Blunting the Spear: Why Good People Get Out

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This study analyzes the United States Air Force???s retention of the ???best??? rated officers from the Combat Air Force. Specifically, it addresses the retention of pilots from the fighter, bomber and RPA communities, and highlights the need for more focused retention methods based on the contextual differences that exist amongst these communities. This study shows that each rated community within the Air Force has different contextual definitions of those variables deemed most influential for retention. Further, the author argues that a failure to address these contextual differences at keys points throughout an officer???s career will lead to decreased retention of the best, regardless of monetary payout made available at the completion of an Active Duty Service Commitment. As such, the author proposes several methods the Air Force can use to address retention contextually, starting at the Air Force level, and progressing to individual Major Weapons System Communities.

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DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.

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He lives with his wife, and three children in Montgomery, AL. Major Stahl and his family will transition back to Washington D.C. in June of 2013, as he begins work on the Chief of Staff of the Air Force's (CSAF) Strategic Studies Group (SSG).

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Finally, to my wife, you will never know the extent to which I leaned on you this year. Thank you for taking things on when I could not, for picking me up when I fell down, and for always driving me to do my best. Your patience and love is inspiring.

ABSTRACT

This study analyzes the United States Air Force's retention of the "best" rated officers from the Combat Air Force. Specifically, it addresses the retention of pilots from the fighter, bomber and RPA communities, and highlights the need for more focused retention methods based on the contextual differences that exist amongst these communities. This study shows that each rated community within the Air Force has different contextual definitions of those variables deemed most influential for retention. Further, the author argues that a failure to address these contextual differences at keys points throughout an officer's career will lead to decreased retention of the best, regardless of monetary payout made available at the completion of an Active Duty Service Commitment. As such, the author proposes several methods the Air Force can use to address retention contextually, starting at the Air Force level, and progressing to individual Major Weapons System Communities.

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CHAPTER 1
Introduction – Dear Boss

Dear Boss, Well I quit. These five words open a poignant two-page letter written shortly after the end of the Vietnam War to General Wilbur Creech, who was then serving as the commander of Tactical Air Command (TAC). The letter succinctly captures a pervasive loss of faith in the United States Air Force's (USAF) perceived ability to maintain combat readiness given the bureaucracy, leadership and lack of mission focus. Peppered throughout the text are phrases indicative of a sick organization; phrases like "poor leadership and motivational ability," "lower quality people," and "long hours with little support, entitlements eroded, integrity a mockery, zero visible career progression and senior commanders evidently totally missing the point."[1] This is not a healthy organizational picture by anyone's account. The letter concludes with the "resignation" of the author, a skilled fighter pilot, because of job frustration.[2] The pilot in question was a valuable commodity to the security of the nation, had done the job asked of him, and still could, but he would not – because of the Air Force (AF).[3]

Nevertheless, things are better now, right? Vietnam, and the *hollow force* that followed, were an anomaly, a period burned into the psyche of the American military and the civilian leadership, full of lessons, which once learned, would prevent similar mistakes and similar losses of good people. Closer inspection reveals that the variables affecting the anomalous period following Vietnam to be eerily similar to the variables affecting the AF's current reality

Exasperation at the tactical level equated to a crisis at the strategic level as AF leaders struggled to maintain a combat capable service after

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[1] Captain Ron Keys, to General Wilbur Creech, Commander, Tactical Air Command, letter, 1979.
[2] See Appendix A for the Original Dear Boss Letter penned by Captain Ron Keys.
[3] Captain Keys, letter, 1979.

Vietnam. Declining budgets, steady cuts in operations and decreases in sorties rates plagued AF leaders and limited their ability prepare for combat adequately.[4] James Kitfield addresses the challenges in his book, *Prodigal Soldiers,* stating that "on any given day, half of the planes in TAC's $25 billion inventory were not combat ready because of some malfunction, and 220 aircraft were outright 'hangar queens', unable to fly for at least three weeks for a lack of spare parts or maintenance."[5] These shortfalls existed concurrently with major modernization programs for the Combat Air Force, including the F-15 Eagle and the F-16 Fighting Falcon.[6] Modernization of aircraft did not eliminate the pilot nearest to the flight line from having to make difficult decisions on a daily basis.

Pilots on the flight line continued to perform where they could, walking a dangerous line between safety and mission readiness. Not wanting to sacrifice mission capability, they flew sorties with limited gas, advanced students before they had demonstrated proficiency in required training and operated aircraft that had been structurally "overstressed" during an earlier sortie.[7] Angered by these developments, junior officers expressed frustrations with colleagues and wrote emotional letters to senior leaders, not unlike the Dear Boss letter described above. [8] Frustrations expressed in text were fueled further by an apparent disconnect between junior officers and senior leaders.[9]

Faith in the leadership's ability to lead was at a critically low point in the years following Vietnam. The mistrust started at the top, and

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[4] James Kitfield, *Prodigal Soldiers* (Washington, DC: Brassey's, 1995), 171.
[5] Kitfield, 175.
[6] The F-15 Eagle first flew in July of 1972, delivered to the Air Force in January of 1974, while the F-16 Fighting Falcon first flew in December of 1976 and delivered in January of 1979. Source, http://www.af.mil/information/factsheets/
[7] Kitfield, 171-173.
[8] In this paper, the author uses "junior officers" to describe Company Grade Officers (CGOs) and Field Grade Officers (FGO's) at the rank of Lieutenant Colonel (O-5) and below. This would include First and Second Lieutenants, Captains, Majors and Lieutenant Colonels.
[9] In this paper, the author uses "senior leaders" to describe officers at the rank of Colonel (O-6), General Officer (O-7 thru O-10) and civilian leaders like the Secretary of the Air Force (SECAF) and Secretary of Defense (SECDEF).

worked its way into the very culture of the Air Force. Chief of Staff of the Army, General Edward "Shy" Meyer coined the term "hollow force" in 1979 during a brief to President Carter at Camp David. His courage in stating the Army's inability to meet the needs of the nation was not reflective of the other service chiefs' opinion, however. The Air Force briefing was "far more upbeat, with the chief[s] essentially telling Carter that their forces were willing and able to perform whatever mission the president tasked them with."[10] With rhetoric of capability directly opposed to operational reality, many junior officers took their frustrations out in the last means available to them, with their resignation from the Air Force.

When the military became an all-volunteer force in 1973, it gave the common soldier, sailor, marine and airman a greater means of influence than previously possessed. An all-volunteer force meant that the Department of Defense needed to retain more of the best people because there was no longer a draft to provide a continuous source of new recruits. Expressing discontent with their feet after completion of their initial enlistment, young warriors departed the armed services for ventures outside of bureaucratic constraints of the military. Tim Kane addresses the exodus, stating, "This was a recurrent problem that the Pentagon had struggled with since at least the end of World War II, although the shift to an all-volunteer force in the 1970s and a consequent improvement in the quality of life had, it was thought, solved the problem."[11]

Dissatisfaction amongst airmen, and in particular pilots, was worrisome, as training sorties continued to decrease and external pressures to meet quotas increased. Kitfield describes the rapid departure of aviators succinctly, saying, "Pilots – each trained at a cost of roughly $1 million – continued to desert the service in troves" with trends

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[10] Kitfield, 200.
[11] Tim Kane, *Bleeding Talent* (New York, NY: Palgrave Macmillan, 2012), 86.

showing "a shortage of over 2,100 pilots…by the end of 1980."[12] Chronologically, these problems are from the 1970s and 1980s, but conceptually, they share an equally disturbing similarity with difficulties today.

Taken together, budget cuts, decreasing sortie numbers, exasperation with combat capability, disconnection with leadership, an increase in perceived risk to pilots, major modernizations to the Combat Air Force (CAF) fleet, and an impending pilot shortage could apply equally in 2013 as they did in the 1970's. George Santayana once wrote, "Those who cannot remember the past are condemned to repeat it."[13] In this particular case, it would seem that historical condemnation is knocking at the door.

Forty years after the original Dear Boss letter, similar variables to those that influenced many of the "best" aviators to leave Active Duty service are resonating through current Air Force culture. Indicative of this fact is a letter written in 2009, opened with the same five words as the Vietnam era Dear Boss letter.[14] Written by an experienced F-15 pilot, the modern Dear Boss letter speaks of "doing more with less," "poor leadership and micromanagement," an AF suffering from an "identity crisis," limited chance for officer progression unless instilled with a sense of careerism and "look[ing] good on paper," prioritization of administrative functions over the mission, and instability.[15] Interestingly, the years following the modern Dear Boss letter have been fraught with talks of sequestration, budget cuts and personnel downsizing as American forces distance themselves from two decades of nearly continuous battle. Amidst the turmoil, a robust media network is able to capture and distribute mounting frustrations from junior officers

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[12] Kane, 175-176.

[13] George Santayana, *The Life of Reason: The Phases of Human Progress, Volume I* (New York, NY: C. Scribner's Sons, 1905), 284.

[14] See Appendix B for the 2009 Dear Boss Letter.

[15] Major Brian E. Biebel, F-15C instructor pilot and Assistant Director of Operations, to peers in the fighter pilot community, letter, 2009.

and senior leaders quickly, which increases the challenges faced by decision makers.

Cast from a similar mold as Vietnam era headlines, reporting today captures the same woeful sentiments as senior leaders struggle to maintain combat capability. Secretary of Defense (SECDEF) Leon Panetta remarked in November of 2011 that additional cuts to Department of Defense (DOD) funding would "lead to a hollow force incapable of sustaining the mission it is assigned."[16] These remarks were echoed more recently by Chairman of the Joint Chiefs of Staff (CJCS), General Martin Dempsey, when he stated, "sequestration will hollow out U.S. military forces faster than most Americans imagine" as money needed for "operations and training" will be limited.[17] Despite struggling to field a capable force, senior leaders have rallied together to confront the problem. Reminiscent of General Meyer's outspoken individual bravery during the Vietnam era, the Joint Chiefs have collectively warned Congress that the nation "is on the brink of creating a hollow force."[18] The positive amidst all the negative press is a shared understanding of the future by our senior leaders, an understanding not shared in the Vietnam era.

Cognizant of the challenges and strains experienced in the post-Vietnam era, today's leaders are seeking to avoid the tribulations they experienced as junior officers. By avoiding the inherent "nature of the military man to salute and say 'Can do,' even when they clearly couldn't do or knew they shouldn't do," today's senior leaders have avoided the

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[16] Secretary of Defense Leon E. Panetta, "Statement on Supercommittee Negotiations," to the public media, Washington, DC, November 21, 2011.
[17] Jim Garamone, "Sequestration Will Hollow out Force Fast, Dempsey Says," *U.S. Department of Defense website,* 17 January 2013, http://www.defense.gov/news/newsarticle.aspx?id=119040 (accessed 22 January 2013).
[18] Robert Burns, "Military Leaders Warn Congress of 'Hollow Force,'" *Military.com website,* 17 January 2013, http://www.military.com/daily-news/2013/01/17/military-leaders-warn-congres-of-hollow-force.html (accessed 22 January 2013).

initial pitfall experienced by Vietnam era leaders.[19] Air Force leaders have taken this a step further, issuing a memorandum necessitating "that the Air Force take immediate action to reduce our expenditure rate, especially in our operations and maintenance account[s]," in the hopes of staving off a crippling blow to capability.[20] Capability and money, however, are only a few variables affecting retention of the current generation of Air Force pilots. Safety is, and will continue to be, an issue taken seriously by aviators entrusted with advanced aircraft and crews.

Pilots during the post-Vietnam era were fortunate enough to fly the most advanced aircraft of their day. The F-15 and F-16 represented monumental steps forward in aviation design, allowing pilots to turn harder, fly faster at greater altitudes. Increased capability came with greater risk; harder turns equated to more gravitational forces exerted on the pilot while higher altitudes reached at greater speeds meant more exposure to the dangers of decompression and hypoxia. These challenges have existed for as long as aircraft have flown in combat, and men and women accept the risk that goes along with it. Current aircraft, for all their technological wizardry, are no different.

The F-22 has not been immune to similar challenges. Reports pertaining to aircraft safety on television shows like *60 Minutes,* investigations by the AFs Scientific Advisory Board (SAB) and high profile accidents have left the F-22 community not wanting for negative press. These uncontrollable factors take a toll on human psyche, irrespective of the aircraft flown, as pilots balance their desire to serve in the Armed Forces against responsibilities to family. As the perceived benefits of serving languish against these responsibilities, and the pull of a more

[19] Kitfield, *Prodigal Soldiers,* 200-201.
[20] Jamie M. Morin and General Larry O. Spencer, memorandum from the Office of the Under Secretary of the Air Force, to all MAJCOM commanders, 14 January 2013. http://apps.federaltimes.com/projects/files/air-force-fy13-memo.pdf (accessed 23 January 2013).

stable life outside Active Duty increases, aviators are again speaking with their feet, in numbers reminiscent of the late 70's.

General Mark Welsh, then commander of United States Air Forces in Europe (USAFE), addressed the alarming departure rate in an e-mail sent to combat aircrew under his command.[21] In it, he cites the AF's rated personnel management system, which predicts a "300 fighter pilot shortfall in Fiscal Year (FY) 2013 that could grow to over 1,000 by FY 2021."[22] General Welsh goes on to expresses his "sincere thanks for your service and best wishes for every success in the future…it's been an honor to have served beside you." He continues however, stating an institutional concern that the Air Force does not "really understand why you made the choice" to leave[23] Welsh acknowledges an "increasing ops tempo, fewer fighters, less flying, more non-flying jobs and an unclear sight picture," specifically for the fighter pilot community. Willingness to listen is a sign of leadership, but personally asking the right question on behalf of your people is visionary. The second part of Welsh's e-mail encapsulates this vision, as he attempts to get at the "ground truth as you see it, not the filtered, watered down" truth.[24]

General Welsh's acknowledgement of particular variables affecting pilot retention, paired with his understanding that something else is continuing to drive pilots out, is indicative of a problem requiring further examination. His solicitation of "the *best* fighter pilot[s]" for candid comments about why they are electing to leave Active Duty serves as the genesis behind this paper. Since the Air Force has previously encountered problems retaining rated officers, and the variables influencing the current environment are strikingly similar to those experienced in the past, perhaps a new means of viewing the

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[21] See Appendix C for the E-mail sent by General Mark A. Welsh III to all USAFE Fighter Pilots.
[22] General Mark A. Welsh III, e-mail to all USAFE Fighter Pilots, 25 April 2011.
[23] Welsh, E-mail, 2011.
[24] Welsh, E-mail, 2011.

environment is required. Higher than normal attrition rates wouldn't matter so much if it weren't the young Mitchells, Nimitzes, and Eisenhowers quitting, but in the modern military, the cream of the crop," the *best* the military has to offer, "tend to leave the fastest."[25] This paper seeks to find alternative means to retain the AFs "best", to slow the exodus if you will, thereby strengthening the pool of human capital available to the nation for the future.

Outline, Method, Sources

The importance of retaining the "best" rated officers is existential to the strategic future of the United States Air Force, as well as its position as the preeminent air force in the world. For this reason, this paper seeks to answer three fundamental questions.

1) Does the Air Force have a rated officer retention problem?
2) What are the implications to the future of the Air Force if there is a problem?
3) Is there anything that the Air Force can do to fix the problem if one does exist?

Structured to answer these three questions, this paper will systematically walk through the origin of our current problem by examining three different communities of study.

This paper treats the "Dear Boss" letters as primary source documents, instead of treating them as pejorative texts written by pilots with a sense of entitlement. By treating the documents as such, it will be possible to delve into the retention problem from the point of view of a line CAF pilot. By comparing the perception of these line pilots against the perception of senior leaders, perhaps the study will lead to a better understanding of how to deal with future retention problems.

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[25] Kane, 85.

To address these disconnects, this study will focus on three communities of interest; namely, the fighter, bomber and remotely piloted aircraft (RPA) communities. This is not to imply that these three career fields are more important than other rated career fields, or that rated career fields are more important than non-rated career fields. However, as the title of the paper implies, loss of capability due to unavailability of the best human capital within the CAF will lead directly to a rapid blunting of the Air Force's combat spear. Critical shortfalls in practically any AF career field would lead to the same blunting of the spear over time. However, without enough rated CAF officers, the analog problem of not having enough "1s" (rated CAF aircrew) to offset the "0s" (required CAF billets) will reveal itself most quickly. It is for this reason that the paper is limited in scope to address a salient problem within the Air Force.

Limited purposefully to these three communities, the intent was to isolate career fields with similar variables to reduce the disparity that would have existed with a broader scope of study. By narrowing the scope of study, variables such as education and training requirements, active duty service commitments (ADSC), institutional hierarchy, pay rates, bonus availability and retention methods are kept relatively constant which enables a more thorough analysis of retention trends within the individual communities, and then across all three. Figure 1 depicts the specific communities of interest for this study, chosen from all of the rated officer career fields within the AF.
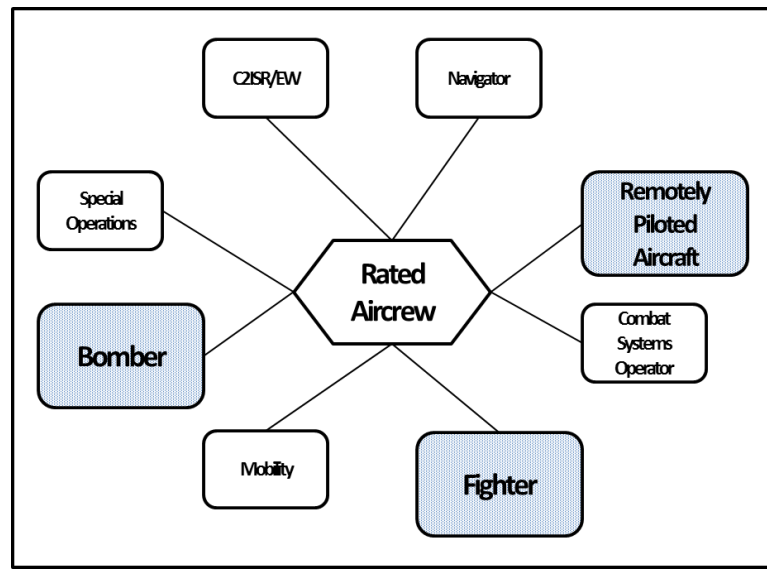
Figure 1: Communities of Interest
Source: Author's original work.

Chapter I will explain the genesis of this research project, stemming primarily from two letters written by rated officers during periods of military drawdown following extended wars.

Chapter II clarifies the congressionally mandated budgeting and planning process that directly affects Air Force requirement. Further, the chapter provides an example of what the "best" look like, focusing on the talented men and women trained by the Weapons Instructor Course (WIC) at Nellis Air Force Base. Finally, a brief discussion about current retention methods leads into retention trends for the communities of interest since 2000.

Chapters III through V will focus on three separate communities of interest, treating each as a singular case study. Each case study examines the retention rates within the fighter (Chapter III), bomber (Chapter IV), and RPA (Chapter V) communities. By using Aircrew Continuation Pay take rates, historical retention trends, survey results and anecdotal conversations with acting or recently graduated squadron commanders, a clearer picture of the variables influencing retention for

the current generation of rated officers within each singular community appears.

Chapter VI synthesizes the aggregate results from all three case studies, and identifies similarities and differences amongst the singular communities of interest by means of statistical analysis.

Chapter VII contains conclusions, recommendations and implications for the Air Force in total, the Combat Air Force, and finally for the singular communities of interest. A third Dear Boss letter, written as an epilogue, addresses the need to treat all communities within the Air Force differently with respect to retention methods.

Problem and Hypothesis Statements:

The Air Force has always gone through cyclical oscillations of rated aircrew retention, but the ramifications of current trends could be more severe than in the past. Budgetary constraints and manpower reductions are contributing to short term USAF decisions, which are directly influencing its long term strategic future. As a result, the fear of a "hollow force" is reemerging. In terms of human capital, this fear manifests itself in retention rates of "the best" rated aircrew. As rated aircrew in their tactical prime elect to depart Active Duty upon completing their Active Duty Service Commitment, a "hollow force" of human capital develops. Without the right tactical leaders, the Air Force could develop a "hollow force" in its available human capital greater than in its technological capability.

Hypothesis: The Air Force has a retention problem in the Combat Air Force and traditional retention methods like the Aircrew Continuation Pay (ACP) program and the Aircrew Incentive Pay (ACIP) program are insufficient for retaining the "best" rated officers from CAF communities. The author purposefully left the definition of the "best" as a vague principle, understanding that the contextual definition of the term would

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be different for each of the communities of interest, scoped to include pilots from the fighter, bomber and RPA weapon systems.

It is the author's belief that the "best" rated aircrew within the three case studies make the decision to separate well before their Undergraduate Pilot Training (UPT) Active Duty Service Commitment (ADSC) has expired, and well before the bonus becomes available. Consequently, the Air Force needs to reassess the methods it uses to retain the "best" rated officers by analyzing the contextual differences that exist amongst the communities rather than applying a common solution for all. While programs like the ACP and the ACIP are successful in retaining some of the "best" rated aircrew, it does not retain enough of these officers, which hampers the tactical future of the Combat Air Force in the short term, as well as the strategic future of the Air Force writ large.

Objectives of the Research Effort

The objective of the research effort is to identify the variables that influence the "best" rated aircrew to stay on Active Duty after their Active Duty Service Commitment is complete. Divided into six categories; the research variables presented to the communities of interest are; 1) Air Force Identity 2) Money & Compensation 3) Promotion & Recognition 4) Family & Stability 5) Operations Tempo 6) Other Life Goals. The author postulates that influential variables vary in importance depending on the community in question (fighter, bomber or RPA). For example, see Figure 2, which depicts these variables as they apply to the Fighter Community.
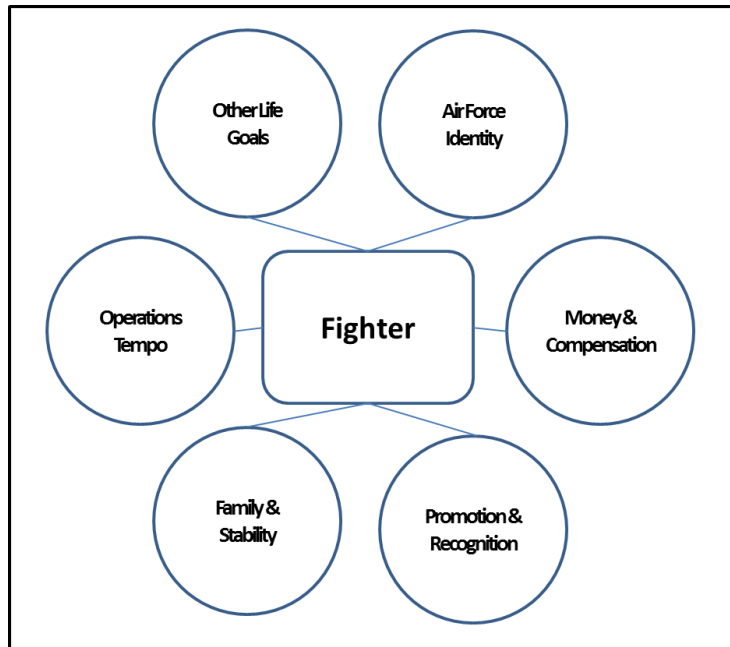
Figure 2: Influential Variables
Source: Author's original work.

These variables will also vary in importance career and family milestones. In other words, the variables influencing a Lieutenant in a fighter squadron will not be the same as the variables that influence a Major in the same squadron. Identification of specific influential variables based on community, as shown by highlighted variables in Figure 3 allow for focused research.
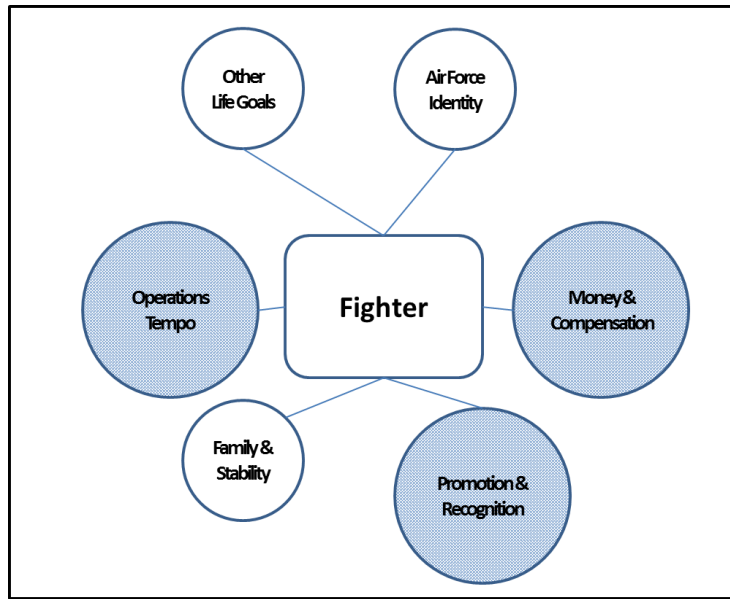
Figure 3: Example of Specific Influential Variables for the Fighter Community
Source: Author's original work.

Focused research into specific variables would then allow tailored solutions to the unique problems each community experiences, as shown in Figure 4. The primary means the Air Force aims to retain rated aircrew is primarily through the ACP, which helps answer only one variable completely (money & compensation), and the rest only partially, if at all. By tailoring answers to specific communities at specific points in an aviator's career, perhaps the Air Force can establish retention methods that are more successful at retaining the "best" rated officers for our nation as opposed to "enough" rated officers to fill the billets.
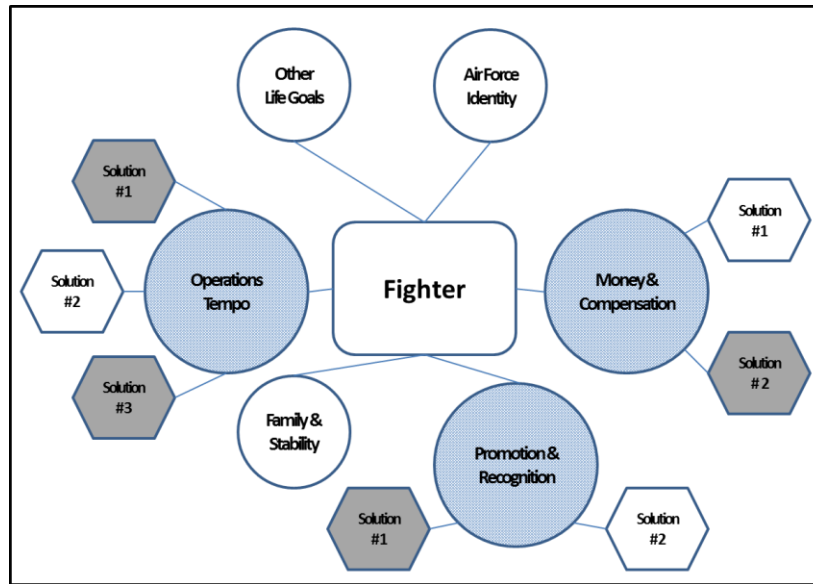
Figure 4: Example of Specific Influential Variables for the Fighter Community with Solutions

Source: Author's original work.

Methodology

The search for answers to the aforementioned questions occurred through three primary methods. The first method entailed detailed analysis of the *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012 to identify retention rates by individual major weapons systems (MWS), communities, and the AF writ large. Further, retention reports identified historical ACP takes rates for the MWS communities and the AF for the same period, but did provide granular detail by individual aircraft. These reports provided good historical trends of retention within the AF, but did little to provide a predictive modeling.

The second method of analysis leveraged a survey, administered from 11 February until 28 February of 2013, given to students attending Air War College (AWC), the School of Advanced Air and Space Studies (SAASS), Air Command and Staff College (ACSC), and the Squadron

Officer College (SOC), during that period.[26] The survey focused on the aforementioned communities of interest, drawing from the fighter, bomber and RPA pilots taking in-residence Professional Military Education (PME) at Maxwell Air Force Base (AFB), Alabama.[27] In total, solicitation for survey went to 118 personnel, with 93 of those returning a completed survey, for a 79 percent response rate. Administered surveys all came from Air University (AU), which is indicative of a convenience sample.

Respondents were all attending some form of Professional Military Education (PME), leaving the author to infer that respondents were among the top of their respective career fields as well as their peer groups. This represents a sample of convenience, and denotes a limitation for the study.[28] This would admittedly skew the data set, but given the period for research and the scope of the project, it was an accepted limitation. Future studies pertaining to the same topic must include a wider sample pool, randomly selected from the entire Air Force, to ensure increased statistical validity of the results. To offset the bias associated with the sampled community, the author included a third research method.

The third method relied on interviews and anecdotal conversations with currently sitting, or recently graduated operational squadron commanders from the three communities of interest. Each interview

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[26] See Appendix D for the complete survey administered to the Air University (AU) students referenced above. See Appendix E for the E-mail solicitation

[27] Credit is due to Mr. Tim Kane, whose book, *Bleeding Talent,* served as the genesis for the development of the survey used in this thesis. Without his book, and his kind gesture of sharing his survey, development of this project would exceed the time allowed. Additional thanks to Dr. John Nagl for connecting the dots between Tim Kane and the author.

[28] A convenience sample is a statistical method of drawing representative data by selecting people because of the ease of their volunteering. The advantages of this method are the availability and the quickness of data gathering. The disadvantages are the risk that the sample might not represent the population as a whole, and volunteers or the sampled population might bias it. This information came from the *Business Dictionary website* at http://www.businessdictionary.com/definition/convenience-sampling.html (accessed 30 March 2013).

provided invaluable insight into the interworking of an operational squadron from the viewpoint of a front line supervisor tasked to implement, enforce and work between the policies and procedures put in place by the larger AF. Their contributions were insightful, often bolstering the findings revealed in the survey. However, similar comments from squadron commanders of different communities gave way to contextual differences behind the reasons for retention problems. This led the author to believe that there is a need for a change to current AF methods of retention, focused on the contextual differences that are influencing communities, as opposed to relying on traditional methods used in the past.

CHAPTER 2
Right Sizing and Requirements Explained

In January of 2013, the Chief of Staff of the Air Force (CSAF) Mark A. Welsh released a document entitled; *A Vision for the United States Air Force*. In the opening paragraph, General Welsh articulates the necessity for Air Power, projected globally by the USAF in the air, space and cyberspace domains.[1] The final sentence of the paragraph, however, is the most important. By stating, "Complex security and fiscal challenges demand that our Air Force develop innovative Airmen who find better and smarter ways to *fly, fight, and win*," General Welsh has acknowledged that status quo thinking is no longer good enough.[2] To flourish, the human capital of the AF, the Airmen, "have a role in ensuring that we remain the most technically proficient, best-educated, and best-trained air force in the world."[3] The experience, education and training alluded to in this vision takes years to develop at a significant cost to the nation, but the result is a talented pool of the "best" rated officers. Retention of the "best" personnel possessing the right mix of these skill sets is paramount given the time and money invested in each of them.

It is important for the reader to understand that several variables influencing retention of the "best" rated officers are outside the AF's scope of control. Therefore, this chapter begins with a Congressional budgeting and planning process discussion to highlight some of the outside controls placed on the AF budget and the authorized end strengths for the service.

Budgeting and Planning Processes

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[1] General Mark A. Welsh, "A Vision for the United States Air Force," AF.mil, 11 January 2013, http://www.af.mil/news/story.asp?id=123332136 (accessed 24 January 2013).
[2] Welsh, Vision for the United States Air Force.
[3] Welsh, Vision for the United States Air Force.

The Department of Defense, and the services that compose it, are civilian controlled organizations that draw their funding and end strength authorizations directly from Congress. The Air Force provides a recommended budget and desired authorized end strength, but ultimately operates within strictly controlled boundaries when developing its budget and force structure. The documents controlling force size and budget are the National Defense Authorization Act and the National Defense Appropriations Bill.

The annual National Defense Authorization Act (NDAA) establishes authorized end strengths for military personnel as well as recommended funding levels for each service. The NDAA authorizes a particular budget, but appropriation of that money occurs annually through the appropriations cycle.

The annual appropriations cycle is the mechanism by which Congress considers funding for numerous activities, to include national defense.[4] As such, the cycle begins when the President submits his recommended budget for the next Fiscal Year (FY) to Congress for consideration and debate.[5] In the case of the National Defense Budget, the House and Senate Appropriations Committee, and in particular the Defense subcommittees from each, will exam the best means to allocate funds to their subordinate agencies. Further, agencies that fall underneath the Defense subcommittees' jurisdiction, in this case the AF will provide detailed justification to both the House and Senate for their requested funding, primarily through testimony from agency officials like the Secretary of the Air Force (SECAF) and CSAF.[6] The timetable to achieve agreement generally involves heavy negotiations to resolve differences between the versions of appropriation bills passed by their

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[4] Jessica Tollestrup, *The Congressional Appropriations Process: An Introduction,* Congressional Research Service Report 97-684 (Washington, D.C.: Congressional Research Service, February 2012), 1.
[5] Tollestrup, *Congressional Appropriations Process, 2.*
[6] Tollestrup, *Congressional Appropriations Process, 3.*

respective chambers.[7] Specific members of the appropriations subcommittees and full committees control negotiations, who must agree to the entire text of the bill before it reaches the President.[8]

Once these collective bills become law, the Air Force and her sister services work to balance their force structure to meet the National Security Strategy based on appropriated monies and authorized end strengths. The influence of the NDAA and the appropriations bill process on retention of the "best" rated officers begins to reveal itself in the AF planning process, as initiated through the DODs annual Planning, Program, Budget and Execution (PPBE) process.

The DOD, to provide a budget request to Congress and the President, executes the PPBE process each year. Used as a vehicle to turn "vision, policy, strategies and plans into products and activities," the PPBE lays the framework on which the services can build their requirements, leading eventually to an annual budget.[9] Requirements, however, are not the driving factor behind the size of the budget; rather "it is set by the White House's Office of Management and Budget, *conceptually* in advance of the budget build."[10] Possessing a conceptual outline of the budget, also known as fiscal guidance, what then does AF leadership provide to senior leaders when advising them of force structure requirements? The answer lies in Bernard Brodie's astute observation, that changes in the "structure, equipment, and organization of our armed forces" are not easy.[11] Rather, decisions such as these "involve hard choices between costly alternatives within the constraints of an always-limited budget. These alternatives must operate in terms of

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[7] Tollestrup, *Congressional Appropriations Process,* 5.

[8] Tollestrup, *Congressional Appropriations Process,* 8-9.

[9] Air Force A8P, "PPBE Executive Training," AF Portal, December 2011, https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2CA7080FB5E044080020E329A9&channelPageId=s6925EC1352110FB5E044080020E329A9, 3-4 (accessed 24 Jan 2013).

[10] Air Force A8P, PPBE Executive Training, 9.

[11] Bernard Brodie, *Strategy in the Missile Age,* (Santa Monica, CA: RAND Corporation, 1959), 390.

their accommodation to both political (in the widest sense of the term) and technological realities. The intelligent preparation of each decision must require, somewhere along the line, the application of a great deal of special knowledge and hard work."[12] More simply put, "strategy wears a dollar sign", and the AF is well aware that they must advise senior leaders based not on what they would like to have, but rather what they can realistically get.[13] This responsibility of determining what is realistic, and the acceptable level of risk it entails, falls to the AF Corporate Structure (AFCS).

The AFCS is the agency tasked with ensuring the AF strategy and vision fits within the guidance provided by the PPBE. Options developed by the AFCS are generally in direct response to guidance given by "Air Force leadership, Office of the Secretary of Defense (OSD), Combatant Commands and sometimes Congress."[14] AFCS then provides a recommendation "for CSAF and SECAF approval that balances new requirements, current missions, and *risk* to create a new baseline that meets fiscal restrictions.[15] Balancing acceptable levels of risk against required personnel to accomplish this mission is a difficult undertaking, and given the current fiscal environment, it becomes doubly so. The AF addresses this risk in their Annual Planning & Programming Guidance (APPG).

The APPG is the AFs principal programming guidance. Typically classified, the document focuses on Core Function Master Plans (CFMP), developed around the AFs twelve core functions.[16] The CFMPs "form a

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[12] Brodie, *Strategy in the Missile Age,* 390.
[13] Brodie, *Strategy in the Missile Age,* ix.
[14] Air Force A8P, PPBE Executive Training, 14.
[15] Air Force A8P, PPBE Executive Training, 15.
[16] Core Function Master Plans (CFMP) refers to the plans established to support the AFs 12 Service Core Functions. For more information pertaining to this topic, see the Secretary of the Air Force, the Honorable Michael B. Donley, and Chief of Staff of the Air Force, General Norton A. Schwartz's presentation to the Committee on Armed Services, United States House of Representatives, Fiscal Year 2012 Air Force Posture Statement at http://www.posturestatement.af.mil/.

reference point for helping the service mold its strategic priorities, risks and tradeoffs."[17] One of the biggest areas of risk for any service is right sizing its active duty manpower. Too many, and the AF pays astronomically high personnel budget costs. Too few, and the AF runs the risk of being ill prepared for combat operations. Too few of the right type of personnel, put differently, the "best" personnel, and the AF runs the risk of creating a hollow force of human capital. So how does the AF address this pending shortage of the best personnel when it is simultaneously planning for drastic budget and personnel reductions? It begins with the "hard choices in an always-limited budget" Brodie spoke of earlier.[18]

Hard choices made by "bold leaders at every level who encourage innovation, embrace new thinking, and take prudent risks to achieve mission success," will ensure that more of the "best" rated personnel remain on active duty to lead the AF now, and in the future.[19] For this reason, explanation of the bureaucratic process that controls the pool of rated officers was necessary to ensure future innovative leaders understand that there are barriers they must work around, or as CSAF puts it, barriers we must go "over, not through."[20]

Overview of the Presidential, Congressional and AF procedures as established in the NDAA, the appropriations process, as well as the PPBE and the APPG, is not a complete picture of the budgeting and personnel management processes. The overview serves as a bridge between the complex environment of defense spending and strategic planning, and the risks associated with a failure to retain the "best" rated officers on active duty. By explaining that requirements and funding are fluid, subject to change with the environmental realities presented during each

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[17] Maj Gen Steven Kwast, ACC/A8. "Core Function Lead Integrator (CFLI) Roles/Responsibilities." Briefing to 7th CAF Airpower Symposium, May 16, 2012.
[18] Brodie, *Strategy in the Missile Age,* 390.
[19] Welsh, Vision for the United States Air Force, 4.
[20] Welsh, Vision for the United States Air Force, 4.

Fiscal Year, we can mitigate the initial tendency to blame civilian leaders for short falls on spending and manning. Frustrations will still occur given the slow nature of the bureaucratic system that governs the process. Never the less, it is up to the bold, innovative leaders within the AF to work within the system, thereby ensuring the hollow force of human capital does not become a reality. Understanding the processes that determine authorized end strength allows an easy transition to the topic of current AF requirements and challenges.

