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BIAS IN THE AIR FORCE AWARDS AND DECORATIONS PROGRAM

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BIAS IN THE AIR FORCE AWARDS AND DECORATIONS PROGRAM

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LIST OF ACRONYMS AND ABBREVIATIONS

AFAM	Air Force Achievement Medal
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFPC	Air Force Personnel Center
DMDC	Defense Manpower Data Center
DOD	Department of Defense
DoDI	DOD Instruction
EFD	Enlisted Forced Distribution
EPR	Enlisted Performance Report
IAT	Implicit Association Test
IB	Identity Blind
IC	Identity Conscious
OPR	Officer Performance Report
SBMEO	Sex-Based Military Equal Opportunity

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I. INTRODUCTION

The purpose of this chapter is to provide an overview of the impact of implicit bias within the military, along with the workings of the Air Force's awards and decorations program, the nexus of which is the focus of this study.

A. BACKGROUND

Historically, both women and minorities have endured cases of bias in the United States military, either motivated by racism or sexism. Students at the Naval Postgraduate School have studied the glass ceiling effect for women in the Air Force and Marine Corps (Evertson & Nesbitt, 2019) and issues concerning gender and racial disparities in the military have been in the national spotlight for years (General Accounting Office, 1993). Several studies have focused on the impact of overt sexual harassment and assault in the military (Department of Veterans' Affairs, 2010; Daniel et al., 2019) as well as investigated blatant acts of racism against minorities (Freeburn, 2017). However, it is far more difficult to capture and quantify acts of unconscious bias as opposed to deliberate acts of prejudice. Banaji et al. (2003) explain that "because implicit prejudice arises from the ordinary and unconscious tendency to make associations, it is distinct from conscious forms of prejudice, such as overt racism or sexism" (p. 58). Furthermore, little to no research explores how unconscious bias may be impacting the military awards system. Recent scholarly research finds that "despite the institutionalization of merit based practices … advancement and reward in organizations remain non-meritocratic in many important ways (Amis et al., 2020, p. 5). Talent management systems were found to "highlight organizational meritocracy while their hidden aspects allow discrimination and bias to flourish. As such, seemingly meritocratic staffing practices often perpetuate societal-level inequities" (Konrad et al., 2021, p. 6). This study seeks to investigate if similar issues may be prevalent within the Air Force.

Despite efforts to create an equal opportunity environment in the military for women, and the implementation of women in combat roles (Department of Defense, 2016), the military remains a male-dominated organization and culture. Considering this, female

membership in the military is on the rise. Data show that "overall, 15% of DOD active-duty military personnel are women, up from 11% in 1990. In 2015, 17% of active-duty officers were female – up from 12% in 1990. And 15% of enlisted personnel were female in 2015, up from 11% in 1990" (Parker et al., 2017). Furthermore, the Air Force boasts the highest female population of all four services, with 21% of active-duty members being female (U.S. Air Force, 2021). However, women typically make up nearly three quarters of individuals who report having experienced harassment or discrimination based on sex (Daniel et al., 2019), and may also be subject to implicit bias in the workplace.

Similar issues are prevalent for minorities in terms of race/ethnicity, manifesting in instances of racial bias, low retention levels, and underrepresentation (General Accounting Office, 1993; Carroll, 2008; Williams, 2013). This is illustrated by the Army's increased efforts to recruit minority officers into operational combat roles since those career fields account for nearly 60% of general officer appointees, and the number of minorities represented in general officer ranks is low compared to their Caucasian counterparts (Moore, 2010; Briscoe, 2013). Although the military has taken strides to improve the current climate and culture, the impact of bias over a long period of time cannot be ignored. Much research investigates overt instances of sex- and race-related prejudice (Department of Veterans Affairs, 2010; Daniel et al., 2019), yet very little data examines the impact of unconscious bias in the military. This is most likely because most people are not aware when they make a biased decision based on an unconscious association (Banaje et al., 2003).

Further research from Van Scotter et al. (2000) shows that supervisors in the Air Force valued contextual performance just as much, or more so than job performance. "Task performance behaviors are associated with the use of technical skills and job-specific knowledge. Contextual performance behaviors are associated with interactions with coworkers, supervisors, or customers, as well as with behaviors that demonstrate self-discipline, persistence, and willingness to exert effort" (Van Scotter et al., 2000, p. 527). The supervisors observed in the study found ways to reward subordinates for subjective, contextual behavior either formally or informally. Other studies involving meritocracy and diversity programs in organizations with specific advantaged in-groups show that such

organizations typically do not take action to bolster diversity efforts until after a significant issue has been brought to light (Konrad et al., 2021).

Issues concerning bias within the Air Force may be evident in data for performance and heroism awards. Furthermore, any data highlighting such an issue could serve as a catalyst to correct biased practices within the Air Force awards and memorialization program, and other programs that could potentially improve recognition, performance, retention, and recruitment of minorities within the Air Force.

B. PURPOSE

The primary purpose of this study is to compare the frequency of performance and heroism awards proffered to female and racial/ethnic minority members of the active-duty Air Force with the frequency of performance and heroism awards proffered to their counterparts. The comparison is meant to identify if there is a statistical disparity in the percentage of awards received by women and minorities. If such a disparity exists and displays a robust trend over time, it could serve as evidence that bias is impacting the number of decorations awarded to women and minorities.

Previous research shows that even individuals who make a conscious effort against biased behavior can suffer from the illusion of objectivity, in which they underestimate their own level of implicit bias. In the case of managers, they are subject to treating subordinates with implicit bias based on unconscious associations (Armor, 1999; Banaji et al., 2003). Managers who are part of advantaged groups within meritocratic organizations typically do not realize when biased practices are taking place within their organization's diversity and inclusion programs (Konrad et al., 2021). In the context of this study, even military leaders who have undergone ethics, diversity and inclusion, and equal opportunity training may be subject to implicit biases. By analyzing data provided by the Defense Manpower Data Center, this study seeks to determine if women and minorities are receiving the same percentage of performance and heroism awards as their counterparts. The study covers awards granted over the period of September 2006 through September 2020.

C. POLICY

Despite Air Force-level guidance, individual unit written policies, and objective criteria for specific awards and decorations set forth by Congress through U.S. Code, the process governing military awards and recognition in the Air Force is still somewhat subjective. When nominating, reviewing, or preparing decoration elements, supervisors may be influenced by contextual performance beyond formalized duty descriptions, which may be based on subjective opinion. This behavior is observed by Van Scotter et al. (2000), who observed that supervisors found ways to reward subordinates based on subjective criteria.

Air Force Manual 36–2806 governs the Air Force's Awards and Memorialization program and specifies that the chain of command is the primary vehicle for the process of awarding a decoration to an individual or unit:

> Typically, the supervisor prepares a nomination, the first sergeant reviews the nomination (if enlisted), the squadron commander endorses the nomination, the approval authority prepares the decoration elements, the military personnel files, updates and distributes the decoration elements, and then it is presented to the recipient. A variation of this process is authorized; however, the nominee's chain of command is primarily responsible to follow guidance in this manual. (U.S. Air Force, 2019, p. 24)

Given the Air Force's instructions, bias would likely manifest in two ways. First, overt biases such as racism or sexism or unconscious bias at an individual level would impact how the awards are written (if at all) and later endorsed (or not). Second, due to the hierarchical approval process for military awards within the Air Force, the additive effect of even small amounts of unconscious bias at different levels of the approval process could also impact how an award is processed (approved, disapproved, upgraded, downgraded). Per Air Force policy:

> Decorations are approved by Air Force officers and civilian leaders in assumed or appointed command or director positions, or in writing by delegated approval authorities from higher commands, such as SECAF and MAJCOM commanders. The approval authority evaluates recommendations within his/her command to determine appropriateness and may approve, disapprove, downgrade, or upgrade (if authority exists) a decoration. (U.S. Air Force, 2019, p. 30)

Some awards, such as annual awards and functional area awards, are proffered on a competitive basis. The Outstanding Airman of the Year Ribbon process pits award packages of individual airmen against each other, opening the door for subjective bias to influence decision-makers. Possessing access to the names and photographs of package owners gives evaluators insight into their sex and race. This awareness can cause unconscious associations that lead to biased decisions (Armor, 1999; Banaji, 2003). This issue is not unique to the military. According to Hewlett and West (2005), "30 per cent of minority executives in the U.S. feel that promotion at their company is based on appearance rather than merit" (p. 1). Likewise, Vial et al. (2018) found that prejudice against women is often accommodated during the hiring process when a third party with a perceived bias is present. They claim that "People often behave in accordance with the perceived views of others rather than their own" and found "that gatekeepers accommodate third-party prejudice regardless of their own beliefs and attitudes … both men and women accommodated third-party prejudice against women" (Vial et al., 2018, p. 73). Social scientists have also found that talent management systems even within organizations with robust diversity and inclusion programs are marred by hidden aspects of discrimination overshadowed by meritocracy. This allows societal-level inequities to permeate the hiring and recognition processes within otherwise meritocratic and fair organizations (Konrad et al., 2021). These issues of potential bias reveal themselves in the Air Force through the attrition rates of women and minorities, according to Streeter (2014). She surmises that the Air Force's "long-term retention of minorities remains problematic; retaining female junior officers is emblematic of this systemic issue" (Streeter, 2014, p. 106). Streeter goes on to summarize that the attrition rate for female officers in the Air Force is significantly higher earlier in their careers compared to their male counterparts, citing data showing that "as of 2008, 85 percent of all general officers were white males" and "female O-6s are only 0.7% (of the entire officer population)."

Additional Air Force policies such as AFPD 36–27, *Equal Opportunity* and AFI 36–2706, *Equal Opportunity Program, Military and Civilian*, direct commanders to foster workplace environments free of harassment, unlawful discrimination, and sexual harassment. Yet implicit bias can still exist in an environment directed to promote equal

opportunity and meritocracy (Konrad et al., 2021). The following portion of this study introduces research that explains bias behavior even among individuals who make a conscious effort against prejudice.

