

A Brief Empirical Analysis of United States Marine Corps Commissioning Program Effectiveness

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Abstract: Commissioning officers is an important task for maintaining a lethal military force. However, each commissioning source has vastly different resource consumption. To ensure resources are allocated based upon empirical evidence, we analyzed the promotion/retention of United States Marine Corps (USMC) officers by commissioning sources to determine whether some methods were more effective than others. Our analysis found that the order of least to most effective commissioning sources is: the Naval Academy (NA), Officer Candidate Course (OCC), Naval Reserve Officer Training Corps (NROTC), Platoon Leaders Course (PLC), and Enlisted Commissioning Programs (ECP). The length of time in service does not appear to reduce effectiveness variance in commissioning sources.

I. Introduction and Hypothesis:

The author was commissioned into the USMC in May, 2019 from the NROTC unit at the University of Minnesota: Twin Cities. His experience in NROTC was categorically negative and led him to question the efficacy of the program in developing and shaping future officers. He then attended the six-month mandatory officer course known as The Basic School (TBS). His class included Marines commissioned from the NA, OCC, NROTC, PLC, and ECP. The author was intrigued by the idea that the USMC spent hundreds of thousands of dollars per four-year NROTC National Scholarship recipient, yet equally commissioned PLC and OCC Marines who had no such investment. His anecdotal experience led him to associate prior military training in a collegiate setting with worse performance as an officer. To empirically test this hypothesis, the author filed a Freedom of Information Act (FOIA) request to receive commissioning data about all active duty USMC officers. The request was fully granted on August 9, 2021.

This personal description is necessary as the author admits bias in preconceptions. Consequently, all data is included in Appendix A and Appendix B so the reader can verify and retest his results. Additionally, no research was conducted prior to the author's analysis to not unduly influence his method or bias. If the author's presuppositions are correct, we expect to see retention rates decrease as collegiate military training increases. Specifically, we should see negative retention rates in the order of: NA, NROTC, PLC, OCC, ECP. Despite ECP receiving similar or more collegiate military training to PLC or OCC, it is the author's hypothesis that their fleet experience allows them to filter harmful or impractical instruction. As a result, we also expect to see proportional depreciation of NA and NROTC decrease with time as they gain more fleet experience.

II. Literature Review:

Precedents exist for correlating officer retention, defined as the length of time in service, with effectiveness of commissioning sources, though none have been widely published about USMC officers specifically. The most extensive and applicable analysis is Celik and Karakaya's research which analyzed retention of Naval Surface Warfare Officers from 1994-2004, an ideal timeframe. Primary issues with this study include utilizing absolute sample sizes up to ten-times smaller than our dataset and conflicting results based on model usage (Karakaya & Celik, 2011, 98). Regardless, their research found that NA had the lowest retention, NROTC was in the middle, and an OCC equivalent had the highest retention (Karakaya & Celik, 2011, v).

For the military as a whole, a 1992 report from the U.S. General Accounting Office (GAO) to the U.S. Senate found "officers tend to progress through the lower ranks at about the same pace, regardless of commissioning source" (United States General Accounting Office, 1992, 3). Despite finding little evidence in performance disparities, the report notably found that NA programs are eleven times as expensive as OCC and four-to-five times more expensive than NROTC (United States General Accounting Office, 1992, 2). NROTC is consequently two-to-

three times more expensive than OCC. Such claims are consequential; in a democratic society the obligation of public institutions to frugally dispense funds ensures the continued trust of the governing public.

While no USMC specific studies have been recently released on the topic, the former two provide a baseline of evidence that more intensive collegiate training programs are not correlated, or negatively correlated, with retention. USMC specific information we have at our disposal is data concerning the distribution of commissioning sources over time. In 1999, 16.2% of active USMC officers were commissioned through NROTC and 11.9% from the NA (Center for Naval Analyses). Compare this to the current composition of 13.2% NROTC and 15.5% NA and we see relatively similar distributions with a slight tendency towards more expensive, intensive programs (Appendix B).