Requirements and Challenges

As previously discussed, the AF submits recommendations through NDAA and the Defense Appropriations Bill each year for desired end strengths and budget amounts. In FY 2012, the USAF was authorized 332,800 personnel on active duty.[21] In FY 2013, the Air Force requested an end-strength of 328,900 personnel, but the Committee on Armed Services recommended an additional 1,483 personnel for an end strength totaling 330,383 personnel.[22] This represents a decrease of 3,340 personnel from FY 2012, but an increase over the AF FY 2013 request. This was a result of Congress ordering that 18 Global Hawks, originally programmed for retirement, remain in operation.[23] Discussions pertaining to FY 2014 end strength requirements have already started for the AF, and further reductions are expected.

Given the current fiscal environment, the AF can expect drastic reductions in authorized end strengths in 2014. Elevated personnel costs and decreased budgets have forced senior leaders to evaluate the risk they are willing to take by downsizing the force to ensure personnel

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[21] House Armed Services Committee, *National Defense Authorization Act for Fiscal Year 2013,* 112th Cong., 2nd sess., 2012, HR 4310, 145-146.
[22] House Committee, *National Defense Authorization,* 146.
[23] House Committee, *National Defense Authorization,* 146.

costs do not strip away combat capability.[24] Make no mistake however, that the primary way the AF plans to save money is through the reduction of personnel. The AF has been continuously downsizing over the past decade, with Active Duty, Guard and Reserve end strengths decreasing by 48,000 personnel.[25] The budget cuts threatened in sequestration exacerbated the balance question for AF senior leaders, forcing them to consider more cuts of personnel.

Continued pursuit of balance between required personnel and combat capability led the CSAF, General Norton Schwartz, to ask how many AD personnel billets needed elimination in order to flat line the personnel budget. The answer was an astounding 46,467 personnel, nearly the same amount of total billets eliminated from all three components of the AF since 2004.[26] Eliminating that many personnel would be crippling to AF capability, and would render the service incapable of performing the twelve Core Functions falling under its purview.

This reduction in force would only be considered as a triage measure, however, the AF is "already moving toward a 17,000 reduction in DOD civilian personnel," thereby levying further responsibilities on an already task saturated uniformed work force.[27] Reductions in end strength have an effect on retention of the "best" rated officers in the AF, discussed further in Chapters 3-5. Just as contributory to the retention

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[24] General Welsh covers this point in his Vision for the United States Air Force when he emphasizes readiness to ensure the highest quality force, regardless of size.
[25] Official Site of the U.S. Air Force, "USAF Force Structure Changes: Sustaining Readiness and Modernizing the Total Force." U.S. Air Force, March 2011, http://www.af.mil/shared/media/document/AFD-120306-047.pdf, 2-3, (accessed 10 Jan 2013).
[26] Air Force A8P, "POM Preparation" AF Portal, January 2011, https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2CA7080FB5E044080020E329A9&channelPageId=s6925EC1352110FB5E044080020E329A9, 3-4, (accessed 24 Jan 2013).
[27] Air Force A8P, POM Preparation, 38.

problem of rated aircrew is the reduction of combat coded aircraft from the CAF fleet.[28]

Efforts to right size the force have resulted in significant reductions in aircraft numbers while generating multiple service life extensions to combat coded aircraft in the AF fleet. The FY 13 budget reduced the number of combat coded fighter squadrons from 60 to 54 and eliminated 133 fighters from the inventory.[29] Service Life Extension Programs (SLEP) have been put in place for the F-16, B-1 and B-52 to extract more capability as the F-35 and the Long Range Strike Bomber (LRS-B) struggle to mature as quickly as originally planned.[30] With limited end in sight for budgetary constraints, reduction in the number of available cockpits and the extension of aging aircraft, rated officer concerns begin to focus on job security in the short-term and experience levels in the long-term. Modernization of the fleet will help solve the aging aircraft problem fleet in the long-term, but even that will come with negative effects for CAF aircrew.

The AF is dedicated to modernizing the fleet of CAF aircraft to maintain its technological edge of near peer competitors and remain the preeminent air force in the world. Secretary Donley has stated "the need for modernization is pervasive across our Air Force."[31] General Welsh echoed Secretary Donley, expressing the need to "modernize our capabilities to reduce operating costs while attaining desired effects with greater persistence, survivability, longer range, and more versatile

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[28] The Term combat coded describes aircraft primarily intended for combat action, and maintained at a level of readiness that would support such action. Some fighter, bomber and RPA vehicles support training functions only, and are not coded for combat missions.

[29] Official Site of the U.S. Air Force, "United States Air Force Posture Statement: 2012." U.S. Air Force, February 28, 2012, 6, 16, (accessed 30 Jan 2012), https://www.my.af.mil/USAF/AFP40/d/s6925EC1336580FB5E044080020E329A9/Files/ReadingRoom/NonNucArticles/2012AFPostureStatement_HASC.pdf

[30] Official Site of the U.S. Air Force, Air Force Posture Statement, 16.

[31] Michael B. Donley and General Mark A. Welsh III. "Air Force News Briefing by Secretary Donley and General Welsh on the State of the Air Force in the Pentagon Briefing Room." *Office of the Assistant Secretary of Defense (Public Affairs,* 11 January 2013. http://www.defense.gov/transcripts/default.aspx (accessed 30 January 2013).

payloads."[32] The long-term benefits gained through modernization come with both short-term and long-term costs.

The benefits achieved through a reduction in future operating costs because of modernization will depend on a reduction of current expenditure in other areas to pay for it. Aforementioned weapon systems like the F-35 and the LRS-B, intended to modernize the CAF fleet, received full funding in the 2013 NDAA and the 2013 DOD Appropriations Act, totaling $3.1 billion and $291.7 million respectively.[33] The long-term benefits achieved by funding these modernization programs, which is a priority, comes at the short-term cost of flying hours and training opportunities, which leaves rated aircrew waning for experience and more apt to depart active duty for other ventures.

Experience gained through training and flying hours for rated aircrew in the fighter, bomber and RPA communities are critical for current tactical competency and future strategic credibility. See Table 1 for example of the hours required by different CAF communities for classification as an experienced pilot. Both competency and credibility are at risk with reduced training and flying hours due to fiscal constraints. Senior leaders have reduced non-mission essential training and non-readiness flying hours to mitigate current budgetary concerns, but Secretary Donley emphasizes, "there would be no way *not* to impact training [or] flying hours" if further cuts occur.[34] Concerns at the AF level about training, are also resonating with the Joint Chiefs of Staff.

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[32] Welsh, Vision for the United States Air Force, 4.
[33] Full summary of the 2013 NDAA provided by the Air Force Association can be found at http://www.afa.org/grl/legup.asp. Full summary of the 2013 Appropriations Act can be found at http://www.appropriations.senate.gov/sc-defense.cfm.
[34] U.S. Department of Defense. Air Force News Briefing.

Table 1: Required Flying Hours for "Experienced" Qualification by Community

Community	Primary Aircraft Inventory (PAI) Hours Required			
	or	or	or	
F-16 (*Fighter*)	500 Total Hours PAI	1,000 Total Hours with 300 PAI	100 Hours PAI and Previously Fighter Experienced	
B-1 (*Bomber*)	1,500 Hours with 300 PAI	1,250 Total Hours with 500 PAI	1,000 Total Hours with 750 PAI	Previously Experienced as AC and 150 PAI Hours
MQ-9 (*RPA*)	200 Hours PAI	Previously Experienced in another rated community and 100 Hours PAI		

Note: Primary Aircraft Inventory (PAI) refers to aircraft assigned to meet the primary aircraft authorization. Rated officers can accumulate hours in multiple aircraft, but PAI hours are required to obtain the prerequisite experience in specific weapons systems for future upgrades in the same system.

Source: Author's original work developed from review of Air Force Instruction (AFI) 11-2F-16V1, 11-2B-1V1 and 11-2MQ-9V1 selection board applicants.

The Chairman of the Joint Chiefs of Staff (CJCS), General Martin E. Dempsey has expressed dire concern about training and future readiness for all of DOD. According to him, the armed services, and the AF in particular, will be unprepared in a year because of a lack of flying hours and live-fire training.[35] The Chairman takes this a step further, stating, "we've got the people. We've got the equipment that we need, but we won't have the ability to train."[36] Short-term tactical incompetency caused by a lack of flying hours and training opportunities is recoverable in a relatively short amount of time. Less easy to overcome, and with longer lasting effects, is the loss of strategic capability for the Air Force writ large, as less experienced rated officers of the CAF today, become the less experienced senior leaders of the AF tomorrow.

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[35] Jim Garamone. "Sequestration will Hollow out Force Fast, Dempsey Says." *Joint Chiefs of Staff Official Web Site,* 17 January 2013. http://www.jcs.mil/newsarticle.aspx?ID=1073 (accessed 22 January 2013).
[36] Garamone, "Sequestration Will Hollow out Force Fast, Dempsey Says."

Lack of experience in the future senior officer corps of the CAF will have a direct causal link to the projected reduction in current training opportunities and flying hours. A major determinant in the progression of fighter, bomber and RPA pilots are milestones associated with flying hours. For example, a pilot in a fighter squadron will generally progress through qualifications as a wingman, flight lead (FL), instructor pilot (IP), and evaluator (SEFE) at a rate coincident with his or her accumulated flying hours and number of years operating aircraft. These milestones ensure the upgrading pilot has attained a quantifiable level of competency, credibility and proficiency in their weapons system before moving into a position of increased responsibility.

Qualitative in nature, but equally as important, is the argument that mandated hours are the *minimum* required for safe entry into an upgrade. The qualitative argument stems from an adage, which states; written in blood are the procedures that regulate the upgrade and operation of combat aircraft. More simply put, many men and women have died in this business of flying fast jets, which has resulted in each weapons system regulating the minimum hours needed to upgrade safely. See Table 2 for examples of the number of flying hours required for upgrades by community. As alluded to in Chapter 1, combat pilots will do many things in the interest of accomplishing the mission, but when safety becomes an issue, many will consider grounding themselves or walking away completely. Reduced flying hours and training opportunities have a negative effect on safety. Similarly, projected reduction in training and hours will negatively affect the accomplishment of upgrades by extending the amount of time required to complete them.

Table 2: Example of Flying Hours Required for Upgrades

Community	Primary Aircraft Inventory (PAI)* Hours Required		
	FLUG[1]	IPUG[2]	MCUG[3]
F-16 (*Fighter*)	300 Hrs. PAI	500 Hrs. PAI	Squadron Commander's discretion & 4 Ship FL[4]
B-52 (*Bomber*)	200 Hrs. PAI and 15 Flights as an AC	Squadron Commander's discretion	Squadron Commander's discretion
MQ-9 (*RPA*)	N/A	200 Hrs. PAI	N/A

Notes:
1: Flight Lead Upgrade (FLUG) is the first opportunity for rated aircrew to be responsible for multiple aircraft in a formation.
2: Instructor Pilot Upgrade (IPUG) is the first opportunity for rated aircrew to instruct other rated aircrew going through upgrades.
3: Missions Commander Upgrade (MCUG)
4: 4 Ship Flight Lead (FL) denotes a pilot who is qualified to lead 3 other aircraft, in addition to their own.
5: AC (AC) upgrade is unique to the bomber community. It is the first opportunity for pilots to gain responsibility for the entire crew of the aircraft, not just their individual crew position.
* For a description of PAI, see Table in this paper titled, *Example of Flying Hours Required to be considered Experienced.*

Source: Author's original work developed from review of Air Force Instruction (AFI) 11-2F-16V1, 11-2B-52V1 and 11-2MQ-9V1 selection board applicants.

As flying hours and training opportunities decrease, the amount of calendar time required to maneuver individual pilots through the linear upgrade program will increase. Increases in relative calendar time for these upgrades will have one of three effects, each of which incurs a certain amount of risk.

1) Rated officers will miss upgrade opportunities due to a backlog created by those currently in, or waiting to go into an upgrade.
   a. Risk Incurred: Missed upgrade opportunities place talented rated officers behind their peers for progression.
2) Rated officers enter upgrades on a waiver to the established entry minimums to avoid backlogging the system.
   a. Risk Incurred: Allows talented rated officers to upgrade on an individual basis, albeit with less experience than desired.
3) Entry requirements reduced to mitigate the increased amount of time spent waiting for entry into, or actively in, an upgrade.

a. Risk Incurred: Decreases the overall experience level of a community to ensure mission readiness.

These effects, and the risks that go along with them, lead to an insidious loss of experience that manifests over time. In any case, an altered definition of what comprises the "best" rated officer manifests. The altered definition has an effect on the retention of rated officers, as exemplified by the "best" the CAF has to offer, at Nellis Air Force Base (AFB).

What do the "Best" look like?

Taken as a microcosm of AF culture, Nellis AFB encapsulates the best of what the Air Force as a whole has to offer. Many of the best officers from the Air, Space and Cyber domains converge on Nellis to learn their craft in an aggregate environment. Contained within the fences of Nellis, is the United States Air Force Warfare Center (USAFWC), whose mission is to "shape the way our force fights through Advanced Training, Operational Testing, and Tactics Development in Air, Space and Cyberspace at the Operational and Tactical levels of war."[37] Specifically leading the CAFs charge to shape the fight is the 57th Wing and the USAF Weapons School (USAFWS).

Graduates from the Weapons School are the finest instructors, tacticians the AF has to offer, and as such, their acquired knowledge exemplifies what the "best" rated officers look like.[38] As a result, the process to obtain a slot to the Weapons Instructor Course (WIC) is understandably competitive, and the skill sets acquired by a graduate are highly sought after. To elucidate just how sought after these "patch-wearers" are, a brief extract from the 2003 graduation remarks by then

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[37] 99th Air Base Wing Public Affairs. "U.S. Air Force Warfare Center Fact Sheet." Nellis Air Force Base Units, 2012.
http://www.nellis.af.mil/library/factsheets/factsheet.asp?id=4082
[38] For more information pertaining to the United States Air Force Weapons School, see the U.S. Air Force Fact Sheet at
http://www.nellis.af.mil/library/factsheets/factsheet_print.asp?fsID=19837&page=1

Secretary of the Air Force, James G. Roche is warranted.[39] In his remarks, Secretary Roche states,

> As a "*patch-wearer*" you will be asked to build more, in less time, with less resources, to a higher degree of accuracy that you might have thought possible. As a weapons officer, you will be expected to lead America's finest through situations that you have yet to even ponder. As a weapons officer, you are expected to take every success, every failure, every challenge and examine it, analyze it, and debrief it and its possible consequences—and fine tune your skills with what you learned from it.
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> Many think that tonight is about receiving some type of "masters of science in airpower." As someone who has gone through a fairly rigorous series of graduate programs, including a doctoral course of study...let me assure you, Weapons School is much more. There is no masters recipient that is so universally recognized in the combat air forces as an Air Force weapons officer. No master of arts or sciences recipient fully embodies the expertise, teamwork, sense of excellence and warrior-spirit like an Air Force weapons officer. And there is no masters recipient who carries a target on their arm that says to all: "*ask me, send me, task me, or demand of me.*"[40]

Demands on the "patch-wearers" of the CAF are certainly immense, a point made intimately aware to applicants, even before they apply for WIC.

Acknowledgement of the demands levied on WIC graduates is required in writing as part of the application process for weapons school. Rated officers desiring one of the coveted slots must state that, "if selected for WIC, I understand I will be required to fulfill 3 years continuous, and 5 years total, Weapons Officer duty. I am a worldwide volunteer for any Weapons Officer position required by the needs of the

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[39] Graduates of the Weapons Instructor Course are referred to as "patch-wearers" because of the distinctive grey shield worn on their left shoulder that signifies their position as a graduate of the USAFWS.
[40] Secretary of the Air Force James G. Roche, "The Power of the Patch; America's Newest Weapons Officers," (Address, United States Air Force Weapons School Graduation, Las Vegas, NV, 14 June 2003).

Air Force."[41] Knowledge of the immense demands up front would understandably prevent some from applying, and the reasons for doing so are their own. However, those chosen to attend, who then graduate from this prestigious course, become the physical representation, an example of the "best" rated officer used by the CAF. This is not to say that the only rated officers worth retaining are graduates from the USAFWS. Arguably, there are just as many of the "best" rated officers that do not attend the USAFWS, as there are that do attend.

Finite slots for WIC limit the number of attendees and graduates per year, and as a result, several of the "best" officers are unable to attend. To illustrate, see Table 3 that highlights the numbers of USAFWS slots available each year by community, as compared to the number rated AF officers within the same community.

By default, not every rated officer can attend WIC, nor does every rated officer desire the title of Weapons Officer. For this reason, defining the "best" rated officers solely to graduates of the USAFWS would be doing a disservice to the AF and to the rated officers that do not attend. However, the brief snippet pertaining to the duties of a weapons officer highlights the level of responsibility levied on all of the "best" rated officers. The "patch-wearing" rated officer merely offered the clearest cut example of what the "best" might look like. Further, the discussion adds credence to the developing hollow force of human capital created as budgetary constraints, fewer available cockpits, decreased flying hours and less training opportunities force more of the "best" to look for stability elsewhere.

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[41] Air Combat Command/A3. To All Active Duty, Air National Guard (ANG), and Air Force Reserve Command (AFRC) United States Air Force Weapons School (USAFWS) Weapons Instructor Course (WIC), 2013-B selection board applicants. Memorandum, 18 December 2013.

Table 3: Weapons Instructor Course Entry Requirements by Community

Community	Rank[1]	Experience	Hours in PAA[2] (Total / IP)	Qualifications	Maximum TAFCSD[3]
			Requirements prior to Class Start Date (CSD)		
Fighter	O-3	Normally 2 Years[4]	300 Total Hrs. 50 IP Hrs.	6 Months as IP prior to CSD	9 Years
Bomber	O-2 or O-3	2 Years in PAA	50 Hrs.of IP Time	6 Months as IP prior to CSD	10 Years
RPA	O-2-thru O-4	Not Specified	300 Total Hrs. 75 IP Hrs.	6 Months as IP prior to CSD	9 Years

Notes:
1: Air Force ranks are; O-2 = 1st Lieutenant, O-3 = Captain, O-4 = Major
2: Primary Assigned Aircraft (PAA) is the weapons system to be operated during training.
3: Total Active Federal Commissioned Service Date is the amount of time in the military after being commissioned an officer.
4. Normally, it is required that you have a certain amount of time flying the aircraft, but it is not applicable for all platforms, for example the F-22 does not require a specific amount of calendar time operating the weapons system.

Source: Author's original work developed from Air Combat Command/A3 message to All Active Duty, Air National Guard (ANG), and Air Force Reserve Command (AFRC) United States Air Force Weapons School (USAFWS) Weapons Instructor Course (WIC), 2013-B selection board applicants.

It is precisely these rated officers, and those aspiring to be like them, which the AF should be retaining. Unfortunately, these same officers are leaving active duty for other opportunities. An analysis of the reasons for their departure takes place in chapters 3-5. Regardless of the community however, their departure leaves the active duty AF driving towards short-term tactical mediocrity, and a long-term lacking for the best strategic leaders. Departure of the "best" officers is already being felt at Nellis, and will continue to ripple throughout the CAF as time progresses without a change in retention methods. Squadron commanders are the first link in the supervisory chain to shoulder this problem, and they are concerned.

Squadron commanders are beginning to feel the strain created by the departure of the "best" rated aircrew from their ranks. An interview with the Commander of the 433d Weapons Squadron, which trains the

AFs newest F-15C and F-22A WIC students, discussed his experiences and frustrations over the past two years. In a four-year period, the 433d graduated 38 active duty officers as new "patch wearers" for the AF. Out of those 38WIC graduates, 17 (44 percent) elected to leave AD after their first assignment as instructors for the guard, reserves or other opportunities.[42] Further, exacerbating his problem is the departure of his Weapons School Instructors.

Those asked to return to Nellis as instructors at the Weapons School are the best tactical operators in their respective platforms, with a natural ability to teach and lead new WIC students. In the case of the F-15C WIC squadron, there are only 8 pilots as compared to an operational F-15C squadron, which may have between 18 and 24 pilots. The difference is that each of the WIC squadron pilots has graduated from Weapons school, and is a qualified Weapons Officer, whereas an operational squadron would normally only receive one Weapons Officer. Loss of one WIC instructor can be devastating to the daily operations of a squadron at the USAFWS.

In a one-year period, the 433d commander lost two of his valued WIC instructors to 365-day deployments, except they never went. In both cases, these officers elected to leave active duty entirely, taking their expertise and future leadership capability with them to the Air National Guard (ANG), leaving the 433d commander undermanned.[43] This is one of many similar stories, repeated all too frequently these days across all weapons systems in the CAF. As more aviators of this caliber elect to leave AD, the number of officers with the right experience and qualifications to serve in leadership positions, like squadron commander, decreases. This has a psychological effect on young pilots as well.

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[42] LtCol J. Kent (433d WPS Commander, Nellis AFB, NV), interviewed by the author, 25 January 2013.
[43] Kent, Interview.

Young lieutenants arriving at their first flying squadron will study the career of their new commander, striving to emulate the path that made them successful. Two things determine the credibility of a commander in the eyes of a new lieutenant.[44] The first being leadership style; whether it be aggressive, passive, angry or indifferent, the officer simply wants to know if their commander is going to take care of them. The second credibility determinant is qualifications, the path trod to become a CAF flying squadron commander. If too many of the "best" leaders have left AD before they reach squadron command, the leaders that are left, while satisfactory, may not inspire the same grand aspirations that have made the CAF great.

Grand aspirations and the desire to excel, both traits of the "best" rated officers, become less desirable when viewed as unnecessary. In other words, the lieutenant may ask, "if my commander hasn't hit these milestones, why should I?" A graduated F-22 squadron commander observed that if the next generations of instructor pilots are getting out, the high caliber pilots, who makes the new IPs? It is probably someone you rushed through the upgrade, with half the experience, to start teaching the next round of less experienced pilots. At some point, IPs who lack experience, training students who lack experience, will degrade capability.[45] He went on to state, again paraphrasing, that the pool of high caliber officers left to take command positions is far fewer than it should be, which leads to further degradation.[46] Failure to retain the "best" rated officers now will lead to a continued drive towards mediocrity in the future.

The AF does not want, nor can it afford, to be stuck in the momentum of this cyclical pattern. In an attempt to oppose the

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[44] Author's personal opinion as a Flight Commander and Assistant Director of Operations in a fighter squadron, based on anecdotal interactions with new lieutenants.
[45] Lt Col P. Fesler (former 27th FS/CC, Langley AFB, VA), interviewed by author, 29 January 2013.
[46] Fesler, interview.

momentum, and in the hopes of reversing the trend of departure, the AF utilizes monetary funds from separate programs to retain as many of the "best" rated officers possible.

Methods of Retention

The two most prominent means of retaining rated aircrew in the USAF are the Air Crew Incentive Pay (ACIP) and Aircrew Continuation Pay (ACP) programs.[47] Each program utilizes differing monetary amounts, presented to rated aircrew as a supplement to the base pay set by the President and Congress.[48] The use of bonuses to retain rated personnel is not reserved solely for pilots or rated aircrew, nor is it unique to the AF. The DOD uses special and incentive pays across all branches of service, for officer and enlisted personnel alike, as a means of enlisting and retaining the most qualified personnel. As such, a brief overview of the way DOD has recently used incentive and bonus pay is appropriate.

DOD use of incentive pay and bonuses to manage the size and composition of its force structure is common, and it is expensive. From 2006 until 2010, the Army, Navy, Marines and Air Force accounted for nearly $11 billion dollars in bonuses paid to service members as part of an enlistment or reenlistment package.[49] In this period, the Air Force accounted for only 9% of the total DOD amount contracted, or approximately $1 billion dollars.[50] This illustrates that the AF may have maneuvering room when requesting when requesting additional monies

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[47] Pilots refer to the Air Crew Incentive Pay (ACIP) as "Flight Pay" and Air Crew Continuation Pay (ACP) as the "Bonus."

[48] Basic Pay is the fundamental component of military pay. All members receive it and typically, it is the largest component of a member's pay. A member's grade (usually the same as rank) and years of service determines the amount of basic pay received. Taken from the Under Secretary of Defense, Personnel and Readiness website for Military Compensation http://militarypay.defense.gov/Pay/basicpay.html

[49] United States Government Accountability Office, *Military Cash Incentives: DOD Should Coordinate and Monitor Its Efforts to Achieve Cost-Effective Bonuses and Special Pays,* Report no. GAO-11-631 (Washington D.C.: United States Government Accountability Office, June 2011), 10.

[50] United States Government Accountability Office, *Military Cash Incentives,* 10.

to utilize in the retention of their personnel. Interestingly, every service except for the Army used the preponderance of contracted funds for reenlistments, as opposed to initial enlistment.

More specifically, the AF attributed the greater expenditure on reenlistment to the competition posed by the civilian sector, who value the skills and experience attained by airmen in service.[51] Understandably, the dollar amounts allocated for bonus and incentive funds are a lucrative means for any service to retain critical personnel. This became more challenging as the total amount given to the services for this purpose reduced steadily from 2006 until 2010.

From 2006 until 2010, there was a drastic decline in the monies allocated by Congress for bonus and incentive pay across all services. In FY 2010, DOD contracted $1.2 billion dollars as compared to the $2.8 billion dollars allocated in 2008, a total reduction of 58%.[52] These drastic reductions, however, did not affect the AF as significantly as the other services.

While total monies allocated to the DOD for use as bonuses decreased, the AF experienced an increase of bonus and incentive pay during the same period. Specifically, from 2006 until 2009, the increase in contracted amounts was 254 percent, going from $100 million to $352 million dollars.[53] Critically manned career fields, which are easy to identify within each service, benefit the most from the bonus pay. Remarkably, the services have a difficult time "identifying the most cost-effective bonus amounts" to award these critically manned career fields. As the budgetary purse strings continue to tighten, ACIP and ACP tactics to retain critical specialties will become increasingly problematic to manage by service leadership. Thus, the AF will have to adjust the way it manages the ACIP and ACP programs.

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[51] United States Government Accountability Office, *Military Cash Incentives,* 9.
[52] United States Government Accountability Office, *Military Cash Incentives,* 5.
[53] United States Government Accountability Office, *Military Cash Incentives,* 6.

The ACIP and ACP programs receive funding through different sources of money, each falling under different sections of regulatory guidance that affects their flexibility and utility as retention methods. ACIP is regulated by United States Code (USC), Title 37, section 301a, which is titled; *Incentive Pay: aviation career.*[54] ACIP defines the amount paid to aviation personnel from each of the services based on the Years of Aviation Service (YAS).

Eligibility to receive monthly installments of the ACIP begins the day personnel enter aviation training and can extend through 25 YAS, and has been in use since 1974. [55] To maintain eligibility, an officer must perform operational flying duties for 96 months (8 years) of the first 144 months (12 years), and 144 months (12 years) of the first 216 months (18 years) of aviation service of the officer.[56] Figure 5 depicts the currently monthly payments of the ACIP for eligible officers.

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[54] United States Code (USC) Title 37, *Section 301a., Incentive Pay: Aviation Career,* 6 January 2003. http://us-code.vlex.com/vid/sec-incentive-pay-aviation-career-19231316

[55] For a thorough history of the ACIP program, see Major Charles A. Metrolis Jr.'s thesis from the School of Advanced Air and Space Studies, title: *Divergent Stability: Managing the USAF Pilot Inventory,* June 2003.

[56] These monthly goals referred to as "gate months" by the aviation community. As rated aircrew attain these minimum requirements, i.e. 96 months flying in the first 144 months of aviation service, they have reached achieved enough time to "open the gate" for continued receipt of ACIP. During yearly records review, Flight Records Management personnel will brief rated officers on the number of months they have attained, and the number remaining until they have reached their next milestone.
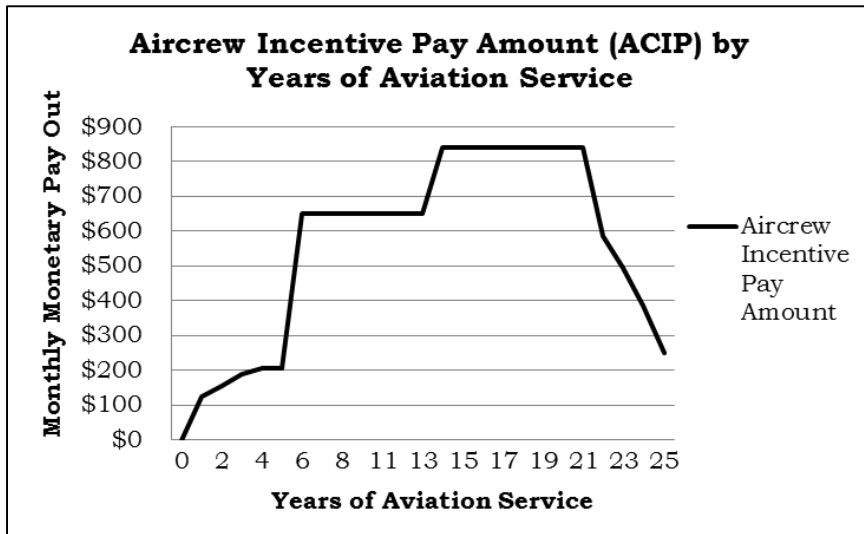
Figure 5: Aircrew Incentive Pay Scheduling
Source: Author's original work developed from United States Code, Title 37, Section 301a.

Major Charles E. Metrolis succinctly describes the reason for this bell shaped curve, stating, "The benefits of increased pay in the middle of the scale represent a retention method targeting the 'experienced' pilots who have completed six years of aviation service."[57] As retention rates in the target year group of 6-12 YAS continued to decline in the 1980's, the Air Force considered several alternative means of increasing retention rates. The resultant decision was the ACP program, instituted in 1989.[58]

The Aircrew Continuation Pay program, while still controlled by USC, Title 37, diverges from the ACIP program in significant ways. Whereas the ACIP program establishes the set amount of monetary compensation authorized for all rated officers, regardless of service, section 301b of Title 37, titled; *Special pay: aviation career officers extending period of active duty*, offers flexibility to individual services for

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[57] Major Charles E. Metrolis Jr., "Divergent Stability: Managing the USAF Pilot Inventory" (Research Report, School of Advanced Air and Space Studies Research, June 2003), 24.
[58] Metrolis, "Divergent Stability," 26-27.

retention.[59] The AF ACP program, governed by Air Force Instruction (AFI) 36-3004, authorizes the "bonus" to rated officers who have; completed their ADSC, are qualified for flying duty and receipt of "flight pay," and are below the grade of O-7 with no less than six and no more than 24 years of Total Aviation Service (TAS).[60] Further, monetary amounts are at the discretion of the individual services, as long total expenditure does exceed $25,000 for each year covered by the agreement.[61] The combination of the ACIP and the ACP was strong in concept, but still proved less than ideal in retaining targeted personnel.

Primarily developed as a means of slowing the "mass exodus of military pilots to the civilian sector", the ACP program has gone through tribulation as an effective retention method.[62] Initially offered in 1989 as a $12,000 per year bonus for reenlistment to 14 years of commissioned service, the ACP successfully retained only 66 percent of those eligible, the majority of which already had over 10 years of service.[63] Notably, the targeted year group of young rated officers with less than 7 years of service signed the bonus at a lowly 35 percent. Realizing this initial shortfall, AF leaders would restructure the ACP program multiple times in the 1990's to retain the right number of rated officers.

Throughout the 1990s, AF leaders continuously adjusted the manner in which the ACP program operated by modifying the payout amounts and commitment durations. In 1991, eligible pilots could receive half of their total ACP amount up front. In 1998, the total amount offered went from $12,000 to $22,000 for a contract signed

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[59] United States Code (USC) Title 37, *Section 301b., Special Pay: Aviation Career Officers Extending Period of Active Duty,* 6 January 2003. http://us-code.vlex.com/vid/aviation-career-extending-period-active-19231289
[60] Air Force Instruction (AFI) 36-3004, *Aviator Continuation Pay (ACP) Program,* 12 April 2007, 3.
[61] USC Title 37, *Section 301b., Special Pay.*
[62] Metrolis, "Divergent Stability," 27.
[63] Robert J. Hock, "A Study of the Effectiveness of Aviation Continuation Pay," in *Divergent Stability,* 27.

through 14 years of commissioned service.[64] That same year, the AF
offered short-term contracts of one to three years valued between $6,000
and $12,000.[65]

The most drastic change occurred with the FY 2000 NDAA that
authorized ACP agreements to rated officers extending as far as 20 or 25
YAS.[66] When retroactively applied to earlier year groups, the FY 2000
ACP was now available to over 8,000 personnel at 8 times the monetary
worth, compared to the FY 1999 ACP.[67] The historical take-rate of the
ACP program continued to fall throughout the 1990's despite these
adjustments, eventually reaching 30 percent take-rate in 1998. A
tertiary system, attempts to control for fluctuations by adjusting required
time of service resulting from AF investment in personnel.

Investment in the form of training, education and bonuses by the
AF in personnel incurs a predefined Active Duty Service Commitment
(ADSC) for additional service. Controlled by AFI 36-2107, the ADSC
system ensures taxpayers get an appropriate return for their investment
in military personnel while simultaneously communicating to the AF how
long each individual service member must serve before they are eligible
to separate or retire.[68] Just as the ACP program has fluctuated in an
attempt to mitigate retention problems, so has the ADSC system.

Investment in rated officers necessitates an adequate amount of
payback to the AF for training received. Increasingly complex and
expensive aircraft require better training pilots to operate them. While
not directly linked, the increase in ADSC has continued to increase since
the early 1960s. Pilots who graduated from Undergraduate Pilot Training
(UPT) and received their wings from the 1960s through the 1980s

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[64] Metrolis, "Divergent Stability," 28.
[65] Metrolis, "Divergent Stability," 28.
[66] Metrolis, "Divergent Stability," 29.
[67] Metrolis, "Divergent Stability," 29.
[68] Air Force Instruction (AFI) 36-2107, *Active Duty Service Commitments,* 30 April 2012,
5.

incurred a six-year commitment to the AF.[69] In 1987, the ADSC for a UPT graduate increased to seven years, and in 1988 increased again to eight years.[70] This ADSC remained stable until 1998, when it increased to 10 years following graduation from UPT.[71] With each subsequent increase in ADSC, the AF created a buffer zone of time to mitigate retention problems.

By increasing the ADSC to 10 years in 1998, the AF created a two-year buffer zone for personnel manning, in which very few rated officers were able to separate from AD. This buffer zone is at the cusp of elimination as the first graduates under the adjusted ADSC enter the window for separation. To the AF's dismay, the retention picture may be getting worse as opposed to getting better. Limited funds created by budgetary constraints, the threat of sequestration, decreased training opportunities and the potential reduction of flying hours all contribute to the impending lack of combat readiness described earlier. Exacerbating the problem is the need to keep qualified rated officers in the cockpit to make up for the shortfalls. This denies some pilots the opportunity for career broadening opportunities, which are highly valued, and in some cases a requisite for career progression.

The AF has long valued depth and breadth of exposure for its officer corps, but recent trends have shown that career-broadening opportunities could become scarce if aircraft sit pilotless. Career-broadening opportunities like Professional Military Education (PME), staff jobs and joint assignments continue to reduce for rated aircrew. While many, if not most pilots will joke about never wanting to leave the cockpit, the necessity placed on completing the aforementioned career-broadening opportunities strikes close to the heart for all individuals considering the AF as a career, and it begins very early.

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[69] Metrolis, "Divergent Stability," 22.
[70] Metrolis, "Divergent Stability," 22.
[71] Metrolis, "Divergent Stability," 23.

After completing initial training in a primary weapons system, whether it is an F-22, B-1 or an MQ-1, the emphasis on broadening elements of a career to be competitive for promotion begins. These requirements include, but are not limited to; obtaining a master's degree, completing Squadron Officer School (SOS) in correspondence to be competitive for an in residence slot, completing SOS in residence to be eligible for Air Command and Staff College (ACSC) in correspondence. This cycle repeats for future PME schools, which erodes at the already limited, but highly valued time of the officer. Failure to accomplish any one of these requirements on time however, places the officer at a statistical disadvantage when it comes time for promotion.

This statistical disadvantage could exacerbate the rated aircrew's decision to separate from active duty. Unfilled cockpits and decreased flying hours will necessitate that qualified rated aircrew remain with their current weapons system for longer periods to ensure combat readiness and aircrew in aircraft. When rated officers cannot accomplish career broadening because of manning shortages, the resultant perception is that career progression is out of their control since the prerequisites are unobtainable. When these aviators feel that career progression is no longer within their control, the decision to separate becomes more practical, and the AF loses future AF leaders in the process.

Career-broadening opportunities facilitate leadership development. Al Robbert, director of the Manpower, Personnel and Training Program at RAND Project Air Force, states that the "AF, like all institutions, tends to draw senior leaders from the core mission of the organization, and that's flying and fighting."[72] Robbert further states, "If fighter pilots are not getting the development in terms of experience in joint staffs and air staff and other places…they're not going to be sufficiently prepared to assume

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[72] Quoted in Jennifer H. Svan, "Air Force Faced with 'New Reality': Fewer Pilots," *Stars and Stripes website,* 21 September 2011, http://www.stripes.com/news/air-force-faced-with-new-reality-fewer-pilots-1.155793 (accessed 19 February 2013).

senior leadership roles in the future", a statement equally applicable to all rated aircrew given the current operational environment.[73]

Any one of these factors viewed alone paints a dire picture for the future. When the dire picture being painted by the AF is viewed in conjunction with the affects it could have on home and family, the retention picture problem becomes even bleaker. As a result, the AF community could experience drastic reductions across all rated career fields once officers reach the end of their ADSC. Armed with an understanding of the historical perspectives of AF retention methods from 1974 until 2000, the paper turns to current retention methods used by the AF, and their effect on the CAF.

Retention since 2000

Since 2000, the AF has enjoyed a steady rise in the overall ACP take-rates amongst all rated aircrew.[74] The overall ACP take-rate has increased from a 32 percent in FY 00 to 67 percent in FY 12.[75] In that 12-year period, the highest ACP take-rate occurred in FY 10, topping out at a 76 percent.[76] The lowest take-rate occurred during FY 01, bottoming out at 30 percent.[77] See Figure 6 that depicts the overall take-rates by FY from 2000-2012.

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[73] Quoted in Jennifer H. Svan, Air Force Faced with "New Reality."
[74] Reference to "all rated aircrew" includes Pilots from the Fighter, Bomber, Mobility, Command Control Intelligence Surveillance and Reconnaissance (C2ISR), Combat Search and Rescue CSAR), Special Operations (SO), and Unmanned communities, as well as a general community classified as "Other."
[75] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).
[76] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 10 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).
[77] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 01 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).

