

RACIAL AND ETHNIC DIVERSITY IN MILITARY LEADERSHIP:
A FEASIBILITY ANALYSIS OF THE
MILITARY LEADERSHIP DIVERSITY COMMISSION'S
SERVICE ACADEMY ACCESSION RECOMMENDATIONS

by

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Dedication

This work is dedicated to my family. Barbara Denise Williams, thank-you for the twenty-five years that you've been my wife. You have been an incredible life partner and none of this would have been possible without you. Ebonie Williams, I love you more than you can possibly understand. I am so proud of you and I can't wait to watch you graduate from college and from graduate school.

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Abstract

RACIAL AND ETHNIC DIVERSITY IN MILITARY LEADERSHIP: A FEASIBILITY ANALYSIS OF THE MILITARY LEADERSHIP DIVERSITY COMMISSION'S SERVICE ACADEMY ACCESSION RECOMMENDATIONS

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The Military Leadership Diversity Commission (MLDC) was created for the purpose of conducting a comprehensive evaluation and assessment of policies and practices that shape diversity among military leaders. The commission concluded that the Armed Forces had not yet succeeded in developing a stream of leaders who are as demographically diverse as the nation they serve. It recommended twenty improvements to existing diversity-related policies and offered new initiatives to systematically develop more demographic diversity among military leadership. The recommendations included a proposal to increase minority representation in officer accession programs. To assess that recommendation this research sought to identify characteristics of demographically diverse individuals who participate in an officer accession program. The United States Naval Academy (USNA) was used as a case

study and a comparison was made between the characteristics of a four-year cohort of USNA students and the characteristics of a similar cohort of students at comparably selective academic institutions. The resultant study provides a theoretical understanding of the characteristics of diverse students who entered the United States Naval Academy, discusses the feasibility of the MLDC recommendations, and contributes to the body of literature which seeks to understand who serves in the United States Military, and why.

Chapter One

Policy Problem and Background

Introduction

The Fiscal Year 2009 National Defense Authorization Act, Section 596, established a Military Leadership Diversity Commission (MLDC) for the purpose of conducting a comprehensive evaluation and assessment of policies and practices that shape diversity among military leadership in the United States. The commission concluded that the Armed Forces had not yet succeeded in developing a stream of leaders who are as demographically diverse as the nation they serve. It recommended twenty improvements to existing diversity-related policies and offered new initiatives to systematically develop a more inclusive military institution. Among the potential improvements were officer accession recommendations. The officer accession recommendations suggested that the Department of Defense (DOD) engage in activities to improve recruiting from the currently available pool of qualified candidates by

- a) *Creating, implementing, and evaluating a strategic plan for outreach to, and recruiting from untapped locations and underrepresented demographic groups.*
- b) *Creating more accountability for recruiting from underrepresented demographic groups*

The very nature of the MLDC and its recommendations implies that there is a social imperative associated with the United States Military; an imperative which is a necessary component for civil-military relations. In fact, service in the United States

Military can be viewed through three paradigms: military accessions as a functional and/or a social imperative; military accessions as a defense manpower management process; and military accessions from a youth decision making perspective. All three of these paradigms, when combined in proper context, relate to the major foundational focus of this research — “who serves, and why?”

These three divergent research conceptions offer a unique glimpse into the role of the military from the sometimes vastly different viewpoints of stakeholders in the military accessions process. The study of civil-military relations is relevant in analyzing how society and decision makers view the military, and also why the composition of the military force is an important policy issue. The study of defense manpower management is relevant in analyzing how the military institution views itself and its requirements and how the military recruits and sustains the force. The study of youth attitudes and decision-making is relevant in analyzing how individual’s being recruited into the military view the institution and what motivates them to join. When combined with theories relating to public-service motivation, these research conceptions can also provide a solid framework identifying the characteristics of demographically diverse individuals who participate in an officer accession program, and, specifically for this research, the characteristics of racially diverse individuals who attend one specific officer accession program, the United States Naval Academy (USNA).

Service academies in general represent 18 percent of officer accessions across DOD.¹ Among the service academies, the Naval Academy offers a unique research opportunity for study because graduates of the Naval Academy are offered the choice to

¹ “Population Representation in the Military Services.” Active Component Commissioned Officer Corps, FY11: by Source of Commission, Service, and Gender. Found online at: http://prhome.defense.gov/RFM/MPP/ACCESSION%20POLICY/PopRep2011/appendixb/b_31.html

serve in functional capacities similar to the primary focus of each of the three other military academies. Naval Academy graduates can, through their service-selection decision, either consider a career track in an aviation component (Navy and Marine Corps aviation), ground combat component (Marine Corps), special operations component (Navy SEALs), and maritime component (Navy surface warfare or submarine specialty). The United States Air-Force Academy, the United States Military Academy, and the United States Coast Guard Academy are similarly equivalent officer accession institutions but they do not offer the same array of career choices.

This dissertation seeks to determine if there are variables which influenced the demographic representation of the Naval Academy's midshipman classes which convened from academic years 2005 through 2008. The research provides a useful starting point to discuss the feasibility of the Military Leadership Diversity Commission's recommendation that the military services create, implement, and evaluate a strategic plan for outreach to, and recruiting from, untapped locations and underrepresented demographic groups. The remainder of this chapter will offer background information on the Military Leadership Diversity Commission's report, the research problem, the purpose of the dissertation, and the approach to this research.

Background

The Military Leadership Diversity Commission's final report, "From Representation to Inclusion: Diversity Leadership for the 21st-Century Military," prefaced by discussing President Harry S. Truman's historic Executive Order 9981 which made the U.S. Armed Forces a deliberately inclusive organization in 1948. The order called for "equality of treatment and opportunity for all persons in the armed services." The U.S. Armed

Forces' dedication to equal opportunity has resulted in increased representation of racial/ethnic minorities and women among top military leadership, but there has not been a continuing stream of leaders who as diverse as the Nation itself. Demographic shifts in the United States, which project a majority minority nation by 2040, will eventually make these disparities even more self-evident.²

The report supported two overarching and related objectives: (1) that the Armed Forces systematically develop a demographically diverse leadership that reflects the public it serves and the forces it leads, and (2) that the military services pursue a broader approach to diversity that includes the range of backgrounds, skill sets, and personal attributes that are necessary to enhancing military performance.³

The commission reached this conclusion after comparing the demographic representation of the active component officer force to the demographic representation of the active component enlisted force and then to the entire U.S. population. The commission reported racial/ethnic minorities and women lag behind non-Hispanic white men in terms of the representative percentage of military leadership positions held, see figure 1, noting that future changes to the demographic composition of the United States would further intensify these disparities.

² Military Leadership Diversity Commission. "From Representation to Inclusion: Diversity Leadership for the 21st-Century Military. Final Report." March 15, 2011. Found online at http://mldc.whs.mil/download/documents%/Final%20Report/MLDC_Final_Report.pdf. January 1, 2012

³ Ibid.

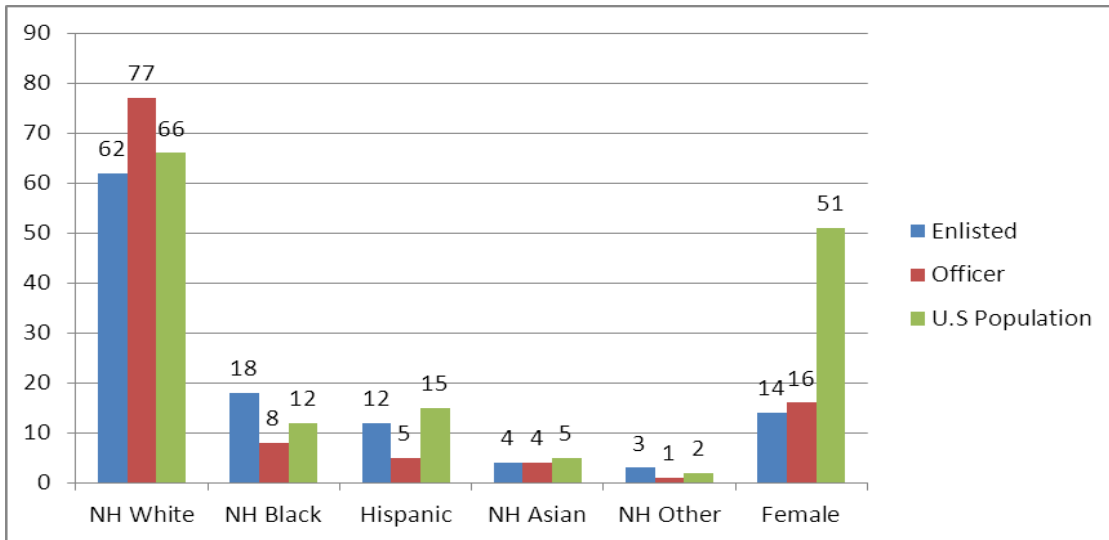


Figure 1. Racial/Ethnic Minority and Female Shares of Officers and Enlisted Personnel in the Active Component, September 2008.

Source: The Military Leadership Defense Commission Final Report, March 2011

The commission's recommended improvements to existing diversity-related policies specifically included proposals to create a more demographically diverse officer candidate pool by:

- a) Creating, implementing, and evaluating a strategic plan for outreach to, and recruiting from, untapped locations and underrepresented demographic groups;
- b) Creating more accountability for recruiting from underrepresented demographic groups;
- c) Developing a common application for Service ROTC and academy programs; and
- d) Closely examining the preparatory school admissions process and making required changes to ensure that accessions align with the needs of the military.⁴

⁴ Ibid.

The proposal of these initiatives is a potential indication that the MLDC did not believe that the Department of Defense had been diligent enough in their efforts toward proportional representation. This argument is further strengthened when juxtaposed with other MLDC recommendations that call for:

- a) The leadership of DOD and the military services to personally commit to making diversity an institutional priority; and for
- b) Revising Title 10 of the United States Code to require a standard set of strategic metrics and benchmarks to track progress toward the goal of having a dynamic and sustainable 20-30 year pipeline that yields an officer and enlisted corps that reflects the eligible U.S. population.⁵

One concern with the MLDC recommendations centers on the basis of comparison. The MLDC recommendations compare the officer demographic percentages to the enlisted demographic percentages and to the entire U.S. population. This is not the comparative standard normally employed by the DOD. DOD has routinely compared the percentage of officers with the percentage of civilian college graduates in the 21- 35 year-old cohort; as this population represents the cohort of individuals who meet the basic eligibility for a commission in the Armed Forces. DOD will also make comparisons among the branches of service, as each branch of service operates their own officer commissioning programs according to their unique service requirements.

Figure 2 offers a comparison between the proportion of officers and the proportion of civilian college graduates. It shows that the percentage of officers in the DOD who are black is very closely aligned with the percentage of black college graduates in the U.S. as a whole. The Hispanic ethnicity is underrepresented in comparison with the percentage of civilian college graduates, but it is much more closely aligned than the

⁵ Ibid.

MLDC report represents. Asian college graduates and female college graduates are underrepresented in the department of defense utilizing either comparison as a basis.

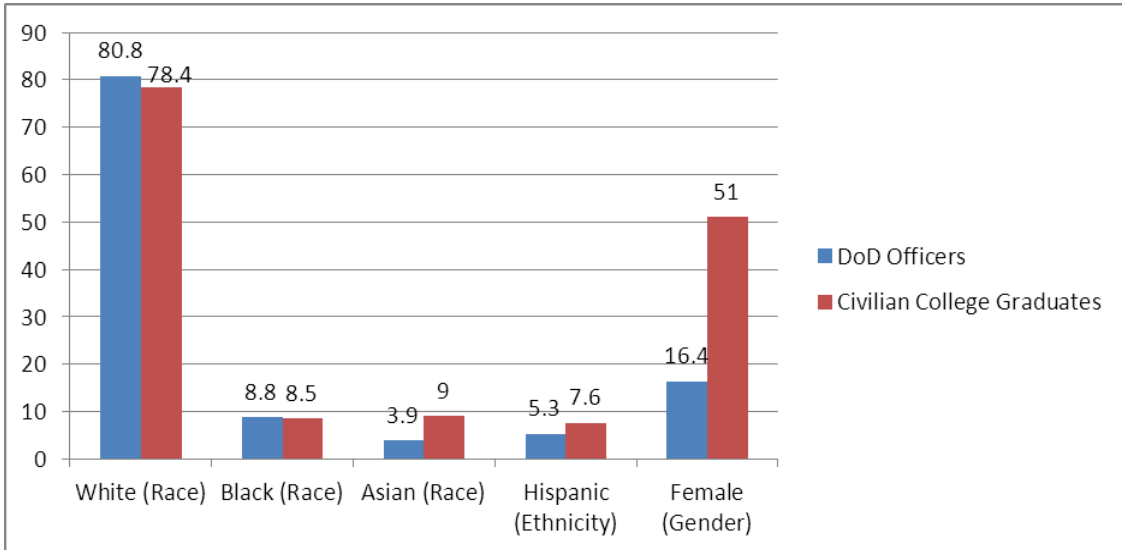


Figure 2. Racial/Ethnic Minority and Female Shares of Officers, FY10: by Service and Gender with Civilian Comparison Groups
 Source: Office of the Under Secretary of Defense, Personnel and Readiness. Population Representation in the Military Services, 2010.

It is important to indicate that prior to January 2003, race categories consisted of only black, white, and other. Those who identified themselves as “Hispanic” were defined as such, without regard to race; thus, race totals included “Hispanic” as a separate category. From 2003 on there were five race categories: American Indian or Alaska Native, Asian, black or African-American, Native Hawaiian or other Pacific Islander, and White. Respondents could also check more than one category, and this was reported as “two or more races.” In addition, the percentage of respondents who elected not to respond (categorized as “unknown/elected not to respond”) increased, thus the race percentages were calculated using all of these groups in the denominator.

A separate question asked respondents about their Hispanic identity; therefore, race totals no longer included Hispanic as a category. From 2004–2007, Whites and Blacks were equally represented among all DOD officers and the civilian college graduate workforce (81 percent and 9 percent, respectively). However, the percentage of Black officers in the services ranged from 12 percent in the Army to 6 percent in the Marine Corps. Asians were underrepresented in the services, comprising between 2 to 4 percent of military officers, compared with 9 percent of employed civilian graduates. Other groups (American Indians or Alaska Natives, Native Hawaiians or other Pacific Islanders, and those reporting two or more races) were not generally compared because of their small sample sizes.⁶

A second concern with the MLDC recommendations is that the recommendations imply that the military does not currently have a strategic plan for outreach to, and recruiting from, untapped locations and underrepresented demographic groups. Admissions officials at the Naval Academy might disagree with this assertion. Minority applications have more than doubled from almost 3000 for the class of 2012 to almost 7000 for the class of 2015. The Director of Strategic Outreach for the Naval Academy has focused on recruiting from historically underrepresented Congressional Districts, as opposed to focusing on underrepresented demographic groups, and contends that the direct benefit of this shift in focus has been that more minorities are aware of opportunities at the Naval Academy and have applied for admission.⁷

⁶ Kirby et. al. "Diversity of Service Academy Entrants and Graduates." RAND National Defense Research Institute. 2010.

⁷ Meeting with USNA Admissions Officials on 14 February 2012; and follow-on information provided by Mr. Dave Alexander and LCDR Damon Myers, USNA.

A final concern with the MLDC recommendations is noted by individuals who assert that the most important priority for the nation's military is to fight and win the nation's battles; and even if proportional representation is a concern, the MLDC recommendations attempt to implement a solution to an undefined problem. It may be the case that the DOD and the military services have not done enough to promote and sustain social inclusiveness in military leadership; yet it may also be the case that qualified minorities are expressing their individual prerogative to pursue pathways other than those that result in advancement into senior military leadership. In other words, the individual prerogative of qualified minority youth may include a lesser propensity to pursue a ROTC scholarship or to seek admittance to a service academy.

Research Problem

The current all-volunteer force is generally representative of society—although, partly because of the unique demands of military service, the United States Military has a higher proportion of young adults than the American population as a whole. The United States Military has also historically had a smaller proportion of women.⁸

The enlisted component of the Armed Forces are racially and ethnically diverse, although research by Professor David Armor and Dr. Curtis Gilroy, former director of accession policy for the Department of Defense, indicates there has been a proportional

⁸ The DOD publishes an annual report entitled Population Representation in the Military Services. The 2011 report indicates that the DOD is diverse in relation to Household Income, however, the highest listed range is \$77K and over. Eighteen percent of DOD accessions fall into this category. It is not clear how many of these individuals come from the highest income brackets to include ranges of \$250K and above. Found online at: http://prhome.defense.gov/RFM/MPP/ACCESSION%20POLICY/PopRep2011/appendixb/b_41.html. Sept 3, 2013

decline in African-American enlistments since 1991 and a simultaneous proportional increase in Hispanic enlistments during the same time-period.⁹

The MLDC recommendation to increase diversity in military leadership by creating more accountability for recruiting from underrepresented demographic groups is potentially problematic because there is a dearth of empirical research exploring the characteristics of individuals who enter military leadership through officer accession programs. There also exists a research gap in the growing empirical work on motivation theory, particularly as it relates to its application to the military, which resides at an extreme of public-service.

Purpose of the Dissertation

The purpose of this dissertation is to study the exogenous and intermediate variables that potentially influence the decision for qualified high school graduates to attend the Naval Academy as opposed to an educational institution of similar academic selectivity. The goal of this research is to determine the impact of these exogenous and intermediate variables on the decision making process and to determine, after controlling for these variables, whether race and ethnicity play a significant in the decision-making process.

Data from students who entered the Naval Academy in academic class years 2005 through 2008 is used as a focus of study. This data is compared with data from students who attended highly selective educational institutions during the comparison

⁹ Armor, David J. and Curtis Gilroy. "Changing Minority Representation in the U.S. Military." *Armed Forces and Society*. October 20, 2009

range. This research seeks to offer recommendations which are consistent with the goal of creating a strategic plan for outreach to underrepresented demographic groups.

The dissertation is intended for DOD and Service policy analysts who can utilize this study to make effective decisions regarding diversity programs and regulations which affect officer accession programs. The study is centered upon two primary research questions:

- 1) Are there variables that have a strong statistical correlation with the decision to pursue admission to the United States Naval Academy?
- 2) If so, after controlling for these variables is the probability that an individual will pursue admission to the United States Naval Academy affected by that person's race or ethnicity?

Research Approach

The first phase of the dissertation will begin by tracing the history of demographic representation in the United States military, its appropriateness as a goal, and the major theories that serve as the foundation for demographic representation.

The second phase of the dissertation is designed to determine if there are variables or motivational factors that affect the decision for individuals to enter a path toward military leadership. The focus is to explore those variables and motivational factors by comparing a subset of Naval Academy students with students from equivalently selective educational institutions and to determine which of those variables may have influenced the decision to attend the Naval Academy. Those variables will then be analyzed to determine if they differ based upon demographic profile.

The dissertation will conclude by explaining the findings of this research and possible policy implications of the findings. As discussed above, this research is intended to assist policymakers in creating, implementing, and evaluating a strategic

plan for outreach to, and recruiting from, untapped locations and underrepresented demographic groups.

In its broader context this dissertation will also contribute to the evolving discussion of U.S. Civil-Military relations by adding additional insight into the question of why individuals choose to serve in the Armed Forces. This research focuses on the decision to pursue admission to the United States Naval Academy, while much of the prevailing literature discusses the choice to enlist in the military.

Chapter Two

Theoretical Background

The Role of the Military

A study of the relationship between the Armed Forces and civilian society is a necessary first step in attempting to evaluate who should serve in the Armed Forces. To understand the civil-military relationship it is important for my dissertation to expand upon the role of the military in society, the mechanisms for control of the military in a democratic society, the theoretical underpinnings of the civil-military relationship, and specifically how the theoretical basis of the civil-military relationship affects the premise of a demographically representative force.

The framers of the Constitution realized that one of the major purposes of a strong central government was to provide for the defense of the nation. In 1780, unrest broke out in Massachusetts shortly after that state's newly approved constitution barred the lower and middle classes from voting and holding state offices. Daniel Shays and 1,500 armed and disgruntled farmers who were still waiting for their Continental Army veteran bonuses marched to Springfield, Massachusetts demanding that the courts not allow foreclosures on their mortgages. Congress responded by authorizing the Secretary of War to call for a new national militia. A \$530,000 appropriation was made, but every state except for Virginia refused Congress' request for money. The subsequent failure of the Congress to muster an army provided a dramatic example of the weakness of the Articles of Confederation. The framers of the Constitution subsequently gave Congress

the authority in Article 1 of the Constitution to raise and support armies and to provide and maintain a Navy, and in Article 2, Section 2 of the Constitution made the President the commander in chief of the Army and Navy of the United States, and of the militia of the several states, when called into the actual service of the United States.¹⁰

For a great part of American history there was a general mistrust of standing armies and militarism during peacetime, yet a warm affection for military heroes and bravery in war. As late as 1955 the prestige of an officer in the Armed Forces ranked in public opinion polls below that of a physician, scientist, college professor, minister, and public school teacher. World War II sharply modified this ideology as the lines blurred between war and peace, and between the separate roles of civilian and military societies. In 1940 there were only 428,000 individuals in the Army and Navy, while today's forces contain over 3.4 million men and women on active duty, and 1.6 million ready reserves and National Guardsman. With the vastly expanded world role after World War II, the voice and views of the professional military force became increasingly prominent – particularly as distinguished military leaders from the war years filled many top positions in government.¹¹

The rise of the professional military brought about questions of the civil-military relationship and the need for civilian control of the military. These questions were even more considered when the establishment of an All-Volunteer force made the military a self-selecting organization, increasingly more divergent from society. The All-Volunteer force meant that the military competed for employees like any other employer and this ignited fears in both the civilian and military sectors. Individuals in the military sector

¹⁰ O'Connor, Karen, Larry Sabato and Alixandra Yanus. American Government: Roots and Reform. Boston: Longman. 2011

¹¹ Hickman, Martin B. The Military and American Society. Glencoe Press. 1971. Pg(s) 1-4.

were concerned about the possibility that the civilian society would be ignorant of and unsympathetic to the military's needs and that the effectiveness of the military would suffer. Individuals in the civilian sector were concerned that an isolated military might neglect its obligations to society and turn hostile. There was talk of emphasizing the study of civics at the academies, and drawing a larger proportion of officers from the Reserve Officer Training Corps (ROTC) to ensure that military officers were less likely to have authoritarian or militaristic leanings. These concerns revived a decade's old debate between Huntington and Janowitz, along with their intellectual heirs, about how to best ensure civilian control of the military and to reduce the civil-military gap.¹²

Civilian Control of the Military

Samuel Huntington provided the seminal work that relates to civilian control of the military. He argued that the basic problem in defining civilian control of the military was how military power could be minimized. His answer was in two broad models, the subjective civilian control model and the objective civilian control model.¹³

The subjective civilian control model maximizes civilian power. The concern, however, is in knowing which civilians are doing the controlling. Congress identifies civilian control with congressional control, but the President identifies civilian control with presidential control. In either case civilian control is considered to be through constitutional form. Subjective civilian control, in Huntington's thesis, allowed for military

¹² Feaver, Peter D. et al. "The Gap between Military and Civilian in the United States in Perspective." In Soldiers and Civilians: The Civil-Military Gap and American National Security. MIT 2001.

¹³ Huntington, Samuel. The Soldier and The State. Belknap/Harvard. Renewed 1985. Pg 80.

participation in institutional, class, and constitutional politics. It meant there was no independent military sphere.¹⁴

The concern Huntington notes with this model was that the rise of the military profession transformed the issue of subjective civilian control. Civilian groups were competing amongst themselves and also against a rising professional military class who saw the need for new, independent, and functional military imperatives. A professional military became a concern for civilian groups who assumed that a reduction of military influence was necessary to preserve the peace.¹⁵

The objective civilian control model allowed for maximizing military professionalism. It called for the type of distribution of political power and roles between military and civilian groups that would be conducive to the emergence of professional attitudes and behavior among the members of the officer corps. Objective civilian control is directly opposed to subjective civilian control. It calls for an autonomous military sphere and minimizes military power by making the military politically sterile and neutral. In this scheme a highly professional, but apolitical military stands ready to carry out the wishes of any group which secures legitimate authority within the state.¹⁶

A few scholars have disagreed with the assumptions about the military professional implicit in Huntington's theories on objective civilian control. Morris Janowitz, for example, argued that the professional soldier is above politics, but this does not mean they are apolitical. In fact, most professional soldiers identify themselves as conservative, or conservatively inclined, but it is important to note that conservatism in

¹⁴ Ibid. Pgs 80-82.

¹⁵ Ibid. Pgs 80-82.

¹⁶ Ibid. Page 82-84.

the military is generally defined as a predisposition to the status quo. Military members have taken more of an interest in economics and while many individuals follow the conservative ideal that taxes should be less, most military members believe the military budget is inadequate. An increasing number of military professionals are prepared to argue about the decisions of civilians on budgetary issues and many military professionals are open to challenging the efficacy of the educational system, which they do not believe produces the superior talent necessary for national defense.¹⁷

In disagreeing with Huntington's thesis Janowitz also argued that civilian control of the military is best ensured if the officer corps represents a cross section of American society, largely because broad social representation is an important factor in avoiding the danger of military officers becoming a self-perpetuating clique, or of representing a privileged group. If the military--and particularly the officer corps--is a representative cross section, it limits intentions to upset the political balance. Janowitz pointedly argued that a representative military is the most appropriate scenario for democratic political control of the military establishment because a representative military implies that there is nothing in the professional soldier's social background which would endanger internal democracy. In fact, the belief that the officer corps, including its top stratum, mirrors the nation's credo serves the needs of the internal administration of the military establishment. In times of conflict it means that draftees and volunteers are led by their own kind and not by any special social strata whose traditions or aspirations might be suspect.¹⁸

¹⁷ Janowitz, Morris. The Professional Soldier: A Social and Political Portrait. New York: The Free Press, 1964.

¹⁸ Ibid.

Since WWII both the legislative and the executive branches of government have sought to strengthen the machinery of political control over the Armed Forces. Congress has exerted more control through their regulation of expenditures in the annual budget review, and the number of congressmen on committees dealing with military affairs, as well as the staff personnel for these committees has grown - although their focus routinely is the elimination of waste, and not the evaluation of military performance. At the same time, there has been a marked growth of bureaucracy in the office of the Secretary of Defense and in the layers between the military chiefs and the president, making the structure of civilian control increasingly more complex.¹⁹

Peter Feaver suggests that the civil-military problem is more vexing than that which is explained by either Huntington or Janowitz. He notes that the real paradox is that an institution created to protect the polity is given sufficient power to become a threat to the polity. Feaver advanced an agency theory as a way of linking 'Janowitzean' variables like the difference between civilian and military attitudes to 'Huntingtonian' variables like military obedience.²⁰

Feaver developed a Principal Agent Framework as a mechanism to control the military. He argues that the framework, which explores the manner in which political actors in superior positions (principals) control the behavior of actors (agents), is the most complete manner to articulate a theory of civil-military relations. Feaver lists Strategic Interaction and Hierarchy as the two distinctive features of this framework. In theory, civilians have authority and make choices based upon expectations about what the military will do. Military members advise civilian leaders and must be careful not to

¹⁹ Ibid.

²⁰ Feaver, Peter D. Armed Servants: Agency, Oversight, And Civil Military Relations. Harvard Press. 2005

cross the blurry line between advising against a course of action and resisting civilian efforts. In reality, the nature of national security often produces three policy mixes: a policy mix that produces true optimal security, the civilian principal's desired policy mix, and the military agents desired policy mix. The problem, of course, is that both actors are imperfect judges of what is needed for the optimal level of national security.²¹

Feaver notes that in certain cases the military has tried to force civilians to achieve their view of the optimum. After Vietnam the Army shifted key support functions to the Reserve component, thus requiring the President to spend political capital to mobilize the Reserve component if he wanted a large-scale and costly deployment. Civilian leaders resisted efforts at 'shirking' by restricting the scope of the military through a variety of methods:

- a) Restricting the scope of delegation
- b) Monitoring items such as the rules of engagement
- c) Standing orders, mission orders, and contingency plans
- d) Monitoring accessions and promotions
- e) Allowing reporting agencies to set off fire-alarms
- f) Implementing punishment mechanisms
- g) Budget reductions
- h) Forced detachment (relief or retirement).²²

Feaver's Agency Theory provides four general patterns of civil-military relations: the military works with non-intrusive monitoring by civilians; the military works with intrusive monitoring by civilians; the military shirks with non-intrusive monitoring by

²¹ Ibid.

²² Ibid.

civilians; and the military shirks with intrusive monitoring by civilians. Feaver notes that in 35 prominent military-civilian disputes the military only unambiguously shirked in two instances: When President Carter attempted to withdraw forces from Korea, and when President Reagan tried to institute a nuclear doctrine aimed at fighting a protracted nuclear war. The military has also been successful on a few occasions since 1954 in persuading civilian leaders not to use force when the civilian leaders preferred to do it (IndoChina 1954, Laos 1961, North Korea 1969, Jordan 1970, and Nicaragua 1983). What is important to understand is that the electoral cost of intrusiveness changed during the Cold War. The American electorate recognized that military issues mattered.

In Vietnam, civilians monitored intrusively even to the operational level. Generals such as Air Force General Lavelle shirked by taking actions such as loosening the rules of engagement, but were made an example of by being relieved and retired. Then in the late 1960s, Secretary of Defense Robert McNamara implemented the Planning Programming and Budgeting System to give civilian leaders far greater access to information on the requirements of the military than had ever previously been available.²³

Feaver's concern is with situations, such as those presented in the Clinton administration where there is a discordant relationship between the military and the civilian hierarchy. He states that the Clinton era was marked with sexual harassment concerns, charges of military insubordination, concerns about the moral authority of the President; and questions about who should shape the roles and mission of the post-Cold War force. He also notes that under President Clinton many defense positions went unfilled, largely because Clinton did not delegate properly and because Clinton

²³ Ibid.

emphasized a great deal of diversity. He adds that civilian led policies in the 1990s led to the military doing things it normally does not do – patrolling for drugs, helping wayward youths in the inner city, and feeding the world’s starving masses. These policies reemphasized the idea that the military could be used as a socially relevant, and not just functionally relevant part of society, particularly as the military emerged as the only public institution that worked. Military leaders earned the influence to challenge political leaders, but a necessary result was also that the composition and leadership of the military would begin to change.²⁴

John Williams makes the point that the international security environment changed after the Cold War and the degree of those changes became evident with the attacks on September 11th. The changes have significant implications for military professionalism and the relations between the military and society, and to put the changes into a wider theoretical context he developed a Hybrid Postmodern Military model to study changes that have affected the Armed Forces since the September 2001 attacks. Williams notes that the security environment was previously discussed in three periods; the Modern (Pre-Cold War, 1900 – 1945) period; the Late Modern (Cold War, 1945 – 1990) period; and the Postmodern (Post-Cold War, since 1990) period. His contention is that the 2001 attack drastically changed the security situation and in order to recognize the new reality he labels the new environment a Hybrid Postmodern Military period. The Hybrid label refers to the idea that the range of threats faced today combines threats of earlier eras -- from nuclear attacks to sub-national threats within the country.²⁵

²⁴ Ibid.

