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14. ABSTRACT The Department of Defense (DoD) consists of more than 1.3 million service members, with nearly 700,000 dependents. Service members with dependents incur higher costs to the DoD, relative to those without. The DoD should focus on accurately forecasting Basic Allowance for Housing (BAH) expenses utilizing historical dependency rates to closer align budget and execution. Currently, the Marine Corps budgets for BAH based on the previous year's execution instead of using dependency rates to forecast. During Fiscal Years 2017-2019 (FY17-19), the Marine Corps has averaged more than \$100 million in under execution for BAH with dependents. This antiquated method reduces leadership's flexibility to align funding to other programs early in the PPBE process. Secondly, a benefit of the All-Volunteer-Force (AVF) is that service members are a reflection of society. Monitoring dependency rates and comparing them to societal trends allows the DoD to shape family-friendly policy. Societal trends show that civilians are increasing in age, education, and professionalism before gaining dependents. The military is experiencing the same trend. The Marine Corps has the data available to forecast dependency rates and create more accurate BAH budgets that reduce annual under execution. The refined process could provide leadership with the flexibility of \$50-100 million in the first year. There are no concerning anomalies between military and civilian dependency rates.						
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MASTER OF MILITARY STUDIES

TITLE:

FORECASTING USMC BASIC ALLOWANCE FOR HOUSING UTILIZING HISTORICAL
DEPENDENCY RATES

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Executive Summary

Title: Forecasting USMC Basic Allowance for Housing Utilizing Historical Dependency Rates

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Thesis: This study will analyze DoD dependency rates from 1980 to 2019, compare DoD dependency trends to the American civilian sector, and narrowly focus on the Marine Corps to utilize historical dependent rates to create more accurate BAH estimates during the PPBE process, utilizing current, proprietary databases.

Discussion: The Department of Defense (DoD) consists of more than 1.3 million service members, with nearly 700,000 dependents. Service members with dependents incur higher costs to the DoD, relative to those without. The DoD should focus on accurately forecasting Basic Allowance for Housing (BAH) expenses utilizing historical dependency rates to closer align budget and execution. Currently, the Marine Corps budgets for BAH based on the previous year's execution instead of using dependency rates to forecast. During Fiscal Years 2017-2019 (FY17-19), the Marine Corps has averaged more than \$100 million in under execution for BAH with dependents. This antiquated method reduces leadership's flexibility to align funding to other programs early in the PPBE process. Secondly, a benefit of the All-Volunteer-Force (AVF) is that service members are a reflection of society. Monitoring dependency rates and comparing them to societal trends allows the DoD to shape family-friendly policy. Societal trends show that civilians are increasing in age, education, and professionalism before gaining dependents. The military is experiencing the same trend.

Conclusion: The Marine Corps has the data available to forecast dependency rates and create more accurate BAH budgets that reduce annual under execution. The refined process could provide leadership with the flexibility of \$50-100 million in the first year. There are no concerning anomalies between military and civilian dependency rates.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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PREFACE

This topic piqued my interest while working in the Programs and Budget Section (MPP-40) of the Manpower Plans and Policy Division (MP) at Manpower and Reserve Affairs (M&RA). I served at M&RA from 2016-2019 and during my tour, I experienced annual under execution of Basic Allowance for Housing. I started analyzing Marine Corp's dependency rates and determined there was a decline yet remained in concert with the civilian sector. It was not until I left M&RA that I linked the problem of BAH execution to dependency rates. I realized the entity budgeting for BAH (Programs and Resources) did not have access to the Authorized Strength Report (future force structure, Combat Development and Integration) or historical dependency rates stored in the Total Forces Data Warehouse (M&RA) to create a more refined budgeting process. It is an institutional problem; in which the Marine Corps does not understand the data it possesses nor how to use it.

First, I give thanks to God for giving me the ability and opportunity to achieve higher education. Many thanks to Dr. Wineman for entertaining my idea and providing great critique in a data-heavy thesis. Many thanks to Dr. Marigee Bacolod, she advised my first thesis and was always willing to provide input for the current. A big shout out to my parents, I would not be here without them (literally). I had no desire to attend college, but they made me take the SAT. Little did I know, I joined the Marine Corps and my SAT scores opened the door for my transition to the officer ranks. Thanks again Mama and Daddy, love y'all (y'all is the only contraction in this paper). To my daughters, Bella Jean and Aubrey, thank you for being patient when I was impatiently working on school. I only pursued my second master's degree to set an example for you girls. To my wife, Lindsey, thank you for being patient with me. I know I seem

to always put work and school ahead of the family, but I do it for the family. Love you babe and thank you for dealing with me while I am stressed. I would not be successful without you.

INTRODUCTION

As of September 30, 2019, the Department of Defense (DoD) consisted of 1,325,826 service members, of which, 51.45% have dependents.¹ The DoD Financial Management Regulation defines dependent as a spouse, child, or parent and includes a multitude of qualifiers for numerous scenarios.² The Fiscal Year 2019 (FY19) consisted of more than 682,000 DoD dependents, which demands DoD's obligation to maintain the well-being of the entire force. Cindy Williams, in her article "From Conscripts to Volunteers" at the Naval War College, cites a common U.S. recruiting slogan "recruit the soldier, retain the family."³ On July 1, 1973, the U.S. ended conscription and transitioned to the All-Volunteer Force (AVF). The AVF meant that the DoD was now a competitor in the American labor market in which individuals choose to serve or not. Moreover, DoD would now have to focus on all areas of job satisfaction, including families, to entice individuals to serve.

The National Bureau of Economic Research defines reservation wage as, the lowest wage someone will accept employment.⁴ Therefore with the AVF, the DoD must strategically create a reservation wage dilemma, in which an individual must view the benefits of serving as greater than staying in the civilian labor market. The DoD must remain cognizant that individual reservation wages will change over time as a service member becomes more senior, educated, qualified, etc. Conscription's benefit was that it provided a steady flow of manpower, which the AVF must compete for. In the competitive labor market, DoD's recruiting efforts emphasize pay, experience, travel, healthcare, etc., as reasons to serve. While statistically insignificant, in 2019 the average age of new enlisted accessions, grades E-1 to E-2, with dependents is 20.49 years, while those without dependents are 20.47 years.⁵ In contrast, officer accessions in the grade of O-1, average 28.35 years with dependents and 24.08 years without.⁶ There is a larger age

disparity in entry-level officers with or without dependents. It is assumed enlisted accession grades are E-1 to E-2 and the officer accession grade is O-1. 9.76% of 132,156 enlisted service members categorized as accession grades have dependents, while 26.72% of 28,590 officers in the accession category do.⁷ Data shows newly accessed service members are less likely to have dependents and are younger than those that do. Albeit, the age difference in enlisted accessions with and without dependents is marginal compared to the 4.27 year age difference in officers within the same category. Therefore, data shows that most service members access young and without families and this study will analyze changes in familial structure as a career matures. An AVF must constitute a healthy, mature force, and families are an important aspect of sustaining that; however, the reality is that an increase in dependency correlates to higher costs for the DoD.

The President's Budget Request for FY19 sought \$192 billion for all military pay and allowances, roughly 31% of the \$617.1 billion base budget request (does not include Overseas Contingency Operation Funding).⁸ Therefore, nearly a third of the entire DoD budget accounts for military personnel expenses. Service members with families receive certain allowances at different rates than those without and with over 682,000 family members, the costs are significant. The DoD must observe the rate at which service members have dependents, as trends will inform decision-makers and affect policy. Trend analysis can lead to more efficient budgeting of military personnel expenses, thus providing DoD flexibility in the Planning, Programming, Budget, and Execution (PPBE) process. Flexibility during PPBE allows more efficient use of resources before Congress appropriates the National Defense Authorization Act (NDAA) for any FY. Once Congress appropriates the NDAA, inefficiencies in the DoD's budget are statute and funding flexibility requires DoD's request to Congress.