D. IMPLICIT BIAS

All Air Force members are required to uphold professional and ethical standards in accordance with AFI 1–1 Air Force Culture and DOD 5500.07-R, *Joint Ethics Regulation*. Applicable to race and gender, the policy states that "we must … maintain professionalism and respect for others regardless of race, color, religion, gender, national origin, age, disability, or sexual orientation" (U.S. Air Force, 2014, p. 12), and that "Air Force members must not unlawfully discriminate against, harass, intimidate, or threaten another person" (U.S. Air Force, 2014, p. 10) on such basis. Despite these standards, studies by Daniel et al. (2019) and reports from the General Accounting Office (1993) show evidence that the military still suffers from issues concerning harassment and discrimination based on sex or race.

Based on the objective procedures set forth by AFMAN 36–2806 Awards and Memorialization, and the requirements for ethics training within the Air Force, it seems implausible that most Air Force members involved in the awards and decorations program are overtly prejudiced. However, even individuals who are not consciously prejudiced can be guilty of making decisions based on unconscious bias. Research from Armor (1999) shows that

> people maintain "illusions of objectivity"—that is, that they tend to see themselves as being more objective, more even-handed, more insightful and less biased than they really are. In five studies (total N = 806), participants consistently evaluated themselves as more objective, on average, than their average peer. Across these studies, which varied characteristics of the comparison target and the nature of the objectivity assessments, approximately 85% of participants indicated that they were more objective than the average member of the group from which they were drawn, a state of affairs that cannot be true. (Armor, 1999, p. 1)

This research goes on to explain the presence of counter intentional, unconscious biases which can cause otherwise unprejudiced individuals to make decisions that are rooted in

bias. These implicit prejudices are biases that emerge from unconscious beliefs. Such unconscious prejudice takes root in our brains because of learned associations.

The Implicit Association Test (IAT) demonstrates scientifically how implicit bias can affect even the most ethical of individuals. (Moon, n.d.). Data gathered from the IAT comes from over 2.5 million tests which provide unique insights into implicit biases. Results of the IAT show that "The mere conscious desire to not be biased does not eliminate implicit bias" and "Although people tend to report little or no conscious bias … they show substantial biases on implicit measures" (Banaji et al., 2003, p. 59). The data makes a powerful case for the prevalence of implicit bias among individuals who harbor no intentional inclinations toward prejudice.

The United States Air Force measures the behavior of its members based on its three Core Values: Integrity First, Service Before Self, and Excellence in All We Do. Overt prejudice does not fit in with these values; it is culturally unacceptable within the Air Force. Yet studies show that the military is still plagued by issues concerning gender discrimination (Daniel et al., 2019) and racism (Freeburn, 2017). Research demonstrates that societal inequalities impact professional organizations even in the face of deliberate diversity and inclusion efforts. When the leadership of an organization is made up almost exclusively of advantaged groups, it fosters an environment vulnerable to decisions based on implicit bias, or in-group association (Konrad et al., 2021). According to Johnson (2020, p. 180), "…unethical choices are often the result of unconscious distortions. These ethical blind spots cause us to participate in or approve of behaviors we would normally condemn." Such "ethical blind spots," as Johnson calls them, include overestimating our ethicality, forgiving our own unethical behavior, in-group favoritism, implicit prejudice, and judging based on outcomes, not the process (Johnson, 2020). Such blind spots help to explain how otherwise ethical military leaders might choose to award a decoration to a man instead of a woman, or not to award a decoration to an airman based on the color of their skin.

E. WHY STUDY BIAS?

On 4 February 2020, Secretary of the Air Force Barbara Barrett issued an Air Force wide memorandum on policy concerning equal opportunity and non-discrimination. In the memo, Secretary Barrett states, "The Department of the Air Force's greatest asset is the diversity of our people. Working together, we will ensure equal opportunity throughout the Total Force" (Barrett, 2020). Meritocratic organizations such as the Air Force will only benefit from deliberate diversity efforts, since drawing talent from a wide range of individuals will result in better performance than drawing only from limited, advantaged groups.

Although the military has opened doors to increase diversity, such as opening combat roles to women (Kamarck, 2016; Department of Defense, 2016), some groups remain underrepresented, with Caucasian males still making up the majority of military personnel, according to data from the Pew Research Center and the Council on Foreign Relations (Parker et al., 2017).

Data from the Pew Research Center indicates that over time the U.S. Military follows the trend of the U.S. population as it becomes more racially and ethnically diverse (Parker et al., 2017). Yet the Air Force is still made up of 78.7% males and 71% Caucasians (AFPC, 2021). Streeter (2014, p. 105) states that "Even though the service has initiated formal diversity efforts, recommended policy and development programs may help develop and retain competent officers across the board" and "The Air Force should create solid development programs to inculcate diversity as a force multiplier." Concerning Air Force recruitment efforts, Marsman (2009) points out that the Air Force's recruitment strategy is efficient at meeting recruitment goals, but that those goals don't always succeed at seeking out or incentivizing assets to the force such as diversity.

Notable studies in ethics (Armor, 1999; Banaji et al., 2003; Ehrlinger et al., 2005) reveal that ethical pitfalls such as group-think, in-group favoritism, and implicit bias can be caused by unconscious reactions to the unfamiliar, or by associations that are subconsciously reinforced by social norms or unconscious associations. "Doing favors for people we know that share our nationality, neighborhood, religion, social class, or alma

mater seems harmless … Trouble comes because when those in power give resources to members of their in-groups, they discriminate against those who are different from them" (Johnson, 2020). When applying this sort of in-group favoritism to organizational awards, meritocracies must assume the integrity of the decision-making process, which by default must assume the integrity of the decision-makers, who are often made up of advantaged groups (Konrad et al., 2021). Because the Air Force is made up of mostly Caucasian males, there may be a propensity for that demographic to experience an implicit bias or in-group favoritism that could manifest itself in the awards and decorations program. Because AFI 1–1 Air Force Culture codifies diversity as "a military necessity," it is within the Air Force's best interest to identify and route out any causes of implicit bias within its ranks or infrastructure.

F. METHOD

Utilizing data from the Defense Manpower Data Center, this study evaluates the demographics of award recipients of twenty-three different types of heroism and performance awards (see Table 1) over a fifteen-year period. Comparing this data to the relative population of the Air Force for each year of the data set will provide a baseline to identify if a disparity exists between women and minorities and their male and Caucasian counterparts over time. By identifying the baseline percentage of awards for the entire population, the expected number of awards per demographic group can be calculated. Then the actual number of awards received can be compared to the number of awards expected to identify the degree to which certain groups are below or above the baseline.

Table 1. Air Force Awards for Heroism and Performance.
Adapted from AFPC, 2021

Heroism Awards	**Performance Awards**
Medal of Honor	Defense Distinguished Service Medal
Air Force Cross	Air Force Distinguished Service Medal
Silver Star Medal	Defense Superior Service Medal
Distinguished Flying Cross	Legion of Merit
Airman's Medal	Bronze Star (without V device)
Bronze Star with V device	Defense Meritorious Service Medal

Heroism Awards	**Performance Awards**
Purple Heart	Meritorious Service Medal
Air Medal (with V device)	Air Medal (without V device)
Air Force Commendation Medal (with V device)	Air Force Commendation Medal (without V device)
Air Force Achievement Medal (with V device)*	Air Force Achievement Medal
	Military Outstanding Volunteer Service Medal
	Air Force Recognition Ribbon
	Outstanding Airmen of the Year Ribbon

*discontinued as of December 2016

II. LITERATURE REVIEW

The purpose of this chapter is to provide background information on the topic of gender- and race-based biases and how they impact the United States military. In addition to reviewing past studies on bias, this chapter also presents findings on diversity and inclusion efforts in the military. The literature review will explore potential drivers of bias in the military awards system, and explore possible root-causes, such as recruitment, retention, diversity efforts, and meritocracy. The literature review will also discuss the nuances of the Air Force's enlisted and officer promotion processes, and how bias in the awards and decorations program could impact them.

A. AIR FORCE PROMOTION PRACTICES

Bias in the awards and decorations program could have a direct impact on promotions for both officer and enlisted airmen. Although decorations are only one of several factors considered in the promotion process (U.S. Air Force, 2021), they may still have a significant impact on calculating points and factors for promotion. Awards can further impact an airman's enlisted performance report (EPR), influencing their commander's decision for enlisted forced distribution (EFD) rankings, which can also directly impact promotion decisions (AFPC, 2021).

As an example, the process for calculating points and factors for promotion to SSgt (Staff Sergeant, E-5) and TSgt (Technical Sergeant, E-6) include the specialty knowledge test, the promotion fitness examination, decorations, and enlisted performance reports. Decorations can account for up to 25 points, with Achievement Medals counting for 1 point each, Meritorious Service Medals counting for 5, and certain Distinguished Service medals counting for 7 – 9 points (U.S. Air Force, 2021). Overall, these points are superficial compared to the max points available for the specialty knowledge test, and promotion fitness test (100 each). However, individual awards can have a significant impact on EPRs, which play a powerful role in the enlisted forced distribution process.

"Forced distribution limits the number of top promotion recommendations unit commanders are authorized to award to time-in-grade/time-in-service promotion-eligible

junior enlisted Airmen" (AFPC, 2020). Under the forced distribution process, a commander is limited by how many airmen he/she may recommend as "Promote Now" and "Must Promote," the two highest enlisted evaluations recommendations. The purpose of this process is to ensure only the highest-performing airmen with the greatest potential to serve in the next grade receive the highest-level recommendations. However, to be eligible for promotion consideration, all airmen must have an EPR on record. Individual awards can have an impact on EPRs, and therefore on enlisted forced structure decisions by commanders.

The officer promotion process may also be impacted by awards and decorations. In accordance with 10 U.S.C. 616, officers in the Air Force meet a promotion board before being awarded the rank of Major (O-4) or above. Officers eligible for promotion must receive a promotion recommendation from their senior rater 30 days prior to the board and are rated in part based on their officer performance reports, which document any significant achievements, awards, or decorations (U.S. Air Force, 2020,). When the promotion opportunity for a given board is less than 100%, the board is required to use a scoring scale from 6.0 – 10.0. Sometimes, a "split" in scoring officers' records occurs, which is defined as "a significant disagreement between board members about the score of a record" (U.S. Air Force, 2020, p. 19). One way in which a split can be resolved is acquiring new information on an individual's record, such as a decoration citation, or an updated officer performance report.

Due to the potential influence awards and decorations have on Air Force promotions, any bias in the awards process could significantly impact the careers of any airmen affected.