²⁵ Williams, John Allen. “The Military and Society beyond the Postmodern Era.” ORBIS, Volume 52, Issue 2. Spring 2008

Williams' contention is that in the Hybrid Postmodern Military period there are serious challenges to traditional military culture, which include the imposition of nonmilitary social, ethical, and political criteria of evaluation of the military. The point of this contention is that the military is becoming less separate from civilian society even while fewer citizens have military experience or know anyone who has it.²⁶ This is essentially an argument that the military is moving toward the type of subjective civilian control model discussed by Morris Janowitz and away from the objective civilian control model articulated by Samuel Huntington.

Williams states that recruitment patterns in the new environment are already changing. The Army has enlisted more high school dropouts (with the GED regarded as equivalent to graduation) and individuals with a lower aptitude. More waivers are given for physical fitness and age, and there are even "moral waivers" for prospective inductees who have committed serious misdemeanors or some felonies. The Armed Forces have offered more bonuses and incentives for service, including paying \$20,000 to individuals who can depart for basic training quickly. The military is not attracting as many "elites," but the force has not collapsed. A combination of military necessity and societal pressures are causing the military to include a wider variety of citizens, and even non-citizens, among their number. The question is how long the volunteer paradigm will last when the demands of the military require so much of individuals and their families. Williams proposes incentives such as making military or civilian service required as a condition of college assistance, or altogether rethinking the volunteer or supplemented volunteer paradigm.²⁷

²⁶ Ibid.

²⁷ Ibid.

Williams' argument is that in the new era there exists the possibility that the United States may feel itself so threatened by terrorist attacks that it could become willing to use the military at home and abroad in ways not previously contemplated. Threats continue to exist from external state actors, but they also exist from domestic cells of terrorist organizations from abroad, and from domestic extremists. His main point is that as the security environment changes, and societal values and norms adjust to challenge those threats, the military must also change. This link between threats, societies, and the military perpetuates continued development of the concept of civil-military relations.²⁸

Civil-Military Control and Service Academies

The nomination process for appointment to a service academy is consistent with the objective of civilian control of the military. The process design is also consistent with a goal of a broadly representative force. Students applying to a service academy are required to gain a nomination from either the President, a member of Congress, the Secretary of the Navy, or from a Reserve Officer Training Corps program. There may also be a maximum of 65 students in attendance at each academy who receive nominations specifically because they are children of deceased or 100 percent disabled veterans.

Nearly eighty percent of service academy nominations come from a member of Congress.²⁹ Each congressional office has the authority to develop its own process for managing service academy nominations and nominees may be submitted in three

²⁸ Williams, John Allen. "The Military and Society beyond the Postmodern Era." ORBIS, Volume 52, Issue 2. Spring 2008

²⁹ The U.S. Coast Guard Academy is part of the Department of Homeland Security and does not currently require a congressional nomination for appointment.

categories: without ranking, with a principal candidate and nine ranked alternates, or with a principal candidate and nine unranked alternates. When a congressman specifies that an individual is a principal candidate for a respective academy that individual will be appointed to the service academy as long as he or she meets all other admission criteria. If a congressman does not specify a principal candidate one individual from among the congressman's nominees who is found fully qualified by the service academy will be appointed.³⁰

The nomination occurs separately from, and simultaneously to, the admissions process. The admissions process for a service academy has similarities with other collegiate admissions process, but there are also notable differences which should be considered. Given that the focus of this study is the Naval Academy, their process is used as an example.

Service Academy Admissions

Nineteen percent of newly commissioned Navy officers and 16 percent of newly commissioned Marine Corps officers will earn their commissions through the Naval Academy.³¹ Individuals are eligible to enter the Naval Academy if they are a citizen of the United States, of good moral character, unmarried with no dependents, and at least 17, but not older than 23 years of age by July 1st of the year in which they would enter the academy. Individuals are competitive to enter the Naval Academy if they can demonstrate that they have excelled in the areas of leadership, academic, and athletic

³⁰ Congressional Research Service. "Congressional Nominations to U.S. Service Academies: An overview and Resources for Outreach and Management." Nov 2012

³¹ Active Component Commissioned Officer Gains, FY11: by Source of Commission, Service, and Gender. Found online at: http://prhome.defense.gov/RFM/MPP/ACCESSION%20POLICY/PopRep2011/appendixb/b_30.html

preparation.

Prospective students must complete a physical fitness assessment (which includes a one mile run, push-ups, and sit-ups), take either the ACT or SAT test, and submit high school transcripts, teacher recommendations, and a personal statement. The Naval Academy also has a local representative, who is called a Blue and Gold Officer, interview the potential candidate and provide a written assessment of qualifications. The Naval Academy does not specify a minimum SAT score or minimum high school grades but the admissions processes is designed to ensure that entering students have the ability to meet the rigorous academic and military challenges of the academy. More than 85 percent of students who are offered admission to the Naval Academy will attend, and more than 80 percent of entering students at the Naval Academy successfully complete the four-year program.

For the entering class of 2015 there were more than 19,000 applications and 1,426 offers of appointment. Individuals were admitted from every state in the nation, as well as from Washington DC, Puerto Rico, and the U.S. Virgin Islands. Fifty percent of the class achieved SAT scores within the verbal range of 590-720 and the math range of 610-730. Two-hundred and forty six students who entered with the class of 2015 were accessed through the Naval Academy Preparatory School (NAPS).³²

The Naval Academy Preparatory School is a bridge program designed to enhance midshipman candidates' moral, mental, and physical foundations and to prepare them for success at the U.S. Naval Academy. The ten-month course of instruction, located in Rhode Island, is similar to a college summer bridge program, but it is a longer period of

³² United States Naval Academy. "2015 Class Portrait." Found online at: www.usna.edu/admissions. Oct 2015.

preparation, and located at a separate institution.

The length and focus of the NAPS program is consistent with USNA program objectives. The Naval Academy focuses on maintaining a high retention and four-year graduation rate, which is not a requirement for most universities. Extended preparation for students who may need to enhance a focal area helps to achieve that goal.

Individuals who are admitted to the NAPS will continue directly into the Naval Academy the following academic year after successful completion of the NAPS program.

The NAPS program has been integral to ensuring broad representation at the Naval Academy. The Naval Academy solicits the best, as defined by the admissions board, students from each congressional district, but there is a general recognition that schools from all congressional districts aren't academically equivalent. Minority students are over-represented in the NAPS program, and this is largely consistent with the recognition that many minority students reside in congressional or school districts that don't offer the same level of academic rigor.

In trying to achieve broad representation, USNA admission's officials consider whether each selected student has excelled in their contextual environment, or achieved despite personal circumstance. NAPS provides a forum for students to demonstrate what their body of work has indicated to the admissions board – that if they are given an opportunity they can succeed at the Naval Academy.

There is also an over-representation of athletes at NAPS. This is a phenomenon that relates to the unique nature of USNA accessions and has been subject to a certain level of criticism. USNA admission's officials would respond that this is a consequence of one of the unique objectives of a service academy, which is to prepare individuals for service as a military officer. It is an objective that adds an additional element, leadership

and physical preparation, into consideration of individual qualifications.

Consider, for example, student (A) who has demonstrated leadership by serving as a three sport team athlete and team captain, and who has a 3.0 grade point average and 1150 SAT score. This student, assuming that they have met other criteria, would generally be considered qualified. The question, given limited allocations, is whether this student is the best qualified. If for example, all other qualifications are the same, is that student a better or worse candidate for USNA admissions and service as a military officer than student (B) who differs because they have little demonstrated leadership and athletic ability, but a 4.0 grade point average and 1400 SAT score? It is a difficult decision and question to answer, but it is part of the reason that the Naval Academy admission's board process is slightly different than the process at any other university. USNA admissions officials must constantly ask themselves which student brings the needed mental, moral, physical, and leadership qualities to the Brigade of Midshipman and has the best potential for future service as a junior officer in the Navy or Marine Corps. If the decision is to select student (A), then the Naval Academy can utilize NAPS to enhance their academic credentials. If the decision is to select student (B), then the Naval Academy has training programs to enhance their leadership and physical qualifications. Neither student is "less qualified," but because NAPS is not a resident program and has a quantifiable additional cost, NAPS attendance has been heavily scrutinized.

The Issue of Representation

In the 1840s, when Congress debated the fate of the United States Military Academy at West Point, representativeness meant regional representativeness and

resulted in the congressional appointment system that is in place today.

Representativeness today generally refers to social representativeness. Yearly Population Representation reports published by the DOD consistently show that the Armed Forces are broadly representative of American society, even while those in the upper and lower socioeconomic class are underrepresented.³³ The MLDC report discusses representation as if it is a given that social or demographic representation is a universally agreed upon principle, or that there is an accepted means to determine representation. The literature does not indicate that this is consistently the case.

Bernard Rosteker traced the issue of representativeness from the early debates about the all-volunteer force through the current War on Terrorism. In fact, he quotes Army Chief of Staff, General William Westmoreland in an 1973 article in the New York Times as saying “The social composition...(of the all-volunteer Army) bothers me. I deplore the prospect of our military forces not representing a cross-section of our society.”

Rosteker considers various areas in which representation could be categorized such as age, gender, marital status, educational level, socioeconomic status, race and political orientation. He allows that there are differences in each respective category between the military and the civilian sector but argues, specifically when discussing the absence of “elites” in the military, that these gaps have not translated to a less-capable military, a weakened nation, a disaffected youth, or disproportionate burdens on certain segments of society.³⁴

³³ Rosteker, Bernard. “The Gates Commission: Right for the Wrong Reasons.” In The All-Volunteer Force: Thirty Years of Service. Brassey’s, Inc. Washington DC. 2004

³⁴ Rosteker, Bernard. I Want You! The Evolution of the All-Volunteer Force. Rand 2006.

Rosteker maintains that the all-volunteer force has been a resounding success for the American military and the American people. It is a force that is generally representative of American society and has provided outstanding employment opportunities for groups that have long been excluded from the mainstream of society. It is a leading employer of women, with equal pay for equal work, and it is the most racially integrated institution in America. His point is that people join because they want to join, not because someone is forcing them to serve.³⁵

Mark Eitelberg considered the issue of military representation within the larger context of political legitimacy, social representation, and military effectiveness in his 1979 doctoral dissertation. He traces the discussion of military representation back to the Vietnam-era period before the advent of the All-Volunteer force and explains why military representation in the DOD is considered through statistical parity.

Eitelberg noted that the end of conscription began to appear inevitable at the same time that views of the relationship between the military and society were changing. It was a period in which factors such as a seemingly endless war, social movements, Supreme Court decisions, and federal legislation contributed to a heightened awareness of group participation and statistical parity within each sector of society.³⁶

Eitelberg points to remarks made by early All-Volunteer era defense officials such as Defense Secretary Melvin Laird and Army Secretary Howard H. Callaway. Laird wrote in his Report to the President: Progress in Ending the Draft and Achieving the All-Volunteer Force that “long range...we do not foresee any significant differences between the racial composition of the All-volunteer Force and the racial composition of the Nation.”

³⁵ Ibid.

³⁶ Eitelberg Mark. Military Representation: The Theoretical and Practical Implications of Population Representation in the Armed Forces. New York University. October 1979

Laird then reported that “we are determined that the All-Volunteer Force shall have broad appeal to young men and women in all racial, ethnic, and economic backgrounds.”³⁷

In 1975 Army Secretary Callaway, appeared before the Senate Appropriations Committee, and described the Army’s manpower recruitment goals:

What we see, and need, are quality soldiers—men and women who are representative of the overall population. Ideally, we would like to have at least one from every rural delivery route, and one from every small town. Our obligation to the American people is to strive to field an Army which is both representative of them and acceptable to them.³⁸

In elaborating on the issue of representation, Eitelberg expresses a concern that the literature contains frequent references to representation but little discussion or analysis of its meaning. He examines various theories of representation and concludes that the “descriptive” or “microcosmic” view of representation is closest to the meaning and usage of military representation. These theories assert that true representation occurs only when the representative body is similar in composition to that which it represents. In one example he likens representation to a mirror image of the people, reflecting without distortion the state of public consciousness and the movement of social and economic forces in the nation.³⁹ He then discusses theorists such as John

³⁷ Ibid. In U.S. President’s Commission on an All-Volunteer Armed Force, The Report of the President’s Commission on an All-Volunteer Armed Force, New York: The Macmillan Company, 1970.

³⁸ Ibid. In U.S. Congress, Senate, Committee on Appropriations, Department of Defense Appropriations, FY 1976: Department of the Army (Part 2), 94th Congress, 1st Session (Washington, D.C.: Government Printing Office, 1975).

³⁹ Ibid. Pg 46.

Stuart Mill who argue that representation in proportion to numbers is the first principle of a democracy.⁴⁰

Eitelberg maintains that mathematical comparisons are quite literally the sum and substance of representation, but he notes that this does not mean that complete and perfect representation is the ideal. In fact the determination of important or relevant factors is dependent on the political environment and on the expressions and interpretations of national needs and values. He considers, for example, religious affiliation. Religion was once a suitable reason for warfare and revolution but today it is a purposefully avoided personal classification. The Census Bureau has not included a question on religious preference in its annual sample survey of the civilian population since 1957, and discussions of representation in the Armed Forces seems to reflect this general avoidance of religion classifications. Conversely, race issues are considered among the most important representation concerns because the political and social environment, along with the past history of discriminatory practices in the United States, have combined to make race differences an important consideration.⁴¹

Eitelberg continues by noting that the manner in which a relevant population is defined affects the way that representation is perceived. The problem with this is that statistical comparisons of military and civilian populations are not consistent and various groups are used as the standard for comparison. He points out for example, that the civilian population could mean high school graduates, the general population, or military age youth. There are also various aggregations of groups from the Armed Forces. The

⁴⁰ Ibid. In Mill, "Representative Government," p. 369; also McCloskey, John Stuart Mill, p. 132; and Burns, "J.S. Mill," p. 304.

⁴¹ Ibid. Pg 99.

proportional measurement could be based upon the separate services, recent recruits, officers, or males.

The larger point which Eitelberg makes is that perfect representation, as a practical matter, cannot be achieved because it encompasses a variety of often inconsistent ideas, conflicting concepts, differing definitions and criteria, and numerous unresolved policy issues. In fact, Eitelberg argues that approximate representation is only an outcome if one can describe in practical terms the essence of that goal and the manner in which principles can be put into practice.⁴² Eitelberg emphasizes that representation is a subjective issue and may bear no particular resemblance to statistical representation. What is important is for policymakers to define national priorities, and then to establish why the proportion of a particular group in the Armed Forces fails to strike a balance on the value scales that have been constructed.⁴³

Other scholars such as Martin Edmonds have argued that the societal dimension of the Armed Forces is important to recognize. The functional (or mission-oriented) imperative has a major influence on its structure, procedures, composition, and attitudes, but the Armed Forces are a product of the society that produces it. The French Armed Forces are clearly French and are only tangentially similar to the Armed Forces found in other parts of the world. Armed forces are shaped by the social, political, economic, technological and historical forces of their nation, and are not independent primarily because they must rely upon society to provide their necessary resources. Armed

⁴² Eitelberg, Mark. "Military Representation: Reflections and Random Observations." Paper presented at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society, Baltimore Maryland, October 1989.

⁴³ Eitelberg Mark. Military Representation: The Theoretical and Practical Implications of Population Representation in the Armed Forces. New York University. October 1979

forces are a state institution, and while ethnic and cultural groups may transcend national and state boundaries, Armed Forces do not.⁴⁴

National security is a means of dealing with uncertainty, not just a means of protecting national values. Security is a value itself, a means and an end. This means security exist in two contexts, or dual environments. On the one hand security refers to steps taken to defend society from external threats. On the other hand security is an attitude or belief system in which society at large feels more or less secure as a consequence of the Armed Forces' presence. In an ideal world, the Armed Forces are at the service of society, and in a democratic society this is why the Armed Forces are subordinate to the elected form of government.⁴⁵

An integrated military, with a just distribution of minorities throughout the ranks, should be a source of pride for a country whose national principles stress equality of opportunity. Charles Moskos, whom the Wall Street Journal once called the nation's "most influential military sociologist,"⁴⁶ specifically made the point that there had been a tradeoff for the black race and society. The experience of military service taught many black youth valuable skills such as self-reliance and self-esteem, while conversely the record of blacks in military service has been one of extraordinary achievement. The bottom line is that efforts of the military to recognize young minority talent and to help a diverse array of individuals realize their potential has relevance for the military and for the larger society.⁴⁷

⁴⁴ Edmonds, Martin. Armed Forces and Society. Westview Press, 1990.

⁴⁵ Ibid.

⁴⁶ Moskos, Charles. Biography. Found online at Charlesmoskos.com.

⁴⁷ Moskos, Charles C. and John Sibley Butler. All That We Can Be: Black Leadership and Racial Integration The Army Way. Basic Books. 1996 (Pg 8-10, 51)

The United States Military has historically had a difficult time with the issue of representation, but the growth of the size of the military establishment, and the need to recruit increasing numbers of technical specialists have shifted recruitment from a narrow, relatively high-status social base to a broader, more representative, and lower status base.⁴⁸

Questions of ethno-cultural diversity and the citizen-soldier concept also abound beyond the United States Military. A 2007 conference on Defending Democracy: Accommodating Diversity in the Security Sector focused on military organizations in the U.S., Canada, India, South Africa, Asia, Holland and the United Kingdom. The conference crystallized the arguments of ethno-cultural diversity into two approaches for study: the liberal and civic republican approaches.⁴⁹

The liberal approach contends that a volunteer military reflects society inherently because those who want to join become members, regardless of the circumstances that influenced an individuals' propensity to join. The civic-republican theory of civil military relations contends that the interest of the state and the military overlap when a diverse array of citizens serve in the military to defend their country. In either case, the concept of the citizen-soldier drives the shift in policy towards diversity and accommodation for Armed Forces of democratic countries.⁵⁰

Richard Kohn offered an expanded discussion of social representation by addressing the conflict between military and civilian values in regard to sexual harassment and homosexuality. Kohn argues that historically our national security and

⁴⁸ Ibid.

⁴⁹ Queen's Centre for International Relations. "Report on Defending Democracy: Accommodating Diversity in the Security Sector". Conference Queens University, Canada 1-3 November 2007

⁵⁰ Ibid.

our social, legal, and constitutional practices have had to be balanced. He indicates that the strength of the military depends on the bonds to the people and the military is strongest when it reflects the values and ideals of the society that it serves. Military resistance to civilian led policy changes have only made adjustments more time-consuming and disruptive, and served to undermine military effectiveness.⁵¹

A few writers still approach the issue of representation cautiously. U.S. Army Colonel Rudolph Barnes, a former staff judge advocate for the United States Central Command, agrees with the idea behind a balance of society and civil-military relations but is concerned with any trend that might offer special protections or preferences and thereby inadvertently promote political polarization. In his book on military legitimacy Barnes argued that individual rights have been expanded over the years by civil rights laws to prohibit discrimination based on race, ethnic origin, sex or religious beliefs, but more importantly civil rights laws have shifted their focus from protecting individual rights to protecting the rights of designated classes or groups, including ethnic and racial minorities. Barnes' is among a chorus of individuals who maintain that individuals should seek to conform or assimilate to gain collective rights, but that organizations such as the military shouldn't conform just to legitimize the individual rights of designated classes.⁵²

The idea of social representation has been challenging. Armor and Gilroy make this point after considering segregation in WWII, concerns with African American over-

⁵¹ Kohn, Richard. "Women in Combat, Homosexuals in Uniform: The Challenge of Military Leadership." *Parameters*, Spring 1993.

⁵² Barnes Jr, Rudolph C. Military Legitimacy: Might and Right in the New Millennium. Frank Cass & Co. LTD. 1996

representation after the inception of the AVF, and declines in African American enlistments following the Persian Gulf War.

Armor and Gilroy note that African American accessions reached their lowest level since the AVF, 13 percent, in 2006 shortly after the military tactic referred to as “the surge” was ordered in the Iraq campaign. Hispanic enlistments increased steadily over this period, but peaked in 2005 at 14.4 percent, before dropping to 13.8 percent in 2007.⁵³ They point to five factors that affect representation (not mutually exclusive):

- a) Size of the force;
- b) Size of the youth population;
- c) Aptitude and education requirements;
- d) Labor Market conditions; and
- e) The propensity to serve.

The size of the force and the size of the youth population have an indirect effect but the link is implicit -- there are more /less qualified youth to achieve the education and physical requirements of a smaller/larger military. The labor market has an inverse effect on minorities. Normally, one would think that with high unemployment more minorities would serve. But in these scenarios more qualified Caucasian applicants also enlist, crowding out many minorities. African American propensity declines have also correlated with the Gulf, Iraq, and Afghanistan wars. Hispanic propensity does not seem to be effected by the wars, nor does Caucasian propensity. There were declines in 2006 and 2007 which may indicate frustration with the length of the wars, yet all propensities rose in 2008. What Armor and Gilroy posit is that the United States may be at an end of the era where African Americans perceive better opportunities in the military than in the

⁵³ Armor, David J. and Curtis Gilroy, “Changes in Minority Representation in the US Military.” *Armed Forces & Society* 36 (2010).

civilian sector. This would be consistent with Gifford, Moskos, and others who argue more African Americans than Caucasians join for economic reasons.⁵⁴

The Economics of Military Service

The military increased recruiting in non-industrialized areas: agricultural communities and small towns. There was an integral association between the out-of-doors existence, the concern with nature sport, and weapons that is part of rural culture which had a direct carry-over to the requirements of the pre-technological military. Before World War I the military profession, by offering a good education and a suitable career, offered a solution to many individuals in the agricultural industry who were facing an economic decline. The military was seen as an especially good match for individuals from rural areas whose traditions and military sense of honor helped them flourish. Post-WWI diversity among leadership increased. Instead of individuals who were primarily the sons of wealthy businessmen, leaders were now also the sons and daughters of the white collar and the working-class. The period between the Great Depression and World War II marked a change in interest in military service. People who had previously had little interest in the military joined for economic reasons. These 'rationalist' individuals also remained in the military for extended periods, as it was "silly to get out" when there was limited employment.⁵⁵

A conscription (or draft) system was employed in the United States from 1948 until 1972.⁵⁶ The system satisfied the manpower requirements of the WWII and early Cold-

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ The President's Commission on an All-Volunteer Armed Force, The Report of the President's Commission on an All-Volunteer Armed Force, 1970.

War era, but by the late 1960's it was largely considered flawed because of a variety of reasons:

- a) It was inequitable in its application
- b) It encouraged students who did not or could attend college to flee the country, or to take other drastic actions to avoid being drafted
- c) It interfered with the civilian-labor market, and individual career choices
- d) It forced individuals to work at a compensation level 40 percent below the average compensation of their peers.⁵⁷

There was also the looming concern that an array of deferments and disqualifications—marriage, children, college, teaching, Peace-Corps, failing physical—left ways to avoid the draft. Those who could avoid the draft on those criteria were mostly better educated Caucasian inductees. African American inductees were more likely to be drafted, to be sent to Vietnam, to serve in high-risk combat units, and to be killed or wounded in action.⁵⁸

In 1969 President Nixon appointed the Commission on an All-Volunteer Armed Force, which is normally referred to as the Gates Commission, to conduct a detailed analysis and study of the issue of conscription. At the time the commission was formed there was adamant disagreement about whether or not citizens in a democracy should be compelled, and not simply induced, to contribute to those protections - despite the belief that service in defense of an individual's country was a fundamental responsibility of citizenship. Noted economist Milton Friedman argued that the case for an all-volunteer force was widely recognized and that the draft was inconsistent with a free

⁵⁷ Dent, Frederick B. "Reflections from the Gates Commission." In The All-Volunteer Force: Thirty Years of Service. Brassey's Inc. 2004

⁵⁸ Binkin and Eitelberg. Blacks and the Military. The Brookings Institution. 1982

society. For Friedman the puzzling question was why the United States continued to use compulsion. His answer was “the tyranny of the status quo.” Friedman believed that young people should be provided equal opportunity in education and the freedom to choose their own occupation, not constrained to engage in activities that politicians deemed to be a true social service.⁵⁹

The Gates Commission, which presented its report in strikingly economic terms, noted the draft had become a burden which was only being carried by a small proportion of the population. Their contention was that the costs of conscription would have to be borne if the cost were a necessary price for defending our peace and security, but that the cost were intolerable when there were alternatives which were still consistent with our basic national values.⁶⁰ The commission argued military pay for junior military personnel was below market value and predicted that payment of a market wage would allow the military services to attract enough volunteers so that conscription would no longer be necessary.⁶¹

The Gates Commission, while raising the argument to end conscription, also cited economists who raised the concern about a volunteer military becoming “too black.” Those economists predicted that the higher pay required for a volunteer military would be more appealing to African Americans, who had less opportunities in the civilian sector than their Caucasian counterparts.⁶² Notwithstanding these arguments, Congress and

⁵⁹ Rosteker, Bernard. *I Want You! The Evolution of the All-Volunteer Force*. Rand 2006.

⁶⁰ The President’s Commission on an All-Volunteer Armed Force, The Report of the President’s Commission on an All-Volunteer Armed Force, 1970.

⁶¹ Cooper, Richard V. “Military Manpower and The All-Volunteer Force.” Rand September 1977. Online at: <http://www.cgj.rand.org/pubs/reports/2006/R1450part1.pdf>. February 1, 2011

⁶² Quester, Aline O. and Curtis Gilroy. “America’s Military: A Coat of Many Colors.” CNA Report July 2001

the President concurred with the Gates Commission and in January 1973, after years of heated debate, the draft quietly ended.

The transition away from a system of conscription occurred during the years following the Vietnam War. The commitment to leadership started with the President's support of an all-volunteer system, but it was also important that congress approved a 60 percent initial increase in military pay with the advent of the All-Volunteer Force (AVF). For its part the DOD implemented a professional recruiting force and placed fifteen thousand recruiters across the United States.⁶³

One concern with the introduction of the AVF was that the citizen soldier was replaced by *homo economicus* -- an individual motivated by skills, salary, and educational benefits rather than by patriotism or obligation.⁶⁴ Eitelberg notes that against this background the Armed Forces underwent a transition that had never been planned or contemplated. At the end of FY 1972, the last full year of conscription, over 82 percent of all personnel on active duty were white males. By 1983 white males constituted only 67% of the total. Critics of the decision to abolish military conscription warned that if this trend continued the All-Volunteer force would become increasingly unrepresentative of the society it was established to protect and defend. Their major concern was the prospect of racial imbalances.⁶⁵ It was also suggested that the All-Volunteer military force was not representative of society, because only a true mass army of citizen-soldiers represented the State. The State was represented when the rich

⁶³ Ibid.

⁶⁴ Moskos, Charles Jr., "The Marketplace All-Volunteer Force: A Critique." In The All-Volunteer Force after a Decade: Retrospect and Prospect. Washington DC: Pergamon-Bassey's, 1986.

⁶⁵ Binkin and Eitelberg. "Women and Minorities in the All-Volunteer Force." In The All-Volunteer Force after a Decade: Retrospect and Prospect. Washington DC: Pergamon-Bassey's, 1986.

and the poor, the black and the white, the Christian and the Jew served alongside one another in similarly Spartan surroundings—or at least in theory.⁶⁶

A counterargument to this was that the demise of the citizen-soldier tradition had been exaggerated, especially by those who marked the installation of the All-Volunteer force in 1973 as the severance point of the civil military link. Ronald Krebs who wrote the book “Fighting for Rights: Military Service and the Politics of Citizenship” did not accept the argument that the citizen-soldier tradition died with the mass army, any more than he accepted the idealized version of citizenry surrounding conscription. He noted even as far back as the revolution, generous recruiting bounties were needed to procure sufficient forces and that an honest evaluation of American military history demonstrates that American soldiers were hardly altruistic before the AVF. In fact, as veterans, they received housing assistance, medical and educational benefits, pensions, and preferential hiring.⁶⁷

In the years following the implementation of the AVF the DOD implemented youth surveys to better understand the factors that were important to youth recruitment and the goal of sustaining an all-volunteer force. DOD also began tracking youth attitude indicators yearly.⁶⁸ One of the variables which consistently related to the decision to enter, or not enter, military service was the impact of family income, and specifically the elite level of income. In fact in 2004 a Syndicated Columnist named Mark Shields wrote that at a Washington dinner party, there was probably no one—liberal or conservative,

⁶⁶ Cohen, Eliot A. “Twilight of the Citizen Soldier. *Parameters*, Summer 2001.

⁶⁷ Krebs, Ronald R. “The Citizen-Soldier Tradition in the United States: Has Its Demise Been Greatly Exaggerated?” *Armed Forces and Society*. August 2009

⁶⁸ *Ibid.*

Bush-appointee or Democratic holdover—who personally knew any enlisted man or woman then defending the nation.⁶⁹

Shields pointed out that it was once common for the families of public servants to share the responsibility of military service—just as movie stars and professional athletes joined the ranks when asked—but a gap now existed between the upper economic classes and the military that may be self-reinforcing. His point was that a consequence of the absence of economically elite individuals in military service is that fewer youth from elite families choose to enlist in the military because they have less direct personal experience interacting with someone that they admire who is, or was, in the military.⁷⁰

Shield's point is similar to an earlier point raised by John Williams,⁷¹ but it is important to recognize that Shields does not specify the level of income that he considers economically elite. Because of this omission, information contained in the Fiscal Year 2011 Population Representation Study, reflected in Table 1, seems to contradict this assertion.