Specifically, the Marine Corps does not use historical dependency rates to forecast future Basic Allowance for Housing (BAH) expenses; therefore, it is missing an opportunity to create more accurate and informed budget requests. Currently, the USMC estimates BAH budgets based on the dollars spent in the previous year. Appendix A, Figure 1 is derived from the Department of Navy budget books for Marine Corps personnel expenses for FYs 17-19. The chart only depicts the difference between budgeted and executed amounts for BAH with dependents. The average under execution of BAH with dependents for the period (FY17-19) is more than \$103 million. It must be assumed that personnel expenses will never fully execute because the institution cannot perfectly predict human behavior entering and exiting the system. Therefore, leadership must determine an acceptable level of under execution and in an account exceeding \$2 billion annually, \$20-30 million may be acceptable. For example, FY18 under executed by roughly \$128 million; thus, using \$20 million as an acceptable level of under execution, the Marine Corps missed an opportunity to budget \$108 million to other programs. The current antiquated budgeting method reduces opportunities for leaders to better prioritize a significant amount of resources. This study will analyze DoD dependency rates from 1980 to 2019, compare DoD dependency trends to the American civilian sector, and narrowly focus on the Marine Corps to utilize historical dependent rates to create more accurate BAH estimates during the PPBE process, utilizing current, proprietary databases.

LITERATURE REVIEW

U.S. Women are Waiting Longer for Childbirth

January 18, 2018, Gretchen Livingston with the Pew Research Center published the study, *They're Waiting Longer, but U.S. Women Today More Likely to Have Children Than a Decade Ago*, in which she states women are more likely to have children; however, women are

waiting longer for childbirth.⁹ Livingston's analysis depicts in 2016, 86% of women between the ages of forty and forty-four have given birth, a 7.5% increase over the 80% in 2006; however, 2016 is a 4.44% reduction from the 90% in 1976.¹⁰ Furthermore, Appendix A, Figure 2, is a comparative analysis of the years 1994 and 2014 and analyzes the probability that a woman has a child at specific ages. The tan-colored area between the green and gold lines depicts the percentage point difference in the proportion of women that have given birth at specific ages between the years 1994 and 2014. Specifically, at age nineteen women in 2014 are nine percentage points or 40.9% less likely to have children relative to women the same age in 1994. At age twenty-four, women are fourteen percentage points or 26.4% less likely to have children in 2014 relative to 1994. Again, at age twenty-nine, women are eleven percentage points or 15.3% less likely to have dependents in 2014 relative to 1994. The age gap is greatest between twenty-four and twenty-nine years of age and it is not until age thirty-four in which the gap narrows and is only marginally different. At age 34, women are three percentage points or 3.8% less likely to have children in 2014 relative to 1994. Livingston's study analyzes data separated by two decades and it is evident fewer women are choosing to have children earlier in life; however, it is apparent at age thirty-four the probability of childbirth is similar. The study clearly shows an increased age in which current women are choosing childbirth relative to the past.

Appendix A, Figure 3 resides in the same Pew Research Study conducted by Livingston yet delves into women's educational level as a reason that women are choosing childbirth later in life. As depicted, females with "Some College" or "High school or less," experience similar childbirth rates between 1994 and 2014. Whereas, more educated women experience less childbirth at younger ages and the probability of childbirth increases with age. In 2014, women with an educational level of "High school or less" are 32.3% less likely to have children at age

nineteen compared to 1994; however, at age forty-four, the less educated women are exactly 88% likely to have children. The disparity in childbirth is more evident as women become more educated. Women categorized with an educational level of “Ph.D./professional degree” are 71.4% less likely to have children at age nineteen in 2014 relative to 1994. More interestingly in women with Ph.D.’s, at age forty-four, the women are 23.1% more likely to have children in 2014 than 1994. The chart progressively tells the story that more educated women are waiting until later in life to have children, yet more are choosing to have children than previous generations at the same age. Thus, one conclusion that can be drawn is that women are postponing childbirth until their educational level and professional career are more established. This study will analyze the proportion of DoD service members with dependents relative to this Pew study.

Increase in Average Age of First Marriage

In 2011, Cohn et al. conducted a study at Pew Research Center titled, *Barely Half of U.S. Adults Are Married – A Record Low*, in which trends in average age at first marriage were analyzed. Interestingly in 2010, 51% of American adults were married in contrast to 72% in 1960, thus a 29% reduction in five decades.¹¹ Furthermore, Appendix A, Figure 4, shows the median age of first marriage is increasing for both males and females. In 1960, women averaged 20.3 years of age at first marriage compared to 26.5 years in 2010; therefore, age has increased by 30.5% in five decades. Whereas, men averaged 22.8 years in 1960 relative to 28.7 years in 2010 or a 25.9% increase in average age at first marriage. The study states that part of the reason the average age of marriage is increasing is due to more young adults enrolling in college, thus postponing marriage.¹² This trend is similar to the previously mentioned Livingston study in which women were postponing childbirth at higher rates as the educational level increases.

However, this study shows that both men and women are waiting until later in life to start a family. This study will analyze DoD personnel data against Pew's populace analysis.

Generationally: Women Entering Parenthood

Again, Gretchen Livingston of the Pew Research Center conducted a study titled, *More than a Million Millennials are Becoming Moms Each Year*, in which she takes a generational view to the age in which women choose parenthood. The study shows that 48% of Millennial women between the ages of twenty and thirty-five have children in 2016; whereas, 57% of Generation X women in the same age group had children in the year 2000.¹³ Generation X is categorized as being born between 1965 and 1980, while Millennials are from 1981 to 1996. At the time in 2016, Millennials were 29% of the American population.¹⁴ Livingston states that the rising age of childbirth is not merely a Millennial trend and that "it has been a trend since at least 1970 and may stem from many factors, including a shift away from marriage, increasing educational attainment and the movement of women into the labor force."¹⁵ It remains evident through multiple Pew studies, that marriage is being postponed amongst Americans, thus leading to the postponement of childbirth as well. That is not to say there are fewer families having children, just postponement.

Conscription and the All-Volunteer-Force

America has used conscription at various times dating back to the Revolutionary War, Civil War, both World Wars, Korea, and most recently Vietnam.¹⁶ The perceived unfair conduct of conscription during the Vietnam War polarized America, especially as the death toll rose.¹⁷ That polarization led to President-elect Nixon's campaign promise to end conscription.¹⁸ Once elected on November 5, 1968, President-elect Nixon established a commission to determine the feasibility of an All-Volunteer-Force (AVF).¹⁹ On March 27, 1969, former Secretary of Defense

Thomas Gates, Jr. was nominated to lead the commission that subsequently became known as the “Gates Commission.”²⁰ On February 21, 1970, the Gates Commission recommended conscription to be abolished; however, the AVF must increase pay, improve conditions of service to include recruiting and establish a standby draft system to be successful.²¹ It was not until July 1, 1973, that President Nixon’s campaign promise came to fruition and the All-Volunteer-Force (AVF) was enacted.

For this study, conscription’s end is important because families must be a larger concern under the AVF. The advent of the AVF meant the DoD became a competitor in the labor market in order to recruit service members. With an individual choice to serve, DoD now had to demonstrate that compensation packages are commensurable to the civilian sector and create a reservation wage dilemma in which a person weighs service versus civilian employment. Compensation packages include pay, allowances, housing, healthcare, bonuses, etc., but the benefits must be alluring to families. Service members joining with families will ensure family-friendly benefits outweigh the civilian market. Those members joining without dependents are likely to gain a family as their service continues; therefore, family-friendly benefits will impact future retention decisions. There is a higher probability that a service member will gain dependents as they continue to serve.

Bernard Rostker states in *The All-Volunteer Military: Issues and Performance*, that “traditionally, military life has not been family-friendly.”²² Further, Rostker argues that the military family was largely not discussed during the AVF proposition nor was it addressed until the late 1970s. Today, DoD possesses a plethora of family programs, some differ by service, but it is evident the family is part of the service equation. It is vitally important to understand the

military family and monitor dependency rates, relative to civilians. Imbalances between the two sectors can inform decision-makers and impact policy before trends become problematic.

Military Housing History and Allowance

Historically, military service obligates the government to provide members with housing or the means to in the local market. Twiss and Martin's 1997 study analyzes military housing from 1973 to 1996 and states that the transition to the AVF makes base housing a factor in the compensation package to entice individuals to serve or not.²³ Interestingly, DoD's housing policy during the 1970s was viewed through the lens of "rank has its privilege," thus junior service members with families were not entitled to base housing as they were not considered invested as service members.²⁴ This created a financial burden on junior members with families during the initial stages of the AVF. As the AVF matured, so did DoD's stance on housing as a quality of life enhancer. Adequate housing allows the service member to focus on their daily duties, thus enhancing the efficiency and effectiveness of the force. In 1996, Congress passed the Military Housing Privatization Initiative (MHPI) to leverage private sector housing expertise for two purposes: 1) to address the substandard condition of current DoD housing and 2) address the inadequate supply of private housing in the vicinity of installations.²⁵ Today, the DoD has transitioned to privatized on-base housing, except in locations where it is more feasible to maintain government-run housing.