B. WOMEN AND MINORITIES IN THE MILITARY

In many ways, the military population serves as a microcosm of the United States population at large. However, this is not the case among all demographics. According to the U.S. Census Bureau, 76.3% of the U.S. population was considered White as of 2019, while 71% of Air Force members self-reported as such. Black or African Americans made up 13.4% of the U.S. population and represent 15% of the Air Force. The size and

demographic make-up of the U.S. population can have a direct impact on the composition of the armed forces. However, 50.8% of the U.S. population is female, while only 21.3% of Air Force members are women.

Even though individuals self-identified as Black are slightly overrepresented in the United States military, issues concerning bias still exist. Research from the Naval Postgraduate School by Carroll (2008, p. 76) shows that "most minorities in a non-technical occupation are less likely to attrite than are their counterparts assigned to a technical occupation," and "occupational assignment may play a major role in the first-term losses of male enlisted personnel." Recruitment practices may also play a significant role in the demographic make-up of the armed forces, and underrepresentation of minorities. The Air Force recruits heavily from states in the South such as Texas and Alabama because there is a proven propensity for individuals in those states to enlist. Marsman explores the potential consequences of this phenomenon in the Fall 2009 issue of *Air & Space Power Journal*. A best practice for recruitment would be to "pour gas on the fire" of the locations where recruits are more easily harvested, but this strategy is counterproductive to the Air Force's diversity and inclusion goals. "[T]he underlying principle of diversity is varied backgrounds, experiences, and mind-sets of diverse groups of people to ensure the widest possible range of outcomes," (Marsman, 2009, p. 47). But if the military continues to heavily recruit from the same geographic regions while ignoring others, the sum of the military's diversity efforts will be largely superficial, serving to fulfill a statistic rather than an operational outcome. "Diversity for the sake of appearances has limited value in a meritocracy such as the military. Meritocracies select, reward, and promote based on performance. The military concerns itself much more with the tangible successes of combat than with vagaries of political representation" (Marsman, 2009, p. 47).

Efforts to increase diversity among active-duty military members is not necessarily a practice in contrast to military meritocracy, which requires selecting and promoting only the best performers. Per the Secretary of the Air Force, diversity efforts are meant to fulfill a need for varying backgrounds and life experiences. In that case, cultivating strong diversity and inclusion efforts will lead to a strong fulfillment of meritocracy, because the available talent pool will include a wider range of individuals with varying abilities and

skill sets. Konrad et al. (2021) discuss the paradox of diversity-meritocracy in the *Journal of Management Studies*. Their research argues that "diversity and meritocracy are best understood as two interrelated values that inform and support each other, and that organizations failing to invest in both diversity and meritocracy are likely to build a workplace that is both unfair and suboptimal" (Konrad et al., 2021, p. 2).

Women also face potential bias in the military. Although women make up slightly more than half the U.S. population, they only represent about 15% of the military. Data from Pew Research Center shows that the female population in the military is up from around 11% in the 1990s (Parker et al., 2017), however, issues concerning sexual harassment, sexual assault, and gender discrimination are still prevalent in the male-dominated armed forces. Research from Daniel et al. (2019) on sexual harassment and gender discrimination reports shows that women make up approximately 75% of those individuals who reported sex-based military equal opportunity (SBMEO) violations. The study showed that "ineffective or negative responses from the chain of command were associated with increased emotional distress and decreased retention intentions directly and indirectly" (Daniel et al., 2019, p 367).

Sexual harassment and sex-based discrimination against women is not a new phenomenon in the military. The Sexual Assault Prevention and Response Office was established by the Department of Defense in January of 2005 to combat the growing prevalence of SBMEO violations and harassment cases. Despite the Women's Armed Services Integration Act being signed by President Harry S. Truman in 1948, allowing women to serve as permanent members of the armed forces (Public Law 585), integration of female active-duty members has been a slow journey. In the Air Force, women were not permitted to enter pilot training until 1976, navigator training until 1977, or fighter pilot training until 1993 (AFPC, 2021). It was not until January of 2013 that "then-Secretary of Defense Leon Panetta rescinded the rule that restricted women from serving in combat units" and not until December of 2015 that "Secretary of Defense Ashton Carter ordered the military to open all combat jobs to women with no exceptions" (Kamarck, 2016, p. 2). Interviews conducted with Marine Corps and Air Force female officers showed that in a male-dominated organization "the men lack respect for women in the military" and that

"men do not feel comfortable working with women, one woman sets the reputation for all women and there is a perception that women do not hold senior leadership positions" (Evertson & Nesbitt, 2004, p. 122). Cultural barriers such as these serve to prop up a glass ceiling for women's careers in the military. They also work against the military's goals for managing talent through meritocracy and diversity. Marginalizing women, just as any other minority within the military, decreases the available talent pool from which the military can utilize and promote diverse, skilled individuals. Kabanenko (2015) explores this issue stating that "Even though female soldiers tend to have different abilities and capacities from men, these differences may bring success to the mission. Women indeed can enhance the effectiveness of the armed forces as they are well suited for the roles in contemporary military operations" (p. 91). Concerning the Department of Homeland Security's diversity efforts, Yee (2005) summarizes several tangible advantages to increased diversity to include increased talent pool, echoing recommendations by Konrad et al. (2021) for managing the diversity-meritocracy paradox. Yee makes it clear that for diversity to succeed "it is necessary for senior leaders to support and encourage the advancement of women and minorities" (Yee, 2015, p. 49). Support from leadership decreased victims' distress and increased retention intentions when members reported sex-based harassment incidents, according to Daniel et al. (2019). Such support from military leadership could also combat issues concerning the glass ceiling effect for women, and diversity among the force.

This concept is explored in earnest by Konrad et al. (2021) in their research for organizational ambidexterity and the beneficial relationship between meritocracy and diversity efforts at the organizational level. Their research further explores the phenomenon observed by Evertson & Nesbitt (2004) in which women in the military were perceived differently by their male counterparts and were not expected to serve in senior leadership roles. Konrad et al. (2021) conclude that "when senior leadership is composed almost exclusively of advantaged groups, such homogeneity raises questions regarding whether the organization is meritocratic" (p. 7). This concept can be applied specifically to the military where in September 2021, 78.7% of Air Force officers were White and only

6.3% were Black; 77.4% were male and 22.6% were female (Defense Manpower Data Center, 2021; AFPC, 2021).

The military makes great efforts to combat blatant issues such as sexual assault/ discrimination.

> The military has introduced a restricted reporting option that can encourage more victims to seek care. It also completed its long-awaited review of the issue by the Defense Department Task Force on Sexual Assault in the Military Service. For its part, the VA began universally screening all veterans seeking care at the VA for MST (military sexual trauma) in 1999 and every VA facility has a designated MST coordinator who serves as a point person for these issues. The VA provides free treatment to any veteran experiencing health conditions related to MST. (Committee on Veterans' Affairs, 2010)

The Department of Defense has also made strides in eliminating discrimination in the military and fostering an environment of diversity and inclusion. Diversity numbers in the military have increased over the years, specifically in the Air Force, which boasts the highest percentage of female members of all four branches and holds an overrepresentation of Black active-duty members. The DOD's Office for Diversity, Equity, and Inclusion statement on diversity in the force is that "it is imperative that the Department of Defense focus its efforts on emerging talent to ensure that we successfully attract, recruit, develop and retain a highly-skilled Total Force." Secretary of the Air Force Barbara Barrett made clear in her February 2020 memorandum to the force that "harassment, unlawful discrimination, and sexual harassment will not be tolerated or condoned" and "discrimination on the basis of race, color, sex, national origin, religion, or sexual orientation" is unlawful discrimination (Barrett, 2020, p. 1). Equal Opportunity practices are formalized for the Air Force in Air Force Instruction 36–2706 *Equal Opportunity Program Military and Civilian*. The publication establishes a zero-tolerance policy against unlawful discrimination or harassment, and states program objectives being to eradicate unlawful discrimination and foster a positive human relations environment in the Air Force. The instruction also outlines processes for members to seek assistance with Equal Opportunity issues, and for issuing formal and informal complaints.

C. DIVERSITY IN THE MILITARY

Although the military and the Air Force specifically have taken steps to combat discrimination, disparities still exist for females and minorities. Several studies examine the dwindling percentages of Black and other minority officers specifically within the U.S. Army (Williams, 2013; Briscoe, 2013). Despite overrepresentation in the Air Force for Blacks compared to the U.S. population, there is a significant disparity in the percentage of Blacks in officer ranks. As of 2020, 91% of all Blacks in the active-duty Air Force were enlisted, the highest proportion of any other individual demographic. Exploration of data from DMDC also shows that officers in the Air Force are far more likely to receive awards for performance or heroism than are enlisted members, and since so few minorities are represented in the officer corps, the proportional number of awards proffered to the minority population is exceedingly low. These observations will be examined at length in forthcoming chapters.

Recruitment practices may explain some of the disparities observed in Air Force demographics. Marsman (2009) thoroughly examines the Air Force's diversity recruitment goals versus its recruitment practices. Although the Air Force's diversity and inclusion goal is meant to strengthen the force by recruiting from the best minds and capabilities among a wide-spread, diverse population of individuals, its strategy for recruitment doesn't necessarily fulfill that objective. Marsman explores issues concerning manning, demographics, and propensity, and how they impact the Air Force's recruitment strategies. He points out that recruiters are volunteers, and so are often given an assignment location choice to incentivize them. Many choose to station near their hometown or near an existing Air Force installation. Because individuals who live near military installations are already more likely to join the Air Force than those who are not, this cycle of returning to already "ripe" communities does nothing to increase the relative diversity of Air Force recruits.

