Statistical Discrimination at the Military Academies

Dr. Stephen Kershnar

The U.S. Military Academies are important to American military leadership. It produces 20% of military officers and in the past has produced many, if not most, of the most important commanders. Generals Ulysses Grant, Robert E. Lee, Dwight Eisenhower, and George Patton, and admirals Nimitz and Halsey, among others, led America’s most important wars. Given the role of the academies, it seems to be important that they produce the best products they can and part of their doing so involves admitting the best. This becomes even more important if the army has less accountability in the field than in years past, so failure to put the best people into military leadership gets magnified in terms of subpar combat leadership.¹

In this paper, I defend four theses.

Thesis #1: Statistical Discrimination. A military academy should statistically discriminate.

Thesis #2: Demographic Discrimination. A military academy should demographically discriminate.

Thesis #3: Comparative Methods. The case for demographic discrimination is at least as strong as the case for the current admissions methods.

Thesis #4: Undermining Factors. If the academies should be eliminated or too much talent in military leadership, then the above theses are less clear.

Statistical discrimination occurs when a person’s application is a function of a statistically validated ranking. Consider, for example, the SATs. By the academies, I focus on the big three: Air Force, West Point, and Naval Academies, because of their historically important military and political graduates, availability of studies of them, journalistic articles about them, and similarity between them.

¹ The change in battlefield accountability can be seen in Tom Ricks, The Generals: American Military Command from World War II to Today (New York: Penguin, 2013).
Part Three: Argument for Thesis #1 [A military academy university should statistically discriminate in admissions]

Here is the argument for the first thesis.

(P1) If a military academy’s discriminating in admissions in a specific way satisfies the relevant goals and rights, then the academy should discriminate in that way.

(P2) A military academy’s statistically discriminating satisfies the relevant goals and rights.

(C1) Hence, a military academy university should statistically discriminate. [(P1), (P2)]

Premise (P1) rests on the following notions. First, side-constraints on what a state employee does are a function of, and only of, the contract between the employee and his employer and rights. There are other side-constraint (for example, moral rights), but they are not relevant here.

Second, military academy employees are state employees. This is obvious

Third, the contract between academy employees and their employer requires that they make decisions that satisfy certain goals, specifically promote defense and Americans’ interests. This rests on the principles that best fit and justify the stated rules and underlying principles of the academy. Consider these mission statements.

Air Force Academy
We educate, train, and inspire men and women to become officers of character motivated to lead the United States Air Force in service to our nation.²

Naval Academy

To develop Midshipmen morally, mentally, and physically and to imbue them with the highest ideas of duty, honor, and loyalty in order to graduate leaders who are dedicated to a career of naval service and have potential for future development in mind and character to assume the highest responsibilities of command, citizenship, and government.³

**West Point**

To educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country and prepared for a career of professional excellence and service to the Nation as an officer in the United States Army.⁴

Again, I am assuming here that the meaning of a statute is in part of a function of the principles that best justify and fit the rules. The idea is that this is how interpretation occurs In general. If this is not correct, then the rules run out and the interpreter has to legislate (make rules up).⁵

Premise (P2) rests on the following. Consider these admissions goals and rights.

Table 1. Admissions Goals and Rights

<table>
<thead>
<tr>
<th>Type</th>
<th>Content</th>
<th>Requirement</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Defense</td>
<td>Admissions should maximally promote defense.</td>
<td>This best fits and justifies the academy’s statements and rules. See Appendix 1.</td>
</tr>
<tr>
<td>Goal</td>
<td>Americans’ Interests</td>
<td>Admissions should maximally promote Americans’ aggregate interests.</td>
<td>See above.</td>
</tr>
<tr>
<td>Right</td>
<td>Rights</td>
<td>Admissions should satisfy applicants’ rights</td>
<td>This is a side-constraint on all acts.</td>
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⁵ This theory of interpretation can be seen in Ronald Dworkin, *Law’s Empire* (Cambridge: Belknap Press, 1986). If interpreting rules, as opposed to legislating them, occurs when a statute has plain meaning, then the principles that should govern the academy will have to be legislated. If so, then this the fundamental principle that I propose should govern an academy’s policies. For this theory of interpretation, see H. L. A. Hart, *The Concept of Law* 2nd ed. (New York: Oxford University Press, 1997).
An academy is more likely to its goals if it uses statistical discrimination. For example, standardized tests equally or outperform other predictors of college success at civilian and military universities. To see this, consider the following. Standardized test score (SAT or ACT) strongly correlates with cumulative GPA at the end of the fourth year of college. For a similar relation between standardized test scores and graduate school. For example, Berry and Sackett (2009) looked at SAT-grade relationships at 41 colleges had (when SAT score is combined with HSGPA) has an r = .78 and when SAT FGPA r is corrected for course difficulty, r = .67. SAT predicts grades for each four years equally well. SAT-grade relationships are linear throughout the score range.