III. Limitations:

The principal limitation is the data itself. First, we are conducting this study with one year's worth of information; ideally we would have around a decade's worth of data to isolate and measure a trend. Second, any interpretation of the data is tainted by necessary conjecture. Commissioning source is only one of millions of factors that combine to determine retention rates. Pretending that it is possible to isolate these variables is dishonest. This error rate should compound as the rank order increases, since over time the recency of initial training declines, institutional experience increases, and general time increases enabling more events to affect retention. Lastly, there is the blatant issue of variation in individual competence. An OCC candidate could be a hyper-fit, intelligent individual, or an unemployed civilian seeking work. NROTC can be broken down into scholarship recipients or non-scholarship contract recipients. This distinction would be useful to analyze, as scholarship recipients are likely of higher stock.

Defining effectiveness as retention is a surface-level poor measurement. One widely discussed example is that the best and brightest officers may leave the USMC to pursue other opportunities. We define retention as effectiveness because these "good" officers who voluntarily discharge would in aggregate not be the most effective, as they left the organization and can no longer affect anything. Additionally, it is the USMC's job through Fitness Reports to vet and promote who is effective and remove who is ineffective. In this sense, even if implemented imperfectly, there is already a control for removing ineffective leadership through distributed decision making. Retention as effectiveness is undoubtedly a flawed metric, but there is no better alternative readily available through measurement.

IV. Data:

All data originates from FOIA Request File Number DON-USMC-2021-008319 filed by the author, 1stLt Rosa. The original table, displayed at the top of Appendix A, includes the categories "Other Academies," "Interservice transfer," and "Other." All three categories make up 1.614% of the total sample and are discarded. The first two commissioning sources are discarded due to their small sizes and impracticality as a viable wide-scale commissioning solution. The latter is discarded as it provides no clarifying information to analyze.

There are issues with utilizing 0-1 as the base by which to measure officer efficacy. First, allocation amounts change year by year, so we would only be measuring a snapshot 2-year period retroactively. Second, there are usually more 0-2s and 0-3s than 0-1s, so comparing changes through an expanding population obscures whether we are observing successful retention or simply changes in promotional allocation. By combining 0-1 and 0-2 as one measurement, we expand the base time from two-years to four-years and ensure our base layer is the largest for proper comparisons to be measured. Since the 0-1 to 0-2 promotion opportunity rate is nearly 100%, and the standard USMC service obligation for an officer is 4 years, we can combine these categories with minimal to no distortion (Smith, 2019).¹ The original dataset with segregated units for 0-1 and 0-2 is retained in the appendix and demonstrates insignificant differences in relation to the manipulated dataset in Appendix B.

This dataset presents us with the dilemma of prioritizing large sample sets or positional significance. Two of our units, 0-5 and 0-6 comprise a mere 3.486% of the dataset, yet they are the highest ranking positions with the most influence. The main issue is that as the sample size decreases, so does the likelihood that our data suffers from sampling error.

¹ Additionally, a three-year active duty contract would still qualify for a promotion to 1stLt and a two-year active duty contract, while exceedingly rare, would realistically amount to two-and-a-half years, as a two-year obligation incurs with PCS after the 6 month TBS requirement (Department of the Navy, 2014).

Statistically, there is a tempting argument to remove General Officers (GO) from our analysis as they comprise a paltry 0.427% of the sample size. They are retained since they lead the organization and are critical to shaping the orientation of the USMC. Success in the officer corps cannot be discussed without GOs, though the degree of their influence is debatable (McCarthy, 2017). There is another issue in that the vast majority of 0-5s are ECP, but their representation drastically declines thereafter, likely due to their advanced age and time in service. We should distinguish and account for this reduction to avoid incorrectly associating a lack of performance or desire to serve, with retiring due to limiting conditions.

The key to minimizing error is to proportionally scale down the significance of the change from 0-5 to 0-6 and 0-6 to GO with the impact that the officer has on the organization. As this is impossible to accurately measure, we must accept some mitigation error. To offset 0-6s and GOs minimal numerical presence, while still accounting for their impact, we assigned a proportional Error Mitigation Multiple (EMM) value based on a deprecating data set curve. From our base to 0-5, there is an average depreciation of 1.21, meaning our projected 0-6 sample size should be 3,315. This is 5.085 times larger than our actual sample size, and so our 0-6 EMM is .197. Our projected size for GOs is 2,739, 30.106 times larger than our actual sample size of 91. Therefore the GO EMM is .0332.

