Retention and the Dual-Military Couple: Implications for Military Readiness

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Abstract

Military readiness--the ability to field trained forces that are able fight and win wars--is a top concern for military leaders. The ability of the services to retain highly trained personnel contributes, in large part, to military readiness. Readiness is negatively affected when a subgroup within the military is retained at a lower rate than the majority of military members. Such is the case of service members who are part of dual-military couples, that is, a couple consisting of two military members.

The data presented in this thesis strongly support the theory that both male and female officers who are members of dual-military couples begin their careers highly motivated to remain in the service for a full 20-year career. However, after they pass the 10 year point in their careers, their comparative intention to remain for a full 20 year career is lower than their non-dual military contemporaries. The analysis also supports the idea that integrating work and family life remains one of the main challenges for dual-military service members.

Overall, recommendations to ameliorate the problem of lower retention of dual-military members focus on flexibility. Enacting policies that help dual-military members deconflict and/or synchronize deployments and one-year remote tours will help relieve stress on the family. Providing increased opportunities for members to be stationed together during assignments by increasing opportunities to work outside of the member's main career field, as well as maintaining the current increased tour length, will also help dual-military members to balance work and home life. Working to increase flexible Department of Defense-provided childcare options will allow dual-military members to meet their caregiving requirements as well as their military service requirements, enhancing their retention. Finally, providing a range of return-to-service options would increase all military members' control over their careers and provide them the flexibility to meet their caregiving responsibilities.

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Jeremiah 29:11

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Disclaimer

The views expressed in this thesis are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.

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Chapter 1

Introduction

Military readiness--the ability to field trained forces that are able fight and win wars--is a top concern for military leaders. The ability of the services to retain highly trained personnel contributes, in large part, to military readiness. Readiness is negatively affected when a group within the military is retained at a lower rate than the majority of military members. Such is the case of service members who are part of dual-military couples, that is, a couple consisting of two military members. Today, there are over 5,800 such military members in the United States Air Force (USAF) out of a total population of almost 72,000. During the later stages of their military careers, members of dual-military couples experience lower retention than the majority of more traditional officers, officers who are either single or married to civilian spouses.

The difference in retention can be understood by looking at the difference between traditional couples and dual-military couples and then putting the results into the context of identified retention factors. This understanding will enhance the military's ability to retain dual-military officers at the same rate as more traditional officers. This thesis attempts to fill a gap in the current understanding of dual-military couples by analyzing retention specifically among dual-military officers in the U.S. Air Force. Only a limited amount of previous research has focused on dual-military couples. That research, in general, has framed the problem in terms of "women's issues," and is overwhelmingly anecdotal rather than empirical. In addition to examining the current retention situation, this thesis will explore possible remedies that might be implemented within the services through policy change.

Research Questions

By using aggregate personnel data and conducting secondary analysis of Air Force members' responses to a recent service-wide survey on retention, this thesis seeks to add to the understanding of the retention behavior of mid- and senior-level Air Force dual-military officers. Aggregate and survey data suggest that mid- and senior-level dual-military members experience lower retention rates than the general Air Force officer population.

Two questions are examined in order to help explain this phenomenon. First, what are the work-life dynamics that interact within the civilian dual-career population that influence the decision for a couple to maintain or end a dual-career track? Second, in light of the current military sociology literature, are there parallels between civilian and military dual-career couples? Through an examination of current Air Force and Department of Defense policy and informed by aggregate and survey data this thesis will address possible policy remedies to increase the retention of highly skilled mid- and senior-level dual-military officers.

Importance

As the USAF has become more welcoming to women in recent years, an increasing number of members have married within the service. In 1978, dual-military couples composed 6% of the active duty Air Force (Segal 1988, 90). In 2006, slightly over 8% of the active duty Air Force officer corps were members of dual-military couples. It is important to realize that this is not a "woman's" issue *per se*; it affects roughly an equal number of men and women. However, this issue affects a higher proportion of women than men in the Air Force because 23.3% of the female officers in the Air Force are dual-military, while only 4.7% of male Air Force officers are dual-military. As depicted in Table 1, using data from the Air Force Personnel

Center, as of January 2006, over half (55.8%) of the women in the Air Force officer corps are married, either to other military members (23.3%), National Guardsmen or reservists (2.8%), or civilians (29.7%).

When retention is lower among members of some segments of the Air Force than others, the ramifications for the Air Force can be serious in terms of money and readiness. In fiscal year 1997 (FY97), it is estimated the services spent $340,000 per officer commissioned through the service academies, $86,000 per officer commissioned through the Reserve Officer Training Corp (ROTC), and $32,000 per officer commissioned through Officer Training/Candidate School (Thirtle 2001, 21). These numbers do not include the cost of specialty training (e.g., pilot training, acquisition training, intelligence training) and professional military education (e.g., Squadron Officer School, Air Command and Staff College). Readiness can also be negatively affected if a segment of the Air Force population, in this case mid- and senior-level dual-military officers, is choosing to leave the service at higher than average rates. It is a costly problem for the Air Force and the United States if one subgroup of military members experiences a lower retention rate than average.

Table 1

USAF Officer Personnel Marital Status

	Male	Female	Total
Not Married	24.4% (14,289)	43.5% (5,755)	27.9% (20,044)
Married to Active Duty	4.7% (2,783)	23.3% (3,081)	8.1% (5864)
Married to Civilian	67.5% (39,593)	29.7% (3,929)	60.5% (43,522)
Married to USAF Reserves/Air Nat'l Guard	2.6% (1,535)	2.8% (375)	2.7% (1,910)
Unknown	0.8% (468)	0.7% (86)	0.8% (554)
Total	100% (58,668)	100% (13,226)	100% (71,894)

Source: Interactive Demographic Analysis System (IDEAS) web site at http://wwa.afpc.randolph.af.mil/demographics/

While this thesis focuses on the Air Force, this problem is applicable not only to Air Force officers but can be generalized across the military services as members in all services face many of the same challenges. These findings will also be applicable across the enlisted corps since policies for dual-military couples are, in many ways, the same for enlisted members and they face many of the same challenges as the officer cohort.

Background

Civilian Dual-career Couples

In the American work force outside of the military, the prevalence of dual-career couples has risen steadily since the 1960s. From 1970 to 2001 couples in which each spouse provided roughly 50% of the income increased from 9% to 24%, and husbands as sole providers dropped from 65% to 25% (Raley, Mattingly, and Bianchi 2006, 18). By 1997, there were approximately three million dual-career couples which made up about 20% of all employed couples (Carter 1997, 21). In some career fields, women in dual-career couples are the norm. This is the case for women in science: 80% of women mathematicians are married to other scientists or engineers, 69% of women physicists are married to other physicists or scientists and a third of women chemists are married to other scientists (Gibbons 1992, 1380).

This thesis uses the term 'dual-career couple,' a derivative of the term coined by Rapoport and Rapoport in 1969 to describe a growing segment of the working population. However, both "career" and "couple" should be defined more precisely. A career is defined as a sequence of jobs that requires a continuous degree of commitment and is characterized by continuous educational and professional development (Rapoport and Rapoport 1976, 9).

'Couple' is defined to include, at least, a marital pair, but in a broader sense, 'couple' is descriptive of a couple throughout the family cycle of marriage, parenthood, and empty nest. Dual-career couples are characterized by both heads of household leading active career and family lives. Dual-career couples are a subset of dual-worker couples; couples in which both spouses are employed outside the home. Dual-worker couples are not necessarily characterized by continuous development, even though their jobs may require a high degree of commitment. The dual-worker couple is a family pattern that is becoming normalized; most families are dual-worker families at some point in the family cycle (Rapoport and Rapoport 1980, 24).

Dual-military Couples

A dual-military couple is a couple in which both spouses serve in the military. Members of dual-military couples are prevalent within the Air Force. More than one in five of the 13,226 female officers, and almost one in twenty of the 58,668 male officers in the Air Force, are members of these couples. Dual-military couples face the same problems that confront all military members, such as frequent moves and deployments. Additionally, those service members with a spouse in the military also face a host of unique challenges such as increased separation time, child care issues, and the "join spouse" assignment process designed to help assign couples within the same geographic area.

Examining the differences between dual-military couples and the general military population highlights the stresses faced by dual-military couples. These unique stressors on dual-military couples may have various effects, from generally low morale to leaving their careers in the military. This thesis is concerned with the latter, which is the most extreme response.

Low military retention can, in many ways, be explained as a reaction to various stressors. Frequent deployments, household moves every two to four years, a challenging balance between work and family life, and the competitive "up or out" promotion system are all stressors that affect a service member's decision to remain in or leave the military. Normally, as a year group (all of the officers commissioned during a given year) advances in years of service, the number of people in that year group decreases due to many attrition factors such as accepting civilian job offers, medical disqualifications, and being "passed over" for promotion.

Promotion at various set intervals is required for a continued career in the officer corps. With every promotion, a certain percentage of people will not be promoted. However, as long as an officer is promoted to the grade of O-4 (Major or Lieutenant Commander) he or she can usually remain in the service through a process called selective continuation. If selective continuation is approved, an officer can retire with a pension after twenty years of service. Military members who leave the service at any time before twenty years are not entitled to retirement pay or the option to maintain medical benefits. Common wisdom is that once officers are promoted to the rank of major, which happens after serving approximately ten years, they will logically choose to remain in the service for twenty years in order to earn a retirement because they have already served half the time required to retire.

Since leaving the military before serving 20 years results in no retirement benefits, retention should be fairly high after ten years of service; decisions to leave the service for personal reasons (e.g., accepting a civilian job or leaving the service to take care of children) should be fairly low. Contrary to expected behavior, however, dual-military couples experience lower retention during this career stage than the wider population of military officers. Many dual-military couples, it would seem, decide that one or both members of the couple cannot

continue in the Air Force. Data discussed later in the thesis will show the difference in retention between dual-career members and the wider Air Force officer population as well as identify various stressors which may contribute to lower retention for this population.

Chapter Summary

This thesis studies dual-military couple retention from a variety of angles. The first chapter provides an overview of the research questions and establishes why they are important. It also sets these questions into context by providing background on both civilian and military dual-career couples.

Based on the current sociology, political science, and economics literature, Chapter 2 provides a review concerning civilian dual-career couples. The review focuses on work-life dynamics that interact within the dual-career population that influence a couple's decision to maintain or end a dual-career track. The chapter examines the rise of the dual-career couple within the United States and Great Britain since the 1960s. It also looks at career decision making within dual-career couples. The unique stressors levied upon these couples and their coping strategies are discussed, along with civilian sector personnel strategies used by business to accommodate dual-career couples. The chapter concludes with a look at a new theory that proposes a reunification of work and life away from the norm of the ideal worker and the marginalized care-giver.

After first laying the groundwork with the civilian dual-career literature, Chapter 3 provides a review based in the current military sociology literature concerning dual-military couples. While this topic generally lacks quantitative research, this chapter concludes that dual-military couples face many of the same stressors as their civilian counterparts, plus some unique

stressors. The chapter also discusses the current Air Force and Department of Defense policy pertaining to dual-military couples in order to provide a basis for policy recommendations found in Chapter 5.

Chapter 4 begins by hypothesizing that there is a difference between the retention of dual-military and non dual-military members. Section 1 of Chapter 4 describes the research design and statistical analysis using personnel data on dual-military officers, highlighting the strengths and weaknesses of the data. Data gathering and statistical methodology are described, as well as the safeguards employed to protect personal privacy. The USAF Interactive Demographics Analysis System (IDEAS) web site was used to collect aggregate data. The analysis includes retention rates for Air Force dual-military officers. All data collection efforts were submitted to and gained approval of Virginia Tech's Institutional Review Board (IRB). Data on the Air Force Personnel Center web site have been approved for public release and contain no personally identifying information.

Section 2 of Chapter 4 continues by providing secondary analysis of a U.S. Air Force survey conducted by the Air Force Survey Division in 2003. Data gathering, sampling techniques, and statistical methodology are described, as well as the safeguards employed to protect personal privacy. No personally identifying data accompanied the dataset from the Air Force. As with the USAF personnel data discussed above, the plan for conducting secondary analysis on the survey data also gained approval of Virginia Tech's IRB. This section hypothesizes that factors such as deployments, compatibility with spouse's career, and the presence of children in the household affect retention intentions of dual-military members differently than those of other military members.

Finally, Chapter 5 examines results from the previous two chapters and formulates policy recommendations for the Air Force. Overall, recommendations to ameliorate the problem of lower retention of dual-military members focus on flexibility. Policy recommendations are broadly applicable to the other military services. In addition, while this thesis looks only at the officer corps, many of the recommendations apply to the enlisted corps, whose members face most of the same challenges as dual-military officer couples. It is also possible to generalize many recommendations to other government agencies. While other government agencies are not as large as the Department of Defense, many share some of the characteristics of military service, such as a high rate of geographic mobility.

Appendices to this thesis include variable frequencies, data and models, approvals from Virginia Tech's IRB and a certificate showing completion of UCLA's course on Protecting Human Research Subjects in Social and Behavioral Research and a list of acronyms used in the text.

Chapter 2

Literature Review – Civilian Dual-Career Couples

The literature on civilian dual-career couples began to develop in the 1960s, but the military, itself, did not begin to deal with dual-military couples until the 1970s when women's permanent presence in the military began to increase. Since very little research focuses on dual-military couples, it is helpful to begin by understanding the civilian dual-career literature as it has a longer history and is more complete.

This review will begin with a short chronological overview of the literature. This will be followed by a look at three of the main issues faced by dual-career couples: work-life conflict, family formation and children, and occupational mobility and career precedence. The literature review will conclude with an overview of policy changes in the workplace.

Chronology of Dual-career Studies

There have been three main phases of the civilian dual-career literature. First generation studies, research on the "pivotal generation" of the 1960s, focused on the concept of explicitly linking men's and women's roles, work, and family domains. These studies were designed to develop hypotheses, and charted the strains, rewards, and processes through which the dual-career pattern is sustained.

The first generation of studies on dual-career couples, in many ways, began as a critique of the line of work started by sociologist Talcott Parsons in 1940. He stated that, "if both (husband and wife) were equally in competition for occupational status, there might indeed be a very serious strain on the solidarity of the family unit…" (Parsons 1940, 852). Parsons stressed the importance of keeping the lines of achievement segregated through separating gender roles in

the family in order to avoid jealousy and a sense of inferiority. Parsons' theory was roundly critiqued, especially by those in the feminist movement. A notable critique by Alice Rossi questions Parsons' assumptions concerning competitiveness and its consequences (Rossi 1964, 627). Rossi reminds her readers that the dual-career/dual-worker pattern is not new. Except those in the most affluent classes, women, historically, were not full-time mothers. They worked along side their husbands or outside the home. "These women were productive members of farm and craft teams along with their farmer, baker or printer husbands and other adult kin" (Rossi 1964, 615).

The foundational study on dual-career families, a 1969 article in Human Relations entitled, "The Dual Career Family: A Variant Pattern and Social Change," set the tone for early work in the area of dual-career couples. Research from 1969-1971, based on in-depth case studies, is encapsulated and updated in the second edition of Dual-Career Families, published in 1976. The study identified a small segment of the population which it termed "dual-career families." It hypothesized that, "…with increased demand for skilled labour, increased education on an equal basis with men, increased awareness of the issues of sex-role equality, etc. – the dual-career family in some form is likely to increase in prevalence and in acceptability" (Rapoport and Rapoport 1976, 17). The Rapoports' foundational work brought Parsons' 1940 theory into question. They found that the avoidance of excessive rivalry and envy seems to have hinged on the capacity to take a joint perspective on the occupational situation and, to the extent that the couple could do so, they made choices that felt fair and right to them (Rapoport and Rapoport 1976, 297).

Second-generation studies, from the mid to late 1970s, sought to test some of the hypotheses developed during the first generation. These studies expanded to encompass families in different life-cycle stages and social and cultural settings.

In contrast to first- and second-generation studies, third-generation studies worked toward revising the underlying assumptions about the motivation and status of individuals and families in the dual-career pattern. They continued to investigate the hypotheses set out in previous studies, while looking more in-depth at the specific problems encountered by dual-career families. Much early research focused on individuals, but recent studies suggest that work-life issues must be understood in the context of the couple and their employment conditions (Valcour and Batt 2003, 311). Third-generation studies were set within the context of increasingly delayed marriage and increasingly common divorce among the general population (Rapoport and Rapoport 1980, 24, 43).

It can be argued that a fourth generation of thought on dual-career couples was opened by Joan Williams. In her examination of work-family conflict, she deconstructs domesticity and calls for the elimination of the ideal-worker norm and family entitlements. She also calls for "market work restructured to reflect the legitimate claims of family life" (Williams 2000, 4-5).

Work-life Conflict

The problems of spillover and work-life conflict are captured well in the statement: "The traditional family operated with two jobs and two adults. The husband had a full-time paid job in the world of work while the wife had a full-time unpaid job…In today's two-career families, one more paid job has been added and nothing subtracted" (Moen 2003, vii). The concepts of work-life conflict, physical and psychological overload, and spillover are all closely related. How a family deals with two adults working outside the home while trying to maintain a satisfactory

family and home life has been the focus of dual-career studies since their very conception. Recently, there has been a reconceptualization of work-life conflict through the acknowledgment of some of American society's unquestioned norms, such as the norm of domesticity and the norm of the ideal worker.