Table 1 reflects information compiled by considering the zip code for accessed recruits and then analyzing the characteristics of that community. The data is macro-level and not specific to the individual enlistees but it indicates that the DOD is recruiting from a robust range of income levels.

⁶⁹ Shields, Mark. "In Power, but Not in Peril," *United We Serve*. Brookings Institute Press. 2004 Cited in Roth-Douquet and Frank Schaeffer. *AWOL: The Unexcused Absence of America's Upper classes from Military Service- and How it Hurts our Country*. Harper Collins Publishers. 2006

⁷⁰ Roth-Douquet and Frank Schaeffer. *AWOL: The Unexcused Absence of America's Upper classes from Military Service- and How it Hurts our Country*. Harper Collins Publishers. 2006

⁷¹ Williams, John Allen. "The Military and Society Beyond the Postmodern Era." *ORBIS*, Volume 52, Issue 2. Spring 2008

Table 1. Enlisted Accessions by Socioeconomic Status⁷²

Median Community Income	DOD %	Civ %
Up to \$37,435	17.6	20.0
\$37,437 - \$47,475	20.6	20.0
\$47,476 - \$58,664	21.2	20.0
\$58,669 - \$77,018	22.1	20.0
\$77,022 and over	18.5	20.0

The literature indicates there is a relationship between group identification variables such as race, family income, education and the decision to serve in the military. It is not as clear how these relationships affect the decision to pursue a path towards service as a military officer.

This dissertation seeks to understand if the decision to attend the Naval Academy is impacted by group identification variables such as race and parental education, and by status variables such as family income. The proposed conceptual model relies on the contention that these exogenous variables do not impact the decision to attend the Naval Academy directly but instead work through intermediate variables such as academic qualifications, self-perceptions, goals, reasons for attending college, and personal views.

⁷² Population Representation in the United States Military – Fiscal Year 2011 Non-Prior Service (NPS) and Prior Service (PS) Active Component Enlisted Accessions by Socioeconomic Characteristics, Median Community Household Income. Online at: http://prhome.defense.gov/rfm/MPP/ACCESSION%20POLICY/PopRep2011/appendixb/b_41.htm l#a October, 2013.

Youth and the Enlistment Decision

Propensity is the decision or inclination to join the military. According to the Joint Advertising, Marketing, Research and Studies Division (JAMRS) propensity to join the military is driven by four main factors: values & attitudes, social norms, eligibility & efficacy beliefs, and educational attainment.⁷³ The studies discussed below indicate propensity for military service is affected by demographic variables, personal influencers, and occupational values such as monetary considerations. The discussion of this literature was useful in developing a conceptual model for understanding the decision to pursue a path toward military service through a service academy.

Values

Charles Moskos first introduced the consideration of contextual factors into the debate of military manpower management when he introduced the institutional / occupational (I/O) thesis in 1977. Moskos was attempting to apply developmental analysis to the changing philosophical structure of the United States military. His basic hypothesis was that the trend within the military was toward the erosion of an institutional format and the ascendancy of the occupational model. He argued with the advent of the all-volunteer force the military had shifted away from institutional values -- captured in words like duty, honor, and country -- toward occupational values, such as monetary inducements and marketplace standards.⁷⁴ Moskos then noted that

⁷³ Joint Advertising, Marketing Research, and Studies. Executive Brief. Examining the Downward Trend in Propensity. November 12, 2009. Found online (with special access) at: <http://dmren.org/jamrs/execute/mrs /executive-notes/2009/examining-the-downward-trend>. May 2nd, 2011.

⁷⁴ Moskos, Charles C. "Institutional and Occupational Trends in Armed Forces." In The Military,

individuals within an occupation have extrinsic motivations, while individuals within institutions have intrinsic motivations. The concern with a shift in viewing the military as an occupation as opposed to an institution, also referred to as "occupationalism", is that occupationalism has the potential to undermine military professionalism, as occupational decisions are based on cost benefit analysis.⁷⁵

McCloy and Clover attempted to show the implications of the I/O hypothesis at the United States Air Force Academy (USAFA). They considered the Air-Force Academy from the perspective of the recruiting process, the selection process, the decision to attend, and the training process. McCloy and Clover note that the marketing literature produced by the USAFA targets both institutional and occupational values. Recruitment literature emphasizes an institutional element by highlighting both the leadership aspect and the many military honors that graduates have earned. The literature then illuminates the occupational perspective by discussing the availability of jobs upon graduation, the prestigious academic standing of the USAFA, the robust intramural sports program, and the unique opportunities offered to all cadets, such as parachuting or flying sailplanes. The USAFA also offers a guarantee about the students' future, which is that sixty to seventy percent of the graduates will enter pilot training, while others will enter fields such as engineering or space operations.⁷⁶

The USAFA tries to pinpoint institutional values in the admissions process by considering the candidate's past participation in leadership, group, or team activities which might indicate an orientation toward teamwork over self-interest. While most

More Than Just A Job? Pergamon-Brassey's International Defense Publishers. 1988

⁷⁵ Ibid.

⁷⁶ McCloy and Clover. "Value Formation at the Air Force Academy." In The Military, More Than Just A Job? Pergamon-Brassey's International Defense Publishers. 1988

universities can select according to quantifiable occupational measures, such as the high school grade point average, the Academy attempts to include some occupational assessments as well. McCloy and Clover considered data collected as part of surveys in USAFA political science class and found striking similarities with entering students at four year public colleges. Air Force Academy cadets had a desire to be well off financially, less of a desire to have a family, and a much greater desire to keep up with political affairs. Their contention was that the USAFA cadets seemed more institutional than other students, but they definitely had their share of occupational concerns. In fact, the survey results indicated that only a fourth to a third of cadets, by their own admission, entered the Academy to become officers.⁷⁷

McCloy and Clover contend that during the four years of Academy training, a dualism of institutional and occupational values develop in parallel fashion. They are satisfied with this conclusion and argue that for students binding to the institution takes time, and probably doesn't occur until the students graduate and are in the operational Air Force. Their main point is that cadets possess both institutional and occupational values and the interaction of these values leads to the highest performance and greatest satisfaction at the Academy.⁷⁸

Attitudes

Cheryl Shumate wrote in her 1999 doctoral dissertation that increased deployments coupled with declining youth propensity to join the military threatened the viability and quality of the future U.S. military. Shumate used the annual YAT Survey to

⁷⁷ Ibid.

⁷⁸ Ibid.

investigate the motivations, sources, and influencers of youth proclivity to join the military by employing various forms of statistical analysis -- such as chi-square test, Somer's d statistics, and OLS regressions -- to determine the exogenous variables on likely youth propensity. Shumate's work suggests certain aspects of military service such as duty to country, leadership, teamwork, and physical challenges affect the self-selection process. Shumate also contends family members are influencers on the enlistment decision and more youth would be willing to serve if the missions of the military directly benefited the United States.⁷⁹

Shumate's work is interesting because she attempts to demonstrate the link between specific attitudes of youth and their proclivity to join the military. Her basic model notes that youth propensity is affected by three subgroups:

- a) Group Identification, (race, gender, age, region, parents' education);
- b) Influencers and sources of information; and
- c) Attitudes toward war, major events, or value perceptions.

Shumate found military service was more attractive to minorities, with the strongest measures of association found among Hispanics and Other Individuals. Whites were less likely to join the military than all other racial categories, and had a larger number of disinterested individuals than Hispanics or Blacks. The South had a slightly larger percentage of individuals who professed a likelihood of service, but overall Shumate contended that region did not impact the likelihood of youth to enlist. Men were found to be twice as likely as women to be categorized as "likely" to join the service, and 23 percent more women reported being disinterested in military service. Shumate found

⁷⁹ Shumate, Cheryl. From the Disinterested to the Joiners: American Youth Propensity to Enlist in the United States Military. Doctoral Dissertation Air Force Institute of Technology. 1999

there was a negative relationship between the parents' educational level and youth propensity. Respondents whose father possessed less than a high school diploma were three times more likely to be "joiners" than individuals whose father possessed a college degree. Moreover, individuals whose fathers were highly educated were the least likely to be "joiners" and the most likely to fall into the "disinterested" category. The same patterns held true for a mother's level of education. Shumate surmised this finding may have been the result of their parent's experiences during the Vietnam era. The Vietnam era, obviously being an era in which many protest took place at universities around the country.⁸⁰

While Shumate's research is illuminating in terms of the analysis on demographic considerations, two limiting factors pertain to this study. First, Shumate's work was completed largely before the September 2001 attacks ushered in a new era of military service. Second, Shumate is focused on why individuals enlist as opposed to why individuals would attend a service academy and the population of individuals could be significantly different.

Shumate's work does present an interesting question. If minority propensity for service is high, does that translate to a high propensity for officer programs? And if minority propensity for officer programs is high, what is preventing more minorities from entering service academies? Quite possibly, the intermediate variables that affect the decision to attend a service academy for students in the majority are different from those in the minority--or perhaps the variables have a different level of impact.

⁸⁰ Ibid.

Shumate's work also provides a reason to theorize that an individual's views or attitudes effect the decision to serve. Conceptually then, it is reasonable to consider the impact on an individual's views on the decision to attend the Naval Academy.

Utility

Kevin Halfacre analyzed enlistment decisions of youth in the Millennial Generation for his 2007 graduate thesis at the Naval Postgraduate School. Halfacre reviewed the 1997 National Longitudinal Survey of Youth to compare enlistment decisions of previous generations and to update the potential background characteristics that affect the post-high school decisions of American youth. Halfacre argued that although the individual enlistment decision had been exhaustively researched and modeled, generational characteristics tend to change. He noted, for example, that youth today are more educated and diverse than generations evaluated at the onset of the all-volunteer force, and that understanding the individual factors currently influencing the present generation was crucial for developing an effective modern recruiting strategy.⁸¹

Halfacre focused on the type of individual who would choose to serve. Halfacre used a binary PROBIT and a multinomial LOGIT model based on the random utility framework. He hypothesized that individuals would choose to enlist in the military if the enlistment utility is greater than any other option, which in his estimation would mean a greater utility than working in the civilian environment or continuing with postsecondary education or vocational training. Halfacre's base model contains variables such as sex, race, AFQT score, educational status, parental education, English as a second language,

⁸¹ Halfacre, Kevin. Enlistment Decisions of the Millennial Generation: An Analysis of Micro-Level Data. Naval Postgraduate School. September 2007.

household income, family structure, and regional area. In separate specifications of the model Halfacre controls for school specification (i.e., public, private, etc...), school programs (JROTC, cooperative education, mentoring, etc...), and legal issues (arrest, drug use, etc...).⁸²

Halfacre concludes there is not a significant generational difference between those who enlisted in the late 90s and those who enlisted in the 1980s. He notes females still enlist in relatively small proportions, even though there are increasingly more opportunities for women in the military, but he does not attempt to explain why. He contends individuals from household incomes that range in the \$22,000 to \$40,000 and the \$40,000 to \$68,000 quartiles were more likely to enlist compared to other household income ranges.⁸³

Halfacre's work was completed largely before the September 2001 attacks ushered in a new era of military service. He does offer, however, a basis which reinforces the idea that propensity is affected by household income, and expands the discussion beyond motivations, or attitudes, toward practical decisions of utility.

Qualifications

A June 2011 youth poll report from the Joint Advertising Market Research and Studies (JAMRS) Division states the difficulty with the changing youth market is that 51% of youth age 16-21 are ineligible for military service due to medical, physical, moral, or legal reasons. The military academies use four criteria to determine whether an individual will be able to attend the academy, or to at least determine how an individual

⁸² Ibid.

⁸³ Ibid.

is categorized: The Standardized Aptitude Test (SAT), high school transcripts; physical qualifications; and leadership (extra-curricular activities). Yet, according to a January 2011 article in the Capital Gazette Newspaper, different racial and ethnic groups have different rates of qualifying characteristics which may add constraints in achieving demographic representation goals.⁸⁴ This information provides a basis to further consider the hypothesis that the decision to attend a service academy may be affected by qualification variables which differ for majority and minority students.

Views

Thomas Ricks, a noted defense reporter for the Wall Street Journal published an article in the July 1997 issue of Atlantic Monthly magazine entitled “The Widening Gap between the Military and Society,” in which he suggested that members of the military were becoming more politicized and more likely to identify with the Republican Party.⁸⁵ Ole Hosti considered this thesis by looking at the Foreign Policy Leadership Project (FPLP) surveys from 1976 to 1996. Analysis of the FPLP surveys revealed very strong support for Ricks’s thesis, as military identification with the Republican Party in the surveys rose from 33 percent in 1976 to 67 percent in 1996. Recognizing, however, that the FPLP surveys only included a small sub-sample of military officers, and that the survey itself was not designed to address a range of issues in the civil-military culture gap debate, Hosti then considered data from the Triangle Institute for Security Studies

⁸⁴ Kelly Earl. “Best and brightest? Academy’s admission of minorities, recruited athletes comes under scrutiny.” January 31, 2011. Found online at: http://www.capitalgazette.com/news/best-and-brightest-academy-s-admission-of-minorities-recruited-athletes/article_813c654e-78f1-51f2-a97e-7cb791e2f9e7.html

⁸⁵ Ricks, Thomas E. “The Widening Gap between the Military and Society.” The Atlantic Monthly 280 (July).

(TISS) survey.

The TISS survey, conducted between fall 1998 and spring 1999, asked 250 questions covering a range of issues: from the respondent's social and religious values to views on national security policy, and from views on military professionalism to the civil-military relationship itself. Survey respondents were drawn from civilian lists of "Who's Who in America," and other directories of prominent Americans, and then from a comparable group of "military elite," which was comprised of military leaders and up-and-coming military officers. The survey results were fully consistent with Rick's thesis and the results of the FPLP surveys. Among those in the elite military, Republicans outnumbered Democrats by margins of approximately 8 to 1. In contrast, civilian leaders were more evenly divided between Republicans, Democrats, and independents.⁸⁶

The issue of political ideology, as Jason Dempsey suggest, is that if there is any pressure within the army to identify with a certain political ideology, or if it is an institutional norm, we would expect those who perceive an ideological distance from those around them to be less inclined to have faith in their leaders or to view the army as a viable career. Dempsey conducted multivariate analysis controlling for demographic factors and likely explanations for those attitudes, and found that perceived ideological distance from officers was statistically significant in predicting the morale and optimism of soldiers and warrant officers. Among officers who did not believe that their political ideology is aligned with that of other officers, they were less likely to state that they desired to pursue a career in the army. This finding hints at a self-selection effect, which could affect minority representation if it can be illustrated that minorities have a political

⁸⁶ Hosti Ole R. "Of Chasms and Convergences: Attitudes and Beliefs of Civilians and Military Elites at the Start of a New Millennium." In Soldiers and Civilians: The Civil-Military Gap and American National Security. MIT 2001.

outlook that is not in line with the majority of their peers who pursue a military career.⁸⁷

Civic attitudes

The National Research Council's Committee on the Youth Population and Military Recruitment considered the link between civic-related attitudes and a desire to serve in the military in a report published in 2003. The report, "Attitudes, Aptitudes and Aspirations of American Youth" was meant to address recruiting problems encountered by the military services in the late 1990s. The committee's analysis focused on changes in youth values over time, trends in youth values, and changes in youth views of the military.⁸⁸

The report noted that there are many determinants to national or civic-related attitudes and behaviors and that there are many reasonable indicators of these phenomena. Among the variables in the report are trust in government, responsiveness to proximal political events, and voting in national elections. The report identified the percentage of youth, and more specifically youth in the 18–24 year old cohort relevant to the military, who have voted in national elections significantly and steadily declined between 1964 until 2000. In 1964 39.2 percent of 18-20 year olds reported that they voted in the presidential elections. In 2000 only 28.4 percent of 18-20 year olds reported that they voted in presidential elections. In the 21-year old to 24-year old cohort, 51.3 percent of youth reported that they voted on 1964. In 2000, only 24.2 percent of the 21-year old to 24-year old cohort reported that they voted.⁸⁹

⁸⁷ Dempsey, Jason K. Soldiers, Politics, and American Civil-Military Relations. Princeton 2010

⁸⁸ Sackett P. and Mavor A. Attitudes, Aptitudes, and Aspirations of American Youth: Implications for Military Recruitment. Washington, D.C. National Academies Press, 2003 (Pg. 1)

⁸⁹ Ibid. (Pg. 154)

The council's report produced evidence suggesting that volunteerism was increasing, even while civic participation was declining. From 1990 to 2000 the proportion of high school seniors who participated in community affairs or who did volunteer work at least a few times a year rose gradually from about 65 percent to 75 percent, and the proportion who did so at least once or twice a month rose by about 10 percentage points. What the report could not conclude was the extent to which volunteerism influenced activities immediately after high school, such as attending postsecondary education or joining the military.⁹⁰ The information in the report gives reason to consider the impact on civic participation on the decision to attend the Naval Academy.

Development

Marc Flacks examined the issue of civic participation as it relates to the propensity to enlist as the subject of his doctoral dissertation in 2000.⁹¹ The dissertation "Reluctant Patriots?: Youth, Politics, and Military Enlistment" sought to examine the question of whether the declining interest in military service related to political phenomena associated with "Generation X", or to a more general trend of public disengagement on the part of contemporary youth.⁹² Flacks noted that the propensity to join the military began to decline in 1991, as noted in figure 3.

⁹⁰ Ibid. (Pg. 157)

⁹¹ Dr. Flacks defined Propensity as the percentage of individuals who responded to the annual Youth Attitude Tracking Survey and responded "definitely or probably" to the question "How likely is it that you will be serving on active duty in the [Army, Navy, Marine Corps, Air Force, or Coast Guard]". The "active composite propensity", for males in this study, is the percentage of male respondents who indicated positive propensity for one or more of the four active military services.

⁹² Flacks, Marc A. "Reluctant Patriots?: Youth, Politics, and Military Enlistment". Doctoral Dissertation, USC-Santa Cruz, June 2000. Bell & Howell Learning Company, UMI Number 9979924.

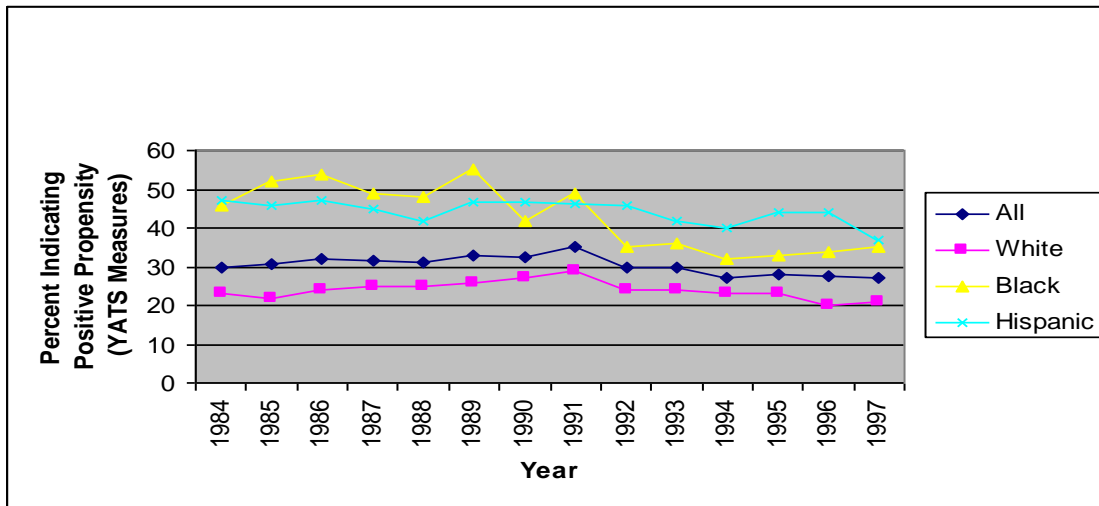


Figure 3. Active Propensity by Race (Males, 16-21,1984-1987).
 Reproduced from Dr. Flack’s dissertation. The data presented is provided by the Defense Manpower Data Center.

Flack focuses on the link between political views and the enlistment decision, but after interviewing twenty recently enlisted young men, all awaiting shipment to recruit training, he concludes that individuals in his sample seemed to enlist as a result of a “crisis of adulthood.” The individuals that Flack interviewed described their decision to enlist in terms of leaving behind an undesirable youth status – whether that status pertained to their work or school environment, their race, ethnicity, or family background – and entering a situation that would immediately confer upon them the status of full adulthood. These enlistees saw the military as an advantageous step to take in their lives, a step that would place them on the path to meaningful, socially productive employment.

Flack’s work is interesting because it implies that individuals join the Armed Forces for personal development. This is slightly different from the idea of service as utility or civic responsibility and adds another theoretical consideration for why individuals may decide to attend a service academy. Perhaps individuals believe that a structured

environment is the best situation in which to learn and develop.

Public-Service Motivation

James Perry and Lois Wise define public-service motivation as an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations. The term "motives" in this definition refers to psychological deficiencies or needs that an individual feels some compulsion to eliminate.⁹³

In developing a theory of public-service motivation Perry and Wise posit that the greater an individual's public-service motivation, the more likely the individual will seek membership in a public organization. This general attraction-selection framework presumes organizations with certain properties attract and/or select employees with particular personal attributes. They discuss three particular motives in developing this theory, Rational, Norm-Based, and Affective.⁹⁴

Rational motives refer to individuals who want to participate in the process of policy formulation. They have a commitment to a public program because of personal identification, or they advocate for a special or private interest. Norm-Based motives refer to a desire to serve the public interest. These individuals have loyalty to duty and to the government as a whole, or have a belief in social equity. Affective motives refer to a commitment to a program from a genuine conviction about its social importance; this motivation connotes patriotism or benevolence. Perry and Wise conclude the greater the strengths of rational, norm-based, and affective public-service motives are to an

⁹³ Perry, James L. and Lois Wise "The Motivational Bases of Public Service." *Public Administration Review*. May/June 1990

⁹⁴ *Ibid.*

individual the more likely the individual is to seek public organizations as environments in which to satisfy these needs.⁹⁵

Perry expanded the construct of public-service motivation in an April 2000 journal article entitled “Bringing Society In: Toward a Theory of Public-Service Motivation.” The alternative theory of motivation was based on four premises:

- a) Rational, Normative, and Affective processes motivate humans
- b) People are motivated by their self-concepts
- c) Preferences or values should be endogenous to any theory of motivation
- d) Preferences are learned in social processes⁹⁶

Perry’s expansion largely started with the notion that individuals are motivated by their self-concepts. He suggests behaviors observed in public and nonprofit organizations are best explained by a logic of appropriateness. People ask themselves: What kind of situation is this? Who am I? How appropriate are different actions for me in this situation? And after answering these questions, individuals do what is most appropriate.

Public-Service Theory and Military Service

Angela Cyrus used public-service motivation theory in her 2007 dissertation to help determine why individuals make the decision to stay or quit the Navy Delayed Entry Program. The Delayed Entry Program is viewed as a depository for future soldiers, sailors, and airmen. When prospects sign their contracts, they enter into a pool of applicants awaiting the date on which they are to report to basic training. Cyrus likened

⁹⁵ Ibid.

⁹⁶ Perry, James L. “Bringing Society In: Toward a Theory of Public-Service Motivation.” *Journal of Public Administration Research and Theory*. April 2000

recruits who stayed in the Delayed Entry Program (DEP) to public servants, and those who quit the Delayed Entry Program to private sector employees. She argued DEP individuals, like public sector employees in general, were there because they saw public-service as a calling, a sense of duty, rather than a job. Public administrators were characterized by an ethic to public-service, patriotism, and self-sacrifice. Hence they were motivated by different job characteristics than private sector employees.⁹⁷

Cyrus analyzed survey responses from 520 DEP recruits in May 2005. Cyrus used descriptive statistical analysis to portray the demographic data and the distribution of other variables. Then she then used means-analysis to examine group differences in terms of 15 motivational factors to ascertain if there were differences in why individuals would either stay in, or quit the DEP. Cyrus eventually concluded there were no significant differences in motivation preferences between the stay and the quit groups. The sample was found to be homogenous and as a whole displayed motivational preferences associated with public-service employment.⁹⁸

Cyrus' work is useful for three reasons:

- 1) It provides a contextual backdrop for understanding variables that may affect the decision to attend a service academy.
- 2) It offers a reason to hypothesize that USNA students will demonstrate a larger inclination toward public service motivation.
- 3) It offers a reason to hypothesize that USNA students will demonstrate a lesser inclination toward the economic motivation of college attendance.

⁹⁷ Cyrus, Angela. The Potential Influence of Motivation on the Decision to Stay or Quit the Navy Delayed Entry Program: A Descriptive Analysis. Old Dominion University. May 2007

⁹⁸ Ibid.

What Cyrus does not establish is whether these variables would be different if an individual was either a racial majority or a racial minority student.

Contributions of the Research

This research contributes to the literature on youth and the decision making process in four unique manners. First, this project focuses on the decision to enter a service academy, as opposed to the well-documented studies of the decision to join the military. While there is a dearth of material focusing on this niche, there is a societal benefit in understanding the implications of policies and practices that generate the continuing stream of military leaders. The analysis will help explore the factors that influence the decision making process and add empirical evidence to the record.

Second, this dissertation offers public analysis of data acquired through survey research, evaluating the motivations of individuals who choose to enter a service academy, and any potential limitations toward achieving a representative cohort.

Third, the question of whether individuals make an occupational decision to attend a service academy will be explored, specifically given that the service academies pride themselves on their institutional form and structure. This analysis may help Academy and DOD officials structure their recruitment and accession programs and policies by understanding if the model that influences students in the majority demographic is the same model that influences students in the minority demographics or if separate models are needed for analysis.

Fourth, this dissertation helps assess the feasibility of the Military Leadership Diversity Commission recommendation by determining whether there are identifiable differences within particular cohorts that affect the decision to attend a service academy.

Chapter Three

Research Methods

Introduction

The purpose of this study is to explore the potential relationship between individual and demographic characteristics and the decision to attend a service academy. The study centers upon two primary research questions:

- 1) Are there variables that have a strong statistical correlation with the decision to pursue admission to the United States Naval Academy?
- 2) If so, after controlling for these variables is the probability that an individual will pursue admission to the United States Naval Academy affected by that person's race or ethnicity?

Previous research indicated that individual and demographic characteristics influenced the military enlistment decision but there is a dearth of research that indicates whether these same characteristics motivate the decision to attend a service academy, or to otherwise pursue a leadership accession program.

A careful review of the literature indicated that there were certain identifiable internal and exogenous variables which had been used to theoretically explain the decision to enlist. These variables, which are identified below, were combined with control variables, and were considered to be a useful starting point to conceptualize hypotheses regarding the factors that influence the decision to attend a service academy.

H₁. Group Identification variables (Racial minority, Social Economic status, Parents Education) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution.

H₂. Qualification variables (HSGPA, SAT) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, and these variables differ based upon racial/ethnic status.

H₃. Individual characteristic variables (Self-Rating, Goals, Reasons for Attending College, Hours Spent per week, and Views) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, and these variables differ based upon racial/ethnic status.

H₄. Civic attitudes have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, but these variables do not differ based upon racial/ethnic status.

Conceptual Model

Figure 4 is a conceptualization of the variables and the relationships that the literature indicates would influence the decision to attend a service academy.

