



PERSPECTIVES ON DIVERSITY, EQUITY, AND INCLUSION IN THE DEPARTMENT OF THE AIR FORCE

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Perspective

EXPERT INSIGHTS ON A TIMELY POLICY ISSUE



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Summary

Issue

After months of protests across the United States in 2020 over systemic racial injustice, the U.S. Department of Defense (DoD) redoubled its efforts to address diversity, equity, and inclusion (DE&I) issues. These recent efforts have followed a decades-long series of Department of the Air Force (DAF) investments in making the U.S. military's workforce—particularly its leadership ranks—more diverse. However, challenges remain. For instance, racial/ethnic minorities and women continue to be underrepresented in the DAF's leadership and DAF pilots' population. Given the persistence of these disparities and the current policy imperative to embrace meaningful changes, the DAF needs a more comprehensive understanding of the scope and effectiveness of its DE&I efforts and potential paths forward.

Approach

In recent years, the RAND Corporation has conducted multiple studies that, taken together, provide insights into organizational, managerial, and procedural options that could help improve DE&I and identify challenges and barriers to success. In this edited volume, a team of RAND researchers summarizes prior studies and other work on several critical DE&I efforts in the context of the broader DE&I and personnel challenges that the DAF faces. Using various methodologies, the team explored 12 DE&I topics of current relevance.

Key Findings and Policy Implications

This edited volume's perspectives demonstrate that there are no quick wins or shortcuts for the DAF to improve representation of racial/ethnic minorities and women among the senior leaders or to create a more equitable and

inclusive organization. Key findings and policy implications from the DE&I investigations in this Perspective are as follows:

- The DAF has found that the road to achieving greater DE&I is fraught with challenges, including competition from public and private sectors. Still, the DAF could benefit from other services' and organizations' experiences.
- The U.S. Air Force Pilot Diversity Improvement action plan, which aims to spur outreach to youth aviation programs, acknowledged that the U.S. Air Force could improve the pilot pipeline's diversity. The plan's implementation faces two potential barriers in minority communities: K-12 academic patterns and cultural barriers (e.g., recent enlistment hesitance among the black community) to military service.
- The U.S. Air Force has a variety of youth educational outreach programs but does not consistently evaluate the programs' operational or DE&I effectiveness.
- Although societal norms and fears dissuade people from having conversations about race, such conversations convey organizational values and amplify voices across the organization. Although acknowledging that a focus on disparities may activate and amplify biases, DAF leaders nevertheless need to learn how to initiate conversations, acknowledge their own biases, and manage emotions and expectations.
- Diversity training takes a variety of approaches to reduce prejudice and discrimination and help employees work together effectively. The training is

more effective when it is held over multiple sessions, it encourages active interactions and goal-setting, and it enjoys managerial support. The training is less effective for participants who are inclined to be resentful or disengaged.

- Workplace implicit-bias training aims to identify and mitigate implicit biases held by employees. Training can change implicit bias, but its effects do not last long and do not necessarily lead to less discrimination. Although the DAF may not want to use bias assessments, such as the Implicit Association Test, for individuals' promotions or performance evaluations, it could use the test to assess implicit bias in groups.
- Currently, the DAF uses the Air Force Officer Qualifying Test only for Reserve Officers' Training Corps (ROTC) and Officer Training School candidates, not for U.S. Air Force Academy (USAFA) admissions. The DAF needs to identify the full range of knowledge, skills, abilities, and characteristics of officers and explore how to measure them in selection and promotion processes to select and classify the best-qualified officers while also achieving a goal of enhancing diversity.
- ROTC produced many more black officers because of its larger overall size, but USAFA produced more pilot trainees because of its greater share of flying opportunities. The DAF should consider creating a pool of at-large pilot slots for recruiting minority candidates to create more opportunities for minority officers from ROTC.
- Analysis of pilot training attrition in 2009 to 2014 reveals that racial/ethnic minority and female stu-

dents had significantly higher attrition rates than white and male students, respectively. Differences in the Pilot Candidate Selection Method (PCSM) scores accounted for the higher black and female attrition but not the Asian or Hispanic attrition. Although modifying PCSM could help reduce attrition differences, pilot diversity is not likely to improve without a larger flow of minority and female students into pilot training.

- Total black representation at the general officer level does not match broader benchmarks for black representation among DAF officers, total DAF military personnel, and, ultimately, the U.S. population. This disparity is strongly related to black representation in the pilot force. Because of a sharp decline in the introduction of new black pilots starting in 1993, black representation among general officers will likely get worse for a long time before it gets better.

Abbreviations

AETC	Air Education and Training Command
AFI	Air Force Instruction
AFJROTC	Air Force Junior Reserve Officer Training Corps
AFOQT	Air Force Officer Qualifying Test
AFQT	Armed Forces Qualification Test
AFROTC	Air Force Reserve Officer Training Corps
DAF	Department of the Air Force
DE&I	diversity, equity, and inclusion
DoD	U.S. Department of Defense
FY	fiscal year
GAO	U.S. Government Accountability Office
HBCUs	historically black colleges and universities
HSI	Hispanic-serving institution
IAT	Implicit Association Test
IFT	Initial Flight Training
IG	Inspector General
KSAOs	knowledge, skills, abilities, and other characteristics
MilPDS	Military Personnel Data System
MLDC	Military Leadership Diversity Commission

NROTC	Naval Reserve Officers Training Corps
ODI	Office of Diversity and Inclusion [VA]
OTS	Officer Training School
PAF	RAND Project AIR FORCE
PCSM	Pilot Candidate Selection Method
PPT	Primary Pilot Training
ROTC	Reserve Officers' Training Corps
SAT	Scholastic Aptitude Test
SDI	Self-Description Inventory
SJT	situational judgment test
STEM	science, technology, engineering, and mathematics
SWOT	strengths, weaknesses, opportunities, and threats
TAPS	Teen and Police Service
TBAS	Test of Basic Aviation Skills
UPT	Undergraduate Pilot Training
USAF	U.S Air Force
USAFA	U.S. Air Force Academy
VA	Department of Veterans Affairs

Introduction

Douglas Yeung, Nelson Lim, eds.

For many years, the Department of the Air Force (DAF) has taken steps to assess how to improve diversity, equity, and inclusion (DE&I) in its workforce, and particularly to increase diversity in leadership representation.

Although black and female representation at the very highest ranks points to progress on several fronts, DE&I challenges remain for the DAF overall.

One example of these continuing challenges took place in June 2020, when Secretary of the Air Force Barbara Barrett directed the DAF Inspector General (IG) to review racial disparities in military justice and career development opportunities for black airmen and space professionals (U.S. Air Force, Secretary of the Air Force Public Affairs, 2020a). Media reports of the IG review were met with skepticism of a “pre-ordained outcome,” leading the IG to publicly declare that its findings would be based on data as opposed to anecdotal evidence (Losey, 2020).

Department of Defense Efforts on DE&I

These and other recent DAF efforts dovetail with broader guidance and initiatives across the U.S. Department of Defense (DoD).¹ DoD’s efforts intensified in the wake of public outrage over systemic racial injustice, including nationwide protests after George Floyd was killed during an arrest in Minneapolis on May 25, 2020. DoD quickly implemented initial steps to address DE&I issues, such as enacting groom-

ing and uniform changes and rolling out unconscious bias training, while pressing to look for more-sweeping ways to advance equity. On June 18, 2020, DoD announced steps to address DE&I issues (DoD, 2020). Following DoD-wide guidance, the DAF stood up a special task force on June 9, 2020, to address racial/ethnic and other demographic disparities and their impact on the forces (U.S. Air Force, Secretary of the Air Force Public Affairs, 2020b).

But even having stood up the task force and prior measures, the DAF continues to need a more comprehensive understanding of the scope and success of its DE&I efforts and potential paths forward. The RAND Corporation has conducted multiple studies that, taken together, provide insight into what can be effective in improving diversity and representation and what are challenges and barriers to success.

Purpose of This Edited Volume

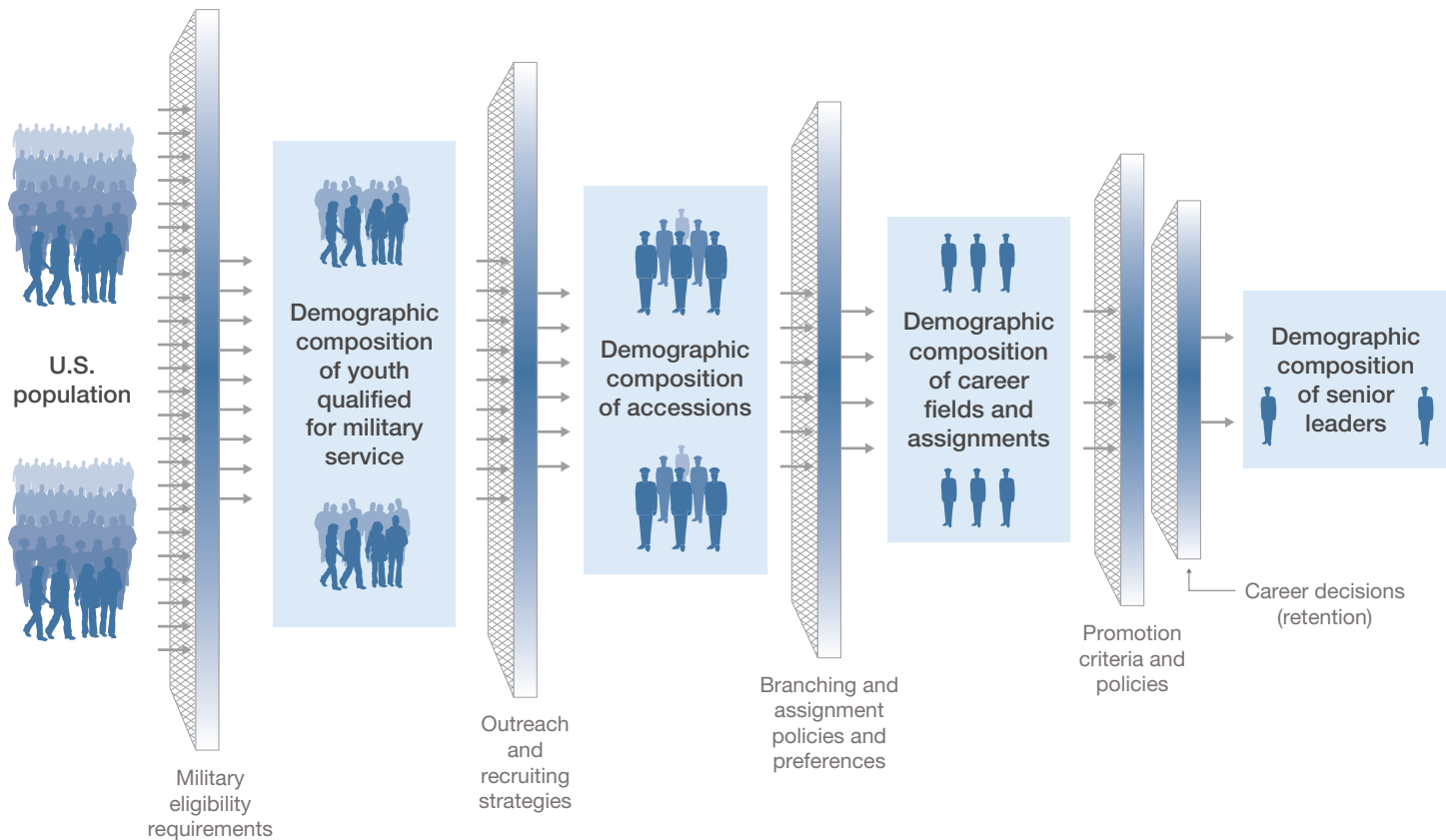
This edited volume discusses several of these DE&I efforts in the context of the broader DE&I topics. This work originated as a series of issue papers designed to summarize literature and prior work for rapid dissemination to the DAF Diversity Task Force and senior DAF leadership. Using a variety of methodologies—such as literature searches, data analyses, and subject-matter expert evaluations—we explored 12 DE&I topics of current relevance, including some that the DAF may already have considered but could examine in a new way or in light of additional evidence that we have marshaled. Some of these issue papers point to immediate opportunities for change. Others present actions that the DAF can undertake but would require

more effort, and others describe efforts that would take shape over the longer term.

Organization of This Edited Volume: DE&I in the Context of Individuals and the Institution

This edited volume leverages the original issue papers as chapters that are organized around the individual and institution. In Chapter Two, we set the scene by discussing the DAF's efforts in light of the larger DE&I context in the United States' public and private sectors. The subsequent chapters follow the military personnel life cycle (as depicted in Figure 1.1) and discuss organizational inclusion and representation. Collectively, the chapters discuss how the DAF can tie DE&I to personnel management throughout service members' careers in the U.S. Air Force or U.S. Space Force: from before individuals are recruited and accessed to their experiences in training and testing, and then to how they are retained and developed during their careers. In Chapters Three, Four, and Five, we discuss ways that DE&I measures can be used to shape the early stages in this personnel life cycle. In Chapter Three, we show how eligibility requirements and propensity to serve in the military affect the demographic representation in the Regular Air Force.² In Chapters Four and Five, we note that the measures to improve service members' demographic diversity can begin with outreach efforts to attract and develop potential recruits by involving them in the Reserve Officers' Training Corps (ROTC) programs at high schools, colleges, and universities.³ In Chapter Six through Chapter Eight, we discuss DE&I in the next phases of a

FIGURE 1.1
Stages of the Military Life Cycle That Affect Demographic Diversity



SOURCE: Adapted from MLDC, 2011, p. 45.

service member's career: training, career classification and selection, and career progression. During these stages, the DAF has opportunities to shape its personnel mix and how service members think about and act on diversity, race, implicit bias, and so-called blind policies aimed at reducing

race, gender, and other categorizations. The chapters suggest policy guidance for DAF leaders related to considerations at each of these stages.

In Chapters Nine through Twelve, we drill down on DE&I issues connected with identifying, qualifying, pro-

ducing, and retaining high-quality, motivated, and skilled pilots and officers (the ranks from which senior leaders have historically been promoted). In Chapter Thirteen, we offer conclusions and recommendations.

Cutting across these perspectives that address the representation of individuals, including military personnel and senior leaders, is another important part of the story: the degree to which individuals feel included in the organization's overall culture and functioning. In various chapters, we discuss not just representation but also inclusion across the DAF as an institution.

Notes

¹ For example, the Military Leadership Diversity Commission (MLDC) was established in 2009 to “conduct a comprehensive evaluation and assessment of policies and practices that shape diversity among military leaders.” The commission offered a wide variety of recommendations that sought to lay the foundation for enduring change and to ensure progress by establishing policy goals and metrics (see MLDC, 2011).

² “The regular Air Force is defined as the component of the Air Force that consists of persons whose continuous service on active duty in both peace and war is contemplated by law, and of retired members of the regular Air Force” (see U.S. Air Force, Curtis E. Lemay Center for Doctrine Development and Education, 2015).

³ The three main officer accession sources to the Air Force are the U.S. Air Force Academy (USAFA), Air Force Reserve Officer Training Corps (AFROTC), and Officer Training School (OTS). As subsequent chapters describe, there are differences in how they access and who goes through them that affects officers' subsequent demographic diversity. It is too early to make a definitive statement about accession sources to the U.S. Space Force.

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DE&I Across the Public and Private Sectors: How Do DAF Initiatives Compare?

Leslie Adrienne Payne

Assessing the challenges, successes, and strides of other services and public- and private-sector entities is useful to help the DAF determine what remains to be done in the area of DE&I and the level of effort required. Benchmarking is the process of comparing an organization's attributes with peer-related organizations.¹ Common benchmarking objectives are (1) to determine what and where improvements are called for, (2) to analyze how other organizations achieve their high performance levels, and (3) to use this information to improve performance (O'Mara and Richter, 2017). Key questions for the DAF for which benchmarking can assist are (1) is the DAF on the same page as other entities when it comes to defining and approaching DE&I, and (2) what DE&I challenges does the DAF share with other entities and how does the DAF overcome them?

This chapter consolidates the findings from previous research with current analysis to provide the top three themes that the DAF should consider for useful benchmarking with other peer-related organizations. RAND Project AIR

FORCE (PAF) examined 29 documents from a wide variety of public and private entities to compare approaches and perspectives with DE&I.² Although each document differed, we were able to gain DE&I insights from most of them, with some proving more insightful than others.³ Our list of entities included

- public sector entities
 - U.S. Coast Guard
 - U.S. Army
 - U.S. Navy
 - U.S. Marine Corps
 - Department of Veterans Affairs (VA) (two documents reviewed)
 - Central Intelligence Agency
 - Department of Justice
 - various law enforcement entities (ten documents reviewed)
 - various U.S. fire services
 - U.S. Intelligence Community
- private sector entities
 - United Parcel Service (UPS)
 - Walmart
 - architecture industry
 - California State Bar Association
 - social impact/development sector
 - technology sector
 - environmental sector
 - general/other (two documents reviewed).

Top Themes from Peer Organizations—and How the DAF Measures Up

Strategic Messaging Is Important

The experiences of peer organizations suggest that accurate terminology and transparency in DE&I literature are foundational to success and help organizations set a committed tone for their initiatives by prioritizing how they are described. The DAF's top-down strategic messaging is comparable to the way many of the entities we examined define DE&I.⁴ The DAF codifies definitions of DE&I in official doctrine (i.e., Air Force Instructions [AFIs]), and strongly encourages its service members to review such doctrine. The DAF has also updated its diversity-specific AFIs to reflect the changing nature of DE&I issues. For example, AFI 36-7001 from 2019 supersedes AFI 36-7001 from 2012, with three key differences: (1) the addition of the DAF's definition of inclusion (Section 1.4); (2) the definition of roles and responsibilities for the Chief Diversity and Inclusion Officers in the Major Commands, Air National Guard, Air Force Reserve, Field Operation Agencies, and Direct Reporting Units; and (3) a new chapter on assessment and reporting (AFI 36-7001, 2019, p. 2). The DAF also delineates DE&I competencies in AFI 36-7001, a constructive practice that allows air and space professionals to assess themselves individually and to confirm that they comply with key DE&I tenets (AFI 36-7001, 2019, p. 21).

The newer DAF practice of featuring DE&I as two sides of the same coin (rather than solely focusing on diversity) is commensurate with DE&I frontrunners in the public and private sectors, such as the VA and Walmart. For example, in 2015 the VA's Office of Diversity and Inclu-

sion (ODI) developed and validated a Diversity and Inclusion Competency Model because it was simultaneously emphasizing the need to couple inclusion with diversity.⁵ A 2018 Walmart report begins with straightforward definitions of *culture*, *diversity*, and *inclusion*, shows how the three concepts intersect, and explains how that intersectionality supports Walmart's strategic objectives (Walmart, Inc., 2018, p. 6).

Self-Examination and Improvement

A variety of literature examined by the RAND team indicates the importance of having processes for self-examination and taking action on key issues. The DAF's processes for self-examination of the state of DE&I initiatives is similar to those of other public and private entities. PAF researchers observed that the DAF primarily uses a seven-prong process of (1) recognizing organizational or institutional shortcomings vis-à-vis DE&I; (2) commissioning a research study on DE&I (which may be congressionally mandated or self-initiated); (3) receiving updated data in the form of study findings; (4) establishing DE&I-specific officers, offices, task forces, and objectives; (5) mapping out a way forward with the publication of a DE&I strategic plan (or something similar); (6) internal marketing of DE&I policy; and (7) external outreach to historically underrepresented communities.

In early to mid-2020, in a manner similar to other public and private sector entities, the DAF internalized poignant social cues and reinforced its messaging on DE&I as a result. In June 2020, Secretary of the Air Force Barbara M. Barrett, Air Force Chief of Staff Gen. David L. Goldfein, and Chief of Space Operations (CSO) Gen. John

W. Raymond directed the DAF IG to conduct a review into racial disparities in the promotion and military justice systems, which disproportionately advance white service members and punish young black service members (U.S. Air Force, Secretary of the Air Force Public Affairs, 2020a; Cohen, 2020).

In June 2020, the DAF, in support of both the U.S. Air Force and U.S. Space Force, stood up a special task force to look at how racial/ethnic and other demographic disparities affect the two services (U.S. Air Force, Secretary of the Air Force Public Affairs, 2020b).⁶ Notable, quick-turn achievements of the task force include (1) increasing by 300 the number of scholarship opportunities for current and future ROTC cadets at historically black colleges and universities (HBCUs) and Hispanic-serving institutions (HSIs); and (2) revising certain rules on dress and appearance to remove wording that could disadvantage select individuals (Cohen, 2020).