Total ACP Take Rate by Fiscal Year
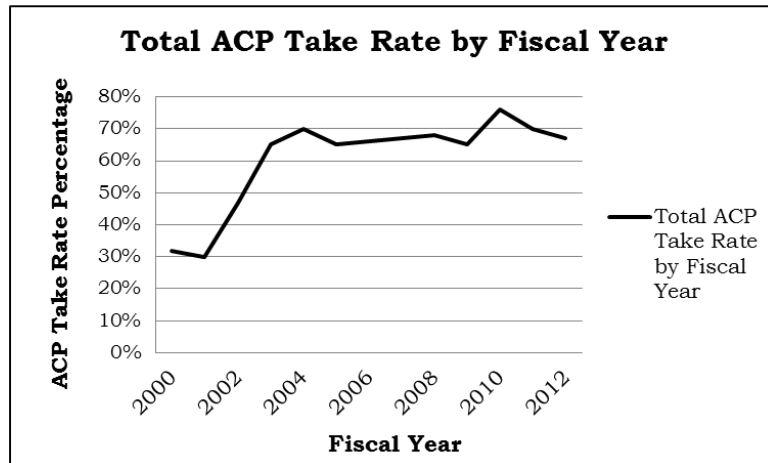
Figure 6: Aircrew Continuation Pay Take Rates since FY 2000

Source: Author's original work developed from 2000-2012 AFPC Rated Officer Retention Analysis Reports.

Statistically speaking, the ACP take-rate would indicate a healthy rated force; an argument further bolstered by the number of rated personnel losses over the same period.

From FY 00 until FY 12, the AF has seen a continued decrease in the number of rated aircrew lost to separations, retirements, promotion to Colonel or groundings.[78] If a rated crewmember fall into one of the four categories above, regardless of personal choice in the matter, they become part of the pool of pilots categorized as "eligible for loss." The highest number of pilots categorized as eligible for loss occurred in FY 00, with 2,728 pilots. Out of that number, 1,637 were actually lost, of which 1,119 elected to separate from the AF.[79] The lowest number of pilots categorized as eligible for loss occurred in FY 10, with 1,087 pilots. Out of that number, 596 were actually lost with only 142 electing to

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[78] Air Force Personnel Center delineates rated aircrew losses into these four categories. They include a fifth category, labeled as "other," to encapsulate any losses that do not fit into the original four.

[79] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 00 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).

separate.[80] See Figure 7 for the total number pilots considered eligible for loss, actually lost, and lost due to separation from FY 00 to FY 12.
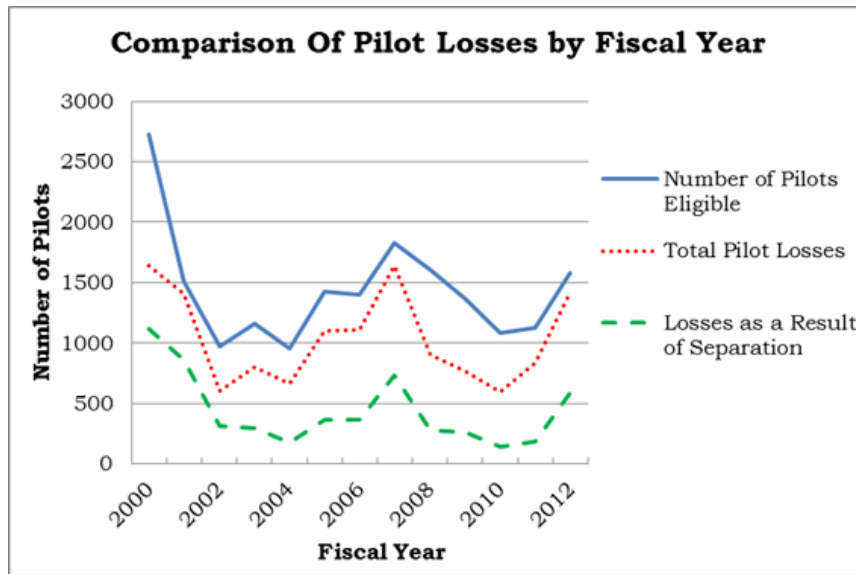
Figure 7: Pilot Losses by Fiscal Year
Source: Author's original work developed from 2000-2012
AFPC Rated Officer Retention Analysis Reports.

Collectively, the ACP take-rates and pilot losses by fiscal year look promising. The period from 2000 until 2012 however, presented many contextual challenges for the United States, the DOD and the AF, which influenced these numbers in different ways.

Environmental Influences

There have been significant events from 2000 until present day that influenced, and continue to influence rated personnel's decision to stay in or separate from the AF. Prior to the events of 9/11, the airline industry exerted significant influence on AF retention of rated aircrew. A study in 1998 by Captain John H. Kafer indicates that at the time, the "major airlines relied on the Air Force to supply nearly 50% of their pilot hiring needs," and estimated that by the year 2000, the airlines would

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[80] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 10 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).

"employ approximately five times as many pilots" as the AF.[81] Following the events of 9/11, all predictions of future hiring by the airlines was set aside as the nation attempted to recover from the devastating attacks.

In the post 9/11 world, environmental shifts for the DOD and the AF were noticeable. The commencement of hostilities in Afghanistan in 2001, and Iraq in 2003 increased the need for rated aircrew, and specifically combat rated aircrew for the CAF. Additionally, initiation of Air Sovereignty Alert (ASA) and Operation Noble Eagle (ONE) missions required greater CAF operations than had been seen in the preceding years.[82] One can surmise that these factors, paired with decreased hiring by the airlines, had a significant effect on AF retention. As the first decade of the 21st century continued however, many of these trends began to reverse.

Significant events from the early years of 2000 experienced a reversal of course as the decade wore on. In December of 2011, the United States officially withdrew from Operation Iraqi Freedom (OIF), and expects to withdraw from Operation Enduring Freedom (OEF) completely by 2014. Combined costs thus far for OEF, OIF and ONE totaled $1.283 trillion dollars.[83] Massive war costs left the Department of Defense and the United States government lurching to find ways to control future costs. Recalling earlier discussion, one of the primary means levied by all service chiefs is the downsizing of their respective forces. Continued economic uncertainty and the threat of sequestration most certainly have an effect on current retention rates.

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[81] Captain John H. Kafer, "Relationship of Airline Pilot Demand and Air Force Pilot Retention" (Graduate Research Project, Air Force Institute of Technology, June 1998), 48, 52.

[82] United States Government Accountability Office, *Homeland Defense: Actions Needed to Improve Management of Air Sovereignty Alert Operations to Protect U.S. Airspace,* Report No. GAO-09-184, (Washington, DC: Government Accountability Office, January 2009), 2-8.

[83] Amy Belasco, *The Cost of Iraq, Afghanistan, and other Global War on Terror Operations Since 9/11,* CRS Report No. RL33110, (Washington, DC: Congressional Research Service, 29 March 2011), 1-5.

American families continue to recover from a slumping economy, poor job availability and a slowly recovering housing market. A pervasive lack of confidence in the future of these systems wields undeniable influence over retention rates of rated aircrew. Not surprisingly, the Air Force Personnel Center (AFPC) rated officer retention report addressed this trend directly, stating, "Pilot inventory grew by approximately 3 percent [in 2011] due to continued higher than normal retention rates. We expect this trend to continue until the economy really picks up and the job market improves."[84] Although historic retention rates have been high, many of the "best" continued to leave despite the economic austerity. With an expected improvement in the economic and housing markets, the AF should be wary of rapidly decreasing retention rates.

The economic, job and housing markets are recovering, and as they do, the AF should pay close attention to the rated officer communities. Freddie Mac vice president and chief economist, Frank Nothaft recently stated that "As the broader economy heals, expect to see more good news with house prices continuing their recent upward trend, and home sales and housing starts continuing to post strong growth rates. The macroeconomic recovery though 2011 helped to forestall further erosion in the depressed housing market. In return, housing is now 'showing some love' by contributing to economic growth, perhaps by adding close to 0.5 percentage points to 2013 GDP growth."[85] Further adding to the complex problem for retaining rated officers is the burgeoning airline industry.

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[84] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 11 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).

[85] Freddie Mac, "February 2013 U.S. Economic and Housing Market Outlook," *Marketwire* website, 14 February 2013, http://www.marketwire.com/press-release/february-2013-us-economic-and-housing-market-outlook-otc-fmcc-1757137.htm (accessed 20 February 2013).

Forecasts for hiring within the aviation industry are some of the highest seen in history. A recent estimate by the Boeing Company projects a need for "approximately one million new commercial airline pilots...by 2031, including 460,000 new commercial airline pilots."[86] Contributing to the need for more airline pilots is the increasing worldwide demand for air travel, rapid growth of travel in Asia, and an increase in commercial airline pilot retirements.[87] In 2007, the federally mandated retirement age for commercial airline pilots increased from 60 to 65.[88] The resultant exodus of pilots reaching this milestone began in 2012, and will escalate over the next few years.[89] If Captain Kafer's analysis from earlier is indicative of the future, the AF should expect a preponderance of its "best" rated officers to consider separating for a career in the commercial aviation industry.

Summary

Rated officer retention is a problem that haunts senior leaders because it affects the core missions of the AF, and failure to retain enough of the "bet" officers could result in dire consequences for the service, and the nation. Senior AF leaders work within a bureaucratic system to provide a service capable of projecting global military power through air, space, and cyberspace. Often, working within this system requires tough decisions and sacrifices in the interest of getting the best AF for the money. The current economic environment has made these decisions even tougher. Increased personnel cuts, fewer training opportunities and decreased flying hours are a few of the means available

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[86] Boeing, "2012 Pilot and Technician Outlook," *Boeing Website*, 2012. http://www.boeing.com/commercial/aviationservices/brochures/PilotTechnicianOutlook.pdf (accessed 20 February 2013).
[87] Charisse Jones, "Demands for Airline Pilots Set to Soar," *USA Today website,* 21 June 2006, http://travel.usatoday.com/flights/story/2011/06/Demand-for-airline-pilots-set-to-soar/48661596/1 (accessed 20 February 2013).
[88] Charisse Jones, "Pilot Shortage Looms for Airlines," *USA Today website,* 6 January 2013, http://www.usatoday.com/story/travel/flights/2013/01/06/pilots-shortage-could-start-this-year-analysts-warn/1566088/ (accessed 20 February 2013).
[89] Jones, "Pilot Shortage Looms for Airlines."

to control future costs. These decisions, however, could have grave effects on the retention of the "best" rated pilots for our CAF.

Right sizing the force has resulted in fewer available combat coded aircraft and fleet in desperate need of modernization. As a service, the AF is dedicated to its modernization efforts, but there is a short-term price to be paid. There is the potential that the AF will be non-combat ready in a short period because of the lost flying hours and training opportunities. Failure to attain this experience could leave the AF waning in short-term tactical competency. Even more disturbing is the insidious slide towards mediocrity that results from a modification of what defines the "best" rated aircrew. This slide towards mediocrity could leave the AF lacking for future strategic leaders unless historic retention methods receive needed attention.

Retention methods like the ACIP, ACP and ADSC programs prove to be reactionary when it comes to right sizing the force. Inconsistent application of bonus monies and temporal commitments force a cyclical routine of "wait and see", never allowing the Air Force to manage proactively the "best" end strength possible. As the United States recovers from its economic woes, retention threatens to get worse before it gets better.

Indicators within the private sector, while not individually causal, are still contributory to future AF retention rates. Economic resurgence, an expanding commercial aviation sector and recovering housing market could result in retention rates similar to those experienced prior to 9/11. Whereas increased investment in pilot training was able to quell the problem then, the expectation of decreased training opportunities and flying hours because of budgetary constraints could make the current problem insurmountable. The next three chapters will look at a microcosm of the CAF, with the purpose of providing new ways of analyzing the retention problem.

It is the author's belief the AF can no longer afford to apply retention methods broadly across the rated community. Rather, analysis of individual communities within each Major Command (MAJCOM) would present variables distinct to the community, thereby allowing a proactively controlled means of applying retention measures. The following chapters will focus on the fighter, bomber and RPA communities from the CAF as an example of individual community focus as compared to traditional methods of one-size-fits all retention assessment and programs.

CHAPTER 3
The Fighter Community

With this newly heightened emphasis on realistic training in both the Navy and the Air Force, it was finally recognized by airmen for the first time in years, at least in American practice, that the pilot and his personal attributes and skills, rather than the aircraft or the weapon system, constituted the main ingredient in the formula for success in air combat.

—Benjamin S. Lambeth
The Transformation of American Air Power

Fighter pilots reflect many of the foundational qualities of the United States. Self-confident, aggressive, brash; words oft used in the media to describe American political policy are equally descriptive of the modern tactical warriors trained to defend it from the air. However, as General Robin Olds described in his memoirs, being a fighter pilot is more than "just a description, it's an attitude."[1] This attitude permeates throughout the very being of the men and women tasked to fly fighters, and it influences almost every aspect of their daily lives. It is not something easily walked away from, nor is it easily turned off. Viewed from afar, this attitude appears audacious and self-serving. Upon closer inspection, this same attitude becomes determinant in a fighter pilot's success or failure in aerial combat. As such, the talents that characterize the best aviators in the air are critical for the future of the AF, not only in the tactical arena, but in the strategic one as well.

Talents honed by fighter pilots for aerial combat are invaluable assets to the security of the nation. The responsibility, dedication and decision-making exhibited by fighter pilots, whether they be brand new lieutenants, or seasoned lieutenant colonels, extends beyond the cockpit they call an office. Olds' further elucidates the characteristics of a fighter

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[1] Robin Olds, Christina Olds and Ed Rasimus, *Fighter Pilot: The Memoirs of Legendary Ace Robin Olds* (New York, NY: St. Martin's Press, 2010), 291.

pilot, saying they have a "streak of rebelliousness and competiveness. But there [is] something else; there's a spark. There [is] a desire to be good, to do well in the eyes of your peers and your commander, and in your own mind, to be second to no one."[2] This incessant drive makes fighter pilots a valuable commodity, and as of late, the population of fighter pilots possessing this commodity has been diminishing.

To understand why the ranks of the fighter community are thinning, this chapter will seek the answer to three specific questions. First, does the fighter community have a retention problem? Second, what are the risks to the future of the AF if a retention problem does exist? Finally, if a problem does present itself, is there anything the AF can do to fix it? This chapter discusses the first two questions, while Chapter VII addresses the third. Pursuit for answers to these questions occurred through four primary means: retention report analysis, historical ACP take rate analysis, interviews and an electronically administered survey.

Analysis of the *Rated Officer Retention Analysis* reports from 2000 through 2012 revealed key insights into AF requirements during this period. Each report gives a narrative summary of the retention trends for the previous Fiscal Year (FY) for rated aircrew. Each report includes retention information pertaining to pilots, combat systems operators (CSO), and air battle managers (ABM).[3] For this study, focus remained with the sections pertaining to rated pilots. Also included in the reports are the Aircrew Continuation Pay (ACP) take rates for the previous FY. Graphed out over several years, the retention rates and ACP take rates provide useful historical data, but do little for predictive planning.

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[2] Olds et al., *Fighter Pilot,* 291.
[3] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 11 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).

Interviews with AF squadron commanders from the communities of interest provide rigor to the historical data for predictive planning.

Interviews conducted with currently sitting, or recently graduated squadron commanders provide insight into the retention of pilots from each community. In each community of interest, the squadron commander is the first officer in a rated pilot's chain of command. Interviews with the squadron commander are invaluable for the raw information gleaned from those they lead. Information collected from these interviews is anecdotal, contextually susceptible to unique variables within the community, the base, the weapons system and even the individual squadron commander. Never the less, the visceral responses provide valuable data not reflected in a historical graph or an analysis of retention rates. Survey results gathered from students at Air University provided a tertiary means of answering the aforementioned questions.

Air University (AU) and the students attending Professional Military Education (PME) courses within create an opportune community for survey. As such, a simply titled *Pilot Retention* survey, administered online from 11 February through 28 February 2013, targeted rated officers in the fighter, bomber and remotely piloted aircraft (RPA) communities attending AU courses at Maxwell Air Force Base (AFB), Alabama.[4] Directions for the survey, as well as a guarantee of anonymity, accompanied the invitation for survey completion sent by E-mail to each potential participant.[5]

In total 118 personnel were solicited to complete the survey, of which 93 complied, representing an overall response rate of 79 percent. [6]

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[4] See Appendix D for the actual survey administered to Air University students from Maxwell AFB.

[5] See Appendix E for an example of the E-mail sent to each prospective survey respondent.

[6] While it was necessary to highlight the survey responses for the entire community of study, the remainder of this chapter and all future chapters will focus on the results

Table 4 depicts that complete breakdown of solicitations and responses by community and by the branch of PME School.[7] From the respondent results, one can see that 64 of the 71 fighter pilots solicited responded to the survey, equating to a 90 percent response rate. Additionally, the fighter pilot community represented the largest surveyed group at AU, making up 69 percent (64 of 93) of the total surveyed community.

Table 4: Total Survey Solicitations /Responses by Major Weapons System (MWS) and Professional Military Education (PME) School.

	Fighter	Bomber	RPA	Total Solicited	Actual Number of Respondents	Percentage of School Responses	Percentage of Total Respondents
SOS	24	10	19	53	37	70%	40%
ACSC	30	6	2	38	32	84%	35%
SAASS	7	6	1	14	12	86%	13%
AWC	10	2	1	13	11	85%	12%
Total Solicited	71	24	23	118			100%
Actual Number of Respondents	64	16	13		93		
Percentage of Community Responses	90%	67%	57%			Final Numbers: 118 solicited, 93 respondents. 79% response rate.	
Percentage of Total Respondents	69%	17%	14%	100%			

Source: Author's original work developed from the electronic survey given to Squadron Officer School (SOS), Air Command and Staff College (ACSC), School of Advanced Air and Space Studies (SAASS) and Air War College (AWC) from 11 February to 28 February 2013.

Using the number of fighter pilots serving on AD in FY 2012, which stood at 3,899, this data pool would require a sample size of 350 fighter pilots to reflect the opinion of all AF fighter pilots with a 5 percent margin of error. Similarly, of the 71 fighter pilots assigned to AU at the time of survey, 61 total responses would allow for accurate representation of fighter pilots assigned to AU at the time of survey. With 64 actual respondents, the margin of error for AU fighter pilots achieves a 5

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from individual communities unless specific reference to the larger group will add credence to the argument.

[7] Note that in most cases, percentages reported are whole numbers, which may not sum to 100 percent due to rounding. Percentages for the total community of study come from the number of respondents that completed the survey.

percent margin of error. As such, the remainder of this chapter will focus on the fighter community, beginning with the question of retention.

Is there a Retention Problem in the Fighter Community?

A majority of those surveyed from the fighter community believe that the AF has a retention problem. Specifically, when asked if their "flying community is currently experiencing, or is expected to have a retention problem in the near future," 96 percent (61 of 64) of the respondents *agreed* or *strongly agreed*.[8] Additionally, 73 percent (47 of 64) of those surveyed believe that the rated officers leaving before reaching retirement age are among the "best" officers from their community.[9] This exodus is occurring on the heels of the "Great Recession," a period reminiscent of the "Great Depression" in both depth and breadth of destabilization in the labor and economic markets.[10] In fact, 81 percent (52 of 64) of respondents believe fighter pilots are leaving the Active Duty, despite the poor economic environment.[11] Analysis of fighter pilot losses in the past 12 years shows a period of relative stability punctuated by the beginning of what could equate to greater than normal losses.

From 2000 until 2011, the loss of fighter pilots has slowed substantially. In FY 2000, there were 903 fighter pilots eligible for loss.[12] Out of the 903 eligible, 529 fighter pilots were lost with 315 due to separations. Since then, the number decreased to an average number of

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[8] Results tabulated from Section II, Question 15 of the *Retention Survey,* sorted for fighter pilot answers.
[9] Results tabulated from Section II, Question 16 of the *Retention Survey,* sorted for fighter pilot answers.
[10] Barry Eichengreen and Kevin H. O'Rourke, "A Tale of Two Depressions," *VOX,* 8 March 2010, www.voxeu.org/article /tale-two-depressions-what-do-new-data-tell-us-february-2010-update (accessed 3 March 2013).
[11] Results tabulated from Section II, Question 18 of the *Retention Survey,* sorted for fighter pilot answers.
[12] Pilots eligible for loss from the operational flying community include those who qualify for separation or retirement from Active Duty, advance to Colonel (O-6), are grounded or subsequently removed from active flying status for other reasons.

102 fighter pilots lost to separation from 2001 through 2011.[13] Despite an anomalous spike of 149 fighter pilot separations in 2007 because of force shaping measures, the number of losses remained low.[14] In 2012 however, rated officer losses in the active duty Air Force were significantly higher than in previous years. Pilot inventory losses due to separation or retirement increased greatly, with 588 more separations than" in 2011.[15] Figure 8 depicts fighter pilot losses per year since FY 2000. Note the spike in FY 2012 losses. AFPC acknowledges that the "increase in separations was to be expected as the number of pilots eligible to separate in FY 2012 was much larger than the past two FYs."[16]

The increase is attributed to those [pilots] with [an] 8 year Undergraduate Pilot Training (UPT) Active Duty Service Commitments (ADSC) aging out of the system, resulting in a separation eligible pool nearly 40 percent greater than in FY 2011."[17] Decreased ACP take rates by fighter pilots in 2012 bolster the concern.

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[13] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).
[14] The Force shaping program is a series of voluntary and involuntary separation initiatives implemented to reduce overall end strength and right size over-manned career fields. For more information, since the AF article at http://www.af.mil/news/story.asp?id=123241583 .
[15] Air Force Personnel Center, "Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager Cumulative Continuation Rate (CCR) and Total Active Rated Service (TARS) FY 12 Report," Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0 (accessed 10 December 2012).
[16] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 2.
[17] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 2.
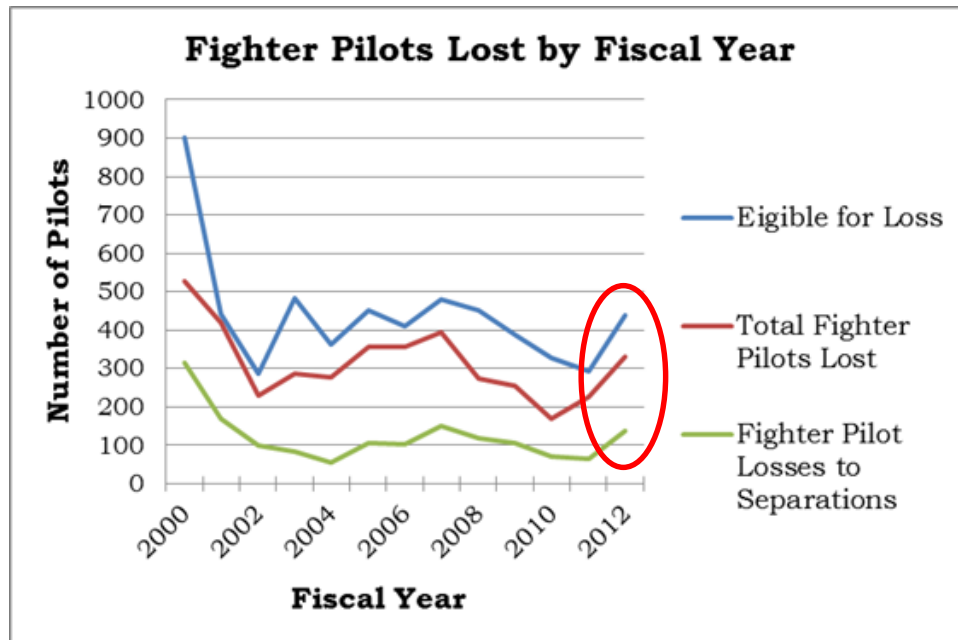
Figure 8: Fighter Pilot Losses
Source: Author's original work developed from 2000-2012 AFPC Rated Officer Retention Analysis Reports.

Fighter pilots have experienced historically lower ACP take rates as compared to the average ACP take rate of the entire AF rated community since 2005.[18] The average ACP take rate for all rated communities in the AF was 68 percent from 2005 until 2012.[19] In that same period, the fighter community averaged an ACP take rate of 62.2 percent.[20] See Figure 9 for the fighter pilot ACP take rates by Fiscal year since 2005.

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[18] Air Force Personnel Command began tracking ACP take rates by individual weapons systems beginning in 2005. Data before this report only highlights the total ACP take rate for all rated communities combined.

[19] *Air Force Personnel Center (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0 (accessed 18 December 2012).

[20] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).
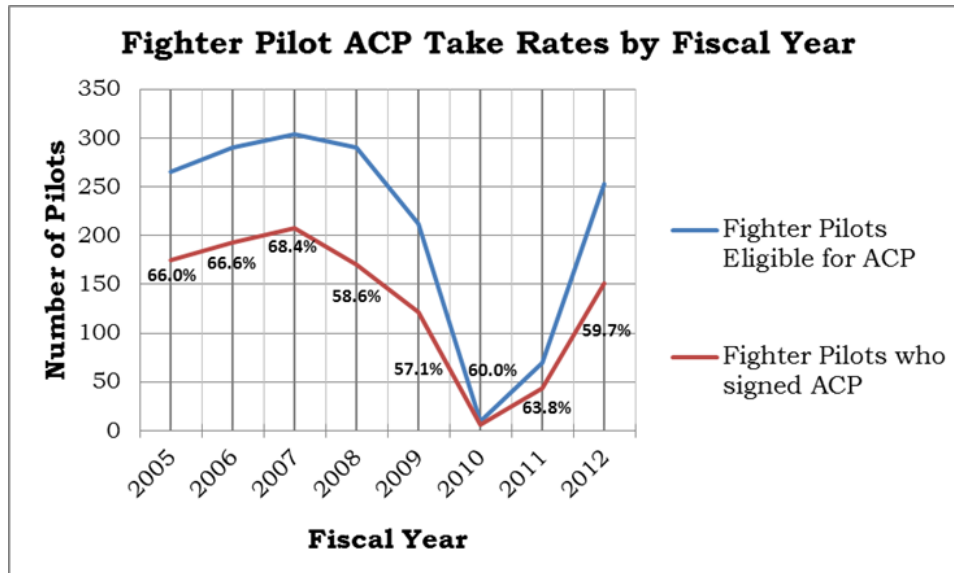
Figure 9: Fighter Pilot ACP Take Rates
Source: Author's original work, developed from 2012 AFPC Officer Retention Analysis Reports.

The Fighter ACP take rate for FY 2012 was 59.7 percent, with 151 out of 253 eligible fighter pilots taking the bonus, whereas the total average across all rated communities was 66.5 percent.[21] See Table 5 for the comparison between all pilot communities and the fighter community. More interesting is the number of weapons systems experiencing substantially lower ACP take rates when compared to the entire rated community.

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[21] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 4.

Table 5: ACP Take Rate Comparison Between all Rated Communities and the Fighter Pilot Community

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Intial 5 Yr. 50%)		Non-Taker	Take Rate Percentage
Initial	550		277	***66.5%***
Fighter Pilots	Initial 5 Year	Initial 5 Year 50%	Non-Taker	Take Rate Percentage
Initial	31	120	102	***59.7%***
Uncommitted	0	0	13	

Source: Author's original work developed from 2012 ACP Agreements Finalized, sorted by all rated communities and the fighter community.

Isolating the individual weapons systems from the whole fighter community presents equally interesting, and disturbing information. The newest and most advanced weapons systems, which arguably require the most training but retain a high level of prestige, are undergoing fighter pilot losses in excess of those experienced by the fighter and rated communities as a whole. For example, the F-15C community experienced a 52.4 percent ACP take rate, while the F-22 experienced an astoundingly low take rate of 46.4 percent.[22] Of the seven fighter communities included in this survey, four of them were substantially below the overall rated pilot ACP take rate.[23] See Table 5 for a complete list of ACP take rates for the seven fighter communities of interest as compared to the entire rated community.

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[22] *Air Force Personnel Statistics (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0 (accessed 18 December 2012).
[23] *AFPC: Static Reports,* "MWS ACP Summary," 2012.

It is important to note that this examination of the 2012 ACP takes rates is a single data point, a snapshot in time. Historically speaking, the AF experienced drastically lower ACP take rates from FY 1997 to FY 2002, averaging 35.6 percent.[24] From FY 2002 through FY 2011, the

Table 6: ACP Take Rate Comparison Between all Rated Communities and Fighter Major Weapon Systems

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Intial 5 Yr. 50%)		Non-Taker	Take Rate Percentage
Initial	550		277	*66.5%*
Fighter Pilots by Weapons System	Initial 5 Year	Initial 5 Year 50%	Non-Taker	Take Rate Percentage
F-15C	4	18	20	*52.4%*
Uncommitted	0	0	6	
F-15E	5	14	9	*67.9%*
Uncommitted	0	0	0	
F-16	9	45	44	*55.1%*
Uncommitted	0	0	3	
F-22	3	10	15	*46.4%*
Uncommitted	0	0	0	
F-35	0	1	1	*50.0%*
Uncommitted	0	0	0	
A/OA-10	9	26	9	*79.5%*
Uncommitted	0	0	3	
Fighter Test Pilot Initial	1	6	2	*77.8%*
Uncommitted	0	0	1	

Source: Author's original work developed from 2012 ACP Agreements Finalized, sorted by all rated communities and the specific fighter Major Weapons Systems (MWS).

ACP take rate increased to an average of 68 percent.[25] Comparatively, the 66.5 percent take rate experienced in FY 2012 is not far off from the statistical average over the past 9 years.[26] The concern is the initial indication of loss, specifically in critical tactical weapons systems. If money is not incentivizing fighter pilots to stay on AD, then what variables are driving them out?

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[24] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 3.
[25] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 3.
[26] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 4.

The primary variables affecting the retention of fighter pilots fall into two distinct categories; namely operations tempo and family stability. Survey respondents rated these two categories as *very important* or *quite important* at higher percentage than air force identity, promotion and recognition, money, and other life goals.[27] Notably, of the surveyed fighter pilots, 91 percent rated operations tempo and 91 percent rated family stability as being either *very important* or *quite important* to current retention of fighter pilots.[28] See Table 7 for the influential variable ratings from the fighter community.

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[27] Descriptors included with the influential variables helped clarify the categories for survey respondents. The descriptors used by variable are: Air Force Identity (AF messaging, mission focus, competency), Money/Compensation (base pay, cost of living, bonuses, flight pay, benefits), Promotion/Recognition (Master, PME), Family/Stability (base location, quality of life, move timing), Operations Tempo (deployments, manning, flying opportunities).

[28] Results tabulated from Section II, Questions 7-12 of the *Retention Survey,* sorted for fighter pilot answers.

Table 7: Fighter Pilot Retention Variables

	SCALE					
	Very Important	*Quite Important*	*Fairly Important*	*Slightly Important*	*Not important at all*	*Total Responses*
Air Force Identity (AF Messaging, Mission Focus, Competency)	14	20	15	12	3	**64**
	22%	31%	23%	19%	5%	
Money / Compensation (Base Pay, COLA, "Bonuses", Flight Pay, Benefits, etc.)	16	13	25	9	1	**64**
	25%	20%	39%	14%	2%	
Promotion / Recognition (Masters, PME)	17	15	17	13	2	**64**
	27%	23%	27%	20%	3%	
Family / Stability (Base Location, Quality of Life, Move Timing)	38	20	5	1	0	**64**
	59%	31%	8%	2%	0%	
Ops Tempo (Deployments, Manning, Flying Opportunities)	40	18	4	2	0	**64**
	63%	28%	6%	3%	0%	
Other Life Goals	13	25	15	6	3	62
	21%	40%	24%	10%	5%	
Table Summary	**138**	**111**	**81**	**43**	**9**	

Author's original work developed from the electronic survey.

Interestingly, money and compensation received the least number of *very* or *quite* important ratings, at only 45 percent.[29] As such, the current retention methods used by the AF to retain rated aircrew, like the ACP and the Aircrew Incentive Pay (ACIP) may not have the desired effect of retaining the best personnel within each community. Given that money is the primary means by which the AF attempts to retain pilots from each community, it requires its own narrative. Before that dialogue takes place, however, the most influential variables identified by fighter pilots, namely operations tempo and family, necessitate a discussion first.

In a hearing before the U.S. Senate Subcommittee on Readiness and Management Support, General Phillip M. Breedlove offered testimony pertaining to the readiness of the USAF. He succinctly states that in

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[29] Results tabulated from Section II, Question 8 of the *Retention Survey,* sorted for fighter pilot answers.

2013 "we will be the smallest we have been since the inception of the U.S. Air Force in 1947. Our aircraft are old, older than they have ever been, with an average age of our fighters at 22 years."[30] As discussed in chapter 2, the means to pay for the modernization of the fleet comes from smaller force structure. Nonetheless, as General Breedlove describes, a smaller force structure does nothing to satiate "an increasing demand for airspace and cyber capability, which is evident in our Nation's new Defense Strategic Guidance."[31] Rebalancing of the force structure to preserve readiness while not exceeding deployed-to-dwell ratios across the entire force is critical, but current squadron commanders say that it is not working the way it should.[32]

Squadron commanders across the fighter community are dealing with manning levels and deployment rates that are eroding the foundation of their squadron. A recently graduated F-22 squadron commander commented that a normal 18 Primary Aircraft Authorized (PAA) squadron is authorized a 1.25:1 crew ratio (CR), which equates to 22.5 assigned pilots. [33] As part of the Total Force Initiative (TFI), however, his squadron maintains a CR set at 16 AD pilots, plus the commander and director of operations.[34] Instead of operating at this authorized number, both squadrons at his base hover between 12 and 14 assigned AD pilots (75 to 87.5 percent of authorizations), leaving the

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[30] Senate, *Hearing to Receive Testimony on the Current Readiness of U.S. Forces in Review of the Defense Authorization Request for Fiscal Year 2013 and the Future Years Defense Program,* 112th Cong., 2nd sess., 10 May 2012, 10.

[31] Senate, *Hearing to Receive Testimony on the Current Readiness,* 11.

[32] Senate, *Hearing to Receive Testimony on the Current Readiness,* 11.

[33] Primary Aircraft Authorized (PAA) is the total number of aircraft assigned to support the unit's primary mission. Crew Ratio (CR) defines the number of pilots required to fulfill operational requirements based on the PAA, and is established by Air Force Instruction (AFI) 38-201 and the Unit Manning Document. By multiplying the PAA by the CR you get the number of pilots required for a squadron to maintain combat mission ready.

[34] The commander (first in command) and the director of operations (second in command) do not count against the crew ration (CR), which explains their delineation from other pilots.

ANG to fill the remaining positions.[35] Compared to a typical fighter squadron manned at 22.5 pilots, he starts the day 8 to 10 AD pilots below this number, and 2 to 4 pilots below his authorization.[36] This environment puts the AD and the ANG pilots in uncomfortable positions.

With fewer pilots to accomplish the same mission, execution of the daily flying schedule occurs on a thin margin. In an 18 PAA fighter squadron, a typical daily flying schedule consists of an *8pit8turn6.*[37] This requires a minimum of 14 pilots to fly the aircraft, and does not include the four additional personnel required for safe flying operations. These additional personnel include squadron leadership, an operations supervisor (TOP3), Supervisor of Flying (SOF) and a safety officer. When added to the pilots already required to fly, minimum personnel required increases to 18 for a daily flying schedule, assuming there are no pilots that are sick, on leave, or unavailable.[38] With 12 to 16 assigned AD pilots, this means at least 2 to 6 ANG pilots must be available to fill the AD shortfalls in the schedule.

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[35] LtCol P. Fesler (former 27th FS/CC, Langley AFB, VA), interviewed by author, 29 January 2013.

[36] The math for tracking AD and ANG manning under the TFI construct is complex, and requires further clarification. For an 18 PAA squadron, manned at a 1.25 CR, 18 x 1.25=22.5. Round up to 23 + CC & DO = 25. In a 21 PAA squadron (Both the 27 and 94 FS are now 21 PAA) 21x1.25=26.25. Round down to 26 + CC & DO=28. TFI reduced manning to 16 = CC & DO. This occurred prior to the change to 21 PAA and did not adjust. The numbers were based on a model that fills out three 6 ship UTCs and one 3 ship UTC to a 1.5 manning ratio using an alternating AD-ARC-AD-ARC scheme. By this logic, each 6 ship UTC requires 9 pilots. UTCs 1 & 3 require 18 pilots. Hence the current TFI round table mandated AD authorization of 16 + CC & DO = 18 pilots. Currently manning in the Langley squadrons hangs out in the 12-14 range which equals between 75 and 87.5% of authorized.

[37] An *8pit8turn6* refers to eight pilots flying the first eight missions in the morning. After landing, those eight aircraft will take on gas in the "hot pit" while still running, and then fly a second mission in the mid-afternoon. Once those eight aircraft have landed, six of those aircraft *turn* to the afternoon missions, flown by six different pilots.

[38] Air Force Instruction mandates these four additional positions for local flying operations. Leadership refers to the Squadron Commander or designated representative, Top 3 is in charge of executing the flight schedule, the Supervisor of Flying (SOF) maintains oversight of airborne and airfield operations and the Safety officer is available for emergencies. These programs are controlled by Air Force Policy Doctrine (AFPD) 11-4, *Aviation Service: Flying Operations;* Air Force Instruction 11-418, *Operations Supervision;* AFPD 91-2, *Safety Programs: Safety,* and AFI 91-202, *Air Force Mishap Program.*

A preponderance of ANG pilots do not fly with their unit as their primary profession. Most hold other careers in the civilian sector and will fly with their unit only a few times a month to maintain required currency and qualifications. To account for AD shortfalls as part of the current TFI construct, many part time guardsmen occupy permanent billets within operational wings, in addition to their part time flying duties.[39] With regulated availability, placement of traditional guardsmen in these positions creates an unenviable constraint of full-time job requirements with limited extra hours. As a result, pilots from the AD pick up these tasks, which would otherwise go unaccomplished until the guardsman next reported for duty. Just as reduced manning in the flying squadrons has increased operations tempo, fewer flying squadrons have increased deployment rotations and dwell rates.

Reductions in the total number of fighter squadrons place an extra burden on those remaining to cover the same number of taskings. Reduction from 60 to 54 combat coded-squadrons "took into consideration the Air Force's surge tempo, the expected future deployment tempo, [and] the need to increase means to accumulate fighter pilot experience."[40] In 2010, the expected deployment time increased from 120 to 179 days for most active duty airmen, as 71 percent were already deploying outside the 120-day baseline.[41] According to interviewed squadron commanders, fighter squadrons are experiencing deployed-to-dwell rates as high as 1:2, going against the 1:3

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[39] Introduced in 2004, the Total Force Integration (TFI) initiative utilizes all three components of the Air Force, specifically the Regular Air Force or Active Duty, the Air National Guard and the Air Force Reserve to tap into the inherent strength and experience of all three Air Force components to increase overall combat capability.

[40] Official Site of the U.S. Air Force, "United States Air Force Posture Statement: 2012." U.S. Air Force, February 28, 2012, 6, (accessed 30 Jan 2012), https://www.my.af.mil/USAF/AFP40/d/s6925EC1336580FB5E044080020E329A9/Files/ReadingRoom/NonNucArticles/2012AFPostureStatement_HASC.pdf

[41] Jon Hanson, "Air Force Officials Increase Deployment Times," *Air Force Print News,* 10 September 2010, http://www.af.mil/news/story.asp?id=123221320 (accessed 4 March 2013).

desired by the AF.[42] Just as increased dwell rates for fighter squadrons create frustrations for the commander, individual deployments of highly experienced fighter pilots to non-flying positions exact a similar visceral reaction.