Basic Allowance for Housing (BAH) is an allowance provided to service members to offset the cost of private sector housing when the service member does not reside on base as defined in 37 U.S. Code § 403.²⁶ Families residing in on-base privatized housing still receive BAH and pay rent directly to the privatized housing company. BAH rates are dependent on duty location, dependency status, and pay grade.²⁷ There are five categories for BAH; however, in the

recommendation, this study will focus on Continental United States (CONUS) BAH, with or without dependents. Annually, the Department of Defense (DoD) determines the appropriate BAH rate at each location based on market analysis. BAH rates are publicly available on the Defense Travel Management Office (DTMO) website.

Planning, Programming, Budgeting, and Execution (PPBE) Process

Planning, Programming, Budgeting, and Execution (PPBE) is the methodical, annual process in which the DoD allocates resources.²⁸ The DoD budgets for BAH are based on the number of service members estimated to receive BAH, by grade. This study's recommendation will focus specifically on improving the process to budget for BAH within the Marine Corps; therefore, only the key pieces for the Marine Corps' PPBE process will be detailed in subsequent analysis. To reiterate, the current USMC process is to budget BAH based on dollars executed in the previous year. The current process neglects to use readily available data to forecast.

The Deputy Commandant for Combat Development and Integration (DC CD&I) develops the force structure needed to meet the USMC operational requirements. Total Force Structure Division (TFSD) is the entity within DC CD&I that manages force structure. Force structure is the Table of Organization (TO) that details billets at specific units. The USMC does not have adequate end strength to fill the entire TO; therefore, the Authorized Strength Report (ASR) prioritizes billets via algorithms in the Total Force Structure Management System (TFSMS). During normal years the ASR runs twice, February and August. A normal year is defined as a year containing no in-year force structure changes.

Manpower and Reserve Affairs (M&RA) receives the ASR and develops a plan to assess and retain the Marines for each Military Occupational Specialty (MOS) and grade, as prescribed. Once M&RA's manpower plans are complete, the plans are forwarded to the Military Personnel

Branch (RFM) within the Deputy Commandant Programs and Resources (DC P&R) to determine the cost of the manpower plans for the budget. RFM is the DC P&R budgeting and execution branch responsible for all Marine Corps Personnel expenses. The primary appropriation is Military Personnel Marine Corps (MPMC), which consists of all pay and allowances for the Active Component (AC). Once the total MPMC costs are calculated, the money is budgeted. Three Deputy Commandants influence AC manpower during the PPBE process; DC CD&I, DC M&RA, and DC P&R.

The PPBE is an iterative process and the Marine Corps must submit their budget request in the following sequence: the Department of the Navy (DoN) in late spring to summer, the DoD late summer to early fall, and update all material for the President's Budget (PB) late fall to early winter. 31 U.S.C § 1105 mandates the following timeframe for the President's Budget submission, "on or after the first Monday in January but not later than the first Monday in February of each year, the President shall submit a budget of the United States Government for the following fiscal year."²⁹ The internal timeframes for each executive agency are driven by the President's Budget submission. It is imperative to refine all manpower costs during each iteration as manpower is at least 30% of the budget. Inaccurately budgeting manpower costs creates inefficiencies in the PPBE process and incorrectly allocates resources.

METHODOLOGY

The Defense Manpower Data Center (DMDC) in Monterey, CA provided the Department of Defense (DoD) personnel data. Requested data consists of the following variables: service, age, grade, dependents, sex, and Fiscal Year (FY). The original dataset contained 76,252,194 observations before being cleaned. The service variable contains data for Army, Navy, Marine Corps, Air Force, and Coast Guard; however, Coast Guard data was omitted since the focus of

this study is on DoD dependency rates. The age variable contained 76,333 observations coded as zero across multiple FYs and was omitted. The age variable serves three purposes. First, service members were placed into age groups to conduct a comparative analysis with similar civilian sector studies. This provided a means to determine if the military, relative to the populace, is experiencing similar dependency trends. Secondly, age was used to determine if the average age at which service members have dependents is increasing as civilian studies depict. Lastly, age was used to create a birth year variable to categorize service members into generational groups (i.e. Generation Z, Millennials, Generation X, Baby Boomers, and The Greatest Generation). Pew's research classified each generation by the following years of birth: The Greatest Generation as 1901 to 1927; The Baby Boomer Generation as 1946 to 1964; Generation X as 1965 to 1980; Millennials as 1981 to 1996, and Generation Z as 1997 to present. Generational groups permit comparisons with similar civilian studies to determine if the populace and military are experiencing the same trends.

The grade variable consisted of 377,217 observations with missing data across multiple FYs and the observations were deleted. The grade variable corresponds to enlisted grades E-1 to E-9 (coded as E01 to E09), Warrant Officer grades W-1 to W-5 (coded as W01 to W05), and Officer grades O-1 to O-10 (coded as O01 to O10). The data included 2,157 observations coded with E00 or O00 and subsequently the observations were coded as E01 or O01. The dependents variable represents the count of dependents for each service member. This study is only concerned if a member has a dependent; therefore, a binary dependent variable was created for analysis, as the total number of dependents is irrelevant to this study. There were 68,124 observations in which dependent equaled "Z" across multiple FYs, subsequently, those observations were deleted. Additionally, there were a significant amount of observations with

ninety-nine dependents between the years 1999 and 2003. During the same period, there were instances in which entire services had zero dependents. Therefore, it is assumed the 650,871 observations during the years 1999 to 2003 with ninety-nine dependents should be coded as zero. This creates a significant negative anomaly in the years 1999 to 2003 that will be discussed in the results yet are invalid to the study. To summarize, a binary dependent variable was created to depict if a service member has or does not have a dependent.

The DMDC cannot provide sex data before 1995; therefore, dependency rates by sex cannot be analyzed before 1995. This study looks at how dependency rates have changed over time within the DoD and determine if today's rates are like those near the end of conscription. Unfortunately, the 1970s data was not reliable due to specific FY's not existing; rather, the DMDC lumped all 1970s data into a "197X" variable. Therefore, the 10,591,786 observations representing the 1970s and coded with "197X" were deleted. FY data or a snapshot of the force on September 30 for the years 1970-2019 was requested; however, data the only valid data was for 1980 to 2019. Once cleaned, the dataset consists of 64,335,869 observations, spanning FYs 1980 to 2019.

RESULTS

DoD Service Members with Dependents

Appendix A, Figure 5 depicts that DoD service members are experiencing an overall slight increase in the percentage of service members with dependents. Enlisted service members tend to follow closely to DoD trends due to being the preponderance of the force. Appendix A, Figure 5's supporting data table is shown in Appendix A, Figure 6, due to the chart being incoherent if all data points were visualized. For context, DoD has seen a 2.82% increase in dependents between the years 1980 and 2019; while officers experience an 8.44% decline and

enlisted a 3.28% increase. Interestingly, 1980 is seven years after conscription's demise and current forces experience nearly the same familial makeup. The years 1999 to 2003 represent unreliable data and should not be used for inference. Due to the enlisted force encompassing more than 80% of the total force, the 3.28% increase in enlisted with dependents offsets the officers 8.44% decline and shows only a slight increase in dependency over nearly four decades. It is clear dependency rates have experienced marginal changes over the past four decades.

Comparative Analysis of the Probability of Females with Dependents at ages Thirty-Three or Younger and Thirty-Four or Older: Pew Research Study versus Military

In the previously discussed Pew research, Appendix A, Figure 2 depicts that age thirty-four is the age in which women in 2014, relative to those in 1994 have children at nearly the same rate. It is important to note the Pew study is focused on childbirth and not marriage, while the DMDC data in this study does not distinguish if the dependent is a spouse, child, parent, etc. However, the DMDC data can analyze the proportion of service members with dependents for any age. Appendix A, Figure 7 and the supporting data table in Figure 8 depict the proportion of female service members that have at least one dependent at the age of thirty-three and younger compared to women age thirty-four and older.

