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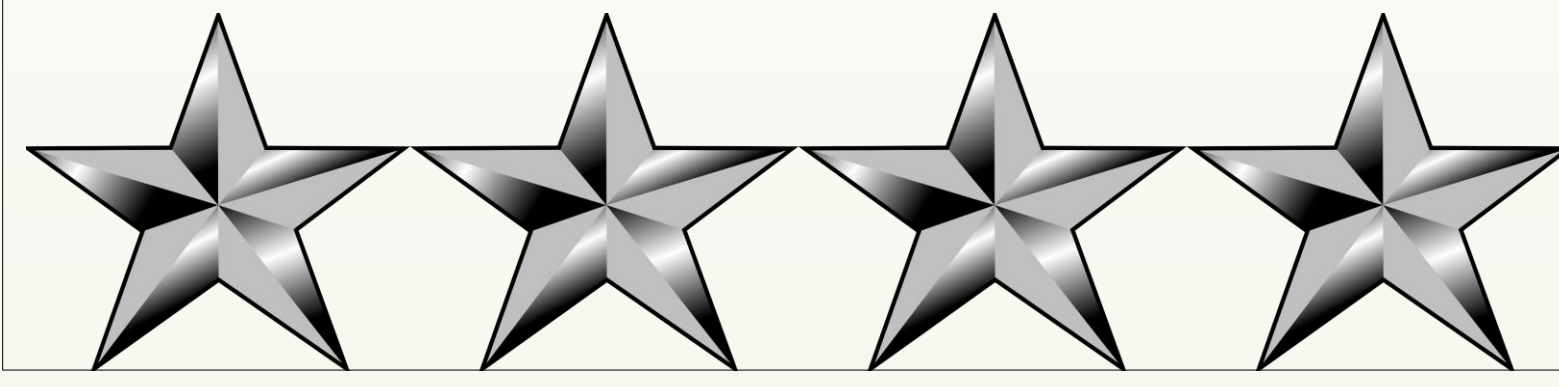
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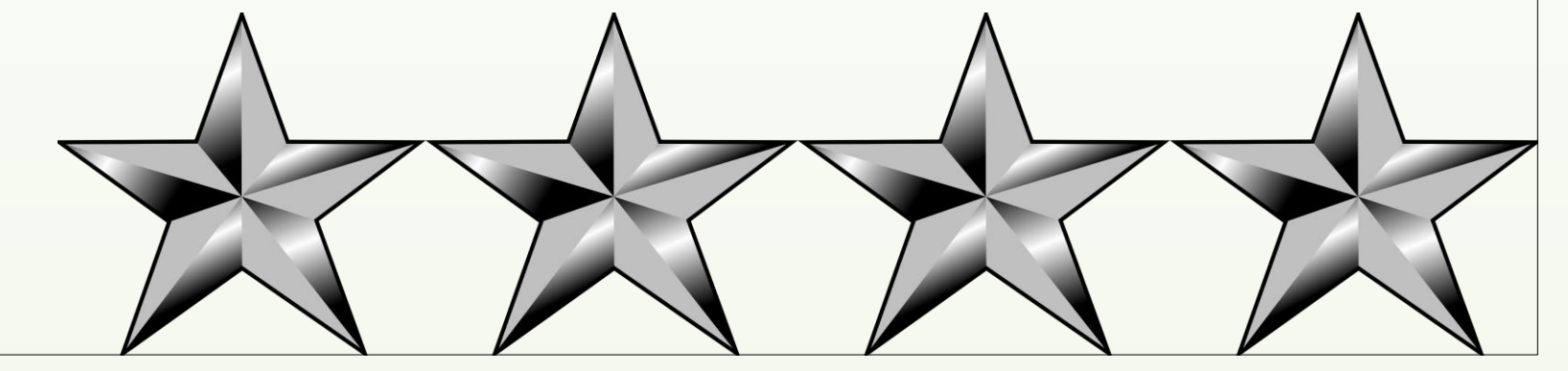
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# Analysis of Officer Retention and Success in the US Army by Commissioning Source



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## Introduction

There are four main paths to becoming a Commissioned Officer in the United States Army:

- United States Military Academy (USMA)
- Reserve Officers' Training Corps (ROTC)
- Officer Candidate School (OCS)
- Direct Commission

The USMA requires 24-hour a day instruction and training over a four-year period. The Army ROTC is a four-year, part-time program. OCS programs are full time and the duration varies from 10 to 16 weeks. Direct Commission Officers complete a three-to-five-week course before being commissioned. Upon commissioning from any source an Officer obtains an 8 year service obligation, of which 2-5 years must be served on active duty dependent on commissioning source. Officers tend to promote to Major (O-4) after 10 years of service, well after any initial service obligation has expired.