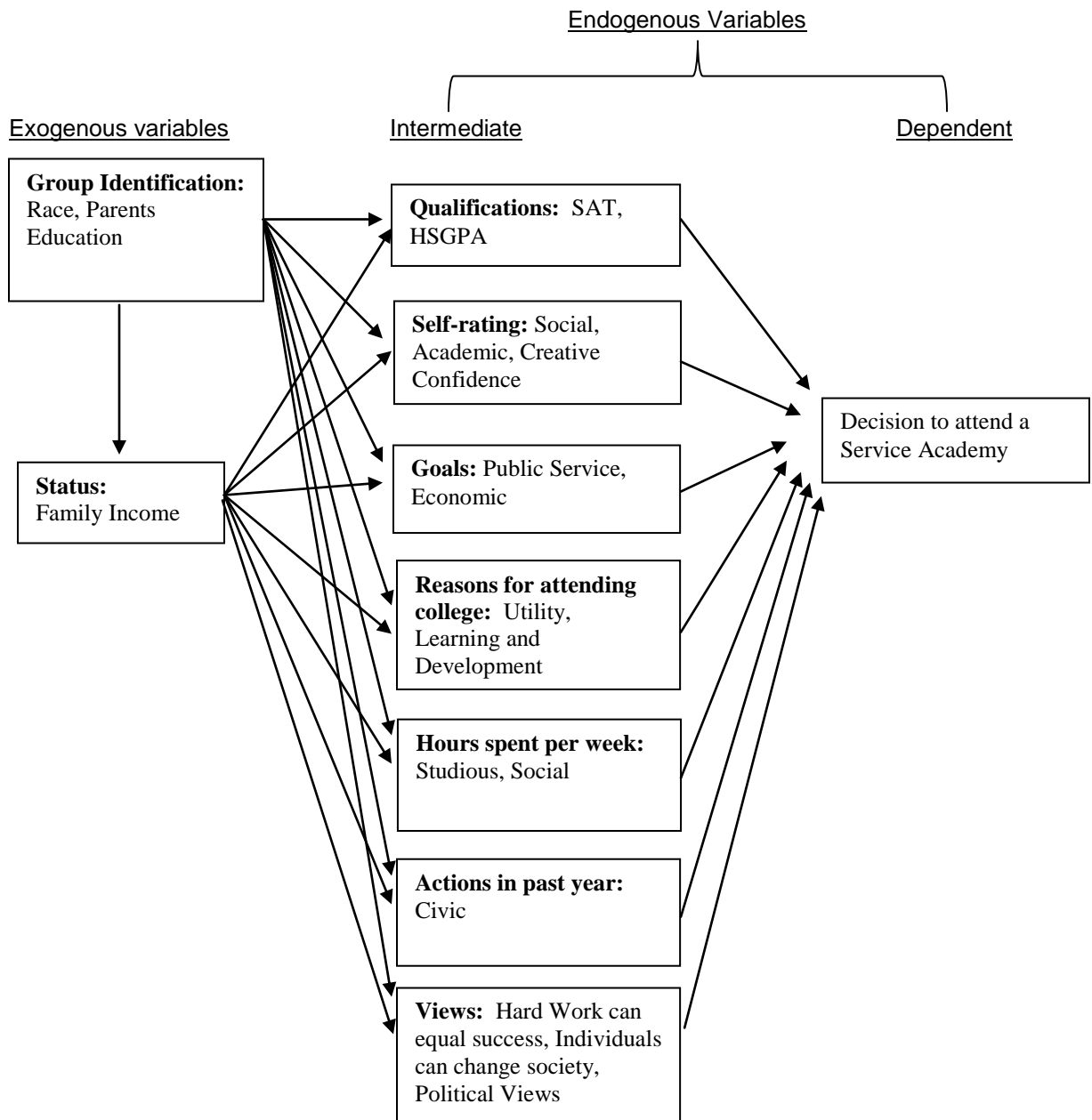


Figure 4 - Path Analysis of the decision to attend a Service Academy

Research Design

This research applies logistic (LOGIT) regression to determine if there are in fact antecedent factors, or variables, that affect the decision for individuals to enter a service

academy. Specifically, the analysis seeks to determine the effect of a Black or Hispanic minority status on the decision to attend a service academy, controlling for other factors that also influence the decision. The specification of the decision model is as follows:

$$\begin{aligned} \text{Logit (Acad)} = & \beta_0 + \beta_1 [\text{Black}] + \beta_2 [\text{Hispanic}] + \beta_3 [\text{Asian}] + \beta_4 [\text{SAT2}] + \beta_5 [\text{HSGPA}] \\ & + \beta_6 [\text{SciConf}] + \beta_7 [\text{AcadConf}] + \beta_8 [\text{CreatConf}] + \beta_9 [\text{PublicService}] \\ & + \beta_{10} [\text{Econ}] + \beta_{11} [\text{LrnDev}] + \beta_{12} [\text{Utility}] + \beta_{13} [\text{Studious}] + \beta_{14} [\text{Social}] \\ & + \beta_{15} [\text{Civic}] + \beta_{16} [\text{FathEduc}] + \beta_{17} [\text{MothEduc}] + \beta_{18} [\text{Inc}] + \beta_{19} [\text{Views}] \end{aligned}$$

Where Endogenous variables include:

- a) Combined MSAT and VSAT scores with regressed ACT scores (SAT2)
- b) High School GPA (HSGPA)
- c) Self-rating: Social Self-Confidence (SciConf)
- d) Self-rating: Academic Self-Confidence (AcadConf)
- e) Self-rating: Creative Self-Confidence (CreatConf)
- f) Goals: Public-service motivation (PublicService)
- g) Goals: Economic motivation (Goal08)
- h) Reason for attending college: Learning and Development (LrnDev)
- i) Reason for attending college: Utility (Utility)
- j) Hours spent per week: Studious traits (Studious)
- k) Hours spent per week: Social traits (Social)
- l) Actions in past year: Civic (Civic)
- m) Views (Including Political)

And where exogenous variables include:

- a) Group Identification
 - i. Race: (Asian), (Black), (Hispanic), (White)
 - ii. Parents Education: (FathEduc), (MothEduc)
- b) Family Income (Inc)

A binary logistic regression will be utilized for this study given that the dependent variable (acad) is categorical. The variable acad is a 0-1 dummy variable which takes the value of 1 if an individual attends a service academy and 0 if the decision is to attend another college of comparable selectivity. A normal linear regression model was not appropriate for this study, as it is theoretically possible, given the dependent variable, to have estimated probabilities that are outside of the 0-1 range.⁹⁹

Data

The dataset which best supports this research was provided by the Higher Education Research Institute (HERI), and the United States Naval Academy. The data is garnered from the Cooperative Institutional Research Program (CIRP) Freshman Survey (period 2005 to 2008). The CIRP Freshman Survey is administered annually to entering students at hundreds of two-year colleges, four-year colleges and universities during orientation or registration.¹⁰⁰

The Naval Academy has participated in the CIRP survey since 1975, and given the availability of USNA data it became an optimal solution to use the Naval Academy as a proxy for service academies in general.

The sample dataset supported comparative analysis of the desired variables among colleges and universities whose institutional selectivity indicated that they were similar to the Naval Academy, making these institutions a direct alternative for individuals considering the decision to attend the Naval Academy. Data from Historically Black College and Universities were also initially requested as a special case study

⁹⁹ Kennedy, Peter. A Guide to Econometrics, Fifth Edition. MIT Press 2003

¹⁰⁰ CIRP Freshman Survey. Higher Education Research Institute. <http://www.heri.ucla.edu/cirpoverview.php>. July 10, 2013.

because many minority students that attend the Naval Academy would also have the academic qualifications requisite to qualify for full or partial scholarships at an HBCU.

The institutions initially identified for comparison thereby comprised either a:

- a) Public university with medium or high selectivity
- b) Private university with medium or high selectivity
- c) Public four-year college with high selectivity
- d) Private nonsectarian four-year college with high or very high selectivity
- e) Historically Black College & University (Public or Private 4-year College)

As it pertains to institutional selectivity, the HERI dataset categorizes schools as medium-selectivity, high-selectivity, or very-high-selectivity, based upon median SAT verbal and math Scores; and/or the ACT Composite scores of the entering class.

In requesting the sample dataset, data was screened to ensure variables were only attained for questions that had been asked each of the four identified years. A detailed list of all variables can be found in Appendix A. The sample dataset was then adjusted so that the 3443 Naval Academy students who were initially categorized in the Public 4-year College High Select category were re-categorized into a separate USNA category for analysis.

Sample Selection

An assumption of this study is that individuals will seek to attend institutions that are consistent with, or which exceed, their academic qualification levels. To ensure that the most relevant comparison group is modeled an analysis of the variables for SAT scores and High School Grade Point Average (HSGPA) was conducted. Both the SAT and HSGPA variables are important criterion that the Naval Academy uses to determine whether an individual will be qualified for admission.

The SAT score also helps to establish the institutional selectivity of colleges and

universities in the HERI dataset. The HERI dataset provided individual responses that indicate a student’s SAT-Math, SAT-Verbal, ACT score, and the HSGPA. The dataset was adjusted so that the SAT2 variable reflects the combined score of an individual’s SAT math and verbal score, or when that information is not available a prediction of the total SAT math and verbal score based upon the ACT score. The HSGPA responses were coded so that the responses of “A, B, C” etc., could be analyzed. Appendix B is a STATA output log which illustrates this analysis and all STATA adjustments.

Table 2 illustrates the SAT and GPA comparisons for each stratification.

Table 2. CIRP Stratification

CIRP Stratification Cell	N	Mean SAT	Mean GPA
Public university: Medium selectivity	78,936	1190	6.5
Public university: High selectivity	175,015	1251	7.0
Private university: Medium selectivity	49,098	1281	7.0
Private university: High selectivity	78,199	1399	7.5
Public 4-yr college: High selectivity	80,550	1170	6.4
Private Nonsectarian 4-yr college: High selectivity	54,246	1210	6.5
Private Nonsectarian 4-yr: Very high selectivity	61,855	1338	7.0
Public 4-yr: Predom black	9,361	977	4.9
Nonsectarian 4-yr: Predom black	4,028	1080	5.7
USNA	3,443	1305	7.3

** Where for MEAN GPA 4=B-, 5=B, 6=B+, 7=A-, 8=A or A+

Naval Academy students reported qualifications that were consistent with the most selective institutions. Given that information, and coupled with the assumption that

individuals will seek to attend institutions that are consistent with, or exceed their academic qualification levels, this study will drop the institutions noted below from consideration prior to collapsing the data for further analysis:

- Public Universities Medium Select (SAT Median 1190)
- Public 4-year High Select Colleges (SAT Median 1170)
- Private Nonsectarian 4-yr college - High selectivity (SAT Mean 1210)
- Public 4-year Predominantly Black (SAT Median 977)
- Nonsectarian 4-year Predominantly Black (SAT Median 1080)¹⁰¹

Table 3 list the final CIRP comparison group:

Table 3. Final CIRP Comparison Group

CIRP Stratification Cell	N	Mean SAT	Mean GPA
Public university: High selectivity	190,298	1251	7.0
Private university: Medium selectivity	51,145	1281	7.0
Private university: High selectivity	73,712	1399	7.5
Private Nonsectarian 4-yr: Very high selectivity	62,249	1338	7.1
USNA	3,159	1305	7.2
Total	380,563		

¹⁰¹ Approximately 20 percent of the public university - hi selectivity schools had missing SAT scores. Fifteen percent of the public university-med selectivity schools had missing SAT scores. Seven percent of the private university-high selectivity schools had missing SAT scores. Twelve percent of the private nonsectarian 4-year schools had missing SAT scores. Five percent of the USNA data had missing SAT scores. Less than one percent of all students had missing HSGPA responses.

Chapter Four

Descriptive Data Analysis

The sections that follow provide initial descriptive analysis which is useful to help understand the salient variables in the dataset. This analysis will be useful in beginning a robust analysis of the hypothesized relationships.

Racial Distribution of the Sample

A primary goal of this research is to determine if there are indications that minorities differ in their rationale when choosing to attend the Naval Academy. Given that goal, it is instructive to determine the racial composition of individuals in the dataset and in the Naval Academy sample.

The CIRP Survey allows students to mark multiple categories for race. Black was considered primary in selection for this analysis, thus if a student marked Black and another race the student was considered Black for this study. The CIRP analysis previously combined categories of Hispanic in such a way that individuals indicating Puerto Rican, Mexican, or Other Latino were considered Hispanic.

Table 4 indicates that there is a higher percentage of White students in the Naval Academy comparison group than there is in the comparable college population. Black USNA students were slightly underrepresented compared to the population of students that attend other selective institutions, while Hispanic USNA students were equivalently represented compared to other selective institutions. Asian students were under-

represented compared to the population of students that attend other selective institutions.

Table 4. Racial Distribution of Respondents

	Comparison Group				P - Value
	Other Sel Univ.		USNA		
	N	%	N	%	
White	275,756	73.0	2739	86.7*	.0001
Black	23,723	6.3	151	4.8*	.0001
Hispanic	20,208	5.4	145	4.6*	.0001
Asian	57,717	15.3	124	3.9*	.0001
Total	377,404		3159		

* Significant at all levels

Relationship between Race and Other Background Variables

SAT Score

To help determine if the SAT score would be a valid predictor variable for the decision to attend the Naval Academy it became useful to ascertain how SAT scores for Black and Hispanic minorities at the Naval Academy compared to majority students at the Naval Academy and to students at the comparably selective universities. Table 5 provides this comparison.

Table 5. Mean (SAT Scores) of Respondents

	Comparison Group		P-Value
	Other Sel Univ.	USNA	
White	1307	1314*	.008
Black	1186	1219*	.009
Hispanic	1205	1227**	.08
Asian	1350	1306*	.001

* Significant at the .05 level of significance. **Significant at the .1 level of significance

The mean SAT scores for White, Black, and Hispanic Naval Academy students were in general higher than the mean SAT scores for comparably selective institutions, and SAT scores for Black and Hispanic students that attended the Naval Academy placed their scores within one standard deviation of all comparably selective institutions, except for those institutions categorized as Private Universities High Select. The mean SAT score for Asian Naval Academy students was lower than the mean SAT score for Asian students at comparably selective institutions, but was consistent with the mean SAT score for White students at the Naval Academy.

Black and Hispanic Minority students who attended the Naval Academy during the period 2005 to 2008 produced SAT scores that were generally below but within one standard deviation of the mean SAT scores of non-minority students that also attended the Naval Academy during this period.

HSGPA

Table 6 illustrates that White, Hispanic, and Asian students who attended the Naval Academy reported equivalent or slightly higher mean grade point averages than students who did not attend the Naval Academy, but only the difference in means for

USNA students who were either White or Black were statistically significant. Black students who attended the Naval Academy had a mean grade point average that was slightly below the mean for Black students at comparably selective institutions, but the mean grade point average was still within the same grade range (B+ average).

Table 6. Mean (HSGPA of Respondents)¹⁰²

	Comparison Group		P-Value
	Other Sel Univ.	USNA	
White	7.1	7.3*	.000
Black	6.7	6.4*	.003
Hispanic	7.0	7.0	.85
Asian	7.1	7.1	.67

* Significant at the .01 level. ** The responses are coded so that 5=B, 6=B+, 7=A-, 8=A or A+

Parental Income

The Naval Academy provides a federally funded education to students. With this in mind, it might be instinctive to assume that individuals who attend the Naval Academy are motivated by the economic benefit of a subsidized education. The CIRP survey does ask respondents to indicate their parental income level within certain ranges. To analyze the income data the CIRP survey responses were recoded so that the responses equated to the median of the category range that a student selected. If for example an individual indicated their parent's income for the previous year was between \$30,000 to \$39,999 then that individual's parental income was recoded as \$35,000. A

¹⁰² Less than one percent of all students had missing HSGPA responses. The number of observations does not significantly differ from Table 2.

new variable, (inc), was generated from those responses so that the means and standard deviations of the responses could be analyzed.

A robust consideration of the Naval Academy sample revealed the Naval Academy admitted proportionally fewer students from lower income families. The median family income in the United States in 2008 was \$52,000,¹⁰³ but students who entered the Naval Academy from 2005 to 2008 reported the best estimate of their parents' total income was more than \$100,000.

Analysis of the Naval Academy sample data indicated that individuals who attended the Naval Academy were more likely to matriculate from families with a higher socio-economic status than college students in the general population even while White USNA students, who represent the vast majority of students at the Naval Academy, matriculate from families that earn on average 10 percent less than students in the comparison group of selective institutions. Table 7 indicates that Black and Hispanic Naval Academy students did not report the same level of parental income as White students at the Naval Academy but their parental income levels were twenty-five percent higher than the parental income of Black and Hispanic students at comparably selective institutions. Asian students at the Naval Academy reported parental incomes that were slightly below the parental incomes of Asian students at comparably selective institutions, but this difference was not statistically significant. The initial indication from this analysis is that the economic benefit of a subsidized indication may not be a primary motivator for Naval Academy attendance.

¹⁰³ United States Census Bureau. "Income Poverty and Health Insurance Coverage in the United States: 2008" www.census.gov/newsroom/releases/archives/income_wealth/cb12-172.html. 18 April 2013

Table 7. Mean (Parental Income Level) of Respondents (In Thousands)¹⁰⁴

	Comparison Group		P-Value
	Other Sel Univ.	USNA	
White	163	146*	.000
Black	86	118*	.000
Hispanic	88	107*	.021
Asian	111	106	.621

* Significant at the .05 level of significance.

Parental Education

Shumate’s research on the youth propensity to enlist found there was a negative relationship between the parents’ educational level and youth propensity. Respondents whose parents possessed less than a high school diploma were three times more likely to be “Joiners” than individuals whose parents possessed a college degree. Moreover, individuals whose parents were highly educated were the least likely to be “Joiners” and the most likely to fall into the “Disinterested” category.¹⁰⁵ The question is whether those patterns hold for individuals attending military academies.

The CIRP survey asks students to indicate the highest level of formal education obtained by each of their parents. Respondents could indicate:

- a) Grammar school or Less
- b) Some high school
- c) High school graduate
- d) Postsecondary school other than college
- e) Some college

¹⁰⁴ The number of observations in this table remained consistent. Approximately 10 percent of students in each cohort did not report the parental level of income.

¹⁰⁵ Shumate, Cheryl. From the Disinterested to the Joiners: American Youth Propensity to Enlist in the United States Military. Doctoral Dissertation Air Force Institute of Technology. 1999

- f) College degree
- g) Some graduate school
- h) Graduate degree

The data was categorical but was recoded to reflect a value for years in school.

For example, grammar school or less was recoded with a value of 8, while a value of 14 was associated with some college. Table 8 indicates the mean parental education level:

Table 8. Mean (Parents Educational Level, Years) of Respondents¹⁰⁶

	Father			Mother		
	Other Sel Univ.	USNA	P-Value	Other Sel Univ.	USNA	P-Value
White	16.2	16.2	.296	16.0	15.9	.318
Black	14.7	15.4*	.007	15.0	15.4*	.030
Hispanic	13.6	14.7*	.000	13.6	14.5*	.000
Asian	15.7	15.5	.464	15.1	14.8	.329

* Significant at the .05 level. The data is coded so that 13=Postsecondary School, 14=Some College, 16=College Degree 17=Some Grad School

The Black and Hispanic variables were significant and the pattern for parental education and the enlistment decision is inconsistent with the pattern for parental education and the decision to attend the Naval Academy. Black and Hispanic students at the Naval Academy had parents with educational levels that exceeded the educational level of parents of students at comparably selective institutions. The mean difference in educational level for parents of White and Asian students was not statistically significant. The fact that parental education levels among Black and Hispanic minority students were higher than Black and Hispanic students at comparably selective institutions

¹⁰⁶ The number of observations in this table remained consistent. Less than 7 percent of students in any cohort did not report the parental education level.

suggests that parents of minority students may view the decision to attend the Naval Academy differently than the decision to enlist.

Relationship between Race and Attitudinal Variables

Self Rating Scales

The CIRP survey instrument asks students to rate themselves on traits as compared to the average person their age. A likert-scale allows students to categorize themselves as either in the lowest 10 percent, below average, average, above average, or the highest 10 percent of the identified traits.

The traits were analyzed using factor analysis, a multivariate technique used in statistical analysis to reduce the number of dependent or independent variables, eliminate multicollinearity and test the reliability and dimensionality of attitude or behavioral constructs. The objective is to replace a large number of variables with a smaller number of factors. Appendix B illustrates the factor analysis and factor rotations. The following factors were identified and the associated variables were generated. A scale reliability coefficient (SRC) of .6 is considered sufficient for scholarly research.

Factor 1 – Academic Self-Confidence (Acadconf) – (SRC .57)

- Academic ability
- Computer skills
- Mathematical ability

Factor 2 – Social Self-Confidence (ScIconf) – (SRC .81)

- Cooperativeness
- Drive to achieve

- Emotional health
- Leadership ability
- Physical health
- Public speaking ability
- Self-Confidence (intellectual)
- Self-Confidence (social)
- Self-Rating: Self-understanding
- Self-Rating: Spirituality
- Self-Rating: Understanding of others

Factor 3 – Creative Self-Confidence (Creatconf) – (SRC .61)

- Artistic ability
- Creativity
- Writing ability

Table 9 illustrates the mean scores of the factor variables. What became evident was a general trend across demographics in which Naval Academy students viewed themselves as slightly more academically and socially confident and slightly less creatively confident than students at comparably selective institutions.

Table 9. Mean (Confidence Level) of Respondents¹⁰⁷

	Academic		Social		Creative	
	Other Sel Univ.	USNA	Other Sel Univ.	USNA	Other Sel Univ.	USNA
White	3.8	4.0*	3.7	4.0*	3.4	3.3*
Black	3.7	3.8**	3.9	4.0**	3.5	3.4***
Hispanic	3.6	3.8**	3.8	3.9*	3.4	3.3***
Asian	3.8	3.9	3.7	3.9*	3.4	3.3

* Significant at all levels. ** Significant at the .05 level. ***Significant at the .1 level. The data was recoded such that 1=Low 10%, 2=Below Avg., 3=Avg., 4=Above Avg., 5=High 10%

Goals

The study of Public-Service Motivation provided the impetus to hypothesize that individuals who chose to attend the Naval Academy would have a higher propensity to indicate goals which reflected a sense of civic and community service over goals which reflected economic aspirations. The theory would suggest that individuals who were attending the Naval Academy were searching for a sense of purpose in their life and would view that as a priority over goals which indicate an economic motivation for attending the Naval Academy. What was not clear, and is the continuing subject of research in the present study, is whether minorities who attend the Naval Academy differ in their goals from other students at the Naval Academy, and from the general population of students that attend comparably selective institutions.

The CIRP survey asks respondents to identify which goals they deem important.

¹⁰⁷ Less than 1 percent of the respondents failed to address the self-rating variables.

The goals which are addressed are:

- a) Becoming a community leader
- b) Being very well-off financially
- c) Developing a meaningful philosophy of life
- d) Helping others who are in difficulty
- e) Helping to promote racial understanding
- f) Improving my understanding of other countries and cultures
- g) Influencing social values
- h) Influencing the political structure
- i) Participating in a community action program

Respondents had the opportunity of differentiating the goals as essential, very important, somewhat important, or not important.

Factor analysis was applied to the goals to determine if the list of goals could be condensed into a smaller list of factors. The results indicated two factors provided the best clarity within which to consolidate and explain individual goals. Most of the goals listed in the CIRP survey aligned with a factor for public-service motivation. The factor analysis resulted in high factor loadings for that factor and the scale reliability coefficient was .82. The remaining goal (Goal08) of “being very well off financially” aligned with an economic motivation. A variable for public-service motivation (PublicService) was created to measure the mean of that factor, while Goal08 was used to measure economic motivation. Table 10 indicates students at the Naval Academy thought to some degree that an economic goal was important but slightly less important than students at comparably selective institutions. Surprisingly the results indicated that a public-service motivation was slightly less important for USNA students than their economic goals. Black and Hispanic minority students at the Naval Academy also indicated that public-service motivations were slightly less important than Black or Hispanic students at comparably selective institutions. The differences in these means were statistically significant.

Table 10. Mean (Goals) of Respondents¹⁰⁸

	Public-Service			Economic		
	Other Sel Univ.	USNA	P-Value	Other Sel Univ.	USNA	P-Value
White	2.4	2.4	.120	2.9	2.7*	.000
Black	2.7	2.5*	.000	3.3	3.2**	.016
Hispanic	2.6	2.5**	.010	3.2	2.9*	.000
Asian	2.5	2.5	.825	3.2	3.0**	.002

* Significant at all levels. ** Significant at the .05 level. ***Significant at the .1 level. The data was recorded such that 1=Not Important, 2=Somewhat Important, 3=Very Important, 4=Essential

Allocation of time

The CIRP survey instrument asks students to indicate how much time they spent during a typical week during their last year in high school on the following items:

- a) Studying/homework
- b) Socializing with friends
- c) Talking with teachers outside of class
- d) Exercise or sports
- e) Partying
- f) Working (for pay)
- g) Volunteer work
- h) Student clubs/groups
- i) Watching TV
- j) Household/childcare duties
- k) Reading for pleasure
- l) Playing video/computer games

¹⁰⁸ Less than 10 percent of the respondents failed to address the variables for goals.

Respondents were asked to select one of the following categories:

- a) Less than one hour
- b) 1 to 2 hours
- c) 3 to 5 hours
- d) 6 to 10 hours
- e) 11 to 15 hours
- f) 16 to 20 hours
- g) Over 20 hours

To analyze the survey data the CIRP survey responses were recoded so that the responses equated to the median of the category range selected. If for example an individual indicated they spent 6 to 10 hours then that individual's response was recoded as 8 hours spent per week. Over 20 hours was recoded as 25 hours spent per week.

The variables were then analyzed using factor analysis. Two factors were identified which had a scale reliability coefficient strong enough to generate factors.

Factor 1 – Hours Spent Per Week (Studious) – (SRC .53)

- Studying/homework
- Talking with teachers outside of class
- Volunteer work
- Student clubs/groups

Factor 2 – Hours Spent Per Week (Social) – (SRC .57)

- Socializing with friends
- Exercise or sports
- Partying

Table 11 indicates the average hours spent per week on the factored traits. It was not surprising to discover Naval Academy students spend an equivalent amount of time in studious pursuits as students in comparably selective institutions and even slightly more time in social pursuits. Naval Academy admissions personnel frequently stress the robust nature of individuals selected for the Academy, as all students are required to perform some type of intramural or varsity physical activity on a daily basis. The largest

gap between USNA responses and students at comparably selective institutions occurred when Black USNA students indicated they'd spent about 3 hours more than Black students at comparably selective institutions on social activities. Naval Academy students from other demographics appeared to spend 2 more hours on social activities compared with students at other selective institutions. Interestingly enough, however, is that the time spent on social activities did not translate into reduced time spent on studious activities, it simply meant that Naval Academy students were more active students overall.

Table 11. Mean (Hours spent per week) of Respondents¹⁰⁹

	Studious			Social		
	Other Sel Univ.	USNA	P-Value	Other Sel Univ.	USNA	P-Value
White	3.8	3.6**	.001	8.0	9.8*	.000
Black	4.6	4.4	.688	7.0	10.4*	.000
Hispanic	4.4	3.9***	.061	6.8	8.8*	.000
Asian	4.8	4.8	.874	6.0	8.3*	.000

* Significant at all levels. ** Significant at the .05 level. ***Significant at the .1 level

Activities Performed in Past Year

Students were asked to indicate which activities they performed during the past year:

- a) Performed community service as part of a class
- b) Performed volunteer work
- c) Socialized with someone of another racial/ethnic group
- d) Studied with other students

¹⁰⁹ Less than 1 percent of the respondents failed to indicate the HPW spent on the indicated variables.

- e) Tutored another student
- f) Voted in a student election
- g) Was bored in class

Respondents could indicate they performed the activities not at all, occasionally, or frequently. The variables were analyzed using factor analysis. One factor was identified which had a scale reliability coefficient strong enough for consideration.

Factor 1 – Actions Performed in Past Year (Civic) – (SRC .56)

- Performed community service as part of a class
- Performed volunteer work
- Studied with other students
- Tutored another student
- Voted in a student election

Table 12 indicates the means for the actions performed in the past year. The results were consistent across the spectrum. All respondents indicated they had performed actions that would be considered civic only occasionally and there was little difference across demographics.

Table 12. Mean (Actions performed past year) of Respondents¹¹⁰

	Civic		P-Value
	Other Sel Univ.	USNA	
White	2.0	2.0*	.000
Black	2.1	2.0***	.075
Hispanic	2.1	2.1***	.086
Asian	2.1	2.1	.377

* Significant at all levels. ** Significant at the .05 level. ***Significant at the .1 level. The data was recoded such that 1=Not at All, 2=Occasionally, 3=Frequently

Views on Contemporary Issues

¹¹⁰ Less than 1 percent of the respondents failed to indicate the Actions in the Past Year spent on the indicated variables.

The final variables which were considered using descriptive analysis pertained to an individual's views on political and contemporary issues. There are two variables that will be analyzed, VIEWS and POLIVIEWS. VIEWS are how an individual felt about a certain issue. The CIRP survey ask students to respond on a likert scale whether they either agree strongly, agree somewhat, disagree somewhat, or disagree strongly with a view.

The views considered in the survey period from 2005 to 2008 were:

- a) Affirmative action in college admissions should be abolished
- b) It is important to have laws prohibiting homosexual relationships
- c) Only volunteers should serve in the Armed Forces
- d) Racial discrimination is no longer a major problem in America
- e) Realistically, an individual can do little to bring about changes in our society
- f) Through hard work, everybody can succeed in American society

Factor Analysis was applied but did not produce factors which could reduce the variables. Therefore, all views were not considered for the conceptual model because an individual's views on affirmative action, homosexual relationships, or even racial discrimination were not relevant to this study. Analysis revealed there was virtually no difference between individual responses on whether volunteers should serve in the Armed Forces. Survey responses on an individual's view about changing society and working hard to succeed in society were considered germane and analyzed in Table 13.

Table 13. Mean (Views) of Respondents¹¹¹

	Realistically Individuals can do little to change society		P-Values	Through hard work everybody can succeed in American society		P-Values
	Other Sel Univ.	USNA		Other Sel Univ.	USNA	
White	1.9	1.9	.178	3.0	3.4*	.000
Black	1.8	2.1*	.000	2.9	3.1**	.001
Hispanic	1.8	1.9	.113	3.1	3.3**	.023
Asian	2.0	2.1	.320	3.0	3.3*	.000

* Significant at .001 level. ** Significant at the .05 level. ***Significant at the .1 level. The data was recoded such that 1=Disagree strongly, 2=Disagree somewhat, 3=Agree somewhat, 4=Agree strongly

The data indicated Black USNA students were slightly more likely to agree with the view that individuals can do little to change society. In addition, all USNA students were slightly more likely to agree with the idea that through hard work everybody can succeed in American society.

The variable POLIVIEW captures individual responses to the question “How would you characterize your political views?” Students could indicate that their views were either Far Right, Conservative, Middle of the road, Liberal, or Far Left. Table 14 indicates the differences between students of various demographics within and outside of the Naval Academy.

¹¹¹ Less than 10 percent of the respondents failed to indicate their views on the indicated variables. P-values for this table are listed in the appendix.

Table 14. Mean (Political Views) of Respondents ¹¹²

	Political Views		P-Value
	Other Sel Univ.	USNA	
White	3.0	2.4*	.000
Black	3.4	3.0*	.000
Hispanic	3.3	2.8*	.000
Asian	3.3	2.7*	.000

* Significant at all levels. Where 1=Far right, 2=Conservative,3=Middle of the Road 4=Liberal, and 5=Far Left

The data indicated that White USNA students were more conservative than other students at the Naval Academy and in the comparable college population. All USNA students were more moderate than their civilian counterparts, who tended to be either Middle of the Road or slightly leaning from Middle of the Road to Liberal. The clear pattern was that USNA students had moderately conservative to Middle of the Road inclinations.

¹¹² Less than 1 percent of the respondents failed to indicate their Political Views.

Chapter Five

Results from Model Testing

Regression analysis is a statistical tool for the investigation of relationships between variables. As discussed in the research design a binary logistic (LOGIT) regression is used for this study given that the dependent variable (Acad) is qualitative. For qualitative dependent variables a normal linear regression model is not appropriate for this study. The variable Acad is a 0-1 dummy variable which takes the value of 1 if an individual attends the Naval Academy and 0 if the individual attends another college of comparable selectivity. Table 15 is a preliminary table summarizing the dependent and independent variables in this study.