These efforts by the DAF occur alongside others from across DoD in the same time frame. In June 2020, Defense Secretary Mark Esper released a video addressing DoD members on DE&I, in which he outlined three initiatives to improve diversity, inclusion, and equal opportunity for all service members (DoD, 2020). The following month, Esper released an official DoD memorandum that detailed additional immediate actions to be taken to advance diversity, inclusion, and equal opportunity. These include prohibiting the use of photographs for promotion boards and updating DoD's military harassment policy (DoD, Secretary of Defense, 2020).

Managing Barriers to Becoming More Diverse and Inclusive

Across organizations, a resistance to DE&I is growing, while discriminatory and xenophobic expressions are increasing (Wiggins-Romesburg and Githens, 2018). A growing body of literature documents the disinterest, resistance, and exhaustion directed toward diversity research, diversity management, and the implementation of diversity programs. For example, Wiggins-Romesburg and Githens in a 2018 report claim that even well-intentioned DE&I programs can produce negative emotions among participants, including divisiveness, shame, or feelings that participants are being unfairly blamed for societal injustices that they did not create (Wiggins-Romesburg and Githens, 2018). Some researchers describe the presence of “denial perspectives” and “diversity defiance,” or “White fatigue.”⁷ Although the DAF has not reported identical sentiments among its service members, it should watch for them and exercise caution to guard against them. The DAF should also accept that there might be varying levels of acceptance among servicemembers about the presence and impact of racial inequities and what is needed to address them.

The DAF can benefit from ongoing observations about DE&I efforts and initiatives across the public and private sector. Best practices can be gathered, noted pitfalls avoided, and the DAF can gain visibility on DE&I strides adopted by others. Drawing attention to diversity resistance is meant not to dissuade but to encourage such organizations as the DAF to stay the course and develop techniques and tools to mitigate resistance and enhance DE&I outcomes.

Notes

- ¹ The process of benchmarking means different things to different organizations and individuals. For the purpose of this edited volume, the RAND research team understands *benchmarking* as the process of peer-related entities making mutual comparisons on topics of a shared interest. Note that, in general, benchmarking can apply to peer organizations or an internal workforce.
- ² The type and fidelity of information found in each of the 27 DE&I documents we reviewed differed, making one-to-one comparisons of documents and the diversity data they contained difficult. For example, although we were able to review recruiting, retention, employee satisfaction, and promotion across the services in somewhat comparative terms, identical diversity data provided from other public and private entities was often packaged differently—with emphasis on different themes and statistics—or unattainable. Given that, we focused on providing a broad snapshot of the progress, goals, and, in some cases, equivocations of military services, organizations, industries, and companies with respect to diversity and inclusion.
- ³ Our selection criteria for whom to include in the comparative analysis began simplistically but soon evolved. For the private sector entities, we primarily focused on Fortune 500, or high-grossing, highly visible companies, in addition to not-for-profit organizations.
- ⁴ This is especially so with entities in the private sector which, compared to those in the public sector, tend to have contemporary diversity, equity, and inclusion reports with a myriad of initiatives, some current and others future-focused. A prime example is Walmart’s 2018 report on culture diversity and inclusion (Walmart, Inc., 2018).
- ⁵ In the forward to *Diversity and Inclusion Strategic Plan, Fiscal Years 2017–2020*, the VA’s Chief Diversity Officer explains how the VA managed to strengthen its diversity model over a decade by focusing on inclusion “as the means by which we leverage our diversity and empower all voices to contribute to the public service mission” (VA, 2021, p. 1).
- ⁶ Other public and private entities routinely use task forces to implement DE&I changes. For example, see Dobbin and Kalev, 2014.
- ⁷ Joseph E. Flynn in 2015 coined “White fatigue” and explained it as “the dynamic of White students who intuitively understand or recognize the moral imperative of antiracism (primarily viewed as individual racism); however, they are not yet situated to fully understand the complexity of racism and how it functions as an institutional and systemic phenomenon.” Although used to describe an academic study body, one

can easily extrapolate and apply “White fatigue” to military service members, such as air and space professionals, or corporate employees in the private sector workplace (see Flynn, 2015, p. 115).

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Impact of Eligibility Requirements and Propensity to Serve on Demographic Representation in the U.S. Air Force

Tiffany Berglund

The U.S. Air Force¹ values diversity and inclusion as a necessity (AFI 36-7001, 2019). Recent initiatives and policies on DE&I, such as the establishment of an Air Force Human Capital Analytics Office and the expansion of the pool of female officer applicants, have all contributed to U.S. Air Force efforts to leverage the talent and diversity of the people in the United States. The U.S. Air Force has successfully increased the number of minority and female service members in the past decade. However, it has increased minority and female representation in the officer accession cohort at a slower rate than minority and female representation in the enlisted accession cohort.

This chapter examines whether certain eligibility requirements, including the propensity to serve, are preventing minorities and women from entering the U.S. Air

Force, and how each requirement reduces minority and female representation in accession cohorts. For minorities, we found significant untapped populations who the U.S. Air Force could target for recruiting—populations who are both eligible and have a propensity to join the military. For women, we found that eligibility was not a barrier to entry but that they had a lower propensity to serve in the armed forces.

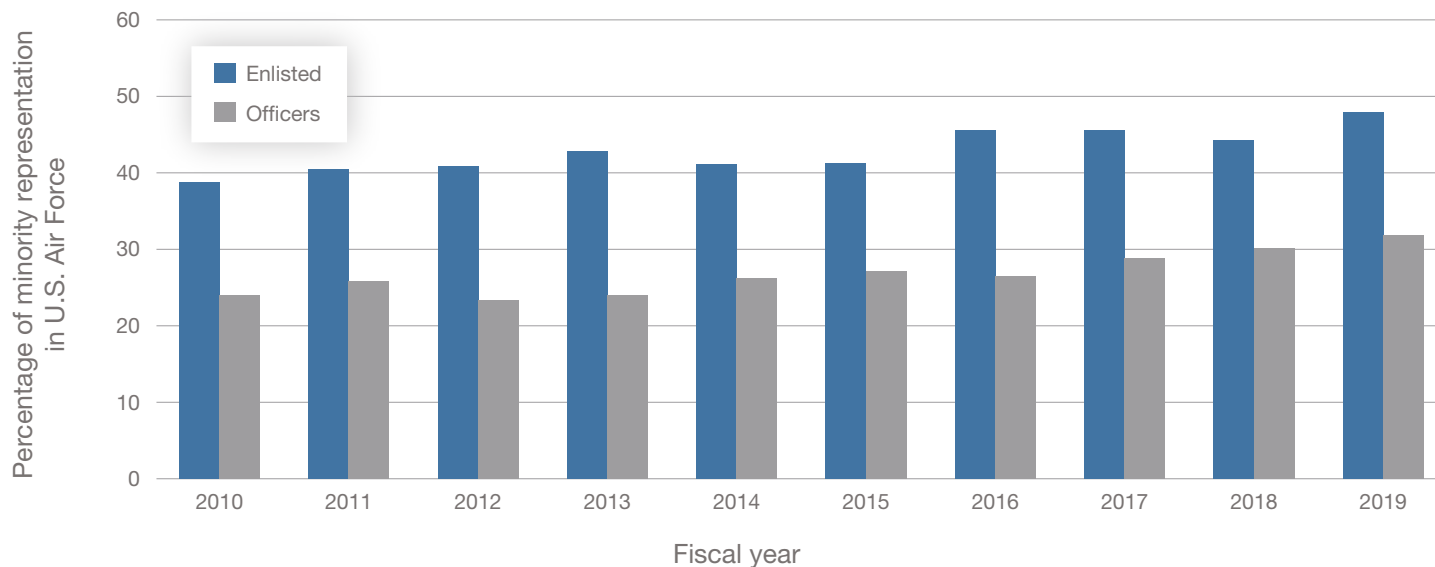
Minority and Female Representation in Accessions Has Increased

Minority and female representation of the U.S. Air Force accession cohorts has increased over time. As shown in

Figure 3.1, minority representation in both the U.S. Air Force enlisted accession cohort increased from 38.6 percent in FY 2010 to 47.8 percent in FY 2019, and the officer accession cohort increased from 24.0 percent in FY 2010 to 31.8 percent in FY 2019.

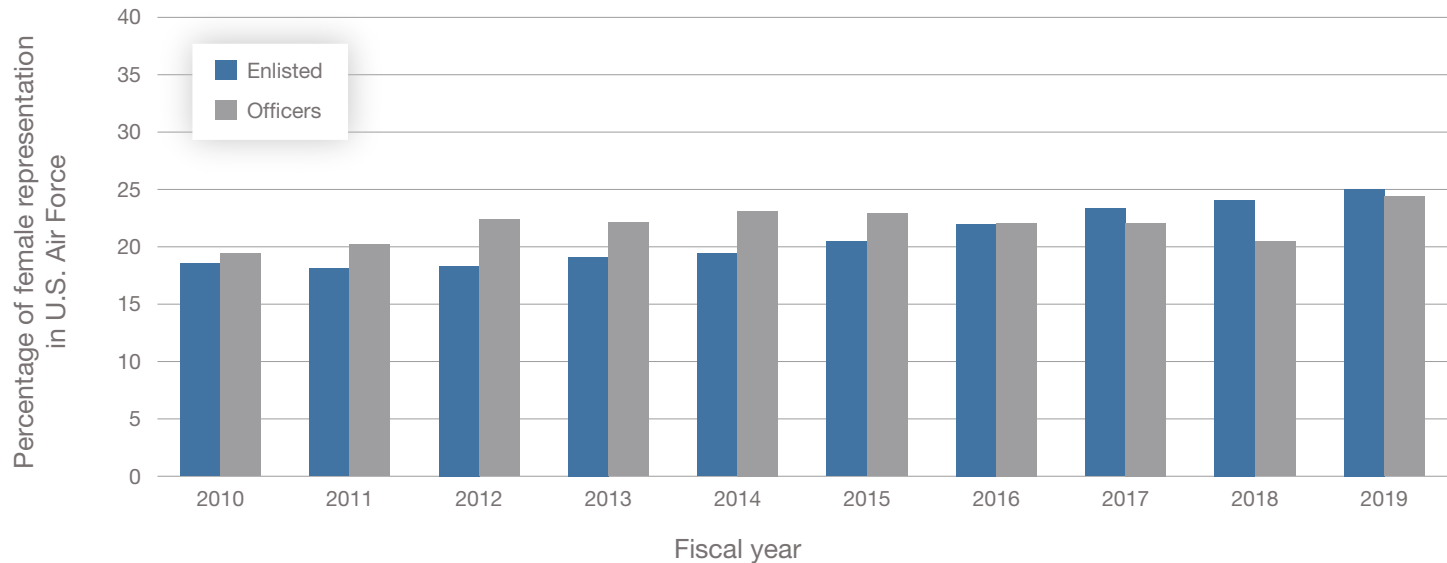
Similarly, in Figure 3.2, female representation rose from 18.5 percent to 25.0 percent for enlisted, and rose from 19.4 percent to 24.4 percent for officers, in the same period. The demographic representation of both minorities and women has increased for enlisted accession cohorts, U.S. Air Force officer accessions through ROTC and OTS, and U.S. Air Force officer accessions through USAFA. Despite the U.S. Air Force’s efforts to create a more diverse

FIGURE 3.1
Minority Representation of Accession Cohorts, FYs 2010–2019



SOURCE: Author’s analysis of the Active Enlisted and Officer Master Personnel Extracts from the Military Personnel Data System (MiPDS) provided by the Air Force Personnel Center.

FIGURE 3.2
Female Representation of Accession Cohorts, FYs 2010–2019



SOURCE: Author's analysis of the Active Enlisted and Officer Master Personnel Extracts from the MilPDS system provided by the Air Force Personnel Center.

and inclusive force, minorities and women are still under-represented in the force as compared with the nation's population. Therefore, this analysis investigates aspects of eligibility requirements and propensity to serve, with the goal of identifying factors that led to the current state of the force's diversity.

Eligibility Requirements and Propensity to Serve

The following analysis defines eligible populations as those that meet the eligibility requirements in Table 3.1. The analysis considers eligibility requirements for enlisted,

ROTC and OTS, and USAFA, separately. Characteristics are measured given data availability.

This analysis also incorporates preferences and propensity to serve in the armed forces with data from the 2017 study from the University of Michigan's Institute for Social Research (Miech et al., 2018). This study is an annual survey of high school seniors across public and private high schools to provide an accurate cross-section of high school seniors throughout the United States. The exact question we use to estimate propensity to serve is "How likely is it that you will serve in the armed forces after high school?" We consider anyone who responded "probably will" or "definitely will" as preferring to serve.²

TABLE 3.1
Air Force Enlistment and Officer Eligibility Requirements

Accession Source	Characteristic	Applicant Is Eligible When He or She . . .
Enlisted	Age	Is between the ages 17 and 27, inclusive ^a
	Education	Has a high school diploma ^b
	Dependents	Has no more than two dependents, and is not a single parent
	Body composition	Is within the U.S. Air Force height and weight requirements ^c
	Medical	Does not have asthma, diabetes, heart disease, functional limitations, or a disability ^d
	Aptitude	Has an Armed Forces Qualification Test (AFQT) score greater than or equal to 36 ^e
	Moral character	Has no felony convictions ^f
	Drug use	Has no prior use of hard drugs or marijuana
ROTC and OTS	Age	Is between the ages 18 and 34, inclusive
	Citizenship	Is a U.S. citizen
	Education	Has at least a bachelor's degree
	Body composition	Is within the U.S. Air Force height and weight requirements
	Medical	Does not have asthma, diabetes, heart disease, functional limitations, or a disability
USAFA	Age	Is between the ages 21 and 26, inclusive
	Citizenship	Is a U.S. citizen
	Education	Has at least a bachelor's degree
	Dependents	Is single and has no dependents
	Body composition	Is within the Air Force height and weight requirements ^g
	Medical	Does not have asthma, diabetes, heart disease, functional limitations, or a disability ^h
	Aptitude	Has an AFQT score greater than or equal to 65

^a High school seniors who are 17 are eligible for enlistment with parental consent.

^b The U.S. Air Force also accepts those who hold GEDs on a case-by-case basis.

^c The height and weight requirements are used along with body fat limits.

^d These medical conditions are consistent with the Military Entrance Processing Station (MEPS) physical and measurable in the National Health Interview Survey.

^e AFQT requirements are specified by Air Force Manual 36-2032, 2019.

^f Actual requirements depend on the offense, and can be waived for less serious offenses. Because it is impractical to segment offenses based on the likelihood of a waiver, this analysis will treat all those who have been convicted of charges as ineligible.

^g The height and weight requirements are used along with body fat limits.

^h These medical conditions are consistent with MEPS physical and measurable in the National Health Interview Survey.

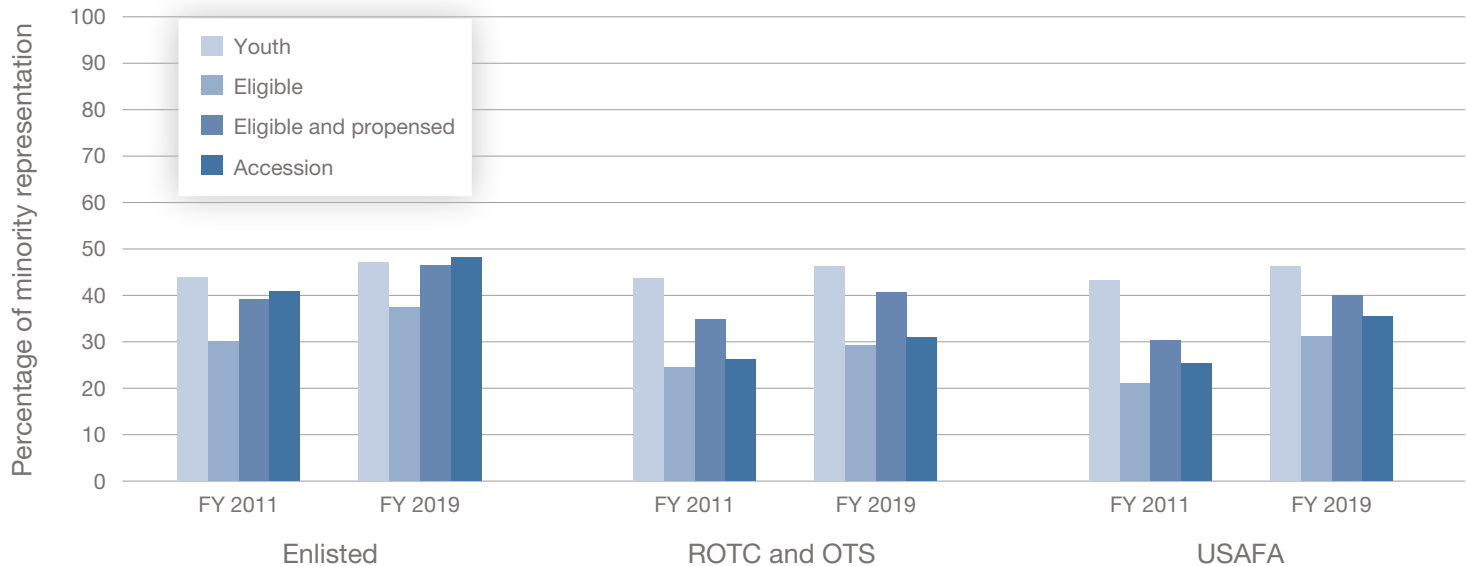
For Minorities, Propensity to Serve Offsets Barriers to Eligibility

In Figure 3.3, we compare minority representation in the youth population, eligible population, and accession cohorts by accession source: enlisted, ROTC and OTS, and USAFA. The first bar (light blue) represents the youth population with the potential to join the U.S. Air Force as enlisted (ages 17 to 27), ROTC and OTS (ages 18 to 34), and USAFA (ages 21 to 26). The second bar (medium

blue) represents the population that meets all Air Force eligibility requirements as defined in Table 3.1. The third bar (medium dark blue) represents the eligible population that is propensed to serve in the armed forces, and lastly, the last bar (dark blue) represents the accession cohort. In general, from FY 2011 to FY 2019, the increase in minority representation in the accession cohorts has mirrored the increase in minority representation of the eligible and propensed youth population in the same time period. Minority representation in U.S. Air Force accessions is lower

FIGURE 3.3

Minority Representation in the Youth Population, Eligible Population, Eligible and Propensed, and Accession Cohorts by Accession Source in FY 2011 and FY 2019



SOURCES: Author's analysis of American Community Survey (U.S. Census Bureau, undated); National Health Interview Survey (Centers for Disease Control and Prevention, undated); National Longitudinal Survey of Youth (U.S. Bureau of Labor Statistics, undated); Miech et al., 2018; and MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

than minority representation in the overall youth population for age groups eligible for enlistment in FY 2011, and ROTC, OTS, and USAFA in both FY 2011 and FY 2019. This is shown by comparison of the lightest and darkest blue bars in Figure 3.3. However, there is one exception where minority representation in U.S. Air Force accessions exceeded that of minority representation in the youth population for the age group that is eligible to enlist. This exception occurred in FY 2019 in the enlisted population.

When limiting the youth population to those who meet the listed requirements, minority representation in the U.S. Air Force accession cohorts exceeds minority representation in the eligible population, as shown by the second lightest blue bars, regardless of accession source. This suggests that U.S. Air Force eligibility requirements tend to disproportionately impact minorities and increase white representation. By examining each eligibility requirement for enlisted personnel, the largest requirement barrier for minorities is performance on the AFQT, followed by body composition, and high school graduation. For eligibility as an officer via ROTC and OTS or USAFA, the largest barrier for minorities is having a bachelor's degree, followed by citizenship, then body composition. However, the propensity to serve is higher among eligible minority youth as compared with the propensity to serve among eligible white youth. This suggests that although eligibility requirements favor white representation, propensity to serve favors minority representation. As shown in Figure 3.3 by the two darker blue bars, there are untapped minority populations who are eligible and propensed to serve in the U.S. Air Force.

For Women, Propensity Is the Key Barrier to Accessions

Figure 3.4 shows the same comparison of youth who are eligible, and eligible and propensed to serve for women. As demonstrated by the two lighter brown bars, female representation is, on average, 50 percent of the youth and eligible population. The requirement that leads to the most female representation for enlistment is having no criminal convictions. For eligibility as an officer via ROTC and OTS or USAFA, women are more likely to have a bachelor's degree than men. However, women are less likely than men to be propensed to serve in the armed forces. This suggests that the eligibility requirements are not screening out women, but instead, it is a lack of propensity to join the armed forces that reduces female representation in the U.S. Air Force accession cohorts.