## Objective

This project seeks to analyze differences in the rate of retention to the grade of O-4 among officers from various commissioning sources, while also breaking down Officers within each commissioning source into specific subgroups by sex, marital status, race, and dependent status in order to understand how commissioning sources in conjunction with these subgroups effects Officer retention in the Army.

## Methods

- The career paths of Army Officers and the structure and composition of the Army Officer Corps are described
- The commissioning sources for Army Officers are discussed
- Statistical analysis techniques are used to identify and explain survival patterns for Army Officers and evaluate how these patterns vary by commissioning source while also using demographic and military background characteristics to find trends within each commissioning source.
- Data used in this study is taken from the Active Duty Military Master File provided by the Defense Manpower Data Center (DMDC). The data set contains information on 25740 officers who were commissioned between 1991 and 2011.
- Defined Army Officer Success as staying in the Army for as long as possible
- Interviews were conducted with military officers between the ranks of O1 and O5 in order to identify traits and characteristics of successful Officers in order to fully flush out how one can rise through the ranks of the U.S. Army

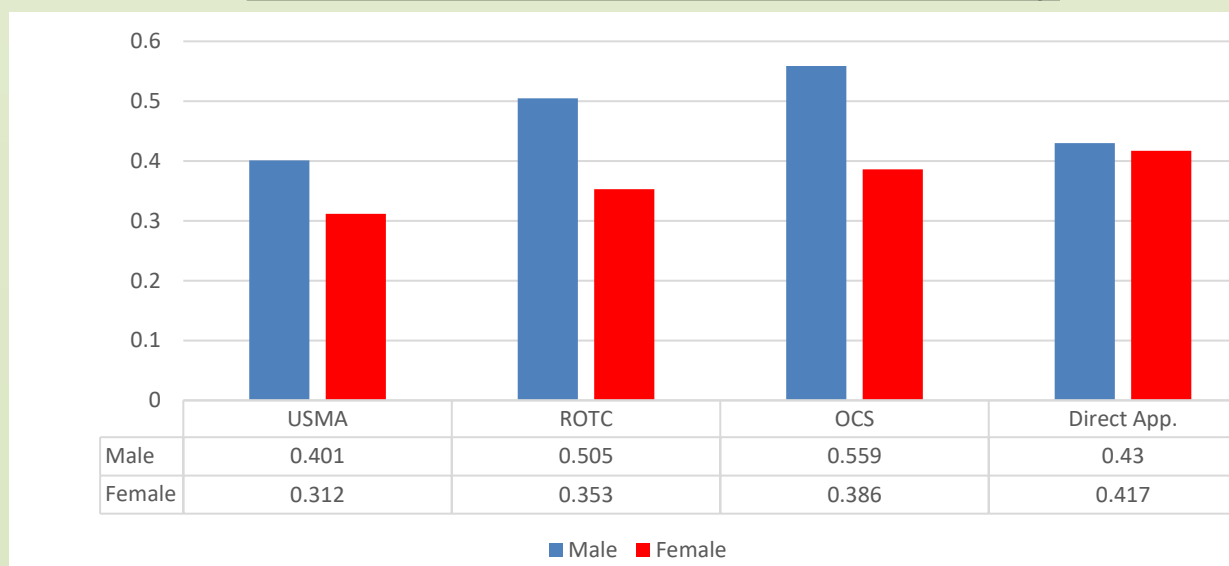
## Results

Descriptive Statistics For Promotion to the Grade of O-4

Variable	Sub-Variabile	Number of Observations	Proportion	Number Promoted	Promotion Rate
Commissioning source	USMA	7042	0.2736	2657	0.3773
	ROTC	15703	0.6101	7167	0.4564
	OCS	1019	0.0396	523	0.5132
	Direct App.	1976	0.0768	869	0.4398
Marital Status	Single	8759	0.3403	3382	0.3861
	Married	16292	0.6329	7556	0.4638
	No Longer Married	689	0.0268	278	0.4035
Number of Dependents	No Dependents	10788	0.4191	4235	0.3926
	1	7867	0.3056	3617	0.4598
	2	4073	0.1582	1944	0.4773
	3	2241	0.0871	1089	0.4859
	4 or more	771	0.03	331	0.4293
Race	Unknown	1479	0.575	608	0.4111
	White	21122	0.8206	9335	0.442
	Black	2447	0.0951	1016	0.4152
	Other	692	0.0269	257	0.3714
Sex	Male	21933	0.8521	9855	0.4493
	Female	3807	0.1479	1361	0.3575
Total		25740	1	11246	0.436

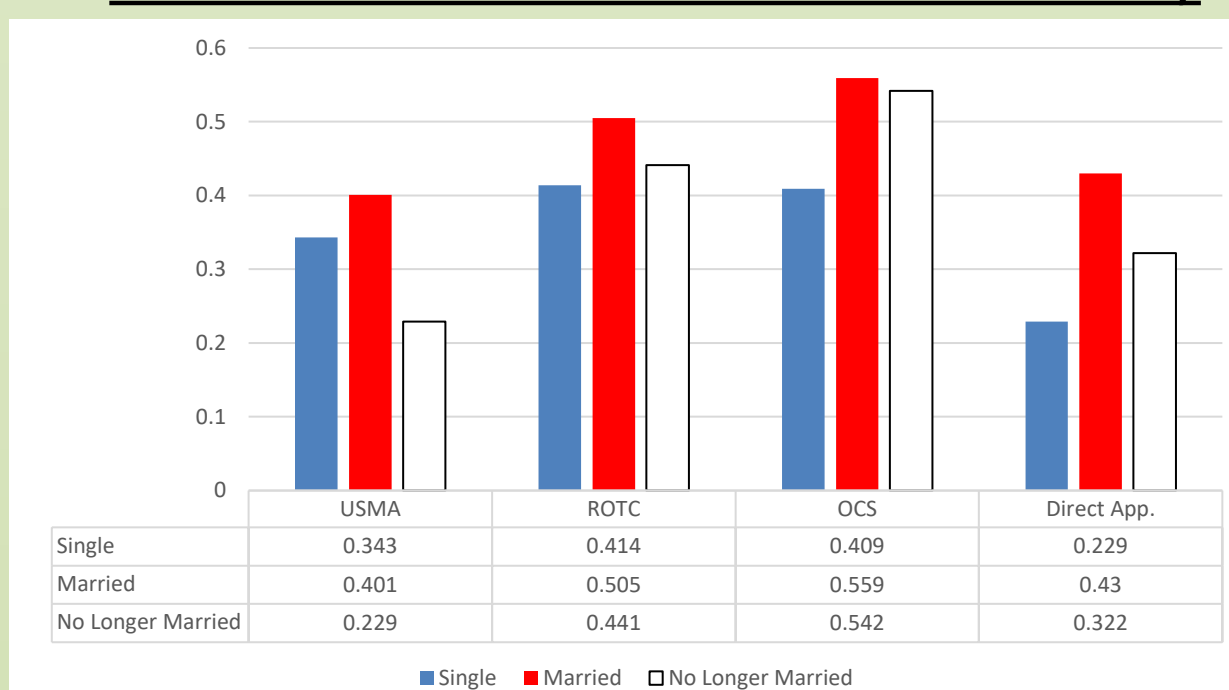
This subset of Military Officer data from the DMDC includes basic demographic information and acts as a surface reference for retention statics for the Army Officer Corp as a whole. A powerful tool that the DMDC gives its users the ability to compare multiple variables at once, of which the following are a selection of results based on sex, marital status, race, and dependent status.