Table 15. Summary Analysis: All variables

	Obs	Mean	SD	Min	Max
White	380563	0.73	0.44	0	1
Black	380563	0.06	0.24	0	1
Hispanic	380563	0.05	0.22	0	1
Asian	380563	0.15	0.36	0	1
Father's Educational Level	373181	15.88	2.43	0	1
Mother's Educational Level	375112	15.64	2.30	8	18
Income (In Thousands)	343942	145.99	119.55	8	18
SAT Score	326376	1301.88	138.41	5	400
High School GPA	376077	7.08	1.02	400	1600
Academic Self-Confidence	377268	3.77	0.59	1	8
Social Self-Confidence	377215	3.74	0.52	1	5
Creative Self-Confidence	377208	3.42	0.70	1	5
Goals: Public-Service	363938	2.43	0.63	1	5
Goals: Economic	362286	2.96	0.87	1	4
Hours spent per week: Studious traits	375190	4.00	2.94	0	25
Hours spent per week: Social traits	375023	7.56	4.63	0	25
Actions in past year: Civic	378429	2.03	0.40	1	3
VIEW: An individual can do little to bring about change in society	368495	1.91	0.82	1	4
VIEW: Through Hard work, everybody can succeed in American society	366958	2.99	0.88	1	4
POLIVIEW: How would you characterize your political views?	370665	3.22	.85	1	5

Table 16 lists the regression coefficients and significance tests for youth's background characteristics.

Table 16. LOGIT Background Variables on Academy Attendance (acad)

	Odds Ratio	P> z
Black	0.6333*	.000
Hispanic	0.8012**	.018
Asian	0.1860*	.000
Father's Educational Level	1.0423*	.000
Mother's Educational Level	0.9896	.342
Income	1.0000*	.000
SAT Score	1.0003	.081
High School GPA	1.0975*	.000

N = 292307 Prob > Chi2 = 0.0000 * Sig. at .001 ** Sig. at .05

Six of the eight potential explanatory variables, as shown in Table 14, are significant at the .05 level or better when background characteristics are solely considered: Black, Hispanic, Asian, Father's Educational Level, Parental Income Level, and HSGPA.

In this model minority status decreases the odds that an individual attends the Naval Academy, most notably for individuals who are of Asian ethnicity. The odds that an Asian student attends the Naval Academy are 81 percent less than if the student is White. The odds that a Black student attends the Naval Academy are 37 percent less than if the student is White, and the odds that a Hispanic student attends the Naval

Academy are 20 percent less than if the student is White.

The results of the potential explanatory variables for race are interesting when juxtaposed against the proportional representation of races indicated in table 3. It demonstrates that Black and Hispanic students were proportionally represented at the Naval Academy compared to equivalently selective institutions, despite the decreased odds that Black and Hispanic students will attend the Naval Academy. There is an indication that USNA officials are making strides in their diversity recruitment efforts for Black and Hispanic students. The over-representation from White students at the Naval Academy appears to occur because White students fill the gap left by Asian students who are under-represented at the Naval Academy compared to other selective institutions. Further research on why Asian students have a decreased propensity to attend the Naval Academy must be conducted.

The odds of a student attending the Naval Academy do not change as parental income levels change, but the odds of a student attending the Naval Academy increase by 4 percent with each increasing year of a father's education.¹¹³ A student's SAT score and mother's educational level were not significant variables in this model.

The odds of a student attending the Naval Academy increase by 10 percent for each additional point of the student's high school GPA.¹¹⁴ The high school GPA effect may be a reflection of a student's cumulative hard work which in this model is more important than their academic ability. A student's high school GPA may also provide an indication of other student qualities such as motivation, personal discipline and

¹¹³ Fathers Educational Level is a categorical variable where 8=Grade School, 10=Some HS, 12=HS Graduate, 13=Postsecondary School, 14=Some College, 16=College Degree 17=Some Grad School, 18=Graduate Degree

¹¹⁴ HSGPA is a categorical variable where 1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A, 8=A or A+

perseverance, qualities which are extremely important for success at the Naval Academy.¹¹⁵

Table 17 list the regression coefficients for all of the independent variables, adding attitudinal and behavioral characteristics to the background factors.

¹¹⁵ Geiser, Saul and Santelices Maria. "Validity of High-School Grades in Predicting Student Success Beyond the Freshman Year". Research & Occasional Paper Series: Center for Studies in Higher Education

Table 17. LOGIT All Variables on Academy Attendance (acad)

	Odds Ratio	P> z
Black	1.1901	0.0840
Hispanic	1.1296	0.2140
Asian	0.3254*	0.0000
Father's Educational Level	1.0290**	0.0110
Mother's Educational Level	1.0277**	0.0190
Income	0.9977*	0.0000
SAT Score	1.0010*	0.0000
High School GPA	1.0077	0.7300
Academic Self-Confidence	1.2199*	0.0000
Social Self-Confidence	2.1719*	0.0000
Creative Self-Confidence	0.7217*	0.0000
Goals: Public-Service	1.1583*	0.0000
Goals: Economic	0.5788*	0.0000
Hours spent per week: Studious traits	0.9569*	0.0000
Hours spent per week: Social traits	1.0873*	0.0000
Actions in past year: Civic	1.0583	0.3020
VIEW: An individual can do little to change in society	1.1562*	0.0000
VIEW: Through Hard work, everybody can succeed in American society	1.5202*	0.0000
POLIVIEW: How would you characterize your political views?	0.4023*	0.0000

N = 139991 Prob > Chi2 = 0.0000 * Sig. at .001 ** Sig. at .05

When controlling for attitudinal variables the effect of Black and Hispanic minority status is no longer significant. The effect of the variable Asian remains significant and the odds a student will attend the Naval Academy if the student is Asian is still 67 percent less than if the student is White. The effects of a father's education, and the family income level do not significantly change when controlling for attitudinal variables,

but the effect of a mother's education is now significant. The odds that a student attends the Naval Academy increase by nearly 3 percent with each increasing year of a mother's education.¹¹⁶ The high school GPA is no longer significant. The SAT variable is now significant, which means that the odds that a student attends the Naval Academy increase by 10 percent for each additional 100 points on the student's SAT score.

A student's self-rating in the area of Self-Confidence appears to play a large role on the decision to attend the Naval Academy. The odds that a student attends the Naval Academy increase by 22 percent for every point higher that a student rates themselves on the Academic Self-Confidence scale.¹¹⁷ This is consistent with an understanding of the Naval Academy where students, regardless of major, must be prepared for a rigorous course load which includes a technical core of classes in calculus, physics, engineering, and navigation.

The effect is even stronger for a measure of Social Self-Confidence. The odds that a student will attend the Naval Academy increase by 217 percent for each point increase on the Social Self-Confidence scale.¹¹⁸ It is certainly reasonable and expected that Social Self-Confidence has an extremely strong impact on the decision to attend the Naval Academy. Social Self-Confidence is a measure of drive and leadership, among other traits, and students who attend the Naval Academy understand that they are

¹¹⁶ Mothers Educational Level is a categorical variable where 8=Grade School, 10=Some HS, 12=HS Graduate, 13=Postsecondary School, 14=Some College, 16=College Degree 17=Some Grad School, 18=Graduate Degree

¹¹⁷ Academic Self-Confidence is a Factor Analysis variable associated with how an individual rated themselves compared to their peers in Academic Ability, Computer Skills, and Math. The scale was: 1=Low 10%, 2=Below Avg., 3=Avg., 4=Above Avg., 5=High 10%.

¹¹⁸ Social Self-Confidence is a Factor Analysis variable associated with how an individual rated themselves compared to their peers in Cooperation, Drive to achieve, Emotional Health, Leadership, Physical health, Public Speaking, and Intellectual Self-Confidence. The scale was: 1=Low 10%, 2=Below Avg., 3=Avg., 4=Above Avg., 5=High 10%.

attending a leadership institute as much as a college.

In contrast the area of Creative Self-Confidence has a decreasing impact on the odds that a student will attend the Naval Academy. The odds that a student will attend the Naval Academy decrease by 38 percent for every one point increase on the Creative Self-Confidence scale.¹¹⁹ This is also consistent with expectations, particularly given the technical nature and rigid structure of the Naval Academy.

The variation in the odds that a student will attend the Naval Academy which is attributed to goals was consistent with the expectations of the model. The odds that a student will attend the Naval Academy decrease by 42 percent for every one point increase on the Economic scale.¹²⁰ Since students will continue into military service after their completion of studies at the Naval Academy it makes theoretical sense to believe that at the onset of their post-secondary education individuals who choose to attend the Naval Academy will not be as focused on economic gain.

The variable Studious indicates that an individual spent their time in activities consistent with advancement to postsecondary studies: studying/homework, talking with teachers outside of class, volunteer work, and student clubs/groups. The odds that a student attends the Naval Academy decrease by 4 percent for every one point increase on the Studious scale. The factor Social indicates hours spent per week socializing with friends, doing exercise or sports, or partying. The odds that a student attends the Naval

¹¹⁹ Creative Self-Confidence is a Factor Analysis variable associated with an individual's Artistic Ability, Creativity, and Writing Ability. The scale was: 1=Low 10%, 2=Below Avg., 3=Avg., 4=Above Avg., 5=High 10%.

¹²⁰ The variable Economic measures the importance to an individual of being well off financially. The scale was: 1=Not Important, 2=Somewhat Important, 3=Very Important, 4=Essential

Academy increase by 8 percent for every one level increase in the factor Social.¹²¹

The results relating to a student's hours spent per week and the decision to attend the Naval Academy initially seem counterintuitive, but are actually somewhat consistent given the final comparison group of institutions analyzed, the variables that lead to the factor scale on hours spent per week, and the nature of the Naval Academy. The Naval Academy has high academic standards, but the end-state of a USNA education is to prepare students for service in the Armed Forces. Students are given the strongest consideration for a USNA appointment when they possess well-rounded mental, moral, leadership, social and physical qualities. This has to be compared to the group of highly selective institutions who might have less of a concern for a plethora of robust social traits in favor of stronger academic backgrounds.

Student views considered in this model were statistically significant and consistent with expectations. The odds that a student attends the Naval Academy increase by 15 percent for each additional point of agreement with the view "An individual can do little to change society."¹²² This statement should be considered within context, as it is possible that students read this statement and contend that society is not going to change. In another context it is possible that students believe they cannot change society by themselves and thus ally themselves with other like-minded individuals in an attempt for the group to change society. The latter explanation would be consistent with the increasing odds that a student will attend the Naval Academy.

The odds that a student attends the Naval Academy increase by 52 percent for

¹²¹ The scale for Hours Per Week was: <1, 1-2, 3-5, 6-10, 11-15, 16-20, over 20. The scale was modified the median of each category was used for analysis: .5, 1.5, 4 etc...

¹²² The scale for Views was: 1=Disagree strongly, 2=Disagree somewhat, 3=Agree somewhat, 4=Agree strongly

every additional point of agreement with the view “Through hard work everybody can succeed in American society.” This is consistent with expectations because it connotes a belief in the American ideal that would be consistent with individuals who are making a commitment to public-service for the American society. The odds that a student attends the Naval Academy decrease by 60 percent as an individual’s characterization of their political views changes on a scale which ranges from the Far Right to the Far Left.¹²³ This is consistent with the literature that suggests that more conservative individuals self-select into the military.

The model was adjusted to determine if there would be changes to the regression coefficients and significant tests if each race or minority status were considered separately. The only variables that remained statistically significant in this model were SAT scores, Creative Self-Confidence, hours spent per week on social traits, views on the effect of hard work, and political views. Most of the coefficients in the model for Black students were similar to those for all students with the exception of the coefficients on the HSGPA, views on the effect of hard work, and political views. The directional impact changed for the HSGPA and the variable was now statistically significant. The odds that a Black student attends the Naval Academy only increased by 34 percent, compared to 52 percent for all students, for every additional point of agreement with the view “Through hard work everybody can succeed in American society.” The odds that a Black student attends the Naval Academy decreased by 39 percent, compared to 60 percent, as the individual’s characterization of their political views changed on a scale

¹²³ The scale for POLIVIEWS was 1=Far right, 2=Conservative,3=Middle of the Road 4=Liberal, and 5=Far Left

which ranged from the Far Right to the Far Left.

The only variables to remain statistically significant in a model for Hispanic students were Social and Creative Self-Confidence, economic goals, hours spent per week on studios and social traits, and political views. The statistically significant coefficients in the model for Hispanic students were almost identical for those of all students, particularly as it pertains to direction of impact.

The only coefficients to remain statistically significantly for Asian students related to SAT scores, Social Self-Confidence, economic goals, hours spent per week on social traits, views on the effect of hard work, and political views. The statistically significant coefficients in the model for Asian students were also almost all identical to those of all students, and particularly the direction of impact on the coefficients. The one notable difference was that the odds that an Asian student attended the Naval Academy increased by 183 percent, as opposed to 217 percent for all students, for every one point increase on the Social Self-Confidence scale.

Discussion

Ultimately what this research indicates is that there are not separately identifiable reasons why students attend the Naval Academy which are based upon race or ethnic status. The odds of a student attending the Naval Academy were similar, in direction and percent change, for all race or ethnic categories. In fact, when the model included intermediate attitudinal variables the only ethnic status that is significant is the effect of an Asian status.

The variable with the largest effect on the decision to attend the Naval Academy was a student's Social Self-Confidence. It became clear that USNA students saw

themselves as socially capable and strong young leaders, and even more so than their highly qualified young peers. This result was consistent with the results of Academic Self-Confidence. Even as compared to students who attend the most selective institutions in the nation, USNA students rated themselves high in the area of Academic Self-Confidence and this self-view translated into a significant increase in the odds that a student would attend the Naval Academy.

The SAT was a significant variable in the model and worked in the expected direction, with the SAT having a slightly different, but statistically significant, effect on the odds that a student who was either Black or White would attend the Naval Academy.

Through coefficients on hours spent per week, it could be argued that USNA students view the Naval Academy experience as more than just an opportunity to gain an education. The coefficient for Hours Spent Per Week indicated higher odds for USNA as students spent an additional hour on social activities. Increasingly it became clear that the Naval Academy attracts intelligent, patriotic, young people who are looking for a different type of college experience—a mental, moral, and physical challenge perhaps--and that rationale cuts across race.

It is clear that there is a social representation issue present, but this primarily relates to the issue of why individuals who are of Asian descent have a decreased propensity toward attending the Naval Academy. Black and Hispanic minorities are represented proportionally among the pool of qualified applicants who attend highly selective institutions. This is important because the MLDC's service academy recommendations called for:

- a) Creating, implementing, and evaluating a strategic plan for outreach to, and recruiting from, untapped locations and underrepresented demographic groups;
- b) Creating more accountability for recruiting from underrepresented demographic groups.

The underrepresented demographic groups according to this research are only students of Asian descent. Recruiting more from this population is important at a time when the United States is reconsidering its strategic posture toward global powers such as China, but more important than recruiting from this population is understanding why individuals of Asian descent are not more frequently inclined to enlist or apply for programs such as the Naval Academy when their academic qualification levels indicate the aptitude for success in these programs.

Chapter Six

Conclusions and Policy Recommendations

The MLDC's primary concern, as it relates to officer accessions programs, was ensuring that selected individuals were drawn from a demographically diverse candidate pool. This in their view could reverse trends in which minorities, and specifically Black and Hispanic minorities, were proportionally underrepresented in military leadership positions compared to the enlisted force and the overall population.

The MLDC recommendations were consistent with a large body of literature which indicated that social representation in the military—as defined by a broad and representative cross section of individuals—had been historically considered to be a necessary component of civil-military relations.

This study narrowed the officer accession comparison by focusing on service academy accessions and then specifically considered students entering the United States Naval Academy (USNA). In essence, instead of comparing the officer accession population to a broad proportional base, the accession comparison was made between USNA students and students with similar college entrance qualifications. The available data allowed for a comparison of students who entered academically selective institutions from 2005 through 2008.

The summary analysis revealed that Black and Hispanic USNA students were slightly underrepresented relative to the population of qualified candidates at comparably selective institutions. Black students represented 4.8 percent of the Naval Academy

sample and 6.3 percent of the qualified population. Hispanic students represented 4.6 percent of the Naval Academy sample and 5.4 percent of the qualified population. The largest underrepresentation issue, however, related to individuals of Asian descent. Asian students represented 15.3 percent of the qualified population but only 3.9 percent of the Naval Academy sample. The gap in representation was largely subsumed by White students who represented 73 percent of the qualified population but 86.7 percent of the Naval Academy sample.

The MLDC report had not specifically focused on the underrepresentation of Asian students because Asian officers were equivalently proportional to the number of Asian enlisted personnel and only slightly below the overall population of individuals of Asian descent in the United States. In fact, the MLDC report indicated that individuals of Asian descent only represented 5 percent of the U.S. population, compared to 12 percent of individuals who are Black and 15 percent of individuals who are Hispanic. The important point, however, is that if Asian students are over-represented in the qualified population then a focus for future study should pertain to understanding why qualified Asian students are not attending the Naval Academy, or perhaps participating in officer commissioning programs, at increased levels. The results of this study give an indication that Social Self-Confidence may be a factor worthy of further consideration. Social Self-Confidence was a factored variable that pertained to areas such as drive to achieve, leadership, cooperation, and understanding of others. The variable was one indicator that students who select USNA are not only driven, but are looking for a leadership challenge. The variable played a large role in the odds that an Asian student would attend the Naval Academy but not to the extent of other races. It is a plausible conception that Asian students find just as much satisfaction in the purely academic

challenge of elite universities, as other students find in the robust challenge of the Naval Academy.

Descriptive analysis revealed characteristics among Black and Hispanic USNA students which were slightly different than the characteristics of Black and Hispanic students at comparably selective institutions. Parental education levels were slightly higher for Black and Hispanic USNA students, and parental income levels were 25 percent higher for each of the respective demographics than in the comparison population.

The pattern for parental education and income was of note because there was an unexpected departure from the pattern between parental education, income and the enlistment decision. The propensity to enlist is normally lower for minority students with higher educated and more affluent parents. The fact that Black and Hispanic USNA students had higher education and income levels suggested that minority parents view the decision to attend the Naval Academy differently than the decision to enlist.

Academic and Social Self-Confidence levels were key indicators of the decision to attend the Naval Academy. Academic and Social Self-Confidence levels were higher across all racial demographics for USNA students than the same indicators for students at comparably selective institutions. Conversely Creative Self-Confidence levels were lower across all demographics for USNA students than for students at comparably selective institutions. This is perhaps not surprising given the technical focus of the Naval Academy. All USNA students, regardless of degree major, must take a cohort of core classes in engineering, natural sciences, and math to assure that graduates are able to think critically and solve increasingly technical problems in a dynamic and global environment.

Public-service goals were not indicated to be more important for USNA students than for students at comparably selective institutions. In fact for Black and Hispanic USNA students, public-service goals were considered to be slightly less important than Black and Hispanic students at comparably selective Institutions. This pattern did not necessarily indicate that extrinsic motivations were more important, as evidenced by the fact that economic goals were also considered somewhat less important for USNA students than for students at comparably select institutions. It simply indicated that USNA students, who completed this survey during their first year at the Naval Academy, were still somewhere in the middle of the continuum between institutional and occupational values; a finding which is consistent with work by McCloy and Clover that indicated that Air Force Academy cadets had a mixture of institutional and occupational concerns.¹²⁴

When asked about the allocation of their time in high school, a statistically significant result was that Hispanic USNA students indicated they spent less time on activities relating to college preparation than Hispanic students at comparably selective institutions, but more time on these activities than White USNA students or even White students at comparably selective institutions. Interestingly enough, USNA students across the demographic spectrum spent almost 25 percent more time in social or sporting pursuits than students at comparably selective institutions. The Naval Academy seems to attract a robust student who wants to challenge themselves in many areas.

In terms of their personal views, USNA students of all demographics were more likely to agree with the view “through hard work everybody can succeed in American

¹²⁴ McCloy and Clover. “Value Formation at the Air Force Academy.” In The Military, More Than Just A Job? Pergamon-Brassey’s International Defense Publishers. 1988

society.” Black students were also more likely to agree that “individuals can do little to change society.” USNA students across all demographics were slightly more conservative than their peers at comparably select institutions, even though the trend for minority students was toward middle of the road political views, and the trend for White USNA students was toward conservative values. The difference in the Naval Academy political responses can be considered interesting depending upon an agreement in what the terms liberal, middle of the road, or conservative mean. Hosti stated that liberals were assumed to support, among other items, an active role for government in promoting the interests of those who have traditionally been at a disadvantage owing to race, class, gender, or other attributes. Conservative are assumed to oppose, among other items, an active role in attempting to legislate equality between classes, sexes, races, or other groups.¹²⁵ The difference in the two values may serve as a foundation for whether students who will soon lead the United States Navy and Marine Corps support the notion of representation as a functional or societal imperative.

The mean SAT scores for White, Black, and Hispanic Naval Academy students were generally higher than the mean SAT scores for comparably selective institutions, and SAT scores for Black and Hispanic students that attended the Naval Academy placed their scores within one standard deviation of all comparably selective institutions, except for those institutions categorized as Private Universities High Select. There seemed to be a threshold effect for Black and Hispanic USNA students in which their SAT scores were lower than White USNA students but high enough to meet or exceed

¹²⁵Hosti Ole R. “Of Chasms and Convergences: Attitudes and Beliefs of Civilians and Military Elites at the Start of a New Millennium”. In Soldiers and Civilians: The Civil-Military Gap and American National Security. MIT 2001

the qualification requirement for the Naval Academy, and for any of the comparably selective academic institutions.

Black students who attended the Naval Academy had a mean grade point average that was slightly below the mean for Black students at comparably selective institutions, but the mean grade point average was still within the same grade range (B+ average). White, Hispanic, and Asian USNA students reported equivalent or slightly higher mean grade point averages than students at comparably selective institutions.

Logistical regression analysis was applied to determine the statistical significance of the conceptual variables and to determine the effect of a Black or Hispanic minority status on the decision to attend the Naval Academy. The following hypotheses were offered and the results were as indicated:

H₁. Group Identification variables (Racial minority, Social Economic status, Parents Education) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution.

Model Indication:

The effect of a Black or Hispanic minority status is not statistically significant. The effect of an Asian status is statistically significant and the odds that a student will attend the Naval Academy if the student is Asian is 67 percent less than if the student is White.

The odds of a student attending the Naval Academy do not change as parental income level changes, but the odds of a student attending the Naval Academy increase by four percent with each increasing year of a father's education, and three percent with

each increasing year of a mother's education.

H₂. Qualification variables (HSGPA, SAT) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, and these variables differ based upon racial/ethnic status.

Model Indication:

The SAT variable was statistically significant. The odds that a student attends the Naval Academy increase by 10 percent for each additional 100 points on the student's SAT score. The HSGPA variable was not significant. The model was adjusted to determine if there would be changes to the regression coefficients and significance test if each race or minority status were considered separately. With the exception of the coefficients for the HSGPA, views on the effect of hard work, and political views the coefficients in the model for Black students were almost identical to those for all students. For these exceptions, the directional impact only changed for the HSGPA. The odds of a Black student attending the Naval Academy decrease by 22 percent for each additional point of the student's high school GPA.¹²⁶ It signaled that the Naval Academy is drawing from a population of Black students with robust academic and leadership qualifications, and not simply the most academically talented pool.

When the model was adjusted to isolate the impact of being Hispanic the coefficients which remained statistically significant were almost identical to those of all students, particularly as those coefficients pertained to the direction of impact. It appears that Hispanic students who enter the Naval Academy do not significantly differ

¹²⁶ HSGPA is a categorical variable where 1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A, 8=A or A+

from majority students at the Naval Academy. The model adjustment to isolate the impact of being Asian had similar results with the previously discussed exception of Social Self-Confidence. The odds that an Asian student's attended the Naval Academy were not as impacted by Social Self-Confidence as students of other demographics, perhaps indicating that Asian students who choose to attend the Naval Academy give a little more consideration to other traits of the Naval Academy than just the leadership and physical challenge.

H₃. Individual characteristic variables (Self-Rating, Goals, Reasons for Attending College, Hours Spent per week, and Views) have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, and these variables differ based upon racial/ethnic status.

Model Indication:

Self-Confidence appears to play a large role on the decision to attend the Naval Academy. The odds that a student attends the Naval Academy increase by 22 percent for every point higher that a student rates themselves on the Academic Self-Confidence scale, and by 217 percent for each point increase on the Social Self-Confidence scale. The odds that a student will attend the Naval Academy decrease by 38 percent for every one point increase on the Creative Self-Confidence scale. The Naval Academy is drawing students who appear interested in the mental, moral, and physical challenge of a rigorous technical environment, and it does not appear that these students are challenging themselves simply for a later extrinsic reward. In fact, the odds that a

student will attend the Naval Academy decrease by 42 percent for every one point increase on the scale of economic goals.

The odds that a student attends the Naval Academy decrease by 4 percent for every one point increase on the scale of Studious (or college preparatory) activities. The odds that a student attends the Naval Academy increase by 8 percent for every one level increase on the scale of Social (sports, socializing with friends, partying) activities. USNA students are robust. The Academy is not drawing students simply because of its highly rated academic programs, which is perhaps not surprising given that USNA students must complete a demanding physical indoctrination period prior to even entering the Academy. The Academy seems to draw students who have been highly active over their high school careers. They may have sacrificed some time spent purely academic endeavors but USNA students seem to have a balanced portfolio of mental, physical, and leadership engagement.

The odds that a student attends the Naval Academy increase by 52 percent for every additional point of agreement with the view “Through hard work everybody can succeed in American society.” The odds that a student attends the Naval Academy decrease by 60 percent as an individual’s characterization of their political views changes on a scale which ranges from the Far Right to the Far Left.¹²⁷ These views are not only consistent with the conservative nature of the military, but perhaps also with the perception of a merit-based military. Quester and Gilroy noted in 2001 that the military was the only large organization in which large units (comprised mostly of men) are led by women, and large units (comprised largely of whites) are led by minorities. They

¹²⁷ The scale for POLIVIEWS was 1=Far right, 2=Conservative,3=Middle of the Road 4=Liberal, and 5=Far Left

contend that this is a testimony to how well integration and equal opportunity work in the Armed Forces, and that steady progress in this area was due in large part to constant monitoring of programs, and scrutiny of trends in population representation.¹²⁸

The models were adjusted to determine if there would be changes to the regression coefficients based upon race or minority status, but the model variants did not indicate that individual characteristic variables differed based upon race or minority status.

H₄. Civic attitudes have an effect on the decision to attend the Naval Academy instead of a comparably selective academic institution, but these variables do not differ based upon racial/ethnic status.

Model Indication:

The Civic variable was not significant in this model, and this effect did not differ based upon race or minority status.

Implications

This study was able to answer the two research questions that it sought to address. There are in fact variables that have a strong statistical correlation with the decision to attend the United States Naval Academy, but the evidence does not suggest that the probability that an individual will attend the Naval Academy differs based upon the Black or Hispanic race or ethnicity, which was primarily considered. There does appear to be an indication that individuals of Asian descent have a lower propensity to attend the Naval Academy.

¹²⁸ Quester, Aline O. and Curtis Gilroy. "Women and Minorities in America's Volunteer Military." Contemporary Economic Policy. Vol 20, Issue2, July 2008

The information that this research presents to policy makers is that the MLDC recommendations do not seem to offer a solution that specifically applies to a problem found at the Naval Academy, and at least not to the level indicated. Qualified Black and Hispanic minority applicants entered the Naval Academy at levels that are nearly equivalent to, or perhaps slightly below, that which would be expected given the true comparison population which represents a talented pool of highly qualified applicants. It does appear to be the case that White candidates are overrepresented when selecting from this talent pool, but this overrepresentation appears to be a result of a decreased propensity for qualified Asian students to enter the Naval Academy.

The solution that DOD must consider is not creating a more demographically diverse officer candidate pool, as the MLDC report suggests. A demographically diverse pool of qualified applicants already exists, and even if it did not the creation of that pool may be a cultural and societal responsibility beyond the control of the DOD. Riche and Quester made this exact point in discussing the underrepresentation of Hispanics in the military. They argued that one of the factors that contributed to this underrepresentation was lagging educational attainment, and that the civilian sector bears the onus for rectifying or ameliorating these differences. The military can, and must only, continue to be responsive to them.¹²⁹

The DOD's responsibility in this particular regard is to ensure that their outreach efforts are focused on ensuring that qualified applicants from all sectors of society are aware of the historical significance, opportunities, and benefits of institutions such as the

¹²⁹ Riche, Martha and Aline Quester. "The Effects of Socioeconomic Change on the All-Volunteer Force: Past, Present, and Future. In The All-Volunteer Force: Thirty Years of Service. Brassey's Inc. 2004

Naval Academy, and of service as a military officer. The Defense Departments current efforts, which reflect a continual transformation and progression of the now 40 year All-volunteer force, are consistent with the broad representation goals of the Armed Forces and deserve reinforcement, not necessarily reinvention.