> Despite U.S. census data showing that the mean center of population of the United States runs on a line along the Kentucky border, the overwhelming majority of Air Force installations lie below this line. It is easy to deduce that exposure to the Air Force and its way of life is not nearly as accessible to half the population of this country, at least to the same degree as those who live south of Kentucky. This situation produces a special duty system of volunteers with its consequent chronic shortage of manning in certain

> locations, in conjunction with recruiters' desire to return home; moreover, the proximity of air bases creates a synergy whereby Air Force recruiters continue to draw heavily from increasingly smaller cultures and communities. (Marsman, 2009, p. 45)

In order to meet recruiting quotas each year, the Air Force tends to recruit heavily in those areas which show a high predisposition to produce new recruits. Those areas tend to be rural communities in the Midwest and the South. Considering this, "Urban areas are densely populated but produce only 8 percent of military recruits" and "members of densely populated metropolitan areas of the East and West coast 'blue states' have substantially lower propensities to join the Air Force than residents of suburbs or rural areas" (Marsman, 2009). If the Air Force's goals for diversity recruitment are more than simple statistics on demographics, and are meant to include "inherent or socially defined personal characteristics, including age, race/ethnicity, religion, gender, socioeconomic status, family status, disability, and geographic origin" (U.S. Air Force, 2019, p. 3), then the Air Force may need to examine the propensity to recruit in certain communities versus others. Although the Air Force is meeting diversity numbers based solely on statistics, certain demographics are not evenly distributed among the force. For example, 20% of whites in the Air Force are officers, and 24% of Asians are officers. But only 8% and 9% of Blacks and Hispanics are officers, respectively. Recruitment practices as discussed above may partially be the cause of this uneven distribution.

Retention is another factor that could impact the Air Force's demographic disparities. Research by Carroll (2008) at the Naval Postgraduate School demonstrated the impact of occupational assignment on retention of first-term minority sailors. That research showed that minorities in non-technical occupations were less likely to attrite in their first term enlistment. Data published by the Military Leadership Diversity Commission (2010) showed that over 40% of male Air Force officers served at least 20 years, while only 25% of females served as long. These data suggest that women and minorities may display higher attrition rates due to bias from majority groups. Streeter (2014) notes that "women are increasingly necessary to conduct military missions. For example, male military personnel could not interact with Afghan women without violating cultural taboos. Marine Corps female engagement teams and special forces cultural support teams established in

response to this matter produced unexpected benefits" (p. 112). However, Streeter also notes that female retention is lower in the Air Force than it is for men even though the Air Force is the service branch with the highest population of female members. A 2002 survey conducted by DiSilverio (2003) showed that "only 4 percent of the women said pay and allowances were a critical factor in their decision to separate from the active-duty Air Force" (p. 36). This means that efforts to increase retention through retention bonuses or other financial incentives do not resonate as strongly with females as they do with males. Streeter points out that "The military is one of the few U.S. workplaces where women receive the same compensation as their male counterparts for doing identical jobs. This equal-pay factor might not cross the minds of senior leaders who focus primarily on fiscally oriented retention efforts" (Streeter, 2014, p. 111). Because leadership is more homogenous than the rest of the mid-level and enlisted force, they may be detached from what motivates and incentivizes retention, leading to disparities in the diversity of the active-duty population. Streeter's article points out that other issues such as limited options for home basing (allowing military members to be assigned to a single location indefinitely), few options for non-punitive breaks in service, and difficulty transitioning from active-duty to reserve status also heavily impact female retention levels and may impact other minorities as well.

D. BIAS IN THE MILITARY

Implicit bias is the manifestation of unconscious partiality or preferential behavior often based on social stereotypes. "Implicit biases are thought to be automatic not only in the sense that they are fast-acting, but also because they can operate without intention and conscious awareness" (Rudman, 2004, p. 133). Although most individuals consider themselves to be free of prejudice, implicit bias can still take hold because of unconscious thought processes that individuals are unaware of harboring. This phenomenon has been utilized to explain underlying issues concerning sexism, racism, agism, and general results of unexplained bias as opposed to deliberate acts of prejudice. Research by Greenwald et al. (2009) utilizing the Implicit Association Test suggests that bias between different groups is often a function of unconscious prejudices. Banaji et al. (2003) give further credence to this claim in exploring several sources of unintentional unethical decision-

making patterns to include “implicit forms of prejudice, bias that favors one’s own group, conflict of interest, and a tendency to overclaim credit” (p. 56). The research explains that unintentional favoritism such as implicit prejudice stems from unconscious thought associations. Data utilizing the Implicit Association Test developed by Greenwald shows that 75% of individuals harbor some form of implicit bias, and such thought-processes cannot be curbed through a mere desire to deter them. The results of unconscious in-group favoritism, overclaiming of credit, and conflicts of interest can have significant organizational impacts. Applying these findings to the military, where 70% of active duty members are White, and 78% are male, it is likely that an organization such as the Air Force is predisposed to human resources errors rooted in implicit bias.

Konrad et al. (2021) discuss how organizations can address diversity and inclusion in a meritocratic construct in the face of issues such as implicit bias and unintentional unethical decisions. Their method requires a two-armed approach to organizational management, equally valuing diversity and meritocracy. For an organization such as the Air Force, the ambidextrous management capability discussed by Konrad et al. (2021) is ideal, because the military is by necessity a meritocracy, but is also very diverse because of the relative diversity of the U.S. population. As previously described, the Air Force considers diversity to encompass “personal life experiences, geographic background, socioeconomic background, cultural knowledge, educational background, work background, language abilities, physical abilities, philosophical/spiritual perspectives, age, race, ethnicity and gender” (U.S. Air Force, 2019, p. 3). The values of meritocracy are not contradictory to these attributes, but complimentary. “The concept of meritocracy implies a social system in which individual advancement and the allocation of rewards in organizations and society more broadly are based on an individual’s capabilities and performance rather than family connections, seniority, race, gender or class” (Amis et al., 2020, p. 5). Konrad et al. (2021) echo this sentiment, “drawing talent from a broader set of identity groups better supports meritocracy than dipping more deeply into the relatively narrow talent pool comprised of historically advantaged groups” (p. 7). If skills and abilities are truly the priority of an organization such as the Air Force, choosing the best people will include a wide talent pool of varied and unique individuals. But biases pre-

existing in society can easily seep into even the most meritocratic of organizations, especially when that organization is already dominated by a specific demographic (i.e., the Air Force being nearly 70% Caucasian males). Unconscious in-group favoritism and informal status characteristics have been shown to significantly impact organizations that claim a meritocratic process, but unwittingly ignore substantial hidden biases in their talent management programs (Sommerland, 2012). In organizations dominated by a specific in-group that attempt to be meritocratic, it is taken for granted that the individuals making high-up organization decisions are competent, and those individuals are usually members of the in-group. Given this, awards and promotions can only be based on competence if they are awarded without bias, so the integrity of the decision makers in the in-group is automatically assumed. This sets the organization up to suffer tremendously from unconscious bias and unintentional in-group favoritism. Konrad et al. (2021) discuss several Identity-Blind and Identity-Conscious practices for protecting meritocracy and diversity within an organization. "IB (identity blind) practices assume that blinding decision-makers to social identities enhances the impact of merit on their judgement," they claim. "As such, IB practices increased opportunities for marginalized groups but also for members of advantaged groups who lack privileged access to resources, such as many White men born into poverty" (Konrad et al., 2021). Although identity-blind methods often protect against unintentional bias and ensure decisions based primarily on merit, they do nothing to enhance the position of disadvantaged groups in a lopsided organization. On the other hand, identity-conscious practices are meant to deliberately increase diversity. Konrad et al. (2021) conclude that,

> Because IB practices focus on competence outcomes resulting from meritocracy while IC practices focus on process integrity for removing barriers to diversity, neither IB nor IC practices alone are sufficient for addressing the diversity-meritocracy paradox. Rather, systems incorporating both IB and IC practices are needed to develop both/and solutions which support both competence outcomes and process integrity in a balanced way. (Konrad et al., 2021, p. 12)

The subject of this study is military awards and decorations. Previously reviewed literature has addressed problems in the military concerning harassment and how leadership can help curb the impact of such offenses (Daniel et al., 2019). Other research

has explored issues with retention of women and minorities in the military, diversity goals that only pursue superficial metrics, and outdated recruitment practices.

The goal of this study, however, is to determine if the impacts of bias discussed in previous research are prevalent in the Air Force's awards and decorations program. Van Scotter et al. (2000) conducted a study utilizing Air Force mechanics to test the different long-term career impacts of task performance and contextual performance. "Task performance involves patterns of behavior that are directly involved in producing goods or services … In contrast, contextual performance involves behavioral patterns that support the psychological and social context in which task activities are performed" (Van Scotter et al., 2000, p. 526). Contextual performance included complying with instructions even when supervisors were not present, volunteering for additional duties, or deliberately seeking out more challenging jobs. The study involved two subject samples observed over a two-year period, measuring contextual performance, task performance, and informal awards. The purpose of the study was to measure how valuable contextual performance was to the organization based on formal awards, informal awards, and job promotion. Previous research showed that job experience and personality variances impacted how and when individuals would engage in contextual performance. Van Scotter et al. hypothesized that supervisors would find a way to reward workers who engaged in impactful contextual performance "either through the organization's formal systems or in informal ways." The study controlled for interpersonal facilitation, job dedication, and experience and recorded rank, medals, and promotion ratings at the conclusion of the study to measure results. The results over two years supported the suggestion "that contextual performance is likely to influence supervisors' evaluations over time, even if it has not been formally incorporated in job performance criteria. It extends previous work showing that contextual performance explains variance in overall performance beyond the variance accounted for by task performance" (Van Scotter et al., 2000, p. 532).

Research from Van Scotter et al. (2000) could serve as a guide for understanding bias taking place in the military awards and decorations program. Banaji et al. (2003) determine that even individuals who make conscious efforts not to be biased still suffer from behaviors such as conflict of interest and favoring their in-group. Research by Konrad

et al. (2021) shows that Identity Conscious functions are typically only implemented into organizations as a reactive method to conflict stemming from lack of diversity and representation. And in-groups tend to value Identity Blind practices as a source of fair allocation of resources and awards. However, if the in-group is part of an advantaged demographic, then the advantaged group will be making awards decisions. Such is the case in the Air Force, where the majority is represented by Caucasian males. Like many corporate organizations studied by Konrad et al. (2021), the Air Force is a meritocracy with unbalanced IC and IB practices, a circumstance which lends itself to in-group favoritism as discussed by Johnson (2020).

The question remains how race and gender might be distributed in a study like that of Van Scotter et al. (2000), in which task performance and contextual performance are measured for awards and decorations. If advantaged-group supervisors find informal ways to reward workers for informal, contextual performance, how likely is it that those decisions are affected by bias and skewed meritocratic processes as described by Banaji et al. (2003), Ehrlinger et al. (2005), and Konrad et al. (2021)?