Early studies established that overload tends to rise out of the domestic core of work that had to be handled as 'overtime.' In conventional families, the wife was charged with much of the behind-the-scenes work of keeping the household running—laundry, cooking, cleaning, shopping—which was both time consuming and, for the most part, invisible. Dual-career families were found to cope with overload through the use of outside domestic help, by redefining who does what with the husband taking on more traditionally "feminine" domestic work and child care duties, the wife taking the entire overload burden herself which resulted in sacrificing leisure time, or by organizing with other families for shopping, child transportation, etc.

Feelings of overload were affected by at least four sets of conditions. First, the degree to which having children and a family life was important to the couple affected feelings of overload. The second factor found to affect overload was the degree to which a couple aspired to a high standard of domestic living. The degree to which husband and wife shared tasks was found to be the third factor. The final factor was the degree to which the social-psychological overload compounded the physical overloads (Rapoport and Rapoport 1976, 301-305).

The idea that families are now holding three jobs instead of the traditional two leads to questions of how work and family life affect each other, both positively and negatively. Spillover is the transfer of mood, affect, and behavior, either positive or negative, between work and home (Roehling, Moen, and Batt 2003, 101). Most families (over 60%) experience high

levels of positive family-to-work spillover and low levels of negative family-to-work spillover. Husbands and wives experienced equal levels of spillover—showing a greater linkage between husbands and wives than expected. Conditions at home and work, and flexible work strategies, were significant determinants of spillover. Heavier workloads predicted negative spillover while control over work schedules predicted positive spillover (Roehling, Moen, and Batt 2003, 120-121). Other research also supports the idea that the work-family linkages in dual-career relationships are much more complex than a simple exchange of services. High levels of marital adjustment were predicted by the wife's perceived high levels of social support for her career and perceived equitable sharing of household tasks. Perceived support and perceived equities were probably affected by socialized gender role expectations, making the marriage relationship very complex (Burley 1995, 494).

Reconceptualizing Work-life Conflict

Much of the early work on dual-career couples highlights the stress felt by a family when one more paid job is added but none of the unpaid "care-giving" work goes away. Work-life conflict has, in many ways, seemed to be a conundrum…one that might be able to be balanced but that cannot be entirely overcome.

In Risk Society (1992), Ulrich Beck argues that as our society transforms from one of industrial to reflexive modernity there is a paradoxical effect that increases conflict between the sexes. As opportunities for education become more and more equal, and as legal protections have been gained for women over the past century, "increased equality brings the continuing and intensifying inequalities even more clearly into consciousness" (Beck 1992, 103). What appears as "private" conflict actually has a socio-theoretical side because when one talks of relationships between the sexes, one must include not only topics of sexuality, affection, marriage, and

parenthood, but also work, profession, inequality, politics, and economics (Beck 1992, 103-104). The "battle of the sexes" is closely tied to the transition from industrial modernity to reflexive modernity, and the issues raised will not be easily dealt with for several reasons.

First, the "ascription of the gender characters is the basis of the industrial society, and not some traditional relic that could easily be dispensed with" (Beck 1992, 104). He finds that industrial society is only half industrial; the other half feudal—the "feudal side is not a relic of tradition, but the foundation and product of industrial society, built into the institutional plan of work and life" (Beck 1992, 108). Wage labor presupposes the nuclear family, housework, and support by the wife of the husband. For Beck, while these gender conflicts play out at the personal level, they can only be inadequately solved by the tug-of-war of 'role swapping' or 'mixed roles' for men and women (Beck 1992, 109).

Second, several conditions have somewhat freed women from traditional "traits ascribed to femininity": increased life expectancy (demographic liberation), the de-skilling of housework (liberation from all-consuming housework), contraception (liberation from the 'fate of motherhood'), divorce, and increased educational equality (Beck 1992, 111). These conditions, which cannot easily be reversed, create the "individualization spiral" of labor market, education, mobility, and career planning. The spiral strongly affects the family which "becomes a continuous juggling act with divergent multiple ambitions involving careers and their requirements for mobility, educational constraints, conflicting obligations to children and the monotony of housework" (Beck 1992, 111).

Finally, conflicts in the home are initiated by the "opening up of possibilities to choose…divergent professional mobility of the spouses, division of housework and child care, type of contraception and sexuality" (Beck 1992, 105) are just some examples of where these

conflicts originate. These decisions "have a private and institutional side…Accordingly, private and political strategies for solutions must be seen as connected" (105).

Beck's remedy is not a return to the nuclear family of the past (Beck 1992, 121). Nor does he argue that equality for men and women would work because that would equate to the establishment of a total market society which calls for a "fully mobile society of singles," thus increasing isolation and loneliness (Beck 1992, 123). Instead, Beck calls for institutional changes that work toward the "reunification of work and life." These might include decoupling "making a living" and participating in the labor market, cooperative living, and corporations relocating "families" versus individual workers.

Beck's vision of the post-modern future, which highlights the "contradictions of continuity and rupture within modernity," (Beck 1992, 9) is brought into granular focus by Joan Williams' look at work-life conflict. Williams and Beck both see institutional changes within market work as a key to moving forward in creating a more equitable society. However, Williams' practical remedies highlight the opportunity to advance women's equality, an equality that benefits women, men, children, and the family as well.

Williams describes the work place as highly gendered. Both men and women who want to make it into the best white-collar jobs must proscribe to the masculine norms found in the work place. Those norms include: the ideal worker schedule, mentoring centered around male bonding activities, the expectation that executives must put in a substantial amount of overtime, marginalization of part-time workers, and the expectation that persons who are "executive material" will relocate their family to take a better job (Williams 2000, 70). The marginalization of part-time workers is an important factor in explaining why many workers do not take advantage of "family friendly" policies. Williams comments that, "any worker who so much as

expressed interest in part-time work was immediately and permanently barred from advancement" (Williams 2000, 73).

Williams' genius is that she calls out domesticity as the almost unquestioned norm of American life. Since domesticity emerged concurrent with industrialization around 1780, men "naturally" belong in the market because they are competitive and tough while women "naturally" belong at home because of their focus on relationships and care giving (Williams 2000, 1). It seems to be an intractable conflict between norms: the norm of parental care, where parents can provide appropriate amounts of care for their children; and the norm of the ideal worker, a full-time worker who can take little or no time off for childbearing or childcare/eldercare responsibilities.

Domesticity is the gender system which holds these norms in conflict, and women are faced with two options. Either they "can perform as ideal workers without the flow of family work and other privileges male ideal workers enjoy. This is not equality. Or they can take a dead-end mommy-track jobs or 'women's work.' That is not equality either" (Williams 2000, 39). The result of domesticity's ordering of work and family is a rhetoric of choice in which both women and men describe a woman's leaving work to care for her family as "her choice." What we end up with is "an economy of mothers and others, where many fathers work overtime and a majority of mothers are not ideal workers" (Williams 2000, 63). Once work-life conflict is viewed in the context of domesticity and its gendered demands one can conceptualize new work-life formations that can benefit men, women, and children.

Family Formation and Children

Family formation—marriage and its timing, whether to have children, how many, and when—as it relates to dual-career couples, has been a topic of particular interest since the dual-

career pattern was identified. Most Americans choose spouses of similar education levels. This educational homogamy holds especially true for those with a college education (Crispell 1995, 35), which by definition, includes almost all dual-career couples. Women's participation in the work force, which affects aspects of assortative mating, as well as women's greater earning power, result in delayed marriages and an "increase in the 'friction' with which the family system functions rather than its disintegration" (Oppenheimer 1988, 588).

Median age of women at first birth has increased, as well, from 21.3 in 1969 to 24.6 in 2000. The increase in age has been the largest among women with 16 or more years of education. Nearly half of the college educated population is over thirty at first birth (Altucher and Williams 2003, 52). Data from a large study at Cornell supports the theory that having fewer children is one of the most important ways that many people coordinate work and family. Smaller families result not only from delayed childbearing, but also "perhaps time delays and smaller families are both outcomes of the compromises inherent in coordinating work and family" in the dual-career pattern (Altucher and Williams 2003, 58). Most couples who resolved this dilemma in favor of the dual-career pattern emphasized the positive aspects of the situation and the probability that alternate solutions would be less satisfactory (Rapoport and Rapoport 1976, 308-310).

A 1985 study also found that careers of women political scientists in the 1970-1975 cohort were affected by marriage and children (Burton and Darcy 1985, 145). Female political scientists were very active in the profession as evidenced by the number of publications and membership in associations; involvement in the profession was virtually indistinguishable between married men and married women political scientists. However, women were less likely than men to hold administrative positions, to be tenured, or to hold full-time positions. Similar

results were found in a study of women doctorates during the same time period. Family complexity was associated with professional status; single and childless women doctorates were found in higher-ranking positions than married women doctorates and women with children (Broschart 1978, 76). Professional recognition and productivity did not vary inversely with family responsibilities.

Turning points, a period in time when people perceive that their work or career has taken a new direction, mark the impetus for changes in lifestyle patterns such as joining or leaving the work force. One recent study on turning points supports earlier findings that women are more likely to report scaling back their work to accommodate family. However, it also found that over half of the sample of dual-worker couples attribute career turning points to conditions at work rather than issues at home (Wethington, Pixley, and Kavey 2003, 181).

Career Precedence and Occupational Mobility

Career precedence and occupational mobility are two issues that are closely linked. The question of whether the husband's or wife's career has priority is usually answered in concrete terms when one spouse is offered a promotion that would require a geographic move. Early studies were almost unanimous in finding that the husband's career took precedence. However, follow-up studies indicate the pattern might be changing to allow for more creative solutions, such as commuter marriage and moving when only the wife's new job was secured (Rapoport and Rapoport 1976, 317-319).

Follow-up work provided empirical data to support early theories on career precedence. Research on a 1968 cohort of women dentists found that the majority of women dentists (73%) were married to other professionals, many of whom were also healthcare professionals. Married women dentists were more likely than male dentists (44% compared to 17%) to have practiced in

more than one city or town, because of the location of husband's work at the time of marriage or because the location of his job changed after marriage. The most often cited reasons for the professional interruptions, which altogether averaged four years, were pregnancy, family demands, or the husband's changing his place of work (Linn 1971, 393). This supports earlier findings in the 1960s and early 1970s that a husband's career took precedence.

For dual-career couples, accepting relocation could limit the other spouse's career or could mean significant time apart for the couple or family. One study suggests that couples use joint strategies to manage the demands of two careers. Many times that means scaling back or setting limits on one of the careers. Many couples traded off between both strategies--scaling back and spending time apart--at various times during the life course (Becker and Moen 1999, 1002). Large urban labor markets were found to ease the placement of professional dual-career couples. This was because proportionally fewer male professionals are married to female professionals. Therefore, women professionals tend to be constrained to large urban labor markets to a higher degree than men (Frank 1978, 118). The larger the labor market, the easier it was for both members of dual-career couples to find work in the same geographic area.

Historically, the decision to relocate has been driven by the husband's career and to a large extent that is still the case (Pixley and Moen 2003, 184-185). A more recent study identifies a significant shift in career prioritization from earlier decades (Pixley and Moen 2003, 199). Couples with a relative difference in education at the beginning of their marriage tend to prioritize the career of the more educated spouse. Couples with relatively equal levels of education tend to take a more egalitarian view of career priority. They also found that couples that work within the same organization report that neither career takes priority (Pixley and Moen 2003, 199). An earlier study looking at dual-career marriage and occupational mobility in local

government management careers supports Pixley and Moen's 2003 findings. Dual-career couples tend to move less often than other two-earner or traditional one-earner couples (Reed and Reed 1993, 150). A recent RAND study also supports the above findings. Geographic mobility of career-minded individuals declines after marriage and, overall, the careers of husbands are prioritized over the careers of their wives (Loughran and Zissimopoulos 2004, 21).

Dual-career couples create a situation termed a "commuter marriage" when they decide that one spouse should relocate while the other spouse remains behind due to his or her career. A review of commuter marriage literature finds that the stress of living apart is minimized when: a couple's financial resources are high; both spouses are highly committed to their careers; couples have been married for long enough that they share a history and a "taken-for-granted" stability; there are no children in the house; and the couple can reunite regularly on the weekends (Gerstel and Gross 1982, 78). Interestingly, one month apart is as long as most couples find manageable, and spouse productivity declines during long separations (Gerstel and Gross 1982, 90).

Not all aspects of commuter marriages are necessarily negative. Commuter marriages, while not usually seen as optimal, can be a viable option. Roughly one quarter of dual-career couples had commuted and several commented that the commuting lifestyle facilitated their ability to compartmentalize work and family. They were able to work long hours during the week and concentrate on family life on the weekends (Silberstein 1992, 67). As in Gerstel and Gross's earlier work, Silberstein found that once couples have children, the commuter marriage lifestyle becomes much more difficult (Silberstein 1992, 68).

Benefits of the Dual-career Pattern

While dual-career couples face many stresses, the Rapoports' early study also identified benefits. First, the wife's self-realization was cited by most couples as the most important benefit. However, in the 1960s, it was assumed that as the wife pursued her career, she would also do the housework as well. Hence, while this primary benefit was counted as a gain, it was also a strain on the wife. Second, the financial gains of having two people in the same household working at full-time careers provided a utilitarian benefit. However, this benefit was many times off-set by the need to pay for domestic services, additional clothing, and additional vacations. The other benefit of increased income was symbolic, especially during the 1960s. It was very important to dual-career couples that the wife be paid equitably for her work. Third, dual-career couples saw their pattern as one that encouraged their children to be more independent and resourceful than children in conventional family settings. Finally, the husbands in the study received vicarious gratification from their wives' career achievements (Rapoport and Rapoport 1976, 320-323).

Policy Recommendations

One of the goals of the early-generation studies was to improve work-life policy at the national and institutional level was. That goal remains. This section discusses contemporary studies which examine the success and failure of work-life policies. Second, it covers perceived benefits of flexibility in the workplace. This section concludes with Joan Williams' (2000) argument that restructuring the workplace away from the "ideal worker" norm not only helps women and men meet their work and family obligations but also benefits companies in many ways.

The Rapoports' early work proposes policy recommendations in line with a vision of a pluralistic society in which dual-career families are one among many forms of family life. They envisioned a society in which families could pursue happiness without one form, the conventional family, being favored over others. To that end, they suggest that an enlargement of conventional conceptions is needed to encompass societal changes that were already beginning in the 1960s (Rapoport and Rapoport 1976, 361).

The conventional concept of traditional sex-roles in the home was one of the most concerning aspects found by the Rapoports. Like Beck (1992), the Rapoports found that traditional sex-roles were more resistant to change than first expected. Factors that played into the rigidity of traditional sex-roles included the capacity of men to take on more domestic work and the capacity of women to allow them to do that. The most often cited reason for sex-roles being the way they were was that the workplace was inflexible, that occupations were 'greedy', and that men "could not change," even if they wanted to. A second problem identified by the Rapoports was the "Protestant work ethic." Traditionally, work demands full devotion which does not allow people to find a more balanced life. By eliminating this problem, both men and women could be freed for other responsibilities and involvements (Rapoport and Rapoport 1976, 359-366).

Contemporary studies worked to convert the theoretical approaches of early studies into tangible policy recommendations. One such study examines how seven companies have institutionalized family-friendly policies and how those policies are used by dual-career couples. The study organized work-life policies into three categories: time control, child care, and symbolic policies. Time-control policies include flextime, telecommuting, compressed workweek, guaranteed time off for childbirth, and time off for volunteering. Child care policies

include on-site or near-site childcare, in-home day care provider network, before- and after-school care, day-care subsidies, and sick-child care. Finally, symbolic policies include the presence of a company task force, pretax set-asides, support groups, and adoption aid (Still and Strang 2003, 291).

In looking at dual-career couples, the study found that there was no significant difference in the use of these programs between men and women and between parents and non-parents (Still and Strang 2003, 309). They also found that organizational-level variables affect use of work-life programs. The higher the percentage of women in an organization, the more likely women are to take advantage of programs. For men, use is predicted by the formal status of the programs which suggests that men are more sensitive to how a program is defined by their company. In the absence of formal company policies, men are more reluctant than women to negotiate individual benefits (Still and Strang 2003, 309). Another study suggests that in order to reduce strain on spouses in a commuter marriage, employers should remove anti-nepotism rules to allow more opportunities for couples to work in the same location (Gerstel and Gross 1982, 89). It also suggests employers provide more flexible work and vacation schedules and expanded child care opportunities (Gerstel and Gross 1982, 91).

One interesting approach was reported in a case study looking at Du Pont. Du Pont initiated a program for its employees who were part of dual-career couples. Du Pont's Field Engineering Program consisted of 338 engineers, 119 of which were part of dual-career couples. The Field Engineering Program provided two-year assignments in various jobs throughout the company for young engineers. Two-year assignments meant frequent relocations. Managers observed that the relocations and role conflicts were creating stress among its dual-career engineers. Theorizing that stable couples resulted in better employees, the company designed a

weekend workshop for dual-career couples. The workshop's main goals were to help the couple examine values and expectations, improve communication and decision making skills, examine issues arising from career planning and relocation, develop support networks, and set goals (McCook et al 1991, 42). Feedback from the pilot workshop was positive, and the enthusiasm shown for it demonstrated there was a need for a program for dual-career couples.