Appendix A

CIRP Survey Variables

1	YEAR	Survey year
2	STRAT	CIRP Stratification Cell
3	SELECTIVITY	Institutional Selectivity
4	STUDSTAT	Student status
5	SEX	Your sex:
6	RACE1	American Indian
7	RACE2	Asian
8	RACE3	Native Hawaiian/Pacific Islander
9	RACE4	Black
10	RACE5	Mexican/Chicano
11	RACE6	Puerto Rican
12	RACE7	Other Latino
13	RACE8	White
14	RACE9	Other race/ethnicity
15	RACEGROUP	Race/Ethnicity Group
16	RRACE	Responded to race
17	CITIZEN	Citizenship status:
18	INCOME	What is your best estimate of your parents' total income last year?
19	PARSTAT	Are your parents alive? Divorced?
20	FATHEDUC	Father's education
21	MOTHEDEC	Mother's education
22	FIRSTGEN	First generation status based on parent(s) with less than 'some college'
23	FCAREERA	Father's career aggregated
24	MCAREERA	Mother's career aggregated
25	FULLSTAT	Are you enrolled (or enrolling) as a:

26	LEGACY_T2	Did either of your parents or legal guardians attend the institution that you are now attending?
27	HSTYPE2	From what kind of high school did you graduate?
28	YRGRADHS	In what year did you graduate from high school?
29	RACEHS	How would you describe the racial composition of the high school you last attended?
30	RACENEIB	How would you describe the racial composition of the neighborhood where you grew up?
31	HSGPA	What was your average grade in high school?
32	SATV	SAT Verbal
33	SATM	SAT Math
34	ACTCOMP	ACT Composite
35	ACT19	Act in Past Year: Performed community service as part of a class
36	ACT20	Act in Past Year: Performed volunteer work
37	ACT25	Act in Past Year: Socialized with someone of another racial/ethnic group
38	ACT26	Act in Past Year: Studied with other students
39	ACT27	Act in Past Year: Tutored another student
40	ACT31	Act in Past year: Voted in a student election
41	ACT33	Act in Past Year: Was bored in class
42	HPW01	Hours per Week: Studying/homework
43	HPW02	Hours per Week: Socializing with friends
44	HPW03	Hours per Week: Talking with teachers outside of class
45	HPW04	Hours per Week: Exercise or sports
46	HPW05	Hours per Week: Partying
47	HPW06	Hours per Week: Working (for pay)
48	HPW07	Hours per Week: Volunteer work
49	HPW08	Hours per Week: Student clubs/groups
50	HPW09	Hours per Week: Watching TV
51	HPW10	Hours per Week: Household/childcare duties
52	HPW12	Hours per Week: Reading for pleasure
53	HPW14	Hours per Week: Playing video/computer games

54	RATE01	Self Rating: Academic ability
55	RATE02	Self Rating: Artistic ability
56	RATE05	Self Rating: Computer skills
57	RATE06	Self Rating: Cooperativeness
58	RATE07	Self Rating: Creativity
59	RATE08	Self Rating: Drive to achieve
60	RATE09	Self Rating: Emotional health
61	RATE10	Self Rating: Leadership ability
62	RATE11	Self Rating: Mathematical ability
63	RATE12	Self Rating: Physical health
64	RATE14	Self Rating: Public speaking ability
65	RATE15	Self Rating: Self-Confidence (intellectual)
66	RATE16	Self Rating: Self-Confidence (social)
67	RATE17	Self Rating: Self-understanding
68	RATE18	Self Rating: Spirituality
69	RATE19	Self Rating: Understanding of others
70	RATE20	Self Rating: Writing ability
71	REASON01	Reason Attend: A mentor/role model encouraged me to go
72	REASON02	Reason Attend: I could not find a job
73	REASON03	Reason Attend: My parents wanted me to go
74	REASON04	Reason Attend: There was nothing better to do
75	REASON05	Reason Attend: To be able to get a better job
76	REASON06	Reason Attend: To be able to make more money
77	REASON08	Reason Attend: To gain a general education and appreciation of ideas
78	REASON07	Reason Attend: To get training for a specific career
79	REASON10	Reason Attend: To learn more about things that interest me
80	REASON12	Reason Attend: To prepare myself for graduate or professional school
81	REASON13	Reason Attend: Wanted to get away from home
82	REASON07_T	Reason Attend: To find my purpose in life
83	CHOOSE03	Choose to Attend: A visit to campus
84	CHOOSE05	Choose to Attend: Could not afford first choice

85	CHOOSE06	Choose to Attend: High school counselor advised me
86	CHOOSE07	Choose to Attend: I wanted to go to a school about the size of this college
87	CHOOSE15	Choose to Attend: My parents wanted me to come here
88	CHOOSE16	Choose to Attend: My relatives wanted me to come here
89	CHOOSE17	Choose to Attend: My teacher advised me
90	CHOOSE19	Choose to Attend: Not offered aid by first choice
91	CHOOSE21	Choose to Attend: Rankings in national magazines
92	CHOOSE22	Choose to Attend: The athletic department recruited me
93	CHOOSE23	Choose to Attend: The cost of attending this college
94	CHOOSE28	Choose to Attend: This College's graduates gain admission to top graduate/professional schools
95	CHOOSE29	Choose to Attend: This College's graduates get good jobs
96	CHOICE	Choice: Is this college your:
97	ACCPT1ST	Were you accepted by your first choice college?
98	NUMAPPLY	To how many colleges other than this one did you apply for admission this year?
99	GOAL02	Goal: Becoming a community leader
100	GOAL03	Goal: Becoming accomplished in one of the performing arts (acting, dancing, etc.)
101	GOAL04	Goal: Becoming an authority in my field
102	GOAL08	Goal: Being very well off financially
103	GOAL10	Goal: Developing a meaningful philosophy of life
104	GOAL11	Goal: Having administrative responsibility for the work of others
105	GOAL12	Goal: Helping others who are in difficulty
106	GOAL13	Goal: Helping to promote racial understanding
107	GOAL14	Goal: Improving my understanding of other countries and cultures
108	GOAL15	Goal: Influencing social values
109	GOAL16	Goal: Influencing the political structure
110	GOAL21	Goal: Participating in a community action program
111	GOAL23	Goal: Raising a family

112	GOAL24	Goal: Writing original works (poems, novels, etc.)
113	POLIVIEW	How would you characterize your political views?
114	VIEW04	View: Affirmative action in college admissions should be abolished
115	VIEW07	View: Dissent is a critical component of the political process
116	VIEW09	View: Federal military spending should be increased
117	VIEW13	View: It is important to have laws prohibiting homosexual relationships
118	VIEW15	View: Marijuana should be legalized
119	VIEW16	View: Only volunteers should serve in the Armed Forces
120	VIEW18	View: Racial discrimination is no longer a major problem in America
121	VIEW19	View: Realistically, an individual can do little to bring about changes in our society
122	VIEW20	View: Same-sex couples should have the right to legal marital status
123	VIEW23	View: The death penalty should be abolished
124	VIEW24	View: The federal government is not doing enough to control environmental pollution
125	VIEW25	View: The federal government should do more to control the sale of handguns
126	VIEW29	View: Through hard work, everybody can succeed in American society
127	FINCON	Do you have any concern about your ability to finance your college education?
128	AID1	Aid: Family resources (parents, relatives, spouse, etc.)
128	AID2	Aid: My own resources (savings from work, work-study, other income)
130	SCAREER	Student's probable career
131	MAJOR	Student's probable field of study/major
132	FCAREER	Father's career
133	MCAREER	Mother's career
134	FRELIGION	Father's religion

135 MRELIGION Mother's religion

Generated Variables

136	SAT	SAT Math + SAT Verbal Score
137	SAT2	SAT and Regressed ACT Scores
138	ParentsIncomeLevel	Recode of INCOME
139	FatherEducLevel	Recode of FATHEDUC
140	MotherEducLevel	Recode of MOTHEduc
141	HPWStudy	Recode of HPW01
142	HPWSocialize	Recode of HPW02
143	HPWTWTeacher	Recode of HPW03
144	HPWSports	Recode of HPW04
145	HPWParty	Recode of HPW05
146	HPWork	Recode of HPW06
147	HPWVolunteer	Recode of HPW07
148	HPWClubs	Recode of HPW08
149	HPWWatchTV	Recode of HPW09
150	HPWHousework	Recode of HPW10
151	HPWRead	Recode of HPW12
152	HPWPlyVideoGM	Recode of HPW14
153	eth4	Comparison variable for White, Black, Asian and Hispanic Students
154	ScIconf	FA M(RATE) Social Self-Confidence
155	Acadconf	FA M(RATE) Academic Self-Confidence
156	Creatconf	FA M(RATE) Creative Self-Confidence
157	PublicService	FA M(Goals) Public-Service Motivation
158	LrnDev	FA M(RSN 2 ATND) Learning and Development mindset
159	Utility	FA M(RSN 2 ATND) Utility mindset
160	Studious	FA M(HPW) Studious mindset
161	Social	FA M(HPW) Social mindset
162	Civic	FA M(ACT) Civic mindset
163	Economic	Recode of GOAL08

164	Black	Recode of RACE4
165	Hispanic	Recode of RACEGROUP==4
166	Asian	Recode of RACEGRUUP==2

Appendix B

Data definitions, transformations, and regressions

```
. use "C:\Users\Mike\Documents\Dissertation\DisDataCompressed.dta", clear
. * Data definitions, transformations, and regressions
. * Change CIRP stratifications so that I can see USNA as a separate category
(USNACompData3)
. tab STRAT, nolabel
```

CIRP Stratificat ion Cell	Freq.	Percent	Cum.
2	102,330	13.90	13.90
3	216,789	29.45	43.36
5	57,680	7.84	51.19
6	83,847	11.39	62.59
9	108,374	14.72	77.31
13	73,973	10.05	87.36
14	70,253	9.54	96.90
34	17,127	2.33	99.23
35	5,657	0.77	100.00
Total	736,030	100.00	

```
. label list STRAT
STRAT:
```

- 1 Public university - low select
- 2 Public university - medium select
- 3 Public university - high select
- 4 Private university - low select
- 5 Private university - medium select
- 6 Private university - high select
- 7 Public 4-yr - low select
- 8 Public 4-yr - medium select
- 9 Public 4-yr - high select
- 10 Public 4-yr - unknown select
- 11 Nonsectarian 4-yr - low select
- 12 Nonsectarian 4-yr - medium select
- 13 Nonsectarian 4-yr - high select
- 14 Nonsectarian 4-yr - very high select
- 15 Nonsectarian 4-yr - unknown select
- 16 Catholic 4-yr - low select
- 17 Catholic 4-yr - medium select
- 18 Catholic 4-yr - high select
- 19 Catholic 4-yr - unknown select
- 20 Other religious 4-yr - very low select
- 21 Other religious 4-yr - low select

```

22 Other religious 4-yr - medium select
23 Other religious 4-yr - high select
24 Other religious 4-yr - unknown select
25 Public 2-yr - very low enroll
26 Public 2-yr - low enroll
27 Public 2-yr - medium enroll
28 Public 2-yr - high enroll
29 Public 2-yr - very high enroll
30 Private 2-yr - very low enroll
31 Private 2-yr - low enroll
32 Private 2-yr - medium enroll
33 Private 2-yr - high enroll
34 Public 4-yr - predom black
35 Nonsectarian 4-yr - predom black
36 Public 2-yr - predom black
37 Private 2-yr - predom black
38 Other religious 4-yr - predom black
39 Catholic 4-yr - predom black
40 Public university - predom black
41 Private university - predom black

. replace STRAT = 42 if USNA_FLAG ==2
(3637 real changes made)

. label define STRAT 42 "USNA", add

. label define STRAT 2 "Pub Univ Med Sel" 3 "Pub Univ Hgh Sel" 5 "Pvt Univ Med
Sel" 6 "Pvt Univ Hgh Sel", modify

. label define STRAT 9 "Pub 4-yr Hgh Sel" 13 "NonSect 4yr Hgh" 14 "NonSect 4yr
VHgh" 34 "Pub 4yr Hist Blk", modify

. label define STRAT 35 "NS 4-yr Hist Blk", modify

. * SAT

. * Combine SATV and SATM scores into one SAT variable.(USNACompData3)

. gen SAT = (SATV + SATM)
(317925 missing values generated)

. label variable SAT "SATM + SATV"

. tabstat SAT, stats(n mean sd) by (STRAT)

```

Summary for variables: SAT
by categories of: STRAT (CIRP Stratification Cell)

STRAT	N	mean	sd
Pub Univ Med Sel	34516	1193.33	147.7325
Pub Univ Hgh Sel	130394	1257.275	140.1652
Pvt Univ Med Sel	39071	1288.453	127.8222
Pvt Univ Hgh Sel	69380	1406.894	113.8843
Pub 4-yr Hgh Sel	44842	1169.908	156.5683
NonSect 4yr Hgh	38503	1213.368	136.6601
NonSect 4yr VHgh	51709	1347.508	124.8312
Pub 4yr Hist Blk	4360	935.9979	144.8314
NS 4-yr Hist Blk	2489	1069.763	151.7145

USNA		2841	1309.221	114.261
-----+				
Total		418105	1273.37	159.7474

. * Predict SAT scores from ACT scores.

. reg SAT ACTCOMP

Source		SS	df	MS	Number of obs =	131635
-----+						
Model		1.9286e+09	1	1.9286e+09	F(1,131633) =	.
Residual		1.2903e+09	131633	9802.16905	Prob > F =	0.0000
-----+						
Total		3.2189e+09	131634	24453.3531	R-squared =	0.5992
					Adj R-squared =	0.5991
					Root MSE =	99.006

SAT		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----+						
ACTCOMP		27.22561	.0613786	443.57	0.000	27.10531 27.34592
_cons		512.9619	1.723773	297.58	0.000	509.5833 516.3404

. predict PSAT
(option xb assumed; fitted values)
(427769 missing values generated)

. label variable PSAT "Predicted SAT"

. gen SAT2 = SAT if SAT!=.
(317925 missing values generated)

. replace SAT2= PSAT if SAT==.
(176626 real changes made)

. label variable SAT2 "SAT and Regressed ACT Scores"

. sum SAT2

Variable		Obs	Mean	Std. Dev.	Min	Max
-----+						
SAT2		594731	1254.094	150.7742	400	1600

. * Means: SAT Scores - SATM, SATV, Regressed ACT Scores

. tabstat SAT2, stats(n mean sd) by (STRAT)

Summary for variables: SAT2
 by categories of: STRAT (CIRP Stratification Cell)

STRAT	N	mean	sd
Pub Univ Med Sel	78936	1189.703	124.0232
Pub Univ Hgh Sel	175015	1251.48	131.7761
Pvt Univ Med Sel	49098	1281.308	123.1686
Pvt Univ Hgh Sel	78199	1398.985	113.3235
Pub 4-yr Hgh Sel	80550	1169.633	135.8714
NonSect 4yr Hgh	54246	1210.202	128.0729
NonSect 4yr VHgh	61855	1337.838	121.7958
Pub 4yr Hist Blk	9361	977.0258	121.5227
NS 4-yr Hist Blk	4028	1079.485	135.7824
USNA	3443	1304.892	109.2038
Total	594731	1254.094	150.7742

. * HSGPA

. describe HSGPA

variable name	storage type	display format	value label	variable label
HSGPA	byte	%10.0g	HSGPA	What was your average grade in high school?

. tab HSGPA

What was your average grade in high school?	Freq.	Percent	Cum.
D	217	0.03	0.03
C	3,839	0.53	0.56
C+	8,011	1.10	1.66
B-	23,953	3.30	4.97
B	80,266	11.06	16.03
B+	140,464	19.36	35.39
A-	213,810	29.47	64.86
A or A+	254,903	35.14	100.00
Total	725,463	100.00	

```
. tab HSGPA, nolabel
```

What was your average grade in high school?	Freq.	Percent	Cum.
1	217	0.03	0.03
2	3,839	0.53	0.56
3	8,011	1.10	1.66
4	23,953	3.30	4.97
5	80,266	11.06	16.03
6	140,464	19.36	35.39
7	213,810	29.47	64.86
8	254,903	35.14	100.00
Total	725,463	100.00	

```
. * Means HSGPA
```

```
. tabstat HSGPA, stats( n mean sd) by ( STRAT)
```

Summary for variables: HSGPA
by categories of: STRAT (CIRP Stratification Cell)

STRAT	N	mean	sd
Pub Univ Med Sel	101024	6.491378	1.284402
Pub Univ Hgh Sel	213592	6.952156	1.079153
Pvt Univ Med Sel	56888	6.965564	1.046593
Pvt Univ Hgh Sel	82927	7.460996	.7651515
Pub 4-yr Hgh Sel	103277	6.340841	1.373862
NonSect 4yr Hgh	72602	6.463706	1.29814
NonSect 4yr VHgh	69158	7.040053	.979695
Pub 4yr Hist Blk	16835	4.939234	1.647879
NS 4-yr Hist Blk	5556	5.7455	1.586744
USNA	3604	7.206437	1.025137
Total	725463	6.764987	1.244678

```
. * STRATA
```

```
. * Delete STRATA not favorable for comparison. Drop CIRP stratifications of:
```

```
. * Public Universities Medium Select (SAT Median 1193),
. * Public 4-year High Select Colleges (SAT Median 1169),
. * Public 4-year Predominantly Black (SAT Median 935),
. * Nonsectarian 4-year Predominantly Black (SAT Median 1069),
. * Private Nonsectarian 4-yr college - High select (SAT Median 1213).
```

```
. drop if STRAT==2 | STRAT==9 | STRAT==13 | STRAT==34 | STRAT==35
(303824 observations deleted)
```

```
. tab STRAT
```

CIRP Stratification Cell	Freq.	Percent	Cum.
Pub Univ Hgh Sel	216,789	50.16	50.16
Pvt Univ Med Sel	57,680	13.35	63.50
Pvt Univ Hgh Sel	83,847	19.40	82.90
NonSect 4yr VHgh	70,253	16.25	99.16
USNA	3,637	0.84	100.00
Total	432,206	100.00	

```
. * RACE
```

```
. * Create a Race variable that will compare Whites, Blacks, and Hispanics
```

```
. gen CompRace = 1 if RACEGROUP==5
(153711 missing values generated)
. replace CompRace = 2 if RACE4==2
(23874 real changes made)
. replace CompRace = 3 if RACEGROUP==4
(20353 real changes made)
```

```
. lab def CompRace 1 "White" 2 "Black" 3 "Hispanic"
. label val CompRace CompRace
```

```
. tab CompRace USNA_FLAG
```

CompRace	Record is from US Naval Academy		Total
	No	Yes	
White	275,756	2,739	278,495
Black	23,723	151	23,874
Hispanic	20,208	145	20,353
Total	319,687	3,035	322,722

```
. * I need to create a variable that includes the Asian ethnicity.
```

```
. gen eth4 = CompRace
(109484 missing values generated)
. replace eth4 = 4 if RACEGROUP == 2
(57841 real changes made)
```

```
. * Define CompRace
```

```
. d CompRace
```

variable name	storage type	display format	value label	variable label
CompRace	float	%9.0g	CompRace	

```
. * Add labels to my ethnicity variable
```

```
. lab def eth4 1 "White" 2 "Black" 3 "Hispanic" 4 "Asian"
. lab val eth4 eth4
. * See what variables are missing
. tab RACEGROUP eth4, m
```

Race/Ethnicity Group	eth4				.	Total
	White	Black	Hispanic	Asian		
American Indian	0	0	0	0	623	623
Asian	0	0	0	57,841	0	57,841
Black	0	18,039	0	0	0	18,039
Hispanic	0	0	20,353	0	0	20,353
White	278,495	0	0	0	0	278,495
Other	0	0	0	0	7,005	7,005
Two or more race/ethn	0	5,835	0	0	25,562	31,397
.	0	0	0	0	18,453	18,453
Total	278,495	23,874	20,353	57,841	51,643	432,206

```
. * Generate my separate race variables for analysis
```

```
. gen white = 1 if eth4 ==1
(153711 missing values generated)
. replace white = 0 if eth4 ~=1 & eth4~=.
(102068 real changes made)
. gen black = 1 if eth4 ==2
(408332 missing values generated)
. replace black = 0 if eth4 ~=2 & eth4~=.
(356689 real changes made)
. gen hisp = 1 if eth4 ==3
(411853 missing values generated)
. replace hisp = 0 if eth4 ~=3 & eth4~=.
(360210 real changes made)
. gen asian = 1 if eth4 ==4
(374365 missing values generated)
. replace asian = 0 if eth4 ~=4 & eth4~=.
(322722 real changes made)
```

```
. * Drop missing race variables
. drop if eth4 == .
(51643 observations deleted)
```

```
. * Create new tables with corrected data (del missing variables for race)
```

```
. tab STRAT
```

CIRP Stratification Cell	Freq.	Percent	Cum.
Pub Univ Hgh Sel	190,298	50.00	50.00
Pvt Univ Med Sel	51,145	13.44	63.44
Pvt Univ Hgh Sel	73,712	19.37	82.81
NonSect 4yr VHgh	62,249	16.36	99.17
USNA	3,159	0.83	100.00
Total	380,563	100.00	

```
. tabstat SAT2, stats(n mean sd) by (STRAT)
```

Summary for variables: SAT2
 by categories of: STRAT (CIRP Stratification Cell)

STRAT	N	mean	sd
Pub Univ Hgh Sel	155124	1251.146	131.8527
Pvt Univ Med Sel	43927	1281.836	123.0434
Pvt Univ Hgh Sel	69087	1399.413	113.5229
NonSect 4yr VHgh	55229	1338.106	121.6961
USNA	3009	1305.618	109.0248
Total	326376	1301.879	138.4106

. tabstat HSGPA, stats(n mean sd) by (STRAT)

Summary for variables: HSGPA
 by categories of: STRAT (CIRP Stratification Cell)

STRAT	N	mean	sd
Pub Univ Hgh Sel	187940	6.958194	1.077644
Pvt Univ Med Sel	50519	6.979394	1.040164
Pvt Univ Hgh Sel	73061	7.464749	.762921
NonSect 4yr VHgh	61422	7.046547	.977015
USNA	3135	7.21244	1.028396
Total	376077	7.076	1.020451

. * Create a four-way table for race

. table eth4 black hisp, by (asian)

		hisp and black			
		0		1	
asian and	eth4	0	1	0	1
0	White	278,495			
	Black		23,874		
	Hispanic			20,353	
	Asian				
1	White				
	Black				
	Hispanic				
	Asian	57,841			

. * Create a frequency table for race


```
. tab eth4 USNA_FLAG, col
```

```
+-----+
| Key   |
+-----+
| frequency |
| column percentage |
+-----+
```

eth4	Record is from US Naval Academy		Total
	No	Yes	
White	275,756 73.07	2,739 86.70	278,495 73.18
Black	23,723 6.29	151 4.78	23,874 6.27
Hispanic	20,208 5.35	145 4.59	20,353 5.35
Asian	57,717 15.29	124 3.93	57,841 15.20
Total	377,404 100.00	3,159 100.00	380,563 100.00

```
. * Perform a ttest to determine if my differences are significant
```

```
. ttest RACE8==.87 if USNA_FLAG==1
```

```
One-sample t test
```

```
-----+-----
Variable |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
RACE8   |  377404   1.739674   .0007143   .4388129   1.738274   1.741074
```

```
-----+-----
mean = mean(RACE8)
Ho: mean = .87
t = 1.2e+03
degrees of freedom = 377403
```

```
Ha: mean < .87
Pr(T < t) = 1.0000
Ha: mean != .87
Pr(|T| > |t|) = 0.0000
Ha: mean > .87
Pr(T > t) = 0.0000
```

```
. ttest black== .07 if USNA_FLAG==1
```

```
One-sample t test
```

```
-----+-----
Variable |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
black   |  377404   .0628584   .0003951   .2427084   .062084   .0636327
```

```
-----+-----
mean = mean(black)
Ho: mean = .07
t = -18.0766
degrees of freedom = 377403
```

```
Ha: mean < .07
Pr(T < t) = 0.0000
Ha: mean != .07
Pr(|T| > |t|) = 0.0000
Ha: mean > .07
Pr(T > t) = 1.0000
```

```
. ttest hisp== .06 if USNA_FLAG==1
```

```
One-sample t test
```

```
-----+-----  
Variable |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]  
-----+-----  
  hisp | 377404   .0535447   .0003664   .2251174   .0528265   .054263  
-----+-----  
      mean = mean(hisp)                                t = -17.6160  
Ho: mean = .06                                       degrees of freedom = 377403  
  
      Ha: mean < .06                                Ha: mean != .06                                Ha: mean > .06  
Pr(T < t) = 0.0000                                Pr(|T| > |t|) = 0.0000                                Pr(T > t) = 1.0000
```

```
. ttest asian== 3.9 if USNA_FLAG==1
```

```
One-sample t test
```

```
-----+-----  
Variable |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]  
-----+-----  
  asian | 377404   .1529316   .0005859   .359922   .1517833   .1540799  
-----+-----  
      mean = mean(asian)                                t = -6.4e+03  
Ho: mean = 3.9                                       degrees of freedom = 377403  
  
      Ha: mean < 3.9                                Ha: mean != 3.9                                Ha: mean > 3.9  
Pr(T < t) = 0.0000                                Pr(|T| > |t|) = 0.0000                                Pr(T > t) = 1.0000
```

ACAD

```
. * Gen Acad variable that makes USNA_FLAG a 0/1 dummy variable.
```

```
. gen acad = USNA_FLAG - 1
```

```
. tab acad, nolab
```

```
-----+-----  
  acad |      Freq.   Percent   Cum.  
-----+-----  
    0 | 377,404   99.17   99.17  
    1 |    3,159    0.83  100.00  
-----+-----  
Total | 380,563  100.00
```

```
. label define acad 0 "No" 1 "Yes", modify
```

```
. label val acad acad
```

```
. * SAT Comparisons
```

```
. table eth4 acad, c(m SAT2) f(%7.1f) row col
```

```
-----+-----
          |          acad
          |          No    Yes    Total
-----+-----
White    | 1307.2  1313.9  1307.3
Black    | 1185.8  1218.5  1186.0
Hispanic | 1205.2  1226.8  1205.4
Asian    | 1350.2  1306.3  1350.1
          |
Total    | 1301.8  1305.6  1301.9
-----+-----
```

```
. *TTest SAT2
```

```
. ttest SAT2 if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group    |    Obs    Mean    Std. Err.    Std. Dev.    [95% Conf. Interval]
-----+-----
No       | 240348    1307.237    .263449    129.1566    1306.72    1307.753
Yes      |    2634    1313.935    2.035152    104.4491    1309.944    1317.925
-----+-----
combined | 242982    1307.309    .2615287    128.9159    1306.797    1307.822
-----+-----
diff     |          -6.698066    2.525573          -11.64812    -1.748009
-----+-----
```

```
diff = mean(No) - mean(Yes)                                t = -2.6521
Ho: diff = 0                                               degrees of freedom = 242980
```

```
Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0040          Pr(|T| > |t|) = 0.0080          Pr(T > t) = 0.9960
```

```
. ttest SAT2 if black == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group    |    Obs    Mean    Std. Err.    Std. Dev.    [95% Conf. Interval]
-----+-----
No       | 18949    1185.823    1.033224    142.2288    1183.798    1187.849
Yes      |    132    1218.504    11.2846    129.6501    1196.181    1240.828
-----+-----
combined | 19081    1186.049    1.029206    142.1683    1184.032    1188.067
-----+-----
diff     |          -32.68116    12.41526          -57.01616    -8.346147
-----+-----
```

```
diff = mean(No) - mean(Yes)                                t = -2.6323
Ho: diff = 0                                               degrees of freedom = 19079
```

```
Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0042          Pr(|T| > |t|) = 0.0085          Pr(T > t) = 0.9958
```



```
. ttest HSGPA if asian == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	57052	7.142467	.0040732	.9729117	7.134483	7.15045
Yes	123	7.105691	.0822943	.9126884	6.942781	7.268601
combined	57175	7.142387	.0040683	.9727801	7.134414	7.150361
diff		.0367755	.0878078		-.1353282	.2088792

diff = mean(No) - mean(Yes) t = 0.4188
 Ho: diff = 0 degrees of freedom = 57173

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.6623 Pr(|T| > |t|) = 0.6754 Pr(T > t) = 0.3377

```
. * Family Income
```

```
. recode INCOME (3 = 5000) (4=12500) (5=17500) (6 = 22500) (7 = 27500) (9=35000)
(13=45000)
> (15 = 55000) (17 = 67500) (18 =87500) (20=125000) (22=175000) (24=225000)
(25 = 400000),
> gen (ParentsIncomeLevel)
(343942 differences between INCOME and ParentsIncomeLevel)
```

```
. *Means Family Income
```

```
. tabstat ParentsIncomeLevel, stats( n mean sd) by (STRAT)
```

```
Summary for variables: ParentsIncomeLevel
by categories of: STRAT (CIRP Stratification Cell)
```

STRAT	N	mean	sd
Pub Univ Hgh Sel	171904	124408.4	103744.1
Pvt Univ Med Sel	46179	160841.5	124749.2
Pvt Univ Hgh Sel	66978	176029	133413.5
NonSect 4yr VHgh	55780	164432.4	130658.5
USNA	3101	140923.1	102489.3
Total	343942	145992.4	119547.6

```
. table eth4 acad, c(m ParentsIncomeLevel) f(%7.1f) row col
```

```
-----
```

eth4	acad		Total
	No	Yes	
White	163156.5	145549.8	162967.1
Black	86339.0	117739.7	86548.6
Hispanic	87950.6	106584.5	88089.9
Asian	110974.6	106260.3	110963.8
Total	146038.5	140923.1	145992.4

```
-----
```

```
. * Change Income to dollars vice thousands of dollars
```

```
. tab ParentsIncomeLevel
```

```
RECODE of |
```

```
INCOME |
```

```
(What is |
```

```
your best |
```

```
estimate of |
```

```
your |
```

```
parents' |
```

```
total |
```

```
income last |
```

	Freq.	Percent	Cum.
5000	6,815	1.98	1.98
12500	5,783	1.68	3.66
17500	5,258	1.53	5.19
22500	7,230	2.10	7.29
27500	7,012	2.04	9.33
35000	14,161	4.12	13.45
45000	17,004	4.94	18.39
55000	20,726	6.03	24.42
67500	29,818	8.67	33.09
87500	47,014	13.67	46.76
125000	72,274	21.01	67.77
175000	36,462	10.60	78.37
225000	23,070	6.71	85.08
400000	51,315	14.92	100.00
Total	343,942	100.00	

```
-----
```

```
. gen inc = ParentsIncomeLevel/1000  
(36621 missing values generated)
```

```
. tabstat inc, stats(n mean sd) by (eth4)
```

Summary for variables: inc
by categories of: eth4

eth4	N	mean	sd
White	250296	162.9671	121.785
Black	21868	86.54861	87.58934
Hispanic	18996	88.08986	96.27943
Asian	52782	110.9638	104.9647
Total	343942	145.9924	119.5476

. *TTest Income

. ttest inc if white == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	247604	163.1565	.2450929	121.9578	162.6761	163.6369
Yes	2692	145.5498	1.989588	103.2288	141.6485	149.4511
combined	250296	162.9671	.243426	121.785	162.49	163.4443
diff		17.60673	2.359702		12.98178	22.23169

diff = mean(No) - mean(Yes) t = 7.4614
Ho: diff = 0 degrees of freedom = 250294

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

. ttest inc if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	21722	86.33897	.5936279	87.49116	85.17541	87.50252
Yes	146	117.7397	7.986923	96.50636	101.9539	133.5256
combined	21868	86.54861	.5923068	87.58934	85.38765	87.70957
diff		-31.40076	7.270331		-45.65114	-17.15038

diff = mean(No) - mean(Yes) t = -4.3190
Ho: diff = 0 degrees of freedom = 21866

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000


```
. tabstat FatherEducLevel, stats(n mean sd) by ( STRAT)
```

```
Summary for variables: FatherEducLevel
by categories of: STRAT (CIRP Stratification Cell)
```

STRAT	N	mean	sd
Pub Univ Hgh Sel	186494	15.43242	2.560772
Pvt Univ Med Sel	50252	15.94026	2.313711
Pvt Univ Hgh Sel	72239	16.53831	2.122569
NonSect 4yr VHgh	61072	16.42306	2.186205
USNA	3124	16.0781	2.078121
Total	373181	15.8824	2.433396

