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A Study of the Impact of US Department of Defense and Movie Industry Cooperation on Military Application Rates

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**A Study of the Impact of US Department of Defense and Movie
Industry Cooperation on Military Application Rates**

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Abstract

Using data from the Military Entertainment Media Liaison Office and the US Center for Naval Analyses, this paper examines the impact of cooperation between the Department of Defense and movie producers on military application rates. Multiple regression model results determine that movies which utilize the entertainment liaison facilities of the Department of Defense generate an increase in male and female applicants in the movies' release year. In addition, applications from individuals from the Black population increase with a two-year lag after the movie release year. This study establishes that government institutions have an effect on media, which influences perceptions and application rates of potential enlistees.

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Introduction

For decades, films have transported us into the world of the past and to projections of the future. Based on aspects of reality and fantasy; filmmakers have leveraged the power of visual storytelling to entertain viewers, to aid in awareness of certain topics, or to recount true historical stories. Films have also acted as a medium of representation for many aspects of human psychology by illustrating themes of love and family, or by depicting challenges of overcoming hardships and facing difficult truths. In a way, media such as film may allow us to hold a mirror up to the many intricacies of humanity and have critical discussions about history, sociology, and human behavior. Therefore, although masked by fantasy, futurism and special effects, the films we consume mimic our reality and may metaphorically represent political, economic, or social causes of today.

Certainly, pictures such as James Cameron's 2009 film, *Avatar*, which depict interplanetary travel and alien beings, may not strike some as being representative of societal themes. However, when inspected closer, we can find that *Avatar* is a film that uses fantasy to portray themes of imperialism, militarism, and patriotism. According to Box Office Mojo, *Avatar* was the highest grossing film ever released in the United States, with some 59 million viewers watching it in theaters at the height of its release. With national theatrical releases allowing for widespread viewership of feature films, the question arises as to how do films such as *Avatar*, when consumed by the masses, have an impact on audiences? And, how large of an impact (if at all) does this effect have on our societal understanding of themes portrayed in these films?

Similarly, James McTeigue's 2005 film, *V for Vendetta* illustrated themes of freedom, anarchy, and absence of government which has inspired the formation of the hacker group *Anonymous* based on similar views of public protest and radical transparency. Robert Wise's 1951, *The Day the Earth Stood Still*, illustrates themes of science vs religion, ecological disasters, and the dangers of human destruction and nuclear warfare, which has notably

inspired former President Ronald Reagan to pursue worldwide cooperation initiatives such as the United World Federalists.

Therefore, media can operate as an instrument of political cause by illustrating metaphorical recollections of warfare, politics, and governmental institutions to its viewers. Oftentimes, these themes revolve around real world establishments such as the Presidency or the White House, government or bureaucracy, or wars and other international conflicts to a wide array of viewers. Institutions have recognized and made use of this phenomenon, as we can often see governmental authorities using film and television to deliver messages to the American people. Examples of this include the Center for Disease Control's commercials about the importance of vaccinations and fighting misinformation during the COVID-19 pandemic at a local and national scale, or the White House press briefings that interrupt regularly scheduled programming during times of emergency. With the understanding that their messaging can impact and inform viewers, the curiosity arises as to how much influence, if at all, do films have on viewers at home when presented with both subliminal themes and influence from outside entities?

One of the prime examples of linkage between media, governmental institutions, and audiences that we will be exploring for the remainder of this paper is the relationship between the United States Department of Defense and the entertainment industry. Since the emergence of the film industry in the 1920s, the DoD and Hollywood has engaged in a cooperative relationship that has fostered the creation of countless projects for their mutual benefit. This partnership, also known as the Military Entertainment Complex, encompasses projects across the video game and virtual reality industries, film and cinema industries, and other multimedia projects such as music videos. Producers, directors, and filmmakers who wish to partner with the DoD in exchange for technical consulting, equipment or location use, or any other resource belonging to the military may, by choice, engage in this partnership once they submit their

scripts for vetting. The DoD may then choose to accept the script, decline the script, or change the script according to their liking if they proceed with partaking in the project.

For nearly 100 years, each branch of the military has operated its own Hollywood Liaison office for the purposes of “accurately depicting military stories and making sure sensitive information isn’t disclosed” (Defense.gov). These units have assisted in supplying tanks and fighter jets, military bases and build-ups of sets, providing on duty military personnel to serve as extras, and granting military consulting to aid in the accuracy of partnered movies while also having the ability to monitor their representation and image as portrayed in the movies. If the Hollywood Liaison office believes that a potential script includes a poor or unfavorable representation of the US Military or military themes, they can request it to be changed in exchange for their cooperation in supplying military resources for the production.