Several scholars, in analyzing work-life policy, have taken a broad view of work-life integration, and called into question assumptions of the work-life model itself. Taking a broad approach, Valcour and Batt found that organizational family responsiveness involves multiple elements. "Formal work-life policies, informal work-life support from supervisors and other organizational members, favorable human resource incentives, and work designed to provide employees with a reasonable level of work demands and a high level of control over the conditions of their work are all important for supporting employee work-life integration" (2003, 330). Continuing the evolution of work-life policy, an alternate work-life model was proposed by Barnett. It calls for companies to move beyond policies that address the work-family interface. Policies should focus on the nature of work and how work gets in the way of employees' ability to integrate his work, her work, and family (Barnett 1999, 156).

Restructuring the work environment includes several aspects such as flexibility and child care options. Williams shows that a restructured work environment provides many benefits to companies as well as employees. She counters the argument that flexible hours are infeasible for companies by showing that companies do not take into account how much they are losing by *not* providing flexible hours (Williams 2000, 88). With estimates that it costs between .75 and 1.5 times a worker's annual salary to recruit and train a replacement (Williams 2000, 88) it is clear that it is economically advantageous for companies to run a cost-benefit analysis on flexible

programs. Flexible arrangements could include options such as telecommuting, reduced hours, flex-time, and job sharing. The key to flexible arrangements is that they are available to the entire staff and workers receive proportional pay, benefits, and promotion (Williams 2000, 89).

Williams presents strong evidence that flexibility in structuring work hours increases retention, decreases absenteeism, and increases productivity. A policy of flexible work hours is credited with increasing the return rate after pregnancy from 69 to 93% at one company and reducing turnover at another company from 12 to 3% (Williams 2000, 90). Absenteeism is also reduced. Studies show that, if allowed, workers will schedule around appointments and school activities, instead of doing them on company time by discretely slipping away (Williams 2000, 91). Finally, flexible policies are shown to increase productivity in five basic ways. First, flexible scheduling allows employers to stay open longer hours without an increase in staffing. Second, it improves staffing during illness and holidays. Third, in the case of part-time work, these policies provide a fresh worker when a full-time worker would be burning out. Fourth, flexible work hours increase the pool of competent workers by increasing the number of women (and possibly men) who are in the work force. Finally, flexibility increases productivity by increasing worker loyalty (Williams 2000, 92-94). A system that "produces overwork for men and underemployment for women is not efficient" (Williams 2000, 94).

Williams finds that flexibility is the key to work restructuring. Work restructuring promises not only to help mothers but also to help men with significant caregiving responsibilities. It promises to help reintegrate men into the family. When men do not have to worry about being marginalized if they do not perform as ideal workers, it can increase family time. Finally, "a system that provide[s] care for children without marginalizing their caregivers

would increase women's power within the family and make women and children less vulnerable to impoverishment upon divorce" (Williams 2000, 100).

Conclusion

The Rapoports' foundational study and theories on dual-career couples in the late 1960s provided the groundwork for further empirical research. Set in the context of delayed marriage, increased divorce, and growing numbers of dual-career couples, contemporary studies have focused on various aspects of the dual-career pattern. Work-life integration and conflicts, professional mobility, and questions of career priority, as well as the fundamental models upon which our theories of work-life integration are based have all been the subject of inquiry. Beck and Williams' attention to the structural norms that fuel work-life conflict bring about the possibility of solving many of the conflicts that plague dual-career couples. By deconstructing domesticity and the ideal-worker norm, it becomes possible to reconceptualize the work place in a coherent and actionable way.

Now we turn to a specific segment of the dual-career population, dual-military couples. Many of the theories and empirical research on civilian dual-career couples is applicable to dual-military couples. Just as in private companies, these couples function within a well defined set of rules and policies. They strive to accomplish a balance between work and family life while dealing with many of the same questions facing civilian dual-career couples. Military couples, however, face other unique demands within the context of the military. The next section will explore the unique aspects of life faced by dual-military couples.

Chapter 3

Literature Review – Dual-military Couples

Compared to the literature covering civilian dual-career couples, much less research focuses specifically on dual-military couples. Fortunately, many of the findings from civilian life apply to dual-military couples because they both face many similar issues, although the challenges for dual-military couples may be intensified. This literature review begins with a short discussion on women in the military and the evolution of military family policy. Next, an overview of current Air Force regulations that affect dual-military couples will help place these couples into the specific context of Air Force policy. This is followed by a look at the demands and stresses of the military lifestyle in general. Finally, the chapter wraps up with a discussion of the challenges of and benefits derived from dual-military couples.

Women in the Military

Much of the literature that discusses dual-military couples focuses primarily on issues that might affect women more than men, such as equitable promotions, retention, quality of life, and unique stresses. The focus on women's retention is understandable in the context of the comparably recent integration of women and their full-time participation in the U.S. military. A look at the history of women in the military will be helpful in gaining an understanding of retention issues that affect force readiness.

Women's participation in the U.S. military goes back to the very early history of the United States. However, only after WWII were women outside of the nursing corps allowed to serve during peacetime. In 1948, Public Law 623 limited women's terms of enlistment, rank, and benefits and placed an end-strength cap of 2% on the force (Devilbliss 1990, 10). The

restrictions on rank and the end strength cap were removed in 1967 by Public Law 90-130 but the percentage of women in the services remained at approximately 2% until 1973. The contemporary history of women in the military starts in 1973 with the beginning of the all volunteer force (AVF). Since 1973, the number of women in the military increased from 2% to 15% of the force (Quester and Gilroy 2002, 111-113). Since the number of women in the military increased in the 1970s and 1980s, it is important to look at several key issues which precipitated changes in military family policy.

Military Family Policy

Family policy within the military is ever-evolving. A 1990 study contends that there is an "historical tendency by the military to discount the need for [family] policy change…until these concerns are brought to its attention by outside interest groups, legislative enactment, or judicial review" (Devilbliss 1990, 43). Without external impetus, however, military necessity plays the key role in determining whether the military addresses a family policy issue. An issue becomes more central and more likely to be addressed by the military as it goes from being seen as a "women's issue" to being defined as an "organizational concern" impacting both men and women (Devilbliss 1990, 43).

Dual-military couples did not exist in the military until the 1960s, when married women were allowed to remain in the service. Before that time, they were released from the military and any remaining service obligation if they got married. The policy was changed because a large number of women married before their term of enlistment was completed, which created serious shortfalls in readiness in some career fields. Thus, the issue became one of readiness and an "organizational concern" (Devilbliss 1990, 13).

When married women were allowed to remain in the military, two issues took center stage: entitlements and pregnancy. Military men's wives and children were automatically classified as "dependents," qualifying the family for specific financial entitlements and base privileges such as the right to shop at the commissary. However, this was not the case for civilian men married to military women. This issue was not addressed by the military until action was forced upon it by the courts. A 1973 court case decided that military women should not have to prove that their husbands and children were dependent on them for over 50% of their support for them to be classified as "dependents" eligible for entitlements, unless military men were required to do the same (Devilbliss 1990, 14).

Policy concerning pregnancy also came to the fore once married military women were allowed to remain in service. Before 1971, women who became pregnant were immediately discharged. Pregnancy and motherhood were not seen as compatible with military service. In 1971, with a court case pending, the military changed to a policy of waivers of discharge (Devilbliss 1990, 14). However, the services were still losing 6% of their female enlisted members per year. This loss was perceived as a readiness issue and thus one of "organizational concern." In 1975, the services were ordered to adopt their current policy of "voluntary separation" (Devilbliss 1990, 1). Currently, Air Force women may ask to separate from the service if they "find pregnancy and the expectation of motherhood incompatible with continued military service" (USAF 2004, 49). Women who have a remaining service commitment are usually transferred to the Air Force Reserve to finish out their commitment, while those who do not have a remaining commitment are generally separated before they give birth.

There are no options to take extended personal leaves for maternity, paternity, or eldercare responsibilities (Thie, Harrell, and Thibault 2003, xv). Thie, Harrell, and Thibault

analyze the current return-to-service options offered in the Department of Defense and in the private sector, and offer up several recommendations, including considering a more flexible range of personal extended leave programs (2003, 38). These options are proposed in order to achieve higher retention rates as well as to, "help reinforce the military's reputation as a competitive, attentive, and conscientious employer" (Thie, Harrell, and Thibault 2003, xx).

Integration

Besides family policy changes, women's integration into the service was a concern during the early decades of women's participation in the military. As the number of women in the military has increased, so has their representation within the upper ranks of the military. Having a proportional representation of historically under-represented groups of people in leadership positions is seen as a key indicator of successful integration. A proportional number of female leaders would indicate that women have been fully integrated into the military structure.

From an economic perspective, the military can be viewed as an internal labor market marked by several unique characteristics. First, the military is very young, with only 10% of the force over age thirty-nine. Second, there is literally no lateral entry; entry points are strictly defined by education and age. No lateral entry means that leaders are drawn exclusively from within. Finally, the military has a "hierarchical, pyramidal structure, with formal promotion processes and an 'up or out' system" (Quester and Gilroy 2002, 116). These features have helped women integrate into the military in two ways. First, since there is no lateral entry and everyone begins at the bottom, the promotion process helps women and minorities gain credibility. Second, the promotion process looks at everyone. Therefore, while everyone starts at the bottom, by the time women and minorities reach the top ranks 20-25 years later, they have

undergone the same process as their "traditional" military counterparts (Quester and Gilroy 2002, 117).

In order to figure out how well women are integrated into the military, rates of accession were analyzed for the year groups that comprise the upper leadership ranks of O-7 (brigadier general, rear admiral) and E-9 (chief master sergeant). Women composed 8.6% of officer accessions in the years that current O-7s entered service and were currently 8.6% of O-7s. The percentage was even higher for women in the enlisted ranks; women were 8.3% of accession and were currently 13.4% of the E-9s (Quester and Gilroy 2002, 118). While this analysis did not report statistical significance and involved only one cohort, it supports the claim that women generally have been successfully integrated into the military. In order to explain women's choice to remain in the military, the authors speculate that high aptitude women and minorities freely choose the stay in the military as an alternative to civilian jobs, in part, because of a greater earnings differential compared to civilian jobs (Quester and Gilroy 2002, 120).

Family Formation

Family formation among military women also bears examination. One analysis finds that enlisted women, ages 20-25, had higher marital and fertility rates than their civilian counterparts (Lundquist and Smith 2005, 12). The trend likely relates to the military's family benefits such as full family healthcare, family housing, day-care services, school-age activity centers, and an increased opportunity to meet a future spouse (propinquity) as well as prior research which indicated that divorce rates were unusually low (Lundquist and Smith 2005, 2). Lundquist and Smith found that dual-military marriages "may benefit from a compounded effect of family benefits that would accrue even if one partner exited the military" (Lundquist and Smith 2005, 12). Interestingly, another study by one of the same authors finds that the military has a race-

equalizing effect on marriage. "The overriding importance of military rank compared to more typical stratifiers like race or class, the lack of residential racial segregation and more equal access to social and economic resources may create an overall social milieu in the military that is conducive to family formation" (Lundquist 2004). These studies support a trend toward earlier family formation within the military than in the general public.

Current Policy and Regulations Affecting Dual-military Couples

It is helpful to turn to a quick overview of the regulations that affect dual-military couples in the United States Air Force. The Air Force provides specific guidance pertaining to dual-military couples within overarching regulations, known as Air Force Instructions (AFI). Regulations dealing with assignments, permanent changes of station (PCS), and family care planning all include specific mention of rules applying to dual-military couples.

Assignments

The topic of assignments, in terms of both jobs and duty locations, is always at the forefront when discussing dual-military couples. With respect to equal opportunity, "the AF assigns members without regard to color, race, religious preference (except chaplains), national origin, ethnic background, age, marital status (*except* military couples), spouse's employment, educational or volunteer service activities of a spouse, or gender (except as provided for by statute or other policies)" (emphasis added) (USAF 2005, 29). The exception for military couples covered in AFI 36-2110 is most informative for this study. Members of a military couple serve in their own right; they each must fulfill their own personal obligations to the Air Force--there is no job sharing in the civilian sense. The military considers each spouse for assignment based on his or her individual training and skills and the needs of the Air Force. The

term “join spouse” is used to refer to the assignment of military spouses in close enough proximity that they can establish joint domicile (usually within fifty miles) (USAF 2005, 301). During the assignment process, each member of a military couple indicates their join spouse preference; if it is in the best interest of the Air Force, the service will work to assign military spouses together. A normal assignment within the United States used to be three years, however, recent budget considerations caused the USAF to increase assignment length to four years (USAF 2006).

Much like civilian anti-nepotism laws, the USAF prohibits family members from having supervisory or command position over each other. However, family members, defined as siblings, parents, children, or spouses, can be assigned to the same unit as long as there is not a command or supervisory relationship (USAF 2005, 49). Some flexibility is given specifically to aircrew members within the same family, who can request reassignment to different units to avoid exposure to a common danger (USAF 2005, 305).

Most assignments are “accompanied” assignments, meaning that the member’s family moves with the member to the new assignment. Some assignments, usually shorter tours (12-18 months), are “unaccompanied” or “remote” tours, and, as the name implies, family members must remain behind. Examples of unaccompanied remote tours include one-year tours to Iraq, Afghanistan, and South Korea. An exception to the idea that members of dual-military couples “serve in their own right” is implied in the policy that they cannot be assigned to the same or nearby locations for concurrent unaccompanied short tours (USAF 2005, 298). Some overseas short tour locations, however, include “command sponsored” billets. Command sponsorship “is approval … for dependents to reside with the member at the OS [overseas] duty station” (USAF 2005, 351). These billets are traditionally allocated among leadership positions within the unit.

Dual-military couples (with or without dependents) can be assigned to 1) concurrent unaccompanied short tours to different areas (e.g. one member is assigned to Iraq for a year and one member is assigned to South Korea during the same time period) and 2) to the same hostile duty location such as Iraq or Afghanistan at the same time for shorter term temporary duty (normally up to 6 months). However, couples cannot be assigned to the same or near-by overseas short tour locations without the member being assigned to a command sponsored billet. This appears to contradict the policy that members of the military serve in their own right and, in some cases, the contradiction may even be detrimental to the needs of the Air Force. An explanation for the reasoning behind this apparent contradiction in policy is not given in the AFI.

Dependent Care

Dependent care is another topic affecting dual-military couples. The term "dependents" encompasses both children and possibly elderly parents within the household. For taxation and benefit purposes, only one member of a dual-military couple can claim dependents (for example the couple's wife might claim both children so she is credited with two dependents, while the husband has zero dependents on his record). By regulation, dual-military couples and single members with dependents must file a written family care plan (USAF 2000, 2). The family care plan designates short and long-term care givers for a dual-military couple's dependents and is approved by a member's unit commander or first sergeant. The family care plan is put into action when both members are required to perform duty away from home. This includes temporary duty assignments (which can last from a couple of hours to approximately 179 days away from home) as well as overseas short tour assignments (as discussed above). Along with filing a family care plan, members must also make arrangements such as powers of attorney and base passes for care givers (USAF 2000, 7-8). Through family care plans, "the Air Force assures

itself of an available force to meet all of its needs by making certain that each member has made adequate arrangements for the care of his/her family members" (USAF 2000, 2). Those who are unwilling or unable to make adequate and acceptable arrangements for their family are subject to discharge or separation (USAF 2000, 4).

Military Life

The above outlined the framework of regulations within which dual-military couples function. Next, we turn to some of the unique aspects of military life and how it can differ from civilian life.

Stresses

Military life is unique in the number and types of demands it makes on its members and their families. Military service has been characterized as unpredictable, requiring unlimited commitment, and isolated from the social networks and issues of the civilian community (Kohen 1984, 402-406). These demands create both positive and negative stress on the military member and his or her family as they adapt (or not) to military requirements. One way to view various stresses involved with military life is through the framework of "the greedy institution." Both the military and the family are greedy institutions in that they both depend for their survival on the commitment of members with competing loyalties. Theoretically, the more the military adapts to family needs, the more committed the service member and their family will be to the institution (Segal 1988, 96). Segal's study, while not focused on dual-military couples, is helpful as it outlines a unique constellation of demands placed on military members and their families.

The military levies five distinct demands on its members and their families. First, and perhaps the greediest of all, the military can legitimately place its members at risk of injury or

death in both peacetime and war. While seldom studied, this demand is likely the source of much stress on members and their families (Segal 1988, 83). Second, the military demands geographic mobility of its members and their families. Frequent moves can be seen as beneficial, but can also be a source of stress that can disrupt family life, education, and a civilian spouse's career (Segal 1988, 84). Third, military duty often requires members to be separated from their families. Spouses left behind often experience loneliness, physical illness, loss of their usual social role in the community, and they are thrust into the role of single parent. Perceived negative aspects of separation usually outweigh the perceived positive aspects, which include individual growth and development of the marital relationship (Segal 1988, 85-86). Fourth, residence in a foreign country, seen as a positive aspect of military service, can cause distress for many service members and their families due to culture shock, language barriers, isolation, and the stress of family life disruption (Segal 1988, 86). Finally, normative pressures on the military member's spouse and children can be the cause of stress. "Family members informally carry the rank of their service member, and behavioral prescriptions vary accordingly" (Segal 1988, 87). Prescriptive norms are not as formally enforced as in years past. However, family members learn that their behavior, even as it conforms to today's more informal norms, can adversely affect their service member's career advancement.