Policy Implications

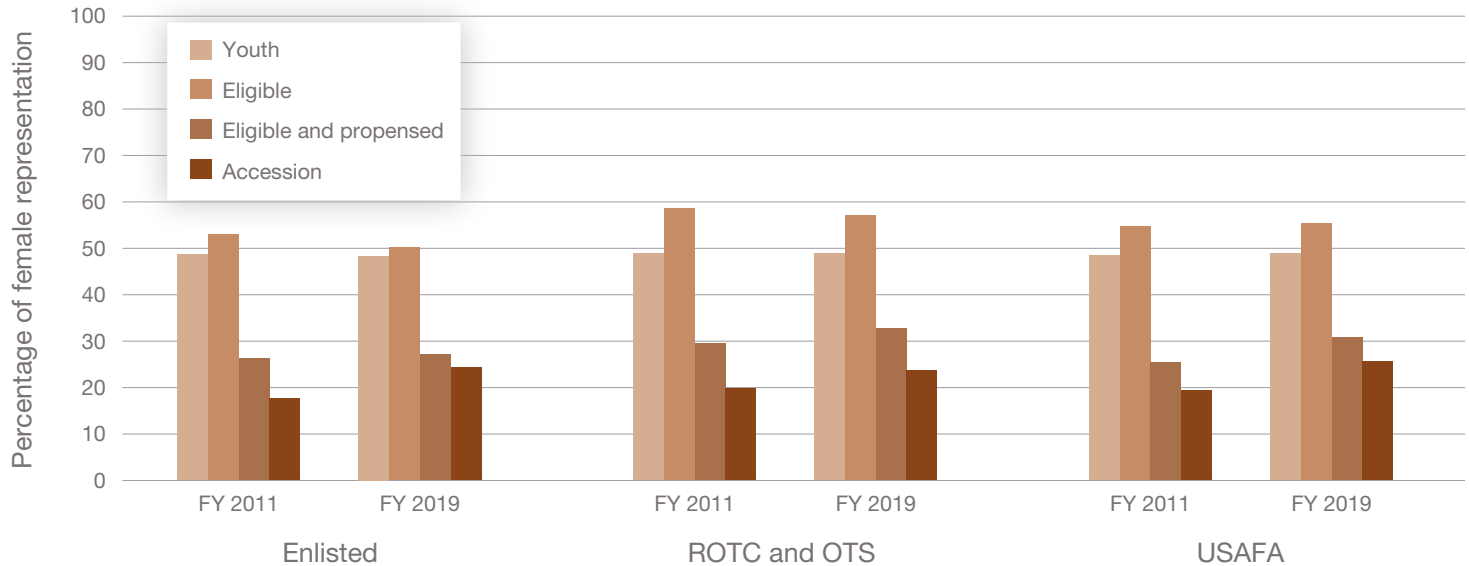
These results demonstrate several key implications for policy. First, the representation of minorities and women in accession cohorts tends to reflect the eligible population as determined by U.S. Air Force requirements while accounting for propensity. Second, eligibility requirements limit the representation of minorities, especially in the case of officer accessions. Third, propensity to serve limits the representation of women, similarly, especially in the case of officer accessions.

If policymakers aim to have a force that is representative of the diversity of our nation, they could take one of three approaches:

1. Identify recruiting incentives and supports that appeal to untapped minority populations who are

FIGURE 3.4

Female Representation in the Youth Population, Eligible Population, Eligible and Propensed Population, and Accession Cohorts by Accession Source in FY 2011 and FY 2019



SOURCES: Author's analysis of American Community Survey (U.S. Census Bureau, undated); National Health Interview Survey (Centers for Disease Control and Prevention, undated); National Longitudinal Survey of Youth (U.S. Bureau of Labor Statistics, undated); Miech et al., 2018; and MILPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

eligible and interested in serving in the armed forces (e.g., assessing the effectiveness of current recruiting practices that target minorities).

2. Assess the performance of existing requirements and consider the cost and benefits of changing basic requirements that favor minority and female representation. In addition, weigh the cost of changing requirements against the benefits of achieving better demographic representation as defined by the over-

all population (e.g., assessing the impacts of changing AFQT and body composition requirements may be more feasible than changing high school graduation requirements for the enlisted population).

3. Identify and examine techniques on how to increase female youth propensity to join the armed forces (e.g., by establishing relationships with colleges and organizations that have a large percentage of female constituents).

Notes

¹ Drawing from decades of RAND’s research for the DAF, this chapter specifically discusses the impact of eligibility requirements on diversity in the U.S. Air Force. The U.S. Space Force is too new to make similar observations about its requirements.

² This propensity measure is a rough measure of actual preferences, especially for those interested in participating in a commissioning program. Commissioning occurs after completion of college, and high school seniors’ responses to what they “probably will” do in four years or more is not necessarily a precise measure for what they actually will end up doing. However, prior research has used this measure as a proxy for how preferences vary by race and gender, not as a prediction for who actually joins (see Lim et al., 2014; and Schulker, 2010).

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Conducting Community Outreach and Marketing at Earlier Points in the Minority Candidate Pipeline

Sarah W. Denton, Dwayne M. Butler

Supplemental early exposure to military service is necessary to influence candidates at the earliest feasible point in the education system.¹ Outreach and marketing in minority communities should be integrated earlier in the recruiting pipeline than is customarily conducted for career considerations. Recruitment practices most often begin when candidates reach high school, with some extending into the college level.

Earlier exposure would increase the downstream population of entrants by addressing the two areas necessitating earlier intervention in the pipeline within minority communities: minority students' academic patterns and cultural barriers to service.

RAND researchers have previously examined barriers to increasing representation of racial/ethnic minorities among senior officer ranks (Lim et al., 2014). In this chapter, we review prior analyses from RAND and other nonprofit organizations,

such as the Council of the Great City Schools and Protect Our Defenders, to explore how early interventions can help improve the diversity of recruits.

Factors Requiring Earlier Intervention

As of December 2019, only 29 percent of 17–24-year-old men and women in the United States were eligible to serve in the military and only one in eight of that age cohort had a propensity to serve in the military (DAF, 2019, p. 3). The percentages for minorities were even lower, because these groups tend to meet requirements, such as minimum scores on the AFQT, at lower rates (MLDC, 2011, p. 47). This dynamic is particularly evident in the pilot community, with the U.S. Air Force having less than 10 percent black officer pilots (Lim et al., 2014, pp. 62–64).² A 2014 RAND study found that minorities are less likely to be in rated career fields (e.g., pilot, navigator, flight surgeon) and are more likely to be in fields that have lower promotion rates (Lim et al., 2014). Although the eligibility and requirements issues discussed in Chapter Three are certainly contributing factors, the reasons that white men and women are more likely to be in rated fields than minorities are not fully clear and need to be better understood (Lim et al., 2014).

At least two primary factors necessitate earlier intervention in minority communities: academic patterns in minorities and cultural barriers to military service.

Academic Patterns

Minorities are underrepresented in science and engineering, and efforts to improve K–12 science, technology, engineering, and mathematics (STEM) education and incentive programs are not sufficient (National Academy of Sciences, National Academy of Engineering, and Institute of Medicine Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline, 2011). Therefore, it is critical for the U.S. Air Force to engage with minority students as early in the educational pipeline as possible to increase exposure to both military service and technical fields relevant to the U.S. Air Force.

A Council of the Great City Schools report found that “on all of the indicators of academic achievement, educational attainment, and school success, African American males are distinguished from other segments of the American population by their consistent clustering in categories associated with failure” (Council of the Great City Schools, 2012, p. 5). By fourth grade, only 12 percent of black male students read at or above grade level, while 38 percent of white male students do. By eighth grade, the figures fall to just 9 percent for black students and 33 percent for white students (Whitaker, 2010). Moreover, black male students are almost twice as likely as white male students to drop out of school, and black and Hispanic male students are more likely than any other group to be suspended and expelled from school (Council of the Great City Schools, 2012).

According to the National Assessment of Educational Progress, although white-black and white-Hispanic achievement gaps have generally narrowed since the 1970s in all grades, progress stalled in the 1980s, and gaps grew larger until the 1990s.³

Cultural Barriers to Military Service

Various reasons likely contribute to lingering minority underrepresentation in the U.S. Air Force, but cultural barriers to military service deserve special attention in the context of early interventions to increase DE&I in the pipeline.

Cultural barriers to military service may include the following:

- The meritocratic nature of military service favors communities with higher historical and current access to resources such as education (Caldwell, 2019). Given that racial/ethnic minorities have a long history of being denied equitable opportunities and resources throughout the educational pipeline, meritocracy within the military services could be a contributing factor in the military's struggle to attract and retain minority officers (Kane, 2012; Andrews, 2013).
- Black people have fought in every single American war, yet until the mid-20th century, black patriotism was intimately tied to aspirations of freedom, autonomy, and opportunity. James Armistead—known for his infiltration of the British ranks during the Revolutionary War—was granted his freedom in 1786, after his military service, and the triumphant Tuskegee airmen returned home to a country at the height of the Jim Crow era (Office of Data Governance and Analytics, 2017). Racial/ethnic minorities may be wary of dedicating their lives to protecting the freedoms of others when they have had to fight for their own equity and equality for hundreds of years.⁴

- The conflation of police and the military in a recently racially charged larger social environment in the United States is also a contributing cultural barrier.⁵
- Anecdotal evidence suggests there is increasing mistrust within minority communities about the ability to thrive in military service.⁶ For example, data from 2006 to 2015 show that black airmen were 71 percent more likely to face court-martial or non-judicial punishment than white airmen in an average year (Christensen and Tsilker, 2017). Enlisted minorities also perceive that “they have to work harder than their peers to get to the same point” (Losey, 2016). Some of this mistrust is born of negative experiences encountered by relatives and acquaintances in their military service.

Recommendations

Increasing exposure to military service earlier in the educational pipeline may help alleviate some of the cultural barriers to service among racial/ethnic minorities; however, more research is required to identify effective cultural interventions.

Bolster the Youth Aviation Pipeline and Increase Diversity Through Early Exposure

Just as early intervention in the educational system is necessary to mitigate the consequences of longstanding achievement gaps minority students experience beginning in the early years of school, earlier exposure to the U.S. Air

Force in the educational pipeline may also help increase the number of minority officers and mitigate the effects of cultural barriers to service (Council of the Great City Schools, 2012; Caldwell, 2019). RAND researchers have identified a total of 54 youth aviation programs, which included 11 mature programs that exposed middle school- and high school-aged students to the aviation career at large (Council of the Great City Schools, 2012; Caldwell, 2019). Youth aviation programs in general can increase interest in, and help youth acquire the necessary skills and requirements for, becoming a pilot. According to the DAF, “Air Force Junior ROTC (AFJROTC) cadets are ten times more likely to join Air Force ROTC (AFROTC) and twenty-five times more likely to enter USAFA compared with non-AFJROTC high school students” (DAF, 2019). Youth programs that specifically engage minorities could also increase diversity; however, early exposure must specifically engage minority youths, not youths more broadly, to achieve this goal. The population of AFJROTC is becoming increasingly diverse, with 60 percent minority students (DAF, 2019).

The AFJROTC program is a sound investment for the U.S. Air Force that reaches students in high school and advanced junior high school. It is logical to assume that reaching students before high school would increase participation in AFJROTC where programs exist. In schools where other types of Junior ROTC exist, having an Air Force touchpoint via Civil Air Patrol units might also promote downstream service in the U.S. Air Force for the cadets with a propensity to serve or join AFROTC in college.

Strengthen Youth Programs Using a Consortium of Private and Public Partners

With the primary goal of heightening interest in aviation among minority communities to draw new talent from traditionally underrepresented groups, facilitating networks of youth aviation programs will provide entry points to integrated training.

Public-private partnerships are critical to strengthening youth programs, engaging with minority students earlier in the educational pipeline, and breaking down cultural barriers to service. For example, the Teen and Police Service (TAPS) Academy has developed a youth program that is specifically designed to engage students who are least likely to participate: at-risk youth.⁷ The goal of the TAPS Academy program is to help change perceptions of law enforcement officers and community policing held by at-risk (who are often minority) youths. To date, TAPS has found that its program increases the positive perception of law enforcement (e.g., trust, respect) by an average of 32 percent. The DAF could benefit from adopting a similar program designed to increase the perception of military service among minority youths and to begin to break down cultural barriers (Teen and Police Service Center, undated).

Apply Rigorous Program Evaluation Standards to Assess Pipeline Programs

DAF minority youth programs could benefit from similar strategic planning tools that target a broad variety of programs. The DAF should ensure the quality of public-private youth programs by conducting evaluations of program performance that emphasize diversity enrollment

metrics and by gathering additional insight into minority communities and diversity issues. Planning tools should be used to routinely evaluate youth program performance and include performance measures that are clearly defined and include cost components.

Notes

- ¹ This chapter is geared toward early intervention in the minority youth pipeline to increase diversity in the U.S. Air Force. Because our examples are explicitly tied to U.S. Air Force career fields (e.g., pilots), we are not providing recommendations to the DAF, which includes the U.S. Space Force.
- ² Data also from MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.
- ³ For more information on the data methods used to construct the racial/ethnic achievement gap figures, see Reardon, 2015.
- ⁴ For information on recent events sparking protests and support for Black Lives Matter, see Horowitz, 2021.
- ⁵ The conflation of law enforcement and the military, as evidenced by increasing militarization of police forces, contributes to loss of trust in law enforcement systems which may, by transitive property, result in loss of trust in the military (see Jeffrey, 2019). For more information on effects of police militarization, see Lieblich and Shinar, 2018.
- ⁶ The anecdotal evidence mentioned here is derived from personal experiences of members of the research team. Throughout task force team discussions, no evidence to the contrary or other personal accounts have disputed this claim. This definition—along with more information about how cynicism can derail positive organizational change—can be found in Dobbs and Do, 2018:

Organizational cynicism is the loss of belief in the possibility of change, improvement, or betterment of current or future circumstances within an organization, which results in a negative work attitude that has the potential to affect numerous organizational and individual outcomes.
- ⁷ For more information about TAPS Academy, see Teen and Police Service Center, undated.

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Maximizing the Return on Investment on DAF ROTC Initiatives at HBCUs and HSIs

Dwayne M. Butler, Leslie Adrienne Payne, Sarah W. Denton

The DAF is aligned with the January 2020 White House initiative calling for increased emphasis on minority serving institutions. These institutions have “a unique focus on nurturing service-oriented students . . . more than other groupings of colleges and universities, perhaps with the sole exception of the service academies” (Camera, 2020). Correspondingly, the U.S. Air Force has increased its focus and investments in HBCUs and HSIs to improve black and Hispanic officer accessions. This chapter is lengthier than other chapters in this edited volume because it provides insights through a market analysis of strengths, weaknesses, opportunities, and threats (SWOT) on how the DAF might optimize its return on investment. SWOT, a well-known market analysis tool, evaluates (1) internal strengths and weaknesses and (2) external opportunities and threats, and also drives toward recommendations.

We have teamed with U.S. military services over the years to improve the efficiency and effectiveness of Senior ROTC (SROTC)—more commonly referred to as

ROTC¹—with emphasis on increasing diversity enrollment and accessions. Here, we blend current and past RAND analyses with executive and congressional-level dicta to provide strategic background, market analysis, and actionable recommendations for the DAF to consider. Although this chapter is focused on the future objectives of AFROTC initiatives, we provide comparative information on the other services for context.

A Closer Look at ROTC

The ROTC program is the largest single source of commissioned officers, producing more than 6,000 officers annually. In exchange for paid college education and a guaranteed post-college career, cadets commit to serve in the military after graduation (Today’s Military, undated). As the DAF increases its focus on HBCUs and HSIs to improve black and Hispanic officer accessions and promote diversity within the service more broadly, an analysis of the ROTC market is needed to better target outreach and increase program effectiveness.

Key statistics shed light on the current state of ROTC programs broadly, and how AFROTC fares compared with the other services:

- As of 2020, ROTC programs are offered at more than 1,700 colleges and universities across the United States (Today’s Military, undated). AFROTC is the largest and oldest source of commissioned officers for the DAF and operates programs at more than 1,100 colleges and universities—which equates to AFROTC programs operating at approximately 65 percent of all post-secondary school ROTC sites (U.S. Air Force ROTC, undated; U.S. Air Force, 2015).

- ROTC enrollment has remained relatively consistent. The Army operates the largest ROTC program with approximately 30,000 enrollees. The DAF and the Navy have approximately 15,000 and 6,000 enrollees, respectively (Kamarck, 2019).
- Although the Army ROTC produces more officers in comparison with the other services, the AFROTC is more productive than Navy Reserve Officers Training Corps (NROTC). According to a Center for Naval Analyses report, in 2017, ROTC graduates constituted 58.5 percent of newly commissioned active-duty U.S. Army officers, 31.1 percent of newly commissioned DAF officers, 21.4 percent of newly commissioned Navy officers, and 3 percent of newly commissioned Marine Corps officers (through NROTC), for a combined 36.9 percent of all active-duty officers in DoD who were commissioned that year (Center for Naval Analyses [CNA], undated).²
- According to the Pew Research Center, in 2015, blacks made up 19 percent of the military’s active-duty enlisted members and 9 percent of active-duty officers. ROTC DE&I efforts could address this gap and increase the number of black officers (Parker, Cilluffo, and Stepler, 2017).

ROTC Marketing to HBCUs and HSIs

Current marketing strategies to institutions and students at HBCUs and HSIs are largely based in multilingual marketing materials, such as advertisements in local college newspapers at HBCUs and HSIs, and media and entertainment sources directed at demographically diverse audiences (MLDC, 2011b, p. 53). ROTC programs have affiliated rela-

tionships with local high school-level JROTC and Civil Air Patrol units. AFROTC offers an HSI scholarship program. The AFROTC website states, “HSIs that host AFROTC detachments may offer up to fifteen 3.5 year (i.e., activate mid-freshman year) scholarships through the Enhanced HSI (EHSI) scholarship program. No more than 7 scholarships can be awarded to non-technical majors” (U.S. Air Force ROTC, 2011).

However, existing marketing and outreach strategies to HBCUs and HSIs do not encompass a large swath of minority-serving institutions. ROTC programs are found at 1,700 colleges and universities nationwide, yet only 25 of the country’s 102 HBCUs have ROTC programs (Camera, 2020). AFROTC programs, in particular, are present at approximately 65 percent of host and partner colleges and universities nationwide, but they can be found at only 24.5 percent of the nation’s HBCUs. The DAF could augment its existing strategies by expanding its reach and creating a targeted marketing campaign designed for HBCUs and HSIs.

Using AFROTC’s College Locator tool and its unique filters for HBCUs and HSIs, Figure 5.1 shows the number of AFROTC programs within each state that are at HSIs (red), HBCUs (blue), and institutions that are neither HBCUs nor HSIs (gray).

Figure 5.1 highlights a few key insights relating to the geographical distribution of AFROTC programs across the United States:

- All 50 states have at least one AFROTC program.
- Sixteen states have 20 or more AFROTC programs (Alabama, Alabama, California, Florida, Illinois, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Washington, and Wisconsin).

- Eighteen states have fewer than ten AFROTC programs (Alaska, Arkansas, Delaware, Hawaii, Idaho, Iowa, Maine, Mississippi, Montana, Nevada, New Mexico, North Dakota, Rhode Island, South Dakota, Utah, Vermont, West Virginia, and Wyoming).
- The five states with the most AFROTC programs are California (143 total), New York (82 total), Texas (62 total), Ohio (58 total), and Pennsylvania (52 total).

Figure 5.1 also illustrates the lack of targeted marketing and outreach strategies to HBCUs and HSIs (U.S. Air Force ROTC, undated). A few key insights relating to not only geographical distribution of minority serving institutional AFROTC marketing and outreach initiatives, but also the density of AFROTC programs at HBCUs and HSIs by state:

- Seventeen states have AFROTC programs at HBCUs—North Carolina (8), Alabama (5), Louisiana (5), Florida (3), Georgia (3), South Carolina (3), Tennessee (3), Ohio (2), Texas (2), Delaware (1), Kentucky (1), Maryland (1), Mississippi (1), Missouri (1), Oklahoma (1), Pennsylvania (1), and Washington (1).
- Eleven states have AFROTC programs at HSIs—California (37), Texas (10), Arizona (6), Florida (6), New York (5), New Mexico (3), New Jersey (2), Alabama (1), Colorado (1), Illinois (1), and Kentucky (1).
- California has the most AFROTC programs by far, including the most programs at HSIs, but the state’s lack of engagement with black-serving institutions is a reflection of its limited number of HBCUs.
- North Carolina has a total of 34 AFROTC programs and has the most programs at HBCUs, but there are four HBCU campuses across the state that remain ripe for outreach and relationship-building.