There are a couple of interesting data points represented in Figure 7. One, females thirty-three and younger are 11.53% less likely to have dependents in 2019 compared to 1995; whereas, females thirty-four and older are 10.48% more likely to have dependents in the same period. Secondly, in 1995 military females thirty-four and older were 30.19 percentage points or 80.96% more likely to have dependents relative to their younger counterparts; whereas, in 2019 older military females are 41.56 percentage points or 125.98% more likely to have dependents than younger females. Therefore, DoD is experiencing growth in the rate at which older female

service members are choosing to have dependents. Again, this data does not distinguish between types of dependents, thus the service member could be choosing to marry, have children, or both as they age. There is a growing disparity as to the proportion of younger women having dependents relative to their older counterparts. The data table to support the chart is in appendix A, Figure 8.

Additionally, the Pew study depicted in appendix A, Figure 2 focuses on age thirty-four in which civilian women are likely to have children at similar rates during the years 1994 and 2014. In 1994, the research states that 80% of women have children; whereas, 77% in 2014. In contrast, 67.48% of military women aged thirty-four and older had dependents in 1995, relative to 73.23% in 2014. This study's sex data is not available for direct comparison in 1994; therefore, 1995 was chosen to compare to Pew's 1994 data. Clearly, in 1995 military women were less likely to have dependents as their civilian counterparts; however, in 2014 military women are marginally less likely to have dependents than civilian sector women in the same category. Again, this data cannot distinguish between the type of dependent, but it is important to note the military women aged 34 and older have narrowed the dependency rate gap with civilian women. Comparing 1995 to 2019, military women aged thirty-four and older have experienced a 10.48% growth in dependents; whereas, women thirty-three and younger have experienced an 11.53% decrease during the same period. It is evident military and civilian women are experiencing the same trend and are increasing in age before gaining a dependent. The supporting data table can be seen in appendix A, Figure 10.

Average Age of DoD Service Members with Dependents

The Pew study reflected in Appendix A, Figure 4 depicts data in which Americans are postponing marriage until later in life for both males and females. Appendix A, Figure 9 depicts

the average age for male and female service members with dependents during the period 1995 to 2019. Again, the DMDC data for this study does not distinguish the type of dependent.

Therefore, this study does not support a direct comparison to Pew research, yet still demonstrates an increase in age for service members with a dependent. Comparing 1995 to 2019, females average age with dependents increased by 2.7% or .84 years older, while during the same period males experienced a 2.4% increase in age or .75 years older. Figure 9 depicts that both male and female service members are increasing in age before gaining a dependent. The table supporting the chart can be seen in appendix A, Figure 10.

Further comparative analysis between this study and Pew's, in 2010 Pew stated the average age for males at first marriage is 28.7 years and females are 26.5 years. This study depicts in 2010 the average age for military males with a dependent is 31.52 years, while females are 30.81 years. Comparing the male data, military men are on average 2.82 years older than civilians when gaining a dependent. Female data shows that military women are 4.31 years older than their civilian counterparts. It is important to compare the categories to determine if there are vast differences amongst the populace and military.

To quantitatively determine causality would be in error since there are too many omitted variables. However, it would be ill prudent to not discuss potential qualitative reasons that military males and females are aging before gaining dependents. The previously discussed Pew research suggests that recent generations are postponing marriage and childbirth until their professional careers are more established. It is assumed that a professional career is not attained quickly, rather it is developed over time. Therefore, utilizing Pew's research as a baseline for any career, it can be assumed that longer military service correlates to a more professional service member and postponement of gaining a dependent. Previous discussions have shown that

Millennials are still choosing to have families but are waiting until later in life to begin. Moreover, the military is experiencing the same trend. Evidence shows that both sectors of society are aging before gaining a dependent.

Generational Study of Female DoD Service Members with Dependents

As previously discussed, Pew research states that 46% of Millennial women between the ages of twenty and thirty-five had children in 2016; whereas 57% of Generation X women in the same age range were moms in the year 2000. In contrast, 50.35% of female Millennial service members in the age range of twenty to thirty-five had dependents in 2016, which is marginally higher than their civilian counterparts. Strikingly, 44.05% of female Generation X service members in the same age range had dependents in the year 2000, compared to 57% in the civilian sector during the same period. It is evident female Millennial service members are having dependents at slightly higher rates than their civilian counterparts; whereas, Generation X female service members are not. Qualitatively, this may show that DoD has made family-friendly strides that affect younger generations yet took effect too late for Generation X female service members. Again, the Pew research is specific to childbirth and the data for this study cannot distinguish between the type of dependent, yet the comparison is still useful.

Additionally, Appendix A, Figure 11 depicts the percentage of female service members with dependents by generation. The Baby Boomer Generation is defined by birth in the years 1946 to 1964. Female Baby Boomers are experiencing a 5% reduction in service members with dependents between the years of 1995 and 2019. Not surprisingly as the Baby Boomer generation is aging out of the military. In 2019, the average age for female Baby Boomer service members with dependents is 57.24 years, with only 504 remaining in service. Generation X has experienced a 127% increase in female service members with dependents from 1995 to 2019. In

2019, the average age for Generation X female service members with dependents is 42.98 years. Currently, 20,433 or 9% of DoD females are Generation X. Proportionally, Generation X females with dependents are likely peaking and will be overtaken by the Millennial generation in a few years.

The previously discussed Pew study, *More than a Million Millennials are Becoming Moms Each Year* stated that in 2016 Millennials consisted of 29% of the U.S. population, in stark contrast, Millennials made up more than 73% of the military.³⁰ From 1998 to 2019, Millennial females experienced a 2,206% growth in the rate of dependency. The large growth is expected since the first year Millennials were eligible to serve is 1998, in which there were only 730 female service members and only seventeen had dependents. It also coincides with early DoD initiatives to increase female service members. In contrast, 2019 contains 137,100 Millennial female service members with 67,921 having dependents. The average age of Millennial females with dependents in 2019 is 30.16 years. In 2019, Millennial female service members comprise 61.01% of the female population and 49.54% have dependents. To summarize, Millennial females in 1998 had too few service members for the percentage of growth to be alarming and as expected the population has grown as Baby Boomers and Generation X members age out of the system.

Lastly, Generation Z females with dependents experienced a 751% growth in the years 2014 to 2019; however, 2014 is the first year that Generation Z reached the minimum age to serve. Like Millennials, the percentage growth is exacerbated by the fact that only 175 Generation Z females served in 2014 with only three having dependents. In 2019 Generation Z females have grown to 66,675 or 29.67% of the female population and 14.56% have dependents. The average age in 2019 for Generation Z females with dependents is twenty-one. It is highly

likely the average age and dependency rates will increase as Generation Z females continue to serve; to the extent that trends experienced in previous analyses and studies remain constant. Generationally, as expected, Millennial and Generation Z female dependency rates are starting to narrow the gap with previous generations. Older generations are aging out, yet the average age of Millennials and Generation Z females with dependents are 30.16 and 21.00, respectively. Previous studies show dependency sees sharper increases in the mid-thirties; therefore, it will take a few more years for the younger generation's dependency rates to outnumber other generations. The Generation Z data is in its infancy and the next few years will depict their trends. The generational data table can be seen in appendix A, Figure 12.

RECOMMENDATION

Qualitative

The DoD should be concerned with and monitor dependency rates, as rates can be used to determine the existence of a family-friendly military. Relative to the civilian sector, higher military dependency rates may signify DoD's success as family-friendly. Successful program policies may lead to higher retention rates, fewer members exiting the service before reaching their End of Active Service (EAS), and higher job satisfaction, leading to higher productivity. Lower dependency rate trends relative to the civilian sector may alarm the DoD and signify something is awry and family services are not adequate. However, dependents do increase costs to the DoD, thus it is of utmost importance that dependency rates be closely monitored. If anything, the trends will inform and lead to proactive leadership decisions and inform policy before trends become exacerbated.