Family Factors and Retention

Family and life factors play into a military member's decision to remain in the military or to leave. A 1989 study reviewed 18 empirical studies of family factors in retention decision-making (Janofsky). From those studies, the author gleaned nine propositions, which are summarized in Table 2. Key variables in determining retention include: retention intentions,

level of spousal support for the member's career, member and spouse's level of satisfaction with military life, and the member's and spouse's level of satisfaction with martial and family life.

Table 2

Propositions on Military Retention Decisions

1.	The more the member is satisfied with military life, the higher the retention intention.
2.	The greater the spouse's satisfaction with military life, the greater the desire to continue military life.
3.	The higher the spouse's marital and family life satisfaction, the greater the desire to continue military life.
4.	The greater the respective job demands of members and spouses, the less frequent and positive the marital and family interaction.
5.	Parents of adolescents are more likely than other parents to experience less positive marital and family interaction.
6.	The greater the marital and family interaction, the greater the marital and family satisfaction.
7.	The more embedded and satisfied with the military community, the greater the marital and family life satisfaction.
8.	The more embedded and satisfied the spouse is with the military community, the greater the desire to continue military life.
9.	The job demands of members and spouses vary over the family and work life cycles.

Source: Janofsky, Barbara J. 1989. The Dual-Career Couple: Challenges and Satisfactions.

An earlier study examined how individual factors affect dual-military couples and their satisfaction with Air Force life, and hence their retention. Using data from 1982, the author found that predictive models for men and women in dual-military relationships were different. Factors that predicted husbands' satisfaction with Air Force life were: career commitment; job morale; extramarital closeness (social network with friends and family); marital quality; and satisfaction with geographic moves. Significant factors that predicted dual-military wives' satisfaction with Air Force life included the perception that the Air Force was a good

environment for raising children, job morale, marital quality, and equity in the division of household tasks (Janofsky 1989, 108-110). Dual-military men and women also cite different benefits of Air Force life. Dual-military husbands identified indirect benefits such as lifestyle (33%) and the military benefits package (26%). Dual-military wives identified more direct benefits such as family enrichment (47%) (Orthner 1980, 32).

Dual-military Couples

Like civilian dual-career couples, dual-military couples face struggles and stresses concerning relationships, parenting, and career mobility. A 1989 study explored the question of why women in the U.S. Air Force Academy (USAFA) class of 1980, the first class that included women, were voluntarily leaving the Air Force at twice the rate of their male counterparts after their initial five-year commitment. This is applicable to the topic of dual-military couples, in that 30 of the 31 married interviewees were married to men who were or had been in the military. Also, every unmarried woman in the sample who was currently dating, engaged, or divorced was involved with members of the military (Roffey et al. 1989, 26). This study aimed to qualitatively identify major factors in the low retention rate, based on phone interviews of 46 of the 97 female graduates. The interviews were relatively representative of women in their class.

Relationships

Several specific concerns for dual-military couples were identified in the Roffey study. These areas of concern in many ways reflect those raised by civilian dual-career couples. Relationships were the first area of concern identified by military women. In general, single Air Force officers in the study did not perceive marriage to a civilian as workable due to the unique

demands of the military profession. There was also a strong perception that when a military person marries a civilian, "one or the other is committed to a 'tag along' job, versus a career" (Roffey et al. 1989, 26). Worries about "tag along" jobs were also voiced as a concern among Air Force women who were married to other Air Force officers. Consistent with the single women's views, many of those who were part of a dual-military couple felt that being married to a military spouse "meant that one of them would have to make career sacrifices" (Roffey et al. 1989, 27). Other hardships cited by women in dual-military couples included enduring frequent separations, remote assignments, and difficulties in obtaining "join spouse" assignments.

Hardships reported by military women affect both members of the couple, i.e., both members experience hardships together and they also appear to share in the career decision-making process. As with civilian dual-career couples, career decisions are, in fact, joint decisions. The military treats each member of the dual-military couple as an independent entity; however, the decision making process includes both members acting in concert. Unfortunately, the Roffey study does not capture the other side of the equation--male spouses who separate in lieu of, or in addition to, their wives (Roffey et al. 1989, 29). Reasons cited by interviewees for husbands' leaving the Air Force included frustration with join spouse assignments, belief that the wife's career would go the farther, the wife was more committed to the military, and the belief that the husband would earn more as a civilian.

Work-life Conflict

Much like their civilian counterparts, Air Force women report that they feel they must make a choice between work and family. A new study by Everston and Nesbitt reveals that Air Force women feel frustrated at having to decide between family and work and that, in general, they do not feel that they "can have it all" (Everston and Nesbitt 2004, 115). There were several

coping strategies identified by the women interviewed for the study. Some choose work over having a family, some retire right at 20 years so they can "finally spend what they perceive as quality time with their family," some opt for third party childcare options, and a few have "stay at home husbands" (Everston and Nesbitt 2004, 117). This study brings to light the fact that Air Force women are aware that the decisions they make with regard to work and family will significantly impact their lives and those of their family; being successful in one area requires sacrifices in the other area.

Parenting

Many Air Force women cited the demands of parenting in a dual-military couple as a reason to leave the military. Many said that they believed that Air Force policy (as it was in 1989) left them no middle ground—they could either leave the Air Force to start a family or sacrifice time with their child (Roffey et al. 1989, 29). A unique challenge faced by dual-military couples raising children is that often both members are deployed or sent on temporary duty assignments at the same time. When that is the case, couples are required to have prearranged child care. As in many of the civilian studies, dual-military couples' "support system" appears to be a predictor of retention. Often, twenty-four hour child care is not available. Some couples must rely on family and friends to care for children at any hour of the day or night, sometimes for extended periods of time (Roffey et al. 1989, 31).

A recent RAND survey shows that among single parents, dual military parents, and military members married to civilians, child care issues negatively affect retention intentions of dual-military members the most. RAND concludes that despite policies that favor single and dual-military parents in terms of enrollment in Department of Defense Child Development

Centers (CDC), these families still find it difficult to manage a military career and provide the appropriate level of care for their children (Moini, Zellman, and Gates 2006, 60).

Relationships and parenting were the most prevalent concerns cited by female Air Force officers in the 1989 study. The study suggests that "[f]uture studies of officer retention should view attrition more in terms of the family's response to the conflicting demands of meeting family and military responsibilities, and not as a strictly male or female issue" (Roffey et al. 1989, 31). Lengthy deployments are another shared stress that has become increasingly prevalent in the past fifteen years.

Deployment

Traditional service members in 1995 were away from their families 15-20% of the time. The situation for dual-military couples is even more difficult because they each must perform the same types of missions away from home, resulting in the couple being away from each other approximately 33% of the time (Reeves 1995, 34). However, since Reeves' article was written in 1995, military personnel tempo (PERSTEMPO), the number of days a military member is away from home per year, has increased across the service due to an increasing number of military operations around the world. Figure 1 shows how the Air Force PERSTEMPO has increased since 1986. The Air Force goal for PERSTEMPO is no more than 120 days away from home per person per year. This means that it is conceivable that an Air Force dual-military couple could spend up to two-thirds of the year separated and still be within the Air Force goal of 120 days per person. To help share the deployment burden across a greater number of its personnel, the Air Force has increased its pool of deployable people from 80,000 in 1997 to 272,000 in 2003 while at the same time drawing its force down by 18,000 personnel (U.S. Air Force 2004, 7). While deployment stresses have increased on all Airmen, dual-military couples

may feel the burden even more acutely. This could be a contributing factor to their lower retention analyzed in this thesis.

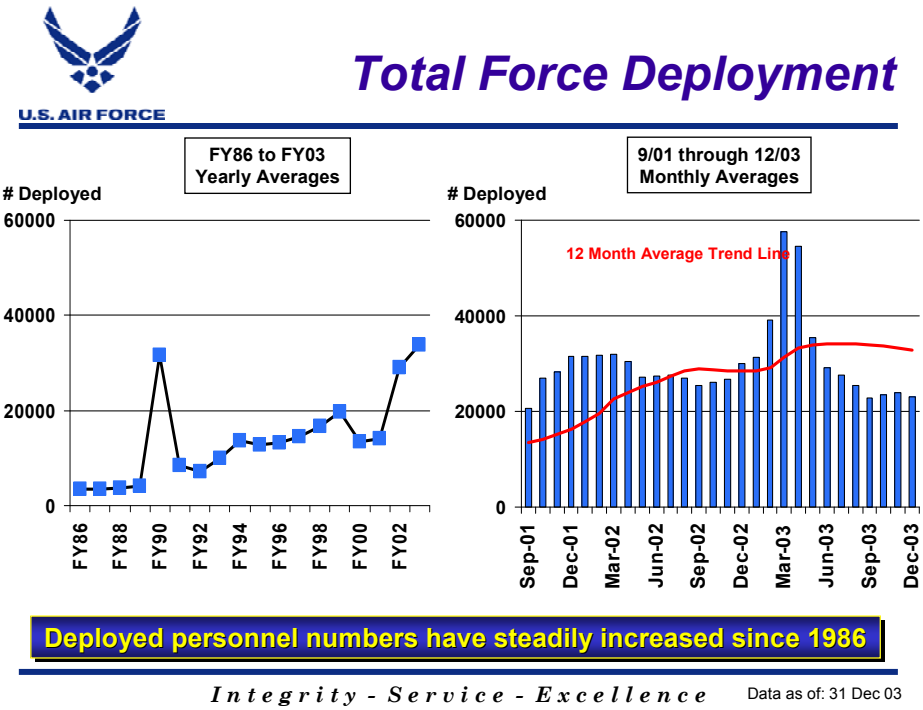

Figure 1: Air Force PERSTEMPO 1986-2003 from USAF OPS/PERSTEMPO briefing

While common wisdom holds that an increase in deployments causes a decrease in retention, a recent RAND study advises caution in accepting that hypothesis. In general, for junior- and mid-grade officers, more deployments to non-war zone areas equated to higher retention (Fricker 2002, 46). While hostile deployments to areas such as the Middle East usually mitigated the positive effect on retention, retention was higher for officers with some or all hostile deployments than for those who did not deploy (Fricker 2002, xii). Unfortunately, while the study controlled for several demographic variables, it did not consider dual-military couples. Instead, it simplified the "family status" category, identifying officers with dependents as officers with families. In the traditional family structure, the presence of dependents indicates a

service member married to a civilian spouse (civilian spouses and any children are counted as "dependents"). However, this way of accounting for families does not work well for dual-military couples. Only one spouse in a dual-military couple can have children accounted for as "dependents." If a dual-military couple has no children, then neither would show dependents on their record. Therefore, fewer than half of the dual-military personnel would have been counted as married in the RAND study. The study calls for detailed modeling of specific military communities (Fricker 2004, 52). While Fricker is referring to career groups (such as Navy legal officers) which show distinctly negative retention associated with hostile deployments, it would be helpful to look at dual-military retention in relation to the number and length of hostile and non-hostile deployments.

Benefits

Comparable to the civilian literature on dual-career couples, those looking at dual-military couples have also found that both the military as an institution, as well as the dual-military couples themselves, experience some benefits associated with their chosen lifestyle. Dual-military couples are characterized as "committed to a military career" because, on average, military members have eight to twelve years of service behind them before they get married (Reeves 1995, 47). Along with being more committed to the service, dual-military couples are more likely to understand each other's job requirements. This, in turn, has the potential to reduce military-family conflict (Segal 1988, 91). This fact is also reflected in earlier findings. A higher percentage of dual-military couples report healthy, open communications (79% of husbands, 85% of wives) than do civilian wife couples (72% of husbands, 79% of wives) in the Air Force (Orthner 1980, 71). Dual-military couples also benefit the military because "two

individuals are performing military duties, but are taxing the military infrastructure with only one set of dependents rather than two" (Reeves 1995, 47).

Conclusion

This chapter began with a short discussion on women in the military, their history, and the evolution of military family policy. As an issue goes from being a "women's issue" to one of force readiness and military necessity, it is seen as a more legitimate issue and one more likely to be addressed. This was followed by an overview of current Air Force regulations that affect dual-military couples. Members of dual-military couples serve in their own right and each must fulfill their personal obligation to the Air Force. Following that, it looked at the unique demands and stresses of the military lifestyle in general. Family factors for both men and women, when considering retention decisions, were discussed next. Finally, this chapter wrapped up with a look at the challenges of and benefits derived from dual-military couples.

Much of the civilian dual-career literature is applicable to the military dual-career lifestyle. Like their civilian counterparts, military dual-career couples must contend with issues of work-family spillover and work-life conflict issues, occupational mobility, career prioritization, "commuter marriages," and childcare issues. Like their civilian counterparts, dual-military couples are seen as dedicated individuals that are more inclined to be supportive of their mate's career. The extra stresses of working in the military add an extra challenge to maintaining the dual-military lifestyle.

Chapter 4

Data Analysis

While current studies provide interesting and compelling qualitative evidence concerning military dual-career couples and the stresses they face, few studies use quantitative evidence when examining retention for these military members. Perhaps there is no discernable difference between retention for dual-military members and non-dual military members. Perhaps pressures that affect retention weigh equally on both dual and non-dual military members. Section 1 will look at the difference in retention over time using aggregate data collected from the U.S. Air Force Interactive Demographic Analysis System (IDEAS) website. Section 2 will report the results of secondary analysis conducted on an Air Force Survey Division survey which examines factors that motivate Air Force members to remain in or leave the service. Both sets of data will be used to examine the hypothesis that the retention of dual-military members is lower than the majority of the Air Force officer population. Based on the literature reviews above, it is also hypothesized that factors such as having children present in the household, compatibility with a spouse's career, and deployments will result in lower intent for dual-military members to complete a full 20-year career as compared to the rest of the Air Force officer population.

Section 1: Aggregate Data Analysis

Variables and Measurement

To examine the retention of dual-military and non-dual military service members, the author has chosen to bound the problem by looking only at the U.S. Air Force officer corps. Statistics for the USAF officer corps are readily available on-line, dating from 1994 to present.

Independent Variable: The independent variable in this analysis is *years of service*. As described above, the officer corps is naturally broken into discrete year groups; every officer is a member of one, and only one, year group based on the date of commissioning. The idea of looking at year groups makes sense because they are easily converted into years of service. Many of the decision points in military life come at somewhat predictable intervals in a career. Every officer goes through a fairly predictable career progression based on years of service. Years zero and one correspond with 2nd Lieutenant, two to three are 1st Lieutenant, and from years four to approximately nine, service members hold the rank of Capt. After year nine, members begin competitive promotions for Major (approximately 10-16 years of service) and Lieutenant Colonel (approximately 16-20 years of service); however, after 10 years of service, even if an officer is not promoted past Major, members can usually apply for a waiver to stay in the service until retirement at 20 years. Possible predictable "stressor" points might occur after the initial service commitment is complete at year five for non-pilots and year 10 for pilots. Year 10, when the member is promoted to major, is when they are halfway to being first eligible for retirement.

One shortcoming in this method of measurement is that the Air Force has line and non-line officers. Line officers make up the majority of officers in the service, and their careers follow the predictable timing described above. Non-line officers are mainly chaplains, lawyers, and medical officers, and while their careers follow the same rank structure as line officers, their promotion timing is not necessarily the same. Since promotion timing is not the same, there may be a small effect on attrition rates between the two groups. However, the non-line officer corps is quite small, and their promotion rates are on par with the line officers. Non-line officer career

fields have implemented various incentive bonuses to keep medical personnel in the service at average rates, so the difference in attrition rates is assumed to be non-significant.

Dependent Variable: The dependent variable is a calculation called the *attrition rate ratio*. The ratio compares the attrition rate of dual-military members to that of non dual-military members. A ratio of the attrition rates was chosen in order to compare year group to year group, adjusted for years of service. The number of people in each year group is not the same, nor is the number of dual-military service members the same. The attrition rate ratio holds these factors constant.

The attrition rate ratio is calculated based on the peak number of dual-military members in a year group as the group progresses through its career. Table 3, below, shows an example of the calculations for the 1992 year group; the peak number of dual-military members occurred in 1996 and is highlighted. The Air Force counts each military member as a separate entity, whether married to another military member or not. Therefore, statistics for dual-military members count each member of the couple separately. The advantage of looking at dual-military members as separate individuals is that it begins to analyze the issue from a holistic perspective. Looking at both male and female dual-military members takes into account that dual-military retention is not just a "female" issue as pointed out in the Roffey study (1989, 34).

A possible shortcoming of the measure, and the aggregate data from which it is drawn, is that there is no way to account for a change in the dual-military number from year to year for a year group. The change may be due to one member of a couple leaving the service, both members leaving the service, members getting divorced but remaining in the service, members getting married from within the same year group, or members getting married from different year groups. Each scenario would change the number of dual-military officers in a different manner.

Even with all three scenarios (marriages, divorces, and attrition) happening at the same time, the aggregate number is still the important number (net loss or net gain in dual-military members) to consider. Net gain in dual-military members would mean that USAF members feel comfortable maintaining that lifestyle, while net loss (divorce, attrition) would mean that USAF members are succumbing to the stressors of the dual-military lifestyle.