Effect of Commissioning Source and Sex on Promotion to O-4 Probability



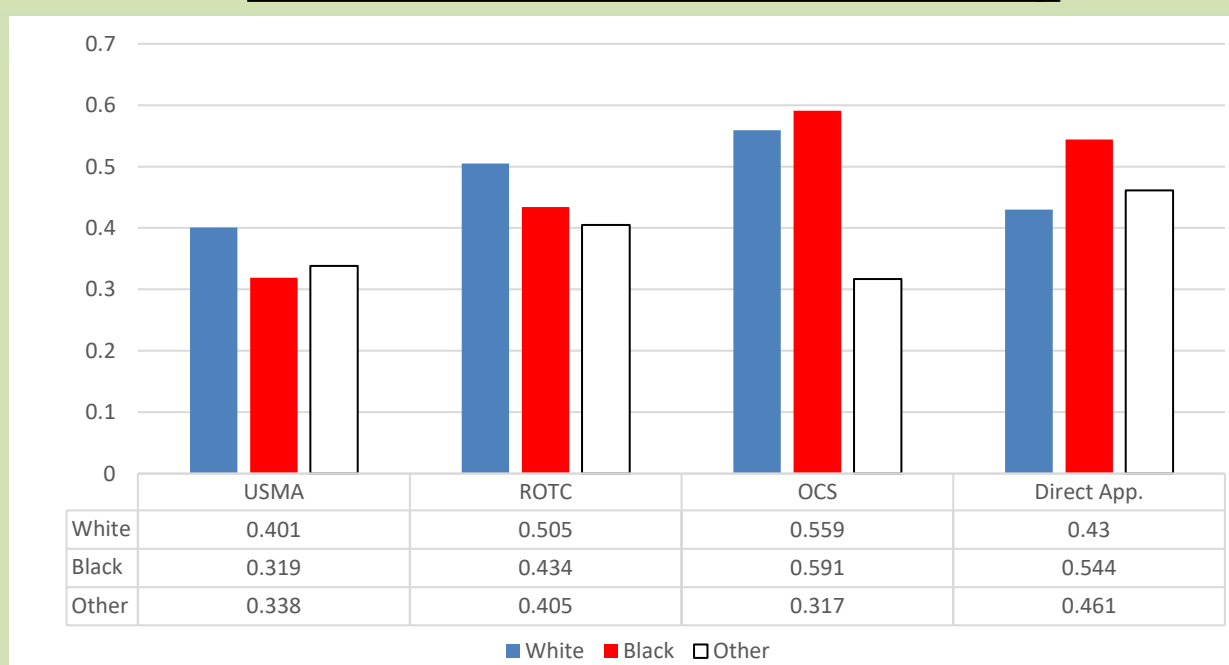
Men dominate the Officer Corp. This overrepresentation is less apparent when one analyzes just the Direct Commission Officer group, possibly due to the group's collective low focus on physicality.

Effect of Commissioning Source and Marital Status on Promotion to O-4 Probability