FIGURE 5.1
 Total Number of AFROTC Programs by State at Non-HBCU and Non-HSI Institutions, at HBCUs,
 and at HSIs

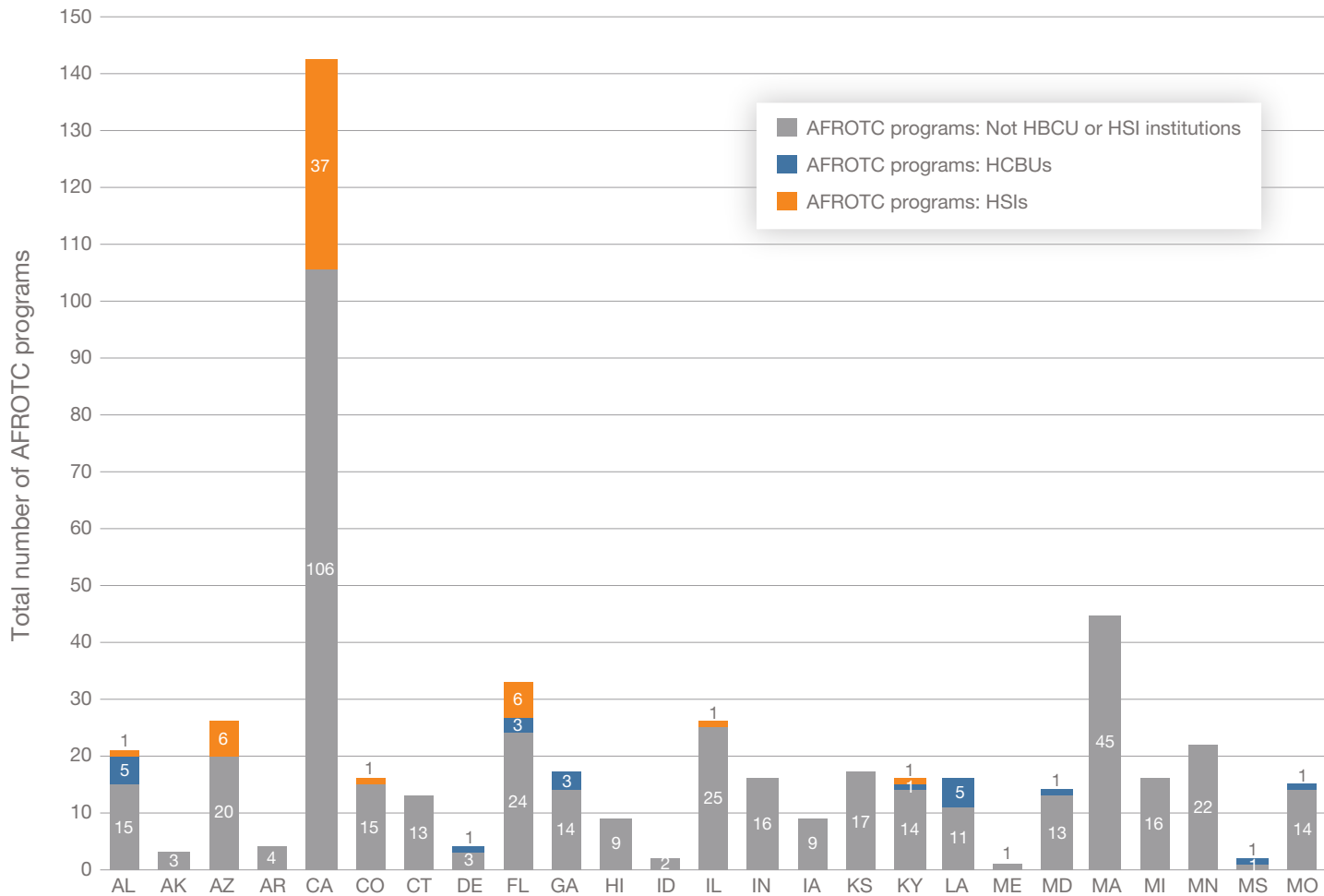
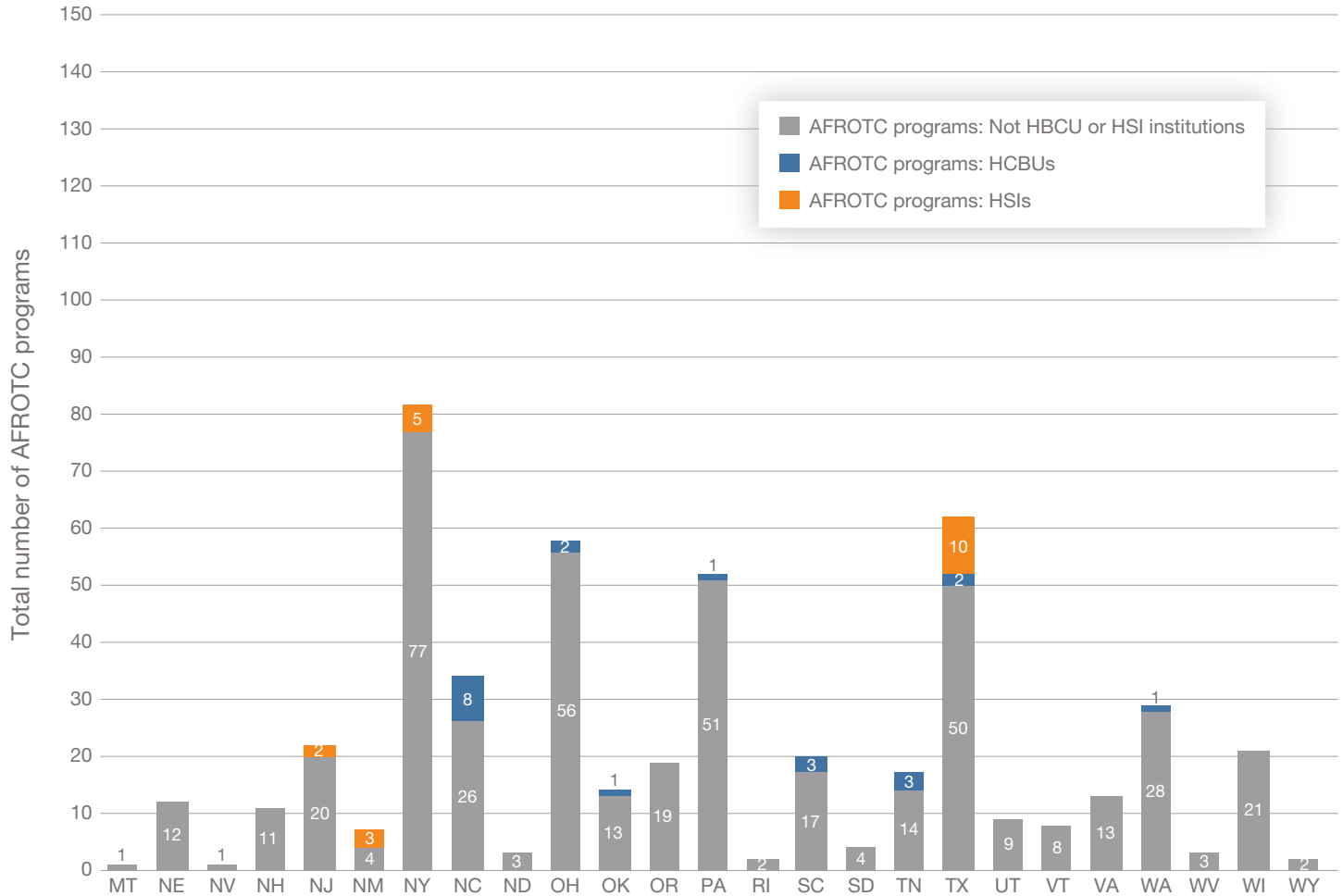


FIGURE 5.1—CONTINUED



Assessing the ROTC Market through SWOT

Table 5.1 assesses ROTC programs at HBCUs and HSIs using a well-known market analysis tool: SWOT.³ By identifying the SWOT of ROTC initiatives at minority-serving institutions, AFROTC may gain insight into better targeting and marketing. Relevant literature and statistics from ROTC programs at HBCUs and HSIs, including the data referenced in Figure 5.1, and prior RAND reports and analyses were reviewed in support of the SWOT analysis, as were DoD Instructions pertaining to the establishment and eligibility of host institutions.

Strengths and *opportunities* for ROTC programs at HBCUs and HSIs revolve around well-known branding, expansion of ROTC programs at minority-serving institutions, and bolstering institutional and community relationships. *Weaknesses* and *threats* range from lack of minority representation in marketing materials and lack of continuous program evaluation that emphasizes diversity and inclusion to competition for top performers in black and Hispanic communities and waning interest in military service. Recommendations to leverage the strengths and opportunities of AFROTC and mitigate weaknesses and external threats are addressed in the following section.

Considerations for Actionable Recommendations

The preliminary considerations for actionable recommendations in this section were developed based on prior RAND research and analyses, an extensive literature review, and resulting SWOT ROTC market analysis. The goal of these recommendations is to optimize DAF invest-

ments in initiatives to engage minority-serving institutions. Success will be measured by the ability of the initiatives to increase minority representation in DAF officer accessions. The following list is preliminary: We address major themes in our efforts to quickly help the DAF address pressing needs for greater diversity and inclusion; however, we acknowledge that broader analysis and follow-up would be beneficial to sustain the right mix of initiatives in the long term. It is important to note that the actions listed range from those that would benefit the broader DAF community, including having positive impacts on increasing diversity, to those that are directly related to minority communities. We organize and discuss these considerations for optimizing investments in the following categories: marketing and outreach; enrollment and scholarships; footprint; and program performance.

Marketing and Outreach

Low accession of black commissioned officers could be mitigated by effective, targeted marketing toward HBCUs and HSIs. Moreover, establishing marketing and outreach programs earlier in the educational pipeline would also increase DE&I downstream within AFROTC. The DAF should consider the following:

- Establish relationships with minority candidates as early as elementary school or middle school at the latest; high school and college is too late. Create a school-based program that expands on existing 4-H Air Force camps for execution within low-income and high-density minority schools and leverage their existing efforts to increase DE&I.⁴

TABLE 5.1
SWOT Analysis of the ROTC Market

Internal Strengths	Weaknesses	External Opportunities	External Threats
<ul style="list-style-type: none"> • ROTC is a known brand name. • There is a legacy of ROTC programs at HBCUs and HSIs. Nothing entirely new needs to be established. • The college locator on the AFROTC website has filters for HBCUs and HSIs, which help those looking for those specific types of universities by regional geographic location (see Figure 5.1). • White House initiatives to increase Army ROTC programs at HBCUs and HSIs should translate into increased DAF support to AFROTC initiatives at minority-serving institutions, which also may lead to increased DoD support. 	<ul style="list-style-type: none"> • Low AFROTC representation currently exists in terms of school locations and numbers of enrollees. • Assessment of the AFROTC website shows a lack of minority presence in featured speaking roles. • There are no marketing products specifically tailored to allow minorities to envision themselves serving. • There is a lack of routine evaluation of AFROTC program performance, with particular emphasis on diversity enrollment metrics. • AFROTC has a high density of programs on the East Coast, which does not mirror the spread of black and Hispanic students (see Figure 5.1). • Based on lack of evidence of scholarships having much effect in recruiting a preponderance of top-performing black people, overemphasizing scholarships may not be optimally effective. Historically, race-targeted scholarships constitute a small percentage of scholarships awarded to students at postsecondary institutions.^a 	<ul style="list-style-type: none"> • Expand the market by expanding to colleges or universities not currently supported by a host or crosstown programs.^b • Develop an educational initiative to inform underrepresented groups about the DAF well ahead of college, manifested by adopting youth programs at the earliest levels possible. • Bolster or strengthen on-campus partner relationships to gain military allies in the faculty and administration. • Build and solidify community relationships in minority communities to increase the number of entrants in the recruitment pipeline. • Explore whether HBCUs and HSIs beyond those that currently have ROTC programs may be interested in obtaining host or crosstown status. 	<ul style="list-style-type: none"> • Top performers in the black and Hispanic communities are in high demand^c—competition is intense, and scholarships might not attract them to the military. • There is anecdotal evidence of waning interest and a lack of confidence in military service in the black community.^d • Based on their own experiences, some minorities who have served are not supportive of military service.^e • Cynicism and skepticism toward law enforcement may influence perceptions of the military within black and Hispanic communities.^f • The target audience is reduced because of attrition across all levels of the educational pipeline.^g • Some HBCUs and HSIs may not be supportive of the ROTC programs they currently have, based on the faculty and administration being mainly composed of minorities and carrying the skepticism discussed above. • Some HBCUs and HSIs without ROTC programs may not be supportive or interested in obtaining a program based on the previous point.

^a GAO, 1994.

^b Institutions wanting to establish an ROTC program must apply to a military department and ask permission to host an ROTC detachment (see DoD Instruction 1215.08, 2017). Eligibility for consideration requires accreditation per U.S. Code, Title 10, Section 2102, 2010.

^c MLDC, 2011b.

^d The anecdotal evidence mentioned here is derived from personal experiences of members of the research team.

^e Throughout task force team discussions, no evidence to the contrary or other personal accounts have disputed this claim (see Jeffrey, 2019).

^f Yeager et al., 2017; Jeffrey, 2019. For more information about how cynicism can derail positive organizational change see Dobbs and Do, 2018, in which Dobbs writes: “Organizational cynicism is the loss of belief in the possibility of change, improvement, or betterment of current or future circumstances within an organization, which results in a negative work attitude that has the potential to affect numerous organizational and individual outcomes.”

^g DAF, 2019; MLDC, 2011b.

- Expand marketing in the K–12 or pre-college space, especially in minority communities. For example, the DAF might consider creating a youth Air Force Education and Recruitment program (modeled after the Los Angeles Fire Department’s Youth F.I.R.E program) to familiarize high school students with the U.S. Air Force and educate youth in community service, character, personal responsibility, and self-discipline. Schools with JROTC programs are opportunity partners in this space.⁵
- Increase connections and programs, which are currently optional, between AFROTC Host and Community University Programs and their local JROTC and Civil Air Patrol Cadet Programs in low-income and high-density-minority areas.⁶ These connections will alleviate pipeline concerns (i.e., minority communities may be less inclined to participate in the military) and facilitate opportunities to reach youth minorities before college (when it is proven to be too late). Supporting a school or youth organization affects households while exposing people to the U.S. Air Force. The importance of entry points into black and Hispanic households cannot be overstated.
- Bolster campus-based partner relationships with key staff and faculty, with AFROTC leadership or DAF leadership getting involved where necessary or helpful. This is particularly needed in schools that are not friendly to their ROTC programs. Increasing connections and programs between AFROTC Host and Community University Programs and their local JROTC and Civil Air Patrol units not only addresses pipeline concerns but could provide

an entry-point to bolster relationships with key staff and faculty.

- Establish a deliberate, targeted marketing campaign to HBCUs and HSIs. Go above and beyond current multilingual and institutional-based strategies to include a heightened social media presence. Continue making marketing products that highlight black and Hispanic officers to allow potential enrollees to visualize themselves serving. As an example, a video on the AFROTC’s website titled “U.S. Air Force: What is ROTC?” is a step toward amplifying minority voices in the majority of speaking roles.⁷ Similar videos could also be a facet of a targeted advertisement campaign on various social media sites.

Enrollment and Scholarships

The DAF should consider the following:

- Review and modernize admission requirements, such as the minimum AFQT scores, for the AFROTC program to reach minorities currently excluded from the eligible population (MLDC, 2011b, p. 47). Consider expanding the cap on non-technical majors based on the shortage of minorities in STEM.
- Increase the number of available scholarships at HBCUs and HSIs. In turn, this will advance efforts to increase black and Hispanic representation in the officer ranks. Establishing a tracking mechanism to monitor who receives scholarships to HBCUs and HSIs may also be beneficial to ensuring resources are being directed to minority students. The Diversity and Inclusion Task Force is already taking steps

to act on this recommendation by boosting scholarship opportunities for nearly 300 current and future ROTC cadets at HBCUs and HSIs (Cohen, 2020).

- Mandate and encourage community-based initiatives and outreach. Community service is a pillar in the life of an ROTC cadet. AFROTC should mandate that community service and outreach initiatives promote the DAF and the technical competencies it needs in its air and space professionals, which will serve to increase visibility of diverse officers within their communities. AFROTC and local JROTC units could collaborate with 4-H Air Force camps to “utilize the 4-H STEM career readiness tool,”⁸ but outreach so far is limited to two states (Oklahoma and Georgia). Target expansion of this existing capacity to low-income and high-density minority areas.

Footprint

According to the MLDC, the DAF should take the following steps to improve its footprint:

- Create, implement, and evaluate a strategic plan for improving and increasing the number of ROTC host units at HBCUs and HSIs (MLDC, 2011b, p. 57). The strategic plan would help make determinations about targeting program sites, sizes, and costs using information on existing ROTC programs, colleges, and the surrounding colleges that may increase diversity and inclusion within AFROTC.
- Convene an independent council similar to the Defense Base Realignment and Closure Commission to evaluate and decide where new ROTC units should be placed and where unproductive ROTC

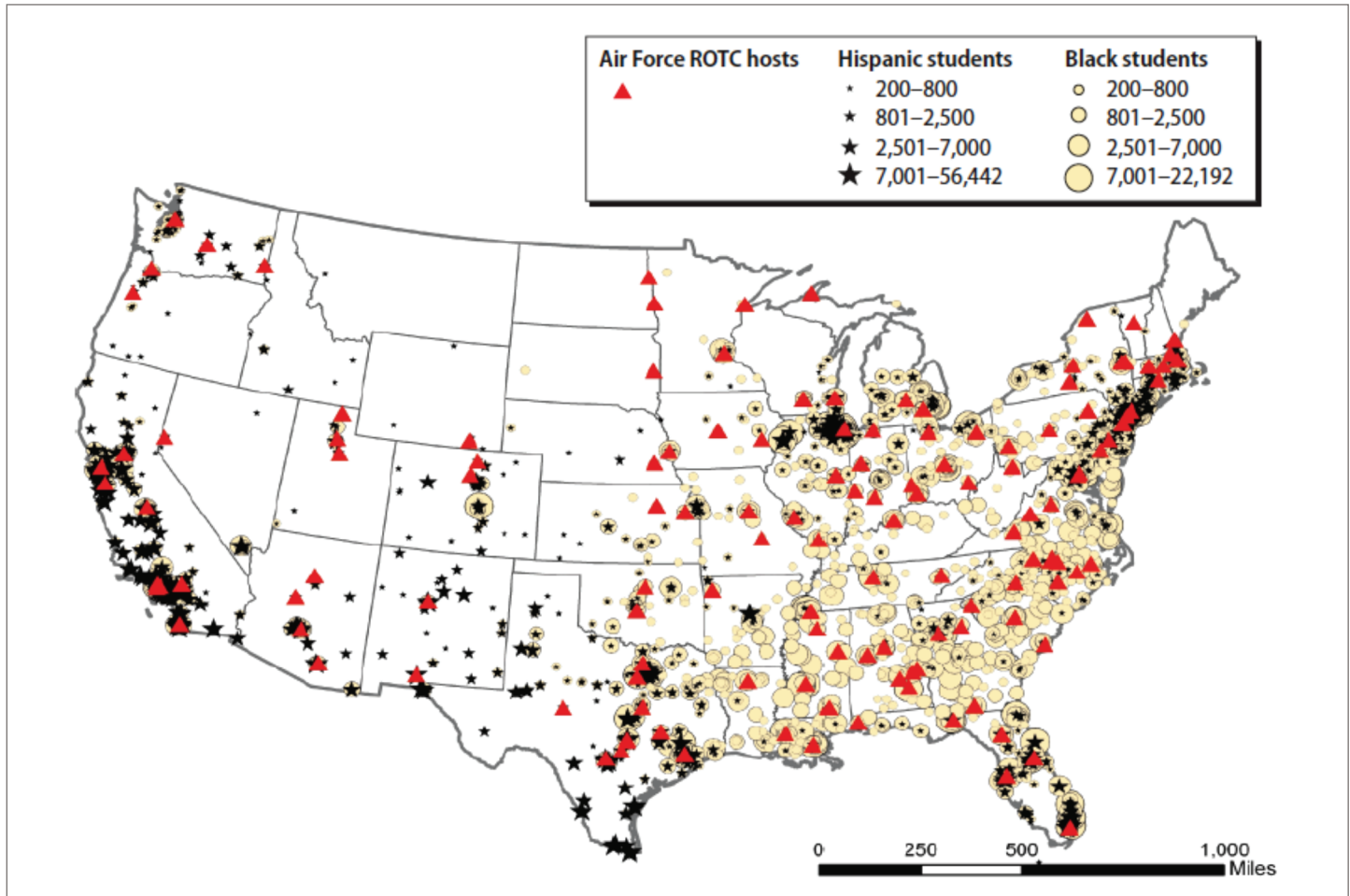
units would best be moved, with the goal to expand ROTC locations to more demographically diverse areas and increase the number of AFROTC programs at HBCUs and HSIs. For example, Figure 5.2 depicts the location of AFROTC locations in 2011, which are denoted by red triangles. The locations of black students are represented by circles, with larger circles indicating larger populations. The locations of Hispanic students are represented by stars, with larger stars indicating larger populations. The map shows that, in 2011, there were potentially more appealing markets in Texas, the southeastern United States, California, and the mid-Atlantic region (MLDC, 2011a, p. 58). Note this configuration of AFROTC locations might differ at the time of publication.