Deployment of experienced fighter pilots to non-flying positions is a growing point of contention throughout the CAF. When asked to provide the commander of United States Air Forces in Europe (COMUSAFE) with reasons for poor fighter pilot retention, the report showed the increase in 179- and 365-day Temporary Duty (TDY) deployments manifested as a causal factor.[43] Anecdotally, squadron commanders have also attributed the short notice notification of extended TDYs to the departure of several Weapons Instructor Course (WIC) graduates, as highlighted in the previous chapter.[44]

Work ethic and experience make "patch-wearers" ideal for many jobs. However, if these jobs do not explicitly require their unique skill set, the short-term loss of their expertise while deployed will pale in comparison to the long-term loss of their service. Use of these officers must be the exception, not the rule, otherwise the AF runs the risk of burning them out too soon and losing their skill sets for the AD. By one squadron commander's account, if a Weapons School Instructor is selected for a 1 year deployment at the 6 month point of a 32 month assignment (2 year, 8 months), that officer has essentially been made ineffective as an Instructor for the rest of his assignment.[45] The AF can

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[42] Deployed-to-dwell rates refer to the amount of time an airman will spend deployed, as compared to the amount of time an airman will spend at home. A 1:2 dwell rate means that for every 1 month a solider is deployed, they can expect to spend 2 at home. Currently, the Air Force controls the dwell rates through the Air Expeditionary Force system, explained more in Chapter 5. This information came from LtCol C. Craddock, (27th FS/CC, Langley AFB, VA), interviewed by author, 21 February 2013.
[43] LtCol Pettus, United States Air Forces in Europe (USAFE) Commanders Action Group (CAG), to General Mark A. Welsh III, commander, USAFE, bullet background paper, 3 June 2011.
[44] Craddock, Interview.
[45] 6 months of spin-up training to be proficient as a Weapons School Instructor + 3 months of deployment preparation + 12 months of Deployed Operations + 1 month of

no longer afford to invalidate particular skillsets and the transfer of critical knowledge in the interest of contributing to the joint fight. This type of "all-in" thinking was important for the past decade, but it is time for the Air Force to refocus on its core mission of providing airpower for national security while simultaneously addressing an operations tempo problem.

Symptomatic of an increased operations tempo is the decreased stability for family. In response to COMUSAFE's request for information pertaining to poor retention, many fighter pilots stated, "additional duties and non-flying training were crowding out both flying proficiency and family time," and that the "difficulties navigating the Air Force bureaucracy to support their families" was increasing.[46] Shoring up this account is a graduated F-16 commander who states, "Operational AD fighter squadrons did not hold the appeal for many of the talented pilots because of operations tempo and family stability."[47] As a result, "it always seemed like a greater quantity of the quality leaders left AD."[48] Comments from surveyed junior officers are reflective of these squadron commander observations.

Throughout the AU survey, fighter pilots resoundingly agreed that a symptom of increased operations tempo was decreased family stability, which has a direct influence on retention rates. Paraphrasing one fighter pilot, money and operations tempo lead back to family life, and if a "pilot's family is not happy or satisfied, nothing will keep him or her in."[49] Another pilot ties stability to family benefits and the poor economy, stating that if you "mess with benefits, add to much strain to my family, value additional duties over primary ones and fail to listen to

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reconstitution + 6 months of spin-up training to become proficient as a Weapons *School Instructor + 2 months of PCS preparation = 30 months. This leaves 2 months for solid instruction.*
[46] Pettus, bullet background paper, 2011.
[47] LtCol C. Steffens, (former 14th FS/CC, Misawa AB, Japan), interviewed by author, 7 February 2013.
[48] Steffens, Interview.
[49] Anonymous response from Air University (AU) *Retention Survey.*

us [then] we are going to bail."[50] He goes further, claiming the "AF has not realized the full extent of the problem, because our economy has been so bad" and that the airline hiring boom will cause pilots to flee the service like they did in the 1990s."[51] Deductive logic would suggest that failure to take care of families and address operations tempo would continue to drive fighter pilots away from AD. Results from the AU *Pilot Retention* survey, the AFPC *Retention Analysis* reports, and anecdotal comments from squadron commander and fighter pilots bolster this conclusion. As the economy improves and airline hiring increases, the Air Force will incur severe risk associated with decreasing retention of their "best" fighter pilots.

What are the Risks for the Fighter Community?

When asked specifically about the risk associated with a retention problem within the fighter community, the answers were disturbing. Of the surveyed fighter pilots, 61 percent (39 of 64) *disagreed* or *strongly disagreed* that their "squadron has been able to maintain a consistent level of manning at the current rate of pilot separation from the AF."[52] As discussed earlier, fighter squadrons are struggling to achieve minimum manning for daily operation training, let alone combat mission readiness.

The decline in combat mission readiness is not lost on the surveyed fighter pilots. Of those surveyed, 67 percent (43 of 64) *disagreed* or *strongly disagreed* with the statement, "combat readiness of my squadron has not been affected by the current rate of pilot separations from the AF."[53] The short-term tactical effects of poor fighter pilot retention will manifest again in the future as less experienced personnel fill the resulting void. Many of the "best" fighter pilots depart

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50 Anonymous response from Air University (AU) *Retention Survey.*
51 Anonymous response from Air University (AU) *Retention Survey.*
52 Results tabulated from Section III, Question 22 of the *Retention Survey,* sorted for fighter pilot answers.
53 Results tabulated from Section III, Question 23 of the *Retention Survey,* sorted for fighter pilot answers.

for the guard and reserves to dampen the operations tempo while providing more stability for their family. Although the TFI construct mitigates the tactical loss of skills and talents, the loss of the "best" in long-term strategic leadership for the AD is worrisome.

Tactical problems resulting from poor retention of the "best" officers in the fighter community will pale in comparison to the operational and strategic problems posed in the future. Survey results show that 55 percent (35 of 64) of surveyed fighter pilots believe that the "best" pilots leaving AD are the same officers they expected to see leading the AF as commanders at the squadron commander level and higher.[54] Interestingly, nearly a third of the respondents (19 of 64) expressed a neutral opinion to this question, perhaps indicating a tendency to hope for the best while fearing the worst. Regardless, the commanders who lead at the squadron commander level and above have a significant impact on the security of the United States.

Leadership at the operational and strategic level is born out of success and experience at the tactical level. While not every airman who shows tactical brilliance is destined to find success as a leader at the higher levels of war, success in the tactical arena is generally a requisite for consideration. When asked if the security of the United States would be weaker due to the "best" officers electing to separate from AD as opposed to staying on past their Undergraduate Pilot Training (UPT) Active Duty Service Commitment (ADSC), 56 percent (36 of 64) of respondents *agreed* or *strongly agreed* that it would in fact be weaker.[55] If departure of the "best" creates the perception of weaker United States security, then current senior leaders need to be aware of this viewpoint.

Fighter pilots are not confident that senior leaders have a good understanding of the quantity and quality of rated officers leaving AD.

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[54] Results tabulated from Section III, Question 24 of the *Retention Survey,* sorted for fighter pilot answers.
[55] Results tabulated from Section III, Question 25 of the *Retention Survey,* sorted for fighter pilot answers.

Nearly two thirds of those surveyed (41 of 64) *disagreed* or *strongly disagreed* that senior leaders possessed an accurate picture pertaining the departure of the "best" fighter pilots.[56] Paraphrasing one survey respondent, the quantity of pilots being lost is easy for the senior leaders to gather; however, the quality of those officers is lost on them."[57] Without the full picture, any perception of disconnect between senior leaders and the fighter pilots they lead, will cleave an equally large divide between those who stay and those who leave. As a starting point to bridge the divide, the next section presents findings for the fighter community, gathered from the *Pilot Retention* survey.

Findings and Summary for the Fighter Pilot Community

The results of this case study reveal that fighter pilots surveyed at AU believe the most influential variables on their community for retention are operations tempo and family stability. See Table 8 for the fighter results. Furthermore, 80 percent (51 of 64) *agreed* or *strongly agreed* that the variables that influence their decisions to stay on or leave active duty have changed since they initially completed pilot training.[58] Interestingly, 46 percent (29 of 63) of respondents *disagreed* or *strongly disagreed* that the ACP did a good job of retaining the "best" rated officers from the fighter community.[59] That said, the opportunity to fly the newest and most advanced weapons systems did not have a significant influence on retention either, with 55 percent (35 of 64) of those surveyed *disagreeing* or *strongly disagreeing* with that sentiment, and another 16 percent (10 of 64) expressing a *neutral* opinion.[60] To

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[56] Results tabulated from Section III, Question 26 of the *Retention Survey,* sorted for fighter pilot answers.
[57] Anonymous response from Air University (AU) *Retention Survey.*
[58] Results tabulated from Section IV, Question 32 of the *Retention Survey,* sorted for fighter pilot answers.
[59] Results tabulated from Section IV, Question 30 of the *Retention Survey,* sorted for fighter pilot answers.
[60] Results tabulated from Section IV, Question 31 of the *Retention Survey,* sorted for fighter pilot answers.

retain more of the "best" officers, surveyed fighter pilots identified areas specific to their community that require adjusted focus.

Table 8: Fighter Synthesis

	Air Force Identity	Money & Compensation	Promotion & Recognition	Family & Stability	Operations Tempo	Other Life Goals
Fighter Pilots	53.10%	45.30%	50.00%	90.60%	90.60%	61.00%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62

Author's original work developed from the electronic survey.

Fighter pilots were clear that more of the "best" rated officers would remain on AD if key items received extra attention. Specifically, 92 percent (59 of 64) *agreed* or *strongly agreed* that additional focus on the mission vice administrative action would contribute to increased retention.[61] Additionally, 88 percent (56 of 64) believe an increased focus on tactical competency as opposed to career progression would bolster retention of the "best."[62] While it is apparent that fighter pilots would like to spend more time training for their primary role in the AF, addressing the tactical issues is only part of the solution.

Contributory to fighter pilot malcontent is the perceived dichotomy between AF messaging about the mission as compared to AF spending for the mission. While only 53.1 percent identified AF identity as being an influential variable for retention, 63 percent (40 of 64) *agreed* or *strongly agreed* that closer alignment of AF messaging and spending would positively affect retention.[63] However, the moderate response rate concerning AF messaging pales in comparison to the importance of stability.

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[61] Results tabulated from Section IV, Question 34 of the *Retention Survey,* sorted for fighter pilot answers.
[62] Results tabulated from Section IV, Question 35 of the *Retention Survey,* sorted for fighter pilot answers.
[63] Results tabulated from Section IV, Question 36 of the *Retention Survey,* sorted for fighter pilot answers.

Highlighted previously, family stability tied for the highest ranking of retention influences for this group. If family stability and welfare was better than it is currently, 86 percent (55 of 64) of those surveyed *agree* or *strongly agree* that retention of the "best" would improve.[64] Interestingly, only 28 percent (18 of 64) thought the "best" were leaving for better opportunities in the Guard or Reserve, and fewer still, specifically 21 percent (13 of 64), thought that the "best" were leaving for better opportunities in the civilian sector.[65] These indicators, along with the aforementioned pointers in this section, provide insight as to where the AF can begin to solve the problem of fighter pilot retention.

Despite the poor economic environment, fighter pilots are leaving AD as indicated by lower than average historical ACP take rates since 2005, and decreased retention rates in FY 2012. Anecdotal comments, survey results, and the ACP take rates indicate that money is not the issue. Further, the fact that the newest and most advanced systems are experiencing the lowest retention rates, perhaps indicates a greater problem amongst those hand selected to incorporate new technologies into the AF.

Retention methods like the ACP and ACIP are doing little in their current constructs, to slow the exodus of fighter pilots. However, there has been little attention given to <u>what</u> specific variables are influencing retention. Lack of consistency pertaining to exit surveys administered to those separating from AD, and the deficiency of tracking methods to track pilots by community and weapons system through the first six to twelve years of their career, leaves AF leaders relying on historical trends like ACP take rates and historical retention matrices to speculate about future models.

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[64] Results tabulated from Section IV, Question 37 of the *Retention Survey,* sorted for fighter pilot answers.
[65] Results tabulated from Section IV, Question 38-39 of the *Retention Survey,* sorted for fighter pilot answers.

Contributory to current levels of poor retention is the ease of transition between the AD and the guard or reserves. The increasing trend of collocated AD, guard and reserve units puts all three components in an uncomfortable position. While each serves to accomplish a mission for the United States, they do so in very different ways, and as such, their close proximity and sharing of assets creates a difficult position for each to navigate. Personnel losses in the tactical regime are essentially a zero-sum game, but the long-term leadership lost in the strategic regime is very much a negative sum game for the AF.

Decreased manning in fighter squadrons, increased Theater Security Package (TSP) deployments and higher deployed-to-dwell rates increases the rate at which fighter pilots reach burn out. Recapitalization of human capital must occur at a rate coincident with our material assets, as exemplified by the use of WIC graduates.[66] These low-density high demand officers are a necessity for the future of the AF, and as such, and retention of their skillsets is existential to the tactical credibility and strategic capability of the AF in the future.

Continued loss of flying hours, reduction in training opportunities, an increase in airline hiring and frustrations with careerism leaves many fighter pilots feeling cornered by a situation that shows no indication of improving. The retention of these officers will get worse, before it gets better unless the underlying variables affecting that retention is addressed by something other than the ACP program. As the findings in the next chapter illustrate, this is a sentiment shared by bomber pilots, albeit for contextually different reasons.[67]

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[66] Use of WIC graduates as the example in this thesis in not meant to infer they are the only officers necessitating recapitalization. Because of the scope of this paper, and the level of expertise attained by WIC graduates, they constitute a convenient example from which further debate about retention can develop.

[67] If you require more complete information pertaining to the survey responses from the Fighter community, please contact Major Brian Stahl at brian.stahl.2@us.af.mil

CHAPTER 4
The Bomber Community

*The greatest of all our assets, however, were the
wonderful pilots and air officers which this country
had created. They were filled with enthusiasm, with
the full knowledge that air power was the dominating
factor in the world's development, and with a perfect
willingness on their part to give up their lives to
demonstrating its usefulness and to bringing this
great, new development to the point that would make
America the world's leader in aviation.*

—General William "Billy" Mitchell
Winged Defense

Bomber pilots reflect the sustaining qualities of the United States: "Physical strength, judgment, emotional stamina, dependability, team play, discipline, and leadership."[1] Donald L. Miller uses these terms to describe the sought after qualities for a bomber pilot during testing and training programs used by the Air Force in World War II (WWII).[2] These terms are equally applicable to the qualities that have enabled the United States to maintain its preeminent place in the international community. Noteworthy is the inference that the Air Force (AF) recognized a fundamental difference in the traits that comprise a pilot ideally suited for different communities. Whereas fighter pilots required "rapid eye-hand coordination, aggressiveness, boldness, individuality, and a zest for battle," the bomber pilot required something different, something beyond the individual talents.

Bomber pilots exude different characteristic traits than fighter pilots, which mean they see things from a contextually different viewpoint. Colonel John C. Flanagan further elucidated the ideal profile of a bomber pilot, stating that bomber crews would gladly forego the

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[1] Donald L. Miller, *Masters of the Air: America's Bomber Boys who Fought the Air War against Nazi Germany* (New York, NY: Simon and Schuster, 2006), 285.
[2] Miller, *Masters of the Air,* 285.

hotshot pilot in the group in favor of one who could quickly assess a problem, recognize the life or death implications for himself and his crew, and quickly come to the best possible decision for all.[3] The perceived differences that existed between pilots of different communities in 1944 are contextually no different today. As such, the variables that influence bomber pilots should be contextually different from those that influence fighter pilots, even if those variables share the same semantic category.

This chapter will look at the same influential variables discussed in the previous chapter, but will contextually point out where the two communities differ from one another. Analysis of the *retention survey* data, historical Aircrew Continuation Pay (ACP) take rates, Air Force Personnel Center (AFPC) retention statistics, and anecdotal interviews and comments build a specific picture for the bomber community. This picture will serve as the basis for answering the three main questions. First, does the bomber community have a retention/potential retention problem? Second, what are the risks to the future of the AF if a retention problem does exist? Finally, if a problem does present itself, is there anything the AF can do to fix it? This chapter discusses the first two questions, while Chapter VII addresses the third.

Bomber pilots made up 20 percent (24 of 118) of the rated community solicited for the *Pilot Retention* survey given to AU students. Out of the 24 bomber pilots surveyed, 16 responded, equating to a 67 percent response rate. The bomber pilot community represented the second largest surveyed group at AU, making up 17 percent of the total number of respondents (16 of 93). [4] As a known limitation, the small size

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[3] This paraphrase came from a review of Donald L. Miller's book, *Masters of the Air,* which cited Colonel John C. Flanagan's report, titled "Report on Survey of Aircrew Personnel in the Eighth, Twelfth, and Fifteenth Air Forces," April 1944, 23, 141.28B in the Air Force Historical Research Agency archives.
[4] See Table 4 in Chapter III, titled *Total Survey Solicitations and Responses by Major Weapons System (MWS) and Professional Military Education (PME) School* for response comparisons.

of the available bomber population at AU will have an effect on the validity of the gathered data.

Because of the small sample size, the margin of error associated with the bomber responses is higher than desired. Using the number of bomber pilots serving on AD in FY 2012, which stood at 1,779, this data pool would require a sample size of 317 bomber pilots to reflect the opinion of all AF bomber pilots with a 5 percent margin of error. Similarly, of the 24 bomber pilots assigned to AU at the time of survey, 23 total responses would allow for accurate representation of bomber pilots assigned to AU with a 5 percent margin of error. With 16 actual respondents, the margin of error for AU bomber pilots is 20 percent.

Is there a Retention Problem in the Bomber Community?

Bomber pilots, much like fighter pilots, believe that the AF has a retention problem within their community. Out of 16 respondents, 82 percent (13 of 16) *agreed* or *strongly agreed* with the statement, the bomber flying community "is currently experiencing, or is expected to have a retention problem in the near future."[5] Out of those surveyed, 50 percent (8 of 16) *agreed* or *strongly agreed* that the rated officers electing to leave the AF before retirement age are among the "best" from the bomber community.[6] Further, 74 percent (11 of 16) felt that bomber pilots were electing to leave Active Duty in the midst of the recent economic downturn.[7] When combined with the loss of bomber pilots since FY 2000, the anecdotal opinions offered by bomber pilots may collectively indicate an increasing problem for bomber pilot retention.

Analysis of bomber pilot losses from FY 2000 through 2011 show a less stable retention environment than that experienced in the fighter community. From FY 2000 through FY 2012, the average number of

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[5] Results tabulated from Section II, Question 15 of the *Retention Survey,* sorted for bomber pilot answers.

[6] Results tabulated from Section II, Question 16 of the *Retention Survey,* sorted for bomber pilot answers.

[7] Results tabulated from Section II, Question 19 of the *Retention Survey,* sorted for bomber pilot answers

bomber pilots eligible for loss was 115, with 76 actually lost, 20 of which were due to separation. [8] Figure 10 depicts the historical loss rates for the bomber community since FY 2000.

Bomber Pilots Lost by Fiscal Year
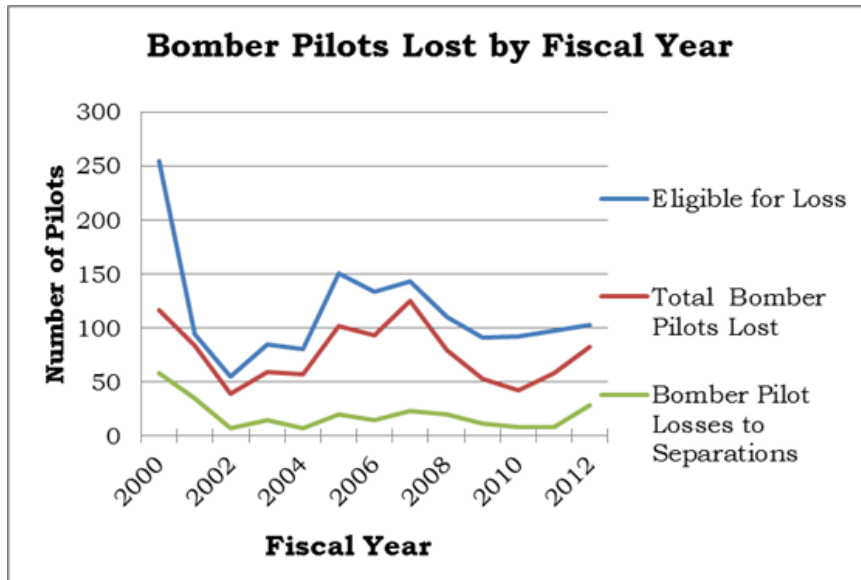
Figure 10: Bomber Pilot Losses
Source: Author's original work, developed from 2012 AFPC Officer Retention Analysis Reports.

In FY 2000, there were the most bomber pilots eligible for loss from the operational flying community, numbering 255 total pilots. Of the 255 eligible, 117 were actually lost, with 58 of those losses attributed to separation.[9] The number of eligible bomber pilots for loss dropped significantly from FY 2000 to 2002, reaching the lowest number in the past 12 years. In 2002, 55 bomber pilots were eligible for loss, of which 39 were actually lost with only seven attributed to separations.[10] This

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[8] Pilots eligible for loss from the operational flying community include those who qualify for separation or retirement from Active Duty, advance to Colonel (O-6), are grounded or subsequently removed from active flying status for other reasons.
[9] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).
[10] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).

number would jump considerably from 2005 through 2007, attributed to Palace Chase and other force shaping initiatives.[11]

Palace chase and force shaping are means by which AF senior leaders and personnel management control the size and shape of the force.[12] In 2006, then Lieutenant General Roger Brady, Air Force deputy chief of staff for manpower and personnel, described these measures as necessary to enable recapitalization of the force while controlling the increased operations and investment costs resulting from high operations tempo and the war on terror.[13] General Brady goes further, stating, "People are the most important thing we have. They are also the most expensive thing we have," which require continued balance with all other AF assets for an effective force.[14] After the three year period of rebalancing, losses of bomber pilots fell closer to the 12 year historical average. If recent trends continue however, higher losses attributed to separations could be in the near future, as indicated by decreased bomber pilot ACP take rates.[15]

Since 2005, the bomber community has seen its pilots accept ACP at higher take rates as compared to the rest of the AF rated community.[16] The average ACP take rate for all rated communities in the

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[11] For further information on force shaping, see the discussion in Chapter III as well as the AF article pertaining the topic at http://www.af.mil/news/story.asp?id=123241583.
[12] Palace Chase is an Air Force program, which allows qualified Active Duty (AD) personnel to transfer to the Air National Guard (ANG) or the Air Force Reserves (USAFR) before the expiration of their current Active Duty Service Commitment (ADSC). The Palace Chase program falls under Air Force Instruction (AFI) 36-3205, *Applying for the Palace Chase and Palace Front Programs,* 12 November 2009.
[13] Quoted in Master Sergeant Mitch Gettle, "Force Shaping Necessary for AF Budgetary Management," *Air Force Website,* 8 July 2006, http://www.af.mil/news/story.asp?id=123021367 (accessed 13 March 2013).
[14] Gettle, "Force Shaping Necessary," 2006.
[15] The discussion of Palace Chase and Force Shaping measures are applicable across all rated communities, and are contained within this chapter merely as a discussion point. This does not infer that palace chase or force shaping is more or less influential for bomber pilots as compared to any other rated officer.
[16] Air Force Personnel Command began tracking ACP take rates by individual weapons systems beginning in 2005. Data before this report only highlights the total ACP take rate for all rated communities combined.

AF was 68 percent from 2005 until 2012.[17] In that same period, the bomber community averaged an ACP take rate of 74.3 percent.[18] See Figure 11 for the bomber pilot ACP take rates by Fiscal year since 2005.
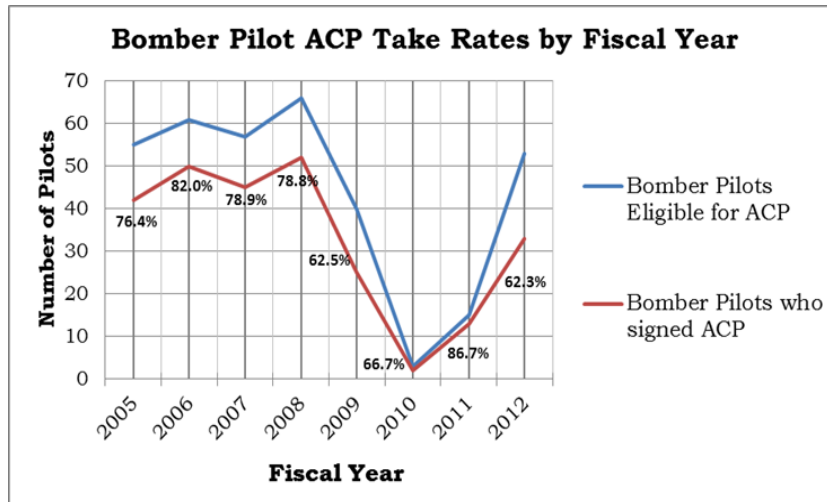
Figure 11: Bomber Pilot ACP Take Rates
Source: Author's original work, developed from 2012 AFPC Officer Retention Analysis Reports.

Interestingly, the lowest ACP take rate in the past 8 years occurred in 2012, with 62.3 percent of bomber pilots signing the ACP for an additional 5 years of service.[19] Further exacerbating the concern is the dichotomy between the most recent bomber pilots ACP take rates in FY 2012 and the rest of the rated AF.

Bomber pilots exhibited lower than average ACP take rate as compared to the entire rated AF community in FY 2012. While not as severe as fighter community numbers for the same year, as highlighted in Chapter III, the lower than average number for bomber pilots continues to indicate a retention problem within the CAF writ large. The

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[17] *Air Force Personnel Statistics (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0 (accessed 18 December 2012).
[18] Compiled from a review of the Rated Officer Retention Analysis Reports from FY 2000 through FY 2012, provided by Air Force Personnel Center (AFPC/DSYA).
[19] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 3.

ACP take rate for bomber pilots was 62.3 percent in FY 2012, with 33 of 53 eligible bomber pilots signing the bonus; as compared to a 66.5 percent average take rate experienced across all rated communities.[20] See Table 9 for the comparison between all pilot communities and the bomber pilot community. Broad analysis of the bomber community does not tell the complete story however. Further research revealed a wide variation in ACP take rates across the B-1, B-2 and B-52 pilots.

Table 9: ACP Take Rate Comparison Between all Rated Communities and the Bomber Pilot Community

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Intial 5 Yr. 50%)	Non-Taker	Take Rate Percentage
Initial	550	277	*66.5%*
Bomber Pilots	Initial 5 Year	Non-Taker	Take Rate Percentage
Initial	33	20	*62.3%*
Uncommitted	0	1	

Source: Author's original work developed from 2012 ACP Agreements Finalized, sorted by all rated communities and the bomber community.

Division of the bomber community into the three platforms that comprise it reveals disunion of ACP take rates between the pilots tasked to operate them. Unequivocally, the bomber community has the oldest aircraft in the CAF, with the average age of the bombers hovering around 35 years.[21] The patriarch of the bomber community is the B-52, which reached 60 years of continued flying service in 2012, with operations projected to continue well into 2040.[22] Deductive reasoning would suggest that, given the B-52's relative age, it would hold less appeal for pilots as compared to the newer B-1 and B-2, and therefore would have

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[20] Air Force Personnel Center, Rated Officer Retention Analysis, FY 12 Report, 4.
[21] Senate, *Hearing to Receive Testimony on the Current Readiness of U.S. Forces in Review of the Defense Authorization Request for Fiscal Year 2013 and the Future Years Defense Program,* 112th Cong., 2nd sess., 10 May 2012, 10.
[22] Jeff Schogol, "B-52 turns 50, but has Lots of Life left," *Air Force Times Website,* 21 October 2012, http://www.airforcetimes.com/news/2012/10/air-force-b-52-turns-60-has-lots-life-left-102112w/ (accessed 18 March 2013).

the lowest ACP take rates.[23] Counter intuitively, The B-52 community enjoyed the highest pilot ACP take rate of all bomber platforms in FY 2012, with 71.4 percent (10 of 14) of eligible pilots signing the bonus.[24] Comparatively, B-1 pilots had a 57.1 percent take rate (12 of 21) and the B-2 community had a 64.7 percent take rate (11 of 17) during the same year.[25] See Table 10 for a complete list of ACP take rates for individual bomber platforms. If bonus availability and age of bomber platform are not significant variables for bomber pilot retention, what variables are?

Table 10: ACP Take Rate Comparison Between all Rated Communities and Bomber Major Weapons Systems.

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Intial 5 Yr. 50%)	Non-Taker	Take Rate Percentage
Initial	550	277	*66.5%*
Bomber Pilots by Weapons System	Initial 5 Year	Non-Taker	Take Rate Percentage
B-1	12	9	*57.1%*
Uncommitted	0	0	
B-2	11	6	*64.7%*
Uncommitted	0	0	
B-52	10	4	*71.4%*
Uncommitted	0	1	
Bobmer Test Pilot	0	1	*0.0%*
Uncommitted	0	0	

Source: Author's original work developed from 2012 ACP Agreements Finalized, sorted by all rated communities and the specific bomber Major Weapons Systems (MWS).

Influential variables bare some resemblance to the fighter community, notwithstanding with a few nuance differences. See Table 11 for the influential variable ratings from the bomber community.

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[23] The first production B-1B flew in October of 1984 and the first B-2 flew in July of 1989, which compared to the B-52's first flight in 1954 constitutes a vast difference in age between platforms. For more information, see the B-1, B-2 and B-52 factsheets on the *Air Force Official Website* at http://www.af.mil/information/factsheets/index.asp .
[24] *Air Force Personnel Statistics (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.s as&_service=pZ1pub1&_debug=0 (accessed 18 December 2012).
[25] *AFPC: Static Reports,* "MWS ACP Summary," 2012.

According to surveyed bomber pilots, operations tempo and family stability are the most influential variables for retention, similar to the fighter community responses. Of the respondents, 88 percent (14 of 16) rated these two categories as *very important* or *quite important* to the retention of bomber pilots.[26] While responses between fighter and bomber communities are similar, the contextual background behind the collective answers varies.

Table 11: Bomber Pilot Retention Variables

	Scale					
	Very Important	Quite Important	Fairly Important	Slightly Important	Not important at all	Total Responses
Air Force Identity (AF Messaging, Mission Focus, Competency)	3	2	7	4	0	16
	19%	13%	44%	25%	0%	
Money / Compensation (Base Pay, COLA, "Bonuses", Flight Pay, Benefits, etc.)	9	3	3	1	0	16
	56%	19%	19%	6%	0%	
Promotion / Recognition (Masters, PME)	6	6	3	0	1	16
	38%	38%	19%	0%	6%	
Family / Stability (Base Location, Quality of Life, Move Timing)	10	4	2	0	0	16
	63%	25%	13%	0%	0%	
Ops Tempo (Deployments, Manning, Flying Opportunities)	9	7	0	0	0	16
	56%	44%	0%	0%	0%	
Other Life Goals	4	5	7	0	0	16
	25%	31%	44%	0%	0%	
Table Summary	41	27	22	5	1	

Author's original work developed from the electronic survey.

Interviews with bomber squadron commanders provide anecdotal insight into the "apple and orange" differences between the fighter and bomber communities.[27] Whereas the fighter community generally plans on a PCS cycle ranging every two years and eight months, bomber pilots generally stay at their base for longer periods of time, in some cases as

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[26] Results tabulated from Section II, Questions 10 and 11 of the *Retention Survey,* sorted for bomber pilot answers.
[27] LtCol B. Gallo, (509th OSS/CC, Whiteman AFB, MO), interviewed by author, 30 January 2013.

many as five to six years.[28] The reasons for this are twofold. First, there are fewer operational bases for the bomber community, with only five operational wings, all based in the Continental United States (CONUS).[29] Of those five locales, two are B-1 wings, two are B-52 wings, and the fifth is a B-2 wing, thereby limiting the possible permanent change of station (PCS) locations.[30]

Second, the limited PCS locations decreases the frequency needed to move aircrew and their families between bases, thereby providing a higher level of relative stability. Desirability of base location also has an influence, but given the investment in wing infrastructure paired with the likelihood of changing locale, this variable is unexpanded. Contextually speaking, the difference in mission between fighter and bomber pilots paints a different picture with respect to the influence of operations tempo on retention.

The competing nature of the nuclear and conventional Desired Operational Capabilities (DOC) statements, places added strain on bomber aircrew tasked to execute them.[31] The importance of the nuclear mission puts a different contextual spin on operations tempo for the bomber community as compared to the fighter community.[32] Even though there is a clear manning advantage in bomber squadrons, the

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[28] Maj J. Peterson, (SAASS Class XXII student and B-1 pilot), anecdotal conversation with author.

[29] The five CONUS bases referred to include Whiteman AFB, Missouri (B-2 Wing), Dyess AFB, Texas (B-1 Wing), Ellsworth AFB, South Dakota (B-1 Wing), Barksdale AFB, Louisiana (B-52 Wing), and Minot AFB, North Dakota (B-52 Wing).

[30] One respondent from the survey commented that the B-2 community is an anomaly of the proximity and ease of obtaining a position with the Air National Guard. The pilot commented that "one can trade patches and fly the same airplane and at the same time by some family stability." The irony is there is only one wing tasked to fly B-2s, so the definition of stability must be contextually different between fighter and bomber communities. This spurred the contextual discussion contained in the bomber section.

[31] AF Desired Operational Capability statements determine readiness levels of individual units tasked for a particular mission. As such, bomber communities with dual-DOC statements have to maintain readiness for both which inevitably increases operations tempo.

[32] The F-15E platform is also nuclear capable, but the majority of fixed wing nuclear operations are done within Global Strike Command, split between B-2 and B-52 aircraft.

nuclear mission responsibility drives operations tempo differently than a tactical fighter squadron.[33]

Inevitably, the nuclear mission, which requires aircrew entry into the Personnel Reliability Program (PRP), as controlled by DOD regulation 5210.42-R, elevates operations tempo for all involved, regardless of manning.[34] Given the "unique policy implications and military importance," selection of personnel is limited to, "only the most reliable people to perform duties associated with nuclear weapons."[35] Because of the inherent need for the "safety, security, control and effectiveness of nuclear weapons," the additional operational requirements levied on nuclear capable aircrew are substantial.[36]

In additional to the normal requirements imposed on tactical aircrew, the strategic mission and the PRP program mandates additional medical, mental, physical, personnel, personal, security and proficiency inspections above and beyond the normal inspections for military members seeking a preliminary or continued security clearance.[37] Further, when negligent or willful action in any of the aforementioned categories threatens the security of nuclear weapons, the entire community suffers increased operational scrutiny, not just the violating member.[38] One example of this collective responsibility, and the

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[33] It is important to highlight that not all combers share in the nuclear commitment. The B-1 community does not have a nuclear mission, which is why the community still falls under Air Combat Command. The B-2 and B-52 possess a nuclear mission, therefore these two communities fall under Global Strike Command.

[34] The PRP program is designed to ensure that each member who performs duties involving nuclear weapons meet certain criteria to guarantee the safety, security and reliability of nuclear asset, which requires additional security and training measures above that of an airmen not tasked with the nuclear mission. For more information, see Staff Sergeant Stacy Moless, "PRP Program Ensures Airmen are Ready 24/7," *Minot Air Force Base Website,* 3 June 2009, http://www.minot.af.mil/news/story.asp?id=123152203 (accessed 11 April 2013).

[35] Department of Defense Regulation 5210.42-R, *DOD Nuclear Weapons Personnel Reliability Program (PRP) Regulation, Change 1,* November 2009, 2.

[36] DOD-R 5210.42, 2.

[37] DOD-R 5210.42, 25-30.

[38] DOD-R 5210.42, 35-41.

ramifications contained within, came from the events following a violation of regulation in 2007.

In 2007, an "Air Force B-52 flew across the central United States with six cruise missiles armed with nuclear warheads," which created a maelstrom of repercussive events through the AF.[39] Shortly thereafter, nuclear weapon parts inadvertently shipped to Taiwan in March of 2008. The composite result of these two events resulted in the firing of both senior leaders from the AF, which highlights the gravity of the collective incidents.[40] A resultant increase in inspections, paired with the standup of Global Strike Command (GSC) and the economic downturn equated to a watershed moment, whereby many of the best bomber pilots departed AD for the guard or reserves.[41] While this represents a selective incident, it highlights the intensity of operations tempo associated with the strategic bomber community, and its inherent difference compared to the tactical fighter community.

Despite the identification of similar influential variables between communities, the contextual differences driving those rankings is striking and requires further study to ensure accurate application of retention methods occurs not only by aeronautical rating, but by community (i.e. bomber, fighter, RPA), and weapons systems (B-2, F-16, MQ-1) as well. In addition to stability and operations tempo, the bomber community identified monetary compensation and promotion as influential variables for retention.

Bomber pilots placed more emphasis on promotion and recognition than fighter pilots did, according to survey results. Specifically, 75 percent (12 of 16) of bomber pilots rated the influence of promotion and

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[39] Josh White, "In Error, B-52 flew over U.S. with Nuclear-Armed Missiles," *The Washington Post Website,* 6 September 2007, http://www.washingtonpost.com/wp-dyn/content/article/2007/09/05/AR2007090500762_pf.html (accessed 18 March 2013).
[40] Mark Thompson, "Nuclear Fallout at the Air Force," *Time website,* 5 June 2008, http://www.time.com/time/printout/0,8816,1812228,00.html# (accessed 18 March 2013).
[41] Gallo, Interview.

recognition as *very important* or *quite important* in the retention of bomber pilots.[42] Currently, AFPC promotion statistics present a broad overview of promotion results, focusing on aeronautical ratings (i.e. pilot, navigator, air battle manager), as opposed to higher fidelity statistics sorted by MWS. Undoubtedly, AFPC could run statistical analysis of promotion results by individual MWS if required. While statistical promotion results by community are beyond the scope of this thesis, it is important to note that the rate of promotion for individual career fields has come under increased scrutiny in recent months, addressed further in Chapter V as part of the RPA community discussion.[43] If retention rates continue to wane, this variable warrants increased granularity in the retention calculus for future studies. Equally interesting was the emphasis placed on monetary compensation by the bomber community.

Survey respondents from the bomber community placed greater emphasis on money and compensation than seen in the fighter survey. According to the survey, 75 percent of bomber pilots (12 of 16) find monetary compensation to be *very important* or *quite important* in the retention of bomber pilots.[44] When contextually combined with the ACP take rate for FY 2012, the implication is that current retention methods, like ACP and ACIP, while not adequately retaining personnel in their current construct, could be more incentivizing for bomber pilots if the payout rates increased.[45]

Studies have shown that adjusting the monetary amount has an effect on retention rates. For example, in a report delivered by Major Eric

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[42] Results tabulated from Section II, Question 9 of the *Retention Survey,* sorted for bomber pilot answers.