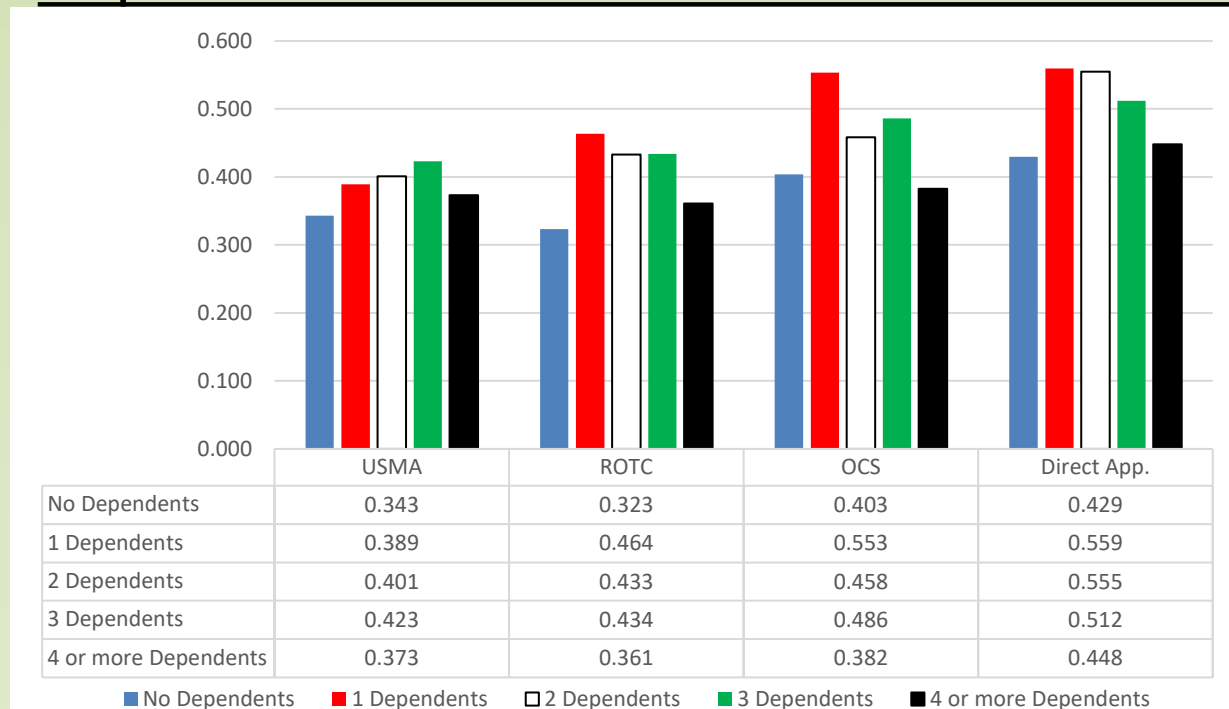
Married Officers regardless of sex and commissioning source tend to get promoted to O-4 more than their peers. Usually separated Officers serve longer than single Officers, except for within the USMA commissioning source. Nearly all divorces the USMA commissioners face occur while serving, while separations for OCS commissioners may occur prior to service, thus not effecting one's state while serving.

Effect of Commissioning Source and Race on Promotion to O-4 Probability



Race plays no discernable effect on an Officer's ability to promote to O-4 regardless of commissioning source

Effect of Commissioning Source and Dependents on Promotion to O-4 Probability



Across every commissioning source, as the number of dependents an Officer has rises the probability of him promoting to O-4 rises, until that Officer reaches four or more dependents. Officers who have no dependents can take more risks pursuing employment outside the Army, while those with four or more as a group face more domestic issues, thus possibly explaining the change.

## Discussion

### Findings

- Commissioning source is a significant determinant of retention to the grade of O-4.
- Academy graduates are more likely to leave the Army before completing 10 years in the service than those from other sources.
- Officers commissioned through OCS are more likely to stay in the Army than the officers commissioned through ROTC or Direct Appointment.
- Male officers have higher retention probabilities than female officers, and among the male officers, being married increases the probability of retention.
- Race plays no discernable effect on retention.
- Number of dependents at first has a positive effect on retention but then has a negative effect on retention after four or more dependents.

### Possible Explanations

- USMA Officers face both pull and push factors to leave the Army, Officers from this source usually have multiple opportunities available to them outside the military (pull factor) and from survey results usually find that their experiences in the active duty Army did not meet their initial expectations (push factor.)
- Officers commissioning through OCS have already graduated university and are apart of the smallest commissioning source. The age of OCS commissioners is on average higher than the ages of ROTC commissioners, therefore one could expect that those who become Officers through OCS have thought more about their choice and thereby are more committed to stay in the Army as a career.
- Being an already male dominated area it is simply easier for men to exist within the environment of the Army. Female Officers must face additional problems that male Officers do not because the military environment is influenced more by and therefore more advantageous towards men.
- Active promotion of Equal Opportunity Policy results in less discrimination in the Army

## Literature Cited

- Kizilkaya, Z., "An Analysis of the Effect of Commissioning Sources on Retention and Promotion of U.S. Army Officers." Master's Thesis, Naval Postgraduate School, Monterey, California, March 2018.
- Doganca, E, "Officer Career Paths and the Effects of Commissioning Sources on the Survival Patterns of Army Officers" . Master's Thesis, Naval Postgraduate School, Monterey, California, September 2016.