- Assess, expand the number of, and increase funding for AFJROTC programs in underrepresented communities.⁹ As mentioned previously, RAND’s ROTC Selection Evaluation Tool could assist the DAF in this endeavor.

Program Performance

As previously recommended in a 2013 U.S. Government Accountability Office (GAO) report and a 2017 report from Lim et al., planning tools should be used to routinely evaluate ROTC program performance, with emphasis on diversity enrollment metrics (GAO, 2013; Lim et al., 2017). AFROTC programs may benefit from similar strategic planning tools that target a broad range of JROTC and ROTC programs at HBCUs and HSIs and monitor how many minority officers are commissioned from them. The

FIGURE 5.2
Comparison of AFROTC Locations and Student Body Demographics



SOURCE: MLDC, 2011a, p. 43.

DAF should ensure the quality of new AFROTC program performance at HBCUs and HSIs by embedding top performers within these cadres to establish a positive reputation with the U.S. Air Force officer community.

Notes

¹ For the remainder of this chapter, the authors will treat SROTC and ROTC as synonymous terms.

² Note that the Defense Manpower Data Center (DMDC) is the original source of this ROTC data, which appeared in the report Population Representation in the Military Services 2017, which the CNA Resources and Force Readiness Division produces for the Office of the Under Secretary of Defense for Personnel and Readiness.

³ For more information about SWOT market analyses, see Brandenburger, 2019.

⁴ Although the U.S. Air Force has partnered with 4-H to establish camps that familiarize children with the Service, marketing reach is limited to two states (see 4-H Military Partnerships, undated). Although 4-H especially penetrated rural communities, the program reaches nearly 6 million youth nationwide, is represented on 900 military bases and 110 universities and cooperative extension systems, and is working to increase its own diversity and inclusiveness through targeted marketing and outreach tools. For more information, see National 4-H Council, 2018.

⁵ AFJROTC is a 10 U.S.C.–mandated citizenship training program that is designed to educate and train high school cadets in citizenship, promote community service, and instill personal responsibility, character, and self-discipline. Therefore, AFJROTC cadets are under no obligation to enlist in military service. For more information, see U.S. Air Force, Air University, undated. Marketed as “introductory, hands on experience geared as a pathway into LAFD’s Cadet Program” that “provides students with the technical competencies in the fire service, while developing their communication, physical fitness, leadership, and life skills through [Los Angeles Fire Department] mentors as positive role models” the Youth F.I.R.E. Program recruitment strategy easily transfers to a future (Youth-AFER) program. For more information on this program, see Los Angeles Fire Department, undated.

⁶ For more on the cadet program, see Civil Air Patrol, undated.

⁷ To view this video online, see U.S. Air Force Recruiting, 2019.

⁸ For more information about these partnerships, see 4-H Military Partnerships, undated.

⁹ MLDC researchers were unaware of any studies prior to 2011 that examined the effectiveness of high school JROTC programs accomplishing their stated objectives of promoting good citizenship, leadership, improving physical fitness, increasing motivation, and fostering teamwork among young people. Such an analysis should be undertaken, in conjunction with a goal to expand funding for JROTC programs in underrepresented communities (see MLDC, 2011b, p. 52).

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Talking About Race and Diversity

Douglas Yeung

During a time of civil unrest, it has never been more important to have honest and open dialogue on race in the military, at all levels of government, and in society at large. Yet many norms, fears, and perceptions stand in the way. This chapter describes key findings from studies that explore how people talk about race and other aspects of identity, what makes these interactions so fraught—and why they are necessary.¹ Although these studies cover various communities, the findings for interpersonal relations are consistent and relevant to the DAF. Leaders should consider how insights about racial dialogue can help facilitate conversations that can increase inclusiveness in an organization.

Why Dialogue Is Difficult

Why is it difficult to have candid conversations about race and diversity? Some people may be concerned about being seen as either ignorant or prejudiced. Others may react defensively when their worldviews are challenged. For example, members of majority groups (e.g., whites) may worry about being unfairly treated and even display physiological signs of threat when viewing organizational messaging that is pro-diversity (Dover, Major, and Kaiser, 2016). Inside organizations, people may

follow either subtle or overt leadership cues that discourage discussions about diversity.

One well-known study of “race talk” among students and their professors found that the types of challenges with racial dialogue hinged on the person’s perspective (Sue, 2013). As the study authors explained, when a race-related topic surfaces, the response is typically silence or awkward reactions as students try to frame an answer without offense. Once discussion begins in earnest, people may express “defensiveness, anxiety, anger, helplessness, blame, invalidation, . . . personal attacks,” or threats of “physical retaliation” (Sue, 2013, pp. 664–665). As the challenge to their perspectives or world views grows, people harden their positions and try to dilute or diminish the topic at hand, for example by equating inequities of race with those of gender and/or social class (Sue, 2013). People of color are more willing to discuss topics of race, and attempts to avoid or sidestep the discussion can make them feel silenced and invalidated. When confronted, white students may feel “insulted, misunderstood, or unjustly accused of racism” (Sue, 2013, p. 665). In addition, the researchers found, the professor’s authority supported and “reinforced white students’ ability to define racial reality” and to determine how the class would address and process race talk (Sue, 2013). Because such interactions reflect several societal norms and fears (described below) that dissuade people from having these conversations, they may be relevant for interactions between servicemembers and superiors in their chain of command or other authority figures (Sue, 2013, pp. 665–667).

Societal Norms

Politeness protocol. Race talk is typically seen as improper, impolite, and potentially divisive. When race comes up, the conversation is superficial, and social norms get enforced: People leave the conversation, tell the speaker that the topic is improper or insensitive, or socially isolate the person who raises the topic of race. Violating the protocol can affect how a person is perceived (e.g., “racist” or “bleeding heart liberal”; “Uncle Tom” or “playing the race card”) and treated in future interactions (Sue, 2013, p. 666).

Professional protocol. In academic and workplace settings, the approach to discussion is expected to be intellectual, implicitly discouraging emotional responses. This limits opportunities to explore those emotions. For instance, race talk may involve disclosing intimate thoughts and beliefs related to race. If people of color try to convey their experiences, their stories may be dismissed as anecdotal (Sue, 2013, pp. 666–667).

Color-blind protocol. For whites to acknowledge seeing race is to risk being perceived as racist. Whites use “strategic color blindness” as a way to minimize differences, seem friendly and unbiased, avoid engaging with people of color or racial topics, and even to pretend not to see a person’s race. Yet this often makes the person appear more biased, not less, because it ignores historical context and people’s individual experiences with race (Wingfield, 2015). Additionally, not acknowledging race can make the person appear less empathetic and perceptually aware.

Fears

Fear of appearing racist.² People can become anxious, constricted, and cautious during race talk and may self-censor to avoid seeming racist or saying something unin-

tionally offensive that may have personal or professional repercussions. As a result, conversations about race may be superficial and noncommittal, giving the impression of distance that is the opposite of the intended effect.

Fear of realizing their racism. Race talk can reveal implicit biases³ that nearly everyone has (Jost et al., 2009). Individuals may fear appearing racist and grow even more alarmed by becoming aware of their racist practices or ideologies. To accept this fact is “truly alarming because it means acknowledging responsibility for the pain and suffering of others,” researchers write. “This realization is likely to be strongly resisted, and the feelings of anxiety, defensiveness, and anger that surface during race talk are indicative of this realization” (Sue, 2013, p. 669).

Fear of confronting their privilege. Acknowledging the advantages that society bestows to white people also means acknowledging that status does not hinge entirely on merit. Race talk threatens to expose that the success of whites often comes at the expense of minorities held back by systemic racism, inequities, and oppression. Demonstration of this harsh reality is evidenced through the lack of representation in the senior levels of most institutions. To accept that this is a fair and equitable distribution hints of also accepting the false premise that non-whites are simply not as capable or qualified as their white counterparts are.

Fear of taking responsibility for ending racism. Race talk ultimately raises an uncomfortable moral question: Once a white person can no longer blame naivete or lack of awareness for his or her silence and inaction, will this person take personal responsibility to help end racism or even to address it in his or her own community?

Why Dialogue Is Important

Encouraging candid dialogue about diversity and race is important both to convey organizational values and to amplify a wider range of voices across the organization. Dialogue can help to validate experiences of members of minority groups, who are “often told that they are oversensitive, paranoid, and misreading the actions of others” (Sue, 2017, p. 171). Such conversations can also help include a greater number of unique voices from different levels of the organization into important conversations. Instead of a top-down approach mandated by leadership, dialogue can serve as “a collective process that allows many people to be involved in addressing racism-based issues and constructing a solution” (Ramasubramanian, Sousa, and Gonlin, 2017, p. 540.) This should increase perceived legitimacy while providing leaders with greater insight about organizational dynamics and allowing them to draw from a diverse range of opinions and potential solutions.

Dialogue can also provide crucial information that has the potential to affect attitudes and behaviors. Without it, people may assume that DE&I are not seen as important, or may not realize that work is needed to improve in those areas. For instance, white participants in a facilitated race dialogue expressed surprise about the prevalence of racism, and some learned for the first time about microaggressions⁴ and implicit bias (Ramasubramanian, Sousa, and Gonlin, 2017).

In contrast, avoiding dialogue can harm workforce morale by making people feel that leaders do not care. One consequence of avoiding conversations on such topics as race is that people do not feel a sense of belonging in their organizations, which decreases workplace satisfaction (Slepian, 2020). This is not limited to dialogue about racial

experiences at work—people struggle when they do not feel it is acceptable at work to discuss their racial experiences from outside work (Hewlett, Marshall, and Bourgeois, 2017). In the absence of discussion, people may make assumptions about leaders' viewpoints—that leaders do not care about their experiences, or worse, that they “agree with a viewpoint that makes them feel marginalized” (Boulding, 2018).

A particularly important time to have difficult conversations about race or other aspects of identity is when leaders have been called out for a microaggression or made aware of remarks, behaviors, or actions that led a colleague to feel marginalized. If the colleague raised the issue directly with a leader, that also might indicate trust and it is important to then reciprocate (Knight, 2020).

Facilitating Dialogue

How should leaders conduct these difficult conversations about race and diversity? Dialogue may need to be handled differently in a one-on-one or small group discussion compared with a formal communication to a unit or strategic communications that may essentially be public information. Research suggests several considerations that should be generally applicable.⁵

Take Deliberate Action

Leaders should seek opportunities to encourage greater dialogue about diversity. This includes not only speaking up and initiating conversations, but seeking out and amplifying marginalized voices. Dialogue is important to call out microaggressions, to discuss perceptions or organizational climate, or in response to incidents. Remaining silent

may be viewed negatively as, for example, avoidance, cowardice, or colorblindness. Participants in one study almost unanimously agreed that inaction was the least effective strategy when the topic of race surfaces (Sue, 2013, p. 663). Leaders generally struggled to react to microaggressions—white faculty because they did not recognize the offense, and faculty of color because they wanted to appear neutral. Such reactions would likely also occur among leaders in other organizations, including the U.S. Air Force.

Leaders can also do advance work to ensure that conversations are respectful and effective. This may involve, for instance, treating organizational concerns as opportunities to learn more about individual experiences or historical contexts, and deliberately inquiring about and considering nuances and alternative explanations about diversity issues. Perspective-taking—bridging the gap between the different perspectives people hold about diversity, due in part to differing life experiences—also may be a useful strategy to build empathy with others.

Taking these steps outside racial dialogue is important because it allows leaders to learn without burdening—and thus deterring future engagement from—people or groups who have brought concerns to their attention. Once dialogue begins, leaders will be better equipped to observe factual aspects of sensitive situations (e.g., behaviors or comments) and acknowledge differences without making unfounded assumptions or interpretations of people's intentions.

Demonstrate Accountability by Acknowledging Biases

Talking openly about one's own implicit biases can help establish credibility early, and help others do the same.

Although one runs the risk of being perceived as racist when discussing such issues frankly, being open and truthful about one's biases and limitations can encourage others to speak up and create a positive climate. As one study's author wrote, leaders "must understand themselves as racial/cultural beings; become aware of their own values, biases, and assumptions about human behavior; and develop awareness, knowledge, and expertise in race relations and racial interactions" (Sue, 2013, p. 670).

Manage Emotions and Expectations

Leaders should acknowledge the strong emotions that racial topics elicit and set reasonable expectations. The ability to "acknowledge and validate" people's feelings and encourage discussion of them is seen as crucial in facilitated racial dialogues (Sue, 2013, p. 670). It may help to examine the meanings of these emotions, such as by naming the feelings people might be experiencing, and avoiding attempts to dilute or cut off the discussion. Similarly, it is important to also monitor one's own emotions. Leaders should identify and monitor personal triggers and whether they may be unwittingly injecting their own emotions (e.g., discomfort) into the conversation.

Dialogue that results in defensiveness or negative reactions should not come as a surprise. Because such high-stakes conversations directly affect people's identity and self-perceptions, attitude and behavior change may not immediately occur. Accordingly, leaders should set expectations in specific situations or for broader organizational change.

Summary and Takeaways

Candid dialogue about DE&I is important but challenging and, on its own, insufficient to drive organizational change. Inclusive conversations have the potential to socialize different perspectives and build empathy toward others, which can improve interpersonal relationships, workplace climate, and eventual support for broader initiatives. Yet select societal norms and individual fears can make people reluctant to engage.

Leaders should take deliberate action to overcome these challenges, such as by initiating conversations, encouraging others to follow suit, and observing which practices appear to lead to desirable outcomes. These conversations can be a prerequisite but not a substitute for action that concretely improves organizational outcomes, such as diversifying leadership representation. Engaging in dialogue can help support broader diversity initiatives by raising awareness of ongoing efforts, and demonstrating that leaders value and support them.

Notes

- ¹ Among the various aspects of diversity (e.g., gender), this chapter focuses on dialogue about race ("race talk"), reflecting that the research itself largely focuses on race.
- ² This section draws heavily from fears categorizations in Sue, 2013, pp. 668–670.
- ³ See Chapter Eight for a full definition and discussion of implicit bias.
- ⁴ Microaggressions are seemingly innocuous but often painful actions in everyday life (e.g., casual comments or jokes) that subject individuals to biases or impressions based on their membership in a marginalized group.
- ⁵ This section heading and accompanying text is informed by Sue, 2013, p. 670.

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What Is Diversity Training?

Douglas Yeung

Diversity training typically seeks to reduce prejudice and discrimination and to help people in an organization work more effectively together (Bezrukova et al., 2016). There is a wide variety of training approaches with different emphases. For example, some focus on compliance with equal opportunity laws or inclusivity and tolerance toward members of historically marginalized groups. Other approaches include helping people to understand a diversity of perspectives, countering stereotypes, and providing information about organizational and legal consequences of discrimination. Antiracism training encourages individuals and organizations to take active steps that go beyond simply striving for tolerance and inclusion, such as questioning one's own mindset or organization's policies.

Today, most organizations appear to acknowledge that DE&I efforts—such as diversity training—are crucial to long-term sustainability (Pasztor, 2019). Diversity training may be implemented alone or as part of broader diversity efforts. They may be intended to meet compliance goals, head off litigation, respond to internal or external pressure, burnish corporate reputation, or increase workforce diversity.

Features of Effective Diversity Training

Whether diversity training is effective at achieving its goals—such as reducing discrimination or improving organizational dynamics—depends in large part on how it is approached. Although some recent reviews of diversity training studies suggest at least modest effectiveness in changing diversity-related skills, knowledge, or attitudes, other research suggests that diversity training suffers from several shortcomings and may not have long-lasting impact (Bezrukova et al., 2016; Kalinoski et al., 2013). In some cases, training may even result in backlash and more-prejudiced attitudes.

Evidence suggests that diversity training can improve diversity-related skills (e.g., identifying cultural factors within interactions) and knowledge (e.g., multicultural awareness), but has less impact on attitudes (Kalinoski et al., 2013). Diversity-related knowledge may also be longer-lasting than attitude change (Bezrukova et al., 2016). Yet these individual-level changes may not lead to greater diversity in organizations or their leadership (Dobbin and Kalev, 2016). In part, this may be because positive training effects are often short term. It may also be because diversity training can activate bias or stereotypes. Counterintuitively, discussing stereotypes can strengthen biased associations (e.g., assuming younger people are less qualified than older people). Furthermore, mandatory training (e.g., for compliance purposes) can be unpopular. Backlash can ensue from resentment over having been forced to attend training, or prompt defensiveness about being perceived as “part of the problem.” But even positive reactions to training do not necessarily reflect increased skills or changed attitude (Bezrukova et al., 2016).

Recent reviews of diversity training research suggest that certain features of diversity training may improve outcomes. For example:

- Training events held over multiple sessions and longer periods or that provide opportunities for social interactions (such as active, participatory exercises that involved working with others—for example, exercises to visualize privilege) are more successful at changing participant attitudes about, for example, valuing diversity compared with one-time training events or those with limited social interaction or little-to-no participatory exercises (Kalinoski et al., 2013).
- Diversity training is more likely to be effective at changing behaviors when participants set goals for training.
- Diversity training is more likely to be effective at changing organizational norms when managers actively support training (Phillips et al., 2016).
- Voluntary training can be more effective if it is limited to people who are motivated to participate (Bezrukova et al., 2016).
- There is limited research to indicate whether face-to-face or computer-delivered training is more effective.

Diversity Training Should Complement Broader Organizational Change

Diversity training generally seeks to change individual minds and behaviors but should be accompanied by structural organizational change—in particular, by establishing

broad accountability for diversity. An assessment of diversity training effectiveness found that diversity programs are more likely to increase leadership diversity in organizations that have a structure that includes responsibility for diversity (Kalev, Dobbin, and Kelly, 2006). Rather than trying to change individual behaviors, organizations should emphasize what they can control. This includes developing “structures that embed accountability, authority and expertise” (Kalev, Dobbin, and Kelly, 2006), such as creating diversity plans and establishing oversight or positions with responsibility for diversity. Focusing on individual prejudices or attitudes could come at the expense of taking on more-difficult work to create broader systemic change (Pan, 2020).

Measuring effectiveness is another crucial part of establishing accountability. The mixed evidence on the impacts of diversity training highlights the challenges in demonstrating concrete organizational change. As a result, many organizations find it easier to emphasize their diversity-related activities and efforts while downplaying metrics of effectiveness and results (Pasztor, 2019). In other words, they talk about *what they are doing* as opposed to figuring out *what works*. Diversity training can be part of the solution, but there also needs to be a broader understanding about what improves diversity. Organizations should clarify the DE&I goals they wish to achieve, assess whether training or other approaches are likely to help, and establish measures and accountability to ensure those outcomes are achieved.

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Implicit Bias in the Workplace: Assessment and Training

Douglas Yeung

Implicit bias (also *unconscious bias*) occurs when people automatically, and often unknowingly, attribute particular characteristics or qualities to an individual because they belong to a certain group (Greenwald and Banaji, 2017). This attribution can affect one's perceptions or judgments of that individual, even though most are unaware that this bias or linkage exists. Even if people are aware of this bias, they may not be able to change or choose how it affects them. Implicit biases can become baked into organizational structures and culture, leading to systemic challenges for specific individuals and unequal outcomes.

In professional settings, implicit bias can be seen in discriminatory workplace outcomes, such as hiring and promotions. For example, studies have shown that implicit bias can hold back job candidates with stereotypically black names, who were less frequently selected for interviews than candidates with identical resumes but stereotypically white names (Bertrand and Mullainathan, 2004). That same phenomenon took place in orchestra settings, when blind auditions led to increased female representation (Goldin and Rouse, 2000). It is less clear that implicit bias

leads to individual discriminatory actions or behaviors. For example, people's biases and attitudes about race do not strongly predict discriminatory judgments or behaviors (Oswald et al., 2013).

How Is Implicit Bias Measured?

Measuring implicit bias is challenging. The most well-known and widely used measure, the Implicit Association Test (IAT), attempts to gauge how strongly specific concepts (e.g., race, gender) are linked in a person's mind with evaluations (e.g., good or bad) or group stereotypes. Examples of implicit biases might associate "black-bad" or "male-science." Different versions of the IAT seek to measure bias related to individual characteristics, such as political preference, age, disability, gender, and race. But the IAT results can vary widely—even when the same person takes the test multiple times—which has implications for organizational use of bias assessments for hiring, performance assessment, or evaluating the effectiveness of DE&I training. Even its creators suggest using the IAT only for education or research and caution against using individual results for "hiring or qualification decisions," especially if decisionmakers are unfamiliar with how to interpret IAT results (Project Implicit, undated).

Does Implicit Bias Training Work?