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III. DATA AND METHODOLOGY

The primary objective of this study is to analyze awards and decorations rates among Air Force personnel by gender and race/ethnic group and determine if there is a significant difference in awards proffered compared to their majority peers. The data utilized for this study was provided by the Defense Manpower Data Center located in Seaside, California. The data was analyzed using Microsoft Excel.

A. DATA

The data for this study include demographics of all Air Force members who received awards for heroism or performance within the period between September 2006 and September 2020. The data cover twenty-three specific awards for heroism or performance (see Table 1). The names of all persons captured in the data set were masked with a unique alpha-numeric code to protect their identity. However, all other demographic information was provided, to include rank/grade, age, race, ethnicity, gender, marital status, education level, Air Force Specialty Code (career field designator), and date of award.

The Air Force uses several race and ethnicity codes for members to self-identify, however this study focused on racial codes for White, Black, and Asian, and the ethnicity code for Hispanic or Latino, which includes individuals who identify as Mexican, Puerto Rican, Cuban, Latin American with Hispanic Descent, and Other Hispanic Descent. Gender includes only male or female. Observations were further categorized by either enlisted or officer.

B. METHODOLOGY

The primary purpose of this research is to identify if there is evidence for bias in the Air Force awards and decorations program by determining whether individuals are receiving more or less than the expected number of awards based on gender, race, ethnicity, or rank. Demarcating the data only for specific awards for heroism or performance (Table 1), the rate of awards is determined for the total Air Force population for each year of the

data (2006 – 2020). The rate of awards is then determined for each relevant demographic: male, female, White, Black, Asian, Hispanic, officer, and enlisted. The rate of awards for the total population is then compared to the rates of awards for each demographic to determine if the rate is above or below the expected percentage. Once these rates are established for each year, trends can be observed for each demographic category, with a +/- "delta" value that can be compared across demographics that are significantly above or below the expected base-rate.

Next, the data were examined separately for officer and enlisted. The same method applied: The rate of awards for the entire enlisted population and the rate of awards for the entire officer populations were calculated separately. Then the rates of awards for male, female, White, Black, Asian, and Hispanic/Latino were calculated. The award rates across demographics were then compared based on rank to determine if different demographics performed differently within officer and enlisted ranks.

A third and final analysis of the data controlled for time in service by isolating the most junior ranking members for both enlisted and officers. This analysis observed only those enlisted individuals ranking E-1 through E-4, and those officer individuals ranking O-1 through O-2. The purpose of this analysis was to isolate those individuals with approximately five or fewer years of service, or within their first contracted term of service, to observe if different demographics perform differently in junior grades.

C. MINORITY, GENDER, ETHNICITY, AND RACE

This section discusses the following terms in respect to their use in this study: minority (or minority group), gender, race, and ethnicity (or ethnic group).

According to Young (1982), the term "minority group" refers to a specific group of people whose population is less than a larger, more prevalent group based on classifications of cultural norms, race, religion, ethnicity, or other characteristics. For the purposes of this study, minority groups are those groups who are fewer in number within the Air Force's active-duty population. By this standard, minority groups referenced in this study include individuals who identify as female, Black, Asian, and Hispanic or Latino. In other words,

the term "minorities" is used to denote individuals of gender or racial/ethnic groups other than White males, who make up the majority of the Air Force.

For the purposes of this study, gender refers to a military member's biological sex as identified by demographics data. Gender observations in the data were designated as male and female only.

Ethnicity (or ethnic group) relates to "a community-type group of people who share the same culture or to descendants of such people who may not share this culture but who identify themselves with this ancestral group" (Isajiw, 1992, p. 6). Ethnicity is considered and recorded as a separate attribute from race by the Air Force. For the purposes of this study, ethnicity includes individuals who identify as Hispanic or Latino, to include individuals who are Mexican, Puerto Rican, Cuban, Latin American with Hispanic Descent, and Other Hispanic Descent.

Race, as it pertains to human beings, can be referred to as the groups individuals are divided into based on inherited physical traits regarded as common among people of shared ancestry. More commonly race is considered a social construct by scientists (Gannon, 2016). There are numerous recorded races among the world's population, but for the purposes of this study, only the three most prevalent races within the Air Force are recorded for observation: White, Black, and Asian.

D. OFFICER AND ENLISTED

The terms "officer" and "enlisted" refer to the rank structure of the military and where individuals fall within that spectrum. "Officer" refers to all individuals who are considered commissioned officers. "Enlisted" refers to all individuals of any rank below commissioned officers. Because the Air Force rank structure does not include warrant officers, those ranks are not included within the data observations. The data utilized in this study includes observations of individuals of the rank structure in Figure 1.

Figure 1. United States Air Force Ranks.
Adapted from U.S. Air Force (2021)

E. CALCULATIONS

Calculations were made using the data set provided by the Defense Manpower Data Center. First, the overall population of the Air Force was identified for a given year. For the year 2006, as of September, the population was 344,529. Next, the total number of specific performance and heroism awards proffered for that year was identified. In 2006, the Air Force gave 10,808 performance and heroism awards. The total number of awards was then divided by the total population to calculate a baseline percentage of awards proffered for that year. In the year 2006, the award baseline was 3.14%. Next, the population for each relevant demographic group was recorded: male, female, White, Black, Asian, Hispanic or Latino, officer, and enlisted. Then the number of awards proffered

specifically to members of those demographic groups was recorded and the baseline calculated. To continue with the example of the 2006 observations, the population of White individuals was 255,187 (74.07% of the population), while the population of Black individuals was 50,746 (14.73% of the population). The White population (255,187) was multiplied by the baseline (3.14%) to calculate the expected number of awards for that demographic group. Then the actual observed number of awards was compared to the expected value, providing a Delta value (the difference from the expected value and the observed value). The expected number of awards for Whites was 8,005, but the actual number of awards observed was 8,307, or 302 more than expected. The baseline for each demographic group was then compared to the baseline for the overall population. This was accomplished by dividing the expected number of awards by the value +/- from expected to calculate a percentage of deviation. For Whites in 2006, this was calculated by dividing 302 (the value of awards above expected) by 8,005 (the number of awards expected). The difference shows that White individuals received 3.77% more awards than expected in 2006.

This comparison showed by what percentage each demographic was either above or below the expected baseline. In 2006, males, Whites, Asians, Hispanics, and officers were all above the expected baseline for awards. Females, Blacks, and enlisted were all below the baseline – Blacks and enlisted by more than 15% (see Table 2).

These calculations were repeated for every year of the data set (2006 – 2020). Next, the data were split by officer and enlisted. Baselines for awards were calculated for each year separating the demographics by officer and enlisted to identify if different genders, races, or ethnic groups performed differently by rank. Finally, the data were controlled for time in service, calculating baselines for all those individuals with approximately five or fewer years of service. Again, the baselines were compared to identify if different genders, races, or ethnic groups performed differently based on years of service.

Table 2. Baseline Calculations for September 2006

Category	N	Expected # of awards	Actual # of awards	+/- Difference	% from expected
Male	276,736	8,681	8,735	54	0.62%
Female	67,793	2,127	2,071	-56	-2.62%
White	255,187	8,005	8,307	302	3.77%
Black	50,746	1,592	1,203	-389	-24.43%
Asian	7,801	245	245	0	0.11%
Hispanic	18,643	585	981	396	67.74%
Officer	70,539	2,213	3,876	1,663	75.16%
Enlisted	273,990	8,595	6,895	-1,700	-19.78%

IV. RESULTS

Over a fifteen-year period, the percentage of awards received by each demographic was compared to the baseline of awards for that year. On average, males received 2.23% more awards than expected, females received 3.35% fewer awards than expected, whites received 3.39% more awards than expected, and Blacks received 21.13% fewer awards than expected. For every year observed in the data set, whites always received more than the expected percentage of awards, although never by more than a 5% margin. On the other hand, Blacks received fewer awards than expected for every year of the data set, sometimes by nearly 30%. Officers received extremely high percentages of awards, while enlisted received low percentages (sometimes as high as 80% for officers and as low as 20% for enlisted). The average percentage above or below expected, and the total amount of awards above or below expected for each demographic group is displayed in Table 3. A visual representation of the average amount of awards above or below expected for each demographic is displayed in Figure 2. Over a fifteen-year period, Whites (71% of population) received 13,722 more awards than expected, while Blacks (15% of population) received 17,065 fewer awards than expected.

Table 3. Percent Difference from Expected Baseline and Total Difference Over Fifteen Years

Category	Average Over 15 Years	Total +/- Over 15 Years
Male	2.23%	8,176
Female	-3.35%	-3,259
White	3.39%	13,722
Black	-21.13%	-17,065
Asian	0.13%	-938
Hispanic	65.38%	121
Officer	52.25%	55,398
Enlisted	-13.05%	-55,807

