could assess whether programs influence the specific behavioral domains where cohort differences were observed, including confronting discriminatory conduct. Such evaluations should use rigorous designs, including randomized or quasi-experimental methods

where feasible, and should report both attitudinal shifts and organizational outcomes to build a cumulative evidence base.

Conclusion and recommendations

This exploratory, cross-sectional comparison examined whether women with U.S. military experience from Generation X and the Millennial cohort differ in their attitudes toward gender equity and social justice as assessed by the QDI and the SJAS. Group comparisons using non-parametric tests indicated no statistically significant difference in QDI totals between cohorts (U = 2133.50, p = 0.09; mean ranks: Gen X = 66.79, Millennial= 79.06) and no difference in SJAS totals (U = 2348.00, p =0.51; mean ranks: Gen X = 70.98, Millennial = 75.75). In prespecified exploratory analyses of SJAS domains, Political and Social Advocacy, Political Awareness, and Social Issue Awareness showed no differences, whereas Millennials scored higher than Generation X on Confronting Discrimination (U = 1922.50, p= 0.01). These results suggest broadly similar attitudinal profiles across generations, with a modest, domain-specific difference in tendencies to confront discriminatory behavior. Descriptive statistics and assumption checks accompanying the results indicate the overall distribution of attitudes in this sample and support the interpretation that effect sizes were small.

Interpretation of these findings is bounded by the scope of the instruments and the design. The QDI and SJAS capture general equity and social-justice attitudes rather than direct evaluations of the effectiveness of specific military policies or programs, and inferences are limited to attitudinal differences detectable with these measures. The study relied on an online panel for recruitment and achieved a final sample of 148 women (55 Generation X; 93 Millennials), which constrains precision and power for detecting small effects. The sample composition also limited the feasibility of multivariable analyses to account for potential confounding from demographic factors such as education and race/ethnicity that differed across groups. Moreover, only a small proportion of participants reported current military employment (25 of 148, 16.89%), which reduces generalizability to active-duty populations and may mask differences by service status that could plausibly relate to advocacy-oriented items. These considerations, together with the cross-sectional design and selfreported eligibility, underscore that the present results should be read as preliminary evidence of cohort similarity rather than as definitive proof of equivalence.

In practical terms, these attitudinal patterns support targeted training investments that translate equity-supportive beliefs into routine leader behaviors. Professional Military Education at all levels should embed scenario-based instruction on recognizing bias, bystander intervention, and micro-interventions, accompanied by guided reflection and command-level reinforcement. Emphasis on direct, respectful correction of discriminatory conduct aligns with the interpersonal domain captured by confronting-discrimination measures and is consistent with scholarship underscoring the role of everyday leadership in shaping climate.

For promotion and advancement, institutional levers should be calibrated to ensure equitable preparation and evaluation

for leadership roles. Structured mentorship and sponsorship programs that link senior leaders with junior women across occupational fields can expand access to high-value networks and guidance; documenting sponsorship outcomes in evaluation narratives signals organizational priority. Periodic audits of candidate slates for key developmental assignments and schools (e.g., command, joint billets, and war-college seats) should be used to detect and correct skewed access, with summarized results shared for accountability. Promotion boards should rely on criterion-referenced rubrics, pre-board briefings on evaluation bias, and post-board outcome reviews, while inclusive-leadership behaviors (e.g., climate stewardship, equitable tasking, prompt corrective action on discrimination) are explicitly assessed as rated competencies in officer and enlisted evaluations.

Sustained progress requires measurement and accountability. Commands should monitor selection into developmental billets, PME seats, and promotion by gender and race/ethnicity, and incorporate adapted attitudinal indices (drawing on constructs measured by the QDI/SJAS) into recurring climate assessments to track change over time. Program effects warrant rigorous evaluation using pre-/post-designs or quasi-experimental approaches where feasible, with reporting that links attitudinal movement to organizational outcomes such as assignment patterns, retention, and climate indicators. Such an evidence-building approach allows leadership development, bystander-intervention training, mentorship structures, and board-process refinements to be iteratively improved and scaled when effective.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

AJ: Writing - original draft, Writing - review & editing.

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Supplementary material

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