Workplace implicit bias trainings typically present educational material intended to address some aspect of implicit bias, such as videos that depict bias in workplace interactions or scientific research on the impact of implicit bias or

that ask employees to complete exercises designed to recognize biases or increase empathy. Few trainings appear to pair training tasks with such bias assessments as the IAT, although some may intersperse questions at various intervals among the training tasks. Implicit bias training is only one type among a broader range of diversity and inclusion training approaches that may emphasize, for example, cultural sensitivity or nondiscriminatory behaviors rather than seeking to change people's attitudes.

Evidence of bias training's effectiveness is mixed, reflecting the diversity of training approaches and the tenuous link between implicit bias and organizational outcomes. Changes in implicit bias, as measured in tests like the IAT, can be made but do not appear to last (Lai, Skinner, et al., 2016). A study comparing methods to reduce implicit racial bias (e.g., increasing empathy, countering stereotypes) found that effective training methods focused on increasing positivity toward marginalized groups, and also employed multiple rather than single methods (Lai, Marini, et al., 2014).

Even if it alters individuals' biased attitudes, training may not reduce discriminatory behaviors or address unequal organizational outcomes for different groups (Forscher et al., 2019). For example, bias training could result in changes to employees' IAT scores, but this might not correspond to reductions in biased hiring practices, a more-inclusive workplace environment, or increased diversity among senior leadership.

How Should Implicit Bias Training and Assessment Be Used?

As part of its initial efforts, the DoD Board for Diversity has already produced unconscious bias training material (Losey, 2020). Given the challenges discussed earlier in this chapter, such training or additional bias assessments should, if continually administered, make up only part of an overall diversity and inclusion strategy.

Bias testing and training may be most useful as education to raise awareness about how biases endure and how to address their impact. Training approaches will also benefit by including specific, concrete ways that people should seek to minimize the impact of bias. Rather than striving to be color-blind, individuals can seek to become alert to biases as ingrained habits that they can deliberately adapt. In selection panels, for example, this could include examples of how unconscious bias can present in promotion or selection decisions (e.g., assuming that someone would not be interested in or is unqualified for a role), or opportunities to practice providing explanations for selection decisions that do not lean on biased assumptions. In the workplace, this could include examples of unconscious bias in interactions (e.g., making assumptions about someone's position or role), providing workplace examples that counter stereotypes, or emphasizing an overarching identity (e.g., U.S. Air Force) over smaller groups.

Organizations can seek to develop strategies to address individual and structural biases, such as examining whether seemingly objective (e.g., merit-based) processes may reflect biased assumptions that can disadvantage certain groups. This would involve deliberately designing environments (i.e., "choice architecture") by identifying

where biases might influence decisions and procedures to help nudge people toward actions that mitigate those biases (Thaler and Sunstein, 2009). Examples would include implementing blinding processes to remove names or other subtle indicators (e.g., affiliation group membership) of race, gender, or other characteristics, and reconsidering objective quality measures that may depend on subjective, potentially biased ratings.

Bias assessments, such as the IAT, should not be used for promotion decisions or to assess individual performance. Because IAT results differ widely and are context-sensitive, researchers advise against using the test "as a device for the selection of people, such as whether to hire someone for a job" (Kurdi et al., 2018, p. 37). Bias assessments may be more useful as an aggregate measure of groups (e.g., agencies or units) or of activity over time. Measuring implicit bias or related activities in groups of individuals over extended periods could provide insight into whether bias trainings are shaping attitudes. This would require the deliberate pairing of training tasks with bias assessments. First, airmen or space professionals would take a test, such as the IAT, to establish a baseline measure of a specific type of bias (e.g., age or gender). Next, they would complete training tasks. Finally, airmen or space professionals would retake the assessment test to determine whether the training had any effect on bias (i.e., whether employees still strongly associate such concepts as "good" and "white"). This could provide insight about trends in implicit bias but not necessarily about concrete outcomes, such as discriminatory actions or inequity in promotions or leadership representation.

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Reevaluating Officer Selection to Improve Diversity

Brandon Crosby, Carra S. Sims, Kirsten Keller

In recent years, policymakers have raised questions about the possible impact of the Air Force Officer Qualifying Test (AFOQT) on the U.S. Air Force's diversity efforts.¹ Specifically, some suggest that the test could be biased and that persistent group differences could be a barrier to officer diversity. This chapter provides a brief overview of the AFOQT and relevant research on these noted issues.

The U.S. Air Force is in the process of reevaluating its officer selection system in general. In this chapter, we offer an overview of issues with an eye to the role of the AFOQT, and we suggest approaches that the U.S. Air Force might take to increase diversity while maintaining a valid officer selection system. We note that, given current U.S. Air Force efforts, some of the information and recommendations in this chapter may be no longer applicable once the U.S. Air Force's review is complete.

The AFOQT in Current U.S. Air Force Officer Selection

The AFOQT is a standardized aptitude test that has been used by the U.S. Air Force since 1953 and offers the U.S. Air Force a way to examine an applicant's mental aptitude to meet the challenges of the officer corps. The test consists of 550 multiple-choice items that are divided into 12 subtests, which measure mental aptitude on topics and skills that are designed to predict important elements of officer performance, such as verbal skills, mathematics, and knowledge of aviation and aircraft (Almamari and Traynor, 2020). Scores on subtests can then be combined as weighted averages to create composite scores that serve different personnel management purposes.

The AFOQT has multiple uses related to officer selection in the U.S. Air Force. AFOQT scores are used when the U.S. Air Force selects officers into two of its officer commissioning sources, the AFROTC and OTS programs (Carretta, Rose, and Trent, 2016). The test is also used when awarding scholarships to ROTC students.² Cadets at the USAFA are not required to complete the AFOQT as part of USAFA's admission requirements or to receive their commission from USAFA. The AFOQT was originally used as part of USAFA's admissions process between 1954 and 1960, after which time USAFA began using the Scholastic Aptitude Test (SAT) as part of its applicant process, similar to other colleges and universities.³ Finally, along with aiding the selection of officers in general, AFOQT composite scores based on relevant subtests are used as part of officer selection into rated career fields (Air Force Manual 36-2664, 2019).

In 2010, a RAND report examined the AFOQT and found the test to be valid and free of bias, meaning it is an accurate examination of mental aptitude; it does predict officer performance such as training outcomes; and it predicts equally well for different demographic groups (Hardison, Sims, and Wong, 2010). However, the report also noted clear group differences: the use of the AFOQT leads to a higher proportion of women, black, and Hispanic candidates being rejected for officer selection relative to white and male candidates (Hardison, Sims, and Wong, 2010). The differences in scores between groups have led to persistent questions about the test's role in officer selection.

The AFOQT is useful and provides several benefits to the U.S. Air Force. Aptitude tests are relatively inexpensive to administer on a large scale, and research consistently supports the ability to predict future performance (Ryan and Ployhart, 2014). The AFOQT, in particular, has been shown to be a valid predictor of training performance and contains subtests that enable the U.S. Air Force to select for abilities relevant for rated officer performance (Almamari and Traynor, 2020). For these reasons, we would recommend that aptitude be kept as a key component of the officer selection process.

However, research has not shown whether the AFOQT or other selection tools currently used predict general officer performance rather than training performance. This correspondence has not been well established and offers a clear avenue for improving the selection system. The U.S. Air Force should consider options to modify the selection system so that it selects the best, most qualified officer candidates and enhances diversity among U.S. Air Force officers. Improving the selection system may entail supplementing the AFOQT for officer selection or possibly

by replacing it with a suitably validated alternative that is empirically shown to reduce group differences. We discuss potential options for the U.S. Air Force to consider in the following sections.

Assessing a Full Range of Relevant Predictors Can Improve Validity

When selecting predictors, the U.S. Air Force should focus on validity, meaning how well the predictors measure what they are intended to measure. One of the best ways to increase diversity without sacrificing validity is to expand the knowledge, skills, abilities, and other characteristics (KSAOs) on which candidates are selected to better match the entire span of officer performance (Finch, Edwards, and Wallace, 2009). Thus, the U.S. Air Force should consider what KSAOs in addition to aptitude would be the most conducive to successful performance as an officer on the job. The U.S. Air Force should then prove that new tools, such as additional AFOQT subtests, can be incorporated into the selection system in a way that improves the performance of future officers and successfully minimizes group differences.

Reforming the AFOQT along these lines requires the U.S. Air Force to develop a model of officer performance that links relevant KSAOs to U.S. Air Force officer performance requirements. The U.S. Air Force could do this by drawing from U.S. Air Force doctrine or established models of managerial or officer performance. As an example, the Institutional Competency List provides a listing of the competencies the U.S. Air Force believes are tied to success in the service and includes traits like communication, leadership, negotiation, and adaptability (Finch,

Edwards, and Wallace, 2009). Other services use models of performance as well: the Army, for instance, found that its officers need to possess skills such as adaptability and the ability to build trust in others (Lievens and Patterson, 2011).

Personality traits are an example of how new tools can be incorporated into an existing selection system. Personality tests can measure traits such as conscientiousness, which correlates with job performance. The AFOQT already measures this KSAO through its Self-Description Inventory (SDI) subtest (Ryan and Ployhart, 2014). However, it is not entirely clear from available documentation whether the SDI subtest's validity has been established or whether it is free from concerns about the use of selection tools such as personality tests in high-stakes selection (e.g., the ability of candidates to “fake good”).

Other KSAOs that could be worth considering include interpersonal skills, such as communication and leadership, which often do not show the same group differences as do measures of aptitude (McCarthy, van Iddekinge, and Campion, 2010). Assessing applicants for the KSAOs added to the selection system may increase the system's overall ability to predict future performance. By measuring a more complete range of desired officer performance and making sure that the U.S. Air Force officer selection system predicts that range, the U.S. Air Force would shift from selection based on likely training performance to selection based on likely performance as an officer (Huffcutt, Roth, and McDaniel, 1996).

Although there are potentially appealing benefits to adding new tools to the U.S. Air Force's selection system, there may be significant drawbacks. At some point, the additional predictors offer diminishing returns in terms

of validity and can increase expense (Ryan and Ployhart, 2014). Not every additional selection predictor increases utility, so the U.S. Air Force should focus on the nonredundant selection tools with the most promise to select desired qualities (McCarthy, van Iddekinge, and Campion, 2010). The U.S. Air Force must carefully choose which KSAOs to include and how they would be conceptualized and properly measured.

It is essential to make sure that any tool designed to assess chosen KSAOs has been properly evaluated for validity and bias. Along with each tool, the entire selection system should be validated to ensure that the service is benefiting from it and that it achieves the goals of selecting the best-qualified candidates and enhancing diversity.

Consider Using Alternative Methods to Measure Aptitude and Other Relevant KSAOs

Another option to improve officer selections would be to use methods other than the AFOQT to measure aptitude and other relevant KSAOs. Many selection tools have been studied extensively and, if properly developed, may predict officer performance while reducing the group differences seen in the AFOQT. Interviews and situational judgment tests (SJTs) are just two such selection tools. These alternatives have the advantage of measuring both aptitude, which remains an important factor in selecting officers, and a broader range of KSAOs compared with the AFOQT.

Interviews are the most commonly used selection tool and are already used for the ROTC and USAFA. Interviews can cover a wide variety of topics. Structured interviews, in

which the questions and scoring rubric are standardized, are well-known for their usefulness in identifying who is likely to perform well in the future (Christian, Edwards, and Bradley, 2010). They are also often less likely to show the group differences found in standardized aptitude tests, and can be developed to assess a variety of KSAOs (Ryan and Ployhart, 2014). However, interviews may not be ideal for the U.S. Air Force to use for officers early in a selection system, because they can be expensive to develop and administer to large numbers of applicants. Moreover, interviews tend to rely on the applicants' previous experiences in similar fields or on the job—which U.S. Air Force officer candidates would not have. Therefore, they would need to be carefully structured to avoid this problem.

SJTs examine how applicants would behave in a hypothetical situation. The U.S. Air Force has been exploring the use of SJTs as part of its ongoing research to keep the AFOQT up to date, but it does not appear from publicly available documentation that this work is undergoing implementation. These tests often ask applicants to describe or outline how they would react in relevant situations, and they can be administered in different forms. Some SJTs are administered via paper and pencil, with applicants answering word problems or choosing their actions in a multiple-choice format. Other SJTs are administered electronically, in a computer adaptive format in which responses lead to different outcomes. Research on SJTs has shown that they can evaluate applicants' knowledge of proper workplace behavior and general knowledge about the job (Christian, Edwards, and Bradley, 2010). SJTs have also been used to measure interpersonal skills, such as communication and leadership (Bobko and Roth, 2013). As mentioned, SJTs can also be used as an aptitude test, should

the U.S. Air Force seek an alternative to the AFOQT. However, group differences can still be found when using SJTs to measure aptitude (Ryan and Ployhart, 2014), so the U.S. Air Force would need to carefully evaluate whether an SJT can improve diversity without compromising validity.

Both interviews and SJTs may reduce differences between groups while still measuring the KSAOs of interest. However, adding these tools would be costly. Some selection methods are expensive to administer, and may require materials and trained staff to properly administer the examination and score it—perhaps increasing cost but not increasing validity (Lindsey et al., 2013). Developing and administering selection tests can be very expensive, especially for a system with as many applicants as the U.S. Air Force officer corps (Ock and Oswald, 2018).

Predictors in the Selection System May Be Weighted Differently to Reduce Group Differences

Once the desired predictors are incorporated into the selection system, the U.S. Air Force should also explore options to best use the system as a whole to both predict officer performance and enhance diversity. As discussed earlier, some of the additional or alternative predictors demonstrate smaller group differences than the AFOQT. The U.S. Air Force may consider giving more weight in the selection system to predictors that demonstrate these smaller group differences than to predictors that demonstrate larger group differences (Song, Wee, and Newman, 2017). Research has been underway to develop the most effective way to pursue this strategy, and has found weight-

ing systems that may increase diversity outcomes for selection systems (Song, Wee, and Newman, 2017). However, in pursuing this option, the U.S. Air Force must establish that the ability of the selection system as a whole to predict officer performance remains high when using these different weights. The U.S. Air Force also will want to establish that group differences are minimized.

A Multiple-Hurdle Selection Strategy May Conserve Resources

The U.S. Air Force currently uses multiple selection tools for pilot selection. Instead of only one test, pilots complete a battery of tests, including the AFOQT pilot composite, the Test of Basic Aviation Skills (TBAS) composite, and a measure of previous experience with flying (Schulker et al., 2018). This combination of tests provides the U.S. Air Force with a more complete picture of the applicant's potential for being a pilot. The U.S. Air Force can apply the same logic to its officer selection system more generally. The U.S. Air Force needs to focus on the best, most-qualified candidates to conserve resources during the accession process. To do so, the U.S. Air Force may consider using a multiple-hurdle approach in which applicants would complete multiple assessments that become progressively more tailored to the needs of the service (Finch, Edwards, and Wallace, 2009). The U.S. Air Force may be able to deploy a relatively inexpensive-to-administer selection tool relatively early in the process, such as a multiple choice SJT, that selects for the fuller range of relevant KSAOs, including aptitude. This will help screen out candidates who are unlikely to perform well in the U.S. Air Force. Furthermore, a multiple-hurdle approach would enable the U.S. Air Force to focus

efforts on pursuing and developing candidates who show the most potential. Given its validity for selecting rated officer candidates, the U.S. Air Force may continue to use the AFOQT's aviation composites later in the selection system, and for that specific purpose. When used correctly, a multiple-hurdle system can accurately predict the future performance of applicants while reducing the differences between groups (Finch, Edwards, and Wallace, 2009).

As stated, developing new selection tools for U.S. Air Force officers would require significant time and resources from the U.S. Air Force. In moving to a multiple-hurdle approach, the U.S. Air Force would need to commit resources to develop or obtain individual components, and would also need to ensure that the order of selection tests is viable. Compensatory systems that combine information from multiple assessments at one time generally outperform multiple-hurdle systems (Ock and Oswald, 2018). However, multiple-hurdle systems may be able to improve diversity in the selection system while remaining a viable method to select strong applicants and help conserve resources (Finch, Edwards, and Wallace, 2009).

Conclusion

Simply moving away from the AFOQT might not reduce group differences in the selection process. Researchers have shown that organizations must evaluate several options to find an effective combination of selection assessments that reduces group differences while maximizing performance (Finch, Edwards, and Wallace, 2009). To achieve this, the U.S. Air Force should consider these three steps, which can be pursued simultaneously:

1. Identify the full range of KSAOs desired in prospective officers and consider how selection tools could measure these KSAOs.
2. Choose or begin development of selection tools that assess required KSAOs, including those not currently in the AFOQT.
3. Explore how to modify the selection system via weights or multiple hurdles to ensure that the full range of officer KSAOs can be assessed among candidates while maintaining validity.

Notes

¹ Because the AFOQT is used in the U.S. Air Force, this chapter is geared toward the U.S. Air Force and does not necessarily provide broader insight for the DAF, which includes the U.S. Space Force.

² Note that an AFOQT score is only required if a cadet takes the AFOQT; otherwise, an AFOQT score is not required (see U.S. Air Force ROTC/CC Headquarters, Department of the Air Force, Air University, 2019).

³ Previous work examining this issue by Hardison, Sims, and Wong (2010) notes that given a high correlation between the SAT and AFOQT, USAFA students would likely also do well on the AFOQT, given USAFA's high selectivity. However, questions have continued to arise regarding why ROTC and OTS candidates are required to take a different standardized test than do USAFA students.

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Minority Pilot Production in the U.S. Air Force's Major Commissioning Sources

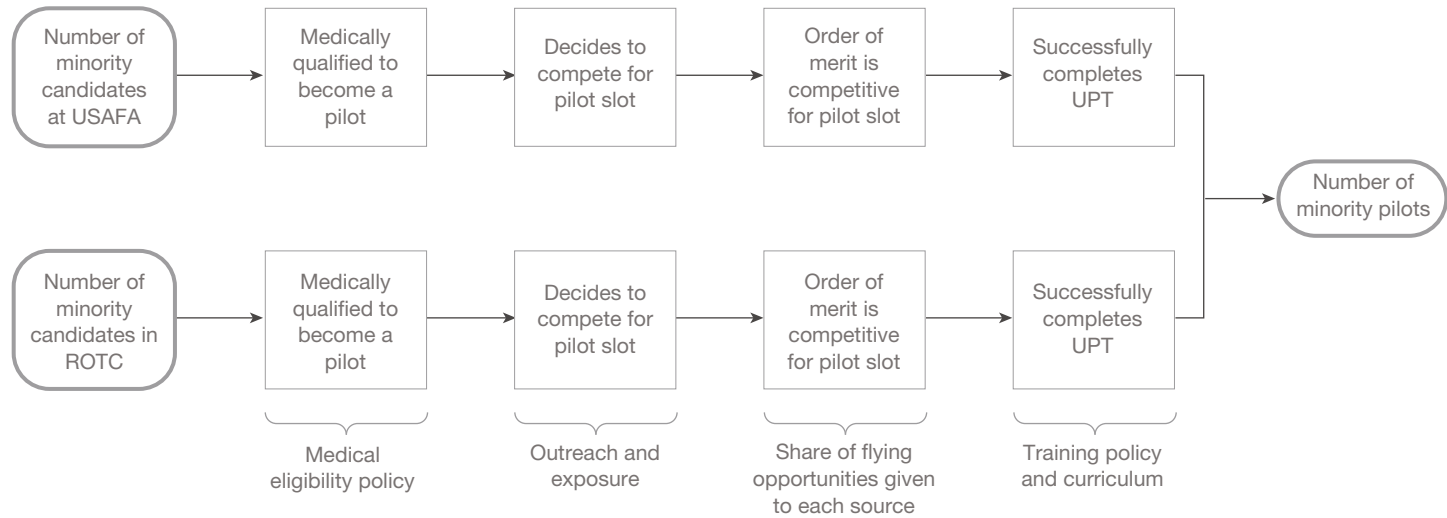
David Schulker

Historically, the demographic makeup of U.S. Air Force¹ senior leaders tends to reflect that of the pilot career fields, from which a majority of senior leaders are drawn.² Because becoming a pilot is one path to senior leadership, the stakes in the initial process of determining who becomes a pilot are higher than they otherwise would be if all career fields had an equal footing.