Quantitative, Budget Based

To expound, dependents incur costs associated with healthcare, facilities, housing, allowances, etc. The current Marine Corps' process does not use readily available, dependency data, to forecast BAH budgets. Rather, the service uses dollars executed in the previous year to budget, absent of real data analysis. Over the past three years, the service has averaged more than \$100 million in under execution in BAH with dependents. Large under execution is an inefficient use of resources; therefore, forecasting BAH using historical dependency rates provides leadership with flexibility earlier in the PPBE process. It is far better to budget accurately than to seek Congress' permission to spend money differently than originally appropriated. The remainder of the quantitative recommendation will focus on the Marine Corps yet could be extrapolated for the DoD. As previously stated, BAH is a non-taxable allowance paid to members at rates different for those with and without dependents. Members with dependents receive a higher BAH as it is presumed their housing costs are higher.

The Marine Corps' Fiscal Year 2020 (FY20) BAH budget request is roughly \$2.14 billion, of which about \$1.65 billion and \$410 million correspond to Continental United States (CONUS) based Marines with or without dependents, respectively.³¹ Partial and Overseas BAH account for the remainder. Nearly 77% of all BAH expenses are allocated to domestically stationed Marines with dependents. It is also critical to understand that BAH is roughly 5% of the Marine Corps' budget. At 5% of a nearly \$40 billion budget, it is paramount to forecast rates as accurately as possible. Accurate forecasts provide leadership with the opportunity to better align resources early in the PPBE process, rather than requesting permission from Congress after the NDAA is appropriated.

The Marine Corps possesses the capability to forecast BAH by using multiple, serviced owned databases. The Authorized Strength Report (ASR) provides future force composition;

whereas the Total Force Data Warehouse (TFDW) provides historical data for analysis. As previously stated, the ASR is published semi-annually, typically February and August.³² The ASR provides grades for each billet at specific locations. When processed, the ASR model determines the number of billets the Marine Corps can afford to buy.³³ Bought billets is a term used to describe the algorithmic decisions made against the prioritized Table of Organization (TO). The ASR is constrained to the end strength prescribed in the respective National Defense Authorization Act (NDAA). In the end, the ASR provides a future look at the Marine Corps' force composition.

To properly forecast, historical results must be analyzed to make future predictions. TFDW is managed and housed at Manpower and Reserve Affairs (M&RA); the database hosts more than forty years of manpower data.³⁴ TFDW contains numerous historical data points to be analyzed; however, for this study location, grade, and dependency are the only relevant ones. The proportion of Marines with dependents, by grade, at each location can be extrapolated from TFDW. To reiterate, the ASR provides future by grade location data, while TFDW provides a current and historical snapshot. Merging datasets from the two databases allows an analyst to forecast the probability that a Marine will have a dependent at any location or unit, by grade.

Dollars must be applied once forecasting the probability of Marines with dependents is complete. The Defense Travel Management Office (DTMO) holds current and historical BAH rates by location. The Marine Corps can use historical TFDW data, merged with historical BAH rates to validate forecasting estimates with prior dollar execution. Validation must be conducted with historical data before implementing in the PPBE process. There are a myriad of forecasting methods and the validation process would have to determine which technique works best for the service. There would also need to be an agreed-upon inflation rate for future BAH rates to be

applied against the ASR during forecasting. The current BAH budgeting method and forecasted method would need to be conducted in parallel to refine the process before implementation. Once established, the model could be used to quickly analyze dependency rates and forecast BAH budgets.

It is paramount the Marine Corps uses available data to forecast future BAH budgets. It is far better to budget accurately than ask for Congress' permission to use the dollars differently than appropriated. Under execution of dollars is an inefficient use of resources and usually creates future Congressional budget cuts during the PPBE process. Congressional cuts are a denial of requested funds to the service. For example, a 1% under execution of a \$2 billion BAH account totals \$20 million that could fund other, high priority programs; whereas, 5% under execution quickly exacerbates the problem and creates \$100 million in under execution. A program that historically under executes can deprive the service of resources that could be better aligned early in the PPBE process. The service must use the data available to predict more accurate budgets, thus providing leadership with resourcing options. Dual service spouses (a service member married to another service member) will both receive BAH without dependents since a service member receiving basic pay cannot be the dependent of another member; however, one of the spouses can receive BAH with dependents if they have an additional dependent.³⁵ Periodically, dual service spouse BAH is viewed as a cost-saving measure, especially when the spouses are cohabitating. However, BAH is viewed as part of a member's compensation package that is used for comparison to civilian sector wages. Therefore, if one member's BAH is taken, their compensation is no longer commensurable to the civilian sector. This study did not focus on dual service BAH, especially given the fact that of Marines receiving BAH with dependents, only 2.2% are dual service spouses.³⁶ The service can use this forecasting

methodology for any personnel expenses that vary due to having dependents. Permanent Change of Station (PCS) orders have variable costs associated with dependents, thus PCS could benefit from this methodology.

CONCLUSION

In conclusion, it is evident civilian and military familial trends are in concert. The numbers are not identical, but the direction of the trends is similar. Pew Research showed that a high proportion of civilian women are postponing childbirth until their mid-thirties and DoD is also experiencing the same trend. Pew states that a portion of this trend is likely due to women becoming more educated and establishing their professional careers before starting a family. A strong correlation likely exists between the length of employment and establishing oneself as a professional. Therefore, the lengthy process of becoming a professional should exist in all professions, military and civilian. Military women are waiting longer to establish dependents, thus it can be assumed they are establishing their professional career first, like their civilian counterparts. It is also interesting that dependency rates in 2019 are only slightly higher than those of 1980, less than a decade after conscription.

Finally, military pay and allowances account for at least one-third of DoD's annual budget. The services must make every effort to accurately forecast future manpower costs to provide leaders with a clearer understanding of available resources early in the PPBE process. It is apparent that no one has attempted to budget for BAH using TFDW data forecasted into manpower plans, partially, because different Deputy Commandants maintain segregated databases. To clarify the process, CD&I prescribes the future force via the ASR and M&RA determines the best methods to assess and retain that force. M&RA's methods (bonuses, incentive pays, special pays, etc.) drive manpower expenses to achieve the desired behaviors;

however, P&R executes the dollars. This creates an issue as P&R owns the risk and is fiduciarily liable for M&RA's decisions. Aligning the fiduciary risk with the decision-maker should create a more informed budget and drive process improvement for antiquated, inefficient, processes.

Assuming the trends in Appendix A, Figure 1 persist, the Marine Corps has the potential to gain \$50-100 million in the first FY of forecasting dependency rates, which can be utilized to budget other programs. A secondary effect of the improved process is that Congressional cuts to the MPMC account will be reduced over time as the average amount of under execution lowers. It is paramount that leaders have a detailed understanding of resources and request it in ways to enhance the respective service and national security. Specifically, the Marine Corps has the requisite tools available to forecast BAH costs, if applied correctly. Overall, DoD must be cognizant of dependency rates and analyze any developing trends to proactively affect policy. To close, this study shows there are no concerning anomalies between civilian and military dependency rates.

Appendix A, Figure 1

BAH With Dependents: Budget versus Execution (in Thousands of Dollars)			
	FY17	FY18	FY19
Budget	\$ 1,741,670	\$ 1,414,957	\$ 1,812,839
Execution	\$ 1,664,266	\$ 1,286,980	\$ 1,707,988
Delta	\$ 77,404	\$ 127,977	\$ 104,851
Percent	4.44%	9.04%	5.78%
Average Delta (FY17-FY19)			\$ 103,411

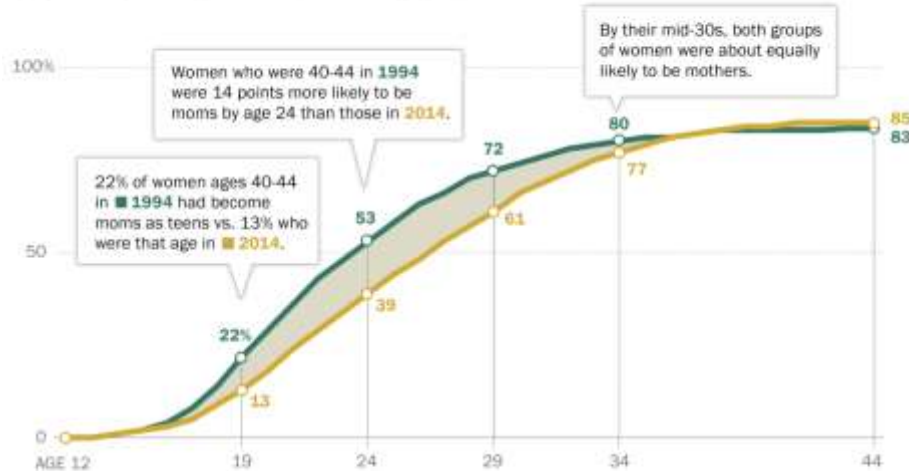
Figure 1: BAH with Dependents: Budget versus Execution (in Thousands of Dollars)