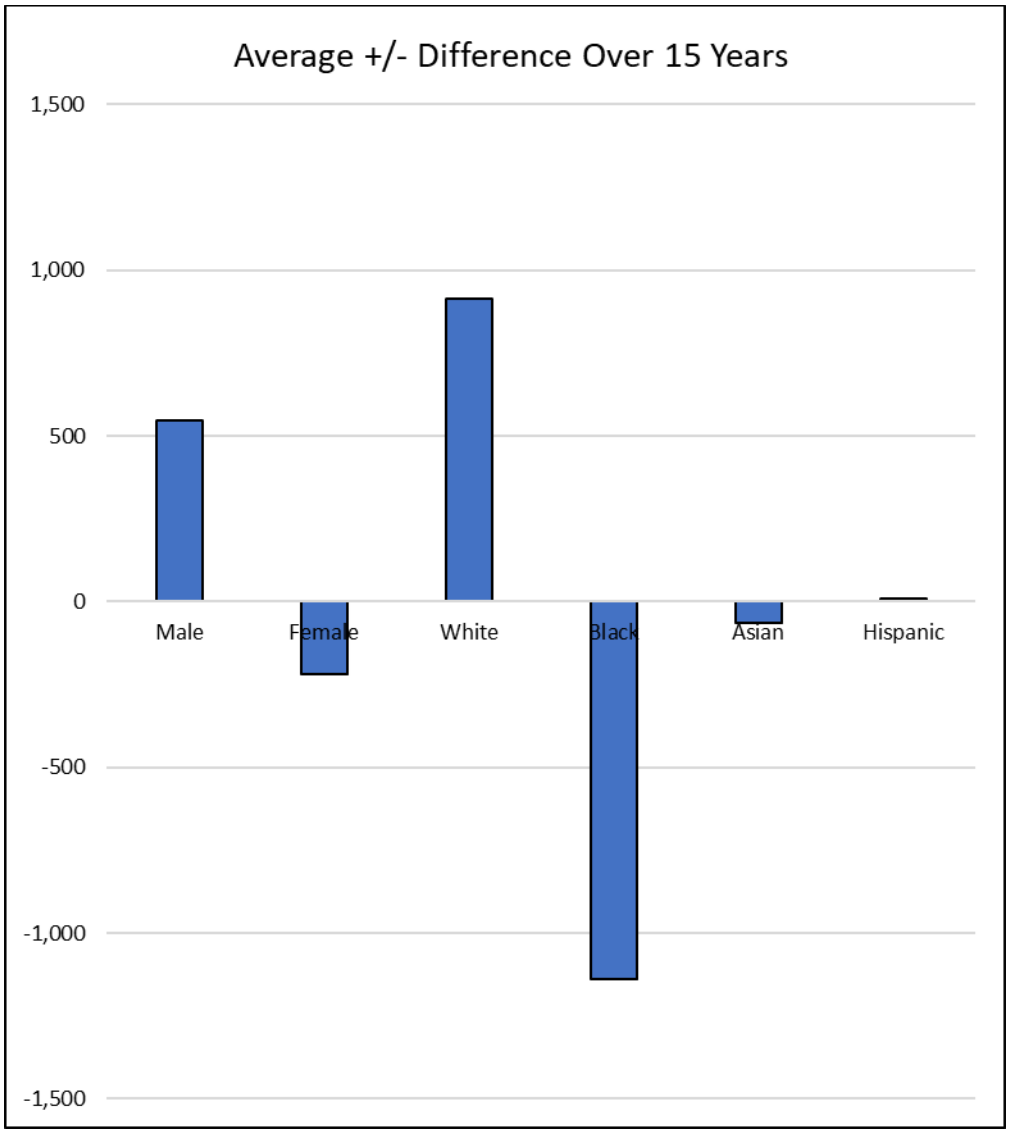

Figure 2. Average Number of Awards Above/Below Expected Over Fifteen Years

The extreme disparity in awards frequency between officer and enlisted requires the data to be controlled by rank and in some cases by specific award, as not all awards for heroism or performance are meant to apply to all ranks. As an example, pilots are more likely to receive awards for action in direct combat, and all pilots in the Air Force are officers. A counter example is illustrated by the baseline awards data that isolates only the Air Force Achievement Medal. The Air Force Achievement Medal "is awarded to U.S. and foreign military personnel in the grade of O-5 and below" (U.S. Air Force, 2019, p. 78). It

is meant to recognize "acts of courage lesser than for award of the Air Force Commendation Medal" (AFPC, 2010, para. 1). As such, it is more likely to be received by enlisted members than officers based on the higher population of enlisted, and the broader spectrum for which the medal can be awarded. From 2016 to 2020, enlisted members received between 7 and 13% more Air Force Achievement Awards than the expected baseline. Table 4 articulates this trend for the AFAM, showing that enlisted members were awarded that decoration far more often than officers, just as expected. Each demographic group was also within 9% of the expected baseline, giving credence to the notion that not all areas of the awards and decorations program point toward bias.

Table 4. Air Force Achievement Medal Percentage from Expected Baseline

Category	2016	2017	2018	2019	2020	Average
Male	-0.51%	-0.29%	0.70%	1.13%	-1.32%	-0.06%
Female	2.14%	1.19%	-2.77%	-4.33%	4.89%	0.22%
White	2.28%	2.00%	37.51%	0.45%	-0.93%	8.26%
Black	-13.68%	-11.45%	-0.22%	-1.56%	4.41%	-4.50%
Asian	3.31%	0.52%	13.61%	10.34%	14.60%	8.48%
Officer	-31.07%	-42.55%	-50.70%	-56.36%	-56.58%	-47.45%
Enlisted	7.44%	10.11%	12.21%	13.54%	13.47%	11.36%

However, this does not explain the large disparity in overall awards received by officers versus enlisted members. The data were controlled by rank, calculating award baselines for the isolated officer population, and the isolated enlisted population. For the most part, the trends based on demographics remained largely the same for both officer and enlisted: males typically received slightly more awards than expected, females typically received slightly fewer, whites always received slightly more than expected, while blacks were always below the baseline.

For the data isolated by enlisted members only, males and females averaged within 1% of the expected baseline over 15 years (0.06% above expected and 0.21% below expected, respectively). Whites and Asians averaged within 2% of the expected baseline over 15 years (1.73% and 1.22%, respectively). Blacks however, averaged 14.92% below the expected baseline over 15 years. For the enlisted data, Blacks performed by far the

worst in percentage of expected awards received. The average percentage above or below expected, and the total amount of awards above or below expected for enlisted members is displayed in Table 5.

Table 5. Enlisted Percent Difference from Expected Baseline and Total Difference Over Fifteen Years

Category	Average Over Fifteen Years	Total +/- Over Fifteen Years
Male	0.06%	601
Female	-0.21%	-607
White	1.73%	5,481
Black	-14.92%	-9,915
Asian	1.22%	-417
Hispanic	84.88%	5,505

Over a fifteen-year period, male enlisted members received 601 more awards than expected, while female enlisted members received 607 fewer awards than expected. White enlisted members received 5,481 more awards than expected, while Black enlisted members received 9,915 fewer awards than expected.

The low percentage of awards received by enlisted black members is made even more significant by the fact that 92% of all Black Air Force members are enlisted. Blacks have the highest enlisted to officer ratio among any demographic recorded. For Whites, 78% are enlisted, 74% of Asians are enlisted, and 87% of Hispanics are enlisted. But despite having most of its members within the enlisted force, Blacks/African Americans still received by far the lowest percentage of awards below the expectation.

The disparity of award reception percentages is somewhat different for the data observed for officers. Males and Whites averaged within 2.5% above the expected baseline over 15 years. Meanwhile, Women, Blacks, and Asians averaged between 10 and 12% below the expected baseline over 15 years. Again, population plays a significant role in the distribution of awards. 19% of all women in the Air Force are officers, yet female officers received 10% fewer awards than expected for a total of 3,232 fewer awards than expected over fifteen years. Juxtapose this with the fact that 19% of men in the Air Force are officers, yet males received 2.4% more awards than expected. Only 8% of all Blacks in the Air

Force are officers, compared to 25% of all Asians in the Air Force being officers. Yet both Black officers and Asian officers received 11% fewer awards than expected. Black officers received a total of 1,210 fewer awards than expected, and Asian officers received 1,257 fewer awards than expected.

The average percentage above or below expected, and the total amount of awards above or below expected for officers over fifteen years is displayed in Table 6.

Table 6. Officer Percent Difference from Expected Baseline and Total Difference Over Fifteen Years

Category	Average Over Fifteen Years	Total +/- Over Fifteen Years
Male	2.48%	3,232
Female	-10.35%	-3,232
White	2.41%	3,096
Black	-11.57%	-1,210
Asian	-11.60%	-1,257
Hispanic	15.85%	-2,569

A final analysis evaluated the percentage of awards proffered to those individuals with five or less years of service, controlling the data by E-1 through E-4 for observing enlisted members, and by O-1 through O-2 for observing officer members. For junior enlisted, males received on average 5.9% more awards than expected, while females received 23.34% fewer awards than expected. In contrast to the previous analyses, Blacks and Asians performed far better than Whites in the lower enlisted ranks. For junior officers, males, females, and Whites were all very near to the average baseline. Blacks were significantly above the baselines, and Asians were 9.86% below the baseline.

It should be noted that by controlling for time in service under five years, the sample populations for each demographic are reduced significantly, thereby increasing the margin of error association with the data outputs. For example, the total junior enlisted population as of September 2020 was 126,956, approximately 48% of the total enlisted population. And the total junior office population as September 2020 was 15,771, approximately 25% of the total officer population. Due to the smaller sample sizes of each demographic, the percentage from the expected baseline may appear slightly inflated. As an illustration,

junior Asian officers were 12% below the expected baseline for the year 2020. The Delta was -82, but there were only 985 Asian junior officers in the sample. Table 7 and Table 8 display the average percentage and total amount above or below the expected number of awards for junior enlisted members and junior officers, respectively.

Junior enlisted females received 23% fewer awards than expected, for a total of 752 fewer awards over 15 years. Black junior enlisted members received an average of 17% more awards than expected because of very small population (n) among junior enlisted members and a low percentage baseline for awards for the total population. For example, in 2007, the population of Black junior enlisted was approximately 18,000. The expected baseline for the total population was 0.02%, which meant Black junior enlisted were expected to receive 5 awards that year. The actual number of awards was 8. This is still a very low number of awards, but because of the low expected baseline, it was 77% higher than expected for that year. This resulted in Black junior enlisted members receiving a total of 392 less awards than expected over fifteen years, even though the average percentage of award received was above the baseline. Junior female officers received 1,287 fewer awards than expected over fifteen years, while male junior offices received 1,285 more awards than expected. Black junior officers received 212 fewer awards than expected over fifteen years, while white junior officers received 869 more than expected.

Table 7. Junior Enlisted Percent Difference from Expected Baseline and Total Difference Over Fifteen Years

Category	Average Over Fifteen Years	Total +/- Over Fifteen Years
Male	5.90%	752
Female	-23.34%	-752
White	-6.75%	377
Black	17.24%	-392
Asian	20.10%	197

Table 8. Junior Officer Percent Difference from Expected Baseline and Total Difference Over Fifteen Years

Category	Average Over Fifteen Years	Total +/- Over Fifteen Years
Male	-0.10%	1,285
Female	1.07%	-1,287
White	-1.64%	869
Black	40.05%	-212
Asian	-9.86%	-437

Note: Because ethnicity is recorded as an identifiable function in tandem with race, it was not possible to clearly delineate Air Force members by specific rank and by ethnic identity simultaneously. This resulted in the inability to calculate base rate awards for Hispanics or Latinos based on time in service or junior rank.