Efforts to shape the talent pool for senior leadership must first examine who pursues the pilot career path and succeeds in becoming a pilot. To explore this question, PAF analyzed how minority³ officers who commissioned from FY 2008 to FY 2015 through the Air Force's two largest commissioning sources progressed through the pilot training pipeline.⁴

Figure 10.1 shows a flowchart of the major stages in pilot selection, with labels indicating the types of policies that shape the number of minority officer candidates that pass through each stage. Policymakers have targeted different stages in the pipeline with efforts aiming to increase the number of minority officers who

FIGURE 10.1
Stages in Pilot Selection



NOTE: UPT = Undergraduate Pilot Training.

become pilots. Commissioning sources have outreach and recruiting programs that seek to increase the numbers of minority officer candidates who are qualified and interested in becoming pilots, for instance.⁵ For such policies to be fully effective, however, changes in the early stages must not be undermined by barriers later in the process. A larger number of minority candidates graduating from either commissioning source will not necessarily translate into more minority pilots unless the candidates are medically qualified to fly, enter a preference for a pilot slot, receive a pilot slot through the order of merit system, and subsequently graduate from UPT.

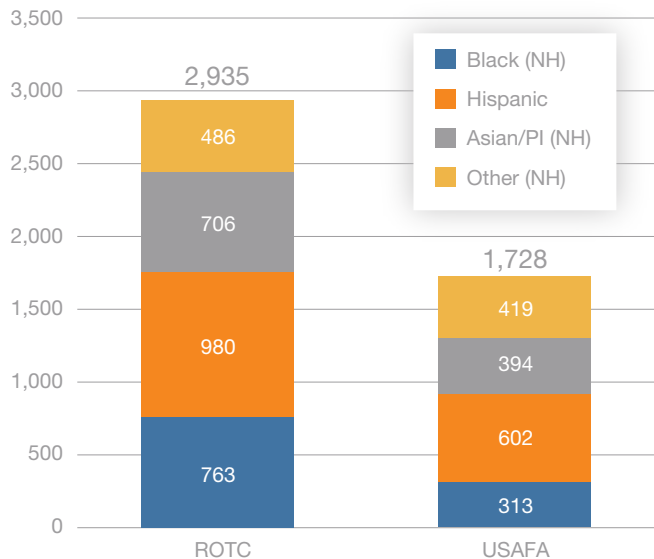
From FY 2008 to FY 2015, minority representation among ROTC graduates was approximately equal to rep-

resentation for USAFA graduates. Between 22 percent and 23 percent of officers from both commissioning sources were racial/ethnic minorities, although representation for non-Hispanic black officers was slightly higher among ROTC graduates (5.8 percent versus 4.1 percent for USAFA). Because of its size advantage, however, ROTC produced 70 percent more minority officers than USAFA during this time frame and more than double the number of black officers, as shown in Figure 10.2.

Although ROTC is the U.S. Air Force's largest source for minority officers, a relatively small proportion of these officers make it through the pilot training pipeline. The remaining analyses will illustrate this pattern with a particular focus on black (non-Hispanic) officers. Figure 10.3

shows the number of black candidates who commissioned, entered UPT, and became pilots from each commissioning source. USAFA, which commissioned far fewer black officers overall compared with ROTC, ultimately produced a greater number of such pilots because USAFA graduates were more likely to enter pilot training and more likely to subsequently become pilots. For example, ROTC commissioned 474 black men and 289 black women over the

FIGURE 10.2
Number of Minority Officers Who Commissioned in ROTC Versus USAFA in Cohorts Graduating from FY 2008 through FY 2015



SOURCE: Author's analysis of data from MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

NOTE: NH = non-Hispanic; PI = Pacific Islander.

eight-year period from FY 2008 through FY 2015. However, according to the personnel data, only 49 of these men and one of the women ultimately became pilots.

To illustrate the implication of this difference, Figure 10.3 also shows a hypothetical set of columns for the number of black officers from ROTC who would have entered UPT and become pilots if ROTC had the same conversion rates as USAFA. Because of its size advantage, if ROTC could have matched USAFA, this would have resulted in about 70 percent more black male pilots and over four times as many black female pilots overall.

The lower tendency of black ROTC graduates to become pilots stems from several factors, summarized in Table 10.1. First, the early stages of the pilot selection pipeline results in a lower tendency of black graduates to enter UPT relative to white graduates, regardless of commission-

TABLE 10.1
Percentage of White (Non-Hispanic) Versus Black (Non-Hispanic) Officers Entering and Completing UPT, by Commissioning Source

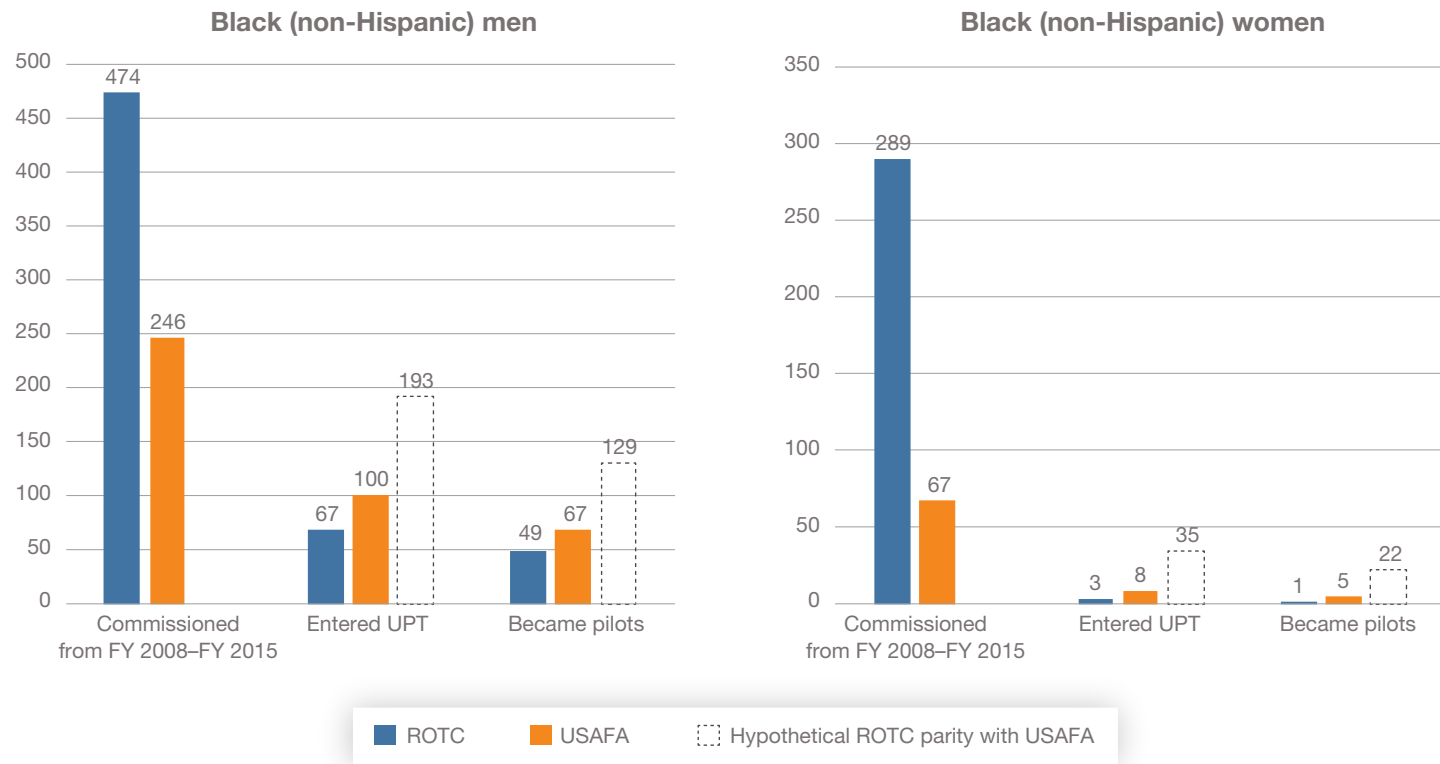
		Entered UPT		Completed UPT	
		ROTC	USAFA	ROTC	USAFA
Male	White	36.1	57.1	83.3	87.6
	Black	14.1	40.7	73.1	67.0
Female	White	10.2	28.3	73.8	76.5
	Black	1.0	11.9	33.3	62.5

SOURCE: Author's analysis of data from MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

NOTE: The percentages for completing UPT are conditional on the number entering UPT.

FIGURE 10.3

Number of Black (Non-Hispanic) Officers Who Commissioned, Entered UPT, and Became Pilots in Cohorts Graduating from FY 2008 to FY 2015



SOURCE: Author’s calculations from MiIPDS Active Officer End-of-Month Master Personnel Extracts provided by the Air Force Personnel Center.

NOTE: Hypothetical ROTC parity with USAFA is calculated by applying the USAFA percentages for black officers entering and completing UPT to the number of ROTC graduates. In reality, the total number of pilot slots is fixed each year, so accommodating this hypothetical scenario would require an additional 20 pilot slots per year.

ing source. Second, current practice is to allocate approximately equal shares of flying opportunities to ROTC versus USAFA, which results in fewer per capita flying opportunities for all ROTC graduates. Finally, black officers from both commissioning sources have lower UPT completion rates than white officers.

Discussion

Existing policy efforts seeking to increase long run opportunities for minority officers to serve in senior leadership positions will continue to focus on increasing the flow of minority candidates through each stage in the pilot selection process. The purpose of this chapter is to highlight the reality that overall minority officer production is not currently well-aligned with the pilot selection pipeline. The implication for policy is to consider whether there are ways to increase opportunities for medically qualified and interested minority officers from ROTC to engage the UPT selection process. The preceding analysis shows that for some minority groups at ROTC, such as black women, current participation in UPT is so low relative to the overall size of the group that marginal improvements could have a significant impact.

First, policymakers could focus on outreach and recruiting while making no changes to the availability of pilot slots for ROTC officers. Such efforts might include redesigning ROTC marketing and the use of scholarship opportunities to target communities that historically have not had a strong propensity to pursue aviation. To be successful, these efforts would need to increase the flow of qualified and interested minorities into ROTC programs

with sufficient order of merit to compete for the pool of pilot slots available to ROTC graduates.

No public research has examined the ROTC pilot selection process to determine whether racial/ethnic differences in order of merit are a barrier to entry for otherwise qualified and interested minority candidates. Research on USAFA's process did find racial/ethnic differences in order of merit (Schulker, 2010). If similar differences exist among ROTC graduates, the lower per capita share of flying opportunities would amplify the impact of the differences on minority pilot production. Thus, policymakers might consider ways to increase the number of pilot slots available to minority candidates in ROTC.

The recent personnel data show that redistributing pilot slots from USAFA to ROTC would be unlikely to increase minority pilot production, because pilot slots at USAFA are more likely to go to minority candidates. Instead, policymakers could consider creating a pool of at-large pilot slots for use in recruiting minority candidates from any commissioning source. ROTC candidates with flying aptitude but lower prospects for receiving a pilot slot under the traditional order of merit system could be encouraged to apply for this pool of opportunities.⁶

Notes

- ¹ This chapter specifically discusses U.S. Air Force career fields (e.g., pilots), and thus does not necessarily provide broader insight for the DAF, which includes the USSF.
- ² For instance, from FYs 2015 to 2019, officers from pilot (11X core) career fields made up 57 percent of sitting brigadier generals, while pilots made up 32 percent of line officers overall.
- ³ This chapter focuses on non-white officers and non-Hispanic black officers in particular, but each general pattern discussed in this edited volume also exists for female officers.
- ⁴ This analysis used MilPDS data for officers who commissioned from FY 2008 through FY 2015. We identified an officer's commissioning FY based on service dates. Whether officers entered pilot training upon commissioning was based on whether they possessed a 92T0 Air Force Specialty Code at any time in their first three commissioned years of service. We identified UPT graduates by examining whether the officer subsequently possessed an 11X Air Force Specialty Code. This method produced UPT attrition rates that were comparable to published rates in past RAND research that used Air Education and Training Command (AETC) data directly.
- ⁵ One example is the Gold Bar program, where recent minority graduates were initially assigned to recruit new pilot-qualified minority candidates.
- ⁶ Legal analysis would be required to determine the precise rules for implementing such a policy. However, this approach would be conceptually similar to alternative paths to USAFA appointments that have been shown to increase minority recruitment (e.g., USAFA preparatory school).

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How Demographic Differences in Pilot Training Attrition Relate to Pilot Candidate Selection Method Components

David Schulker

As part of a FY 2016 project examining ways to improve demographic diversity among members of the Regular Air Force component, RAND produced a report that collected qualitative and quantitative information pertaining to racial/ethnic and gender differences in training attrition. The quantitative analysis revealed several key findings about the relationship between metrics that comprise Pilot Candidate Selection Method (PCSM) scores and success in training. These findings are discussed in detail in a 2018 report (Schulker et al., 2018), and this chapter presents a summary of those findings that relate particularly to PCSM and demographic diversity.

Demographic Differences in Pilot Training Success

To support our quantitative analysis of racial/ethnic and gender differences in training attrition, the AETC provided records on all student pilots from 2009 through 2014. During this time, making it through the training pipeline required students to complete Initial Flight Training (IFT, previously known as *Initial Flight Screening*) in the DA-20 aircraft, Primary Pilot Training (PPT) in the T-6, and Advanced Training in either the T-1 or T-38.¹ Nine percent of students failed to complete IFT,² while an additional 8 percent and 2 percent of students failed to complete the PPT and advanced stages, respectively. These rates imply that the attrition risk over all phases of pilot training for the average student was roughly 18 percent.

Attrition risk for minority or female students during this time was significantly higher than the risk for white or male students. For example, 7 percent of white students attritted during the IFT and PPT phases of training compared with 19 percent of black students in IFT and 11 percent of black students in PPT. Thus, if the average student faced an 18 percent chance of elimination at some point in the pipeline, the average black student faced a 29 percent chance of elimination.

Pilot Candidate Selection Method Scores and Attrition

As part of our analysis to identify potential factors that could help explain demographic differences in pilot training graduation rates, the study examined the role of PCSM scores. PCSM has three components: (1) a composite³ score

based on the AFOQT, (2) a composite score from performance on the TBAS,⁴ and (3) a student's flying experience measured in hours. PCSM was not a prerequisite for students from USAFA during this time, so our analysis of these attrition differences focused on students from ROTC and OTS. The analysis identified the following facts about PCSM scores:

- The AFOQT pilot composite and the TBAS score were highly correlated with one another. Each score explained about half of the variation in the other score.⁵
- The relationship between AFOQT score and the likelihood of attrition in IFT or PPT was similar to the relationship between TBAS and attrition in each phase.
- When we considered all PCSM components together, the effect of TBAS on attrition likelihood was about three times larger than the effect of AFOQT scores. Flying hours did not significantly affect attrition risk, conditional on the other factors.

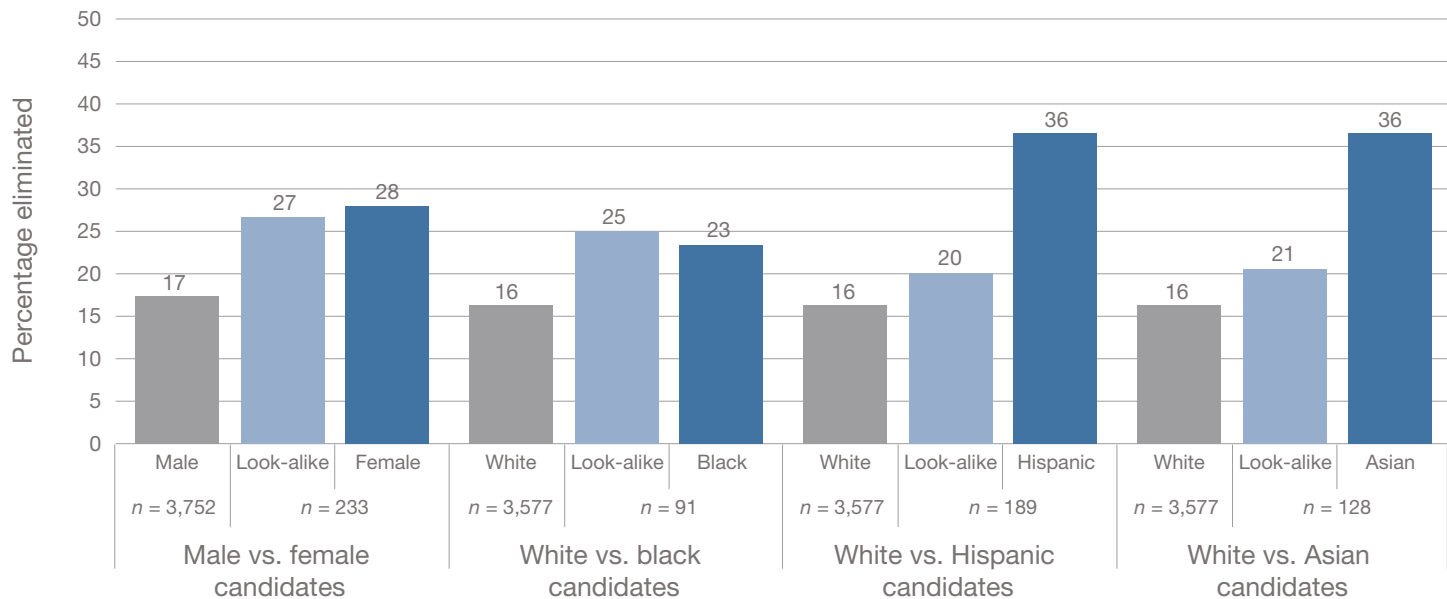
From 2009 to 2014, every minority group had lower average PCSM scores than the white students, and female students had lower scores than male students. For example, 23 percent of white male students scored in the bottom 25 percent of the PCSM distribution (i.e., they had the highest attrition risk), but 48 percent of black students and 53 percent of female students fell into this category. These differences in PCSM scores were large enough to explain the relatively high attrition rates for these groups, as illustrated in Figure 11.1. It depicts predicted attrition rates for each minority group compared with the predicted rate for base group students (i.e., white students for race/ethnicity

comparisons or male students for gender comparisons). The figure also includes a predicted attrition rate for base group students that we statistically adjusted to have similar characteristics as the minority students.

In Figure 11.1, we refer to these base group students with similar backgrounds to the minority students as *look-alikes*. The fact that look-alike students have very similar attrition rates to female and black students means that differences in student characteristics can plausibly explain

the higher attrition for these groups. Significant unexplained gaps remain between Hispanic and Asian students and their look-alike comparison groups, which means that differences in characteristics, such as PCSM scores, do not explain the relatively high attrition for these students. Further analyses not depicted in the figure revealed that, among the PCSM components, TBAS was the most important factor in accounting for black-versus-white and male-versus-female differences. Differences in TBAS scores

FIGURE 11.1
Estimated Overall Attrition Rates by Demographic Group Versus Look-Alike Comparison Groups



SOURCE: Schulker et al., 2018, p. 51.

NOTE: We use the nonparametric bootstrap to calculate standard errors used for significance testing. The only groups that are significantly different from the look-alike group are Hispanic and Asian candidates. The gray bars represent the predicted attrition rate for the base group (either male or white candidates), while the dark blue bars show the predicted attrition rate for female candidates and for each minority group. The light blue bar in the center of each set represents the look-alike group.

alone could account for the entire male-female difference, and 72 percent of the black-white difference in attrition risk for the IFT phase, where attrition differences were most prominent.

Summary of Pilot Training Recommendations

Based on these findings, RAND researchers recommended that AETC uncover the areas where at-risk students (as determined by TBAS) tend to struggle, so that pre-training interventions or more adaptive training curricula could improve the prospects for these students. At the same time, it is important to remember that differences in attrition rates do not have a large impact on diversity among pilot training graduates as long as minority and female participation in training remains low. If there were no demographic differences in attrition, the representation levels for each group among graduates of each phase would still have been within a percentage point of the actual value. This shows that changes to policies aiming to address pilot training attrition need to be part of a broader effort to increase the flow of minority and female students into training.

Notes

- ¹ Helicopter pilots conduct advanced training in the TH-1H at Fort Rucker, Alabama, but these records were not included in the AETC data.
- ² It is important to note that, starting in 2015, AETC made changes to the structure of IFT such that it was no longer intended as a screening-out phase, which could have reduced attrition in IFT. At the time of this study, not enough classes had completed all phases of UPT to analyze how this change would affect attrition rates in the remaining phases and any demographic differences.
- ³ In this context, a *composite* is a weighted average of subtests designed for screening purposes.
- ⁴ The TBAS is a computer-administered hands-on test that assesses psychomotor skills, multitasking, and spatial orientation.
- ⁵ The correlation between AFOQT and TBAS was 0.71. This means that a linear regression of one component on the other would produce an R^2 value of 0.50.

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Why Might Black General Officer Representation Continue to Decline in the Near Future?

Albert A. Robbert, John S. Crown

Black men and women currently represent 17.1 percent of the overall DAF active-duty military strength and 6.3 percent of its officer strength.¹ However, black personnel represent only 4.4 percent of line general officers in the DAF.² This demographic disparity could have adverse impacts, such as eroding confidence in the fairness of development and promotion processes. However, in a personnel system with almost no lateral entries, an objective evaluation must consider the accession cohorts from which today's general officers are drawn.