```
. table eth4 USNA_FLAG, c(m FatherEducLevel) f(%7.1f) row col
```

eth4	Record is from US		
	No	Yes	Total
White	16.2	16.2	16.2
Black	14.7	15.4	14.7
Hispanic	13.6	14.7	13.6
Asian	15.7	15.5	15.7
Total	15.9	16.1	15.9

```
. * Mean MotherEducLevel overall, diverse students (USNACompData5)
```

```
. tabstat MotherEducLevel, stats(n mean sd) by ( STRAT)
```

```
Summary for variables: MotherEducLevel
by categories of: STRAT (CIRP Stratification Cell)
```

STRAT	N	mean	sd
Pub Univ Hgh Sel	187533	15.22234	2.412654
Pvt Univ Med Sel	50475	15.71259	2.160844
Pvt Univ Hgh Sel	72523	16.18962	2.06101
NonSect 4yr VHgh	61448	16.19206	2.095718
USNA	3133	15.78838	1.966084
Total	375112	15.6389	2.303861

```
. table eth4 USNA_FLAG, c(m MotherEducLevel) f(%7.1f) row col
```

```
-----+-----
          | Record is from US
          | Naval Academy
eth4      | No    Yes  Total
-----+-----
White    | 16.0  15.9  16.0
Black    | 15.0  15.4  15.0
Hispanic | 13.6  14.5  13.6
Asian    | 15.1  14.8  15.1
          |
Total    | 15.6  15.8  15.6
-----+-----
```

```
. * TTest Parents Education
```

```
. ttest FatherEducLevel if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group    | Obs      Mean      Std. Err.  Std. Dev.  [95% Conf. Interval]
-----+-----
No       | 271964   16.17223   .0040173   2.095026   16.16435   16.1801
Yes      | 2715     16.21436   .0373573   1.946525   16.14111   16.28762
-----+-----
combined | 274679   16.17264   .0039947   2.093611   16.16481   16.18047
-----+-----
diff     |          -.0421396   .0403802           -.1212836   .0370044
-----+-----
diff = mean(No) - mean(Yes)                                t = -1.0436
Ho: diff = 0                                                degrees of freedom = 274677

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.1483          Pr(|T| > |t|) = 0.2967          Pr(T > t) = 0.8517
```

```
. ttest FatherEducLevel if black == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group    | Obs      Mean      Std. Err.  Std. Dev.  [95% Conf. Interval]
-----+-----
No       | 22069    14.74145   .0183762   2.729901   14.70543   14.77747
Yes      | 145      15.35172   .1975741   2.379108   14.9612    15.74224
-----+-----
combined | 22214    14.74543   .0183044   2.728154   14.70955   14.78131
-----+-----
diff     |          -.6102769   .2272721           -1.055746   -.1648074
-----+-----
diff = mean(No) - mean(Yes)                                t = -2.6852
Ho: diff = 0                                                degrees of freedom = 22212

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0036          Pr(|T| > |t|) = 0.0073          Pr(T > t) = 0.9964
```

```
. ttest FatherEducLevel if hisp == 1, by (acad)
```


Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	23087	14.96145	.0165751	2.51849	14.92896	14.99394
Yes	150	15.40667	.2029088	2.485115	15.00572	15.80762
combined	23237	14.96432	.0165214	2.518476	14.93194	14.99671
diff		-.4452165	.2062834		-.8495455	-.0408875
diff = mean(No) - mean(Yes)					t = -2.1583	
Ho: diff = 0					degrees of freedom = 23235	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0155		Pr(T > t) = 0.0309		Pr(T > t) = 0.9845		

. ttest MotherEducLevel if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	19866	13.57153	.0228602	3.222068	13.52672	13.61634
Yes	144	14.46528	.2111208	2.533449	14.04796	14.8826
combined	20010	13.57796	.0227524	3.218475	13.53336	13.62256
diff		-.8937485	.2691091		-1.421225	-.3662724
diff = mean(No) - mean(Yes)					t = -3.3211	
Ho: diff = 0					degrees of freedom = 20008	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0004		Pr(T > t) = 0.0009		Pr(T > t) = 0.9996		

. ttest MotherEducLevel if asian == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	56729	15.09052	.0116754	2.780835	15.06763	15.1134
Yes	122	14.84426	.2466468	2.724303	14.35596	15.33256
combined	56851	15.08999	.0116624	2.780715	15.06713	15.11285
diff		.2462558	.2520248		-.2477142	.7402258
diff = mean(No) - mean(Yes)					t = 0.9771	
Ho: diff = 0					degrees of freedom = 56849	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.8357		Pr(T > t) = 0.3285		Pr(T > t) = 0.1643		

. * Self-ratings

. describe RATE01-RATE20

variable name	storage type	display format	value label	variable label
RATE01	byte	%10.0g	RATE01	Self Rating: Academic ability
RATE02	byte	%10.0g	RATE02	Self Rating: Artistic ability
RATE05	byte	%10.0g	RATE05	Self Rating: Computer skills
RATE06	byte	%10.0g	RATE06	Self Rating: Cooperativeness
RATE07	byte	%10.0g	RATE07	Self Rating: Creativity
RATE08	byte	%10.0g	RATE08	Self Rating: Drive to achieve
RATE09	byte	%10.0g	RATE09	Self Rating: Emotional health
RATE10	byte	%10.0g	RATE10	Self Rating: Leadership ability
RATE11	byte	%10.0g	RATE11	Self Rating: Mathematical ability
RATE12	byte	%10.0g	RATE12	Self Rating: Physical health
RATE14	byte	%10.0g	RATE14	Self Rating: Public speaking ability
RATE15	byte	%10.0g	RATE15	Self Rating: Self-Confidence (intellectual)
RATE16	byte	%10.0g	RATE16	Self Rating: Self-Confidence (social)
RATE17	byte	%10.0g	RATE17	Self Rating: Self-understanding
RATE18	byte	%10.0g	RATE18	Self Rating: Spirituality
RATE19	byte	%10.0g	RATE19	Self Rating: Understanding of others
RATE20	byte	%10.0g	RATE20	Self Rating: Writing ability

. factor RATE01-RATE20, pcf
(obs=365176)

Factor analysis/correlation	Number of obs =	365176
Method: principal-component factors	Retained factors =	4
Rotation: (unrotated)	Number of params =	62

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.48806	2.85463	0.2640	0.2640
Factor2	1.63342	0.09173	0.0961	0.3601
Factor3	1.54170	0.39910	0.0907	0.4508
Factor4	1.14260	0.14954	0.0672	0.5180
Factor5	0.99306	0.08582	0.0584	0.5764
Factor6	0.90724	0.00793	0.0534	0.6298
Factor7	0.89931	0.07868	0.0529	0.6827
Factor8	0.82062	0.10003	0.0483	0.7309
Factor9	0.72060	0.06011	0.0424	0.7733
Factor10	0.66048	0.06319	0.0389	0.8122
Factor11	0.59730	0.07712	0.0351	0.8473
Factor12	0.52018	0.06210	0.0306	0.8779
Factor13	0.45808	0.01049	0.0269	0.9049
Factor14	0.44759	0.03936	0.0263	0.9312
Factor15	0.40823	0.00804	0.0240	0.9552
Factor16	0.40019	0.03884	0.0235	0.9787
Factor17	0.36135	.	0.0213	1.0000

 LR test: independent vs. saturated: chi2(136) = 1.5e+06 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
RATE01	0.4637	-0.3569	0.5750	0.0133	0.3268
RATE02	0.2192	0.5807	0.4438	0.2069	0.3749
RATE05	0.2574	-0.2899	0.3076	0.2757	0.6791
RATE06	0.4539	0.0612	-0.2698	0.4683	0.4981
RATE07	0.4451	0.5526	0.3462	0.1034	0.3660
RATE08	0.5368	-0.1105	0.0376	-0.0294	0.6974
RATE09	0.5795	-0.2179	-0.3375	0.0999	0.4928
RATE10	0.6707	-0.0124	-0.1389	-0.3289	0.4225
RATE11	0.2730	-0.6182	0.3942	0.2830	0.3077
RATE12	0.4652	-0.2554	-0.2401	0.0553	0.6576
RATE14	0.6123	0.1348	0.0282	-0.4947	0.3614
RATE15	0.7062	-0.2101	0.1569	-0.1914	0.3959
RATE16	0.6848	-0.0061	-0.3133	-0.2068	0.3900
RATE17	0.6622	0.0625	-0.1594	0.1050	0.5211
RATE18	0.3825	0.2243	-0.2037	0.2366	0.7059
RATE19	0.5127	0.2651	-0.2025	0.3990	0.4666
RATE20	0.4466	0.2856	0.3843	-0.2027	0.5302

. rotate, factors (3)

Factor analysis/correlation
 Method: principal-component factors
 Rotation: orthogonal varimax (Kaiser off)

Number of obs = 365176
 Retained factors = 4
 Number of params = 62

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.65879	1.64452	0.2152	0.2152
Factor2	2.01427	0.02416	0.1185	0.3337
Factor3	1.99011	0.84752	0.1171	0.4508
Factor4	1.14260	.	0.0672	0.5180

LR test: independent vs. saturated: chi2(136) = 1.5e+06 Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
RATE01	0.0998	0.7864	0.2113	0.0133	0.3268
RATE02	-0.0676	-0.0054	0.7600	0.2069	0.3749
RATE05	0.0645	0.4889	0.0416	0.2757	0.6791
RATE06	0.5257	-0.0420	0.0666	0.4683	0.4981
RATE07	0.1765	0.0359	0.7687	0.1034	0.3660
RATE08	0.4386	0.3026	0.1335	-0.0294	0.6974
RATE09	0.6769	0.1442	-0.1351	0.0999	0.4928
RATE10	0.6425	0.1747	0.1612	-0.3289	0.4225
RATE11	0.0423	0.7659	-0.1543	0.2830	0.3077
RATE12	0.5297	0.1885	-0.1527	0.0553	0.6576

RATE14		0.4998	0.1653	0.3417	-0.4947		0.3614
RATE15		0.5221	0.5105	0.1849	-0.1914		0.3959
RATE16		0.7466	0.0621	0.0768	-0.2068		0.3900
RATE17		0.6438	0.1091	0.2037	0.1050		0.5211
RATE18		0.4250	-0.1328	0.1996	0.2366		0.7059
RATE19		0.5335	-0.1087	0.2789	0.3990		0.4666
RATE20		0.1660	0.2357	0.5878	-0.2027		0.5302

Factor rotation matrix

		Factor1	Factor2	Factor3	Factor4
Factor1		0.8477	0.3836	0.3666	0.0000
Factor2		-0.0317	-0.6531	0.7566	0.0000
Factor3		-0.5296	0.6530	0.5414	0.0000
Factor4		0.0000	0.0000	0.0000	1.0000

. alpha RATE06 RATE08-RATE10 RATE12-RATE19, std

Test scale = mean(standardized items)

Average interitem correlation: 0.2844
Number of items in the scale: 11
Scale reliability coefficient: 0.8138

. alpha RATE01 RATE05 RATE11, std

Test scale = mean(standardized items)

Average interitem correlation: 0.3063
Number of items in the scale: 3
Scale reliability coefficient: 0.5698

. alpha RATE02 RATE07 RATE20, std

Test scale = mean(standardized items)

Average interitem correlation: 0.3395
Number of items in the scale: 3
Scale reliability coefficient: 0.6066

. * The first variable is Social Self-Confidence (Sclconf)
. * The second variable is Academic Self-Confidence (Acadconf)
. * The third variable is Creative Self-Confidence (Creatconf)

. egen Sclconf = rmean(RATE06 RATE08-RATE10 RATE12-RATE19)
(3348 missing values generated)

. egen Acadconf = rmean(RATE01 RATE05 RATE11)
(3295 missing values generated)


```
. egen Creatconf = rmean (RATE02 RATE07 RATE20)
(3355 missing values generated)
```

```
. lab var Sclconf "FA M(RATE) Social Self-Confidence"
. lab var Acadconf "FA M(RATE) Academic Self-Confidence"
. lab var Creatconf "FA M(RATE) Creative Self-Confidence"
```

```
. * Means: Self Confidence (Social, Academic, Creative) (1=L10%; 2=BA; 3=A;
4=AA; * 5=H10%)
```

```
. table eth4 USNA_FLAG, c(m Sclconf) f(%7.1f) row col
```

```
-----
```

eth4	Record is from US		
	No	Yes	Total
White	3.7	4.0	3.7
Black	3.9	4.0	3.9
Hispanic	3.8	3.9	3.8
Asian	3.7	3.9	3.7
Total	3.7	4.0	3.7

```
-----
```

```
. table eth4 USNA_FLAG, c(m Acadconf) f(%7.1f) row col
```

```
-----
```

eth4	Record is from US		
	No	Yes	Total
White	3.8	4.0	3.8
Black	3.7	3.8	3.7
Hispanic	3.6	3.8	3.6
Asian	3.8	3.9	3.8
Total	3.8	3.9	3.8

```
-----
```

```
. table eth4 USNA_FLAG, c(m Creatconf) f(%7.1f) row col
```

```
-----
```

eth4	Record is from US		
	No	Yes	Total
White	3.4	3.3	3.4
Black	3.5	3.4	3.5
Hispanic	3.4	3.3	3.4
Asian	3.4	3.3	3.4
Total	3.4	3.3	3.4

```
-----
```

. *TTest Self-Rating

. ttest Acadconf if white == 1, by (acad)

Two-sample t test with equal variances

```
-----+-----
      Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
          No | 273436   3.767119   .0011226   .5870224   3.764918   3.769319
          Yes |   2732   3.954124   .0101138   .5286361   3.934292   3.973956
-----+-----
combined | 276168   3.768969   .0011165   .5867643   3.76678   3.771157
-----+-----
      diff |           -.1870054   .0112763           -.2091066   -.1649041
-----+-----
      diff = mean(No) - mean(Yes)                                t = -16.5839
Ho: diff = 0                                                    degrees of freedom = 276166

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0000          Pr(|T| > |t|) = 0.0000          Pr(T > t) = 1.0000
```

. ttest Acadconf if black == 1, by (acad)

Two-sample t test with equal variances

```
-----+-----
      Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
          No | 23429   3.658628   .0037229   .5698422   3.651331   3.665925
          Yes |   149   3.771812   .0521701   .6368174   3.668718   3.874907
-----+-----
combined | 23578   3.659343   .0037144   .5703456   3.652063   3.666624
-----+-----
      diff |           -.1131839   .0468681           -.2050483   -.0213195
-----+-----
      diff = mean(No) - mean(Yes)                                t = -2.4149
Ho: diff = 0                                                    degrees of freedom = 23576

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0079          Pr(|T| > |t|) = 0.0157          Pr(T > t) = 0.9921
```

. ttest Acadconf if asian == 1, by (acad)

Two-sample t test with equal variances

```
-----+-----
      Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
          No | 57236   3.836994   .0025256   .6042236   3.832043   3.841944
          Yes |   123   3.921409   .0530556   .5884147   3.81638   4.026438
-----+-----
combined | 57359   3.837175   .0025228   .6041978   3.83223   3.842119
-----+-----
      diff |           -.0844156   .0545365           -.1913075   .0224763
-----+-----
      diff = mean(No) - mean(Yes)                                t = -1.5479
Ho: diff = 0                                                    degrees of freedom = 57357

      Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0608          Pr(|T| > |t|) = 0.1217          Pr(T > t) = 0.9392
```

. ttest Acadconf if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	20018	3.646052	.0041396	.5856855	3.637938	3.654166
Yes	145	3.77931	.0452302	.5446438	3.689909	3.868711
combined	20163	3.64701	.0041233	.5854964	3.638928	3.655092
diff		-.1332585	.0487908		-.2288924	-.0376245
diff = mean(No) - mean(Yes)					t =	-2.7312
Ho: diff = 0					degrees of freedom =	20161
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0032		Pr(T > t) = 0.0063		Pr(T > t) = 0.9968		

. ttest Sclconf if white == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	273389	3.740747	.0009565	.5001396	3.738872	3.742622
Yes	2732	4.014307	.0086253	.4508293	3.997395	4.03122
combined	276121	3.743453	.0009523	.5004078	3.741587	3.74532
diff		-.2735606	.0096074		-.2923909	-.2547303
diff = mean(No) - mean(Yes)					t =	-28.4739
Ho: diff = 0					degrees of freedom =	276119
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0000		Pr(T > t) = 0.0000		Pr(T > t) = 1.0000		

. ttest Sclconf if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	23428	3.886097	.0035461	.5427703	3.879147	3.893048
Yes	149	4.009708	.0420688	.5135155	3.926575	4.092841
combined	23577	3.886878	.0035342	.5426685	3.879951	3.893806
diff		-.1236106	.044592		-.2110137	-.0362075
diff = mean(No) - mean(Yes)					t =	-2.7720
Ho: diff = 0					degrees of freedom =	23575
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0028		Pr(T > t) = 0.0056		Pr(T > t) = 0.9972		

```
. ttest Sclconf if asian == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
No |    57229    3.653569   .0023093   .5524342    3.649043    3.658095
Yes |      123    3.863193   .0465746   .516537    3.770994    3.955392
-----+-----
combined |    57352    3.654019   .0023068   .5524406    3.649498    3.65854
-----+-----
diff |              -.2096236   .0498581                -.3073458   -.1119013
-----+-----
diff = mean(No) - mean(Yes)                                t = -4.2044
Ho: diff = 0                                               degrees of freedom = 57350

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0000         Pr(T > t) = 1.0000
```

```
. ttest Sclconf if hisp == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
No |    20020    3.766164   .0037857   .5356456    3.758744    3.773584
Yes |      145    3.941818   .0426687   .5137988    3.85748    4.026156
-----+-----
combined |    20165    3.767427   .0037723   .5356851    3.760033    3.774821
-----+-----
diff |              -.175654   .044631                -.2631344   -.0881736
-----+-----
diff = mean(No) - mean(Yes)                                t = -3.9357
Ho: diff = 0                                               degrees of freedom = 20163

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0001         Pr(T > t) = 1.0000
```

```
. ttest Creatconf if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----+-----
Group |      Obs      Mean   Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
No |   273399    3.433513   .0013423   .701847    3.430882    3.436144
Yes |     2732    3.294046   .0123051   .6431704    3.269918    3.318174
-----+-----
combined |   276131    3.432133   .0013348   .7014253    3.429517    3.434749
-----+-----
diff |              .1394671   .0134839                .1130389   .1658952
-----+-----
diff = mean(No) - mean(Yes)                                t = 10.3432
Ho: diff = 0                                               degrees of freedom = 276129

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000         Pr(T > t) = 0.0000
```

. ttest Creatconf if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	23419	3.478173	.0046044	.7046175	3.469148	3.487198
Yes	149	3.369128	.063421	.7741516	3.2438	3.494455
combined	23568	3.477484	.004593	.7051136	3.468481	3.486486
diff		.1090455	.0579455		-.0045315	.2226224
diff = mean(No) - mean(Yes)					t =	1.8819
Ho: diff = 0					degrees of freedom =	23566
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.9701		Pr(T > t) = 0.0599		Pr(T > t) = 0.0299		

. ttest Creatconf if asian == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	57225	3.381739	.0029483	.7052773	3.37596	3.387517
Yes	123	3.336043	.0613906	.6808544	3.214515	3.457572
combined	57348	3.381641	.0029449	.7052233	3.375869	3.387413
diff		.0456954	.0636564		-.0790715	.1704623
diff = mean(No) - mean(Yes)					t =	0.7178
Ho: diff = 0					degrees of freedom =	57346
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.7636		Pr(T > t) = 0.4729		Pr(T > t) = 0.2364		

. ttest Creatconf if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	20016	3.376174	.0049338	.6980204	3.366503	3.385845
Yes	145	3.277011	.0504403	.6073815	3.177312	3.376711
combined	20161	3.375461	.004912	.6974478	3.365833	3.385089
diff		.0991626	.0581265		-.0147702	.2130954
diff = mean(No) - mean(Yes)					t =	1.7060
Ho: diff = 0					degrees of freedom =	20159
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.9560		Pr(T > t) = 0.0880		Pr(T > t) = 0.0440		

```

. *Goals

. describe GOAL02 GOAL08 GOAL10 GOAL12 GOAL13 GOAL14 GOAL15 GOAL16 GOAL21

variable name      storage   display   value
                  type      format    label    variable label
-----
GOAL02             byte     %10.0g   GOAL02   Goal: Becoming a community leader
GOAL08             byte     %10.0g   GOAL08   Goal: Being very well off
                  financially
GOAL10             byte     %10.0g   GOAL10   Goal: Developing a meaningful
                  philosophy of life
GOAL12             byte     %10.0g   GOAL12   Goal: Helping others who are in
                  difficulty
GOAL13             byte     %10.0g   GOAL13   Goal: Helping to promote racial
                  understanding
GOAL14             byte     %10.0g   GOAL14   Goal: Improving my understanding
                  of other countries and
                  cultures
GOAL15             byte     %10.0g   GOAL15   Goal: Influencing social values
GOAL16             byte     %10.0g   GOAL16   Goal: Influencing the political
                  structure
GOAL21             byte     %10.0g   GOAL21   Goal: Participating in a
                  community action program

```

```

. replace GOAL14=. if GOAL14==0
(20971 real changes made, 20971 to missing)

```

```

. factor GOAL02 GOAL08 GOAL10 GOAL12 GOAL13 GOAL14 GOAL15 GOAL16 GOAL21, pcf
(obs=353915)

```

```

Factor analysis/correlation
Method: principal-component factors
Rotation: (unrotated)
Number of obs   = 353915
Retained factors = 2
Number of params = 17

```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.82768	2.74436	0.4253	0.4253
Factor2	1.08332	0.17549	0.1204	0.5457
Factor3	0.90782	0.19674	0.1009	0.6465
Factor4	0.71108	0.08250	0.0790	0.7255
Factor5	0.62857	0.05099	0.0698	0.7954
Factor6	0.57759	0.06210	0.0642	0.8596
Factor7	0.51548	0.13970	0.0573	0.9168
Factor8	0.37578	0.00310	0.0418	0.9586
Factor9	0.37268	.	0.0414	1.0000

```

LR test: independent vs. saturated: chi2(36) = 9.4e+05 Prob>chi2 = 0.0000

```

```

Factor loadings (pattern matrix) and unique variances

```

Variable	Factor1	Factor2	Uniqueness
GOAL02	0.7144	0.2343	0.4347
GOAL08	0.0455	0.8871	0.2109
GOAL10	0.5934	-0.2875	0.5652
GOAL12	0.6342	0.0641	0.5937

```

GOAL13 | 0.7436 -0.1422 | 0.4269
GOAL14 | 0.6981 -0.2141 | 0.4668
GOAL15 | 0.7264 0.1538 | 0.4487
GOAL16 | 0.6468 0.2300 | 0.5288
GOAL21 | 0.7580 -0.1097 | 0.4133
-----

```

```

. egen PublicService = rmean(GOAL02 GOAL10 GOAL12-GOAL16 GOAL21)
(16625 missing values generated)

. replace PublicService = . if PublicService==0
(0 real changes made)

. label variable PublicService "FA M(Goals) Public Service Motivation"

. * Evaluate Goal08 as an Economic variable.

. gen Economic = GOAL08
(18277 missing values generated)

. label variable Economic "Goal: Being very well off financially"

. * Means: Goals (career) - Public Service

. table eth4 acad, c(m PublicService) f(%7.1f) row col

```

```

-----
      |          acad
      |          No   Yes  Total
-----+-----
White |          2.4   2.4   2.4
Black |          2.7   2.5   2.7
Hispanic |          2.6   2.5   2.6
Asian |          2.5   2.5   2.5
      |
Total |          2.4   2.4   2.4
-----

```

```

. * Means: Goals (career) - Being well off financially

. table eth4 acad, c(m Economic) f(%7.1f) row col

```

```

-----
      |          acad
      |          No   Yes  Total
-----+-----
White |          2.9   2.7   2.9
Black |          3.3   3.2   3.3
Hispanic |          3.2   2.9   3.2
Asian |          3.2   3.0   3.2
      |
Total |          3.0   2.7   3.0
-----

```

TTEST Goals

```

. ttest PublicService if white == 1, by (acad)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	263893	2.374082	.0011933	.6129847	2.371743	2.376421
Yes	2718	2.392445	.0109229	.5694597	2.371027	2.413863
combined	266611	2.374269	.0011863	.6125584	2.371944	2.376594
diff		-.0183628	.0118099		-.0415099	.0047843
diff = mean(No) - mean(Yes)					t =	-1.5549
Ho: diff = 0					degrees of freedom =	266609
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0600		Pr(T > t) = 0.1200		Pr(T > t) = 0.9400		

. ttest PublicService if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	22281	2.708594	.0043191	.644711	2.700129	2.71706
Yes	149	2.454538	.0505414	.6169365	2.354662	2.554414
combined	22430	2.706907	.0043057	.6448476	2.698467	2.715346
diff		.2540561	.0529783		.1502149	.3578974
diff = mean(No) - mean(Yes)					t =	4.7955
Ho: diff = 0					degrees of freedom =	22428
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 1.0000		Pr(T > t) = 0.0000		Pr(T > t) = 0.0000		

. ttest PublicService if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	19199	2.640052	.0046319	.6417948	2.630974	2.649131
Yes	142	2.502264	.0474671	.5656362	2.408424	2.596103
combined	19341	2.639041	.0046117	.6413636	2.630001	2.64808
diff		.1377889	.054013		.0319187	.2436591
diff = mean(No) - mean(Yes)					t =	2.5510
Ho: diff = 0					degrees of freedom =	19339
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.9946		Pr(T > t) = 0.0107		Pr(T > t) = 0.0054		


```
. ttest PublicService if asian == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	55435	2.487299	.0026504	.6240302	2.482105	2.492494
Yes	121	2.499852	.0541531	.5956836	2.392633	2.607072
combined	55556	2.487327	.0026472	.623965	2.482138	2.492515
diff		-.012553	.0567865		-.1238548	.0987489

diff = mean(No) - mean(Yes) t = -0.2211
Ho: diff = 0 degrees of freedom = 55554

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.4125 Pr(|T| > |t|) = 0.8250 Pr(T > t) = 0.5875

```
. ttest Economic if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	262804	2.866026	.0016975	.8702106	2.862699	2.869353
Yes	2713	2.690748	.0167551	.8727136	2.657894	2.723602
combined	265517	2.864235	.0016892	.870413	2.860924	2.867545
diff		.1752774	.0167935		.1423625	.2081923

diff = mean(No) - mean(Yes) t = 10.4372
Ho: diff = 0 degrees of freedom = 265515

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

```
. ttest Economic if black == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	22088	3.330904	.00541	.8040291	3.3203	3.341508
Yes	147	3.170068	.0743838	.9018562	3.02306	3.317076
combined	22235	3.32984	.0053972	.8047978	3.319261	3.340419
diff		.1608356	.0665919		.0303108	.2913604

diff = mean(No) - mean(Yes) t = 2.4152
Ho: diff = 0 degrees of freedom = 22233

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.9921 Pr(|T| > |t|) = 0.0157 Pr(T > t) = 0.0079


```

. recode HPW06 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWWork)
(340221 differences between HPW06 and HPWWork)
. recode HPW07 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWVolunteer)
(308450 differences between HPW07 and HPWVolunteer)
. recode HPW08 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWClubs)
(286491 differences between HPW08 and HPWClubs)
. recode HPW09 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWWatchTV)
(267197 differences between HPW09 and HPWWatchTV)
. recode HPW10 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWHousework)
(310691 differences between HPW10 and HPWHousework)
. recode HPW12 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWRead)
(304784 differences between HPW12 and HPWRead)
. recode HPW14 (1 = 0) (2 = .5) (3 = 1.5) (4 = 4) (5 = 8) (6 = 13) (7 = 18) (8
= 25), gen (HPWPlyVideoGM)
(331401 differences between HPW14 and HPWPlyVideoGM)
. describe HPWStudy HPWSocialize HPWTWTeacher HPWSports HPWParty HPWWork
HPWVolunteer HPWClubs HPWWatchTV HPWHousework HPWRead HPWPlyVideoGM

```

variable name	storage type	display format	value label	variable label
HPWStudy	float	%9.0g		RECODE of HPW01 (Hours per Week: Studying/homework)
HPWSocialize Socializing	float	%9.0g		RECODE of HPW02 (Hours per Week: with friends)
HPWTWTeacher Talking with	float	%9.0g		RECODE of HPW03 (Hours per Week: teachers outside of class)
HPWSports Exercise or	float	%9.0g		RECODE of HPW04 (Hours per Week: sports)
HPWParty Partying)	float	%9.0g		RECODE of HPW05 (Hours per Week: Working (for pay))
HPWVolunteer Volunteer	float	%9.0g		RECODE of HPW07 (Hours per Week: work)
HPWClubs Student	float	%9.0g		RECODE of HPW08 (Hours per Week: clubs/groups)
HPWWatchTV Watching TV)	float	%9.0g		RECODE of HPW09 (Hours per Week: HPWHousework)
HPWHousework	float	%9.0g		RECODE of HPW10 (Hours per Week: Household/childcare duties)
HPWRead Reading for	float	%9.0g		RECODE of HPW12 (Hours per Week: pleasure)
HPWPlyVideoGM Playing	float	%9.0g		RECODE of HPW14 (Hours per Week: video/computer games)

```
. factor HPWStudy HPWSocialize HPWTWTeacher HPWSports HPWParty HPWWork
HPWVolunteer HPWClubs HPWWatchTV HPWHousework HPWRead HPWPlyVideoGM, pcf
(obs=361775)
```

```
Factor analysis/correlation                               Number of obs   =   361775
Method: principal-component factors                       Retained factors =     4
Rotation: (unrotated)                                   Number of params =   42
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.14633	0.48181	0.1789	0.1789
Factor2	1.66452	0.38448	0.1387	0.3176
Factor3	1.28004	0.15069	0.1067	0.4242
Factor4	1.12935	0.23349	0.0941	0.5184
Factor5	0.89587	0.04807	0.0747	0.5930
Factor6	0.84780	0.04886	0.0706	0.6637
Factor7	0.79894	0.06143	0.0666	0.7302
Factor8	0.73751	0.04947	0.0615	0.7917
Factor9	0.68803	0.03036	0.0573	0.8490
Factor10	0.65768	0.02803	0.0548	0.9038
Factor11	0.62965	0.10538	0.0525	0.9563
Factor12	0.52428	.	0.0437	1.0000

```
LR test: independent vs. saturated:  chi2(66) = 3.8e+05 Prob>chi2 = 0.0000
```

```
Factor loadings (pattern matrix) and unique variances
```

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
HPWStudy	0.1348	-0.5598	-0.3649	0.3348	0.4232
HPWSocialize	0.5256	0.4735	-0.3108	0.1159	0.3896
HPWTWTeacher	0.5658	-0.3090	-0.2138	0.0609	0.5349
HPWSports	0.3228	0.3211	-0.4238	0.3103	0.5168
HPWParty	0.4627	0.5829	-0.2539	-0.0909	0.3734
HPWWork	0.1943	0.3452	0.1181	-0.6981	0.3418
HPWVolunteer	0.4956	-0.3507	-0.0585	-0.3410	0.5116
HPWClubs	0.4857	-0.4359	-0.1083	-0.1810	0.5296
HPWWatchTV	0.4192	0.1847	0.4249	0.3454	0.4903
HPWHousework	0.5010	-0.1475	0.3010	-0.1039	0.6258
HPWRead	0.4343	-0.2538	0.3591	0.0009	0.6180
HPWPlyVideo~M	0.2806	0.1902	0.5756	0.3593	0.4247

```
. rotate, factors (3)
```

```
Factor analysis/correlation                               Number of obs   =   361775
Method: principal-component factors                       Retained factors =     4
Rotation: orthogonal varimax (Kaiser off)               Number of params =   42
```

Factor	Variance	Difference	Proportion	Cumulative
Factor1	1.84847	0.10804	0.1540	0.1540
Factor2	1.74043	0.23845	0.1450	0.2991
Factor3	1.50199	0.37263	0.1252	0.4242
Factor4	1.12935	.	0.0941	0.5184

```
LR test: independent vs. saturated:  chi2(66) = 3.8e+05 Prob>chi2 = 0.0000
```

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
HPWStudy	0.5783	-0.1468	-0.3298	0.3348	0.4232
HPWSocialize	0.0922	0.7642	0.0665	0.1159	0.3896
HPWTWTeacher	0.6465	0.2022	0.0511	0.0609	0.5349
HPWSports	0.0952	0.5951	-0.1537	0.3103	0.5168
HPWParty	-0.0412	0.7788	0.1005	-0.0909	0.3734
HPWork	-0.1461	0.2953	0.2496	-0.6981	0.3418
HPWVolunteer	0.5896	0.0637	0.1428	-0.3410	0.5116
HPWClubs	0.6560	0.0216	0.0825	-0.1810	0.5296
HPWatchTV	0.0365	0.1733	0.5992	0.3454	0.4903
HPHousework	0.3570	0.0456	0.4836	-0.1039	0.6258
HPWRead	0.3731	-0.0918	0.4841	0.0009	0.6180
HPWPlyVide~M	-0.0976	0.0310	0.6601	0.3593	0.4247

Factor rotation matrix

	Factor1	Factor2	Factor3	Factor4
Factor1	0.6594	0.5650	0.4960	0.0000
Factor2	-0.7063	0.6916	0.1512	0.0000
Factor3	-0.2577	-0.4500	0.8550	0.0000
Factor4	0.0000	0.0000	0.0000	1.0000

. alpha HPWStudy HPWTWTeacher HPWVolunteer HPWClubs, std

Test scale = mean(standardized items)

Average interitem correlation: 0.2173
 Number of items in the scale: 4
 Scale reliability coefficient: 0.5262

. alpha HPWSocialize HPWSports HPWParty, std

Test scale = mean(standardized items)

Average interitem correlation: 0.3082
 Number of items in the scale: 3
 Scale reliability coefficient: 0.5720

. alpha HPWatchTV HPHousework HPWRead HPWPlyVideoGM, std

Test scale = mean(standardized items)

Average interitem correlation: 0.1688
 Number of items in the scale: 4
 Scale reliability coefficient: 0.4482

. *I will pull two variables. There are the "Studious" traits. Then there are "Social" traits.