Table 3

USAF 1992 Year Group Attrition Rate Ratio Data

1992 Year Group	Number Dual-Military	Number all others	Peak to N (dual-mil)	Peak to N (all other)	% Attrit Dual-mil	% Attrit all other	Attrition Rate Ratio
2005	156	2110	233	1695	0.598971722	0.44546649	1.344594
2004	169	2265	220	1540	0.565552699	0.40473062	1.397356
2003	179	2323	210	1482	0.539845758	0.38948752	1.386041
2002	219	2432	170	1373	0.437017995	0.360841	1.21111
2001	226	2570	163	1235	0.419023136	0.32457293	1.290998
2000	254	2861	135	944	0.347043702	0.24809461	1.398836
1999	255	3069	134	736	0.344473008	0.1934297	1.780869
1998	312	3281	77	524	0.197943445	0.13771353	1.437357
1997	350	3486	39	319	0.100257069	0.08383706	1.195856
1996	389	3805	0	0	0	0	
1995	386	4218					
1994	323	4433					

Source: Interactive Demographic Analysis System (IDEAS) web site at http://wwa.afpc.randolph.af.mil/demographics/

Data Source

Data for this section was found on-line at the Air Force Personnel Center (AFPC) web site. The site includes a personnel statistics report builder called IDEAS. This site provides very comprehensive aggregate personnel statistics. The statistics are pulled monthly from the Personnel Center's main database. Each service member has an electronic record that he or she must keep current and which ultimately populates AFPC's main database. While all records are

subject to error, both dependent and independent variables are expected to be highly accurate. Years of service affects pay and is are automatically updated based on date of entry into the service. Furthermore, it is in the Air Force member's best interest to keep the record current and accurate on marital status because it affects pay, benefits, and taxes. Since pay is involved, the accuracy of both variables is expected to be high.

One drawback to this data set is that it only covers 1994 to present; therefore, no year group has data that cover an entire 20-year time span. In order to calculate the attrition rate ratio, there needs to be enough data to show the peak in the number of dual-military members for each year group. The data set contained only enough information to show the peak in dual-military members for year groups 1991 through 2001, covering 5-15 years of service resulting in only 59 data points. The data gave only a partial view of the full 20 years of service. (While using the attrition rate ratio is helpful because the expected value, if the null hypothesis is true, is one, the data set was not comprehensive enough to give the full picture.) To ameliorate this problem, the author chose to calculate a percentage showing the number of dual-military personnel compared to the number of all other non dual-military personnel. An example for the 1982 year group is at Table 4. The percentage proved useful in that the data provided information for year groups 1980 through 2003, covering the full 20 years of service resulting in 216 data points. This percentage calculation supports the attrition rate ratio calculated above in Table 3.

Table 4

Percentage of USAF Dual-military Members in the 1982 Year Group

1982 Year Group	Number Dual-military Members	Number all others	% Dual-Military Members
2002	71	1753	4.05%
2001	86	1946	4.42%
2000	95	1970	4.82%
1999	112	2058	5.44%
1998	124	2162	5.74%
1997	139	2295	6.06%
1996	161	2476	6.50%
1995	184	2594	7.09%
1994	237	3037	7.80%

Source: Interactive Demographic Analysis System (IDEAS) web site at http://wwa.afpc.randolph.af.mil/demographics/

Data and Interpretation

Attrition Rate Ratios: The attrition rate ratio data can be found in Appendix A and is plotted in Figure 2 below. A ratio of 1 indicates that dual-military and non dual-military members were experiencing the same retention rate. A ratio higher than 1 indicates that attrition for dual-military members is higher than that of non-dual military members. The null hypothesis is found at Equation 1.

Equation 1 $H_0: \mu_{\text{dual-military}} = \mu_{\text{non dual-military}}$.

The linear regression at Equation 2, below, indicates that the data show a positive relationship, as years in service increase so does the attrition rate ratio.

Equation 2 $y = 0.077x + 0.429$

The regression line crosses over the attrition rate ratio of 1 at about 7.5 years of service. This suggests that before 7.5 years of service, dual-military service members experience higher retention than non dual-military members. After 7.5 years, dual-military members experience a retention rate that is lower than non dual-military members. While the regression line is linear and appears to project an ever increasing attrition rate ratio, without data from 16-20 years of service, it is too early to speculate about the trend in the attrition rate ratio. With the data present, the R-square for the regression is 0.2636 meaning that 26.36% of the variation in the ratios is explained by years of service. The difference between the ratios is statistically significant at the $p \leq .001$ level.

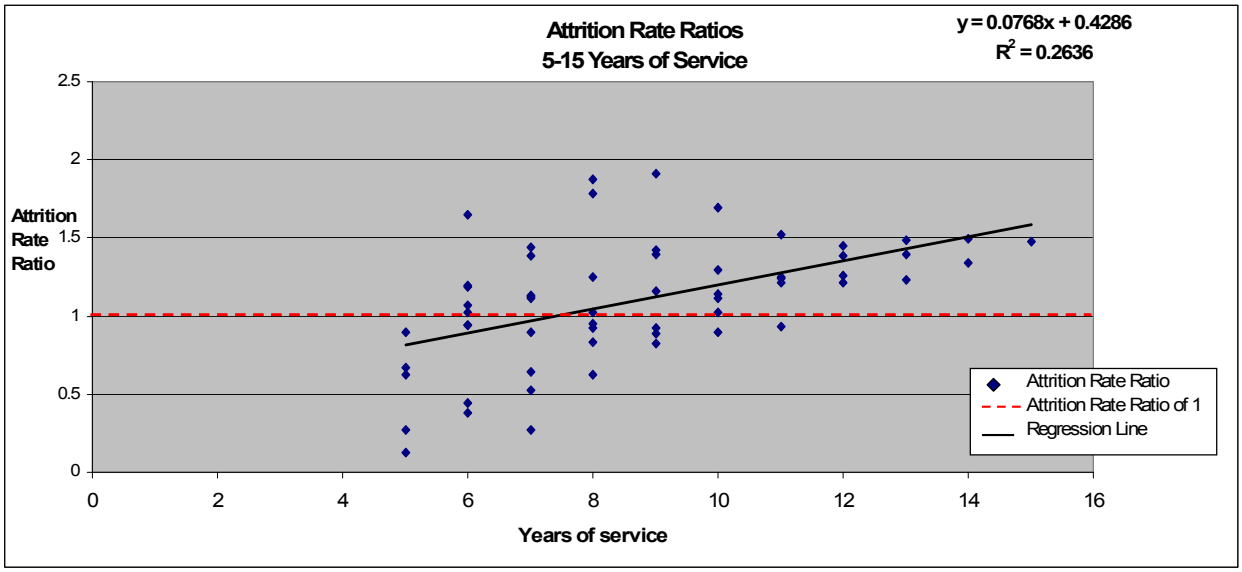

Figure 2: Attrition Rate Ratios Scatter Plot for 5-15 Year of Service[1]

[1] The diamonds represent attrition rate ratios from the USAF 1991-2001 year groups. An attrition rate ratio of 1 would mean that dual-military and non-dual military members have the same retention during a given year of service. If an attrition rate ratio is higher than 1, dual-military members are leaving the service at a higher rate than non-dual military members during a given year.

Dual-military Percentage: Since the attrition rate ratio provided only 59 unique cases over eleven years of service, a percentage was calculated based on the raw number of dual-military members versus all non dual-military members. The data for percentage calculations is located in Appendix A. Unlike the attrition rate ratio, this percentage calculation does not provide an expected value of 1 for equal attrition rates; however, the data showed an interesting trend that supports the attrition rate ratio findings above. The scatter plot for all years of service can be seen at Figure 3. By inspection, the data are non-linear. The scatter plot shows that the ratio peaks around five years of service and then declines. The ratio peak is fairly consistent with the peak number of dual-military personnel used in calculating the earlier attrition rate ratio. R-square is only 0.157 and the resulting linear regression at Equation 3 shows a negative relationship and is significant at the $p \leq .001$ level.

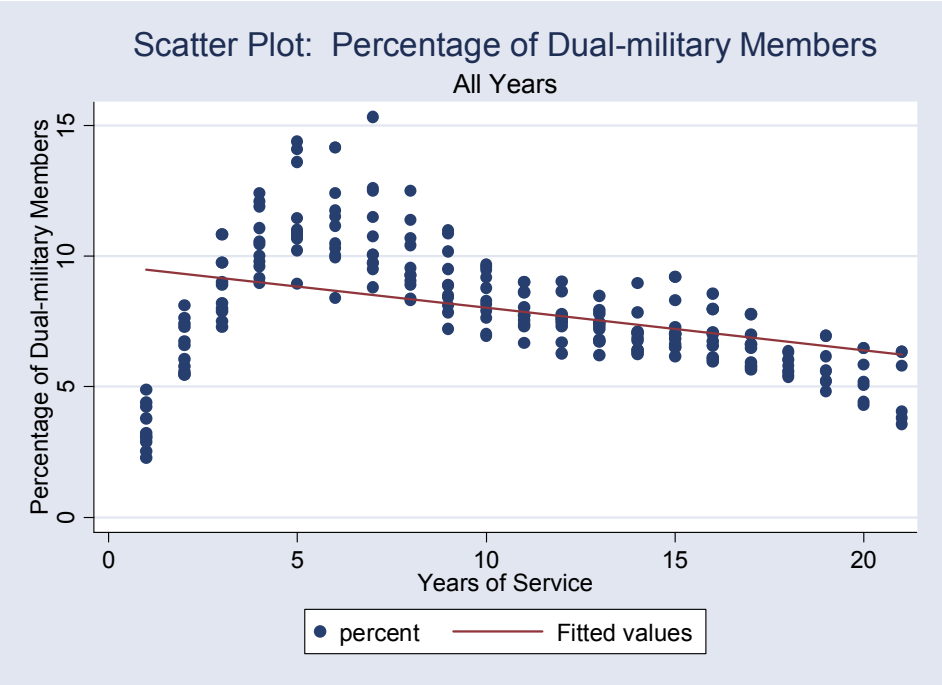

Figure 3: Percentage of USAF Dual-military Members from 1 to 21 Years of Service

Equation 3 $y = -0.162x + 9.65$

Breaking up the data into two separate linear regressions, one for 1-9 years of service and one for 10-21 years of service, proves interesting. Figure 4 illustrates the regression utilizing the data from 1-9 years of service. The resulting linear regression at Equation 4 shows a positive relationship, as years of service increase from 1 to 9, so do the percentages, meaning that the percentage of dual-military personnel is also rising. The regression is significant at the $p \leq .001$ level with an R-square of 0.304.

Equation 4 $y = 0.596x + 6.17$

The linear regression equation for 10 to 21 years of service, at Equation 5, shows a negative relationship; as years of service increase, the percentage of dual-service military members decreases. The regression has an R-square of 0.550 and is significant at the $p \leq .001$ level. The scatter plot at Figure 5 illustrates the negative relationship. This supports the findings of the earlier attrition rate ratio and suggests that, if data existed to fill in the rest of the years of service for the attrition ratio, one would probably find a continuing increase in the attrition ratio over time.

Equation 5 $y = -0.282x + 11.16$

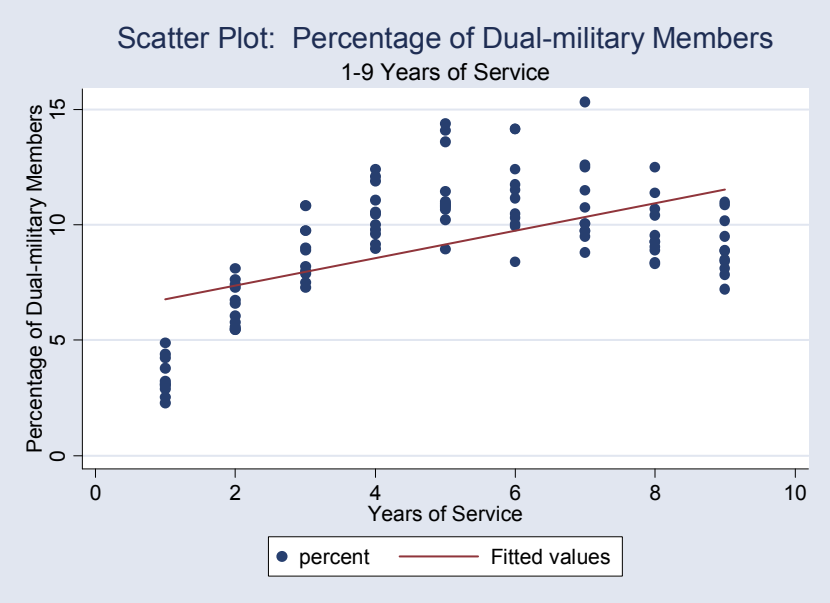

Figure 4: Percentage of USAF Dual-military Members from 1 to 9 Years of Service

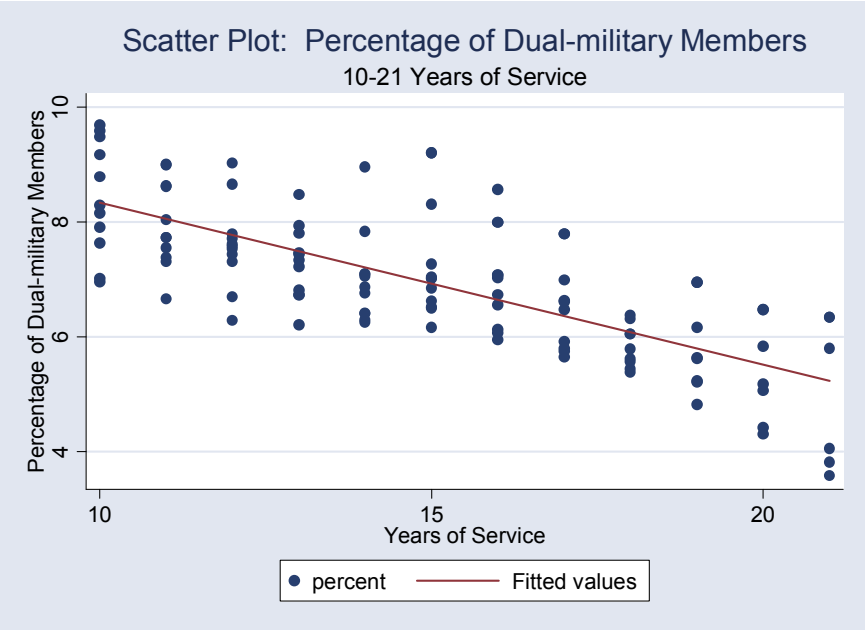

Figure 5: Percentage of USAF Dual-military Members from 10-21 Years of Service

Conclusion

These two calculations suggest that there is a significant difference between retention of dual-military and non dual-military Air Force members. Clearly, the null hypothesis, at Equation 1, can be discarded. The attrition rate ratio did not equal one, meaning that retention for the dual-military group was not equal to retention for the group of non dual-military service members. The percentage calculations supported the attrition rate ratio findings. In fact, it appears that retention is consistently lower for dual-military service members after about 7.5 years of service.

Section 2: Secondary Data Analysis

Data Source

Section 2 utilizes data provided by the Air Force Survey Division. The AF Survey Division is the only entity allowed to administer surveys to U.S. Air Force personnel force-wide. It is the approving and controlling authority for attitude and opinion research, and the office is governed by Air Force Instruction 36-2601 (USAF 1996, 1). The Air Force adheres to strict regulations pertaining to personal privacy, and no personally identifying data accompanied the dataset from the Air Force. Air Force surveys, including this retention survey, are administered through a web-based survey instrument. Links to the survey are e-mailed to members chosen at random. All Air Force members have e-mail and access to a computer. Air Force members are aware that the Air Force Survey Division is the only entity that administers official Air Force surveys. Mr. Datko and Mr. Barrier from the AF Survey Division were very generous with their time and resources. After explaining the project, they searched their archive to find data that might be helpful, and then made it available to download on-line.

The original survey, entitled The 2003 Career Intentions Survey, was a random sample from across the active duty Air Force. The dataset contained responses from 29,427 active duty Air Force members. This analysis is interested in looking at the motivation of officers to finish a full 20 year career in the Air Force; therefore, those respondents who had already finished 20 years, and enlisted respondents, were dropped. Of the original 29,427 respondents, 12,370 were used in this analysis. Of these, 918 were members of dual-military couples.

Dr. David Sacko, from the U.S. Air Force Academy's Department of Political Science, helped to transfer the survey data into Stata, a statistical analysis program. He very generously provided a tutorial and reference materials for my analysis.

Variable description

Dependent Variable: *Intent to Remain* (q8) asked the respondent to answer the question, "What are your current intentions toward remaining the Air Force for at least 20 years?" The response was on a 7-point scale[2]. The scale was reverse coded and adjusted to range from zero (Definitely will not remain) to 3 (Undecided) to 6 (Definitely will remain). While the dependent variable measures an officer's intent to remain in the Air Force for 20 years, it has been shown that retention intentions are a highly significant predictor of actual retention (Rakoff, Griffith, and Zarkin 1994, 31). A Variable Frequency chart is included at Appendix B.