The reason for the predictive power of the SAT scores is that they highly correlate with IQ scores. The general predictive power of SAT scores can be seen in several other areas. IQ scores correlate more with job training success than does any other measure and outperforms

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Study habits/skills are uncorrelated with test scores. They are about as predictive of grades as tests.
other measures in job performance, such as interests, personality, reference checks, interview performance, and grit. Similarly, various standardized testing scores also predict performance as a professor as well as bar passage rates.

Another analogy here is the use of empirical analysis of baseball (sabermetrics). This is not standard operating procedure in how baseball teams select players and strategies and, also, decide how much to pay a player and how to play him. It is unclear why this makes sense of major league baseball teams, but not for the academies.

There are a number of objections that are often raised against statistical discrimination.

Table 3. Objections to Statistical Discrimination

<table>
<thead>
<tr>
<th>Why statistical discrimination is wrong.</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is wrong because statistics do not predict success.</td>
<td>False</td>
</tr>
<tr>
<td>It is wrong because</td>
<td>False</td>
</tr>
</tbody>
</table>


12 Almost every team has an employee who uses sabertmetrics to help guide team decisions. See “Ranking All 30 MLB Teams by Use of Sabermetrics,” The Distinguished Grizzly, June 24, 2014, https://sistemaperalta.wordpress.com/2014/06/24/ranking-all-30-mlb-teams-by-use-of-sabermetrics/. The operational notion of contribution to a team’s victories (wins above replacement) allows for comparisons that screen out irrelevant factors.
non-statistical features better predict success.

It is wrong because it is unjust, unfair, or lessens equal opportunity.

1. **Just.** It is just because it satisfies the applicants’ and third parties’ natural and non-natural rights. Specifically, there is no right to a particular entrance criterion and, in particular, no right against a criterion that is the most accurate predictor.
2. **Fair.** It is fair because it is facially neutral (formal fairness) and does not express contempt, endorse past injustice, or fail to satisfy Rawlsian distributive justice (substantive fairness).\(^\text{13}\)
3. **Equal Opportunity.** We do not know if it lessens equal opportunity because we do not know if it unequally distributes positions once we control for natural abilities and the willingness to work hard.\(^\text{14}\) In fact, it might increase equal opportunity. By analogy, consider how standardized tests increased educational opportunity for poor Jews in the early part of the 20\(^{\text{th}}\) Century.

It is wrong because people cannot control their statistical categories.

1. **Sometimes False.** In some cases, this is false.
2. **Irrelevant.** Lack of control over a statistically relevant feature does not make considering it morally wrong. Consider, for example, bona fide occupational qualifications in police work.

It is wrong because it is illegal.

1. **Law.** Statistical discrimination is not illegal.
2. **Change Law.** If statistical discrimination were illegal, the law should be changed. In particular, a facially neutral entrance criterion that is an accurate predictor of performance (either by itself or when combined with other criteria) should be permitted for reasons of both efficiency and fairness.

If the academies should engage in statistical discrimination and if demographic discrimination is a type of statistical discrimination, then we move to the second thesis.

Part Four: Argument for Thesis #2 [A military academy should discriminate on the basis of demographic features]

Here is the argument for the second thesis.