[43] Specifically highlighted for the RPA community in Section 527 of the House Committee on Armed Services, *National Defense Authorization Act for Fiscal Year 2013,* 112th Cong., 2nd sess., 2012, HR 4310, 94.

[44] Results tabulated from Section II, Question 8 of the *Retention Survey,* sorted for bomber pilot answers.

[45] This observation is not reflective of comments made by any pilots in the bomber community. The author found it interesting that a lower than average number of pilots (as compared to the AF average) signed the ACP from specific bomber communities, but according to current bomber pilots it is an influential variable.

Weber from Air Force Headquarters' Rated Force Policy (HQ USAF/AIPPR), he highlights the significance of an incremental change of five thousand dollars per year in ACP payout. The difference between a 10 thousand dollar and 40 thousand dollar ACP payout per year is a 40 percent increase in projected retention through 20 years of service, graphically depicted in Figure 12.
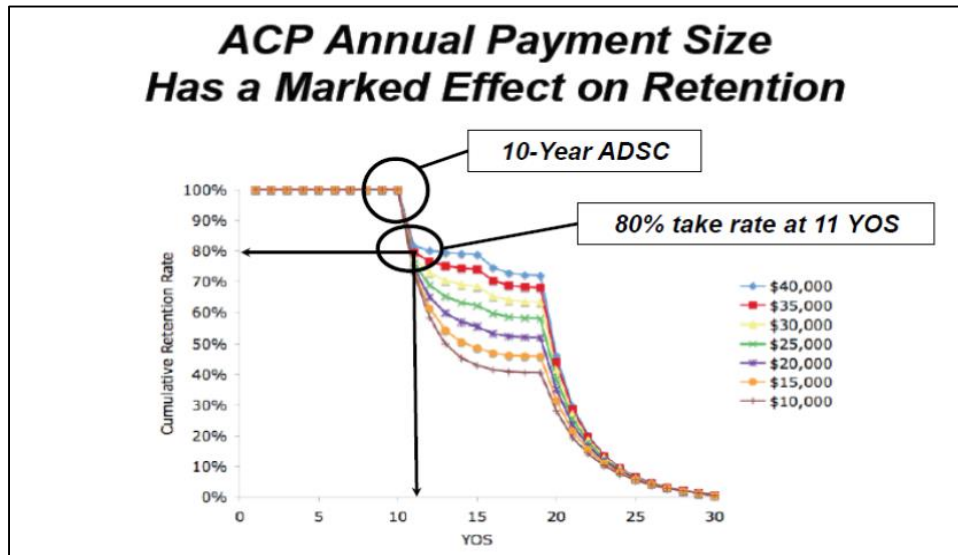
Figure 12: Increased ACP Payout Effect on Retention
Source: Taken from HQ USAF/A1PPR brief, titled "ASAM '13 Orientation: Air Staff and '10 Grad's Perspective."

This is not to say that increased money is the retention solution in lieu of addressing other influential variables. Realistically speaking, it is probably not feasible given the current economic environment. It does highlight however, that a dollar amount exists that would retain a higher percentage of the "best" pilots from all communities, not just the bomber communities. It is up to the Air Force to define the correct amount by community, or suffer through continued conjecture, as highlighted in the GAO report from Chapter II.[46] Guesswork in the midst of increased airline hiring will have a negative effect for the AF.

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[46] United States Government Accountability Office, *Military Cash Incentives: DOD Should Coordinate and Monitor Its Efforts to Achieve Cost-Effective Bonuses and Special*

Increased airline hiring in the near future necessitates that the AF gain an accurate sight picture with respect to *all potential retention methods* available for use.[47] Otherwise, the service could suffer from inappropriate selection of retention methods or ineffective application of selected techniques in a disjointed response to increased pilot departures.[48] With airline hiring expected to peak between 30,000 and 50,000 total hires in the next 10 years, ACP take rates and pilot retention could descend to levels not seen since the early 1990's.[49] Figure 13 graphically depicts the effect this will have on ACP take rates, depending on the yearly hiring rate maintained by the airlines. External influences, like airline hiring rates, combine with influences inside the AF, to create a precarious position for rated pilot management.

Pays, Report no. GAO-11-631 (Washington D.C.: United States Government Accountability Office, June 2011), 10.

[47] Author's emphasis added.

[48] This information is equally applicable to all Air Force communities that have crewmembers requiring an aeronautical rating of pilot. This includes fighter pilots, as well as RPA pilots who attended Undergraduate Pilot Training. Placement of this discussion in the bomber section does not imply it is more or less influential on bomber pilots, and is merely a point of discussion.

[49] Major Eric Weber, "ASAM '13 Orientation: Air Staff and '10 Grad's Perspective," Briefing, January 2013.
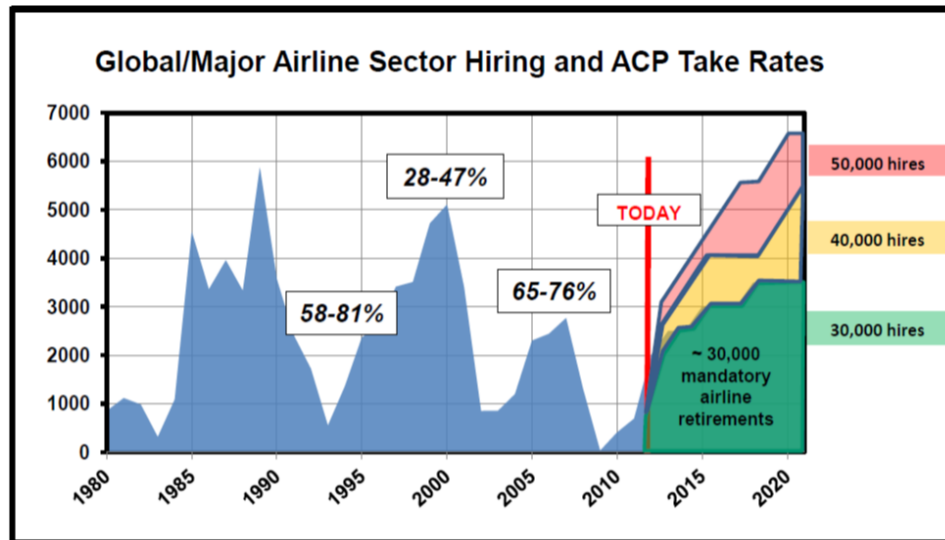
Figure 13: Airline Hiring and its Effect on ACP Take Rates
Source: Taken from HQ USAF/A1PPR brief, titled "ASAM '13 Orientation: Air Staff and '10 Grad's Perspective."

Fighter pilot shortfalls caused by low projected capacity for fighter pilot production exact further stresses on the bomber community.[50] To maintain mission readiness, bomber pilots may fill fighter pilot shortfall taskings, such as MC-12 or Air Liaison Officers (ALO). This creates subtle undertones of inequality, as bomber pilots feel unfairly overtasked because of fighter shortfalls.

Perception of inequality between pilots of different communities manifests within the bomber community as well, but for different reasons. Disparate retention methods between pilots and Combat Systems Operators (CSO), tasked to perform duties on the same aircraft, create a perceptible retention difference within communities.

As of the writing of this thesis, CSO's from the B-1, B-52 and F-15E communities do not receive an ACP offering, while pilots from these same communities did receive ACP offering as discussed in Chapter II. While not part of the surveyed pool of rated officers, the interaction between pilots and Combat System Operators (CSO) during the execution

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[50] Weber, "ASAM '13 Orientation", January 2013.

of their flying missions and the interaction in a normal work environment, may have driven the monetary response rate higher than that seen in the fighter community, which only has CSOs in the F-15E.[51] Anecdotally, one respondent commented that "the B-1 community lost half a squadron's worth of Weapons Systems Officers (WSO) due to separation from the AF in 2010," while a second pilot felt compelled to highlight the same point in his survey comments.[52] Additionally, several CSOs from the School of Advanced Air and Space Studies (SAASS) class XXII commented on the lack of ACP offering for their community, and indicated the dichotomous effect it had within their community.

Just as Colonel Flanagan highlighted different physical and personality traits for fighter and bomber pilots, this section has highlighted the contextual differences that exist between fighter and bomber communities with respect to how they define influential variables. This reveals the need to treat individual communities, and weapons systems within those communities differently to affect better retention. As such, this chapter now turns to a discussion of the risks associated with poor retention for the bomber community, as highlighted by the survey results.

What are the Risks for the Bomber Community?

Bomber pilots produced less polarized responses to the *Retention Survey* when asked about the future risk of poor retention within the bomber community. As such, bomber pilots seem less concerned with the future combat capability of the bomber community, or the security of the United States, as a function of bomber pilot retention. This is not to say that bomber pilots discount the importance of capability or security. Rather, it highlights that bomber pilots perceive a lower risk associated with retention of the "best" pilots. However, the validity of data strength

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[51] In 2010, Weapons System Operators (WSO), Electronic Weapons Officers (EWO) and Navigators were combined under a single Air Force Specialty Code (AFSC), that of a Combat Systems Operators (CSO).
[52] Anonymous responses from Air University (AU) *Retention Survey.*

would increase with a larger survey. Therefore, this section will present raw data gleaned from the survey and highlight areas where bomber pilots answers are notable.

Bomber pilots are not concerned with manning levels within their squadrons. When specifically asked if their "squadron has been able to maintain a consistent level of manning with the current rate of pilot separation from the AF," 38 percent *agreed* (6 of 16), while 25 percent *disagreed* (4 of 16).[53] Further, 25 percent of respondents (4 of 16) were *neutral* in their reply to this question. Minimal concern for consistent squadron manning translates to bomber pilot opinions about combat readiness.

Similar to waning anxiety about bomber squadron manning, respondents from the bomber community are not concerned with poor retention effecting combat readiness. When posed with the question, "the combat readiness of my squadron has not been affected by the current rate of pilot separation from the AF," bomber pilot were not strongly opinioned. Only 25 percent (4 of 16) *agreed,* 13 percent (2 of 16) were *neutral,* and 44 percent (7 of 16) *disagreed.[54]* Overall, more bomber pilots disagreed with the statement, but not overwhelmingly. As such, the data does not provide prodigious proof that combat readiness is of concern for bomber pilots because of retention. Bomber pilots follow the same middle-of-the-road rejoinder to queries about the "best" pilots separating from the bomber community.

Bomber pilots do not seem to be as concerned about the "best" pilots from their community leaving before becoming a commander at the squadron level, nor are they as worried that the security of the United States will suffer because of it. Survey results show that 38 percent (6 of 16) *agree,* 31 percent (5 of 16) are *neutral,* and 19 percent (3 of 16)

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[53] Results tabulated from Section III, Question 22 of the *Retention Survey*, sorted for bomber pilot answers.
[54] Results tabulated from Section III, Question 23 of the *Retention Survey*, sorted for bomber pilot answers.

disagree with the statement, "the best rated officers I expected to see leading the Air Force as commanders at the squadron commander level and above are leaving AD well before they reach that milestone.[55] Following the same bell curve trend, 31 percent (5 of 15) *agree,* 25 percent (4 of 16) are *neutral* and 31 percent (5 of 15) *disagree* that the departure of the "best" pilots from the bomber community after their initial ADSC will weaken the security of the United States.[56] While data results seem noncommittal, anecdotal comments from survey respondents provide additional insight to bomber community thoughts.

Comments from bomber pilots supplement the non-committal statistical data from above, and the anecdotal remarks follow the same middle of the road opinion. One bomber pilot commented that while many of the "best" get out, others clearly do not, but those who do elect to separate generally made the decision early and the ACP played little to no role in the decision.[57] Another comment suggests that many bomber pilots are "staying in until the airline hiring bubble begins so they can stay current and competitive for those jobs."[58] A third comment states, "there [is] a 50/50 split of guys who are leaving" that would "amount to something later on." This same respondent highlighted that limited leadership opportunities create fierce competition for those positions, with many choosing to leave when they feel "they were [not] given a fair shake."[59] Clearly, limited opportunities external to the AF currently are keeping bomber pilots in, but if increased external opportunities present themselves or prove to be more lucrative, they may be inclined to depart at significantly higher rates. In either case, bomber pilots share the

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[55] Results tabulated from Section III, Question 24 of the *Retention Survey*, sorted for bomber pilot answers.
[56] Results tabulated from Section III, Question 25 of the *Retention Survey*, sorted for bomber pilot answers.
[57] Anonymous responses from Air University (AU) *Pilot Retention Survey.*
[58] Anonymous responses from Air University (AU) *Pilot Retention Survey.*
[59] Anonymous responses from Air University (AU) *Pilot Retention Survey.*

opinion that AF senior leadership is unaware of the quantity and quality of rated officers leaving AD.

With respect to risk, the only question that garnered polarizing answers from bomber pilots pertained to senior leadership awareness. When asked if "current Air Force leadership has a good understanding of the quantity and quality of rated officers leaving after their initial ADSC, 63 percent (10 of 16) of respondents *disagreed* or *strongly disagreed* with the premise.[60] Interestingly, when asked if future General Officers will be less capable because the "best" elected to leave AD early in their career, bomber pilots returned to their typical bell curve, with 38 percent (6 of 16) *agreeing* or *strongly agreeing* while 56 percent (9 of 16) were of *neutral* opinion.[61] As highlighted earlier, the limited survey population presented relatively mild results with only sporadic perturbations away from the mean answer. Findings for the bomber community provide a good starting point for further study while simultaneously emphasizing the need for an increased sample size to strengthen the statistical validity.

Findings and Summary for the Bomber Pilot Community

Bomber pilots assigned to AU, as gauged by means of the *Pilot Retention* survey, believe the most influential variables on their community for retention are operations tempo and family stability. Additionally, two less prodigious but distinct variables pertaining to money/compensation and promotion/recognition were influential in this community. See Table 12 for the bomber results. Of those surveyed from the bomber community, 82 percent (13 of 16) *agree* or *strongly agree* that the variables affecting their decision to stay on or leave Active

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[60] Results tabulated from Section III, Question 26 of the *Retention Survey*, sorted for bomber pilot answers.
[61] Results tabulated from Section IV, Question 32 of the *Retention Survey*, sorted for bomber pilot answers.

Duty change in the years after completing pilot training.[62] Opinions about the effectiveness of bonuses on retention are surprisingly less polarizing.

Table 12: Bomber Synthesis

	Air Force Identity	Money & Compensation	Promotion & Recognition	Family & Stability	Operations Tempo	Other Life Goals
Bomber Pilots	*31.30%*	*75.00%*	*75.00%*	*87.50%*	*100.00%*	*56.30%*
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16

Author's original work developed from the electronic survey.

Given that money and compensation ranked by 75 percent of surveyed bomber pilots as being influential to retention, the number of pilots who believe that bonuses like the ACP are effective in contributing to retention is surprising. Of those bomber pilots surveyed, 50 percent (8 of 16) *agreed* that the ACP did a good job of retaining the "best" rated officers from their community. Only two of those officers surveyed *disagreed* with the aforementioned statement leaving the remaining 38 percent (6 of 16) *neutral* in their opinion of the same.[63] The diverse measures between the two questions leads the author to believe that money is an influential player for bomber pilot retention, but the ACP program in its current form is not enough to be of significant influence. Perhaps the pull towards airlines is stronger given the closer similarities between commercial aircraft and bomber aircraft, as opposed to fighter or RPA's. With respect to aircraft being an influencing factor on retention, bomber pilots had dichotomous responses.

Aircraft types gleaned polarized responses from bomber pilots with respect to retention. When asked if the opportunity to fly the most advanced weapons systems was enough to stay on Active Duty beyond

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[62] Results tabulated from Section IV, Question 30 of the *Retention Survey*, sorted for bomber pilot answers.
[63] Results tabulated from Section IV, Question 30 of the *Retention Survey*, sorted for bomber pilot answers.

the completion of an ADSC, 57 percent (9 of 16) of those surveyed *disagreed* or *strongly disagreed* with the fundamental premise while 31 percent (5 of 16) *agreed* or *strongly agreed.[64]* The remaining 13 percent were *neutral* in their opinion. As interesting as bomber pilots' opinions about money and aircraft technology are, their attitudes about what would aid in retaining the "best" from their community.

Bomber pilots have strong opinions about what would retain more of the "best" pilots from their community. Of those surveyed, 94 percent (15 of 16) of those surveyed *agreed* or *strongly agreed* that more of the "best" officers would stay if there were more focus on the mission as opposed to administrative details.[65] Further, 82 percent (13 of 16) *agreed* or *strongly agreed* that an increased focus on tactical competency as opposed to career progression would enable better retention.[66] While future strategic leaders of the AF may not need to be the best tactical pilots per say, failure to retain more of the "best" tactical officers in the short-term as result of mission focus may contribute to a skewed pool of officers from which to promote to leadership positions in the future. Mission focus and tactical competency are important for bomber pilots, but AF messaging plays a much less influential roll.

Air Force messaging plays a minor role in the retention of bomber pilots. What is interesting is that there appears to be a difference in how bomber pilots categorize AF identity and AF messaging. While only 31.3 percent said that AF identity was an influential variable for retention, 62 percent (10 of 16) *agreed* or *strongly agreed* that a closer alignment of AF messaging and spending would increase the retention of more of the

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[64] Results tabulated from Section IV, Question 31 of the *Retention Survey*, sorted for bomber pilot answers.
[65] Results tabulated from Section IV, Question 34 of the *Retention Survey*, sorted for bomber pilot answers.
[66] Results tabulated from Section IV, Question 32 of the *Retention Survey*, sorted for bomber pilot answers.

"best" officers.[67] While there is a divergence in this particular category, there is no such division when it comes to opinions about stability.

In keeping with the high rating of family stability on retention, bomber pilots overwhelmingly agreed that stability and family welfare were critical to pilot retention. Respondents *agreed* or *strongly agreed* at a 94 percent rate (15 of 16) that more of the "best" would stay if family stability and welfare were better than they are currently.[68] Interestingly, very few believe that more of the "best" are leaving, regardless of AF efforts, for opportunities outside of AD.

Opportunities beyond the AF do not seem to be the catalyst driving bomber pilots out. Only 31 percent (5 of 16) *agreed* or *strongly agreed* that the "best" are going to leave regardless for better opportunities in the Guard or Reserve.[69] A similar sentiment was expressed when the same question was posed about jobs in the civilian sector, with only 37 percent (6 of 16) *agreeing* or *strongly agreeing* that the "best" pilots are going to leave regardless because of better opportunities or compensation in positions completely removed from the military.[70] This indicates to the author that either bomber pilots have a deep connection to remain on AD, or they do not currently see lucrative prospects outside of AD. Either way, there is a salient point not answered by the collected data that requires further development for accurate identification.

To achieve greater fidelity with respect to the specific variables that are drawing bomber pilots out, future surveys and case studies must encompass a broader pool of solicited operators. Otherwise, data results obtained through small case studies will continue to rely on conjecture

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[67] Results tabulated from Section IV, Question 31 of the *Retention Survey*, sorted for bomber pilot answers.
[68] Results tabulated from Section IV, Question 37 of the *Retention Survey*, sorted for bomber pilot answers.
[69] Results tabulated from Section IV, Question 38 of the *Retention Survey*, sorted for bomber pilot answers
[70] Results tabulated from Section IV, Question 39 of the *Retention Survey*, sorted for bomber pilot answers.

and historical systems, like the ACP, to identify additional influential variables.

Given the available data, ACP take rates revealed that the bomber community has held a higher than normal ACP take rate as compared to the entire AF over the past seven years. In FY 2012, however, the take rate dropped below the AF average, which is attributable to a polarized bonus signings among the three bomber weapons systems. Specifically, the B-1 community experienced a drastically lower take rate than the B-52, which may indicate problems that are more specific for the B-1 community, as opposed to general problems for the entire bomber community.

Contextual differences in communal definitions guide retention. The bomber community, for example, highlights operations tempo and family stability as the two key variables for community retention. Notably, fewer operational bomber bases mean less permanent change of station moves, and increased stability for the family. However, increased deployment rates and requirements due to PRP programs have a different contextual effect than seen in other communities, for example, the fighter community. Contextual differences between communal definitions may reveal themselves in other influential variables, like promotion.

Bomber pilots placed an increased level of emphasis on promotion and recognition than seen in the other case studies. Increased granularity in promotion statistics, down to the individual weapons system, would help identify communities experiencing problems, which may reflect in promotion rates. Similarly, an increased emphasis on money by the bomber community necessitates better understanding of which pots of money are more or less influential in retention.

Combat System Operators, while not part of the case study, arose in interviews and survey comments several times as a critically manned career field in the bomber community. As such, future studies must analyze the empathetic relationship that may exist between operators

from the same community with different ACP offerings. Interestingly, manning was of little concern for the bomber community, even with the mention of CSO shortages.

Bomber pilots are not as concerned with manning, nor are they concerned about the combat readiness of their squadron's, as a result the "best" rated officers leaving AD. Similarly, bomber pilots believe enough of the "best" are available to lead bomber squadrons and provide for effective national security in the future. They are worried, however, that senior leaders may not be aware of the quantity and quality of rated officers getting out. The sentiments expressed above resonate with the RPA community, but again, the reasons differ because of the contextual differences in the communities themselves.[71]

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[71] If you require more complete information pertaining to the survey responses from the bomber community, please contact Major Brian Stahl at brian.stahl.2@us.af.mil

CHAPTER 5
The Remotely Piloted Aircraft Community

We have just won a war with a lot of heroes flying around in planes. The next war may be fought by airplanes with no men in them at all. Take everything you've learned about aviation in war, throw it out of the window, and let's go to work on tomorrow's aviation. It will be different from anything the world has ever seen.

—General Henry "Hap" Arnold

Research and development of unmanned aerial systems (UAS) for military purposes has been around almost as long as powered flight. The idea of a specialized pilot for these systems, however, is a relatively recent innovation. As such, this chapter starts with some background information before settling in on the analysis of the survey data.

In 1917, Charles F. Kettering launched the Aerial Torpedo "Bug," thus beginning the American pursuit of unmanned aerial systems (UAS).[1] Designed to fly autonomously for a predetermined period, the "Bug" utilized an internal set of pneumatic and electrical controls to fly towards a target, and after reaching the time limit, the wings would release allowing the weapon to plunge to the ground and detonate on impact.[2] Pursuit of UAS' continued for the next several decades, albeit slowly and veiled by secrecy, until the Cold War mandated an increase in information collection.[3]

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[1] Referenced in the Congressional Research Service (CRS) report on U.S. Unmanned Aerial Systems, 3 January 2012, attributed to the National Museum of the United States Air Force. "Kettering Aerial Torpedo 'Bug' Fact Sheet," 21 March 2007. http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=320 (accessed 20 March 2013).

[2] National Museum of the USAF, "Kettering Bug."

[3] UAV, RPA and UAS describe the community and the unmanned aircraft they operate. The author uses UAV in this paper when specifically referenced as such in a historic context, or when specifically annotated as such in an academic work. When referring to individual unmanned aircraft, the author uses Remotely Piloted Aircraft (RPA) to denote a singular system, even if not specifically referenced. When referring to the aggregate collection of RPA's, the author uses Unmanned Aerial Systems to denote plurality.

Competition with the Soviet Union for international preeminence mandated an increase in the reconnaissance and information collection capability of the United States. As a result, the "Red Wagon" program materialized, signed into being by then Chief of Staff of the Air Force (CSAF) Curtis LeMay for development of an unmanned drone for reconnaissance missions, in direct response to the shoot down of Francis Gary Powers' U-2 in 1960.[4] Pursuit of the UAV was "one of the many avenues that held possibilities for answering the air defense challenge," but ultimately, the technological limitations, continued demand for secrecy and rising cost resulted in the post WWII generation of UASs losing out to the burgeoning field of satellites and manned aircraft like the SR-71.[5]

Contributory to the mission loss was an underlying current of parochialism pertaining to unmanned aircraft performing missions previously done by manned systems.[6] Despite the initial challenges, UAS's would continue to see limited action, collecting information on China, North Korea, Russia and Vietnam in the 1970s.[7] After Vietnam, however, the UAV's did not gain significant traction again until a new organization, namely the Defense Airborne Reconnaissance Office (DARO), established centralized control of UAV development.[8]

Created in 1993, DARO grew from two fundamental propositions; remove the services' parochial control that limited cheap and effective UAV development and circumvent the services' power by centralizing management structure under OSD civilians, accountable directly to

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[4] Dr. Thomas P. Ehrhard, *Air Force UAVs: The Secret History,* Mitchell Institute Study, (Washington, DC: Mitchell Institute Press, 2010), 6.
[5] Ehrhard, *Air Force UAVs,* 43, 6-9.
[6] Ehrhard, *Air Force UAVs,* 7, 38.
[7] The programs comprising the majority of these missions were the *Tagboard, Senior Bowl, Lightning Bug, Compass Arrow, Combat Dawn, Advanced Airborne Reconnaissance System* (AARS), and *Buffalo Hunter* programs, which covered extensively in Dr. Ehrhard's study, *Air Force UAVs,* on pages 8-19 and 23-38.
[8] Lawrence J. Spinetta, "Remote Possibilities: Explaining Innovations in Airpower" (PhD diss., Air University, 2012), 194.

Congress.[9] DARO controlled the preponderance of UAS budget allocations, and equipped the services who maintained operational control of the UAV platforms. This striation of control, paired with congressional conflict over budgetary loss for conventionally manned systems, resulted in the disbandment of DARO in 1998, with only one UAS surviving the breakup.[10] Known as the RQ-1A Predator, that survivor of the DARO system set the stage for all future UAS systems.

Military use of UASs like the Predator, increased substantially after1998, as low intensity conflicts and counter-insurgency (COIN) operations supplanted warfare fought by large, fielded forces, like those seen in Desert Storm. The asymmetrical advantage gained by using UAVs in Kosovo, Iraq, Afghanistan, Libya and Pakistan, continues to bolster the pursuit of increased UAS capability. [11] Because of this advantage, senior governmental leaders, combatant commanders, and tactical operators argue for increasing numbers of UAV Combat Air Patrol (CAP) missions, creating a demand for RPA's that has outpaced traditional AF sourcing for manning a weapons system.[12]

The request for CAPs has increased eight fold since 2005, creating an untenable draw of pilots from manned platforms to operate UAS. In less than 10 years, the number of requested RPA CAPs has increased from 8 in 2005, to a projected 65 in 2014.[13] Two AF assets, namely the RQ-1A (now known as the theMQ-1A) Predator and the MQ-9 Reaper, primarily fly these CAPs.[14] The RQ-4 Global Hawk and RQ-170 Sentinel fly additional CAPs not included in the projected numbers above. To

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9 Spinetta, "Remote Possibilities, 187.
10 Ehrhard, *Air Force UAVs,* 47-49.
11 Jeremiah Gertler, *U.S. Unmanned Aerial Systems,* CRS Report No. R42136, (Washington, DC: Congressional Research Service, 3 January 2012).
12 Major Ted Shultz, "RPA Career Field Growth," Briefing given by AF/A30-AC, June 2012.
13 Shultz, RPA Career Field Growth Briefing, slide 2.
14 Factsheets for each of these UAS are available through the Air Force portal on the *Air Force/A2CU RPA Capabilities website* at https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId=sA4057E1F3A4B5113013A55372E760183

ensure sufficient numbers of these four aircraft match the growing numbers of CAP requests, the projected AF inventory of UASs will increase from 340 in FY 2012 to approximately 650 in FY 2021.[15] Given the "unmanned" moniker, the number of human operators required to operate each individual aircraft can be lost in the technological capability.

While "unmanned" in the physical sense, the majority of military UASs continue to have an existential connection to human operators in the loop. Each RPA requires an "aircrew comprised of a pilot and sensor operator (SO) at both the continental United States-based mission control element (MCE) and the deployed launch-and-recovery element (LRE)."[16] One CAP requires ten of the aforementioned crews to ensure continuous 24/7 coverage, meaning 65 CAPs in 2014 would call for a minimum of 1300 pilots to simply meet requirements.[17] When you factor in a normal operations schedule, this number grows to nearly 1,700 required RPA pilots.[18] This is a huge number of pilots to train in a short period, especially for a young career field that until 2009 gleaned all of its operators from other manned weapon systems.

The maturation of the RPA career field has been tumultuous, drawing operators from other weapons systems while the nation has been continuously engaged in war. The number of pilots pulled to

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[15] Department of Defense (DOD), *Aircraft Procurement Plan: Fiscal Years (FY) 2012-2031,* DOD Report submitted with FY 2012 Budget, (Washington, DC: 2011), 4, 10. http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2011/May%202011/Day25/AircraftProctPlan2012-2041_052511.pdf

[16] Chaitra M. Hardison, Michael G. Mattock ,and Maria C. Lytell, *Incentive Pay for Remotely Piloted Aircraft Career Fields,* (Santa Monica, CA: RAND Corporation, 2012), xiii-xiv. 1300 accounts for total pilots required in the MQ-1/9 enterprise to fill MCE, LRE, FTU, and additional billets.

[17] Hardison, Mattock, Lytell, *Incentive Pay for RPA,* xiv.

[18] Lolita C. Baldor, "Next Top Guns? Air Force faces Shortage of Drone Pilots," 9 August 2012, *MSNBC website,* http://www.nbcnews.com/id/48597497/ns/us_news/t/next-top-guns-air-force-faces-shortage-drone-pilots/ (accessed 22 January 2013).

operate a non-primary weapons system was unable to meet the growing demand without influencing the manned platform experience.[19]

Before 2009, pilots supplemented RPA units in one of three ways. The first being a traditional ALFA tour, whereby aircrew served one assignment in RPAs and then returned to their primary Major Weapons System (MWS).[20] The second initiative, called TAMI-21, occurred from October of 2007 through January of 2008, pulling overages from the fighter and bomber communities to fly RPA, resulting in 40 permanent pilot reassignments.[21] The final method sent 244 pilots directly from Undergraduate Pilot Training (UPT) to RPAs for one assignment.[22] While these methods gained much needed personnel, they did little to foster the sense of community identity that is prevalent in the fighter and bomber communities, as evidenced in the opening discussion of Chapters III and IV.

Conglomerated for short durations from multiple communities, the early RPA units had little framework to hang a Robin Olds' persona on as their champion. Similarly, they were unable to maintain personnel long enough to develop distinguishable RPA traits, like those found in bomber pilots of WWII. After 2009, however, the RPA took its first steps toward a champion with distinguishable traits. The RPA community became its own unique entity, garnering a distinctive Air Force Specialty Code

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[19] Shultz, RPA Career Field Growth Briefing, 2.

[20] An ALFA tour refers to a temporary midcareer assignment for pilots to positions such as an air liaison (ALO), flight instructor, or UAV pilot. Because they take a pilot away from their primary weapons system, ALFA tours are often non-volunteer and shied away from by operational CAF pilots. Description of ALFA tours taken from Michael Hoffman, "UAV Pilot Career Field could save $1.5B," *Air Force News website,* 1 March 2009, http://www.airforcetimes.com/news/2009/03/airforce_uav_audit_030109 (accessed 22 January 2013).

[21] Taken from Shultz briefing, slide 5, TAMI-21 refers to the Transformational Aircrew Management Initiatives for the 21st Century, implemented with the intent of providing a one-time adjustment to the overall balance of AF force structure and manning. For more information, see Adam J. Herbert, "Every Pilot in His Place," *Air Force Magazine website,* October 2007, vol. 90, no. 10, http://www.airforce-magazine.com/MagazineArchive/Pages/2007/October%202007/1007pilot.aspx (accessed 21 March 2013).

[22] Shultz, RPA Career Field Growth Briefing, 5.

(AFSC), along with assigning 477 pilots on a RPA ALFA tour to remain in the RPA career field permanently. Further, the Air Force launched a program to develop a distinct UAS training program, separate from traditional Air Force pilot training, with the express purpose of teaching skills specifically tailored for UAS operations.[23] The first formal Undergraduate RPA Training class began in October 2010.[24] As the RPA community develops as a distinct entity within the AF, it will face the trial of retaining those it worked so hard to acquire.

Maturation of the RPA community will come with the same trials and tribulations experienced by the fighter and bomber communities with respect to retention. Building on the premise that contextual differences between these communities will influence the retention of rated officers within those groups differently, the focus now turns to the Remotely Piloted Aircraft (RPA) demographic. This chapter will look at the same influential variables discussed through the fighter and bomber chapters, and will explain the nuanced differences for the RPA community.

The structural organization remains the same, but the information presented will vary because of the limited data available, attributed to the RPA community being in the early stages of development. [25] Analysis of the *Pilot Retention* survey data, historical ACP take rates, and interviews with squadron commanders took place. In lieu of reviewing Air Force Personnel Center (AFPC) retention statistics, which frankly do not exist in sufficient sums to be useful, an assessment of projected RPA force structure development serves as the conduit for continued analysis.[26]

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[23], General Norton Schwartz, "AFA Convention Keynote" (Address, Air Force Association Conference, Washington, DC, 16 September 2008).
[24] Shultz, RPA Career Field Growth Briefing, 6.
[25] Major Erik J. Jacobson (AF/A2CU), in e-mail discussion with author, 20 March 2013.
[26] Further expanding on the limited data, review of the Air Force Personnel Retention (AFPC) Analysis Reports reveals that the "Pilot ACP Take Rates by MWS" section did not distinguish RPA take rates until FY 2007 and only started tracking RPA "Overall Losses"

Despite the limited available data, this chapter seeks answers to the same three questions asked of the fighter and bomber communities. First, does the RPA community have a retention problem? Second, what are the risks to the future of the AF if a retention problem does exist? Finally, if a problem does present itself, is there anything the AF can do to fix it? This chapter addresses the first two questions with respect to the RPA community, while Chapter VII addresses the third for all three communities of interest.

RPA pilots made up 19 percent (23 of 118) of the rated community solicited for the *Pilot Retention* survey given to AU students. Of the 23 solicited, there were 13 respondents, equating to a 57 percent response rate for the community. RPA pilots were the smallest surveyed group at AU, making up 14 percent of the total number of respondents (13 of 93).[27] Similar to the survey limitations experienced with the bomber community, the RPA community at AU was a small survey population, which affected the statistical validity of survey responses.

Because of the small sample size, the margin of error associated with the RPA responses is higher than desired. Using the number of RPA pilots serving on AD in FY 2012, which stood at 657, this data pool would require a sample size of 243 RPA pilots to reflect the opinion of all AF RPA pilots with a 5 percent margin of error. Similarly, of the 23 RPA pilots assigned to AU at the time of survey, 22 total responses would allow for accurate representation of all RPA pilots assigned to AU with a 5 percent margin of error. With 13 actual respondents, the margin of error for AU RPA pilots is 20 percent.

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in the FY 2012 report. Major Jacobson from the RPA Capabilities Office (AF/A2CU) at the Pentagon attributed this lack of data to the fact that almost all RPA pilots until 2009 were on ALFA tours, "on-loan" from other communities. Because these pilots were "owned" by other communities, they were not eligible for loss from the RPA community. These are relatively new developments (2009 and on), which leads to limited available data.

[27] See Table 4 in Chapter III, titled *Total Survey Solicitations and Responses by Major Weapons System (MWS) and Professional Military Education (PME) School* for response comparisons.

Is there a Retention Problem in the RPA Community?

Perceptions amongst the RPA community regarding retention mirror those found in the fighter and bomber communities. Of those RPA pilots who responded to the survey, 85 percent (11 of 13) *agreed* or *strongly agreed,* when queried if their flying community was currently, or is expecting a retention problem in the near future.[28] Further, 69 percent (9 of 13) of those respondents *agreed* or *strongly agreed* that the "best" officers from the RPA community were electing to leave the AF before retirement age.[29] With respect to the "best" officers leaving from the RPA community, 69 percent (9 of 13) of respondents believed those officers made their decision to separate well before their Active Duty Service Commitment expired and before the ACP became available.[30] Because the RPA is substantially younger as a MWS as compared to the fighter and bomber communities, it is important to highlight the diverse nature in which it is maturing, to identify the pool of officers that comprise it.

Creation of a stable career path for RPA pilots in a distinct career field does not immediately quell the diversity within the community. In fact, current projections do not have the RPA community reaching 100 percent manning until 2017, with historic rates hovering between 70 and 80 percent.[31] Further, forecasts for RPA manning require continued supplementation from UPT until FY 2016, and from ALFA or traditionally trained pilots until 2023.[32] Figure 14 shows the respective demographics

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[28] Results tabulated from Section II, Question 15 of the *Retention Survey,* sorted for bomber pilot answers

[29] Results tabulated from Section II, Question 16 of the *Retention Survey,* sorted for bomber pilot answers

[30] Results tabulated from Section II, Question 16 of the *Retention Survey,* sorted for bomber pilot answers

[31] Major Ted J. Shultz, (AF/A3O-AC), in e-mail discussion with author, 20 March 2013.

[32] The rates for UPT supplementation drops to 3 percent of the total UAS manning in 2015 and falls to zero the next year. ALFA tours currently supplement 40 perfect of UAS manning, projected to fall to 20 percent FY2018, and 2 percent in 2023. Other traditionally trained pilots, permanently re-categorized in the RPA community, currently

for manning over the next decade. As such, attributions of losses from the RPA community are difficult to assess.
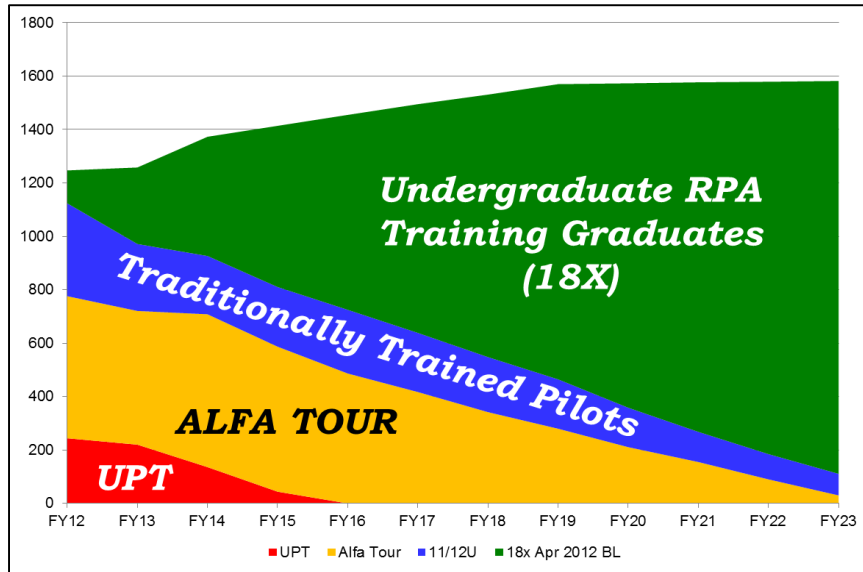
Figure 14: Projected Distribution of UAS Demographics until FY 2023
Source: Taken from briefs given by Major Theodore "Lucky" Shultz, AF/A3O-AC and discussions with Lieutenant Colonel Bryan "Squeeze" Callahan.