Independent Variables:

Spouse Status (APB1) indicated the military status of the respondent's spouse. The data was collapsed into six categories and dummy coded. The respondents were consolidated into the following spouse status groups: single/widowed, divorced, married to a civilian, married to a member of the active duty military, married to a member of the Guard or Reserve component, or unknown. The 5 respondents that fell into the unknown category were dropped from the dataset.

Years of Service (YOS) indicated how many years (from 0 to 19) a respondent had completed in the Air Force. From *years of service*, a dummy variable called *Ten or More* (Tenormore) was created (0 = 0-9 years of service completed, 1 = 10-19 years of service completed).

Service Member Gender (ASB6) was also dummy coded (1 = female).

[2] Conducting ordinary least squares (OLS) regression using an ordinal dependent variable violates OLS assumptions. However, treating an ordinal variable as if it were an interval variable allows for the use of more powerful statistics and greater versatility in statistical manipulation. Under most circumstances, OLS, with an ordinal dependent variable, does not affect accuracy or interpretability of the coefficients (Labovitz 1970, 523). This technique has been used successfully in a range of political science and sociological literature (Overby et al, 1994) (Berry, Berry and Foster, 1998).

Satisfaction with Quality of Life (q02_3) asked, "Overall, how satisfied are you with your quality of life in the Air Force?" The variable was measured on a 7-point scale (adjusted down one point) from 0 (Very dissatisfied), to 3 (Neither satisfied nor dissatisfied), to 6 (Very satisfied).

A series of questions related to factors that might influence a service member to remain in or leave the Air Force were chosen to see if they affect the various spouse status groups differently. *Promotion Opportunity* (q011_7) was chosen based on the theory that many times, one spouse in a dual-career relationship feels relegated to a "tag along" job (Roffey et al. 1989, 33). *Number of Permanent Change of Station (PCS) Moves* (q012_3) was chosen because household moves can be disruptive to family life. They can be especially disruptive in dual-military families because, while the Air Force attempts to keep military spouses together ("join spouse" assignments), sometimes it is not possible, and this can result in significant time apart (USAF 2005, 301). *Home Station Tempo* (q015_3), which refers to length of the duty day and schedule, and *Tempo Away* (q015_10), which refers to the number and duration of temporary duty (TDY) assignments away from home, were chosen to see if problems of work-life conflict might affect dual-military couples differently than other service members (Moen 2003, vii). Finally, *Compatibility with Spouse's Career* (q016_2) was chosen to see how it affected service members' decisions to remain or leave the Air Force. It has been cited that Air Force women perceive marriage to a civilian as incompatible with the demands of the military (Roffey et al. 1989, 33). The interesting thing about these variables is that they do not rate the actual "amount of time away from home," the actual "amount of time spent at work," or even "the number of PCS moves." The variables rate only the way they influence a person to remain in the military. In other words, a respondent may think he or she is not deploying enough and rate *Tempo Away*

(q015_10) low, while someone who thinks they are deployed too often or for too much time might also rate the variable low.

All satisfaction factor questions were originally asked on a 7-point scale. However, categories 1 and 5 were collapsed (1 = N/A, not considered an influence and 5 = Neither an influence to stay nor leave) and all were adjusted down one point so that 0 = Very strong influence to leave, 3 = Neither an influence to stay nor leave and n/a, not considered an influence, and 6 = Very strong influence to stay.

Finally, *Presence of Children in the Household* (Pres_Child) was created by subtracting the *number of adult dependents* (ANF3) from the *total number of dependents* (AFN) and then dummy coded (0 = No children present, 1 = Children present in the household). The presence of children, and the demands of parenting, may be factors that influence military members to leave the service (Roffey et al. 1989, 29) and (Moini, Zellman, and Gates 2006, 60).

Analysis design

Data analysis consists of regressions with interactions which were calculated in order to determine if various predictor variables affect the Spouse Status (APB1) groups' intention to remain in the Air Force (q8) differently.

A series of ten ordinary least squares (OLS) regressions with interactions were calculated. The dependent variable (Y) in all of the equations was *Intent to Remain* (q8). The focal independent variable (X) for all equations was *Spouse Status* (APB1). The moderator variables (Z) included the other independent variables listed above. In each interaction equation, the focal independent variable (X) took on five levels, and the omitted/reference group was always "respondents married to active duty." Therefore, the product term coefficients (b_3) compared the regression slopes of each of the levels of the focal independent variable (X) at the

various values of the moderator variable (Z). When a product term was significant, that meant that the specific Spouse Status group was affected by the moderator variable (Z) differently than the reference group (respondents married to active duty military members).

The general equation for the interaction equations is found at Equation 6. Specifically, since X took on five categories, b_1 was actually four separate coefficients, and b_3 was four separate product term coefficients.

Equation 6 $$Y = a + b_1X + b_2Z + b_3XZ + e$$

The interaction effects were all single-degree of freedom interactions. Instead of conducting a hierarchical significance test, examining the significance of the various product term coefficients (b_3) was sufficient (Jaccard and Turrisi 2003, 20).

Results

Table 5, below, presents Model 1, the first of nine regressions with interactions. Model 1.2 uses *tenormore*, a dummy variable which indicated whether a service member had completed 10 years of service or not, as the moderator variable (Z). Model 1.2 shows that those who have served 10 years or more average 1.826 points higher in intent to remain in the AF for 20 years than those with less than 10 years served. However, when the regression with interactions is run, shown in Model 1.3, it reveals that both single officers and those married to civilians have a more positive slope of Y on X, resulting in higher scores of intent to remain during the second half of their careers. Figure 6 provides an easy way to visualize the differences in slope between the various levels of the *Spouse Status* variable (APB1). The slope of the line for each spouse status category is different and therefore indicates that an interaction effect is present. If no

interaction effect was present, the lines would be parallel (Jaccard and Turrisi 2003, 32). Since Figure 6 is showing the differences in slope of a dichotomous independent variable, dashed lines are used to remind the reader that this is not a continuous variable. The slope differences in Model 1.3 support the findings in Section 1 of this chapter, that dual-military members experience lower retention than other military members during the second half of their careers.

Table 5

Model 1: Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on Whether the Military Member has Completed 10 or More Years of Service (b)

		Model 1.1	Model 1.2	Model 1.3
R-Square		0.0575	0.2778	0.2790
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.541*** (-8.98)	-0.714*** (-9.52)
	Married to Civilian	0.152* (2.44)	-0.152** (-2.76)	-0.316*** (-4.37)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	-0.145 (-1.42)	-0.308* (-2.21)
	Divorced	0.172 (1.74)	-0.197* (-2.27)	-0.159 (-1.23)
10 or More Years of Service (d)			1.826*** (61.42)	1.463*** (13.90)
Spouse Status X 10 or More Years of Service				
	Single X 10 or More Years of Service			0.499*** (3.84)
	Married to Civilian X 10 or More Years of Service			0.392*** (3.53)
	Married to National Guard/Reserve X 10 or More Years of Service			0.396 (1.93)
	Divorced x 10 or More Years of Service			0.059 (0.33)
Intercept		4.442***	3.700***	3.848***
N		12,396	12,396	12,396

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) 10 Years of Service is a dummy variable, the omitted/reference group is composed of those with 0-9 years of service
* p≤ .05
** p≤ .010
*** p≤ .001

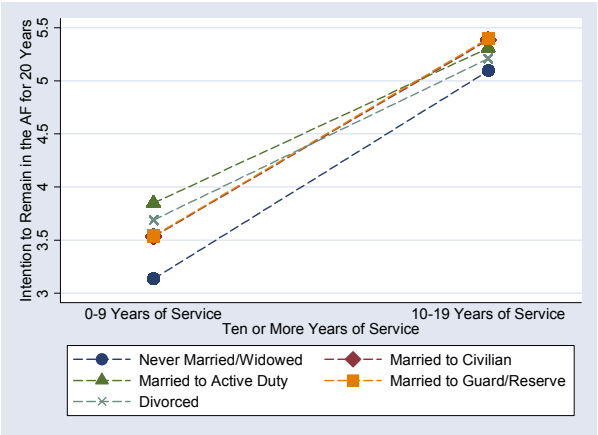

Figure 6: Illustration of the difference in slopes from Model 1.3

Model 2, found at Table 6, evaluates the interaction effect of *Service Member Gender* (ASB6) within spouse status groups on intent to remain. Model 2.2 indicates that women in the Air Force have a lower average score on *Intent to Remain* (q8); they are 0.412 points below the male average across all spouse status groups. This is significant at the $p \leq .001$ level. Model 2.3 shows a significant interaction effect between gender within spouse status groups. Only in the "single" spouse status group do women show a higher intent than men to remain in the AF for 20 years as indicated by the positive slope. Air Force women married to civilian husbands have a more negative slope as compared to the dual-military category. There is no real difference between men and women in the married to National Guard/Reserves and Divorced categories as compared with men and women in the married to active duty category. This supports the perception by female Air Force members in the Roffey study that relationships with civilians are difficult in light of military commitments (1989, 33).

Table 6

Model 2 – Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (b) between Military Members in Different Spouse Status Groups, Depending on Gender (a)

		Model 2.1	Model 2.2	Model 2.3
R-Square		0.0575	0.0662	0.0706
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-1.031*** (-15.00)	-1.149*** (-11.41)
	Married to Civilian	0.152* (2.44)	-0.019 (-0.29)	0.052 (0.56)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	-0.124 (-1.06)	0.010 (0.07)
	Divorced	0.172 (1.74)	0.1526 (1.55)	0.158 (1.06)
Service Member Gender (d)			-0.412*** (-10.74)	-0.359** (-3.01)
Spouse Status X Service Member Gender				
	Single X Female			0.384** (2.76)
	Married to Civilian X Female			-0.283* (-2.17)
	Married to National Guard/Reserve X Female			-0.386 (-1.57)
	Divorced x Female			-0.005 (-0.02)
Intercept		4.442***	4.685***	4.653***
N		12,369	12,369	12,369

(a) Unstandardized coefficients followed by t-values in parentheses
(b) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty, Married to an Active Duty Military Member is the omitted category
(d) Service member gender dummy variable, Male is the omitted/reference category
* p≤ .05
** p≤ .010
*** p≤ .001

Model 3, found at Appendix C, looks at the effect of *Satisfaction with Quality of Life* (q02_3) on respondents' intent to remain in the Air Force for 20 years. Model 3.2 indicates that when *Satisfaction with Quality of Life* is held constant, both those married to civilians, and those who are divorced, have greater intent to remain in the Air Force for 20 years than those married to active duty military members. Singles average 0.882 less on the Intent to Remain scale (p≤ .001) than those married to active duty military. Across all spouse status groups, an increase in one point in *Satisfaction with Quality of Life* in the Air Force translates to a 0.364 point increase in a member's intent to remain in the Air Force for 20 years. However, there was only one weak interaction effect present. Those married to members of the National Guard yielded a positive

slope difference compared to those married to active duty (b_3=.197, p = 0.014). In general, *Satisfaction with Quality of Life* affects spouse status groups' intent to remain in the Air Force for 20 years the same as it affects those married to active duty members, except for those married to officers in the National Guard or Reserve. Members married to National Guard or Reserve are affected more positively.

Models 4 and 5, found at Appendix C, looked at how satisfaction with *Home Station Tempo* (q015_3) and *Tempo Away* (q015_10) affect a member's intent to stay. On average, both *Home Station Tempo* and *Tempo Away* are positive influences on a member's intent to remain. An increase of 1 point in satisfaction with *Tempo Away* translates into an increase of 0.268 points in intent to remain in the AF for 20 years (p≤ .001). The interaction effects are not as significant or as strong as expected. However, the interaction effects in Model 4.3 show that satisfaction with *Tempo at Home Station* has a more positive affect on single officers, those married to National Guard/Reserve, and those who are divorced, as compared to officers married to active duty. Model 5.3 shows that *Tempo Away* has a more positive affect on singles' and those married to civilians' intent to remain than on those married to active duty. This supports the theory that deployments can have a more negative affect on dual-military members (Reeves 1995, 34). Dual-military couples can spend up to twice as much time separated due to deployments as officers married to civilians.

The influence of the *Number of PCS Moves* (q12_3) is shown in Model 6, Appendix C. On average, *Number of PCS Moves* is a positive influence on intent to remain; an increase in 1 point in *Number of PCS Moves* results in an increase of 0.287 (p≤ .001) in *Intent to Remain* (q8). Once the influence of *Number of PCS Moves* is taken into account, those married to civilians have a significantly higher average (b=0.240, p≤ .001) intent to remain while single officers have

a significantly lower average (b= -0.869, p≤ .001). Model 6.3 indicates that *Number of PCS Moves* is a significantly more positive influence on single officers and those married to civilians than on dual-military members as a factor to leave or stay. This supports the contention that coordinating PCS moves in the Air Force can take a toll on dual-military couples (Roffey et al. 1989, 27).

Perceived *Promotion Opportunity* (q011_7), as an influence to remain is examined in Model 7, located in Appendix C. When *Promotion Opportunity* is held constant, those who are married to civilians (0.249, p≤ .001) and those who are divorced (0.299, p≤ .001) show a higher average intent to remain than those who are married to active duty. There was only one significant interaction effect. Singles were more positively influenced by promotion opportunity as compared to the other spouse status groups. Model 7.2 suggests that some officers married to active duty spouses feel they are relegated to a "tag along" job, thus reducing their potential for promotion (Roffey et al. 1989, 26).

Model 8, found at Table 7, below, looks at the effect of the *Presence of Children in the Household* (PRES_CHILD) on intent to remain. Model 8.2 shows that those married to civilians and those married to officers in the National Guard or Reserves have lower average intent to remain in the AF than those married to military members when you take presence of children in the household into account. Across all groups, the presence of at least one child in the household translates into an increase in 0.782 points in intent to remain in the Air Force, a fairly strong predictor. Model 8.3 shows that the presence of children affects spouse status groups in different ways. While those who are divorced and have no children present are the group with the highest intent to remain, those who are divorced with children in the household, seem to find it more difficult to remain in the USAF if there are children present as reflected by their negative slope

difference in Model 8.3 (b_3=0.528, p≤ .01). The presence of children has the most positive effect on intent to remain in the Air Force on those who are married to civilians (b_3=0.445, p≤ .001). While dual-military members who do not have children at home display higher intent to remain in the Air Force than all but those in the divorced category, when children are present, their intent is lower than those married to civilians. Comparing Figures 7 and 8, below, nicely illustrates how regression with interaction effects shows the difference in *Intent to Remain* (q8) among spouse status groups once it is taken into account whether children are present in the household. Model 8.3 suggests that having children as a dual-career couple in the Air Force is not as positive a motivator to remain in the service as it is for a service member married to a civilian. This helps support the findings that childcare issues affect dual-career and single parent retention the most (Moini, Zellman, and Gates 2006, 60).

Table 7

Model 8 – Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on Whether Children are Present in the Household (b)

		Model 8.1	Model 8.2	Model 8.3
R-Square		0.0575	0.0855	0.0891
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.683*** (-11.36)	-0.771*** (-9.48)
	Married to Civilian	0.152* (2.44)	-0.166** (-2.60)	-0.396*** (-4.67)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	-0.142 (-1.24)	-0.291 (-1.77)
	Divorced	0.172 (1.74)	0.084 (0.86)	0.374** (4.12)
Presence of Children in the Household (d)			0.782*** (19.45)	0.494*** (4.12)
Spouse Status X Presence of Children in the Household				
	Single X Presence of Children in the Household			-0.039 (-0.21)
	Married to Civilian X Presence of Children in the Household			0.445*** (3.44))
	Married to National Guard/Reserve X Presence of Children in the Household			0.362 (1.56)
	Divorced X Presence of Children in the Household			-0.528** (-2.68)
Intercept		4.442***	4.148***	4.257***
N		12,369	12,369	12,369

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) Presence of Children in the Household is a dummy variable, the omitted/reference group is Households with no children at home
* p≤ .05
** p≤ .010
*** p≤ .001

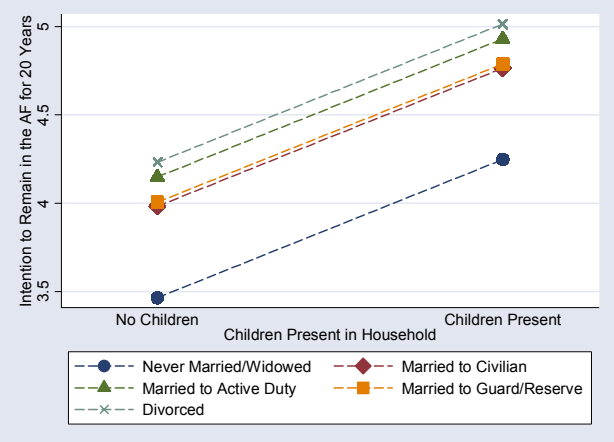

Figure 7: Slopes from Model 8.2

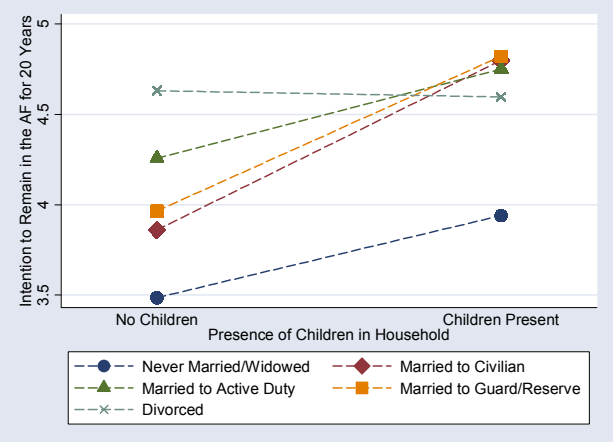

Figure 8: Interaction Effects in Model 8.3

Finally, Model 9, found at Appendix C, looked at *Compatibility with Spouse's Career* (q016_2) as an influence on *Intent to Remain* (q8). There were no significant interaction effects, indicating that compatibility with a spouse's career affects all married officers in the same way. This result seemed a little surprising; however, the question was not: "Is your career compatible with your spouse's career?", the question was: "How does compatibility with your spouse's career influence your intent to remain in or leave the AF?". The results may have been different if the former, instead of the latter question had been asked.