This contractual exchange of resources for favorable coverage, although common from a public affairs standpoint, is not a widely known aspect of the American film industry. Operating under the Department of Defense’s Entertainment Media Unit within the Office of the Secretary of Defense at the Pentagon, thousands of films and television productions in the last 100 years have covertly communicated with and have cooperated with the Department of Defense, indicating that the DoD has had some oversight on a myriad of American films without prior knowledge from the public. Some famous American movie franchises that have cooperated with the Department of Defense include films from the Marvel Cinematic Universe, the James Bond franchise, the Transformers franchise and the Terminator franchise. Most famously, the 1986 movie *Top Gun*, which depicted a glamorous life in the Navy around a fearless fighter pilot, received full cooperation from the United States Navy including technical advising, two aircraft carriers and multiple Navy bases and installations for filming. Due to the high-thrill and exciting lifestyle as portrayed by Tom Cruise, the film received blockbuster success and even bolstered U.S aviation forces recruiting numbers by 500%, triggering a military recruiting boom (CPR.com). The partnership between the DoD and *Top Gun* was so successful, in fact, that the

U.S Navy set up recruitment booths at theaters to intercept viewers after they watched the film, in hopes of increasing enlistment numbers. This proved successful, as the following year's increase in recruitment numbers and interest towards military service came to be known as the "Top Gun Effect".

Marvel's 2019 film, *Captain Marvel*, was the latest Marvel film to partner with the DoD. This depiction of a heroine Air Force pilot played by actress Brie Larson was one of the few movies to include a female lead within a military story. The United States Air Force, in efforts of capitalizing on the female representation, rolled out a full-scale promotion and recruitment effort with campaigns such as flying Air Force Thunderbirds over the Hollywood premier site, and airing a strategically placed Air Force advertisement called "Origin Story" in theaters before the film, centering around female airmen and comparing them to the heroic main character of Captain Marvel. Similarly to the "Top Gun Effect", the Air Force Academy had seen its highest number of female recruits in 5 years after the film's release. Through paid media promotion, "Origin Story" received 11 million views and 200 million impressions and was the most popular piece of social media promotional content published by any service in 2019 (Military.com).

Since the start of the all-volunteer force in 1969, the DoD has been facing an annual fall in enlistments due to a nationwide increase in accessibility to education, a lack of new recruits coming from areas other than military families or regions that are typically very military-positive (such as the South), or because millions of 17-24 year old adults are actually ineligible for recruitment due to issues such as obesity, mental health or substance abuse, or their inability to score high enough on an aptitude test (Bloomberg.com). As a result, the DoD has had to become very creative with their recruitment methods in order to reach a wider array of audiences, hence the strategic partnership with the Hollywood Entertainment Industry.

With audiences consisting of potential servicemen and women, it is no surprise that the DoD has invested in and ensured the success of these projects for more favorable coverage, but at what cost? Do both parties reap reward from the countless hours, lending out of

equipment and building up of sets that each endeavor requires? Well, since audiences are only being shown an edited version of the film's original script to foster accuracy and a positive portrayal of the DoD, it may alter audience's perceptions about the military and what it is like to actually serve. When they are watching stories about the fast-paced, adventurous, and glamorous lifestyles of fighter jet pilots, and being subliminally exposed to themes that inspire such as heroism, rooting for the underdog and bravery; it may be possible for this strategic partnership between industries to be one of the DoD's most covert and robust recruitment methods. Therefore, the question remains as to how does the relationship between the DoD and Hollywood influence the audience's perception of the military? And, if audiences are more likely to have a favorable view of the military and its' operations as a result, can that equate to actionable behavior such as submitting an application or enlisting?

The remainder of this paper seeks to answer these questions by utilizing an ordinary least squares time series regression model, looking at how viewership of DoD-funded movies impacts military application rates. There are many prior studies looking at the link between Hollywood and the DoD, but this paper differs as it takes a quantitative approach, looking for causality between the two variables. Prior literature on this topic takes a qualitative approach, in which the behavioral processes of the association between films, perceptions and actions are analyzed for government or military related films.

This paper finds that movies that are funded by the DoD and that include positive military depiction have a positive and statistically significant effect on male and female applications the same year they're released, and applications from individuals of the Black population 2 years after release. For the remainder of the paper, I will discuss notable literature on similar topics around military recruitment, The Military Entertainment Complex, and behavioral perceptions gained from film. Additionally, I will also be discussing why this research is significant within the landscape of military recruitment and continued success of the Armed Forces, as well as discuss the model and conclude with my findings.