Source: Department of Navy, *Fiscal Year (FY) 2017 Budget Estimates*, (Washington, DC: Department of Navy, February 2016), https://www.secnav.navy.mil/fmc/fmb/Documents/17pres/MPMC_Book.pdf; Department of Navy, *Fiscal Year (FY) 2018 Budget Estimates*, (Washington, DC: Department of Navy, May 2017), https://www.secnav.navy.mil/fmc/fmb/Documents/18pres/MPMC_Book.pdf; Department of Navy, *Fiscal Year (FY) 2019 Budget Estimates*, (Washington, DC: Department of Navy, February 2018), https://www.secnav.navy.mil/fmc/fmb/Documents/19pres/MPMC_Book.pdf; Department of the Navy, *Fiscal Year (FY) 2020 Budget Estimates*, (Washington, DC: Department of the Navy, March 2019), https://www.secnav.navy.mil/fmc/fmb/Documents/20pres/MPMC_Book.pdf; Department of Navy, *Fiscal Year (FY) 2021 Budget Estimates*, (Washington, DC: Department of Navy, February 2020), https://www.secnav.navy.mil/fmc/fmb/Documents/21pres/MPMC_Book.pdf.

Appendix A, Figure 2

Women are delaying motherhood through their 20s

% of women ages 40 to 44 who had given birth by age ____



Note: The 1994 time point is based on combined data from 1992 and 1995. (Age at first birth is not available in the 1994 data.) The 2014 time point is based on combined data from 2012, 2014 and 2016.

Source: Pew Research Center analysis of 1992, 1995, 2012, 2014 and 2016 Current Population Survey June Supplements. "They're Waiting Longer, but U.S. Women Today More Likely to Have Children Than a Decade Ago".

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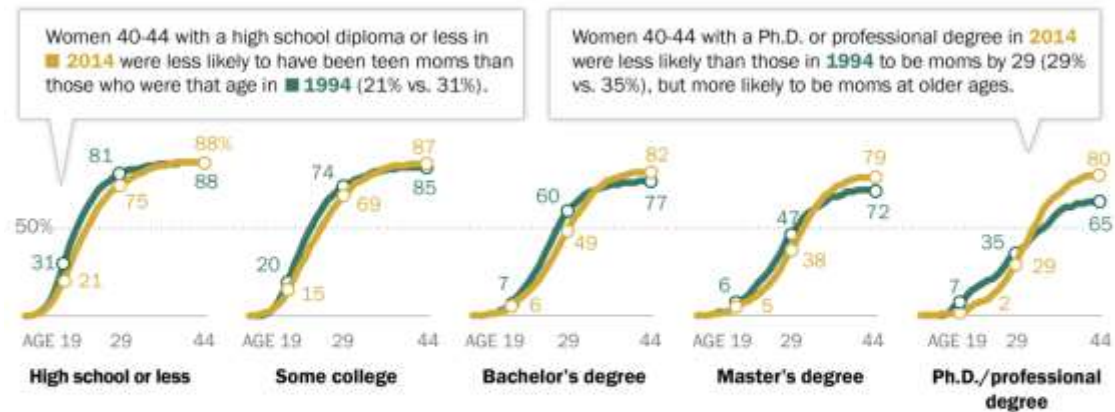
Figure 2: Women are Delaying Motherhood Through Their 20s

Source: Pew Research Center, *They're Waiting Longer, but U.S. Women Today More Likely to Have Children Than a Decade Ago* (Washington, DC: Pew Research Center, 2018), <https://www.pewsocialtrends.org/2018/01/18/theyre-waiting-longer-but-u-s-women-today-more-likely-to-have-children-than-a-decade-ago/>, 4.

Appendix A, Figure 3

Trends in age at first birth vary by educational attainment

% of women ages 40 to 44 who had given birth by age ____



Note: The 1994 time point is based on combined data from 1992 and 1995. (Age at first birth is not available in the 1994 data.) The 2014 time point is based on combined data from 2012, 2014 and 2016. "Some college" includes those with an associate degree and those who attended college but did not obtain a degree.

Source: Pew Research Center analysis of 1992, 1995, 2012, 2014 and 2016 Current Population Survey June Supplements: "They're Waiting Longer, but U.S. Women Today More Likely to Have Children than a Decade Ago"

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Figure 3: Trends in Age at First Birth Vary by Educational Attainment

Source: Pew Research Center, *They're Waiting Longer, but U.S. Women Today More Likely to Have Children Than a Decade Ago* (Washington, DC: Pew Research Center, 2018), <https://www.pewsocialtrends.org/2018/01/18/theyre-waiting-longer-but-u-s-women-today-more-likely-to-have-children-than-a-decade-ago/>, 8.

Appendix A, Figure 4

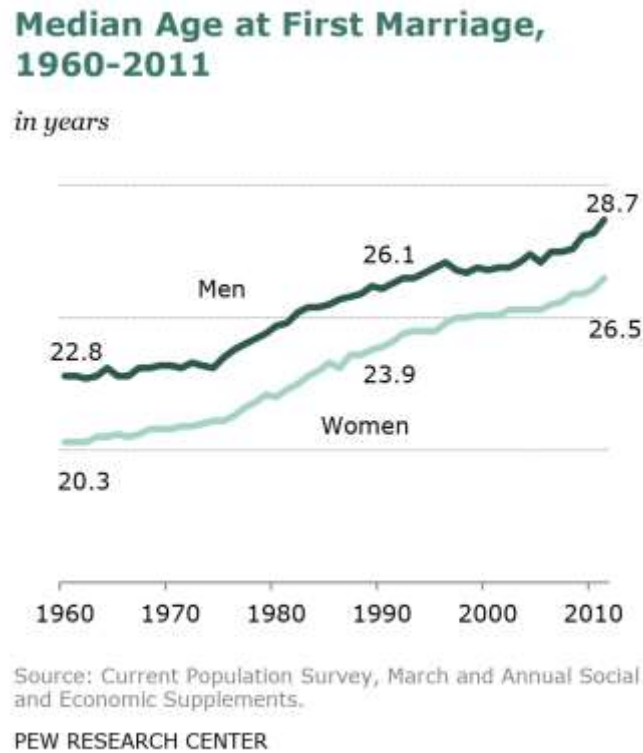


Figure 4: Median Age at First Marriage, 1960-2011

Pew Research Center, *Barely Half of U.S. Adults Are Married – A Record Low* (Washington, DC: Pew Research Center, 2011), <https://www.pewsocialtrends.org/2011/12/14/barely-half-of-u-s-adults-are-married-a-record-low/>, 1.

Appendix A, Figure 5

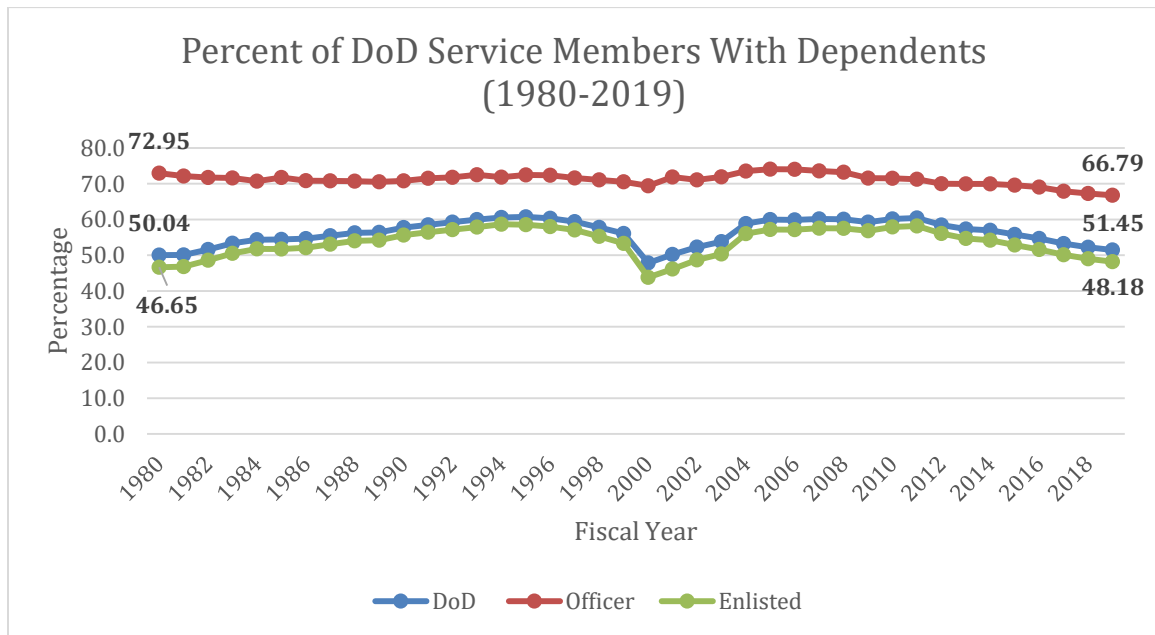


Figure 5: Percent of DoD With Dependents (1980-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 6