Conclusion

Overall, the interaction effects support the hypothesis that members of dual-military couples experience lower retention during the second half of their career than the general Air Force officer population. The analysis also suggests that the number of PCS moves, operations tempo away from home (deployments), and the presence of children in the household are significant factors that contribute to lower retention for dual-military members.

Chapter 5

Discussion and Policy Recommendations

Discussion

The analysis in Chapter 4 begins to fill in a picture revealing that dual-military Air Force officers begin their careers highly motivated to complete a 20-year career. However, along the way, factors such as beginning a family and deployments away from home take their toll. The attrition rate ratio (found at Figure 2, above), the regression of the percentage of dual-military members on years of service (Figures 4 and 5), and the regression with interactions at Table 5, (above), all strongly support the thesis that dual-military members experience lower retention rates than other Air Force members. In particular, the data in Table 5 reveal that during the first nine years of service, when compared with officers married to civilians, those married to National Guard or Reservists, single officers, and officers who are divorced, dual-military members have the highest level of motivation to remain in the Air Force for 20 years. However, during the second halves of their careers, from 10-20 years of service, dual-military member intent to remain does not maintain its former high levels, and falls below those married to civilians and single officers. A comparatively low level of retention for dual-military members during the second half of their careers is very interesting in light of the findings in the literature reviews and the regressions with interactions that look at various factors that influence a member's intention to remain in the service for 20 years.

Models 4 and 5, in Appendix C, illustrate that deployments can have a more negative affect on dual-military member retention than on other groups. In his study, Reeves calculated that military members married to civilians are away from their families 15-20% of the time. The situation for dual-military couples is even more difficult because they each must perform the

same types of missions away from home, resulting in the couple being away from each other approximately 33% of the time (Reeves 1995, 34). This was calculated in 1995, since then, the number of Air Force deployments away from home has increased dramatically in response to the Global War on Terrorism. Apparently, deployments remain an obstacle for dual-military retention.

The number of permanent change of station (PCS) moves can be a detriment to dual-military retention as shown in Model 6 in Appendix C. Frequent moves can be seen as beneficial, but can also be a source of stress that can disrupt family life (Segal 1988, 84). Stress can also result from being unable to remain in the same geographic location as a spouse. The join spouse assignment process has been sighted by Air Force women as a critical retention issue (Roffey et al. 1989, 27) (Everston and Nesbitt 2004, 95).

Model 7.2 in Appendix C, indicates that dual-military members have a lower intent to remain in the Air Force for 20 years when perceived promotion opportunity is held constant. This suggests that, as was voiced in the literature review, many of those who are part of a dual-military couple feel that being married to a military spouse means that one of them would have to make career sacrifices (Roffey et al. 1989, 27) (Everston and Nesbitt 2004, 95).

Finally, it appears that having children present in the household, while a positive motivator for all but divorced officers, is not as positive an influence on dual-military members as it is for those married to civilians. This is illustrated in Table 7, above. These findings are consistent with Moini, Zellman, and Gates conclusion that despite policies that favor single and dual-military parents in terms of enrollment in Department of Defense Child Development Centers (CDC), these families still find it difficult to manage a military career and provide the appropriate level of care for their children (2006, 60).

Issues concerning professional mobility (both PCS moves and deployments), perceived lower promotion opportunities, and conflicts between professional and caregiving responsibilities all appear to contribute to lower retention during the second half of dual-military member careers. The analysis above supports the idea that balancing work and family life remains one of the main challenges for dual-military men and women.

Recommendations

We now turn to some recommendations based on conclusions drawn from the literature reviews and the analytical findings above. These recommendations are informed both by Segal's theory that military commitment to the family results in increased institutional commitment by service members (1988, 96), as well as by Williams' theory that flexibility on the part of the employer increases workplace retention (Williams 2000, 91-94). The idea that the Air Force and DoD are more likely to enact policy reforms once an issue transitions from a "women's issue" to an issue of "organizational concern" (Devilbliss 1990, 43) is also very applicable as retention of highly dedicated dual-military members affects readiness in all areas of the Air Force.

The data analyzed here reveal that both male and female officers who are members of dual-career couples begin their careers with the very strong intentions to remain in the service for 20 years. However, after they pass the 10 year point in their careers, their comparative intention to remain for a full 20 year career is lower than their non-dual military compatriots. Finding a way to balance work and family life remains one of the main obstacles for both dual-military men and women. By further integrating work and family life, the recommendations below would help ameliorate the problem of lower retention levels for dual-military members.

The Department of Defense has an overall history of being on the leading edge of social change and of enacting successful policy remedies as they were required. The Air Force already has some policies in place to work with military members married to other military members. The join spouse assignments process provides an avenue for dual-military couples to be assigned in close proximity to each other. This willingness to accommodate dual-military couples reduces stress on the family and increases retention. Just as flexibility is the key to air power, the concept of flexibility is inherent in increasing retention among dual-military members. Below are six policy recommendations that will work to ameliorate the problem of lower retention of dual-military members:

1) Allow for more flexible deployment scheduling. As the Air Force transitions to an expeditionary Air Force, deployments away from home are increasing. The analysis above suggests that deployments have a more negative effect on dual-military member retention than other Air Force members. The Air Force has made strides in providing predictability to members concerning when they will deploy. The next step is to provide some flexibility to dual-military couples. By allowing dual-military couples some flexibility in choosing when they deploy, either by deconflicting deployments so that caregiving obligations can be met by ensuring one parent is at home, or by allowing them to synchronize their deployments to minimize time apart, would go a long way in reducing family stress. Currently, synchronization and deconfliction is worked out informally when possible; however, formalizing a process would provide a framework for dual-military members and would aid those couples who work in different career fields and across different commands;

2) Allow dual-military members to deconflict or synchronize one-year remote assignments, and eliminate the policy that forbids married couples to serve concurrently at the

same remote base. Like coordinating deployments, coordinating remote assignments would reduce stress on the family by providing dual-military members some flexibility to cover caregiving responsibilities, if needed, or to reduce time apart, if they so choose;

3) Third, continue to increase opportunities for dual-career couples to be stationed together during the latter halves of their careers. These opportunities can be increased in three ways. First, continue efforts at base consolidation. Base consolidation not only makes good fiscal sense, but it would also increase opportunities for dual-career couples to be stationed together. Larger "mega" bases and metro complexes would have a higher concentration of jobs for those who have served more than 10 years (Frank 1978, 26). Second, encourage the philosophy that an officer is a leader first and a specialist in his or her career field second. Providing more opportunities to work and lead outside of an officer's career field not only provides the Air Force with officers who understand issues outside of the their career field, but it also provides more flexibility for stationing dual-military couples together. Providing more flexibility in command opportunities could also help alleviate the outmoded idea that one dual-military spouse must be relegated to a "tag-along" job. Third, continue to support strongly the concept of "jointness," as providing more Air Force officers to Combatant Commands (COCOMS) results in more leadership and job opportunities;

4) Maintain the current PCS policy of four-year instead of three-year tours. The analysis above shows that the number of PCS moves more negatively affects dual-military members than single officers and officers married to civilians. The data for this analysis was collected before the most recent policy change that mandated less frequent PCS moves in order to save the Air Force money. However, there is reason to believe that this policy change will also save the Air Force money by increasing retention among dual-military members;

5) Work to provide more flexible childcare options. Childcare issues continue to negatively affect dual-military member retention. This supports RAND's 2006 findings that child care issues not only affect military readiness, but also negatively affect dual-military and single parent retention (Moini, Zellman, and Gates, 60);

6) Look at potential lateral re-entry and return-to-service opportunities for all service members. This echoes Everton and Nesbitt's recommendation from their study on women's retention (2004, 126). Allowing a member to have more control over their career and giving them the opportunity to meet both their professional and caregiving responsibilities will increase retention. Thie, Harrell, and Thibault provide a fairly comprehensive list of viable options in their 2003 study (37-45).

While the data for this thesis exclusively concerned the Air Force officer corps, these findings can be generalized to the rest of the military services because policies governing dual-military personnel are relatively consistent across the Department of Defense. The policies on dual-military personnel apply to both officers and enlisted, so the results can also be generalized to that population because the policies affect the two populations in the same ways. There may be some differences in the calculations used by the enlisted population because career timing and enlistment terms are different from the officer population; but in general, one can expect to find lower retention rates for dual-military members in both populations.

Conclusion

The data presented in this thesis strongly support the theory that both male and female officers who are members of dual-career couples begin their careers with great motivation to remain in the Air Force for 20 years. However, after they pass the 10 year point in their careers,

their comparative intention to remain for a full 20 year career is lower than their non-dual military contemporaries. The analysis also supports the idea that integrating work and family life remains one of the main challenges for both the men and women of dual-military couples.

Recommendations were formulated based on conclusions drawn from the literature concerning both civilian and military dual-career couples as well as the data analysis. Overall, the recommendations focus on flexibility as the key to helping ameliorate the problem of lower retention levels for dual-military members. Enacting policies that help dual-military members deconflict and/or synchronize deployments and one-year remote tours will help relieve stress on the family. Providing increased opportunities for members to be stationed together during assignments by increasing opportunities to work outside of the member's main career field, as well as maintaining the current increased PCS interval, will also help dual-military members to balance work and home life. Working to increase flexible DoD-provided childcare options will allow dual-military members to meet their caregiving requirements as well as their military service requirements, enhancing their retention. Finally, providing more re-entry and return-to-service options would allow members to have more control over their careers and give them the opportunity to meet both their professional and caregiving responsibilities, thus increasing retention.

Appendix A: Data Used to Calculate the Attrition Rate Ratios and Percentage Dual-military Personnel from Ch 4, Section 1

1980 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2000	107	1687	6.34%
1999	135	2087	6.47%
1998	148	2129	6.95%
1997	142	2351	6.04%
1996	204	2620	7.79%
1995	228	2852	7.99%
1994	281	3052	9.21%

1981 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2001	80	1380	5.80%
2000	107	1836	5.83%
1999	115	1868	6.16%
1998	126	1978	6.37%
1997	142	2142	6.63%
1996	155	2302	6.73%
1995	172	2454	7.01%
1994	202	2577	7.84%

1982 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2002	71	1753	4.05%
2001	86	1946	4.42%
2000	95	1970	4.82%
1999	112	2058	5.44%
1998	124	2162	5.74%
1997	139	2295	6.06%
1996	161	2476	6.50%
1995	184	2594	7.09%
1994	237	3037	7.80%

1983 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2003	66	1734	3.81%
2002	105	2075	5.06%
2001	109	2094	5.21%
2000	119	2122	5.61%
1999	132	2230	5.92%
1998	144	2349	6.13%
1997	158	2564	6.16%
1996	174	2719	6.40%
1995	218	3201	6.81%
1994	264	3612	7.31%

1984 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2004	56	1564	3.58%
2003	87	2021	4.30%
2002	107	2046	5.23%
2001	110	2045	5.38%
2000	120	2128	5.64%
1999	134	2255	5.94%
1998	158	2423	6.52%
1997	164	2625	6.25%
1996	203	3019	6.72%
1995	222	3316	6.69%
1994	279	3609	7.73%

1985 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	66	1184	5.57%
2004	106	2046	5.18%
2003	117	2077	5.63%
2002	133	2108	6.31%
2001	139	2150	6.47%
2000	157	2238	7.02%
1999	169	2402	7.04%
1998	178	2592	6.87%
1997	217	3005	7.22%
1996	245	3255	7.53%
1995	253	3459	7.31%
1994	306	3750	8.16%

1986 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	101	2007	5.03%
2004	118	2104	5.61%
2003	124	2140	5.79%
2002	152	2175	6.99%
2001	157	2217	7.08%
2000	172	2366	7.27%
1999	187	2634	7.10%
1998	213	2907	7.33%
1997	231	3109	7.43%
1996	254	3286	7.73%
1995	266	3485	7.63%
1994	310	3824	8.11%

1987 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	97	1877	5.17%
2004	106	1904	5.57%
2003	112	1930	5.80%
2002	137	1937	7.07%
2001	135	1971	6.85%
2000	137	2179	6.29%
1999	147	2368	6.21%
1998	160	2548	6.28%
1997	180	2701	6.66%
1996	199	2860	6.96%
1995	225	3120	7.21%
1994	308	3407	9.04%

1988 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	127	2022	6.28%
2004	136	2059	6.61%
2003	137	2087	6.56%
2002	150	2139	7.01%
2001	156	2212	7.05%
2000	172	2314	7.43%
1999	193	2532	7.62%
1998	222	2760	8.04%
1997	260	3135	8.29%
1996	299	3515	8.51%
1995	339	3807	8.90%
1994	391	4009	9.75%

1989 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	185	2298	8.05%
2004	202	2358	8.57%
2003	200	2406	8.31%
2002	219	2445	8.96%
2001	213	2511	8.48%
2000	246	2728	9.02%
1999	270	2997	9.01%
1998	323	3521	9.17%
1997	367	4125	8.90%
1996	428	4483	9.55%
1995	466	4789	9.73%
1994	500	5032	9.94%

1990 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	101	1646	6.14%
2004	113	1707	6.62%
2003	117	1730	6.76%
2002	140	1763	7.94%
2001	142	1823	7.79%
2000	155	2052	7.55%
1999	174	2482	7.01%
1998	223	2839	7.85%
1997	253	3019	8.38%
1996	281	3188	8.81%
1995	284	3380	8.40%
1994	320	3584	8.93%

1991 Year Group	Number Dual-military	Number all others	Peak to N (Dual-military)	Peak to N (all other)	% Attrit Dual-mil	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	111	1813	298	1761	0.728606357	0.49272524	1.478727	6.12%
2004	121	1888	288	1686	0.704156479	0.47174035	1.492678	6.41%
2003	130	1931	279	1643	0.682151589	0.45970901	1.483877	6.73%
2002	154	2033	255	1541	0.623471883	0.43116956	1.446002	7.58%
2001	157	2126	252	1448	0.616136919	0.40514829	1.520769	7.38%
2000	196	2478	213	1096	0.520782396	0.30665921	1.698245	7.91%
1999	233	2769	176	805	0.430317848	0.22523783	1.910504	8.41%
1998	272	2934	137	640	0.334963325	0.17907107	1.870561	9.27%
1997	332	3090	77	484	0.188264059	0.1354225	1.390198	10.74%
1996	377	3276	32	298	0.078239609	0.08337997	0.93835	11.51%
1995	409	3574	0	0	0	0		11.44%
1994	385	3927						9.80%

1992 Year Group	Number Dual-Military	Number all others	Peak to N (dual-mil)	Peak to N (all other)	% Attrit Dual-mil	% Attrit all other	Attrition Rate Ratio	% Dual-Military Members
2005	156	2110	233	1695	0.598971722	0.44546649	1.344594	7.39%
2004	169	2265	220	1540	0.565552699	0.40473062	1.397356	7.46%
2003	179	2323	210	1482	0.539845758	0.38948752	1.386041	7.71%
2002	219	2432	170	1373	0.437017995	0.360841	1.21111	9.00%
2001	226	2570	163	1235	0.419023136	0.32457293	1.290998	8.79%
2000	254	2861	135	944	0.347043702	0.24809461	1.398836	8.88%
1999	255	3069	134	736	0.344473008	0.1934297	1.780869	8.31%
1998	312	3281	77	524	0.197943445	0.13771353	1.437357	9.51%
1997	350	3486	39	319	0.100257069	0.08383706	1.195856	10.04%
1996	389	3805	0	0	0	0		10.22%
1995	386	4218						9.15%
1994	323	4433						7.29%

1993 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	171	2057	239	1860	0.582926829	0.4748532	1.227594	8.31%
2004	189	2182	221	1735	0.53902439	0.44294103	1.216921	8.66%
2003	197	2283	213	1634	0.519512195	0.41715599	1.245367	8.63%
2002	230	2374	180	1543	0.43902439	0.39392392	1.11449	9.69%
2001	235	2474	175	1443	0.426829268	0.36839418	1.158621	9.50%
2000	247	2667	163	1250	0.397560976	0.31912178	1.245797	9.26%
1999	291	2895	119	1022	0.290243902	0.26091396	1.112412	10.05%
1998	331	3209	79	708	0.192682927	0.18075057	1.066016	10.31%
1997	383	3503	27	414	0.065853659	0.10569313	0.623065	10.93%
1996	410	3917	0	0	0	0		10.47%
1995	333	4155						8.01%
1994	235	4290						5.48%