(C1) Hence, a military academy university should statistically discriminate. [(P1), (P2)]


\(^{14}\) For this notion of equal opportunity, see Rawls, *A Theory of Justice*. 
If a military academy university should statistically discriminate in admissions, then it should discriminate on the basis of demographic features.

Hence, a military academy should discriminate on the basis of demographic features. [(C1), (P3)]

Premise (P3) rests on the following. First, demographic features make it more likely that a university will satisfy its goals because they help to predict who will succeed. Consider the following.

**Case #1: USMA & USNA and women**
At two of the academies, women have higher verbal scores and higher high school rank. There is a gap in median math scores between women and men.

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>USNA</td>
<td>70%</td>
<td>77%</td>
<td>7%</td>
</tr>
<tr>
<td>USMA</td>
<td>60%</td>
<td>69%</td>
<td>9%</td>
</tr>
</tbody>
</table>

This despite the fact that women are normally more likely to graduate from college on time than men. In general, tests for undergraduate (but not graduate) admission underpredict women’s performance (that is, women get better grades than men with the same test score). This is due to women being more conscientious and men taking courses with harder grading (for example, math and engineering).

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16 See Paul Sackett, “Debunking SAT Myths: Appraising the Evidence for Validity and Fairness,” November 6, 2009,
Case #2: Blacks & Shape of the River
In general, at stronger schools, black SAT scores overpredict black grades.17

By analogy, if a major league baseball player’s longevity contributes to the degree to which he contributes to his team relative to his likely (or, perhaps, an average) replacement, this is a reason for a team to select him. A similar reasoning should apply to academy graduates who are best selected according to the degree to which they contribute to the military success compared to a replacement. The idea is that there is a military equivalent of the statistical notion in baseball of wins above replacement.

Another sports analogy might be helpful here. Consider a team that has a choice of two running backs. One will likely be the best running in the game for four years, but will then suffer from injuries that keep him on the injured reserve for years. A second running back will likely be the fifth best running back in the game for a decade or more.18 The longevity of the second might make him a better choice even if he is never as good as the first during his salad days.

Second, using demographic features does not infringe on anyone’s right. This can be seen in the following table.

Table 2. Demographic Discrimination Does Not Infringe on Rights

https://research.collegeboard.org/publications/content/2012/05/debunking-sat-myths-appraising-evidence-validity-and-fairness.


18 For an example of this consider the Kansas City Chiefs’ running back Priest Holmes. He was a three-time all-pro, NFL offensive player of the year, and one year led the NFL in rushing. In contrast, the New York Giants’ Tiki Barber was an all-pro only once and was never NFL offensive player of the year nor did he ever lead the league in rushing. Still, he had many more years of being a top flight running back than Holmes.
Table 4. Against Demographic Factors

<table>
<thead>
<tr>
<th>Objections. Why it is wrong to consider demographic factors.</th>
<th>Responses</th>
</tr>
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</table>
| It is wrong because women are as likely to graduate, stay at least as long in the military, or contribute as an officer as least as much as men. | 1. **Graduation.** The graduation claim is wrong.  
2. **Other Factors.** I am unaware of any evidence in favor of the other claims. |
| It is wrong because women can’t control their demographic group. | **Irrelevant.** This is irrelevant. The same might be true of IQ and other factors that affect performance. |
| It is wrong because consideration of these factors has negative externalities (for example, role models). | 1. **Burden.** In the case of a known loss, the proponent of the externality-argument proponent bears the burden of showing her argument succeeds. Consider SAT and interviews.  
2. **Externalities.** Externalities cut in both directions. Consider the opportunity costs of dropouts, military women’s elevated divorce rates, wives who lose out due to their husband’s stagnated careers, and extra death and injury from fewer academy graduates. |
An objection that is commonly given is that the lower graduation for women is caused by sexism. In particular, it might be argued that micro-aggressions (or similar injustice) reduce women’s graduation rates and that the remedy should be to reduce the aggressions, not penalize women for being subject to them.