DoD Service Members with Dependents *Numbers reflected as a percentage of each category							
FY	Enlisted	Officer	DoD	FY	Enlisted	Officer	DoD
1980	46.65	72.95	50.04	2000	43.79	69.40	47.83
1981	46.80	72.13	50.07	2001	46.15	71.86	50.20
1982	48.58	71.75	51.61	2002	48.71	71.08	52.26
1983	50.54	71.60	53.35	2003	50.34	71.93	53.79
1984	51.78	70.71	54.34	2004	56.03	73.53	58.86
1985	51.75	71.72	54.42	2005	57.18	74.09	59.96
1986	52.11	70.86	54.66	2006	57.13	74.03	59.89
1987	53.06	70.81	55.44	2007	57.56	73.57	60.16
1988	54.00	70.72	56.26	2008	57.50	73.20	60.04
1989	54.21	70.53	56.40	2009	56.85	71.54	59.25
1990	55.63	70.80	57.72	2010	57.91	71.51	60.16
1991	56.42	71.50	58.51	2011	58.19	71.26	60.40
1992	57.15	71.77	59.25	2012	56.06	69.99	58.46
1993	57.88	72.49	59.95	2013	54.68	69.96	57.34
1994	58.65	71.82	60.55	2014	54.20	69.94	56.99
1995	58.52	72.45	60.71	2015	52.86	69.58	55.82
1996	58.02	72.38	60.31	2016	51.58	69.04	54.67
1997	57.05	71.59	59.37	2017	50.12	67.91	53.27
1998	55.26	71.09	57.79	2018	49.02	67.25	52.24
1999	53.32	70.55	56.07	2019	48.18	66.79	51.45
Enlisted Percent Change (1980-2019)				3.28%			
Officer Percent Change (1980-2019)				-8.44%			
DoD Percent Change (1980-2019)				2.82%			

Figure 6: Percent of DoD With Dependents (1980-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 7

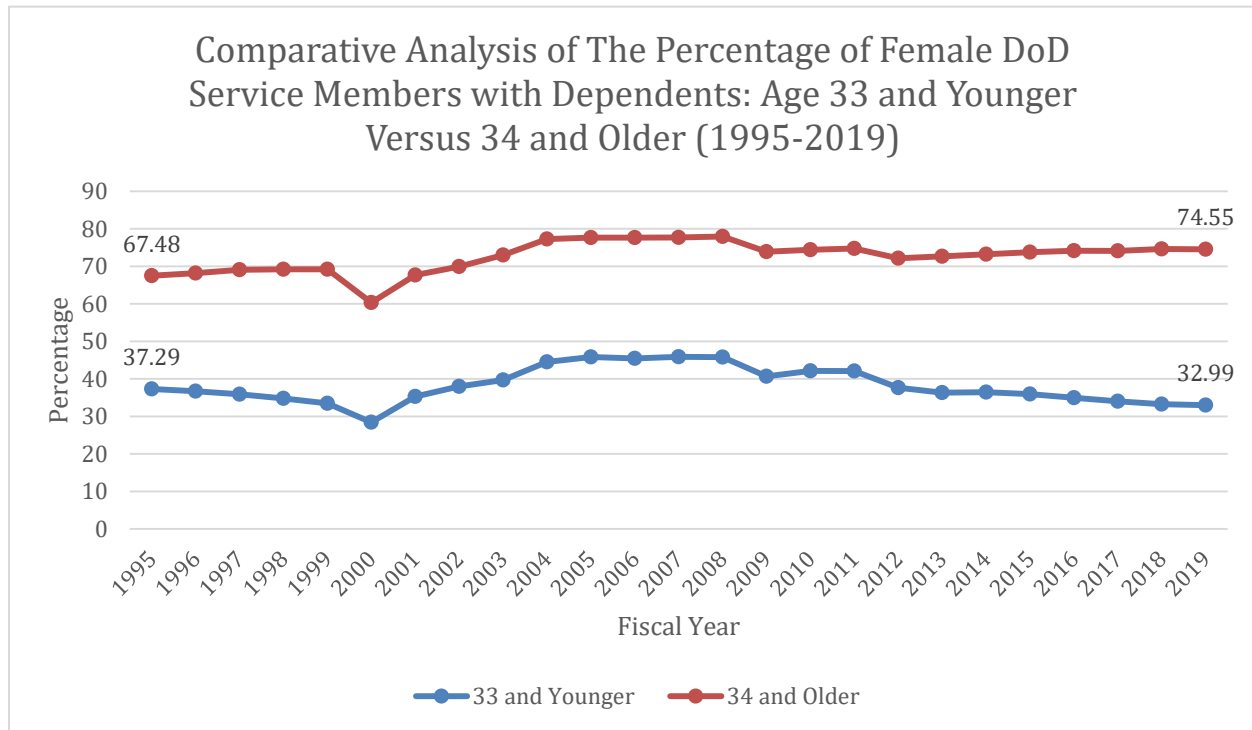


Figure 7: Comparative Analysis of The Percentage of Female DoD Service Members with Dependents: Age 33 and Younger Versus 34 and Older (1995-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 8

DoD Women with Dependents *Numbers are in Percent					
FY	33 and Younger	34 and Older	FY	33 and Younger	34 and Older
1995	37.29	67.48	2008	45.81	77.93
1996	36.73	68.19	2009	40.67	73.9
1997	35.9	69.09	2010	42.13	74.4
1998	34.78	69.19	2011	42.08	74.77
1999	33.48	69.19	2012	37.64	72.17
2000	28.43	60.35	2013	36.32	72.68
2001	35.31	67.67	2014	36.46	73.23
2002	37.98	69.92	2015	35.94	73.75
2003	39.7	72.99	2016	34.96	74.14
2004	44.51	77.25	2017	34.03	74.13
2005	45.82	77.63	2018	33.25	74.64
2006	45.47	77.66	2019	32.99	74.55
2007	45.86	77.71			
33 and younger Percentage Growth: 1995 relative to 2014					-11.53%
34 and older Percentage Growth: 1995 relative to 2014					10.48%

Figure 8: Comparative Analysis of The Percentage of Female DoD Service Members with Dependents: Age 33 and Younger Versus 34 and Older (1995-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 9