. egen Studious = rmean (HPWStudy HPWTWTeacher HPWVolunteer HPWClubs)
 (5373 missing values generated)

```
. egen Social = rmean (HPWSocialize HPWSports HPWParty)
(5540 missing values generated)
```

```
. label var Studious "FA M(HPW) Studious mindset"
. label var Social "FA M(HPW) Social mindset"
```

```
. * Means: Hours spent per week - Studious Mindset
```

```
. table eth4 acad, c(m Studious) f(%7.1f) row col
```

```
-----
```

eth4	acad		
	No	Yes	Total
White	3.8	3.6	3.8
Black	4.6	4.4	4.6
Hispanic	4.4	3.9	4.4
Asian	4.8	4.8	4.8
Total	4.0	3.7	4.0

```
-----
```

```
. * Means: Hours spent per week - Social Mindset
```

```
. table eth4 acad, c(m Social) f(%7.1f) row col
```

```
-----
```

eth4	acad		
	No	Yes	Total
White	8.0	9.8	8.0
Black	7.0	10.4	7.0
Hispanic	6.8	8.8	6.8
Asian	6.0	8.3	6.0
Total	7.5	9.8	7.6

```
-----
```

```
. *TTest HPW
```

```
. ttest Studious if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

```
-----
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	271977	3.761829	.005302	2.765086	3.751438	3.772221
Yes	2730	3.588126	.0500408	2.614599	3.490004	3.686247
combined	274707	3.760103	.0052729	2.76368	3.749768	3.770438
diff		.1737037	.0531579		.0695157	.2778916

```
-----
```

```
diff = mean(No) - mean(Yes) t = 3.2677
Ho: diff = 0 degrees of freedom = 274705
```

```
Ha: diff < 0 Pr(T < t) = 0.9995 Ha: diff != 0 Pr(|T| > |t|) = 0.0011 Ha: diff > 0 Pr(T > t) = 0.0005
```


. ttest Social if white == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	271857	7.972959	.0088389	4.608578	7.955635	7.990283
Yes	2730	9.844048	.0878282	4.588971	9.671831	10.01626
combined	274587	7.991562	.0088016	4.612113	7.974311	8.008813
diff		-1.871088	.0886415		-2.044823	-1.697354

diff = mean(No) - mean(Yes) t = -21.1085
Ho: diff = 0 degrees of freedom = 274585

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

. ttest Social if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	23218	6.996041	.0316577	4.823829	6.93399	7.058092
Yes	150	10.42667	.4428106	5.4233	9.551667	11.30167
combined	23368	7.018062	.0316326	4.835552	6.95606	7.080064
diff		-3.430626	.3954666		-4.205766	-2.655485

diff = mean(No) - mean(Yes) t = -8.6749
Ho: diff = 0 degrees of freedom = 23366

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

. ttest Social if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	19892	6.756519	.0328699	4.635944	6.692091	6.820946
Yes	144	8.78588	.3843729	4.612475	8.026093	9.545667
combined	20036	6.771104	.032772	4.63883	6.706868	6.83534
diff		-2.029361	.3877105		-2.789306	-1.269416

diff = mean(No) - mean(Yes) t = -5.2342
Ho: diff = 0 degrees of freedom = 20034

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000


```
. ttest Social if asian == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	56908	6.006411	.0176556	4.211813	5.971806	6.041016
Yes	124	8.344086	.3773391	4.20187	7.597167	9.091006
combined	57032	6.011494	.017642	4.213162	5.976915	6.046072
diff		-2.337675	.3786419		-3.079815	-1.595535

diff = mean(No) - mean(Yes) t = -6.1738
 Ho: diff = 0 degrees of freedom = 57030

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

```
. * ACTIONS IN PAST YEAR
```

```
. describe ACT19 ACT20 ACT25 ACT26 ACT27 ACT31 ACT33
```

variable name	storage type	display format	value label	variable label
ACT19	byte	%10.0g	ACT19	Act in Past Year: Performed community Service as part of a class
ACT20	byte	%10.0g	ACT20	Act in Past Year: Performed volunteer work
ACT25	byte	%10.0g	ACT25	Act in Past Year: Socialized with someone of another racial/ethnic group
ACT26	byte	%10.0g	ACT26	Act in Past Year: Studied with other students
ACT27	byte	%10.0g	ACT27	Act in Past Year: Tutored another student
ACT31	byte	%10.0g	ACT31	Act in Past Year: Voted in a student election
ACT33	byte	%10.0g	ACT33	Act in Past Year: Was bored in class

```
. factor ACT19 ACT20 ACT25 ACT26 ACT27 ACT31 ACT33, pcf (obs=369099)
```

```
Factor analysis/correlation Number of obs = 369099  

Method: principal-component factors Retained factors = 2  

Rotation: (unrotated) Number of params = 13
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.89139	0.86446	0.2702	0.2702
Factor2	1.02693	0.11609	0.1467	0.4169
Factor3	0.91084	0.01306	0.1301	0.5470
Factor4	0.89778	0.06302	0.1283	0.6753
Factor5	0.83476	0.06207	0.1193	0.7945
Factor6	0.77269	0.10708	0.1104	0.9049
Factor7	0.66561	.	0.0951	1.0000

LR test: independent vs. saturated: $\chi^2(21) = 1.4e+05$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
ACT19	0.5798	-0.1991	0.6242
ACT20	0.6684	-0.0563	0.5500
ACT25	0.3626	0.5891	0.5215
ACT26	0.5590	0.0647	0.6834
ACT27	0.5570	0.1138	0.6768
ACT31	0.5583	0.0045	0.6883
ACT33	-0.2064	0.7874	0.3374

. rotate, factors (2)

Factor analysis/correlation
Method: principal-component factors
Rotation: orthogonal varimax (Kaiser off)

Number of obs = 369099
Retained factors = 2
Number of params = 13

Factor	Variance	Difference	Proportion	Cumulative
Factor1	1.88851	0.85870	0.2698	0.2698
Factor2	1.02981	.	0.1471	0.4169

LR test: independent vs. saturated: $\chi^2(21) = 1.4e+05$ Prob> $\chi^2 = 0.0000$

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
ACT19	0.5673	-0.2323	0.6242
ACT20	0.6641	-0.0948	0.5500
ACT25	0.3960	0.5672	0.5215
ACT26	0.5618	0.0323	0.6834
ACT27	0.5626	0.0814	0.6768
ACT31	0.5576	-0.0278	0.6883
ACT33	-0.1606	0.7980	0.3374

Factor rotation matrix

	Factor1	Factor2
Factor1	0.9983	-0.0578
Factor2	0.0578	0.9983

. alpha ACT19 ACT20 ACT26 ACT27 ACT31, std

Test scale = mean(standardized items)

Average interitem correlation: 0.1985
Number of items in the scale: 5
Scale reliability coefficient: 0.5533

. * I will make the variable Civic.

. factor ACT19 ACT20 ACT25 ACT26 ACT27 ACT31 ACT33, pcf
(obs=369099)

Factor analysis/correlation
Method: principal-component factors
Rotation: (unrotated)

Number of obs = 369099
Retained factors = 2
Number of params = 13

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.89139	0.86446	0.2702	0.2702
Factor2	1.02693	0.11609	0.1467	0.4169
Factor3	0.91084	0.01306	0.1301	0.5470
Factor4	0.89778	0.06302	0.1283	0.6753
Factor5	0.83476	0.06207	0.1193	0.7945
Factor6	0.77269	0.10708	0.1104	0.9049
Factor7	0.66561	.	0.0951	1.0000

LR test: independent vs. saturated: chi2(21) = 1.4e+05 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
ACT19	0.5798	-0.1991	0.6242
ACT20	0.6684	-0.0563	0.5500
ACT25	0.3626	0.5891	0.5215
ACT26	0.5590	0.0647	0.6834
ACT27	0.5570	0.1138	0.6768
ACT31	0.5583	0.0045	0.6883
ACT33	-0.2064	0.7874	0.3374

. egen Civic = rmean(ACT19 ACT20 ACT26-ACT31)
(2134 missing values generated)

. label variable Civic "FA M(ACT) Civic mindset"

. * Evaluate Action 25 and Action 33 individually.

. * Means: Actions performed - Civic Mindset

. table eth4 USNA_FLAG, c(m Civic) f(%7.1f) row col

eth4	Record is from US		
	No	Yes	Total
White	2.0	2.0	2.0
Black	2.1	2.0	2.1
Hispanic	2.1	2.1	2.1
Asian	2.1	2.1	2.1
Total	2.0	2.0	2.0


```
. ttest Civic if asian == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	57390	2.110725	.0016836	.4033199	2.107425	2.114025
Yes	124	2.142742	.0324076	.3608759	2.078593	2.206891
combined	57514	2.110794	.0016814	.4032331	2.107498	2.114089
diff		-.0320171	.0362506		-.1030684	.0390342

diff = mean(No) - mean(Yes) t = -0.8832
Ho: diff = 0 degrees of freedom = 57512

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.1886 Pr(|T| > |t|) = 0.3771 Pr(T > t) = 0.8114

```
. * Views
```

```
. replace VIEWS19 =. if VIEWS19==0  
(0 real changes made)  
. replace VIEWS29 =. if VIEWS29==0  
(13184 real changes made, 13184 to missing)
```

```
. * Means: Views - An individual can do little to bring about change in society
```

```
. table eth4 acad, c(m VIEWS19) f(%7.1f) row col
```

eth4	acad		
	No	Yes	Total
White	1.9	1.9	1.9
Black	1.8	2.1	1.8
Hispanic	1.8	1.9	1.8
Asian	2.0	2.1	2.0
Total	1.9	1.9	1.9

```
. * Means: Views - Through hard work, everybody can succeed in American Society
```

```
. table eth4 acad, c(m VIEWS29) f(%7.1f) row col
```

eth4	acad		
	No	Yes	Total
White	3.0	3.4	3.0
Black	2.9	3.1	2.9
Hispanic	3.1	3.3	3.1
Asian	3.0	3.3	3.0
Total	3.0	3.4	3.0

. *TTEST Views

. ttest VIEWS19 if white == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	267522	1.900076	.0015492	.8012778	1.897039	1.903112
Yes	2718	1.920898	.0160907	.8388771	1.889347	1.952449
combined	270240	1.900285	.0015421	.8016658	1.897262	1.903307
diff		-.0208222	.0154548		-.0511132	.0094688

diff = mean(No) - mean(Yes) t = -1.3473
Ho: diff = 0 degrees of freedom = 270238

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0889 Pr(|T| > |t|) = 0.1779 Pr(T > t) = 0.9111

. ttest VIEWS19 if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	22566	1.797217	.0057388	.8620842	1.785969	1.808466
Yes	151	2.059603	.0764741	.939729	1.908497	2.210708
combined	22717	1.798961	.0057249	.8628644	1.78774	1.810182
diff		-.2623856	.0704335		-.4004401	-.1243311

diff = mean(No) - mean(Yes) t = -3.7253
Ho: diff = 0 degrees of freedom = 22715

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0001 Pr(|T| > |t|) = 0.0002 Pr(T > t) = 0.9999

. ttest VIEWS29 if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	22452	2.892348	.0063487	.9512833	2.879904	2.904792
Yes	151	3.145695	.0711913	.8748131	3.005028	3.286363
combined	22603	2.894041	.0063255	.950999	2.881642	2.906439
diff		-.2533472	.0776344		-.4055161	-.1011784
diff = mean(No) - mean(Yes)					t = -3.2633	
Ho: diff = 0					degrees of freedom = 22601	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0006		Pr(T > t) = 0.0011		Pr(T > t) = 0.9994		

. ttest VIEWS29 if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	19417	3.132513	.006322	.8809445	3.120121	3.144904
Yes	143	3.300699	.063574	.760235	3.175025	3.426373
combined	19560	3.133742	.0062937	.8802219	3.121406	3.146079
diff		-.1681866	.0738705		-.312979	-.0233941
diff = mean(No) - mean(Yes)					t = -2.2768	
Ho: diff = 0					degrees of freedom = 19558	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0114		Pr(T > t) = 0.0228		Pr(T > t) = 0.9886		

. ttest VIEWS29 if asian == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	55622	2.958524	.0036621	.8636926	2.951346	2.965701
Yes	123	3.284553	.0743897	.8250219	3.137291	3.431815
combined	55745	2.959243	.0036583	.8637376	2.952073	2.966413
diff		-.3260292	.0779551		-.4788218	-.1732367
diff = mean(No) - mean(Yes)					t = -4.1823	
Ho: diff = 0					degrees of freedom = 55743	
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 0.0000		Pr(T > t) = 0.0000		Pr(T > t) = 1.0000		


```
. *Views
```

```
. tab POLIVIEW
```

How would you characterize your political views?	Freq.	Percent	Cum.
Far right	10,599	1.54	1.54
Conservative	150,815	21.92	23.46
Middle of the road	266,872	38.78	62.24
Liberal	234,191	34.03	96.28
Far left	25,619	3.72	100.00
Total	688,096	100.00	

```
. table eth4 acad, c(m POLIVIEW) f(%7.1f) row col
```

eth4	acad		
	No	Yes	Total
White	3.2	2.4	3.2
Black	3.4	3.0	3.4
Hispanic	3.3	2.8	3.3
Asian	3.3	2.7	3.3
Total	3.2	2.5	3.2

```
. *TTEST POLIVIEW
```

```
. ttest POLIVIEW if white == 1, by (acad)
```

```
Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	269388	3.191271	.0017175	.8914485	3.187904	3.194637
Yes	2727	2.394573	.0135131	.705663	2.368076	2.421107
combined	272115	3.183286	.0017125	.8933097	3.17993	3.186643
diff		.7966978	.0171249		.7631335	.8302621

```
diff = mean(No) - mean(Yes) t = 46.5229  
Ho: diff = 0 degrees of freedom = 272113
```

```
Ha: diff < 0  
Pr(T < t) = 1.0000
```

```
Ha: diff != 0  
Pr(|T| > |t|) = 0.0000
```

```
Ha: diff > 0  
Pr(T > t) = 0.0000
```

. ttest POLIVIEW if black == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	22550	3.414457	.0049705	.7464044	3.404714	3.424199
Yes	149	2.973154	.0673043	.8215535	2.840153	3.106156
combined	22699	3.41156	.0049631	.7477521	3.401832	3.421288
diff		.4413024	.0613918		.3209703	.5616345
diff = mean(No) - mean(Yes)					t =	7.1883
Ho: diff = 0					degrees of freedom =	22697
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 1.0000		Pr(T > t) = 0.0000		Pr(T > t) = 0.0000		

. ttest POLIVIEW if hisp == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	19564	3.338274	.0055913	.7820672	3.327315	3.349234
Yes	138	2.775362	.0658723	.7738247	2.645104	2.90562
combined	19702	3.334332	.0055812	.7833983	3.323392	3.345271
diff		.5629121	.0668035		.4319716	.6938526
diff = mean(No) - mean(Yes)					t =	8.4264
Ho: diff = 0					degrees of freedom =	19700
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 1.0000		Pr(T > t) = 0.0000		Pr(T > t) = 0.0000		

. ttest POLIVIEW if asian == 1, by (acad)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
No	56026	3.30534	.003075	.7278429	3.299313	3.311367
Yes	123	2.747967	.062803	.6965194	2.623643	2.872292
combined	56149	3.304119	.0030733	.7282362	3.298096	3.310143
diff		.5573729	.0656934		.4286135	.6861323
diff = mean(No) - mean(Yes)					t =	8.4845
Ho: diff = 0					degrees of freedom =	56147
Ha: diff < 0		Ha: diff != 0		Ha: diff > 0		
Pr(T < t) = 1.0000		Pr(T > t) = 0.0000		Pr(T > t) = 0.0000		

. * Sum variables to ensure correct unit analysis

. sum acad white black hisp asian FatherEducLevel MotherEducLevel inc SAT2
HSGPA Acadconf Sclconf Creatconf PublicService Economic Studious Social Civic
VIEWS19 VIEWS29 POLIVIEW

Variable	Obs	Mean	Std. Dev.	Min	Max
acad	380563	.0083009	.0907302	0	1
white	380563	.7317974	.4430243	0	1
black	380563	.0627334	.2424831	0	1
hisp	380563	.0534813	.2249915	0	1
asian	380563	.151988	.3590097	0	1
FatherEduc~1	373181	15.8824	2.433396	8	18
MotherEduc~1	375112	15.6389	2.303861	8	18
inc	343942	145.9924	119.5476	5	400
SAT2	326376	1301.879	138.4106	400	1600
HSGPA	376077	7.076	1.020451	1	8
Acadconf	377268	3.765969	.5902744	1	5
Sclconf	377215	3.740102	.5157182	1	5
Creatconf	377208	3.424261	.7024659	1	5
PublicServ~e	363938	2.426099	.6257868	1	4
Economic	362286	2.960457	.8691461	1	4
Studious	375190	3.997595	2.940862	0	25
Social	375023	7.564577	4.629609	0	25
Civic	378429	2.029495	.3966724	1	3
VIEWS19	368495	1.909896	.8188109	1	4
VIEWS29	366958	2.985282	.8766336	1	4
POLIVIEW	370665	3.223598	.8590789	1	5

. * Logistic analysis for background variables

. logistic acad black hisp asian FatherEducLevel MotherEducLevel inc SAT2 HSGPA

Logistic regression	Number of obs	=	292307
	LR chi2(8)	=	554.25
	Prob > chi2	=	0.0000
Log likelihood = -16027.826	Pseudo R2	=	0.0170

	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
black	.6332809	.0604599	-4.79	0.000	.5252081 .7635921
hisp	.8011716	.0752092	-2.36	0.018	.6665301 .963011
asian	.1859993	.0186233	-16.80	0.000	.1528565 .2263282
FatherEducLevel	1.042331	.0112366	3.85	0.000	1.020539 1.064589
MotherEducLevel	.9895815	.0108994	-0.95	0.342	.9684479 1.011176
inc	.9986622	.000181	-7.39	0.000	.9983075 .999017
SAT2	1.000276	.0001582	1.75	0.081	.9999661 1.000586
HSGPA	1.097511	.0231093	4.42	0.000	1.05314 1.143752
_cons	.0031517	.0007761	-23.39	0.000	.001945 .0051069

. * Regression on all variables

. logistic acad black hisp asian FatherEducLevel MotherEducLevel inc SAT2 HSGPA
 Acadconf ScIconf Creatconf PublicService Economic Studios Social Civic VIEWS19
 VIEWS29 POLIVIEW

```

Logistic regression                               Number of obs   =    270660
                                                    LR chi2(19)    =    4503.52
                                                    Prob > chi2    =    0.0000
Log likelihood = -13460.751                       Pseudo R2      =    0.1433
  
```

	acad	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
black		1.19005	.1197502	1.73	0.084	.9770395 1.449501
hisp		1.12959	.1107027	1.24	0.214	.9321824 1.368802
asian		.3253591	.0337765	-10.82	0.000	.2654588 .3987759
FatherEducLevel		1.028978	.0115371	2.55	0.011	1.006612 1.05184
MotherEducLevel		1.027728	.0119809	2.35	0.019	1.004512 1.051481
inc		.9976654	.0001921	-12.14	0.000	.9972889 .998042
SAT2		1.001025	.0001804	5.68	0.000	1.000671 1.001379
HSGPA		1.007661	.0222436	0.35	0.730	.9649937 1.052214
Acadconf		1.219885	.0482732	5.02	0.000	1.128847 1.318264
ScIconf		2.171875	.1039964	16.20	0.000	1.977318 2.385575
Creatconf		.7217311	.0213436	-11.03	0.000	.6810877 .7647998
PublicService		1.158292	.0416582	4.09	0.000	1.079454 1.242887
Economic		.5787988	.0132276	-23.93	0.000	.5534452 .6053138
Studios		.9569309	.0072797	-5.79	0.000	.9427688 .9713057
Social		1.087308	.0042347	21.49	0.000	1.07904 1.09564
Civic		1.058287	.0580944	1.03	0.302	.9503355 1.178501
VIEWS19		1.156186	.0278804	6.02	0.000	1.102812 1.212142
VIEWS29		1.520211	.0425708	14.96	0.000	1.439022 1.60598
POLIVIEW		.4023419	.0100036	-36.62	0.000	.3832053 .4224343
_cons		.0005001	.000176	-21.60	0.000	.0002509 .0009969

. * Logistic regression by race

```
. logistic acad FatherEducLevel MotherEducLevel inc SAT2 HSGPA Acadconf
ScIconf Creatconf PublicService Economic Studios Social Civic VIEWS19 VIEWS29
POLIVIEW if black ==1
```

```
Logistic regression                               Number of obs   =   14701
                                                  LR chi2(16)    =   145.21
                                                  Prob > chi2    =   0.0000
Log likelihood = -604.61508                       Pseudo R2      =   0.1072
```

	acad	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
FatherEducLevel		1.020255	.0470052	0.44	0.663	.932164 1.116672
MotherEducLevel		1.053661	.0535308	1.03	0.304	.9537974 1.163981
inc		1.001228	.0009449	1.30	0.194	.9993776 1.003082
SAT2		1.002079	.0007796	2.67	0.008	1.000552 1.003608
HSGPA		.7872493	.0617304	-3.05	0.002	.6750987 .918031
Acadconf		1.358527	.2552843	1.63	0.103	.9399756 1.963449
ScIconf		1.402228	.3070793	1.54	0.123	.9128739 2.153905
Creatconf		.746217	.1090118	-2.00	0.045	.5604238 .9936049
PublicService		.7389156	.1215488	-1.84	0.066	.5352731 1.020033
Economic		.8602627	.1000001	-1.29	0.195	.68499 1.080383
Studios		.9763621	.0254088	-0.92	0.358	.9278105 1.027454
Social		1.111941	.0186494	6.33	0.000	1.075983 1.1491
Civic		1.036714	.2597033	0.14	0.886	.6344945 1.69391
VIEWS19		1.0931	.1183861	0.82	0.411	.8840404 1.351598
VIEWS29		1.342178	.1481893	2.67	0.008	1.081009 1.666444
POLIVIEW		.5165496	.0597406	-5.71	0.000	.4117825 .647972
_cons		.0009169	.0013814	-4.64	0.000	.0000478 .0175694

```
. logistic acad FatherEducLevel MotherEducLevel inc SAT2 HSGPA Acadconf
ScIconf Creatconf PublicService Economic Studios Social Civic VIEWS19 VIEWS29
POLIVIEW if hisp ==1
```

```
Logistic regression                               Number of obs   =   12695
                                                  LR chi2(16)    =   123.91
                                                  Prob > chi2    =   0.0000
Log likelihood = -612.19465                       Pseudo R2      =   0.0919
```

	acad	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
FatherEducLevel		1.05243	.0461346	1.17	0.244	.9657835 1.14685
MotherEducLevel		1.004453	.0460687	0.10	0.923	.918099 1.098928
inc		.9983274	.0010521	-1.59	0.112	.9962674 1.000392
SAT2		1.000385	.0007874	0.49	0.625	.998843 1.00193
HSGPA		.8847222	.0828614	-1.31	0.191	.7363512 1.062989
Acadconf		1.078446	.2048891	0.40	0.691	.7431605 1.565
ScIconf		2.170575	.4867342	3.46	0.001	1.398619 3.368604
Creatconf		.7185708	.103961	-2.28	0.022	.5411528 .9541556
PublicService		.8961249	.1497469	-0.66	0.512	.6458454 1.243393
Economic		.598705	.0654484	-4.69	0.000	.4832395 .7417599
Studios		.9290333	.0341043	-2.01	0.045	.8645381 .99834
Social		1.067223	.0195301	3.56	0.000	1.029623 1.106196
Civic		.8897925	.2286744	-0.45	0.650	.5376902 1.472466
VIEWS19		1.214496	.132481	1.78	0.075	.9807183 1.504
VIEWS29		1.163572	.139972	1.26	0.208	.9191739 1.472952
POLIVIEW		.4721917	.0550664	-6.43	0.000	.3757096 .5934505
_cons		.0233054	.0338297	-2.59	0.010	.0013548 .400908

```

-----
. logistic acad FatherEducLevel MotherEducLevel inc SAT2 HSGPA Acadconf
  Sclconf Creatconf PublicService Economic Studious Social Civic VIEWS19 VIEWS29
  POLIVIEW if asian ==1

```

```

Logistic regression                               Number of obs   =    41594
                                                    LR chi2(16)    =    132.06
                                                    Prob > chi2    =    0.0000
Log likelihood = -648.94158                       Pseudo R2      =    0.0924

```

```

-----
          acad | Odds Ratio   Std. Err.      z    P>|z|    [95% Conf. Interval]
-----+-----
FatherEducLevel |   1.037587   .0561474    0.68  0.495   .9331746   1.153681
MotherEducLevel |   .9497577   .0505288   -0.97  0.333   .8557115   1.05414
inc             |   .9995869   .0010188   -0.41  0.685   .997592    1.001586
SAT2           |   .9984192   .0007901   -2.00  0.046   .9968719   .9999689
HSGPA         |   .9732181   .106355    -0.25  0.804   .7855781   1.205677
Acadconf      |   1.254066   .2487921    1.14  0.254   .8500641   1.850073
Sclconf       |   1.83805    .4307199    2.60  0.009   1.161157   2.909537
Creatconf     |   .797935    .1218471   -1.48  0.139   .5915431   1.076338
PublicService |   1.068171   .1911849    0.37  0.713   .7521242   1.517021
Economic      |   .571569    .066479    -4.81  0.000   .4550569   .7179126
Studious     |   .9834109   .0295537   -0.56  0.578   .9271597   1.043075
Social        |   1.103317   .0209289    5.18  0.000   1.06305    1.145109
Civic         |   .9043937   .2414537   -0.38  0.707   .5359262   1.526195
VIEWS19      |   1.154308   .1299613    1.27  0.202   .9257347   1.439318
VIEWS29      |   1.440831   .1891336    2.78  0.005   1.113983   1.863579
POLIVIEW     |   .3989544   .0521329   -7.03  0.000   .3088114   .5154103
_cons        |   .0341398   .0503777   -2.29  0.022   .0018932   .6156301
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