First, it is not clear that there are such aggressions. There is little quantitative evidence that such aggressions occur in the academy or similar settings or that, if they do, they are what cause the different graduation rates. In colleges and universities in general, women are more likely to graduate than males with similar abilities and it is unclear that micro-aggressions are less frequent or severe there. An alternative explanation is that the academy experience or the attractiveness of the subsequent military career differ between men and women and this difference is what explains the different graduation rates. Perhaps this is parallel to the tendency in women who graduate with an undergraduate degree from Yale University or a business degree from Harvard University to leave the workforce in striking numbers. In the absence of empirical evidence, there is little reason to believe that it is micro-aggressions or other injustices rather than autonomous preferences that account for the different graduation rates.

Second, even if micro-aggressions or other injustices account for the differential performance, it is not clear that they are injustices, merit elimination, or even can be eliminated. Examples of micro-aggressions usually involve statements that are not explicitly insulting and do not involve threat or intimidation. That is, they often appear to be at worst subtle insults. This is not enough to show that they are injustices and hence something that people have a right not to be subject to. In addition, it is not clear that micro-aggressions merit elimination. The degree to which speech would have to be constrained, whether by rules or social norms, to eliminate actual and merely perceived micro-aggressions might be so great that it would unduly hamper work-
related conversations and bonding between co-workers, results that are costly enough that they should be avoided. Perhaps micro-aggressive thoughts and actions are a natural byproduct of aggressive attitudes that are important to combat roles. It is not even clear that micro-aggressions can be eliminated. It might well be that minor insults are inextricably tied to humanity in the same way that sexual and romantic attachment between coworkers has proven itself to be difficult to completely eliminate.

Third, even if micro-aggressions occur, cause lowered women’s graduation, are injustices, and merit elimination, this still doesn’t establish that demographic discrimination should not occur during the time these micro-events are being eliminated. The absence of the best and brightest officers during combat likely has costs in terms of lost lives and mutilated bodies regardless of what explains their absence. By analogy, if women are half of new physicians and either stop working or work part-time, this reduces the amount of medical services available to the public. If there are vulnerable populations that are already underserved by physicians (consider, for example, the poor and elderly), this likely has significant costs in terms of lost lives and worse health outcomes. Again, this is true regardless of whether women physicians leave the field due to micro-aggressions or autonomous preferences. At the very least, an argument needs to be made that the death and injury from the absence of the best officers in the field is worth it given the as yet unspecified gain from gender neutral admissions.

Part Six: Non-Statistical Admission Factors

Here I defend the following thesis.

**Thesis #3: Comparative Methods.** The case for demographic discrimination is at least as strong as the case for the current admissions methods.
The notion that the use of demographic factors is at least as justified as some current practices can be seen if we consider some of the current practices. Currently, people may be appointed without a nomination if they are children of armed forces members killed or missing in action, who have died or have a 100% service-connected-disability, and children of employees who are in missing status. Also, the president may appoint children of career military personnel and winners of the Medal of Honor. This does not intuitively seem just, fair, or, even, an efficient way to improve military performance, especially compared to other compensatory means (consider, for example, money).

By analogy, consider how the University of Iowa chooses its elite wrestlers. Iowa would never choose wrestlers this way. If it did, the team would do extremely poorly because it moved away from merit-based assignment of positions. It is unclear why avoiding subpar wrestlers is more important than choosing officers.

The nomination process results in unequal competitiveness (consider districts that differ in the number and quality of applicants) and the process is opaque (nominations are made largely in secret), inconsistent (there are no universal standards or ethical guidelines governing nominations, each congressional office has its own process and criteria for awarding them), and perhaps corrupt (some nominations go to children of well-connected families, friends, and campaign contributors). There are also allegations of nepotism. Demographic discrimination is not plagued by any of these problems. Also, as far as I am aware, there is no statistical validation of either the non-nomination or nomination systems.

Part Seven: The Problem of Counterproductive Institutions
This leads us to the fourth thesis.

**Thesis #4: Undermining Factors.** If the academies should be eliminated or too much talent in military leadership, then the above theses are less clear.

If sending the best individuals to a counterproductive institution will be inefficient (consider opportunity costs), then it is unclear whether there is a duty to select the best. Consider this analogy. If, on average, in a third world country, the best students would do more good as professionals than bureaucrats, then it is not clear that a government has a duty to select the best students to be bureaucrats. The analogy here is that bureaucrats are, possibly, similar to academy graduates.