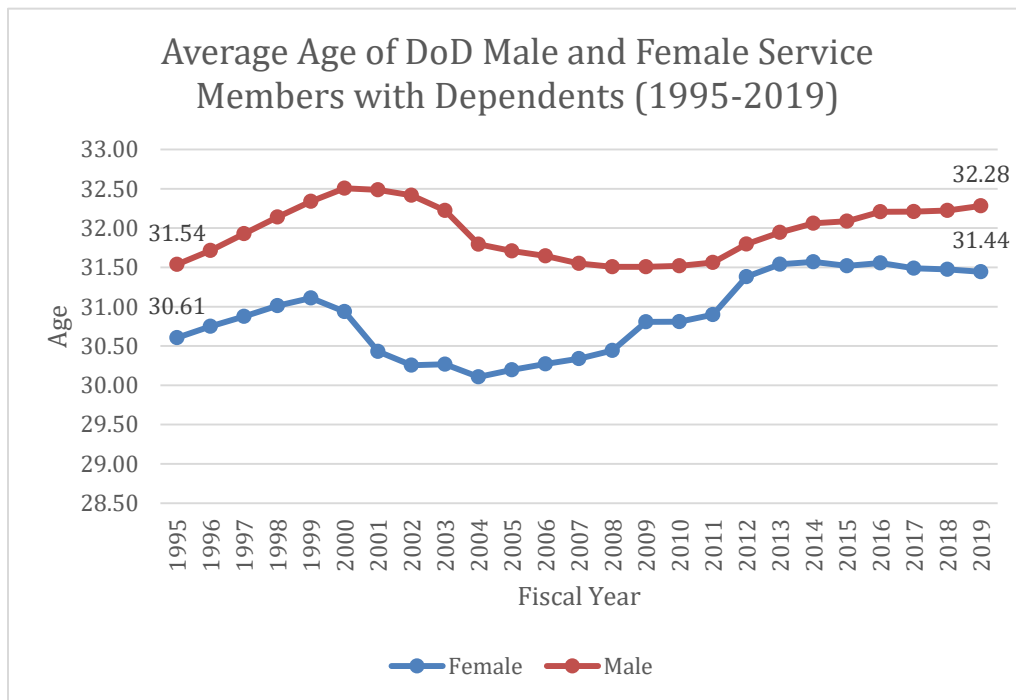


Figure 9: Comparative Analysis: Average Age of DoD Male and Female Service Members with Dependents (1995-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

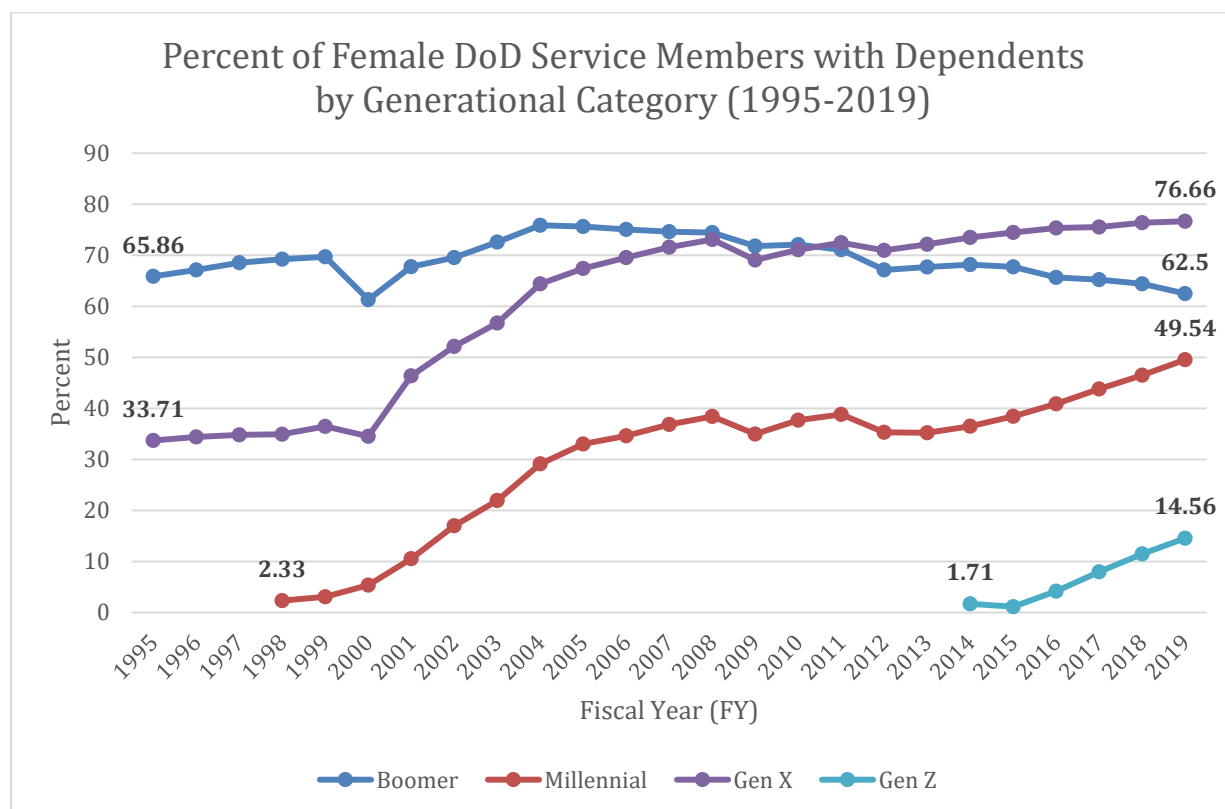
Appendix A, Figure 10

Average Age of DoD Male and Female Service Members with Dependents (1995-2019)					
FY	Female	Male	FY	Female	Male
1995	30.61	31.54	2008	30.44	31.51
1996	30.75	31.72	2009	30.81	31.51
1997	30.88	31.93	2010	30.81	31.52
1998	31.01	32.14	2011	30.90	31.56
1999	31.11	32.34	2012	31.38	31.80
2000	30.94	32.51	2013	31.54	31.94
2001	30.43	32.49	2014	31.57	32.06
2002	30.26	32.42	2015	31.52	32.09
2003	30.27	32.22	2016	31.56	32.21
2004	30.11	31.79	2017	31.49	32.21
2005	30.20	31.71	2018	31.47	32.22
2006	30.27	31.64	2019	31.44	32.28
2007	30.34	31.55			
Age Difference Females (1995 relative to 2019)					0.84
Percent Difference Females (1995 relative to 2019)					2.7%
Age Difference Males (1995 relative to 2019)					0.75
Percent Difference Males (1995 relative to 2019)					2.4%

Figure 10: Average Age of DoD Male and Female Service Members with Dependents (1995-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 11

**Figure 11: Percent of Female DoD Service Members with Dependents by Generational Category (1995-2019)**

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Appendix A, Figure 12

Female DoD Service Members with Dependents								
FY	Boomer		Millennial		Gen X		Gen Z	
	Percent	Count	Percent	Count	Percent	Count	Percent	Count
1995	65.86	40,492	0	0	33.71	44,632	0	0
1996	67.12	37,008	0	0	34.41	47,215	0	0
1997	68.54	34,198	0	0	34.8	50,598	0	0
1998	69.24	30,551	2.33	17	34.94	52,545	0	0
1999	69.71	26,976	3.09	286	36.48	53,857	0	0
2000	61.29	20,554	5.37	1,364	34.52	48,735	0	0
2001	67.76	19,802	10.53	4,372	46.39	61,625	0	0
2002	69.53	18,070	17	9,780	52.14	65,953	0	0
2003	72.58	16,068	21.96	15,860	56.71	67,265	0	0
2004	75.89	14,133	29.13	24,388	64.41	69,262	0	0
2005	75.64	11,460	33.01	29,507	67.42	64,659	0	0
2006	75.06	9,205	34.62	34,619	69.55	60,673	0	0
2007	74.63	7,285	36.83	39,465	71.58	56,585	0	0
2008	74.42	6,008	38.4	44,626	73.08	53,675	0	0
2009	71.79	4,848	34.97	43,832	69.08	47,517	0	0
2010	72.07	4,026	37.68	50,373	71.08	45,739	0	0
2011	71.09	3,170	38.83	54,716	72.45	42,939	0	0
2012	67.13	2,385	35.32	51,427	70.94	38,055	0	0
2013	67.7	1,909	35.2	53,810	72.13	34,720	0	0
2014	68.16	1,505	36.5	56,920	73.5	31,102	1.71	3
2015	67.71	1,145	38.44	60,339	74.45	27,481	1.14	66
2016	65.65	839	40.89	63,062	75.35	24,386	4.18	699
2017	65.22	600	43.79	65,302	75.53	21,127	7.96	2,569
2018	64.41	438	46.51	66,382	76.39	18,163	11.49	5,585
2019	62.5	315	49.54	67,921	76.66	15,664	14.56	9,708
Percent Change for Boomers (1995-2019)				-5%				
Percent Change for Gen X (1995-2019)				127%				
Percent Change for Millennials (1998-2019)				2026%				
Percent Change for Gen Z (2014-2019)				751%				

Figure 12: Percent of Female DoD Service Members with Dependents by Generational Category (1995-2019)

Source: Data received from the Defense Manpower Data Center (DMDC), November 2019.

Endnotes

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