Due to the varied backgrounds of pilots making up the pool of RPA operators, it has been statistically difficult to assess actual retention rates for the community at large. Statistically relevant retention rate analysis will occur when the number of Undergraduate RPA Training (URT) graduates outnumbers those from other communities, which will occur on or about FY 2016.[33] Further, the initial graduates from URT have not reached the end of their initial Active Duty Service Commitment (ADSC). The majority of beta test graduates will reach the end of their six-year ADSC in FY 2016, at which point the AF will be able to get an interesting perspective for RPA retention.[34]

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supplement 20 percent of UAS manning, expected to drop to 10 percent in FY 2019, and 5 percent in FY 2023. Taken from Shultz, Briefing, slide 8.
[33] Shultz, e-mail discussion, March 2013.
[34] Shultz, e-mail discussion, March 2013.

Because of the limited data pertaining to RPA retention rates, the only other measure available for analysis is the historical ACP take rate since 2007. Thus far, RPA ACP take rates have been sporadic at best. See Figure 15 for ACP take rates since 2007.
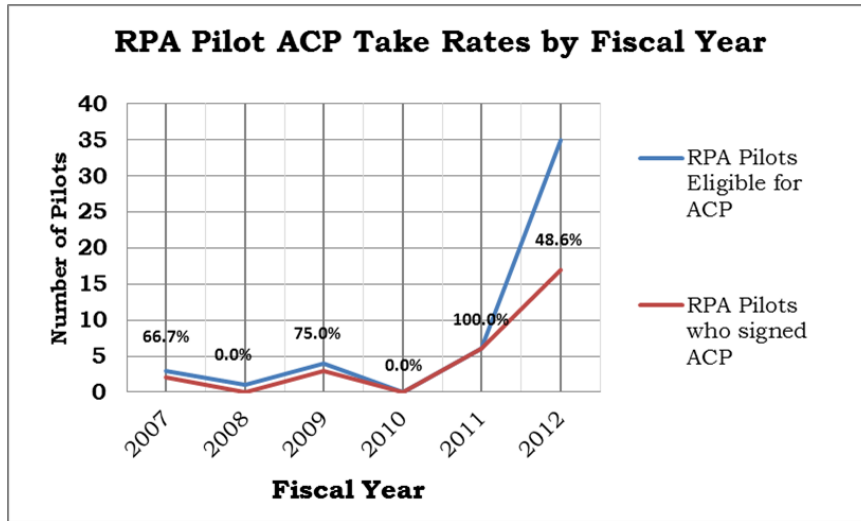
Figure 15: RPA Pilot ACP Take Rates
Source: Author's original work, developed from 2012 AFPC Officer Retention Analysis Reports.

Until 2012, the irregular results derived from the small number of pilots, most often numbering less than five, who were eligible for the ACP each FY. In FY 2012 however, the number of RPA pilots eligible for the ACP jumped dramatically. Interestingly, the first indication of ACP's effectiveness for retaining RPA pilots was poor at best. The average ACP take rate for the RPA community in 2012 was 48.6 percent, while the average ACP take rate for all rated pilots in the AF was 66.5 percent.[35] See Table 13 for the comparison between all pilot communities and the RPA community. While FY 2012 was only the first indicator of ACP's effectiveness at retaining RPA pilots, it should still create some worry with AF leadership.

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[35] *Air Force Personnel Statistics (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," 2012, 4.

Table 13: ACP Take Rate Comparison Between all Rated Communities and the RPA Pilot Community

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Intial 5 Yr. 50%)		Non-Taker	Take Rate Percentage
Initial	550		277	**66.5%**
RPA Pilots	Initial 5 Year	Initial 5 Year 50%	Non-Taker	Take Rate Percentage
Initial	5	12	18	**48.6%**
Uncommitted	0	0	5	
RPA Initial	0	0	1	**0.0%**
Uncommitted	0	0	0	

Source: Author's original work developed from 2012 ACP Agreements Finalized, sorted by all rated communities and the bomber community.

When expanded to encompass all four of the MWSs that comprise the core of the RPA community, the, results remain similarly low. There was not a notable difference in the retention rates amongst the different platforms. For example, the RQ-1A (also known as the MQ-1) had the highest ACP take rate in FY 2012, with 60 percent (6 of 10) of eligible pilots electing to sign the bonus.[36] The RQ-4 Global Hawk (3 of 6) and the RQ-170 Sentinel (1 of 2) tied at a 50 percent ACP take rate amongst eligible pilots.[37] The MQ-9B Reaper split the difference between the aforementioned aircraft, with 54.5 percent (6 of 11) of those pilots eligible electing to sign the bonus.[38] See Table 14 for a breakout of individual RPA aircraft as compared to the AF average for 2012. Given the limited data, it is difficult to attribute causal reasons for the low ACP take rates.[39] What is clear however is that the surveyed RPA community has

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[36] *Air Force Personnel Statistics (AFPC): Static Reports,* "Major Weapons System (MWS) Aircrew Continuation Pay (ACP) Summary," 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0 (accessed 18 December 2012).

[37] *AFPC: Static Reports,* "MWS ACP Summary," 2012.

[38] *AFPC: Static Reports,* "MWS ACP Summary," 2012.

[39] Anecdotally, Lieutenant Colonel Bryan Callahan mentioned operations in MQ-9 squadrons have been particularly rough. Standing up Holloman was difficult because of the fractioning of the original MQ-9 squadron to stand up additional squadrons. As a result, the sense of community within the MQ-9 world is low. Compare this to the original cadre of MQ-9 pilots (the 42nd ATKS). Close to half of the WIC graduates flew with the 42nd at some point before the split prior to going to WIC.

a distinct opinion about the variables deemed most influential on
retention.

**Table 14: ACP Take Rate Comparison Between all
Rated Communities and Individual RPA Systems**

All Rated Pilots	Total ACP Takers (Initial 5 Yr. and Initial 5 Yr. 50%)		Non-Taker	Take Rate Percentage
Initial	550		277	**66.5%**
RPA Pilots by Weapons System	Initial 5 Year	Initial 5 Year 50%	Non-Taker	Take Rate Percentage
RQ-1A Predator	2	4	4	**60.0%**
Uncommitted	0	0	4	
MQ-9 Reaper	1	5	5	**54.5%**
Uncommitted	0	0	1	
RQ-4 Global Hawk	1	2	3	**50.0%**
Uncommitted	0	0	1	
RQ-170	1	1	2	**50.0%**
Uncommitted	0	0	0	

*Source: Author's original work developed from 2012 ACP Agreements
Finalized, sorted by all rated communities and the bomber community.*

Given the diverse backgrounds of the current RPA community, one
would think that the influential variables for retention within community
would be equally as diverse.[40] Interestingly, this was not the case. There
were two unequivocally important variables, with a third worthy of
mention. Similar to fighter and bomber pilots, operations tempo and
family stability tiered first and second respectively, with other life goals
coming in third. Markedly, 100 percent (13 of 13) of those surveyed
ranked operations tempo as *very* or *quite important* to retention while 92
percent (12 of 13) rated family stability the same way.[41] While
substantially lower at 67 percent (8 of 12), the inclusion of other life

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[40] Descriptors included with the influential variables helped clarify the categories for
survey respondents. The descriptors used by variable are: Air Force Identity (AF
messaging, mission focus, competency), Money/Compensation (base pay, cost of living,
bonuses, flight pay, benefits), Promotion/Recognition (Master, PME), Family/Stability
(base location, quality of life, move timing), Operations Tempo (deployments, manning,
flying opportunities).
[41] Results tabulated from Section II, Questions 7-12 of the *Retention Survey,* sorted for
RPA pilot answers.

goals may be indicative of variables requiring further exploration.[42] See Table 15 for all the rankings given by the RPA community. The way communities view influential variables is important, and the operations tempo for RPAs is characteristically unlike that seen in other communities.

Table 15: RPA Pilot Retention Variables

RPA Pilots	SCALE					
	Very Important	Quite Important	Fairly Important	Slightly Important	Not important at all	Total Responses
Air Force Identity (AF Messaging, Mission Focus, Competency)	0	4	4	4	1	13
	0%	31%	31%	31%	8%	
Money / Compensation (Base Pay, COLA, 'Bonuses", Flight Pay, Benefits, etc.)	5	3	4	1	0	13
	38%	23%	31%	8%	0%	
Promotion / Recognition (Masters, PME)	2	2	5	3	1	13
	15%	15%	38%	23%	8%	
Family / Stability (Base Location, Quality of Life, Move Timing)	9	3	1	0	0	13
	69%	23%	8%	0%	0%	
Ops Tempo (Deployments, Manning, Flying Opportunities)	7	6	0	0	0	13
	54%	46%	0%	0%	0%	
Other Life Goals	6	2	3	1	0	12
	50%	17%	25%	8%	0%	
Table Summary	29	20	17	9	2	

Author's original work developed from the electronic survey.

Operations tempo for the UAS community does not revolve around multiple deployments or extended periods spent away from family. This is not to say RPA pilots are immune to deployment, nor does it infer a slower operational schedule than other rated communities do. RPA pilots are subject to the same AEF deployment cycle as fighter and bomber pilots, and they experience the same draw of personnel to fill shortfall taskings. Further, RPA units have similar training cycles, with inspections, computer based training, and education requirements. The

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[42] Results tabulated from Section II, Questions 7-12 of the *Retention Survey,* sorted for RPA pilot answers.

RPA community differentiates from other communities in the grinding schedule of shift work, with no opportunity to enter "steady state" operations.[43] This grind, described as a long slow burn as opposed to a short, high intensity operation, takes a toll on an RPA pilot's quality of life, exacerbated by personnel shortages and continued operations as a result of an unwavering wartime posture.[44]

The wartime posture for an RPA crew is much different from that experienced by a fighter or bomber pilot. Each requested CAP is active 24 hours a day, 7 days a week, 365 days a year, and requires a pilot, sensor operator, and mission intelligence coordinator.[45] Divided amongst three primary RPA crews, daily shift schedules ensure one crew is manning each CAP for a desired maximum of six hours in the seat.[46] Optimally, each CAP has a break crew available to provide breaks, with one standby crew per shift to cover anomalies.[47] All told, if a squadron operates in five total CAPs, the total number of crews required per day is 24.[48] Until manning levels reach 100 percent, level of effort required by individual crewmembers will remain high.

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[43] "Steady State" refers to normalized schedule of preparation for deployed operations, generally executed in the AF through the Air Expeditionary Force (AEF) cycle. Whereas the AEF Next cycle allows a normal 18-month period to train, spin-up and deploy for operations. AEF rotations consist of 9-months of on station training (dwell) time, followed by a 3-month deployment spin-up and a 6-month deployment. The RPA community has continuous operations throughout the *entire* AEF cycle, and given the personnel shortage and increased CAP demands, their level of required effort is increasing. For more information on the AEF Next cycle, see the *AEF Online website* maintained on the AF portal at https://aef.afpc.randolph.af.mil/default.aspx .

[44] LtCol B. Callahan (SAASS Class XXII student and RPA Weapons Instructor), interviewed by author, March 2013.

[45] Major Ted Shultz, "MCE Pilot Manning Ratio, Version 4" Briefing given by AF/A30-AC, 15 February 2013, slide 6.

[46] For more information pertaining to the physical and psychological effects of occupational stressors associated with the RPA community, see the NATO Research and Technology Symposium report by Chappelle, Salinas and McDonald, titled *Psychological Health Screening of Remotely Piloted Aircraft (RPA) Operators and Supporting Units.*

[47] Shultz, MCE Pilot Manning Ratio Briefing, slide 8-10.

[48] Math for calculating daily-required crews is as follows. 5 total CAPs x 3 crews per CAP = 15 primary crews. 15 primary crews + 6 break crews per day + 3 standby crews per day= 24 total crews to man five CAPs 24/7 with no consideration for normal overhead, leave or days off. With a desired CAP to crew ratio of 12:1, RPA pilots maintain a five day on, three day off shift schedule. Additional CAPs or reduced

As previously mentioned, the UAS community has been operating between 70 and 80 percent of its authorized personnel since its inception, and does not expect to reach the 100 percent manning benchmark until 2017.[49] Much like the fighter community, the relative amount of work per RPA pilot (and sensor operator) increases as personnel shortages are projected to continue for the near future. These RPA manning shortages limit opportunities for PME education, staff jobs, and other career enhancing opportunities, creating an atmosphere, whether real or perceived, that RPA pilots do not have the same opportunity for advancement.

This debate reached the highest levels of political examination as the National Defense Authorization Act (NDAA) of 2013 mandated an AF investigation and report. Section 527 of that report requires the SECAF and CSAF to submit jointly a report identifying why RPA pilots have "persistently lower average education and training and promotion rates."[50] Additionally, AF senior leaders are to provide an assessment of the long-term impact on the AF of the sustainment of these lower rates, along with a plan of action to raise such rates.[51] The final requirement instructs the AF to describe near- and long-term actions required to implement the plan, along with the impacts it will have on sustained combat air patrol objectives of the AF.[52] This final decree speaks to senior leader dependence on UAS information and capability, and hints that if the mission is negatively affected, the net effect of poor career enhancement on an RPA pilot is acceptable. When paired with continued operations in a wartime posture, the slow burn increases in intensity.

manning will drive the shift schedule higher. For example, reducing the pilot to sensor operator ration from 12:1 to 9:1 drives a six day on, two day off schedule while a 6:1 ratio drives a seven day on, one day schedule off with no leave, professional military education, or continuation training.
[49] Shultz, e-mail discussion, March 2013.
[50] *National Defense Authorization Act of 2013,* HR 4310, 112th Cong., 2nd sess., 2012, (3 January 2012), sec. 527 (a) and (b), 94.
[51] *National Defense Authorization Act of 2013,* sec. 527, 94.
[52] *National Defense Authorization Act of 2013,* sec. 527, 94.

Further complicating the RPA communities' contextual definition of operations tempo from the fighter and bomber communities, is the inability to divest from the wartime effort for reconstitution, as their unique capability keeps them engaged continuously.

Fundamental to UAS desirability is the ability for RPA crews to operate from CONUS based locations, thereby providing cheaper and safer operations for the AF. Information collected by CONUS based UAS aircrew reaches the end user through the Air Force Distributed Common Ground Systems (AF DCGS), which again, primarily reside in CONUS or within allied nations.[53] This home station presence however, translates into RPA pilots remaining continuously engaged in a wartime posture with no buffer between combat operations and normal home life. While fighter and bomber crews maintain deployed-to-dwell rate as high as 1:2, there is a period of emotional release associated with the reconstitution period. Further, while deployed, pilots can focus entirely on the mission at hand, without the normal external demands of in garrison operations. Divestment from the wartime posture is not a luxury generally afforded RPA pilots, and the resultant strain caused by this contextually different operations tempo has an effect on family stability.

The RPA community has contributed greatly to combat operations as well as the command, control, intelligence, surveillance and reconnaissance (C2ISR) missions. General Mark A. Welsh commented, "This mission has revolutionized the way we think about warfare."[54] Just as the view of warfare had to change because of UASs, the view of

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[53] The Distributed Common Ground Systems are primarily CONUS based, and provide the "capability to task sensors, process sensor data, exploit sensor data from multiple sources, and disseminate intelligence products" from multiple assets, including, but not limited to AF UAS assets. For more information about the AF DCGS see the OSD factsheet at http://www.dote.osd.mil/pub/reports/FY2010/pdf/af/2010afdcgs.pdf or the Air Force factsheet at
http://www.af.mil/information/factsheets/factsheet.asp?id=15433
[54] Air Force Print News, "CSAF gets Firsthand Look at RPA Operations," *The Official website of the United States Air Force,* 17 January 2013,
http://www.af.mil/news/story.asp?id=123332834 (accessed 22 January 2013).

emotional and mental baggage retained because of warfare must also change. This effect has a marked effect on pilots and their families because of the limited separation between wartime operations and normal family life.[55]

Interviews with a RPA squadron commander validate the need to understand nuanced differences associated to combat operations with UAS's. To paraphrase one commander, the level of physical risk is different, but there are things RPA pilots have done to save lives and influence wars. [56] While not physically present in the geographic sense, RPA pilots have the ability to track a potential target for days at a time. Compared to an F-16 pilot who views an objective through a targeting pod for 20 to 30 minutes, an RPA pilot views an objective for hours, even days at a time, often observing family interactions and learning daily schedules of their mark.[57] This investment makes the finality of striking the target more personal. To have a kinetic interaction one hour, and then to be home having dinner with their family the next, creates a difficult emotional and mental discourse for the operator, which could bleed over to the family.[58] This brief anecdote serves as an example of how contextual differences associated with one influential variable can influence another.[59] Interestingly, the inclusion of other life goals as an influential variable to retention highlights a growing opportunity for RPA operators outside the AF.

[55] Wayne Chappelle, Amber Salinas and Lieutenant Colonel Kent McDonald, *Psychological Health Screening of Remotely Pilot Aircraft (RPA) Operators and Supporting Units,* NATO Research and Technology Symposium, Mental Health and Well-Being Across the Military Spectrum (Bergen, Norway: April 2011), 1.

[56] The comments in the paragraph above come entirely from an interview with LtCol B. Rehm (Former RPA Squadron Commander, currently assigned to ACC/A3), interviewed by author, 31 January 2013.

[57] Chappelle, Salinas and McDonald, *Psychological Health Screening,* 3.

[58] Chappelle, Salinas and McDonald, *Psychological Health Screening,* 4-10.

[59] As an anecdote, Lieutenant Colonel Bryan Callahan mentioned that the worst days were when friendlies came under attack, and RPA pilots were unable to do anything about it. On horrific days, maybe you could do something about it. Those are the tough days to go home.

The Department of Defense does not hold a monopoly on RPA development, and congressionally mandated future initiatives will only increase opportunities for UAS operators outside the military. In the Federal Aviation Administration (FAA) Modernization and Reform Act of 2012, Congress directed the FAA to develop a comprehensive plan that would "safely accelerate the integration of civil unmanned aircraft systems into the national airspace system" by 30 September 2015.[60] Nonmilitary applications for homeland security, border patrol, law enforcement, coastal mapping, hurricane forecasting and even the film industry could provide limitless opportunities for UAS operators in the very near future.[61] An RPA hiring boom, similar to the commercial aviation hiring boom discussed earlier, could spell disaster for another critical career field in the USAF.

Tedious shift work schedules, difficulty dividing war posture from home life, and increased civilian RPA applications could presage an impending RPA pilot exodus. With the first beta group of URT trained RPA pilots completing their six-year ADSC in 2016 and the mandate to open FAA airspace by September 2016, lucrative offers from burgeoning civilian markets will make it difficult for the AF to retain UAS operators.[62] Comments from the *Pilot Retention* survey points to future difficulties regarding RPA pilot retention.

Comments about getting out of the AF were pervasive in statements made by surveyed RPA pilots. One respondent was a member of an initial RPA beta program and commented that his ADSC was six years, taking him through his 11th year of active service, and he

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[60] *Federal Aviation Administration (FAA) Modernization and Reform Act of 2012,* HR 658, 112th Cong., 2nd sess., 2012, (3 January 2012), sec. 332 (a), 63.

[61] A complete discussion about the civilian employment opportunities in the unmanned aircraft system industry resides in Chapter 4 of the previously cited RAND study, titled "Incentive Pay for Remotely Piloted Aircraft Career Fields."

[62] Taken from multiple sources, to include E-mail conversations with Major T. Shultz, the RAND "Incentive Pay for Remotely Piloted Aircraft Career Fields," and briefs provided by the RPA Capabilities Office in the Pentagon.

was unsure if he would stay or separate.[63] A second officer was more direct, stating, "I have witnessed competent aviators lose all drive whatsoever from being overworked and burnt-out."[64] These comments paired with additional survey data point towards noticeable risks within the RPA community.

What are the Risks for the RPA Community?

Assessing the risk associated with poor retention in the RPA community was difficult, given the small survey population and the relative age of the community as a whole. A small survey population of RPA pilots, consisting of 23 solicited and 13 respondents, demonstrates the need of a larger population size to increase statistical validity. Never the less, information obtained from the survey provides initial insight into the level of perceived risk for the RPA community, useable for development of future studies. As the community continues to mature as a distinct career field, manned primarily with officers specifically trained to be RPA pilots, the ability to assess risk accurately will increase. That said, the information presented within this section comes from the raw data gathered in the *Pilot Retention* survey, and provides some discernment about RPA perceptions of risk and retention.

Based on information already presented, it is an acknowledged fact that the RPA community has been operating at sub-optimum manning in a challenging operational environment. Interestingly, RPA pilots were less concerned with the risks associated to retention than they were about retention itself. When asked specifically if RPA squadrons were able to maintain a consistent level of manning, 61 percent (8 of 13) of respondents *disagreed* or *strongly disagreed.[65]* Similarly, 61 percent (8 of 13) of respondents *disagreed* or *strongly disagreed* that the combat readiness of their squadron was unaffected by the current rate of pilot

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[63] Anonymous responses from Air University (AU) *Retention Survey.*
[64] Anonymous responses from Air University (AU) *Retention Survey.*
[65] Results tabulated from Section III, Question 22 of the *Retention Survey*, sorted for RPA pilot answers.

separation from the AF.[66] Clearly, of those surveyed there is a general feeling that manning and combat readiness suffer because of current retention, but not so overwhelmingly to indicate mission degradation. Survey respondents reveal a more slanted view about the future of RPA leadership.

When asked about the future of RPA leadership at the squadron commander level and above, survey responses suggest an obvious concern. Over two thirds of all RPA respondents (9 of 13) *agreed* that the "best" rated officers they expected to see leading their community at the squadron command level and above were leaving AD well before reaching that milestone.[67] Interestingly, none of the respondents *strongly agreed* with this comment, which could be indicative of the current group dynamic. Given the number of pilots that operate RPA's as a single assignment, and then return to their previous MWS, it is likely that these responses will remain skewed until pilots raised within the RPA community reach squadron command. Equally imbalanced were RPA opinions pertaining to United States security as it equates to leadership.

Concern about future leadership translated directly into apprehension for the future security of the United States. When asked if security would be weaker because of the "best" officers electing to separate from AD after their initial ADSC, 69 percent (9 of 13) *agreed* or *strongly agreed.*[68] Again, it is plausible that responses to this question are one-sided given the relative age of community. As the community continues to mature, with leaders developed from within, concern about the "best" officers and security may normalize to values seen in the fighter and bomber communities. Until homegrown pilots are leading RPA squadrons, there appears to be an underlying opinion that the RPA

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[66] Results tabulated from Section III, Question 23 of the *Retention Survey*, sorted for RPA pilot answers.
[67] Results tabulated from Section III, Question 24 of the *Retention Survey*, sorted for RPA pilot answers.
[68] Results tabulated from Section III, Question 25 of the *Retention Survey*, sorted for RPA pilot answers.

community will suffer from senior leader parochialism and entrenched thinking.

Sentiments concerning the depth of senior leadership understanding of the RPA community are compelling. Quoting an RPA lieutenant colonel, "there has been a pattern of organization resistance to full integration of RPA into USAF culture."[69] This sentiment reflects mildly in survey results, which revealed 46 percent (6 of 13) of respondents *disagreed* or *strongly disagreed* that current AF senior leadership has a good understanding of the quantity and quality of rated officers leaving after their initial ADSC.[70] An additional 31 percent (4 of 13) were *neutral* in their opinion about the same question leaving only 23 percent (3 of 13) to *agree.*[71] To effect change, leadership throughout the RPA chain of command must have an integral knowledge of the variables affecting crew burnout and retention.

Interestingly, in a separate NATO report, researchers identified that while "medical resources can advise commanders and help individuals, on the whole…policy and line commanders have the greatest influence on factors affecting occupational burnout."[72] This suggests that the preponderance of growth for the RPA community will come out of innovative and bold line commanders who are able to translate to senior leaders and encourage positive retention. To affect long-term change in the RPA community, retention of these same line commanders to the senior leader ranks is critical.

Findings and Summary for the RPA Pilot Community

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[69] Lieutenant Colonel Bryan Callahan, "Force Development and Remotely Piloted Aircraft: How to Guide for Innovation Paralysis" (course paper, School of Advanced Air and Space Studies, Air University, January 2013), 4.
[70] Callahan, "Force Development and RPA," 4.
[71] Results tabulated from Section III, Question 26 of the *Retention Survey*, sorted for RPA pilot answers.
[72] Results tabulated from Section III, Question 26 of the *Retention Survey*, sorted for RPA pilot answers.

Results from this case study indicate that the RPA community is concerned with retention, and as such, they identified the variables that have the most effect. Specifically, RPA pilots identified operations tempo and family stability, while adding a third notable variable in other life goals. See Table 16 for the RPA variables. When asked if the variables affecting the decision to stay on or leave AD have changed since completing pilot training, 84 percent (11 of 13) *agreed* or *strongly agreed*.[73] The ACP program, however, does a poor job of addressing these changes, with only 31 percent (4 of 13) of respondents *agreeing* or *strongly agreeing* that ACP does a good job of retaining the "best" from the RPA community.[74] Equally ineffectual as the ACP on retention, is the notion of flying new and advanced aircraft.

Table 16: RPA Synthesis

	Air Force Identity	Money & Compensation	Promotion & Recognition	Family & Stability	Operations Tempo	Other Life Goals
RPA Pilots	*30.80%*	*61.60%*	*30.80%*	*92.30%*	*100.00%*	*66.60%*
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12

Author's original work developed from the electronic survey.

RPA pilots do not believe that the opportunity to fly the newest weapons systems is enough to keep them on AD beyond their initial ADSC. Of those surveyed, 53 percent (7 of 13) *disagreed* or *strongly disagreed* with the premise, with an additional 15 percent (2 of 13) expressing a neutral opinion, leaving 30 percent to *agree* or *strongly agree*.[75] Given that money and the opportunity to fly advanced weapons is not enough, RPA pilots provided areas specific to their community to enable better retention of the "best."

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[73] Results tabulated from Section IV, Question 32 of the *Retention Survey*, sorted for RPA pilot answers.
[74] Results tabulated from Section IV, Question 30 of the *Retention Survey*, sorted for RPA pilot answers.
[75] Results tabulated from Section IV, Question 31 of the *Retention Survey*, sorted for RPA pilot answers.

When queried about specific areas that require additional attention for improved retention of the "best," RPA pilots provided interesting results. Of those who responded, 84 percent (11 of 13) *agreed* or *strongly agreed* that more of the "best" RPA pilots would stay on AD if there were more focus on the mission as opposed to administrative details.[76] Further, 76 percent (10 if 13) *agreed* or *strongly agreed* that more focus on tactical competency as opposed to career progression would positively enhance retention of the "best" past initial ADSC commitment.[77] Mission focus and competency are only partial components of the RPA picture, as shown in survey responses pertaining to AF messaging and family stability.

Interconnected to retention of the "best" RPA pilots are AF messaging and family stability. When asked if more of the "best" rated officers who leave AD would stay if AF messaging were more in line with its spending, 69 percent (9 of 13) *agreed* or *strongly agreed.*[78] The importance of messaging matching action carries over to the service member's family. When asked, if more of the "best" would stay if family stability and welfare were better than it is currently, 92 percent (12 of 13) *agreed* or *strongly agreed.*[79] This statistic matched the overall opinion held by RPA pilots that family stability is overwhelmingly influential variable on retention. As important as messaging and stability are, better opportunities in the guard, reserve and civilian sector are equally unimportant.

RPA pilots do not believe that the "best" rated RPA pilots are leaving because of better opportunities in the guard, reserve or civilian

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[76] Results tabulated from Section IV, Question 34 of the *Retention Survey*, sorted for RPA pilot answers

[77] Results tabulated from Section IV, Question 35 of the *Retention Survey*, sorted for RPA pilot answers.

[78] Results tabulated from Section IV, Question 36 of the *Retention Survey*, sorted for RPA pilot answers.

[79] Results tabulated from Section IV, Question 37 of the *Retention Survey*, sorted for RPA pilot answers.

sector. Only 31 percent (4 of 13) thought the "best" were leaving for better opportunities in the guard or reserve, with slightly more, specifically 38 percent (5 of 13), believing the "best" were leaving for the civilian sector.[80] However, this latter factor may increase as opportunities in the civil (or other non-DOD government agencies) expand in the future. These statistical results provide credence to opinions offered by RPA pilots, and help identify focus areas for retention improvement.

Maturation of the RPA career field has been a long process, often veiled in secrecy and overshadowed by parochialism from manned aircraft advocates. Until recently, emphasis on RPA utility was sporadic at best. Recent successes however, created an insatiable appetite for their unique capabilities, resulting in requirements outpacing capacity.

As such, the young community sprang from a conglomeration of initiatives meant to bolster personnel numbers. However, the success in bolstering numbers had a secondary effect, leaving the RPA community waning for unique identity, and devoid of an internal champion with uniquely distinguishing traits. This effect began to change with the establishment of the RPA community as a unique community in the AF force structure, with its own dedicated training pipeline.

Like any military bureaucracy however, development of these homegrown officers from tactical experts to influential senior leaders will take time. Until a preponderance of the officers within the RPA community are a product of the newly established, homegrown initiative, accurate assessment of influential retention variables on the community will be difficult. Given this fact, historical assessments like ACP will have to suffice, but only as a starting point for future studies.

If FY 2012 ACP take rates and the expected opening of civil airspace to UAS in FY 2016 is any indicator of future retention, loss

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[80] Results tabulated from Section IV, Question 38-39 of the *Retention Survey*, sorted for RPA pilot answers.

projections of RPA pilots could mirror those seen from manned flight communities to the airlines. This fact is potentially reflected in the importance placed on other life goals by RPA pilots, and as such, necessitates further specification and analysis.

Contextual differences in the definition of operations tempo and family stability for RPA pilots is important to understanding retention within the community. Primarily CONUS based and physically removed from harm does not remove the mental and emotional stresses unique to the RPA mission, which ultimately have an effect on family stability. Additionally, trying shiftwork schedules exacerbated by manning shortfalls and increased CAP requests adds further strain to an already thin margin for operations tempo and family stability.

Contributions by the RPA community to the war effort, and elsewhere, have unequivocally been substantial. However, overreach by political senior leaders with respect to promotion rates and awards may be contributing to the internal AF view of the community as a pariah. Forced maturation of a community, whether through investigation of promotion rates or proposed military decorations, as a visceral effect internal and external to the AF.[81] The concern implied by a congressionally mandated investigation into promotion and training rates for RPA pilots did not resonate in surveyed RPA pilot responses. The author acknowledges that the subject pool is small, and those attending

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[81] The "proposed military decoration" alluded to is the Distinguished Warfare Medal, created to recognize the achievements of a small number of service men and women who have an especially direct and immediate impact on combat operations using remotely piloted aircraft and cyber operations. General reaction to the medal itself was mild; however, its placement within the order of merit among other military decorations was highly disputed. As such, Secretary of Defense Chuck Hagel, acting with concurrence from the Joint Chiefs of Staff and the other service secretaries, recommended having the medal downgraded to a device to quell the debate over precedence, which distracted from its original purpose. Taken from Secretary of Defense Chuck Hagel, "Statement by Secretary of Defense Chuck Hagel on the Distinguished Warfare Medal, No. 241-13" to the public media, Washington, DC, April 15, 2013, http://www.defense.gov/releases/release.aspx?releaseid=15934 (accessed 18 April 2013).

AU are amongst the top of their respective career fields. A larger survey of randomly selected RPA pilots would clarify this finding.

RPA pilots are concerned with manning, as well as its effect on combat readiness. Further, they are concerned that departure of the "best" will have a negative effect on the future of RPA leadership as well as the security of the United States. Interestingly, they do not seem overwhelmingly concerned with AF senior leadership awareness of the problem.

This project revealed that pay (ACP and ACIP) reflect a limited understanding of and approach to pilot retention within the surveyed aviation communities. The importance of developing each community of interest separately is evident in the diverse nature of their responses. Broadly speaking, each community identified similar variables as being influential on retention of the best, but for contextually different reasons. For this reason, the paper will now explore a synthesis of the three communities, and the statistical significance associated with their comparison.[82]

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[82] If you require more complete information pertaining to the survey responses from the RPA community, please contact Major Brian Stahl at brian.stahl.2@us.af.mil .

CHAPTER 6
Synthesis and Statistical Results

The core of the CAF is Airmen.

—Air Combat Command Website

This chapter provides a synthesis of the data collected from the fighter, bomber and RPA communities contained within the CAF as a starting point.[1] Further, it provides statistical analysis of the findings and identifies the need for continued studies into this problem.

Synthesis of the data collected from the *Pilot Retention* survey indicates that 84 percent of the surveyed communities agree that the Air Force has a problem retaining the "best" officers from their respective groups. A one-way between subjects ANOVA compared the mean scores on pilot retention by fighter, bomber and RPA communities. Findings from that test reveal there is a statistically significant difference between how the groups responded to this question ($F_{(2, 89)} = 5.198$, $p < .007$, partial Eta Squared = .105). Pairwise comparisons of the three groups revealed a statistically significant difference ($p < .006$) between fighter and bomber pilots. The raw data further illustrated that 65.1 percent of Fighter pilots *strongly agreed* retention was a problem versus 18.8 percent of Bomber pilots who responded that way. See Table 17 for the Univariate test results. Though the sample sizes used in this study were small, these data attest to the severity of the problem amongst communities.

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[1] Statistical results presented in this chapter are the result of diligent efforts by Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama. All of the data used came directly from the *Pilot Retention* survey administered to Air University students from Squadron Officer College, Air Command and Staff College, School of Advanced Air and Space Studies, and Air War College.

Table 17: Univariate Test Comparing Mean Scores on Pilot Retention for Fighter, Bomber and RPA communities

Univariate Tests

Dependent Variable: Flying Community experiencing pilot attrition

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	4.479	2	2.240	5.198	.007	.105
Error	38.347	89	.431			

The F tests the effect of What is your background. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

While Fighter pilots were statistically different from bomber pilots, RPA pilots were not significantly different from either fighter pilots (p<.940) or bomber pilots (p<.36). See Table 18 for the statistical results from a pairwise analysis.

Table 18: Pairwise Comparison of Pilot Responses to Community Retention Problems

Pairwise Comparisons

Dependent Variable: Pilot Responses pertaining to their community experiencing retention problems

(I) What is your background?	(J) What is your background?	Mean Difference (I-J)	Std. Error	Sig.ª	95% Confidence Interval for Differenceª	
					Lower Bound	Upper Bound
Fighter Pilot	Bomber Pilot	.587*	.184	.006	.139	1.036
	RPA Pilot	.203	.200	.940	-.285	.691
Bomber Pilot	Fighter Pilot	-.587*	.184	.006	-1.036	-.139
	RPA Pilot	-.385	.245	.360	-.983	.213
RPA Pilot	Fighter Pilot	-.203	.200	.940	-.691	.285
	Bomber Pilot	.385	.245	.360	-.213	.983

Based on estimated marginal means
*. The mean difference is significant at the .05 level.
a. Adjustment for multiple comparisons: Bonferroni.

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

About half (53.8 percent) of the RPA pilots *strongly agreed* their community is experiencing a retention problem. This result, compared to the data presented in the previous paragraph, suggests that fighter pilots are at present, more affected by the poor retention or more sensitized to the ramifications given the current environment than RPA or bomber pilots are. Based on the strength of answers, RPA pilots are close behind fighter pilots, with bomber pilots producing the least strong responses. The variables identified by each community as being most influential for retention shed additional light on the similarities and differences among them.

Across the surveyed fighter, bomber and RPA communities, there were two undeniable variables deemed most influential to the retention of the "best" from their respective communities. Specifically, the identified variables were operations tempo and family stability. Operations tempo ranked as the most influential variable, garnering a *very important* or *quite important* rating from

93.5 percent (87 of 93) of all respondents while family stability received 90.3 percent (84 of 93) of the same. See Table 19 for the synthesis of the influential variables amongst the fighter, bomber and RPA communities. Statistical analysis of these variables based on the background of the surveyed pilots revealed interesting results.

Table 19: Synthesis of Influential Variables Amongst the Fighter, Bomber, and RPA communities.

	Air Force Identity	Money & Compensation	Promotion & Recognition	Family & Stability	Operations Tempo	Other Life Goals
Fighter Pilots	53.10%	45.30%	50.00%	90.60%	90.60%	61.00%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62
Bomber Pilots	31.30%	75.00%	75.00%	87.50%	100.00%	56.30%
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16
RPA Pilots	30.80%	61.60%	30.80%	92.30%	100.00%	66.60%
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12
Overal Percentage	46.20%	52.60%	51.60%	90.30%	93.50%	59.10%
Total Count	43 of 93	49 of 93	48 of 93	84 of 93	87 of 93	55 of 93

Variable percentages calculated by the total number of respondents from the Fighter, Bomber and RPA communities that ranked each variable as either "very important" or "quite important" to retention of the best pilots from their respective communities. Author's original work developed from the electronic survey.

Statistical analysis reveals that the sample data for variables in the models met assumptions of normality, accomplished by using a MANOVA test with the six influential variables listed at the top of Table 19 as the dependent variables, and the three groups of pilots as the independent variables. The multivariate test was not statistically significant (Roy's Largest Root = .117; $p < .156$), however, due to the small sample size, observed power was low (.585), so it is possible that significant differences between pilot groups exist but were not found. Though attitudes on five of the

variables were similar, the tests of Between-Subjects Effects within the MANOVA resulted in a significant difference between pilots groups on the issue of compensation.

Another MANOVA identified whether monetary compensation influenced the communities of interest differently. Using two dependent variables, specifically; *Money / Compensation* and *Aircrew Continuation Pay* as the dependent variables and *Background* as the independent variable, the results indicated significant differences, (Roy's Largest Root = .133; p<.004), Observed power was fairly high (.864). Tests of Between-Subjects Effects indicate a statistically significant difference between groups on Money (p< .037) and ACP retains the best officers (p< .021), as shown in Table 20.

Table 20: Test of Between Subjects Effects by Community and Money / ACP

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	Money Compensation	7.582[a]	2	3.791	3.425	.037	.072	6.850	.629
	ACP retains Best	8.046[c]	2	4.023	4.063	.021	.085	8.125	.709
Intercept	Money Compensation	878.404	1	878.404	793.573	.000	.900	793.573	1.000
	ACP retains Best	530.136	1	530.136	535.363	.000	.859	535.363	1.000
Q2	Money Compensation	7.582	2	3.791	3.425	.037	.072	6.850	.629
	ACP retains Best	8.046	2	4.023	4.063	.021	.085	8.125	.709
Error	Money Compensation	97.407	88	1.107					
	ACP retains Best	87.141	88	.990					
Total	Money Compensation	1353.000	91						
	ACP retains Best	821.000	91						
Corrected Total	Money Compensation	104.989	90						
	ACP retains Best	95.187	90						

a. R Squared = .072 (Adjusted R Squared = .051)
b. Computed using alpha = .05
c. R Squared = .085 (Adjusted R Squared = .064)

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Pairwise comparisons reveal the differences between Fighter and Bomber pilot's attitudes on these variables; Money (p< .044)

and ACP have more effect on the "best" officers from the bomber community (p< .027), as shown in Table 21.