Another analogy involves compensation package. Members of the military get an extremely generous compensation package. This likely induces talented people to join and stay in the military. It is unclear, however, whether such a strong incentive makes the world a better place or is better for Americans who pay for the generous package.  

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19 The American government and people also provide generous benefits to members of the military. One likely motivation for such generous benefits is in part that the American people are very grateful to past and present members. Consider these benefits.

First, veterans are paid well. Regular military compensation (RMC) includes pay, allowance for housing, subsistence allowance, tax advantages, and recruiting and retention bonuses. A Rand Corporation study found that the RMC for enlisted personnel was in the 85th percentile compared to comparable civilians. For officers, it was in the 84th percentile. See James Hosek et al., *Should the Increase in Military Pay be Slowed?* (Santa Monica: CA: Rand, 2012), p. 11; James Grefer et al., *Military and Civilian Compensation: How Do They Compare?* (Alexandria, VA: Center for Naval Analyses, 2011). The Congressional Budget Office found that RMC for enlisted men exceeded the 75th percentile. Congressional Budget Office, *Evaluating Military Compensation* (Washington, D.C.: Congressional Budget Office, 2007), p. 13. This predated the recent recession and the larger compensation increases for the military.

The Department of Defense thinks that the RMC is higher than necessary. It argued that RMC should be at least 70th percentile of comparable civilians to achieve desired recruitment and retention. See Department of Defense, *Report of the Ninth Quadrennial Review of Military Compensation* (Washington, D.C.: Department of Defense, 2002). This takes into account
It is unclear whether the academies are worth preserving or whether the American people are benefitted by having the best and brightest go there. First, note that the academies are inefficient in the sense that they are a comparatively expensive way of generating officers. A incentives necessary to compensate for increased risk of death or injury and time away from family.

These percentages underestimate their pay relative to civilians because the military receive much more generous benefits. Noncash and deferred benefits account for about 50-60% of military compensation versus 33% for large private or government workers. See Congressional Budget Office, Evaluating Military Compensation, pp. 14-15. Military members get free health benefits and for dependents they get health care at extremely low cost. This increases the military ranking by several percentiles (the percentage thus goes to at least 87%). See Grefer et al., Military and Civilian Compensation: How Do They Compare? pp. 29-32 and James Hosek et al., Placing a Value on the Health Care Benefit for Active-Duty Personnel (Santa Monica, CA: Rand, 2005). For some members of the military, the benefit is worth 7% of RMC. This is more generous than that given to other federal government employees. See Congressional Budget Office, p. 17. Also, they benefit when their employment conditions are compared to civilian workers. The higher unemployment rate in the civilian world translates into a lower probability of full- or part-time employment, thus reducing the expected income from civilian employment. See James Hosek et al., Should the Increase in Military Pay be Slowed?

There are still other benefits that make the military package even better. See Congressional Budget Office, pp. 13-20. The military provides child care services, life insurance, disability insurance, and free fitness centers. A particularly significant benefit is the retirement program. It requires 20 years to vest, is a defined-benefit plan, and begins paying benefits as soon as the member leaves the service. This can occur as early as age 38. This allows members to collect retirement benefits at the same time they have second careers and, at the same time, participate in a private-sector retirement plan. For example, one study showed that 75% of retired military members ages 38-54 were working full-time as were more than 50% of those ages 55-64. In contrast, less than half of medium to large private employers provided a defined-benefit plan. These defined-benefit plans frequently do not become available until age 65.

In yet another benefit, surviving spouses and children receive generous benefits that substantially exceed that of civilian family survivors. The data here comes from Amalia Miller et al., Analysis of Financial Support to the Surviving Spouses and Children of Casualties in the Iraq and Afghanistan Wars (Santa Monica, CA: Rand, 2012), x-xi, 29-33. When recurring payments are added to lump-sum payments, replacement rates for surviving families of combat dead are substantially higher than that of civilian families. The income replacement rates 170% of active duty members’ compensation and 184% of reserve-duty members’ compensation. Note that between 2003 and 2006, 0.3% of married service members were killed in combat (1,184 out of 347,078 people). It should be said that a loss of a family member is a tragedy and that is a horrible loss for a family.
USFA graduate costs $487,000. This is four times as much as a ROTC program. The same is true for the other academies. Worse, many of the students come from pricey high schools associated with the academies. Specifically, 20% of the students who attend USNA come from the USNA high school that costs roughly $50,000 per year. Despite being so expensive, academy graduates are not better. A 2003 study did not find there was a difference in promotion rate between USNA and ROTC officers.