1994 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	176	2151	248	1868	0.58490566	0.46479224	1.258424	8.18%
2004	199	2309	225	1710	0.530660377	0.42547897	1.247207	8.62%
2003	236	2462	188	1557	0.443396226	0.3874098	1.144515	9.59%
2002	281	2558	143	1461	0.337264151	0.36352326	0.927765	10.99%
2001	281	2695	143	1324	0.337264151	0.32943518	1.023765	10.43%
2000	298	2961	126	1058	0.297169811	0.26324956	1.128852	10.06%
1999	340	3238	84	781	0.198113208	0.19432695	1.019484	10.50%
1998	386	3619	38	400	0.089622642	0.09952725	0.900483	10.67%
1997	424	4019	0	0	0	0		10.55%
1996	379	4258						8.90%
1995	267	4408						6.06%
1994	103	4070						2.53%

1995 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	231	2285	165	1834	0.416666667	0.4452537	0.935796	10.11%
2004	244	2575	152	1544	0.383838384	0.37484826	1.023983	9.48%
2003	270	2649	126	1470	0.318181818	0.35688274	0.891558	10.19%
2002	315	2768	81	1351	0.204545455	0.32799223	0.623629	11.38%
2001	335	2915	61	1204	0.154040404	0.29230396	0.526987	11.49%
2000	357	3198	39	921	0.098484848	0.22359796	0.440455	11.16%
1999	390	3617	6	502	0.015151515	0.12187424	0.124321	10.78%
1998	396	4119	0	0	0	0		9.61%
1997	342	4335						7.89%
1996	258	4474						5.77%
1995	117	4032						2.90%

1996 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	265	2492	130	1449	0.329113924	0.36767318	0.895126	10.63%
2004	290	2668	105	1273	0.265822785	0.32301446	0.822944	10.87%
2003	301	2817	94	1124	0.237974684	0.2852068	0.834393	10.69%
2002	367	2910	28	1031	0.070886076	0.26160873	0.270962	12.61%
2001	362	3081	33	860	0.083544304	0.21821873	0.382847	11.75%
2000	382	3467	13	474	0.032911392	0.12027404	0.273637	11.02%
1999	395	3941	0	0	0	0		10.02%
1998	342	4173						8.20%
1997	236	4325						5.46%
1996	123	3942						3.12%

1997 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	274	2413	86	488	0.238888889	0.16821786	1.420116	11.36%
2004	322	2579	38	322	0.105555556	0.11099621	0.950983	12.49%
2003	340	2721	20	180	0.055555556	0.06204757	0.89537	12.50%
2002	360	2901	0	0	0	0		12.41%
2001	352	3244						10.85%
2000	330	3683						8.96%
1999	290	3868						7.50%
1998	222	3980						5.58%
1997	111	3640						3.05%

1998 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	394	2678	99	745	0.200811359	0.21764534	0.922654	14.71%
2004	444	2896	49	527	0.099391481	0.15395852	0.645573	15.33%
2003	443	3130	50	293	0.101419878	0.08559743	1.184847	14.15%
2002	493	3423	0	0	0	0		14.40%
2001	430	3884						11.07%
2000	368	4084						9.01%
1999	282	4189						6.73%
1998	129	4006						3.22%

1999 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	448	3254	92	580	0.17037037	0.15127804	1.126207	13.77%
2004	499	3525	41	309	0.075925926	0.08059468	0.942071	14.16%
2003	540	3834	0	0	0	0		14.08%
2002	507	4256						11.91%
2001	431	4427						9.74%
2000	347	4549						7.63%
1999	187	4418						4.23%

2000 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	485	3835	93	414	0.160899654	0.09743469	1.651359	12.65%
2004	578	4249	0	0	0	0		13.60%
2003	566	4676						12.10%
2002	478	4903						9.75%
2001	373	5027						7.42%
2000	178	4709						3.78%

2001 Year Group	Number Dual-Military	Number all others	Peak to N (D-MC)	Peak to N (all other)	% Attrit D-MC	% Attrit all other	Ratio Attrit	% Dual-Military Members
2005	617	4787	45	544	0.067975831	0.10204464	0.666138	12.89%
2004	662	5331	0	0	0	0		12.42%
2003	604	5566						10.85%
2002	379	5749						6.59%
2001	91	3977						2.29%

2002 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	654	5448	12.00%
2004	633	5858	10.81%
2003	494	6083	8.12%
2002	248	5082	4.88%

2003 Year Group	Number Dual-Military	Number all others	% Dual-Military Members
2005	524	4977	10.53%
2004	383	5262	7.28%
2003	216	4912	4.40%

Appendix B: Variable Frequencies

Variable	Label	Metric	Sample Percentage	Sample Mean	Sample SD	Sample N	Population* Percentage	Population* N
Obs	Number of Observations					12370		61763
ALE	Marital Status	1 = Annulled	0.04%			5	0.04%	27
		2 = Divorced	4.10%			507	4.08%	2523
		3 = Legally Seperated	0.01%			1	0.01%	4
		4 = Married	73.93%			9145	67.66%	41790
		5 = Single	21.13%			2614	26.33%	16262
		6 = Widowed	0.02%			3	0.03%	16
		Unkown	0.00%			0	1.84%	1137
ASB6	Service Member Gender	0 = Male	74.0%			9159	80.94%	49994
		1 = Female	26.0%			3211	19.05%	11768
q02_3	Satisfaction with Quality of Life: "Overall, how satisfied are you with your quality of life in the Air Force?"	0 = Very Dissatisfied to 3 = Neither satisfied nor dissatisfied to 6 = Very Satisfied		4.76	1.21	12366		
q8	Intent to Remain: "What are your current intentions toward remaining in the Air Force for at least 20 years?"	0 =Definitely will NOT remain in the Air Force to 3 = Undecided to 6 = Definitely will remain in the Air Force		4.34	1.84	12369		
q011_7	Promotion opportunity	0 = Very Strong Influence to Leave to 3 = Undecided to 6 = Very Strong Influence to Stay		3.84	1.68	12356		
q012_3	Number of PCS moves	0 = Very Strong Influence to Leave to 3 = Undecided to 6 = Very Strong Influence to Stay		2.97	1.66	12361		
q015_3	Home Station Tempo (length of duty day/work schedule)	0 = Very Strong Influence to Leave to 3 = Undecided to 6 = Very Strong Influence to Stay		2.89	1.49	12356		
q015_10	Tempo Away (number/duration of TDYs)	0 = Very Strong Influence to Leave to 3 = Undecided to 6 = Very Strong Influence to Stay		2.99	1.37	12357		
q016_2	Compatibility with spouse's career/job (counting only married respondents)	0 = Very Strong Influence to Leave to 3 = Undecided to 6 = Very Strong Influence to Stay		2.72	1.50	9140		
yos	Years of Service	Numeric value 0 to 19		9.18	5.81	12370		
APB1	Spouse Status	0 = Single/Widowed	21.9%			2711	30.49%	18832
		1 = Married to Civilian	64.0%			7915	59.22%	36576
		2 = Married to Active Duty	7.4%			918	8.25%	5096
		3 = Married to Guard/Reserve	2.6%			318	0.20%	122
		4 = Divorced	4.1%			508	**	**
		5 = Unknown	0			0	1.84%	1137
Pres_Child	Presence of Children in the Household: Are there children present in the household?	0 = No children in the household	42.40%			5245		
		1 = Children present in the household	57.60%			7125		
Tenormore	Has the respondent served 10 or more years?	0 = 0-9 years of service	52.36%			6477	56.84%	35,108
		1 = 10-19 years of service	47.64%			5893	43.16%	26,655

* Population = All Active Duty Air Force Officers who have completed between 0-19 years of service using the FY02 dataset

** The total for "Divorced" is combined with the "Single/Widowed" category

Appendix C: Regressions with Interaction Effects

Model 3 – Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on Satisfaction with Quality of Life in the Air Force (b)

		Model 3.1	**Model 3.2**	**Model 3.3**
R-Square		0.0575	0.1346	0.1352
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.882*** (-13.45)	-1.091*** (-4.17)
	Married to Civilian	0.152* (2.44)	0.189** (3.16)	-0.044 (-0.20)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	0.033 (0.30)	-0.865* (-2.26)
	Divorced	0.172 (1.74)	0.238* (2.51)	-0.246 (-0.78)
Satisfaction with the Quality of Life in the AF (d)			0.364*** (33.20)	0.311*** (7.33)
Spouse Status X Quality of Life in the AF				
	Single X Quality of Life in the AF			0.045 (0.92)
	Married to Civilian X Quality of Life in the AF			0.050 (1.13)
	Married to National Guard/Reserve X Quality of Life in the AF			0.197* (2.45)
	Divorced x Quality of Life in the AF			0.107 (1.61)
Intercept		4.442***	2.757***	2.998***
N		12,369	12,363	12,363

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years

(b) Unstandardized coefficients followed by t-values in parentheses

(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty

(d) Satisfaction with Quality of Life in the AF is measured on a scale from 0 = Very Dissatisfied to 6 = Very Satisfied

* p≤ .05

** p≤ .010

*** p≤ .001

Model 4 - Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on the Influence of OPS TEMPO at Home

		Model 4.1	Model 4.2	Model 4.3
R-Square		0.0575	0.0830	0.0839
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.968*** (-14.32)	-1.316*** (-8.91)
	Married to Civilian	0.152* (2.44)	0.158** (2.56)	-0.010 (-0.07)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	0.005 (0.04)	-0.479* (-1.95)
	Divorced	0.172 (1.74)	0.166 (1.0)	-0.205 (-1.01)
OPS TEMPO At Home (d)			0.198*** (18.49)	0.126*** (3.29)
Spouse Status X OPS TEMPO At Home				
	Single X OPS TEMPO At Home			0.118** (2.63)
	Married to Civilian X OPS TEMPO At Home			0.059 (1.45)
	Married to National Guard/Reserve X OPS TEMPO At Home			0.171* (2.23)
	Divorced x OPS TEMPO At Home			0.129* (2.08)
Intercept		4.442***	3.873***	4.080***
N		12,369	12,355	12,355

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) OPS TEMPO at Home is measured from 0 = Very Strong Influence to Leave to 6 = Very Strong Influence to Stay in the AF for 20 years
* p≤ .05
** p≤ .010
*** p≤ .001

Model 5 – Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on the Influence of OPS TEMPO Away from Home

		Model 5.1	Model 5.2	Model 5.3
R-Square		0.0575	0.0970	0.0975
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.950*** (-14.18)	-1.364*** (-8.18)
	Married to Civilian	0.152* (2.44)	0.188** (3.07)	-0.114 (-0.77)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	0.031 (0.27)	-0.275 (-1.00)
	Divorced	0.172 (1.74)	0.160 (1.65)	-0.170 (-0.72)
OPS TEMPO Away from Home (d)			0.268*** (23.18)	0.169*** (4.02)
Spouse Status X OPS TEMPO Away from Home				
	Single X OPS TEMPO Away from Home			0.135** (2.71)
	Married to Civilian X OPS TEMPO Away from Home			0.099* (2.22)
	Married to National Guard/Reserve X OPS TEMPO Away from Home			0.100 (1.18)
	Divorced x OPS TEMPO Away from Home			0.108 (1.54)
Intercept		4.442***	3.622***	3.924***
N		12,369	12,356	12,356

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) OPS TEMPO Away from Home is measured from 0 = Very Strong Influence to Leave to 6 = Very Strong Influence to Stay (in the AF)
* p≤ .05
** p≤ .010
*** p≤ .001

Model 6 – Regression with Interaction Effects Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on the Influence of Number of PCS Moves (b)

		Model 6.1	Model 6.2	Model 6.3
R-Square		0.0575	0.1240	0.1251
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.869*** (-13.18)	-1.350*** (-8.85)
	Married to Civilian	0.152* (2.44)	0.240*** (3.98)	-0.118 (-0.84)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	0.028 (0.25)	-0.069 (-0.27)
	Divorced	0.172 (1.74)	0.158 (1.65)	-0.085 (-0.39)
Number of PCS Moves (d)			0.287*** (30.66)	0.178*** (4.65)
Spouse Status X Number of PCS Moves				
	Single X Number of PCS Moves			0.152*** (3.51)
	Married to Civilian X Number of PCS Moves			0.112** (2.80)
	Married to National Guard/Reserve X Number of PCS Moves			0.027 (0.37)
	Divorced x Number of PCS Moves			0.076 (1.26)
Intercept		4.442***	3.519***	3.872***
N		12,369	12,360	12,360

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) Number of PCS Moves is measured from 0 = Very Strong Influence to Leave to 6 = Very Strong Influence to Stay (in the AF)
* p≤ .05
** p≤ .010
*** p≤ .001

Model 7 – Interaction Effects: Regression Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on the Influence of Perceived Promotion Opportunity (b)

		Model 7.1	Model 7.2	Model 7.3
R-Square		0.0575	0.1289	0.1320
Spouse Status (c)				
	Single	-0.930*** (-13.59)	-0.818*** (-12.42)	-1.306*** (-7.01)
	Married to Civilian	0.152* (2.44)	0.249*** (4.14)	0.335 (1.93)
	Married to Air National Guard/USAF Reserve	-0.008 (-0.07)	0.076 (0.68)	-0.160 (-0.52)
	Divorced	0.172 (1.74)	0.299** (3.13)	0.402 (1.68)
Promotion Opportunity (d)			0.295*** (31.84)	0.284*** (7.56)
Spouse Status X Promotion Opportunity				
	Single X Promotion Opportunity			0.128** (2.99)
	Married to Civilian X Promotion Opportunity			-0.023 (-0.59)
	Married to National Guard/Reserve X Promotion Opportunity			0.060 (0.83)
	Divorced x Promotion Opportunity			-0.029 (-0.52)
Intercept		4.442***	3.216***	3.260***
N		12,369	12,355	12,355

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years
(b) Unstandardized coefficients followed by t-values in parentheses
(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty
(d) Promotion Opportunity is measured from 0 = Very Strong Influence to Leave to 6 = Very Strong Influence to Stay (in the AF)
* p≤ .05
** p≤ .010
*** p≤ .001

Model 9 – Interaction Effects: Regression Showing Differences in Intention to Remain in the Air Force for 20 Years (a) between Military Members in Different Spouse Status Groups, Depending on Compatibility with Spouse's Career (b)

		Model 9.1	Model 9.2	Model 9.3
R-Square		0.0009	0.0780	0.0783
Spouse Status (c)				
	Single	Dropped	Dropped	Dropped
	Married to Civilian	0.152* (2.46)	0.335*** (5.60)	0.20 (1.70)
	Married to Air National Guard/USAF Reserve	-0.007 (-0.06)	0.161 (1.46)	-0.147 (-0.66)
	Divorced	Dropped	Dropped	Dropped
Compatibility with Spouse's Career (d)			0.330*** (27.63)	0.292*** (9.79)
Spouse Status X Compatibility with Spouse's Career				
	Single X Compatibility with Spouse's Career			Dropped
	Married to Civilian X Compatibility with Spouse's Career			0.042 (1.30)
	Married to National Guard/Reserve X Compatibility with Spouse's Career			0.107 (1.54)
	Divorced x Compatibility with Spouse's Career			Dropped
Intercept		4.442***	3.381***	3.502***
N		9,144	9,139	9,139

(a) Intention to Remain in the Air Force for 20 years is measured on a scale from 0=Definitely will NOT remain in the AF for 20 years, to 3= Undecided, to 6=Definitely WILL remain in the AF for 20 years

(b) Unstandardized coefficients followed by t-values in parentheses

(c) Spouse Status is a dummy variable, the omitted/reference group is Married to Active Duty

(d) Compatibility with Spouse's Career is measured from 0 = Very Strong Influence to Leave to 6 = Very Strong Influence to Stay (in the AF)

* p≤ .05

** p≤ .010

*** p≤ .001

Appendix D: Internal Review Board (IRB) Material

Office of Research Compliance
1880 Pratt Drive (0497)
Blacksburg, Virginia 24061
540/231-4358 Fax: 540/231-0959
E-mail: ctgreen@vt.edu
www.irb.vt.edu
FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: May 11, 2007

MEMORANDUM

TO: Craig L. Brians
Valariel Long

FROM: Carmen Green

SUBJECT: **IRB Exempt Approval:** "Retention and the Dual-Military Couple: Implications for Military Readiness" , IRB # 07-260

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of May 11, 2007.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.

2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

cc: File

University of California
Los Angeles

Certificate of Completion

The Office of the Executive Vice Chancellor of UCLA certifies that

Valarie Long

has completed online course in Protecting Human Research Subjects in **Social and Behavioral Research**.

Appendix E: List of Acronyms

AF	Air Force
AFI	Air Force Instruction
AFPC	Air Force Personnel Center
AVF	All Volunteer Force
CDC	Child Development Center
COCOMS	Combatant Commands
D-MC	Dual-Military Couple
DoD	Department of Defense
FY	Fiscal Year
IDEAS	Interactive Demographic Analysis System
IRB	Institutional Review Board
N	Number
OLS	Ordinary Least Squares
OPS	Operations
OS	Overseas
PCS	Permanent Change of Station
PERSTEMPO	Personnel Tempo
ROTC	Reserve Officers Training Course
TDY	Temporary Duty Assignment
UCLA	University of California, Los Angeles
USAF	United States Air Force
USAFA	United States Air Force Academy

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