Table 21: Pairwise Comparison by Community and Money/ACP

Pairwise Comparisons

Dependent Variable	(I) What is your background?	(J) What is your background?	Mean Difference (I-J)	Std. Error	Sig.*	95% Confidence Interval for Difference* Lower Bound	Upper Bound
Money Compensation	Fighter Pilot	Bomber Pilot	-.734	.295	.044	-1.454	-.014
		RPA Pilot	-.407	.321	.624	-1.190	.376
	Bomber Pilot	Fighter Pilot	.734	.295	.044	.014	1.454
		RPA Pilot	.327	.393	1.000	-.632	1.286
	RPA Pilot	Fighter Pilot	.407	.321	.624	-.376	1.190
		Bomber Pilot	-.327	.393	1.000	-1.286	.632
ACP retains Best	Fighter Pilot	Bomber Pilot	-.746	.279	.027	-1.427	-.065
		RPA Pilot	-.448	.304	.431	-1.189	.293
	Bomber Pilot	Fighter Pilot	.746	.279	.027	.065	1.427
		RPA Pilot	.298	.372	1.000	-.609	1.205
	RPA Pilot	Fighter Pilot	.448	.304	.431	-.293	1.189
		Bomber Pilot	-.298	.372	1.000	-1.205	.609

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Bonferroni.

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Review of actual responses indicate that 75 percent of bomber pilots regarded money and compensation as *very important* or *quite important* while only 44 percent of fighter pilots responded with the same ranking. A nearly equal percentage of fighter pilots, 40 percent to be exact, rated money and compensation as only *fairly important*. There is indication however, that bomber pilots are more likely to see programs like the ACP and ACIP as entitlements.

Interestingly, RPA pilots had an equally remarkable anomalous answer that requires further attention. All statistical results from the small pool of surveyed RPA pilots suggest that the

RPA community does not view money, recognition or promotion as significantly influential variables for retention. RPA pilots, however, are highly motivated by the variable categorized in this study as *Other Life Goals.* This is conjecture, but the author suspects that the opening of national airspace in 2015 to unmanned systems, and the job opportunities created in the civilian sector because of this change, leave RPA pilots looking forward to other opportunities.

Data also suggests that RPA pilots want to keep their options open by not taking the ACP. Whether it is dissatisfaction with the job, or the prospect of future opportunities, is not clear. What is clear, however, is the necessity to identify the influential variables for this community quickly to avoid losing the initial pool of experienced pilots in the near future, a topic addressed specifically, along with several others in the next chapter.

Anecdotal evidence suggested the six variables identified above would account for the main influences affecting a pilot's decision to stay on AD; however, this study does not support those assumptions overtly. To determine the degree to which the aforementioned variables did motivate pilots to remain on active duty, the author used a multiple regression with "*The rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community*" as the dependent variable.

The following three questions were the independent variables for the same statistical analysis. First, "*Many of the best rated officers would stay if there were more focus on tactical competency as opposed to career progression.*" Second, *"Many of the best rated officers would leave regardless because of better opportunities / compensation in the civilian sector."* Third, "The opportunity to fly

the newest and most advanced weapons systems is enough for me to stay on Active Duty beyond my initial Undergraduate Pilot Training Active Duty Service Commitment." Multiple R for regression was statistically significant, F (3, 88) = 7.785, p< .000) and accounted for 21 percent (R^2 = .210), of the explanation for the "best" officers leaving active duty, with results shown in Table 22 and Table 23.

Table 22: Test of Between Subjects Effects on the "Best" Rated Officers Leaving Active Duty

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.458	.210	.183	.82063	.210	7.785	3	88	.000	1.976

a. Predictors: (Constant), Flying new aircraft enough incentive to stay, Leave for better opportunities in civilian sector, Stay if more focus on tactical competence

b. Dependent Variable: Rated leaving are the best pilots

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Table 23: Correlation of Best Leaving Active Duty

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	3.427	.547		6.261	.000			
Stay if more focus on tactical competence	.329	.099	.320	3.318	.001	.348	.333	.314
Leave for better opportunities in civilian sector	-.146	.077	-.183	-1.901	.061	-.237	-.199	-.180
Flying new aircraft enough incentive to stay	-.178	.071	-.239	-2.521	.014	-.231	-.260	-.239

a. Dependent Variable: Rated leaving are the best pilots

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Further, the data suggests the study participants believe loss of these rated officers is reflects in senior leader understanding of

the retention problem. A multiple regression performed using "*Current Air Force senior leadership has a good understanding of the quantity and quality of rated officers leaving after their initial Active Duty Service Commitment*" as the dependent variable. Two questions served as the independent variables for the same statistical analysis. First, *"The rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community. Second, "The General Officer ranks will be less capable because the best officers elect to leave Active Duty early in their career."* Multiple R was statistically significant, $F_{(2, 89)} = 14.004$, p< .000) and accounted for 24 percent (R^2 = .239) of their opinion of the degree to which senior leaders understand the problem, depicted in Table 24.

Table 24: Senior Leader Understanding of Retention Problem

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.489ᵃ	.239	.222	.86824	.239	14.004	2	89	.000	1.934

Model Summaryᵇ

a. Predictors: (Constant), GO ranks will be weaker from attrition, Best officers for leadership are leaving
b. Dependent Variable: Senior AF Leaders have good understanding of problem

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Both independent variables made a statistically significant contribution to the model. Specifically, the first question, *"The rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community" (β= -.272, p< .028, and r = -.444)* demonstrates that for every unit increase in senior leader understanding, rated officers electing to leave goes down .272 units. The second question, *"The General Officer ranks will be less capable because the best officers elect to*

leave Active Duty early in their career" (*β= -.267, p< .031, and r =-.446*) shows that for every unit increase in understanding, GO ranks being less capable goes down .267units. The zero-order correlation was negative in both cases showing these inverse relationships. Clearly, pilots believe increased senior leader understanding of the retention problem will have a strong impact on the future quality of AF leadership, as shown in Table 25.

Table 25: Increased Understanding of Retention and Its Impact on Future Air Force Leadership

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	4.167	.374		11.153	.000			
	Best officers for leadership are leaving	-.283	.127	-.272	-2.230	.028	-.446	-.230	-.206
	GO ranks will be weaker from attrition	-.235	.107	-.267	-2.187	.031	-.444	-.226	-.202

a. Dependent Variable: Senior AF Leaders have good understanding of problem

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

There was a significant difference among the surveyed pilots as to when the "best" from their community made the decision to leave AD. A one-way between-subjects ANOVA compared the mean scores on "*the best pilots make the decision to leave before their ADSC is up*" question by fighter, bomber and RPA communities. There is a statistically significant difference between how the groups responded to this question (F (2, 89) = 4.699, p<.011, partial Eta Squared = .096). Specifically, compared to fighter pilots, RPA pilots perceive that the decision to leave AD occurs well before the completion of an ADSC (p<.037). See Table 26 for the Univariate test results.

Table 26: Univariate Tests Comparing the Influential Variables over Time

Dependent Variable: Best pilots decide to leave before ADSC done

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	10.153	2	5.076	4.699	.011	.096
Error	96.152	89	1.080			

The F tests the effect of What is your background? This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

The pairwise comparison among these three groups failed to reveal any other significant comparisons. See Table 27.

Table 27: Pairwise Comparison of Responses Pertaining to When the "Best" Pilots Decide to Leave Compared to ADSC Completion

Dependent Variable: Best pilots decide to leave before ADSC done

(I) What is your background?	(J) What is your background?	Mean Difference (I-J)	Std. Error	Sig.ᵃ	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Fighter Pilot	Bomber Pilot	-.622	.291	.106	-1.332	.088
	RPA Pilot	-.810*	.317	.037	-1.582	-.037
Bomber Pilot	Fighter Pilot	.622	.291	.106	-.088	1.332
	RPA Pilot	-.188	.388	1.000	-1.135	.760
RPA Pilot	Fighter Pilot	.810*	.317	.037	.037	1.582
	Bomber Pilot	.188	.388	1.000	-.760	1.135

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

*. The mean difference is significant at the .05 level.

Source: Developed from data collected via the Pilot Retention survey, with the assistance of Ms. Sophie E.A. Ryan, Chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Setting aside the issue of why and when pilots leave active duty, the study explored pilot attitudes and predictions of the

impact the retention problem would have on the Air Force and its mission.

Statistical analysis revealed that pilots from all three communities believe continued poor retention of the "best" officers will lead to significant negative implications for the AF. Multiple regression analysis performed using forced entry method with "*US security is weaker*" as the dependent variable bolsters this finding. Three individual questions served as the independent variables for the same analysis. First, "*the rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community.*" Second, "*the General Officer ranks will be less capable because the best officers elect to leave Active Duty early in their career.*" Third, "*The best rated officers I expected to see leading the Air Force as commanders (at the SQ/CC level and above) are leaving Active Duty well before they reach that milestone.*" These variables were a good model for the data, Multiple R was statistically significant, $F_{(3, 88)} = 37.309$, $p < .000$.)

The linear combination of these variables accounted for more than half of the explanation, 56 percent to be exact, ($R^2 = .560$) for the pilot's predictions of the impact of leadership quality on US security. Two of the three variables contributed significantly to the prediction that "US security is Weaker" because the "best" officers are leaving AD. Explicitly, "*the rated officers that are currently electing to leave the Air Force before retirement age are among the "best" officers in my community* ($\beta = .369$, $p < .001$) and "*The General Officer ranks will be less capable because the best" officers elect to leave Active Duty early in their career*" ($\beta = .352$, $p < .001$). Therefore, as the best officers leave active duty results in a less capable GO cadre, respondents predict US security will weaken. Questions

pertaining to combat readiness were less effective in producing quantifiable results.

Of the questions asked pertaining directly to combat readiness, none of the highlighted variables had a statistically significant contribution toward predicting combat readiness. As a result, this line of questioning requires modification to useable data collection during future studies. While questions pertaining to combat readiness did not reveal any useable statistical data, the raw data presented in each community of interest chapter still highlights the general thinking of pilots within each respective community.

Another wrinkle uncovered by this study is finding the most compelling reasons to cause a pilot to leave active duty turns out to be a moving target. A one-way between-subjects ANOVA compared the mean scores on the question, "*have the variables affecting your decision to stay on or leave AD changed since you completed pilot training,*" by fighter, bomber, and RPA communities. There is not a statistically significant difference between how the groups responded to the question ($F_{(2, 89)}$ = .144, p<.866, partial eta Squared = .003), indicating all pilots feel similarly. At the same time, 79.4 percent of fighter pilots, 81.3 percent of bomber pilots and 84.6 percent of RPA pilots agree that their reasons to remain on active duty have changed over time.

This discovery highlights three fundamental necessities for future studies. First, they must include a representative sample of each pilot population to generate adequate power to find effects when they truly exist. Second, incorporate a wider range of variables than those presented in this study to find the unexplained reasons for poor retention. Third, future studies must have a temporal component, drawing on data gathered from studies spaced at regular intervals as opposed to a single study,

that will capture when, and in what way, the reasons for leaving change for each pilot group. These broad recommendations enable a transition into the final chapter that focuses on conclusions drawn from all three case studies, recommendations to improve retention, and the implications if retention measures should not improve.[2]

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[2] If you require more complete information pertaining to the statistical results, or a desire a complete copy of the survey answers, please contact Major Brian Stahl at brian.stahl.2@us.af.mil

CHAPTER 7
Conclusions and Recommendations

Military people stay in service because they like being part of something special. They won't stay long, however, if families aren't treated well.

—General John M. Shalikashvili
Beyond the Wild Blue: A History of the U.S. Air Force

Purpose and Overview of the Research

This study has shown that the Air Force (AF) has a retention problem within the Combat Air Force (CAF), as proven by examination of Aircrew Continuation Pay (ACP) take rates, historical retention rates, survey data analysis, anecdotal conversations and personal interviews. Further, monetary payouts like the ACP and the Aircrew Incentive Pay (ACIP) are not effective in their current forms for retaining the "best" personnel from the respective communities. It is the author's belief that recovery from the negative retention trend is possible, but it necessitates a concerted effort on the part of the AF and the CAF to identify the variables that are most influential on retention. Further, identification of these variables cannot occur at the AF level because the contextual differences in the definition of influential variables will vary by community, individual weapons systems, and possibly even locale. As such, the AF must pursue a more focused means of variable identification before it can truly make a substantial change in the retention of the "best" within its ranks.

The motivation for this research study was threefold. The underlying current of frustration felt by pilots as captured in the Dear Boss letters served as the initial impetus to the project. Burgeoning subjective opinions resulting from personal observation of the "best" departing Active Duty for other opportunities, primarily from a single weapons system, served as the second. The third motivation extended

from a meeting between a group of Air Force Fellows and the commander of United States Air Forces in Europe (USAFE), General Mark A. Welsh III, before his nomination as Chief of Staff of the Air Force (CSAF). During this particular meeting, General Welsh expressed concern about poor retention rates throughout the fighter community, and the AF at large. These three catalyzing moments were the spur to this study, and they generated three specific questions that focus on the retention environment in which the AF is, and will continue to operate in for the near future.

The AF, like the other services within the Department of Defense (DOD), is trying to figure out how to do more-with-less in times of fiscal austerity. This has created a precarious retention environment, with the decisional balance of many CAF pilots resting on a razor's edge between leaving Active Duty (AD) for other opportunities, and remaining on AD despite the current challenges.

This environment fueled the development of the three primary research questions, specifically: 1) is there a retention problem in the CAF, 2) what are the risks associated with poor retention in the CAF, and 3) is there anything the AF can do to solve the problem? Answers to these three questions would either substantiate or refute the research hypothesis. To qualify this hypothesis and answer the aforementioned questions, a multi-disciplined approach drew from several different resources to increase research saliency.

The search for answers to the study questions occurred through three primary methods. The first method entailed detailed analysis of the *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012 to identify retention rates by individual major weapons systems (MWS), communities, and the AF writ large.

The second method leveraged a convenience sample survey, administered from 11 February until 28 February of 2013. See Table 28

for the total survey solicitations and responses for the *Pilot Retention* survey.

Table 28: Total Survey Solicitations /Responses by Major Weapons System (MWS) and Professional Military Education (PME) School

	Fighter	Bomber	RPA	Total Solicited	Actual Number of Respondents	Percentage of School Responses	Percentage of Total Respondents
SOS	24	10	19	*53*	37	**70%**	**40%**
ACSC	30	6	2	*38*	32	**84%**	**35%**
SAASS	7	6	1	*14*	12	**86%**	**13%**
AWC	10	2	1	*13*	11	**85%**	**12%**
Total Solicited	71	24	23	**118**			**100%**
Actual Number of Respondents	64	16	13		**93**		
Percentage of Community Responses	**90%**	**67%**	**57%**			Final Numbers: 118 solicited, 93 respondents. 79% response rate.	
Percentage of Total Respondents	**69%**	**17%**	**14%**	**100%**			

Source: Author's original work developed from the electronic survey given to Squadron Officer School (SOS), Air Command and Staff College (ACSC), School of Advanced Air and Space Studies (SAASS) and Air War College (AWC) from 11 February to 28 February 2013.

The third method relied on interviews and anecdotal conversations with currently sitting, or recently graduated operational squadron commanders from the three communities of interest. Each interview provided invaluable insight into the interworking of an operational squadron from the viewpoint of a front line supervisor tasked to implement, enforce and work between the policies and procedures put in place by the larger AF.

The remaining portions of this paper focus on the conclusions drawn from the research study described above, and provide recommendations as well as implications where applicable. The conclusions begin with those that are applicable for all rated communities within the AF, and will devolve into discussions about the CAF, and finally, the individual communities of interest.

Air Force: Conclusions and Recommendations

Identification of Key Variables

AF Conclusion #1.1: The AF does not utilize an overarching means of tracking its rated communities during the first 10 to 12 years of their rated careers. There are surveys in place, but they are either underdeveloped or underutilized as a means of identifying the contextual differences that exist among communities of interest down to the Major Weapons System (MWS) and basing location level.

AF Recommendation #1.1: The AF, and in particular, the Air Force Personnel Center (AFPC) and Headquarters Air Force Manpower, Personnel and Services (AF/A1) should emphasize the survey of representative sample of all rated career fields, or at least those experiencing the lowest retention rates, at key points throughout their career.

For example, biennial surveys administered to statistically representative pool of rated officers upon completion of their initial aeronautical training would contribute to the development of trends pertaining to the most influential variables for retention over time. With enough trend data, senior leaders could sort by time, rank, aeronautical rating, community, and MWS. As a starting point, the author proposes an expansion of the influential variables used in this study, as shown in Table 29, to incorporate more variables of increased granularity, which would facilitate a clearer picture of relative retention throughout the AF. Additionally, future studies should expand in scope to incorporate career fields outside the CAF, thereby validating the process for a wider population.

Table 29: Synthesis of Influential Variables Amongst the Fighter, Bomber, and RPA communities

	Air Force Identity	Money & Compensation	Promotion & Recognition	Family & Stability	Operations Tempo	Other Life Goals
Fighter Pilots	53.10%	45.30%	50.00%	90.60%	90.60%	61.00%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62
Bomber Pilots	31.30%	75.00%	75.00%	87.50%	100.00%	56.30%
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16
RPA Pilots	30.80%	61.60%	30.80%	92.30%	100.00%	66.60%
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12
Overal Percentage	46.20%	52.60%	51.60%	90.30%	93.50%	59.10%
Total Count	43 of 93	49 of 93	48 of 93	84 of 93	87 of 93	55 of 93

Variable percentages calculated by the total number of respondents from the Fighter, Bomber and RPA communities that ranked each variable as either "very important" or "quite important" to retention of the best pilots from their respective communities. Author's original work developed from the electronic survey.

AF Recommendation #1.2: Expansion of future studies would allow the AF to provide more focused retention methods against specific variables at key points in a rated officer's career. Identification of key variables early in a career would enable leaders to implement solutions at problem inception, rather than waiting to provide a monetary payout at the end of an Active Duty Service Commitment (ADSC) in an attempt to solve it. As this study showed, there are multiple reasons leading pilots to separate from the AF and the default "fix" of incentive pay does not address all these issues.

AF Recommendation #1.3: Major Dale Stanley and the Air Force Expeditionary Center developed a predictive model for AF retention that takes into account dependent variables outside the AF. His regression modeling used Cumulative Continuation Rate as the independent variable and assigned multiple dependent variables internal and external to the AF. These dependent variables include airline hiring rates, ACP

take rates, marriage rates, force shaping, average airline salary, lieutenant colonel promotion rate, and national unemployment. While this list of independent variables is extensive, it is feasible to incorporate other variables as needed.[1]

AF Implication #1: The purpose of identifying Major Stanley's research is not to suggest that he, or his agency, have identified the "smoking gun" for retention of rated CAF aircrew. Rather, it is to suggest that innovative means of providing proactive data collection for variable identification is in development. Further, these innovative solutions warrant support from senior leaders to ensure retention of the "best" human capital for the AF's strategic future. Part of the data collection for the proposed proactive prediction models should come from exit surveys of rated aircrew that elect to leave AD before reaching retirement eligibility.

AF Conclusion #2: Surveyed communities believe the variables influencing retention vary by community and temporally change over the years. Therefore, it is imprudent for the AF to believe that a single monetary compensation at the end of an initial ADSC will make up for undervalued or unaddressed variables that occur earlier in a career, or are specific to one particular community.

AF Implication #2.1: Identification of these influential variables, and the contextual differences that manifest temporally and communally, is essential to retaining more of the "best" rated officers in the AF. If reliance on ACP at the termination of an ADSC continues to propagate into the future, the AF will not be able to remove itself from reactive retention methods that do not address the underlying problems.

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[1] Major Dale Stanley. "Predicting Pilot Retention." Briefing. USAF Expeditionary Center, May 2012.

Exit Surveys

   AF Conclusion #3: The AF does not require all rated officers' to accomplish exit surveys as they are leaving AD. While exit surveys do exist, they are either underdeveloped or underutilized with respect to critically manned career fields or high investment career fields (like pilots). Just as the identification of key variables influencing retention throughout a career is important, so too are the variables at the time of separation, whenever that separation, or even retirement, occurs. Identification of these variables at the time of separation would enable senior leaders to have information about retention variables in the formative years after completion of initial training, as well as the decision point of separation, thereby identifying places where the AF can improve retention methods, and places where they could not have done anything different.

   AF Recommendation #3: Thus, the Air Force, and specifically AF/A1, should conduct exit surveys of all rated officers (one could argue for all critical and high investment career fields) who separate from AD. The data collected from these surveys would supplement the biennial surveys recommended above, and would prove to be invaluable to predictive modeling for future retention.

   AF Implication #3: If this does not occur, the AF will continue to guess as to the reasons for rated officer separation, as opposed to having truth data, used in conjunction with periodic assessments, to paint the whole picture of officer retention variables.[2]

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[2] This does not infer that the AF will be able to retain all of the "best" officers from the heaviest hit communities in retention. Every officer that leaves the AF does so for personal and professional reasons, just as every officer who stays has their own personal and professional reasons for doing so. Rather, this suggests that the AF can tailor its retention methods very specifically, thereby identifying more of the "best" for retention, and addressing their specific concerns, earlier than is currently occurring.

Bonus Payments

AF Conclusion #4: Research for this study revealed that money was not a significant driver for all surveyed communities. Although the bomber community did rank money and compensation significantly higher than did the fighter and RPA communities, none of the communities ranked it as *the* most influential variable. However, outright elimination of bonus payouts would likely have a substantial negative effect on rated officer retention.

AF Recommendation #4: Therefore, a restructuring of the bonus program must occur, for two reasons. First, bonus payouts do not incorporate higher qualifications as part of the calculus, which fails to incentivize those who have obtained increased skillsets. Second, application of bonus payments cannot occur equally across all rated pilot communities, because not all communities experience the same problems with retention at the same time.

AF Recommendation #4.1: Under the current bonus constructs, both the ACP and the ACIP bonus payments award based primarily on time. The ACP targets select communities at the completion of an ADSC, and Years of Aviation Service (YAS) determine amount paid by the ACIP to rated officers. In each instance, the bonus pay out is independent of the level of attained qualification. Rather, they rely on time as the primary delineator. Both the ACP and ACIP should incorporate level of qualification into the calculus of pay out.[3] Additionally, the payout of the ACP can no longer occur equally by aeronautical rating, and must take into account those communities experiencing the worst retention rates.

AF Recommendation #4.2: Payout of the ACP should not occur equally based solely on aeronautical rating. To improve on the current model, the ACP should focus on aeronautical rating, community and

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[3] Ensuring an 8-year Weapons Instructor Course graduate receives more money than a 14-year Flight Lead could incentivize aircrew to achieve higher status sooner while simultaneously making it more lucrative to remain on AD.

weapons system to achieve the most cost effective use of bonus monies, applied against those weapons systems suffering the poorest retention.[4] Monetary payout was not the variable identified as being most influential on retention. The author postulates that monetary payouts have little influence in their current form due to a lack of understanding of the actual influential variables on retention. The ACP has become an ineffectually applied payout against an insufficiently studied problem.

AF Implication #4: A more focused approach of proactively identifying the most affected communities, as well as the correct dollar amounts for retention of personnel from those communities, would lead to higher retention rates and more efficient use of scarce dollars overall. The AF would require direct interaction with Congress to request a change for the ACIP and ACP. If the AF elects not to change these bonus programs, it will continue to suffer a drive towards mediocrity as the "best" depart for more lucrative offers outside AD, taking their unique skillsets with them.

Professional Military Education, Training and Promotion

AF Conclusion#5: Professionally speaking, pilots are currently operationally deferred from attending Professional Military Education (PME) in residence or accomplishing staff jobs due to an operational need to man cockpits. With personnel shortfalls necessitating an increased focus on mission readiness, the AF should modify the importance of these requisites with respect to promotion and career advancement. Understandably, accomplishment of the mission is paramount to the success of the United States Air Force.

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[4] This recommendation applies across all rated communities and weapons systems, and is not unique to the Combat Air Forces. The Mobility Air Forces (MAF), Special Operations Forces (SOF), as well as Space, Cyber and enlisted forces could all benefit from a more focused approach to bonus payout. Critical to this process is the identification of the correct amount, and then determining if this amount is affordable for the AF. If not, this argument lends credence to the previously made point that the most cost effective means of retaining the "best," may not be monetary at all.

AF Recommendation #5.1: Just as critical to the AF's success however, is the retention of an educated officer corps. Bearing this in mind, one of two courses of action should transpire. Either the AF invests more in PME and advanced training during times of fiscal austerity, thereby advancing the future of the remaining corps of officers; or, it must decrease the level of importance placed on PME and higher education for promotion and advancement. The AF cannot have both, and if the best officers from the rated communities feel as though career progression slows or halts by events outside of their control, they will leave AD for other ventures.

AF Recommendation #5.2: As opposed to propagating an "up or out" promotion system, the AF would be better served by allowing a portion of officers to plateau in rank, thereby decreasing the perception that requisite accomplishment is a necessity to stay on AD.[5] The plateau would provide tactical and operational continuity for the CAF, reduce costs associated with PME and staff job TDYs and PCSs, and drive down long-term costs with some officers retiring at a lower rank.

AF Recommendation #5.3: Air Education and Training Command and Air University should eliminate duplicative accomplishments of PME schools by correspondence, followed by in-residence attendance.[6] This duplicative process echoes for Squadron Officer College (SOC), Air Command and Staff College (ACSC) as well as Air War College (AWC), which in all cases takes away valuable time from the Airmen, the mission

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[5] The argument as to whether or not these opportunities are necessary for the development of all officers is beyond the scope of this paper, except to say, not all lieutenants are going to be generals. There are those officers who would thrive, and strongly desire the opportunity to maintain active flying status in lieu of career broadening opportunities like PME or staff jobs.

[6] Currently, expectations dictate that PME in correspondence is a requisite to attend in residence. In-correspondence accomplishment of PME occurs via distance learning, utilizing on line material, chat room discussions, and self-study. In-residence accomplishment of PME takes place in a classroom setting with more emphasis on peer interaction and instruction from professors.

and the family.[7] Notice this argument does not discount the importance of PME, rather, it seeks to optimize PME's contribution to the development of officers, while decreasing the negative influence reaped from repetitive accomplishment of it.

AF Implication #5: Failure to change PME requirements will leave airmen having to choose between career progression requisites and family time. As this study proves, operations tempo and family stability are key drivers for retention, both of which revolve around time available to an airman.

Combat Air Force: Conclusions and Recommendations

Geographic Proximity versus Global Reach

CAF Conclusion #1: Senior political and military leaders need to reevaluate the reasons why combat assets deploy, and whether benefits gained in the current joint and international environment by a CAF squadron's presence are worth the strains levied on its smaller force structure.[8] Fewer available squadrons to accept the same number of taskings, combined with increased deployed-to-dwell rates, place an increased strain on aircraft and personnel.

CAF Recommendation #1: It is time for the AF, and the nation writ large, to accept an increased level risk in deployed locations by reducing the requirements for a deployed CAF footprint. To regain control of operations tempo, tactical capability, and retention of the "best," acceptance of greater risk is required in the operational environment.

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[7] Squadron Officer College (SOC) is the level of PME associated with the rank of Captain, Air Command and Staff College (ACSC) is the level of PME associated with the rank of Major, and Air War College (AWC) is the level of PME associated with the rank of Lieutenant Colonel and Colonel. In correspondence alludes to course accomplishment at home station via self-study while in-residence implies PME attendance in person at Air University.

[8] Combatant commanders undoubtedly prefer close geographic proximity of combat assets, however in times of fiscal austerity and smaller force structures it is not feasible, or affordable to continue at the rate previously enjoyed.

CAF Implication #1.1: The short-term risk will equate to a long-term gain as squadrons can use saved time and money to organize, train, and equip at home for the moment when actual CAF presence is required.[9] If the AF does not recapitalize its human capital, the nation will lose a critical piece of the national security umbrella.

CAF Implication #1.2: Increased emphasis on rapid mobilization and deployment in response to specific threats, as opposed to planned deployment as deterrence, will mitigate this problem.[10] This idea is not retrenchment, rather, it speaks to an "airpower-in-being," which uses the defensive and deterrent nature of the AF's fielded strategic assets in conjunction with the inherently rapid and offensive nature of tactical, space and cyber assets, to gain command of the air, space and cyber domain.[11] Equally important to the operations tempo discussion is the utilization of individual officers.

Low Density High Demand Human Capital

CAF Conclusion #2: The AF must reevaluate how it utilizes rated officers with unique skill sets. Many of the "best" officers (represented by but certainly not limited to Weapons Instructor Course, or WIC

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[9] Reminiscent of the pre-Desert Storm era, the majority of fighter squadrons should remain in CONUS, with the purpose of recapitalizing tactical and operational capability. Further, bomber squadrons should rely on their global reach capability to influence specific target sets, as opposed to forward deploying at the frequency and duration currently experienced. The AF is in a prime position to return to its enduring principles, and capitalize on the unique capabilities afforded to Airmen and their exploitation of the air, space and cyber domains through airpower.

[10] Enduring principles of airpower like speed, access, precision, economy of risk, and innovation, all implemented by a continuously engaged force, allow the AF to respond from afar without the need for a large geographic presence.

[11] The idea of "airpower-in-being" builds upon Corbett's discussion of a "fleet-in-being." While Corbett espoused a primarily defensive role of a "fleet-in-being," the enduring principles of airpower mentioned above give the AF an additional offensive advantage, with the unique ability to respond simultaneously through the Air, Space and Cyber mediums at time and place of her choosing. While there is an acknowledged risk in geographic separation from the point of contention, the sustainment of a credible and capable AF which focuses on the enduring principles of airpower ultimately create a formidable entity that cannot be overlooked by hostile forces during their political and military calculus. Julian S. Corbett, *Some Principle of Maritime Strategy* (Annapolis, MD: Naval Institute Press, 1911), 224-225.

graduates) are departing AD because of extended, unaccompanied assignments that do not explicitly require their talents. These men and women are in short supply, and their use must be the exception, and not the rule.[12] Development and retention of a strong core of talented CAF officers is an investment in the AF's strategic future, and as such, departure rate of these highly skilled officers demands attention.

CAF Recommendation #2: Billets currently requiring highly skilled rated officers (i.e. Weapons Instructor Course graduates) need reassessment by the AF, Air Combat Command (ACC) and Global Strike Command (GSC). Loss of these officers from the primary skillset for a year has longer lasting effect on a community than just lost calendar time.

CAF Implication #2: Instrumental to the refocusing process is the retention of a core cadre of airpower experts, the "best" from all of the AF core functions, to ensure that short-term force structure reductions does not also undercut long-term force capability. Retention of this core of the "best" begins at the lowest levels, and requires implicit identification of the contextual differences between communities, and the dissimilar definitions they use to define influential variables on retention as a result.

All three of the communities of interest included in this research study identified operations tempo and family stability as the most influential variables on retention for their respective communities. Interestingly though, the way in which each community defines operations tempo and its subsequent effect on family stability is different. As such, the following sections will focus on the contextual similarities and differences that permeate through the respective communities to reinforce the need to identify the most influential

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[12] As the AF departs two theaters of operation, the talents of these men and women are required at home, preparing the next generation of CAF leaders for the air, space and cyber domains.

variables at the lowest level, thereby enabling a more focused approach towards retention.

Fighter Community: Conclusions and Recommendations

<u>*Operations Tempo*</u>

Fighter Conclusion #1: Fighter pilots identified operations tempo as a key driver for retention, and associated its prominence primarily to fighter squadron manning. As smaller force structures become a reality, the hours required per fighter pilot will continue to increase.

Fighter Recommendation #1: As previously mentioned, senior leaders across the CAF must reduce operations tempo, which begins with manning for the fighter community. Further exacerbating the problem is the difficult position AD and Guard pilots face when trying to combine into an effective Total Force Initiative.

Fighter Conclusion #2: The Total Force Initiative is a critical piece of the AF force structure, but current implementation of the construct has left all parties struggling to achieve the desired ends with the means provided by the nation.[13]

Fighter Recommendation #2: To ensure success for all participants in the TFI construct, senior leaders from the AF, Guard and Reserve must reexamine the collective contributions of each, and the manning requirements that exist as a result.

Fighter Implication #2: Increased fighter pilot manning would go a long way in solving the retention problem currently experienced within the fighter community. However, decreased flying hours and training opportunities created by fiscal constraints keeps the capacity to train fighter pilots below current requirements. As a result, short-term retention will most likely continue to drop unless the CAF takes

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[13] See Chapter III for a complete discussion of TFI limitations within the fighter community.

secondary measures to address operations tempo, which will require increased risk.

   Fighter Conclusion #3: As discussed earlier, a force posture that relies more on rapid response from in-garrison positions as opposed to a security provided by geographic proximity to the combatant commander would go a long way in decreasing the operations tempo for the fighter community.

   Fighter Recommendation #3.1: Therefore, the recommendation presented earlier for changing the CAF deployment schedule of fighter and bomber assets in *CAF Conclusion #1,* rings especially true for the fighter community. ACC, and the Numbered Air Forces (NAF) that provide Continental United States (CONUS) based fighter assets for global use must reevaluate when, where, and why these assets deploy in support of regional objectives. The balance between geographic presence and tactical capability is paramount to this discussion. When long-term combat capability is lost to pay for short-term regional presence, the imbalance may be more than the AF can afford, given the current force structure decreases as well as the poor fiscal environment.

   Fighter Recommendation #3:2: The AF, in particular Air Education and Training Command (AETC) and ACC, must explore creative means to balance tactical training and professional education capacity in the long-term. Primarily however, these agencies must focus in the short-term on the retention of a core cadre of the "best" fighter pilots to ensure talent exists to train the next generation when capacity matches requirement. To paraphrase Richard P. Rumelt, quality matters when quantity, or capacity to train, is an inadequate substitute.[14]

   Fighter Implication #3: Otherwise, future AF generations will inherit a hollow force of human capital, incapable of rapidly reconstituting once fiscal constraints and manning shortages pass or

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[14] Richard P. Rumelt, *Good Strategy, Bad Strategy: The Difference and Why it Matters* (New York, NY: Crown Business, 2011), 116.

more importantly, should the nation require additional forces to face an emergency. This is not to say it will be impossible to recover from this shortage, rather to suggest that the amount of time required to recover may incur an unacceptable strategic risk for the nation.

Family and Stability

Fighter Conclusion #4: For the AD fighter community in particular, investment in human capital for the long-term strategic future of the CAF is imperative. Continued talks of force reduction, decreases in CAF fighter squadrons, grounding of others, and delays in the delivery of new weapons systems has left individual pilots within the fighter community uncomfortable about their career prospects.

Fighter Recommendation #4: Symptomatically, finding ways to decrease the burden of operations tempo would simultaneously increase stability for the family. Therefore, it is important for the AF and ACC to find ways to remove emphatic focus from the artifacts that have historically defined AF identity, and place the emphasis back on its most important asset, the airman. The author understands that modernization and recapitalization of weapons systems is paramount to the long-term strategic advantage of the USAF. However, "it is of little use to supply advanced machinery to unskilled or undertrained workers just as it is useless to educate people for jobs that do not exist.[15] Therefore, recapitalization of the most important weapons system, the human operator exquisitely represented by the Airman in the AF, is paramount.

Fighter Implication #4: The implications of not addressing operations tempo and family stability within the fighter community will have long-term effects as the best fighter pilots continue to leave the AF

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[15] Rumelt, *Good Strategy, Bad Strategy,* 118.

in search of what they cannot find on AD, personal and professional stability.

Fighter Conclusion #5: Fighter pilots and their families generally move more frequently than their peers do from the bomber or Remotely Piloted Aircraft (RPA) communities. This transient lifestyle exacts increased stress on the individual airman, as well as family that support them, and has a negative contributory effect on retention.

Fighter Recommendation #5: It is plausible that increasing the average move timing from approximately three years to four, or even five years, would have a significantly positive effect on retention. However, given the AF's current understanding of the level of influence exacted by different influential variables, it is impossible to make an accurate assessment. Therefore, AF/A1 and AFPC should research the benefits of long assignment durations to increase stability, and ultimately, retention.

Fighter Implication #5: Simply increasing the move timing may not be enough to change the rate of retention, but until the AF researches the interrelationship of influential variables by individual communities, it will be difficult to ascertain completely this interrelationship. Again, this leads back to the fundamental assertion that the AF must understand the most influential variables by community before it can make any focused changes on retention for the fighter community. The basic argument carries over to the bomber community, but for contextually different reasons.

Bomber Community: Conclusions and Recommendations
<u>Operations Tempo</u>

Bomber Conclusion #1: Similar to the fighter community, bomber pilots believe that operations tempo is the most influential variable for retention of the "best" pilots from their community. Contextually

however, their definition of operations tempo differs from that of the fighter community, which obliges the AF to address the problem differently if the solution is to be effective. Whereas operations tempo contextually revolves around manning shortfalls for fighter pilots, bomber pilots see deployments as the key contributor.[16]

Bomber Recommendation #1: Fewer bomber squadrons necessitate increased deployment rates for longer duration. As such, the integral piece requiring attention for the bomber pilot falls directly in line with the CAF recommendation pertaining to geographic proximity and global reach previously discusses. Global Strike Command (GSC) and ACC must leverage their global reach capability, along with their ability to hold any target at risk in short order from CONUS basing, in lieu of extensive deployments to geographic areas. This recommendation serves the same purpose expressed in the fighter recommendations section, with the added benefit of decreasing the negative influence identified as the primary driver for poor retention in the bomber community, namely operations tempo.

Family and Stability

Bomber Conclusion #2: Just as operations tempo contributes directly to family stability for the fighter community, it does the same for the bomber community. Similar to the operations tempo discussion, the contextual differences mandate different solutions for bomber pilots as compared to fighter pilots.

Bomber Recommendation #2: Instability because of continued drawdown of forces and rising personnel costs do not change from the

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[16] This is not to suggest that bomber squadrons maintain manning levels coincident with requirements, because all squadrons experience fluctuations in total manning. Rather, it suggests that bomber squadrons generally have more personnel based on the crew concept, thereby alleviating some of the strain found in squadrons that operate single or dual manned aircraft. Increased personnel afford these bomber squadrons the opportunity to divide work amongst more people, theoretically decreasing average work time for all.

fighter community to the bomber community, and for the sake of this discussion, share the same fundamental arguments and recommendations presented in the *Fighter Conclusion, Recommendation, and Implication section #4*. The only difference is that GSC must contribute to the conversation, along with ACC.

Bomber Conclusion #3: While not part of the thesis research, the poor retention of Combat System Operators may have an effect on the retention of bomber pilots. While the response may only be empathetic, the dichotomy of monetary payout between pilots and Combat System Operator's (CSOs) may induce imbalance amongst families contained within the same unit.

Bomber Recommendation #3: The AF, along with ACC and GSC must study the interaction between pilots and CSOs. The author suspects that while "have" and "have-not" debate may appear superficial, until proven otherwise, the argument that there is a symptomatic effect between the two is plausible. The impetus for this conjecture is the statistically higher rate by which bomber pilots rated money and compensation as influential variables for retention.