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V. SUMMARY, CONCLUSIONS, RECOMMENDATIONS

A. SUMMARY

The data observations in this study were used to calculate the expected percentage of awards for each demographic over a fifteen-year period. The actual number of awards received in each demographic group was then compared to that baseline to achieve a +/- value from the expected number of awards to show differentiation. These calculations showed that, for the overall population, males received 2.23% more awards than expected, while females received 3.35% fewer than expected. The average value of awards males received above expected was 545, or 8,176 total awards above expected over 15 years. The average value of awards females received below expected was 217, or 3,259 total fewer awards than expected over 15 years. Whites received 3.39% more awards than expected, while Blacks received 21.13% fewer awards than expected. The average value of awards White individuals received above expected was 915, or a total of 13,722 more awards above expected over 15 years. Black individuals received an average of 1,138 fewer awards than expected, or a total of 17,065 fewer awards over 15 years.

Next, the data were split by enlisted and officer, and the calculations were repeated. For enlisted members, males received 0.06% more awards than expected, for an average of 40 more awards than expected each year, and a total of 601 more awards over 15 years. Enlisted females received 0.21% fewer awards than expected, for an average of 40 fewer awards per year, and a total of 607 fewer awards than expected. White enlisted individuals received 1.73% more awards than expected, for an average of 365 more awards per year, and a total of 5,481 more awards over 15 years. Blacks enlisted individuals received 14.92% fewer awards than expected, for an average of 661 fewer awards per year, and a total of 9,915 fewer awards than expected over 15 years.

Among officers, males received 2.48% more awards than expected, an average of 215 more awards per year, totaling 3,232 more awards than expected over 15 years. Meanwhile, female officers received 10.35% fewer awards than expected. The average number of awards below expected each year was 215, for a total of 3,232 fewer awards

than expected over 15 years for female officers. White officers received 2.41% more awards than expected, 206 more awards each year on average, and a total of 3,096 more awards over 15 years. Meanwhile, Black and Asian officers received 11% fewer awards than expected, averaging over 80 awards below expected each year, and over 1,200 fewer awards than expected over 15 years for both demographics.

Finally, the data were controlled for rank and time in service, observing only awards proffered to individuals with less than five years of service. For junior enlisted, males received 5.9% more awards than expected, while females received 23.34% fewer awards than expected. Whites received 6% fewer awards than expected, while Blacks and Asians received 17% and 20% more awards than expected, respectively. For junior officers, males, females, and Whites all fell within 2% of the average expected baseline. Black junior officers received 40% more awards than expected while Asian junior officers received nearly 10% fewer awards than expected.

B. CONCLUSIONS

Based on the observations made in this study, the following conclusions can be made:

The data suggests a noticeable underrepresentation in number of awards received by individual Black airmen. On average, Blacks of any rank received 23% fewer awards than expected for the overall population. Juxtapose this observation with data for Whites of any rank; Whites received slightly more awards than expected for every year observed in the data set (the only exception being observations isolated to junior Air Force members).

Figure 3 supplies a visual representation of percentage of awards received by White and Black individuals for the overall population over 15 years.

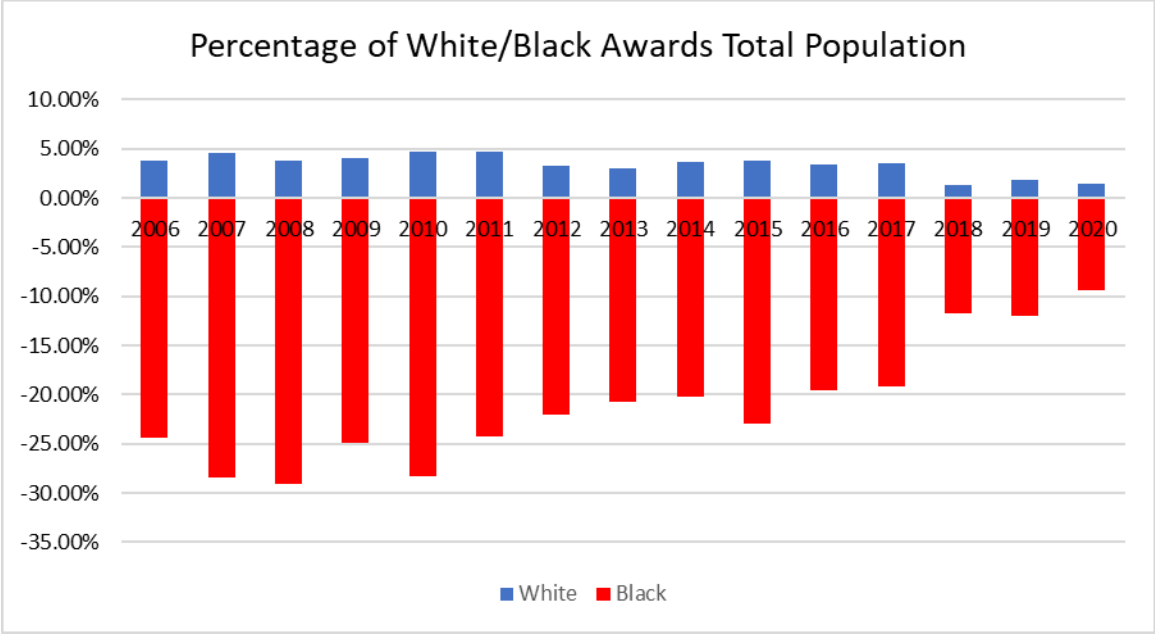

Figure 3. Percent Difference of White/Black Awards

Despite 91% of all Blacks being enlisted, Black enlisted members receive by far the lowest percentage of awards among all other demographics, with 14.9% average fewer awards than expected. Figure 4 represents a visual comparison of awards received by White enlisted members and Black enlisted members over 15 years.

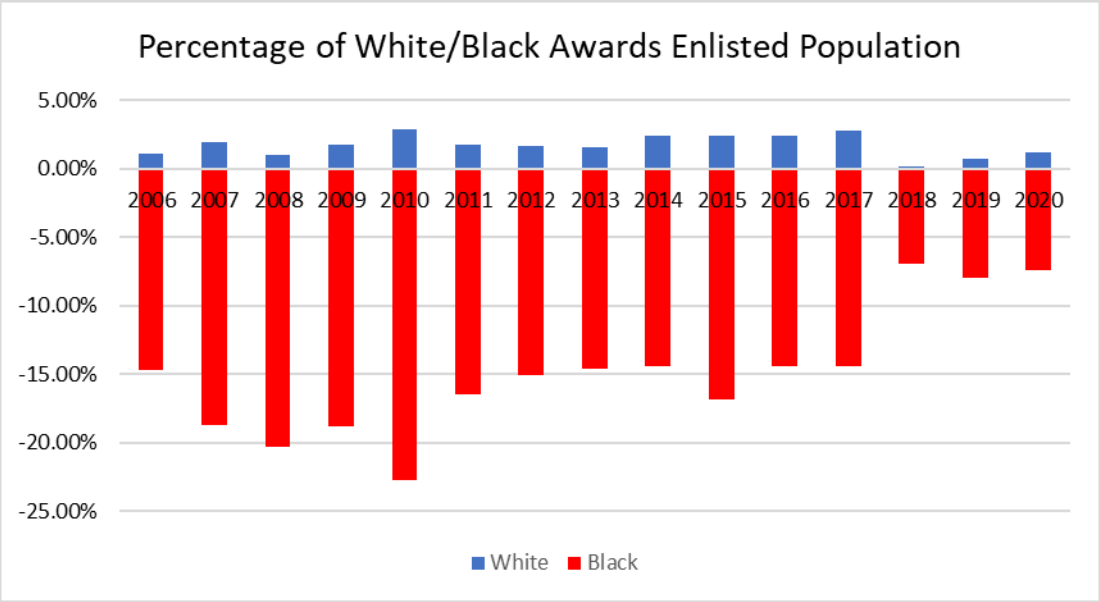

Figure 4. Percent Difference of What/Black Awards Enlisted Population

Other than Blacks/African Americans, awards are generally evenly distributed among enlisted members. Males, Females, Whites, and Asians on average received within 2% of the expected number of awards.

Awards are less evenly distributed among officers. For every year observed within the data set, male officers always received more than the expected percentage of awards, and female officers always received fewer than the expected percentage of awards, and by an average of 10%. White officers also always received more than the expected number of awards, while Black and Asian officers always received fewer than the expected percentage of awards, by an average of 11%. Even though nearly 20% of all women are officers, and 25% of all Asians are officers, they still receive significantly fewer awards than do White male officers.

Figure 5 displays the visual comparison of awards received by male officers and those received by female officers over 15 years. Figure 6 shows a comparison of awards received by White, Black, and Asian officers.