Table 12.1 shows the distribution of the 274 current line general officers across two dimensions: pilots versus non-pilots and black versus non-black personnel. The table shows that overall black representation is 4.4 percent are line general officers, which comprises 3 percent of pilots and 6.5 percent of non-pilots.

Most currently serving line general officers (93.1 percent) were accessed between 1985 and 1995. Table 12.2 shows the distribution in those accession cohorts

(two dimensions: pilots versus non-pilots and black versus non-black personnel). If development and promotion processes are unbiased, distributions in Tables 12.1 and 12.2 should be comparable in some respects. The overall 4.4 percent black representation among general officers cannot be compared with the 6.3 percent black representation in the accession cohorts because general officers are drawn disproportionately from the pilot force, and the distribution of black pilots versus black non-pilots differs from that of non-blacks. The relevant comparisons are between black representation among general officer pilots (3.0 percent) and pilots in the accession cohorts (4.3 percent), and similarly between black representation among general officer non-pilots (6.5 percent) and non-pilots in the accession cohorts (7.0 percent).

These figures indicate rough parity of black representation among current general officers and their accession cohorts. Black general officer representation is marginally lower among both pilots and non-pilots. However, because the numbers are small, minor differences (two additional

black pilot generals and one additional black non-pilot general) would erase the marginal differences. Black officer retention has historically been slightly better than non-black officer retention within the pilot and non-pilot categories. The evidence suggests that a completely unbiased system would yield black general officer representation marginally higher than non-black representation rather than the marginally lower representation shown in our data. Also, there is a possibility of disparate impact, but we cannot rule out random variation in producing the observed outcomes. For example, in a completely unbiased system, a difference equal to or greater than the one we observed between black pilot general officer and accession cohort representation would occur about 18 percent of the time by chance alone.

It is worth noting that black representation is distributed more or less uniformly within general officer grades (see Table 12.3).

Total black representation at the general officer level will likely lag behind broader benchmarks for black representation. These would include black representation among

TABLE 12.1
Demographic Distribution of Line General Officers

	Black	Non-Black	Total	Percentage, Black
Pilots	5	161	166	3.0
Non-pilots	7	101	108	6.5
Total	12	262	274	4.4
Percentage, pilots	41.7	61.5	60.6	

SOURCE: Authors' analysis of data from MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

TABLE 12.2
Demographic Distribution of 1985–1995 Line Officer Accession Cohorts

	Black	Non-Black	Total	Percentage, Black
Pilots	552	12,412	12,964	4.3
Non-pilots	2,456	32,504	34,960	7.0
Total	3,008	44,916	47,924	6.3
Percentage, pilots	18.4	27.6	27.1	

SOURCE: Authors' analysis of officer cohort data files, 1975–2019, provided by the Air Force Personnel Center.

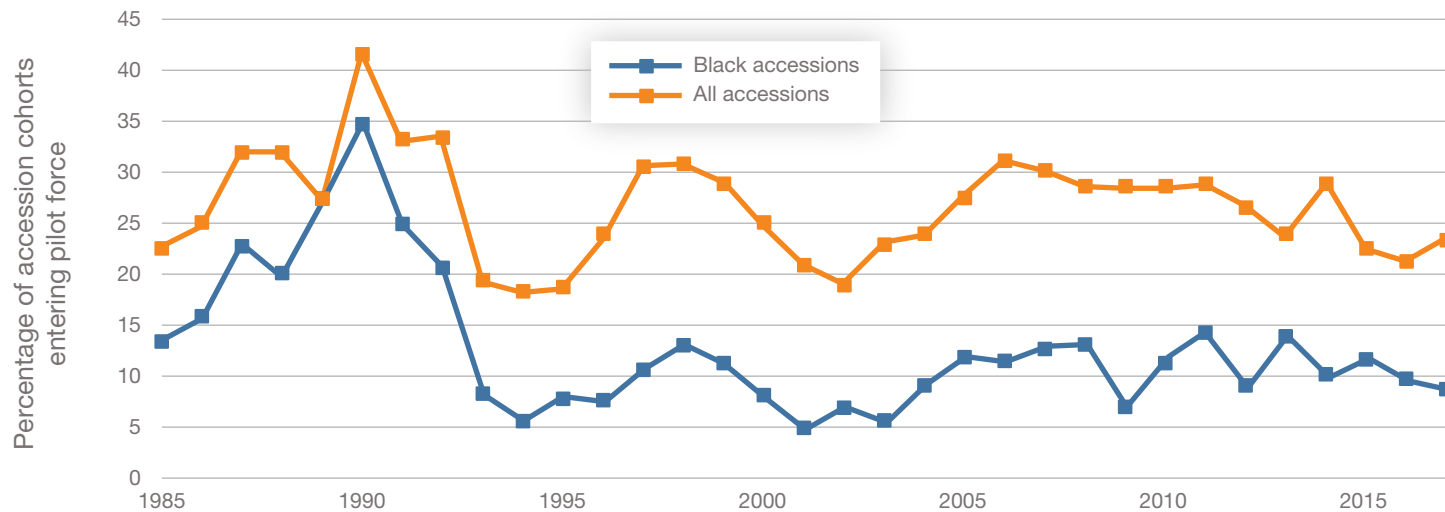
TABLE 12.3
Black Representation by General Officer Grade

Grade	Black	Non-Black	Total	Percentage, Black
O-7	6	117	123	4.9
O-8	3	91	94	3.2
O-9	2	42	44	4.5
O-10	1	12	13	7.7
Total	12	262	274	4.4

SOURCE: Authors' analysis of data from MilPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by the Air Force Personnel Center.

all grades of DAF officers (6.3 percent), among total DAF military personnel (17.1 percent), and in the U.S. population (about 13 percent). We would not expect parity with the most modest of these benchmarks (black representation among all grades of DAF officers) until at least 25 years after the proportions of blacks and non-blacks entering and completing pilot training reach parity. Unfortunately, as Figure 12.1 shows, reaching these benchmarks among DAF general officers must remain a distant objective. Black entries into the pilot force ranged from 20 percent to 35 percent of black officer accessions for much of the period during which today's general officers entered the DAF. Since then, this rate declined to about 10 percent and

FIGURE 12.1
Proportion of Accession Cohorts Entering Pilot Force, 1985 through 2017 Cohorts



SOURCE: Authors' analysis of officer cohort data files, 1975–2019, provided by the Air Force Personnel Center.

NOTE: Data beyond 2017 not shown because the pilot inventory is not fully formed until the third year after the accession date.

dropped to as low as 5 percent in some years. Because of this sharp decline in black pilot production, black representation among general officers will likely get worse for a long time before it gets better.

Two developments could attenuate this outcome. First, the DAF could reduce the preponderance of pilots in general officer selections. Second, black individuals could be selected at higher rates than non-blacks by general officer promotion boards and for O-9 and O-10 positions. One or both developments would have to be deep and sustained to avoid the expected decline in black general officer representation.

Notes

¹ We focus on black pilots—their recruitment, retention, and promotion—in this chapter because the pilot community has been the traditional source of general officers in the DAF almost since the service's inception. Because a significant majority of DAF general officers have been trained as pilots, the representation of black personnel in that community will have a direct bearing on the makeup of the general officer ranks as their pilot cohorts progress through promotion windows later in their careers.

² Line officers include all except those in legal, chaplain, and various medical and dental career fields.

Leveraging Past Lessons for Future Impact

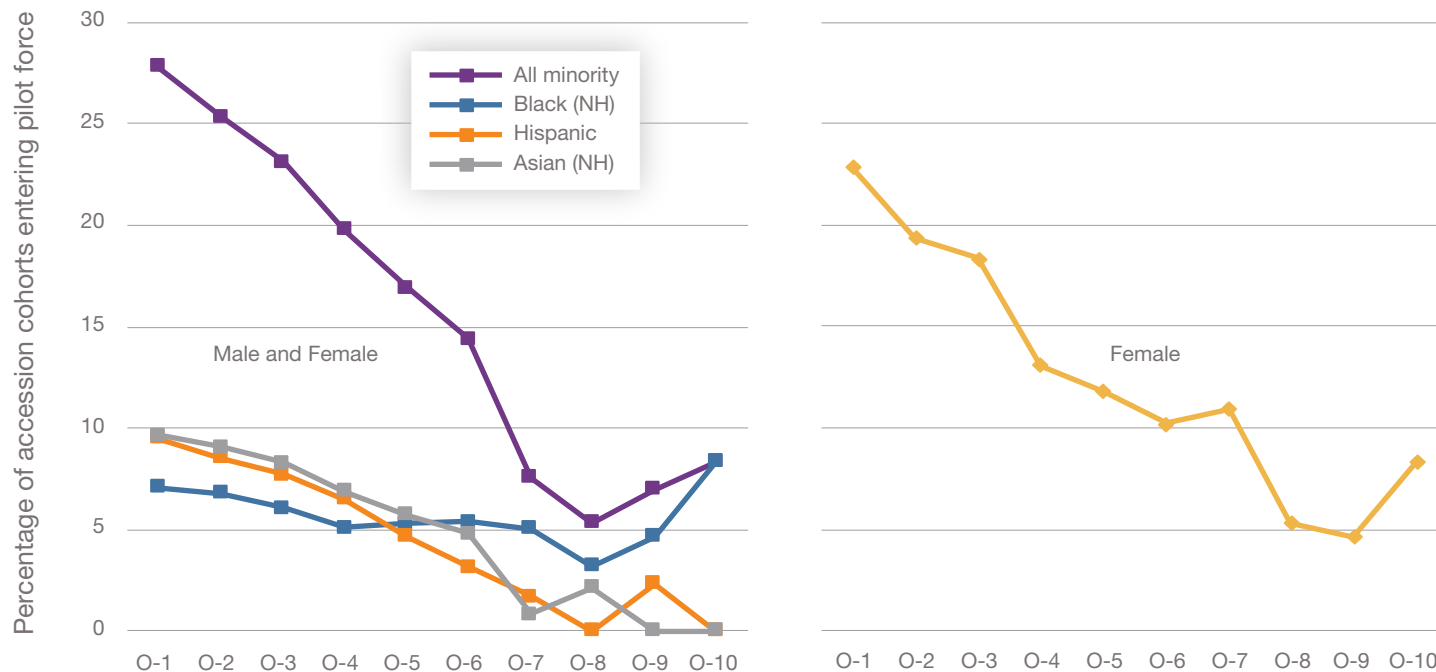
Douglas Yeung, Nelson Lim

The DAF and DoD are no strangers to thinking seriously about ways to improve DE&I. This chapter reminds readers of path-breaking research in which these institutions have already engaged and offers additional conclusions to leverage these analyses. In many cases, policy will be most effectively operationalized by weaving together the most valuable parts of past and current or ongoing work.

Enduring Lessons from Past Considerations of DE&I Issues

In 2011, the MLDC observed that “*military officers today are less demographically diverse than both the enlisted troops they lead and the broader civilian population they serve.*”¹ After a decade, MLDC’s observation still applies to the DAF. Diversity gaps have widened over the years. Although previous chapters have discussed this point, more-contemporaneous data illustrate that DE&I challenges persist. In particular, officer diversity lags behind both the diversity of the civilian population and enlisted members. Among the officers, demographic diversity also declines as pay grade increases (see Figure 13.1).

FIGURE 13.1
Demographic Diversity of Active-Duty Line Officers Across Pay Grades



SOURCE: Author’s analysis of MiPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by Air Force Personnel Center.

NOTES: There are very few individuals in the higher officer ranks (shown on the right-hand side of each graph). Because of those smaller numbers, percentage of fluctuations should be interpreted with care. NH = non-Hispanic.

The perspectives presented in this edited volume make it clear that there are no shortcuts or quick wins for the DAF to narrow these diversity gaps, which are the cumulative results of policies and practices across the military personnel life cycle. As the MLDC observed, “[E]ach stage of the military personnel life cycle—from who is recruited to who is promoted—is intricately linked to the composition of future military leaders” (MLDC, 2011, p. 44). Therefore,

the DAF must commit to a systemwide coordinated and sustained effort to narrow diversity gaps.

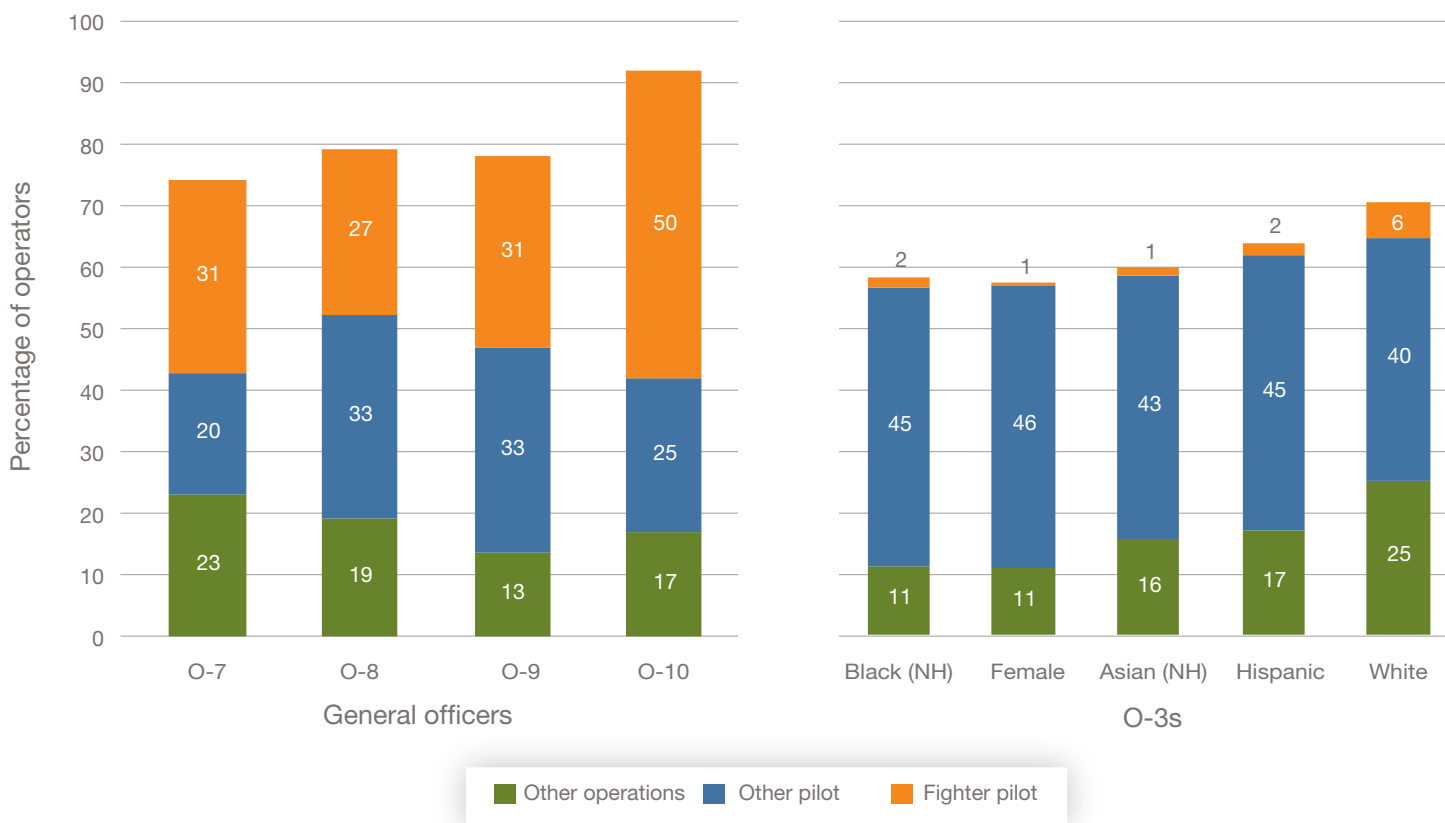
The DAF needs to invest in outreach activities in underrepresented demographic communities so that their college-bound youth will become interested in joining the DAF. More importantly, the outreach activities can provide them with early exposure to aviation-related career opportunities that the DAF offers. The DAF needs to provide

ROTC or USAFA cadets with equitable exposure to various career fields and ensure that the cadets fully understand the consequences of their career field choices. The DAF also needs to apply equitable and uniform standards, including how it uses the AFOQT, in the UPT selection process.

We cannot overemphasize the importance of career field selection in shaping the demographic diversity of DAF general officers. Figure 13.2 shows that although most general officers are in operational-related career fields, fewer racial/ethnic minorities and female captains (O-3s) are operators.² The contrast is most pronounced for fighter

FIGURE 13.2

Majority of Line General Officers Are Operators; Fewer Minority and Female O-3s Are Operators



SOURCE: Author’s analysis of MiIPDS Active Officer End-of-Month Master Personnel Extracts from July 2020 provided by Air Force Personnel Center.
NOTE: NH = non-Hispanic.

pilots: One-third to one-half of DAF general officers (O-10) are fighter pilots, while about 2 percent of underrepresented demographic groups are fighter pilots.

Keys to Future Impact

Removing potential barriers across the stages of the military personnel life cycle is a necessary, but not sufficient, condition to ensure that the demographic diversity of general officers reflects the workforce they lead and the country they serve. The DAF also needs to educate the workforce to raise awareness about implicit biases and eliminate explicit discriminatory attitudes and behaviors. An equitable and inclusive work environment is an essential element to retain air and space professionals from diverse backgrounds. This may require commitment from top DAF leaders to go beyond simply removing administrative barriers. On June 5, 2020, Gen Charles Q. Brown, Jr., the 22nd Chief of Staff of the Air Force, said, “I can’t fix centuries of racism in our country, nor can I fix decades of discrimination that may have impacted members of our Air Force. I’m thinking about how I can make improvements” (Brown, 2020).

Notes

- ¹ The emphasis is original (see MLDC, 2011, p. 39).
- ² The findings that fewer racial/ethnic minorities and female captains (O-3s) are operators also appears to be the case for company grade officers more broadly. We only show data for O-3s because the time required for officers to complete pilot training means that numbers for O-1s and O-2s will fluctuate and, therefore, are less instructive.

Chapter Thirteen References

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MLDC—See Military Leadership Diversity Commission.

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About This Perspective

Recent incidents in the United States, including the killing of George Floyd during a May 2020 arrest in Minneapolis, have resulted in widespread outrage over racism and police brutality and fueled public protests and calls for action, which have led to a renewed focus on racial injustice in many organizations. On June 18, 2020, the U.S. Department of Defense (DoD) announced steps to address diversity, equity, and inclusion (DE&I) issues. Following DoD-wide guidance, the Department of the Air Force (DAF) stood up a special task force on June 9, 2020, to address racial, ethnic, and other demographic disparities and their impact on U.S. military forces. The task force is the latest in a series of the DAF efforts to address DE&I issues. But even having stood up the task force and prior measures, the DAF continues to need a more comprehensive understanding of the scope and success of its DE&I efforts, and potential paths forward. The RAND Corporation has conducted multiple studies that, taken together, provide insight into the nature and scope of the challenges that the DAF faces.

This edited volume presents a collection of pertinent perspectives on the task force's activities. Also, it highlights areas of new focus that DAF leaders might want to consider as they develop and hone DE&I policies, practices, and procedures to meet the pressing demands of the moment.

This work was conducted within the Workforce, Development, and Health program of RAND Project AIR FORCE as part of the fiscal year 2020 project, "Analytical Support for Department of Air Force Diversity Taskforce." The views expressed in this document represent the personal views of the author and are not necessarily the views of the Department of Defense or of the Department of the Air Force.

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About This Perspective

The Department of the Air Force (DAF) for many years has assessed ways it could improve diversity, equity, and inclusion (DE&I) in its workforce and, in particular, increase diversity in its leadership ranks. Although DAF has made progress on these fronts, it needs a more comprehensive understanding of the scope and effectiveness of its DE&I efforts and potential paths forward.

This Perspective summarizes organizational, managerial, and procedural insights that RAND Project AIR FORCE (PAF) has provided to DAF leaders in recent years on critical diversity and personnel challenges facing the department. Using various methodologies, a PAF team of researchers found that there are no quick wins or shortcuts for DAF to improve representation of racial/ethnic minorities and women among the senior leaders or to create a more equitable and inclusive organization. The road to ideal DE&I is fraught with challenges, including competition from public and private sectors. Still, DAF could benefit from other services' and organizations' experiences.

The PAF team also found that DAF's recruiting, testing, and training pipelines for pilots—the traditional wellspring of its general officers—present structural barriers for minority and women candidates. Overcoming these barriers would require DAF to hold regular and serious conversations about race throughout the force; ensure that diversity and implicit bias training conveys organizational values and encourages active interactions; develop tests and measurement schemes that more adroitly identify individuals who possess critical leadership knowledge, skills, and abilities; and increase the flow of minority and female students into pilot training.

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