Money and Promotion

Bomber Conclusion #4: Bomber pilots rated money and compensation as significantly more influential variables than did fighter pilots, but not significantly different from RPA pilots.

Bomber Recommendation #4: As such, the AF must identify the root cause behind this dichotomy to clarify if the difference originates internal to the bomber community or because of external influence from the AF writ large. In either case, identification of the key variables is the first step, which necessitates additional attention with respect to money and its influence on the retention of bomber pilots. As noted earlier, a

discussion of CSO retention must occur simultaneously to see if there is any interrelationship between the retention of one on the other.

RPA Community: Conclusions and Recommendations

Operations Tempo

  RPA Conclusion #1: RPA pilots, similar to pilots from the other studied communities, identified operations tempo as the most significant variable on retention. Similar to the other communities, the contextual difference in the definition of operations tempo mandates a solution distinct from those proposed for the other groups. While fighter pilots primarily equated operations tempo to manning, and bomber pilots equated operations tempo to deployments, RPA pilots equate operations tempo with the monotony of shift work, and the insatiable appetite held by senior leaders for the provided information at lower relative risk. This appetite led to an increased number of requested Combat Air Patrols (CAPs) to barely tenable levels.

  RPA Recommendation #1: The AF and ACC must separate the necessary CAPs from the desired CAPs. Reduction in the number of CAPs would allow RPA pilots to enter periods of "steady state" operations, thereby gaining a reconstitution period similar to that experienced by fighter and bomber pilots after a deployment.

  RPA Implication #1: Without the opportunity to enter steady state operations, the AF could see more RPA pilots depart AD as the grind becomes too much and family life is more effected, discussed further below. Much like the fighter and bomber communities, failure to reduce the contextually unique operations tempo of the RPA community will lead to instability for family, resulting in higher separation rates.

Family and Stability

  RPA Conclusion #2: Distinct to the RPA communities is the lack of buffer between sustained combat operations and family life. Whereas

fighter and bomber pilots must deploy to accomplish their wartime mission, thereby building a geographic barrier, RPA pilots accomplish their mission in garrison and return home shortly thereafter. As such, the separation from combat operations to normal life is minimal, and while not directly revealed in the data, the consequence of continued operations in this manner could be dire.

RPA Recommendation #2: The distinct characteristics of RPA operations requires further study by ACC, bolstered by requests emanating from the RPA community, and substantiated through the medical community. Specifically, the author postulates that additional studies into the effects of sustained in-garrison combat operations on the pilot, and by extension, the family would contribute to an increased understanding of the most influential variables on retention for the RPA community.

RPA Implication #2: This issue may be an indicator of a variable requiring further attention by ACC and the AF to ensure the mental, physical, and spiritual wellbeing of the RPA airmen, and their families, do not become subsumed by operational requirements. If this does not occur, the health of those who remain in the RPA community may suffer, or they may depart AD all together for other life goals.

<u>Other Life Goals</u>

RPA Conclusion #3: Burgeoning opportunities in the civilian sector for RPA operators created by the Federal Aviation Administration (FAA) Modernization and Reform Act of 2012 could signal a mass exodus of the "best" RPA drivers, similar to that projected for manned AF systems caused by the increase in commercial aviation hiring. Opening of the national airspace to unmanned systems in 2015 could provide more lucrative and less stressful opportunities in the civilian sector than currently found in the military structure.

RPA Recommendation #3: The AF should be mindful of the alternative hiring venues for RPA pilots and use the intervening time to test and validate the identification of influential variables on retention rates. Used as a test case, the AF could stress the need to fine-tune identify and fine-tune the most influential variables for retention on the RPA community over the next two years.

RPA Implication #3: If validated, the method described above would empower senior leaders to make broader changes to other communities, like fighter pilots and bomber pilots. More importantly, this process changes the retention emphasis from a callous monetary payout, awarded at the expiration of time served in a position, to a more human focused practice. The proposed process takes into account the contextual differences found between communities, and emphasizes the need to retain more of the "best" rated officers that exude unique qualities and capabilities that are existential to the strategic future of the Air Force.

Epilogue

This thesis covers a narrow swath of the Air Force population. En total, the communities included in this study account for less that 10 percent of the total rated officers in the AF, and less than 2 percent of the entire AF population.[17] That said, retention of a core cadre made up of the "best" rated officers from the fighter, bomber and RPA communities is critical to the strategic future of the AF, and by extension, to the national security of the United States. As such, the author offers the following epilogue in closing.

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[17] These percentages come from calculations based on the authorized end strength numbers from the 2012 National Defense Authorization Act, and a report from AFPC referring to the total number of rated officers within the AF.

Dear Boss, well…I am still here, but many of the "best" from within our ranks are not, and this concerns me immensely. I have watched the finest of my peers leave in unimaginable numbers, not because they lacked the technological advantage or felt underpaid, but because they were tired. But aren't we all?

As a country, as an Air Force, we are exhausted. Nevertheless, what is it that makes us so weary that some of the finest would take their talents elsewhere? I have yet to hear someone succinctly describe what it is that makes so many of the "best" leave the Combat Air Force and a promising career on Active Duty for new adventures. Sure, we have all read the letters that contain a laundry list of complaints about what makes the job tough, but they do not offer many solutions. What is consistent however is that in each letter, the toughness of the job is not what drives them out. Rather, the inability of the Air Force to accurately identify and address the underlying problem is what irks rated officers the most. Truth be told, the Air Force has not had to identify the problem for quite some time, but those times are changing, and rapidly so.

In the current environment, the Air Force does not have the luxury of asking vague questions pertaining to retention of the "best", just as it does not have the luxury of divesting itself of these same officers to pay short-term bills. I have no doubt that the Air Force is aware of this, but I do not think the Air Force knows the right questions to ask, which leads directly to the fundamental problem.

For too long, categorization of rated communities occurred solely by aeronautical qualification. As these communities continue to shrink, however, we can see that wings on a pilot's chest can no longer be the sole qualifier for retention. Rather, the contextual differences that exist among communities, among weapons systems, and even among basing locations, must emerge as variables of study for retention of the "best" from each. Otherwise, the Air Force is doomed to repeat mistakes of the past, relying

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on ill focused methods of retention applied against a poorly understood problem.

The "bonus" is not motivating enough of the "best" to stay on Active Duty. Even though a great deal of these rated officers are taking their talents to the Guard or Reserves, thereby preserving a zero-sum game in the tactical arena, the loss of these officers from the Active Duty does not posture the Air Force for long-term strategic success. As such, identification of the most influential variables by community, weapons system, location, and further striated by time, becomes existential to the strategic future of the Air Force.

Even though individual communities might demarcate the same categories of influential variables on retention, the contextual differences which exist because of diversified aircraft types, mission sets, and locations makes these categories fundamentally different. These differences amongst communities must be the leverage points that the Air Force uses to retain more of the best from each community.

Use of these leverage points means taking risks, at every level of planning. Risk for the Air Force at the strategic level means saying no to regional Combat Air Force presence, relying rather on Air Force global reach and global power to do the job. Risk at the operational level means treating communities differently, and investing in a core of the "best" to sustain the force through hard times, thereby ensuring talent exists to train future talent in the good times. Risk at the tactical level means delegating responsibility for retention down to the lowest levels of leadership, thereby enabling solutions to retention at the point of inception rather than at the point of explosion. This is not to suggest that all retention problems are solvable using this methodology. But it does provide a more focused retention effort which is sorely lacking in the Air Force presently.

I have no doubt that the young men and women tasked to defend our nation will do so in grand style when called upon, but I am worried that it may be at a cost the country is unprepared to shoulder if more of the

"best" are not retained. Whether it be an increased loss of blood, treasure, or both, the nation is ill prepared after over 20 years of continuous war to lose more of her sons and daughters than is required. I have faith that the Air Force can solve this problem, but it means making tough decisions and innovative changes to current retention methods. Further, I have to believe that we will come out of this current downturn stronger that we have been in the past. Why do you ask? Because I have topped the windswept heights, and I know that through every cloudbank, there is a blue sky, and the Air Force, made up of the "best" personnel, will be waiting to capitalize on it.

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APPENDIX A
Captain Ron Keys Dear Boss Letter

Dear Boss,

Well, I quit. I've finally run out of drive or devotion or rationalizations or whatever it was that kept me in the Air Force this long. I used to believe in, "Why not the best," but I can't keep the faith any longer. I used to fervently maintain that this was "My Air Force," as much or more than any senior officer's…but I can't believe any more; the light at the end of my tunnel went out. "Why?" you ask. Why leave flying fighters and a promising career? Funny you should ask— mainly I'm resigning because I'm tired. Ten years and 2,000 hours in a great fighter, and all the time I've been doing more with less—and I'm tired of it. CBPO [Central Base Personnel Office] doesn't do more with less; they cut hours. I can't even entrust CBPO to have my records accurately transcribed to MPC [Military Personnel Center]. I have to go to Randolph to make sure my records aren't botched. Finance doesn't do more with less; they close at 15:00. The hospital doesn't do more with less. They cut hours, cut services, and are rude to my dependents to boot. Maintenance doesn't do more with less; they MND [maintenance non delivery] and SUD [supply delete] and take 2.5 to turn a clean F–4. Everybody but the fighter pilot has figured out the fundamental fact that you can't do more with less—you do less. (And everybody but the fighter pilot gets away with it...when's the last time the head of CBPO was fired because a man's records were a complete disaster?) But on the other hand, when was the last time anyone in the fighter game told higher headquarters, "We can't hack 32 DOCs [designated operational capability] because we can't generate the sorties?" Anyway—I thought I could do it just like all the rest thought they could...and we did it for a while…but now it's too much less to do too much more, and a lot of us are tired. And it's not the job. I've been TDY [on temporary duty] to every dirty little outpost on democracy's frontier that had a 6,000-foot strip. I've been gone longer than most young jocks have been in—and I don't mind the duty or the hours. That's what I signed up for. I've been downtown and seen the elephant, and I've watched my buddies roll up in fireballs—I understand—it comes with the territory. I can do it. I did it. I can still do it—but I won't. I'm too tired, not of the job, just the Air Force. Tired of the extremely poor leadership and motivational ability of our senior staffers and commanders. (All those Masters and PMEs [professional military educators] and not a leadership trait in sight!) Once you get past your squadron CO [Commanding Officer], people can't even pronounce esprit de corps. Even a few squadron COs stumble over it. And let me clue you—in the fighter business when you're out of esprit, you're out of corps— to the tune of 22,000 in the next five years, if you follow the airline projections. And why? Why not? Why hang around in an organization that rewards excellence with no punishment? Ten years in the Air Force, and I've never had a DO or Wing Commander ask me what our combat capability is, or how our exposure times are running during ops, or what our air-to-air loss and exchange ratios are—no, a lot of interest in boots, haircuts, scarves, and sleeves rolled down, but zero—well, maybe a query or two on taxi spacing—on my job: not even a passing pat on the ass semiannually. If they're not interested, why should I be so fanatical about it? It ought to be obvious I'm not in it for the money. I used to believe—and now they won't even let me do that. And what about career? Get serious! A string of nine-fours and ones as long as your arm, and nobody can guarantee anything. No matter that you're the Air Force expert in subject Y…if the computer spits up your name for slot C—you're gone. One man gets 37 days to report remote— really now, did someone slit his wrists or are we that poor at managing? Another gets a face-to-face, no-change-for-six-months-brief from MPC…two weeks later? You got it—orders in his in basket. I'm ripe to PCS—MPC can't hint where or when; I've been in too long to take the luck of the draw—I've worked hard, I've established myself, I can do the job better than anyone else—does that make a difference? Can I count on progression? NO. At 12–15 hours a day on my salary at my age, I don't need that insecurity and aggravation. And then the big picture—the real reasons we're all pulling the handle—it's the organization itself. A noncompetitive training system that allows people

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in fighters that lack the aptitude or the ability to do the job. Once they're in, you can't get them out…not in EFLIT, not in RTU, and certainly not in an operational squadron. We have a fighter pilot shortfall—didn't you hear? So now we have lower quality people with motivation problems, and the commander won't allow anyone to jettison them. If you haven't noticed, that leaves us with a lot of people in fighters, but very few fighter pilots, and the ranks of both are thinning; the professionals are dissatisfied and most of Lts the masses weren't that motivated to begin with. MPC helps out by moving every 12–15 months or so—that way nobody can get any concentrated training on them before they pull the plug. Result: most operational squadrons aren't worth a damn. They die wholesale every time the Aggressors deploy—anybody keep score? Anybody care? Certainly not the whiz kid commander, who blew in from 6 years in staff, picked up 100 hours in the bird, and was last seen checking the grass in the sidewalk cracks. He told his boys, "Don't talk to me about tactics—my only concern is not losing an aircraft…and meanwhile, get the grass out of the sidewalk cracks!"—and the clincher—integrity. Hide as much as you can…particularly from the higher headquarters that could help you if only they knew. They never will though—staff will see to that: "Don't say that to the general!" or "The general doesn't like to hear that." I didn't know he was paid to likethings—I thought he was paid to run things…how can he when he never hears the problems? Ah well, put it off until it becomes a crisis—maybe it will be overcome by events. Maybe if we ignore it, it won't be a problem. (Shh, don't rock the boat). Meanwhile, lie about the takeoff times, so it isn't an ops or maintenance late. (One more command post to mobile call to ask subtly if I gave the right time because "ahh, that makes him two minutes late," and I will puke!) Lie about your DOC capability because you're afraid to report you don't have the sorties to hack it. "Yes, sir, losing two airplanes won't hurt us at all." The party line. I listened to a three-star general look a room full of us in the face and say that he "Didn't realize that pencil-whipping records was done in the Air Force. Holloman, and dive toss was an isolated case, I'm sure." It was embarrassing— that general looked us in the eye and said, in effect, "Gentlemen, either I'm very stupid or I'm lying to you." I about threw in the towel right there—or the day TAC fixed the experience ratio problem by lowering the number of hours needed to be experienced. And then they insult your intelligence to boot. MPC looks you straight in the eye and tells you how competitive a heart-of-the-envelope three is!…and what a bad deal the airlines offer! Get a grip—I didn't just step off the bus from Lackland! And then the final blow, the Commander of TAC arrives—does he ask why my outfit goes 5 for 1 against F–5s and F–15s when most of his operational outfits run 1 for 7 on a good day? (Will anybody let us volunteer the information?) Does he express interest in why we can do what we do and not lose an airplane in five years? No—he's impressed with shoe shines and scarves and clean ashtrays. (But then we were graciously allotted only minimum time to present anything—an indication of our own wing's support of the program. Party line, no issues, no controversy—yes, sir; no, sir; three bags full, sir.)…And that's why I'm resigning…long hours with little support, entitlements eroded, integrity a mockery, zero visible career progression, and senior commanders evidently totally missing the point (and everyone afraid or forbidden to inform them.) I've had it— life's too short to fight an uphill battle for commanders and staffs who won't listen (remember Corona Ace?) or don't believe or maybe don't even care. So thanks for the memories, it's been a real slice of life…. But I've been to the mountain and looked over and I've seen the big picture—and it wasn't of the Air Force.

"This is your captain speaking…on your left you should be able to see Denver, Colorado, the mile…"

* This letter was written a few years after the end of the Vietnam War by Capt. Ron Keys to Gen. Wilbur Creech, then commander of TAC.

The Dear Boss Letter – 2009*

Dear Boss,

Well, I quit. I've finally run out of drive or devotion or rationalization or whatever it was that kept me in the Air Force this long. I used to believe that we were the finest organization in the world—that combat effectiveness was the only thing that really mattered, and that no one on earth was as effective at anything as we were at air combat. But I cannot keep faith any longer. The light at the end of my tunnel went out. "Why?" you ask. Why leave flying jets and a "promising" career? Funny you should ask—mainly I'm resigning because I'm tired. Fourteen years and 2,300 hours in the fast jet business and all the time I've been doing more with less—and I'm tired of it. Fourteen years of 12-hour days and long deployments and it turns out that most people around here don't actually care if we're any good! They only care if we look good. And there is a difference.

I don't mind the duty or the hours. That's what I signed up for. I've been all around the world and been shot at by the bad guys. I've had buddies who died in fireballs and watched their widows and children cry their eyes out—I understand—it comes with the territory. I can do it. I did it. I can still do it—but I won't. I'm too tired, not of the job, just the Air Force. I'm tired of the poor leadership and micromanagement of our senior staffers and commanders. All those Masters and PME grads and not a true leadership trait in sight! Once you get past your squadron commander, people can't even pronounce esprit de corps. Even a few squadron commanders stumble over it. And let me clue you in—in the fighter business, when you're out of esprit, you're out of corps. We've come to value political correctness and feel-good slogans above aggressiveness and warrior spirit. We've completely forgotten out roots and what traits made us good in the first place.

The Air Force is in a constant identity crisis. Since I first put on a uniform, we're on our third Air Force emblem, third different flight suit, second battle dress uniform (third if you include the Velcro nametag debacle), and working on our fourth service dress! We've had so many mission statements, vision statements, and core values statements that I can't keep up. Then we heard the Chief of Staff talk about how he wants to instill a sense of our heritage. What heritage? We don't even have a uniform on long enough to become heritage! We are just a constantly changing set of buzzwords, clothes, and fads. After the last CSAF left, what was the very first thing the new boss did to supposedly re-focus us on the mission and instill some Air Force pride? He changed our clothes and made us wear blues. Talk about missing the mark! It used to be that our pride came from simply being the best. I guess not anymore. And then there are the buzzwords. I can't go to a commander's call without hearing "wingmen," "mutual support," and "core values" awkwardly thrown around until I'm nauseous. Don't get me wrong, they are fine concepts. But they are just words, over-used and infrequently backed up by the actions of our leaders. They have been watered down to the point where they lost all meaning. Not long ago, Quality Air Force was all the rage. We did surveys and made graphs and nothing got better. Now we have

AFSO 21 and we have working groups and stop light charts and nothing has gotten better. We tag on to civilian business management techniques that we don't truly understand, then think we can simply apply a 10-step flow chart process to every problem and come up with the right solution. What happened to leadership, creativity and innovation? Give me a bar napkin, a pen, and a bottle of whiskey and I'll solve your problems in one night. And I won't have to remember what step number 7 was in the computer based training slides to be able to apply common sense.

And what about career? Get serious! Progression has little to do with leadership ability and actual performance, but rather filling a series of squares. A couple years back, we had the "no practice bleeding" policy—if you needed a masters degree, the Air Force would send you. Don't do PME in correspondence unless you don't get picked up to go in-residence. It only made too much sense. But this is the Air Force, so the pendulum had to swing back, and now it's swung so far you can hardly see it anymore! They changed the ACSC program so that it doubles as a masters program—but you can't realistically get selected to go in-residence unless you already have a masters degree. What sense does that make? So now you have guys simply finding the easiest, most useless on-line masters degree program they can find, just to fill the square. And the Air Force is stuck paying the bill! Everyone loses in that battle. The Air Force is out of the money with no real benefit and its people spend their few free hours reading books and writing papers on subjects that are unrelated to what we really do. To paraphrase our former Chief of Staff, the Air Force treats a masters in basket weaving in the same exact light as a masters in quantum physics from MIT. Do we want officers who are truly educated in relevant subjects or do we just want to be able to flaunt our statistics on how educated we appear? I had a general officer literally tell me that we do this to sift out those who are truly dedicated to their career. I guess 60-70 hour weeks spent trying to do well at my actual duties don't show enough devotion. And now my favorite: you also can't realistically get selected for ACSC in-residence unless you've completed it in-correspondence first. So you can't take the course until you've taken the course? Huh? We have lost our minds! What happened to family time? I work 12 hours or more every day, yet I'm expected to come home and work on classes at night and on the weekends just so I can be competitive to re-cover that same material at Maxwell? Just when exactly am I supposed to spend time with my wife and kids and re-charge my batteries? I hardly see my kids as it is. Something has to give. It's either my job, my coursework, or my family. I can't do all of that well. Does anyone really wonder anymore why our folks face pressure from home to get out? Does anyone really wonder why our folks are completely burned out?

What am I supposed to tell young lieutenants and captains who come to me asking if they should spend their spare time working on their masters degree or instead start work on their flight lead upgrade briefs? They don't have time to do both well, and anyone who tells them they need to just manage their time better is so far out of touch I can't take it. By all common sense, young guys should be focusing on being tactical experts and knowing everything they can about the weapons system they are tasked to employ. But I can't tell them to prioritize that anymore if they plan to stay in the Air Force. I can't tell them to commit career suicide because the fact is that the Air Force doesn't care if they are tactical experts. It only cares if they have their squares filled. The Air Force has decided that the 4-star grooming process begins on day one, and that seems to be our focus. We need to have experts at the tactical level—we cannot afford to be generalists at the company grade operator level. We were told by a senior officer the other day that we now need to be experts in space and cyberspace in addition to being experts in the air--this to an audience of mostly junior officers. Are you kidding me? We hardly have enough time or training

to be true experts in our own lane, but now we're supposed to be experts in everyone else's? The theory seems to be so that we need to have a better understanding of those things work if we become "senior leaders." But we've put the cart before the horse once again. When our operators are also our officers, we cannot afford to focus only on officer development and senior leader grooming when guys are lieutenants and captains. Well, we can, but it's at the expense of effective operations. And isn't that what's it's really all about? I guess not.

And if that isn't enough, the Air Force chooses to select its finest not based on actual Air Force work, but on how much ancillary stuff a guy does. To be selected as a quarterly company grade officer award winner in any wing, the write-up needs to include bullets for 1) "Leadership and Job Performance in Primary Duty" 2) "Significant Self Improvement" and 3) "Base and Community Involvement." So what happens to the guy who is the best in the world at his actual duty and a natural born leader, but doesn't coach a kid's soccer team or tutor underprivileged students in his spare time (what spare time)? Answer: he can't be competitive for the quarterly award above the squadron level since he isn't involved enough in the community. Which means he isn't competitive for the annual award. Which means he doesn't look as strong on paper, even though he may be the very best officer and tactician we have. As we know, it doesn't matter how good you are, it only matters how you look on paper. Why on earth do we prioritize non-Air Force work to identify our standout officers? The write-up should end at "Leadership and Job Performance in Primary Duty." Period, dot. Anything else means that we are using the wrong measuring stick.

And there are no more carrots left to keep guys motivated, only bad deal after bad deal, and hardly a "thank you" for any of it. If I have to listen to another colonel or general officer tell me how they understand what it's like now since they had a bad deal once too--then proceed to describe how much fun they actually had on that "bad deal" ALO tour in Germany in the late 1980s--I'm going to lose it. If I have to listen to another commander say that they can't understand why anyone would want to get out of this great Air Force when the worst deal they ever had in their whole career was as a T-38 IP at Willie back in the day, I'm going to scream. And then there's always the lecture about how there really aren't any "bad deals." Really? Come on. We all know better and it just fuels bitterness when our leaders don't even acknowledge that. I'm tired of watching my buddies dive under desks every time the commander walks down the hall for fear that he's going to drop a 179- or even a 365-day deployment on them with three weeks' notice. Really now, do we have a rash of guys slitting their wrists right before they go to the AOR or are we that poor at managing? But at least it will come with a pep talk about how it's good for your "career" to get a little war stink on you, even if it's just the smell of a desk in some rear echelon office. Another square checked. Maybe you'll even earn a medal for updating those power point slides over there, or whatever worthless job we've invented to inflate our numbers and make it look like the Air Force is pulling its weight in theater. Oh, and after you get back from that little vacation, you'd better be ready for a remote three months later. Sorry, no credit for time served. I'm sure the wife will understand. She'll be comforted by the mere three hour wait and rude desk clerks at the base medical clinic when the kids inevitably get sick the day after you leave. We're at war—I get it, I really do. But how on earth can anyone be expected to deal with such constant instability in their lives over such a long period of time and take it with a smile?

But the real problem is much bigger than all of that--we have lost the drive to be good. We were good for so long that we forgot just what exactly it was that made us that way. We have forgotten all of the lessons learned in blood from our predecessors, and focus only on looking good. We held an advantage in both technology and training for a long time and we became complacent. Technology is vital, but if we aren't experts at using it, what good are we? And now any technological edge we had is being minimized by any third-world country with a checkbook, as cheap electronic attack and air defense systems proliferate. So now we're down to training and experience to carry us through. Not long ago, we used to laugh in our intelligence briefs when we heard how little enemy pilots flew per year. It's not so funny anymore, as we struggle to get in the air ourselves. We've even resorted to using simulator time to make us appear more experienced on paper, but that is only a mirage. Sims can be decent training, but they are no substitute for flying, no matter how much the bean counters and desk jockeys wish they were! Pilots spend entire assignments training and studying for upgrades, only to get shipped off to a non-fighter assignment just as they start to "get it." That makes no sense! Why not extend assignments for an extra year and let our guys actually put their obscenely expensive training and newly gained experience to use for even just a little while? Nope. Instead we move them on to a non-fighter assignment to make room for more newbies…after all, the Air Force is short on pilots so we need to keep training new ones. But what good is it to have a ton of fighter pilots, few of whom have much actual experience flying fighters? We have prioritized having "fighter experience" in jobs all across the Air Force…everywhere, that is, except actually in fighters. When we do get an experienced guy in the door, they are always fresh out of the TX course instead of current in the jet. Only one time in the last three years have I seen a guy show up who was mission ready---that was the new weapons officer. We have to re-train all of our "experienced" guys again from mission qualification training on up, so our schedule is one constant upgrade train. Why doesn't someone do one of those AFSO 21 group hugs and analyze how much money we waste constantly re-training guys from the ground up every couple of years? All to the tune of fifteen grand per flight hour, I might add. Maybe we could use the money saved to buy a new plasma TV to display the schedule or another round of new office furniture. Almost never do we get to just go out and practice advanced CT scenarios, so we spend all of our time just trying to stay afloat instead of actually getting better. And the same story is true throughout the CAF. Result: Most operational squadrons are not worth a damn. And no one seems to care.

Fourteen years in the Air Force, and I've yet to have an OG or Wing Commander ask us what our true combat capability is--I mean our true skills, not how we look on our SORTS report. Lots of questions on dirty boots, low zippers, and crooked patches. Lots of questions about why I landed five minutes past my scheduled window on my once-a-year fight-tank-fight blue air DCA sortie. We've gotta make the statistics look good, even if they are meaningless, or else someone might have to actually explain to the Wing Commander why I used common sense to get that extra setup while we had the airspace and gas. Even our former crown jewel, RED FLAG, has become a joke. Instead of getting some folks good training, we decided to be all-inclusive and try to get everyone some training. We wouldn't want anyone to feel left out in today's Air Force, so once again real combat capability suffers.

And then there is queep. Oh, the queep. We have no support staff anymore, so we spend our time supporting ourselves administratively instead of improving ourselves tactically. On top of that, pilot jobs that used to be manned two or three deep are now single deep at best. So instead of

young pilots spending their time studying and learning the ropes underneath someone's wing, they are now chiefs of a shop. Yet, rather than the chain of command recognizing that fact and re-focusing just on what's actually important, the demands on ridiculous queep have only risen. Case in point: have you seen an OPR from 20 years ago? They are full of white space and sub-bullets and all sorts of things that are forbidden now. That didn't seem to hold back all of today's generals much. Now, we have all of these unwritten rules on how to fill out that form that it has become a voo doo art. For what? Are we better able to evaluate someone who doesn't have any white space at the end of a line on his performance report? Does it really make a difference if I spell out numbers or use digits? Does it really matter if I abbreviate the word "squadron" as "sq" and "sqdn" in the same section? Does that somehow change the meaning? The real question should be: does it make us more combat capable? Of course not! But, we grind away for hours trying to figure out how to wordsmith in our secret OPR code so that even the bottom feeders look like heroes, but it takes a Little Orphan Annie secret decoder pin to figure out what we're really trying to say. We had a report kicked back from the wing the other day to make us change the abbreviation "2nd" to "2d." What on earth was the point of that? It's death by paper cuts, and I don't have the energy to spend on such ridiculous nonsense anymore. Not when I'm saddled with forty other "urgent" non-issues, each of which I need to solve right now, yet none of which are actually important. I even heard this little gem: "if we could only get our queep perfect, the tactical stuff will follow naturally." What? We've got it all backwards! We worry about the stuff that doesn't matter at the expense of what truly does. And the unimportant stuff is all I ever hear about from leadership. It doesn't matter if we can execute our increasingly complex tactics, handle EA, or even find our sort…as long as the statistics look good and our queep is done right, the bosses are happy. After all, if the minimum training wasn't good enough, it wouldn't be the minimum, right? Well we're going to find out. We're min-running the entire Air Force. God help us if we ever have an all-out air war. We are going to pay the price in blood on the backs of the minimally trained and inexperienced. We have learned these lessons before. We have been the hollow force. We have seen what blind faith in technology with minimal training does to combat success. Have we forgotten everything we learned in Vietnam?

Not long ago, I had a general tell me that he wasn't worried about retention because the airline industry had gone down the toilet. Well I've got news for him—that doesn't matter. Because, you see, I'm not the only one that feels this way. Every guy I know is looking for the door and counting the days until their contract is up. Not a single one of them wants an airline job, either. Not one. If they can't get hired by the Guard, then they'll just go get an MBA with the new GI Bill and get a regular job. Anything with a bit of stability will do. It turns out we've picked up a few non-flying skills along the way, and those are in demand, bad economy or not. It's never been about the money for us, so the bonus isn't the driver. It's been about the mission. Our rewards are purely in the satisfaction that we've done a good job, earned the respect of our peers, and made a difference. But it's just too difficult to see how to make a real difference here anymore. Not in this climate of yes men and party lines and square filling and image-over-substance. We are watching an organization that we once worked so hard to be a part of veer off into insignificance as it focuses so frequently on the unimportant, all while it kicks us square in the junk and expects us to smile.

And that's why I'm resigning…long hours with little support, no stability or predictability to life, zero career progression, and senior commanders evidently totally missing the point. Our only real heritage—an unfailing drive for excellence—has gone by the wayside in favor of a culture

of square filling. I've had it—life's too short to fight an uphill battle for commanders and staffs who won't listen or don't believe or maybe don't even care. So thanks for the memories, it's been a real slice of life…But I've been to the mountain and looked over and I've seen the big picture. It wasn't all green. But it wasn't Air Force blue either.

* Adapted from the original Dear Boss letter written by then Capt Ron Keys after the Vietnam War.

APPENDIX C
General Mark A. Welsh III E-mail to USAFE Fighter Pilots

From: Welsh, Mark A III Gen USAF USAFE USAFE/CC
Sent: Mon Apr 25 20:19:42 2011
Subject: USAFE Fighter Pilots

To USAFE Fighter Pilots

I need your help. During a recent 4-star meeting, we talked about what appears to be a pending fighter pilot shortage. The AF's rated personnel management folks are projecting a 300 fighter pilot shortfall in FY13 that could grow to over 1000 by FY21. They also told us that the fighter community's bonus "take rate" is 10% lower than the rest of the rated community. Obviously, many of you are leaving, or thinking about leaving, the Air Force for other opportunities. If you've already made the decision to do so, then please accept my sincere thanks for your service and best wishes for every success in the future...it's an honor to have served beside you. My concern is not that you've made the choice to pursue a new path, but that we don't really understand why you made the choice.

You may have heard the story about a Captain fighter pilot who wrote a letter to the Commander of Tactical Air Command a couple of years after the end of the Vietnam War. The letter started "Dear Boss, Well, I quit" and went on to list the frustrations that he and his peers were experiencing. I just read a more recent version, written in 2009. It's attached to this note. If you believe the author, some things may not have changed much in 30 years. Our Air Force is in a dynamic state of change and its leaders need to know why some of their most talented, highly trained people are leaving. As we transition to a 5th Generation fighter force, we simply can't afford to lose front line fighter pilots at our current rate.

I understand that it's a busy time to be in the Air Force. The fighter community is faced with an increasing ops tempo, fewer fighters, less flying, more non-flying jobs and an unclear career sight picture.

APPENDIX D
PILOT RETENTION SURVEY

Pilot Retention Survey

AU SCN 13-008, expires 23 Jan 14

IAW AFI 38-501, para 2.2, your participation in this survey is encouraged but voluntary. Strict confidentiality concerning any identifiers of individual survey respondents is maintained and data collection is anonymous. Your feedback is critical to academic program improvement and greatly appreciated.

This survey is part of a research project for the School of Advanced Air and Space Studies (SAASS). Information gathered will be included in a thesis presented to the SAASS faculty at the end of the 2012-2013 academic year.

Desired survey participants are Fighter, Bomber and RPA pilots from the Combat Air Force.

The purpose of the survey is to identify the root cause of retention problems, from the viewpoint of junior officers, within the Fighter, Bomber and RPA career fields.

Questions throughout the survey will refer to the "Best" officers leaving the rated community early rather than serving a full career, and by design does not define "Best." This decision was made in an effort to ensure that respondents would not bracket the question in terms of rank, position, airframe or any other defined criteria.

Any viewpoints expressed in this survey are not those of the Air Force, are the work of the author and the product of the School of Advanced Air and Space Studies alone.

What is your current rank?	What is your background?	What year did you graduate from your initial aviation training (UPT, ENJJPT)?	Have you completed your initial UPT Active Duty Service Commitment ADSC)?	Did you sign the Aircrew Continuation Pay (Bonus)?
○ Lieutenant	○ Fighter Pilot		○ Yes	○ Yes
○ Captain	○ Bomber Pilot		○ No	○ No
○ Major	○ RPA Pilot			
○ Lieutenant Colonel				
○ Colonel				

Section I: In your experience, how important are the following variables in determining the retention of CAF pilots in your current community:	Very Important	Quite Important	Fairly Important	Slightly Important	Not important at all
Air Force Identity (AF Messaging, Mission Focus, Competency)	○	○	○	○	○
Money / Compensation (Base Pay, COLA, "Bonuses", Flight Pay, Benefits, etc.)	○	○	○	○	○
Promotion / Recognition (Masters, PME)	○	○	○	○	○
Family / Stability (Base Location, Quality of Life, Move Timing)	○	○	○	○	○
Ops Tempo (Deployments, Manning, Flying Opportunities)	○	○	○	○	○
If you would like to expound on any of the topics from Section I., please do so **Other Life Goals**	○	○	○	○	○

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

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Pilot Retention Survey

AU SCN 13-008, expires 23 Jan 14

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Section II: Does the Air Force have a Rated Officer Retention Problem?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My flying community is currently experiencing, or is expected to have a retention problem in the near future.	○	○	○	○	○
The rated officers that are currently electing to leave the Air Force before retirement age are among the "best" officers in my community.	○	○	○	○	○
Aircrew Continuation Pay is seen as more of an entitlement in my community as opposed to a "bonus."	○	○	○	○	○
The "best" officers in my community make the decision to separate well before their Undergraduate Pilot Training Active Duty Service Commitment has expired, and well before the bonus becomes available.	○	○	○	○	○
Rated officers are leaving the Active Duty, despite a poor economic environment.	○	○	○	○	○

If you would like to expound on any the topics from Section II, please do so

Section III: What are the Implications / Ramifications to the future of the Air Force if this problem is not fixed?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My squadron has been able to maintain a consistent level of manning with the current rate of pilot separation from the Air Force.	○	○	○	○	○
The combat readiness of my squadron has not been affected by the current rate of pilot separation from the Air Force.	○	○	○	○	○
The "best" rated officers I expected to see leading the Air Force as commanders (at the SQ/CC level and above) are leaving Active Duty well before they reach that milestone.	○	○	○	○	○
The security of the United States is weaker because the "best" officers elect to separate from Active Duty as opposed to staying on past their Undergraduate Pilot Training Active Duty Service Commitment	○	○	○	○	○
Current Air Force senior leadership has a good understanding of the quantity and quality of rated officers leaving after their initial Active Duty Service Commitment.	○	○	○	○	○
The General Officer ranks will be less capable because the "best" officers elect to leave Active Duty early in their career.	○	○	○	○	○

If you would like to expound on any the topics from Section III, please do so here:

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

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Pilot Retention Survey

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Section IV: What can/should the Air Force do to address this problem?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Aircrew Continuation Pay (ACP or the "Bonus") does a good job of retaining the "best" rated officers from my community.	○	○	○	○	○
The opportunity to fly the newest and most advanced weapons systems is enough for me to stay on Active Duty beyond my initial Undergraduate Pilot Training Active Duty Service Commitment.	○	○	○	○	○
The variables affecting my decision to stay on or leave Active Duty have changed since I completed pilot training.	○	○	○	○	○

Many of the "best" rated officers who leave Active Duty after their initial Active Duty Service Commitment would...	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
stay if there was more focus on the mission as opposed to administrative details	○	○	○	○	○
stay if there were more focus on tactical competency as opposed to career progression.	○	○	○	○	○
stay if Air Force messaging about the mission was matched by Air Force spending.	○	○	○	○	○
stay if family stability and welfare was better than it is currently.	○	○	○	○	○
leave regardless because of better opportunities / compensation in the Guard or Reserve.	○	○	○	○	○
leave regardless because of better opportunities / compensation in the civilian sector.	○	○	○	○	○

If you would like to expound on any the topics from Section IV, please do so here:

If you have any other questions/comments pertaining to this survey or Air Force retention, please write them here:

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

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APPENDIX E
Pilot Retention Survey Solicitation E-mail

From:	Maj Brian Stahl, SAASS Class XXII Student
To:	STAHL, BRIAN T Maj USAF AETC AFRI/AS
Subject:	Pilot Retention Survey
Date:	Friday, February 22, 2013 1:59:44 PM

Greetings,

Pilot retention is a pressing problem in the United States Air Force which is receiving the attention of the highest ranks of leadership for study. You have been identified as possessing one of four AFSCs for fighter, bomber and RPA pilots who are the population of interest. This Pilot Retention Survey is intended to gather data as part of a research project on pilot retention for the School of Advanced Air and Space Studies (SAASS). After I received AU/CC permission to conduct this survey, your names were provided to me by your schools.

Pilot Retention Survey.

When you click on the survey link, if you get a webpage indicating "There is a problem with this website's security certificate," it is safe to proceed with "Continue to this website (not recommended)" to access the survey. You do not have to be on a government computer to take this survey so you may forward this email and access your survey link from any computer. This survey link is for you alone, however, so please do not forward the survey link to others.

This survey is voluntary, anonymous, and results will only be reported in aggregate using statistical data. It will take approximately 10 minutes to complete, and will provide invaluable insight to the variables affecting retention in the Combat Air Force. The data collected from your answers to these questions will be included in a thesis titled, *"Blunting the Spear: Why Good People Get Out,"* presented to the SAASS faculty.

The survey will remain available to you until February 28, 2013.

If you have any questions about the survey, please contact the researcher at brian.stahl.2@us.af.mil .

Again, thank you for your time. I understand how valuable it is.

Respectfully,

Maj Brian Stahl
"BRUTUS"
SAASS Class XXII Student