V. Model:

In section 1 of Appendix B, we begin with numbers detailing the absolute representation of USMC officers by rank and calculate total numbers by each rank. In section 2 of Appendix B we take the absolute value of each rank belonging to each category (NROTC, ECP, etc.) and divide by the total categorial numbers calculated in section 1 to give us proportional representation as a percentage of each category in the sample. In section 3 of Appendix B we isolate NROTC compared to the other commissioning sources and compare them solely in relation to each other. For example, the first comparison in section 3 is between PLC and NROTC. For the “0-1 & 0-2” column we take the absolute value of PLC (1,655) and divide it by the sum of the absolute value of PLC and NROTC (1,076) before multiplying by 100 to achieve an answer as a percentage. This is mathematically represented as $(1,655/(1,655+1,076)) * 100$. In section 4 we subtract the percentage changes in section 3 to find the proportional difference between ranks from each commissioning source. For example, the first comparison in section 4 is between PLC and NROTC. For the “Base to 0-3” column of PLC we subtract the “0-3” value in section 3 (66.014) by the “0-1 and 0-2” value (60.600) to achieve a difference of 5.414. For the 0-6 column we multiply our proportional difference by our EMM of .197. For the GO column we multiply our proportional difference by our EMM of .0332. Finally, we calculate the Relative Strength Index (RSI) of each commissioning source in relation to NROTC. To do this we calculate the sum of the percentage changes in section 4 and divide by 5. With this RSI we can compare the efficacy of each commissioning program.

VI. Analysis:

Our research indicates that the order from least effective to most effective commissioning sources is: NA, OCC, NROTC, PLC, and ECP. These findings neither confirm nor deny our hypothesis; results between collegiate military training are scattered with a slight correlation favoring less-intensive programs. However, our findings are not strong enough to conclusively indicate that more extensive collegiate military training leads to worse officers. A more accurate expression of our findings is to state that we demonstrate a noncorrelation between collegiate military training and efficacy.

Had the FOIA request segregated NROTC contract vs non-contract, it is possible that our results would closely align with Celik and Kayakara, though this would still dispute the hypothesis of disadvantageous training.

The NA performed the worst in our dataset as well as Celik and Kayakara’s. This outcome is useful as it demonstrates a generational ineffectiveness compared to other commissioning sources. It is also the most expensive program by a wide-margin, calling into question the ethics of its funding.

The disparity between PLC and OCC is surprising, since the programs are similar. PLC represents “two six-week summer training sessions for college freshman and sophomores” or “one ten-week training session for college juniors” while OCC represents one ten-week course for college seniors and graduates (United States Marine Corps, 2021). We have previously discussed a potential disparity in candidate quality between these programs, but it is solely speculation.

ECP, as expected, is the most effective commissioning source. Our hypothesis stated that their large amount of institutional experience allows ECP Marines to parse harmful information. If this theory were accurate it should follow that commissioning source variation decreases with rank increase, as each rank increase is coupled with experience. Our research did not confirm this. In fact, as rank increases so does a correlation to increased retention variance.

Where these findings are most relevant is not in the context of their hypothesis, that is in analyzing detriment from training, but rather in analyzing the cost-benefit of such training. Our research indicates there is no advantage to increased military collegiate training and adds to the body of evidence established by Celik and Karakaya and the GAO report. This is concerning as it implies that hundreds of millions of taxpayer dollars are mis-allocated to non-advantageous USMC commissioning sources and that this mis-allocation has continued unabated for over 30 years (Office of the Under Secretary of Defense (Comptroller) / Chief Financial Officer, 2019).

VII. Conclusion:

Our research indicates that there is no correlation between increased investment in collegiate military training and officer performance. This adds to the existing body of evidence that increasing investment in collegiate military training does not produce a more effective USMC officer. Considering the vast inequality between resource allotment required for each program, funding should be reconsidered to responsibly align taxpayer funds with data.

Works Cited

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