There is no evidence that that officers who attended civilian colleges or any one of the U.S. Senior Military Colleges (e.g., Citadel) are lesser leaders than their service-academy peers. Even if they were better officers, the military has a difficult time hanging on to them. About half of academy graduates leave the military after their obligation of 5-7 years as a junior officer.

They do not appear to be ethically superior to ROTC and OCS products. About a third of the commanding officers removed in 2012 malfeasance – record numbers for Navy – were

24 See ibid.
25 See Fleming, “Let’s Abolish West Point: Military academies serve no one, squander millions of tax dollars,” p. 3.
academy graduates. The academies students have been found to have involved in various scandals (e.g., sexual assault and cheating).\textsuperscript{26} Remember that as a baseline, only 20\% of officers in the military are graduates of the academies.\textsuperscript{27}

While the admissions process is opaque, there is a concern for nepotism and corruption. In 2012, 58\% of students came from a congressional or vice presidential nomination. As noted above, the nominations are largely made in secret, done via an inconsistent and opaque process, and perhaps corrupt.

The vaunted intellectual reputation of academy graduates as equal to that of the Ivy League and its peers is inaccurate. Academy SAT scores are not elite. In one ranking, USAFA is ranked 77\textsuperscript{th} (1305) and ranked next to Occidental and Villanova Colleges. USMA is ranked 98\textsuperscript{th} (1283) and is ranked next to New College at Florida and UC-San Diego. USNA is ranked 99\textsuperscript{th} (1280) and is ranked UC-San Diego and UW Madison.\textsuperscript{28} More than a quarter of the class has SAT scores below 600 and the average is lower than the nearby state school University of Maryland.\textsuperscript{29} These are respectable scores and the peer schools are strong ones, but still not close to the scores that characterize the elite Ivies and their peers (for example, MIT, Duke, and University of Chicago).

It is thus unclear whether the academies are worth preserving and whether it is better to have the best and brightest attend them rather go elsewhere. Without market discipline, there is no clear way of knowing whether we want better, worse, or equivalent people attending the academy than do so today. This lack of knowledge undermines the first three theses because it

\textsuperscript{26} See ibid.
\textsuperscript{27} See ibid.
\textsuperscript{29} See ibid.
undermines the case for trying to get better students attend the academy and these theses presuppose this goal. On a side note, this is true regardless of what one thinks makes one student better than a second at the academy. For example, it is independent of whether one student is better than a second in virtue of the first having more academic ability, leadership, moral character, or so on.

Part Eight: Conclusion

In this article, I have argued for four theses.

**Thesis #1: Statistical Discrimination.** A military academy should statistically discriminate.

**Thesis #2: Demographic Discrimination.** A military academy should demographically discriminate.

**Thesis #3: Comparative Methods.** The case for demographic discrimination is at least as strong as the case for the current admissions methods.

**Thesis #4: Undermining Factors.** If the academies should be eliminated or too much talent in military leadership, then the above theses are less clear.

The fourth thesis undermines the first three because the first three assume that the academies should aim to get the best and brightest students they can get. The fourth suggests that this goal might not be worthwhile, in particular, it is undermined if it were better were the best and brightest to either not become military officers or do so via another route (for example, ROTC). Without market discipline, the fourth thesis cannot be ruled out and thus threatens to undermine the first three.\(^{30}\)

\(^{30}\) I am grateful to Col. David Barnes, Randy Dipert, Neil Feit, David Hershonov, Joan Johnson-Freese, Eric Kershner, Col. Chris Mayer, Richard Schoonhoven, and participants in the 2016
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