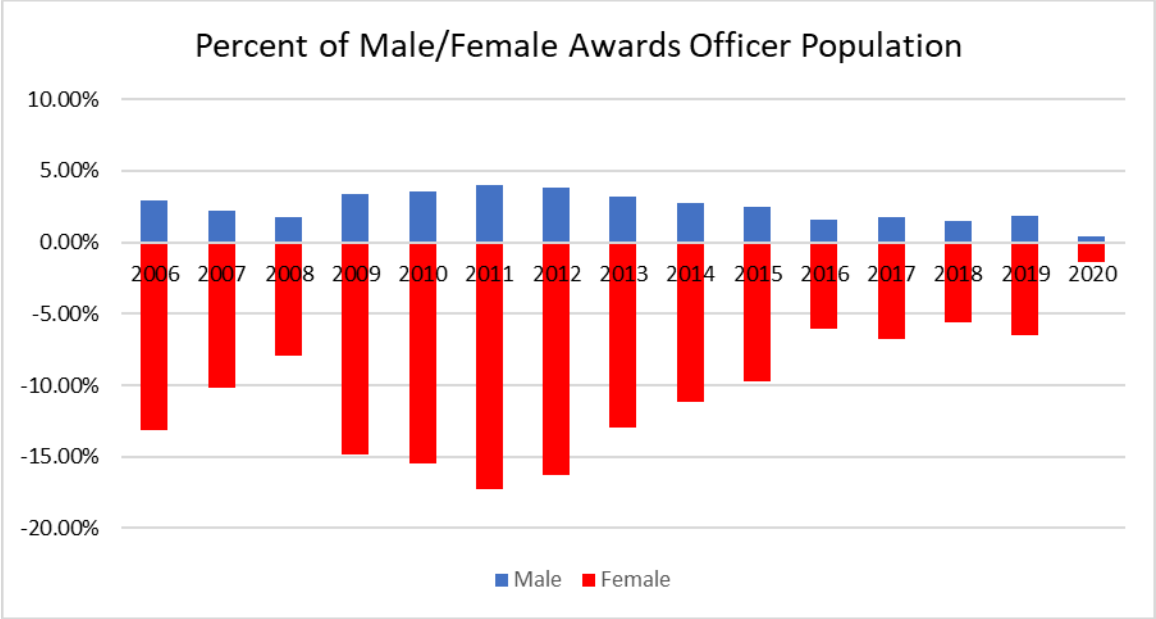

Figure 5. Percent Difference of Male/Female Awards Officer Population

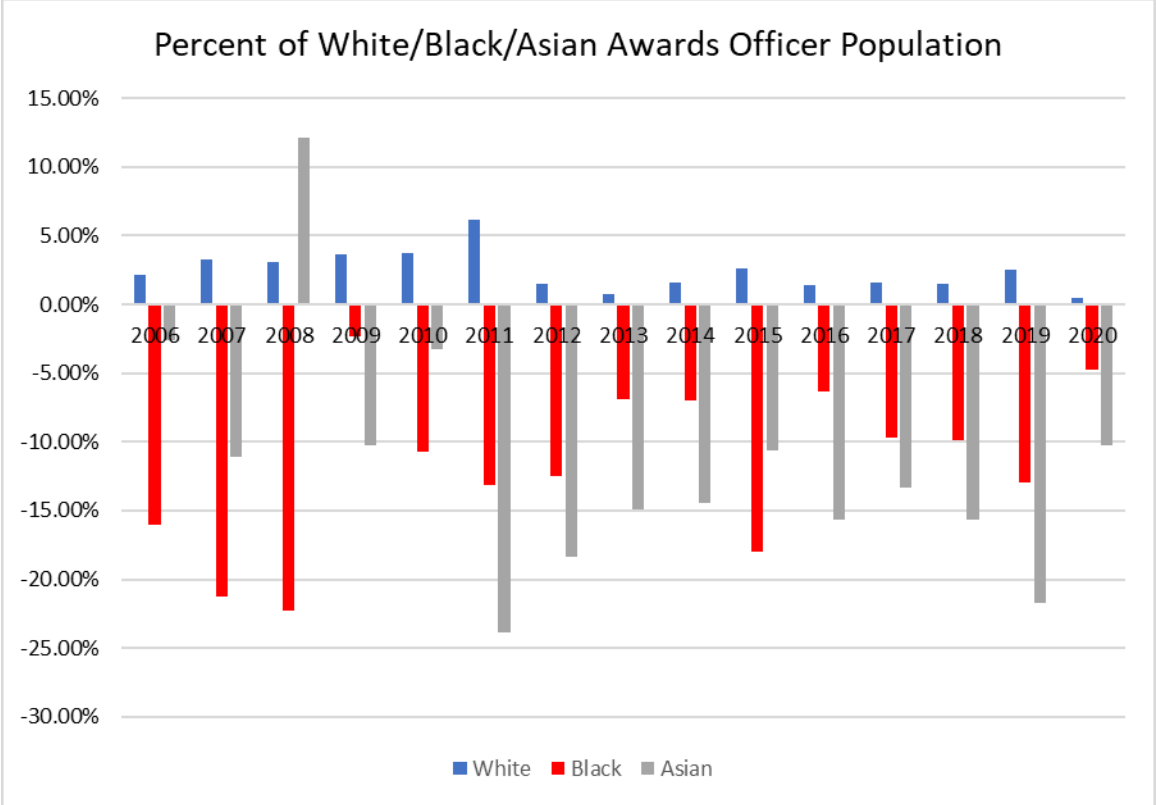

Figure 6. Percent Difference of White/Black/Asian Awards Officer Population

Junior enlisted female members (females ranking from E-1 through E-4) received the lowest percentage of awards of all Air Force members with five or less years of service. Figure 7 shows the visual comparison of awards received by male junior enlisted members and female junior enlisted members.

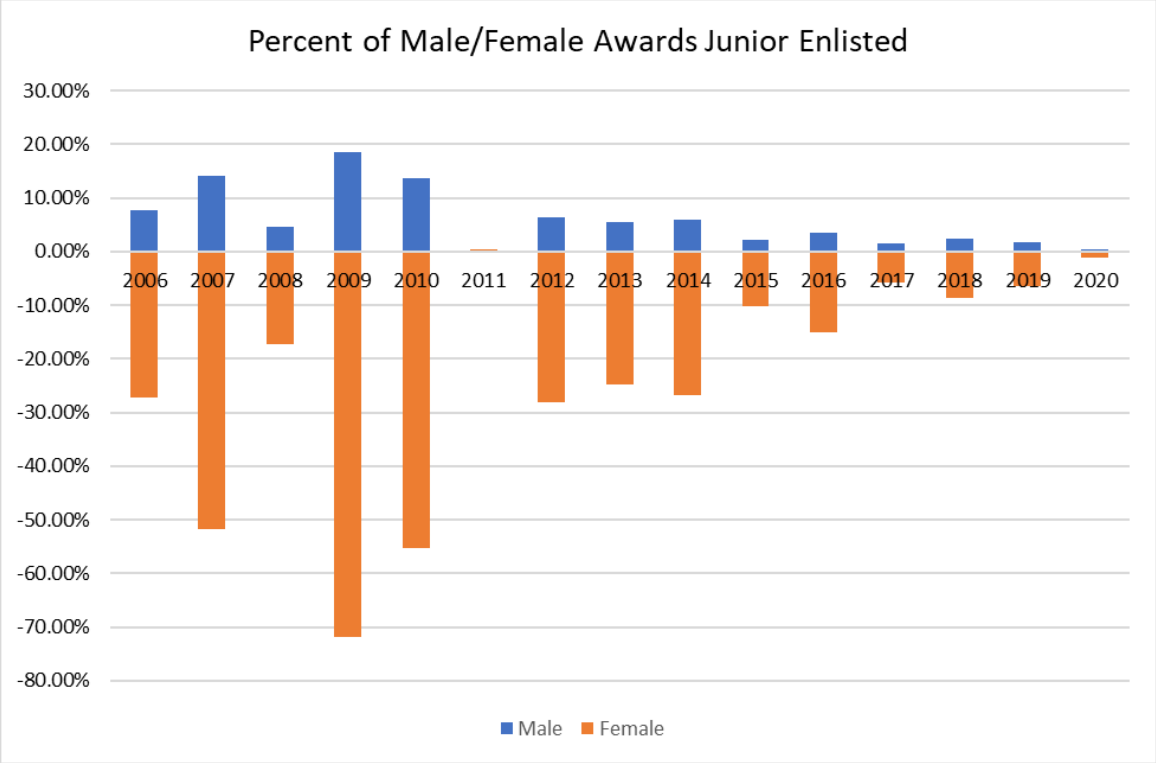

Figure 7. Percent Difference of Male/Female Awards Junior Enlisted Population

C. RECOMMENDATIONS

While the analyses provided in the current thesis are compelling and clearly suggest that implicit bias may be a contributing factor that explains why women and minorities are underrepresented in the Air Force awards system, the current analysis falls well short of establishing a causal linkage. Thus, the Air Force senior leadership should first allocate resources towards rigorous experimental research to determine if a causal linkage does or does not exist. Although these data observations provide evidence to display significant

disparities in awards proffered to minority members of the Air Force, they do not provide impetus to prove the prevalence of implicit or systemic bias, or to identify a root cause for the observed disparities. The data do provide statistical and visual indicators of significant skews in Air Force awards for performance or heroism, the most prominent being the very low number of awards proffered to Black Air Force members (both officer and enlisted), female officers, and female junior enlisted. Significant further research is needed to determine if these skews are caused by bias, and to identify if other factors contribute. It is recommended that these data observations be compared by career field (Air Force Specialty Code) to determine if certain demographics are over- or underrepresented in certain career fields, and if that has a significant impact on awards. Retention levels should also be compared to those groups displaying higher or lower percentages of expected awards to determine if a causal relationship exists; it is possible that individuals who are less likely to reenlist could be impacted by bias in the awards process, or that pre-existing bias is impacting levels of retention. Recruitment levels should also be compared to the results for awards among minorities to analyze any causal link between where individuals are recruited from, what career fields they are most likely to be placed in, and what their education level is in tandem with the results of this study.

Students at the Naval Postgraduate School have studied the correlation between first term enlisted attrition rates and career designation in the Navy (Carroll, 2008). A similar study for Air Force member attrition based on demographics, career fields, and awards/decorations would provide some of the needed evidence to discover if there is causal relationship between the awards data discussed in this study and levels of attrition among Air Force members. A robust analysis of demographic distribution among different career fields would also serve as a powerful tool in gathering evidence of bias. Analyzing the distribution of gender, race, and ethnic groups among different career fields and then comparing that distribution to award baselines could reveal if certain demographics perform better or worse in certain career fields, which could be a function of bias. This concept is discussed at length by Konrad et al. (2021) along with their discussion of "social closure theory" (Tomaskovic-Devey, 1993). "Social closure theory argues that identity groups compete for connections to powerful individuals in munificent interpersonal

networks," (Konrad et al., 2021, p. 5). Konrad et al. go on to explain that under conditions involving social closure theory, different identity groups begin to compete for advantageous social connections, which can be thwarted for disadvantaged groups when the advantaged group is more represented in leadership positions. In the case of the Air Force, if a certain sub-group or career field is overrepresented by a certain demographic, but that demographic under performs in awards and decorations, it serves as evidence for bias behavior from supervisors (of an advantaged group).

If further research can identify a root cause for the disparities observed in this study, recommendations for policy changes can be made to improve the fairness and equity of the Air Force's awards program, and route out any bias that may exist.

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