Literature Review

Longevity of an all-volunteer military force such as the United States' can only be maintained if annual enlistment goals are being met. According to Schreurs (2004), recruitment and retention have become a major concern to military commanders. He documents that the recruiting and retention problem is related to a variety of causes such as, "the labor market, the conflict between military values and prevailing values in society, the content of the military job (wages, promotion system, geographical mobility), and the management of the major processes of recruitment, selection and classification, turnover, and retention." As mentioned earlier, other factors such as increased accessibility to education and ineligibility of much of the adult population has also been attributed to declining enlistment rates. Therefore, the Department of Defense has been challenged with a shortage of manpower and has been investing in research on how to attract more valuable recruits.

Numerous studies from academic authors and military researchers alike have outlined factors that drive military enlistments. Kleykamp (2005) found that three areas of influence on military enlistment are education goals, the institutional presence of the military in communities and race and socioeconomic status. Additionally, her study ultimately concluded that voluntary military enlistment during wartime is associated with college aspirations, lower socioeconomic status and living in an area with a high military presence. The level of unemployment at a given time was also found to be a significant driver of military enlistments. Dale & Ginroy (1983) listed unemployment as one of the main factors for Army enlistments for male NPS students. Results of their General Least Squares Regression on enlistments of high school graduates found that "a drop in the national jobless rate of one percentage point – from 10 percent to nine percent, for example – would cause Army enlistments of male NPS high school graduates to fall by about 7000 per year..." . From these studies, we can see that socioeconomic status and

unemployment are two very important variables that play a large role in a candidate's decision to enlist.

Therefore, recruitment efforts by all branches of the military are strategically and meticulously organized because of the importance of capitalizing on viable recruits. Dertouzos (2004) established the goal of determining whether spending on military advertising produces enlistments. Looking at advertising efforts across mediums for the US Army, US Navy, US Marine Corps, and US Air Force, he found that from his observed period from 2000 to 2002, advertising has led to Army contracts increasing annually by about 13,000 contracts per year. With the understanding that military advertising initiatives are generally successful, it is important to consider who is at the receiving end of the DoD's advertising campaigns. Service in the military is available to those of all racial and ethnic backgrounds. Lutz (2008) examines the likelihood of ever having served in the military across a variety of criteria including race-ethnicity, immigrant generation, and socioeconomic status. She concludes that significant disparities exist only by socioeconomic status, similar to findings of Kleykamp (2005).

Other avenues of promising enlistment for the US Military include younger demographics such as high school and college-age young adults. The DoD engages in specialized initiatives designed to capture this demographic such as ROTC (Reserve Officers' Training Corps), which establishes college and university-based officer training programs for training commissioned officers of the United States Armed Forces, as well as stationing recruiters at high schools. Additionally, the 2002 No Child Left Behind Act signed into office by former President Bush stipulated that secondary schools such as high schools submit to the military a list of its students' names, addresses and telephone numbers upon request in order to receive federal funds as outlined in the NCLBA (Castro, 2015). Therefore, it is prevalent that the DoD has been pursuing multiple initiatives in order to bolster enlistment, and including partnering with the entertainment industry to increase their reach.

The history of the relationship between the DoD and Hollywood surfaced around World War I and started as an allyship between Hollywood and the government. Hollywood needed military equipment and technical advice to artistically enact realism, while the government needed a mass medium to circulate information/propaganda about its war efforts. In 1917, the Committee on Public Information was created to collaborate with the new motion picture industry. After World War II and the Korean War, Lawrence Suidé, motion picture analyst, said that Hollywood portrayed “the American military as infallible, noble and all-conquering in its movies about war and the armed forces” (Bautista 1989). Pictures released during the Cold War depicted the military as a heroic savior against “the enemy country” and “communism”, but with the Vietnam War came a change of attitudes towards the military.

In the 1960s, the relationship between the DoD and Hollywood almost completely ceased. The general public perception of the military was at an all-time low while disapproval of military actions during the Vietnam War, as well as a drop in morale and lack of confidence in the military were at an all-time high. Films no longer wanted to portray pro-military elements, as filmmakers turned to independent markets instead of the government for their “anti-establishment, anti-military movies [because] they found [that these] provided a perfect symbol for criticism of war and the military without denying the real need for a strong armed forces” (Suidé as quoted in Bautista 1989). The 1980s brought a revival in producing military movies in part due to former President Reagan’s military buildup and the threat of a foreign enemy during the Cold War reestablishing a positive portrayal of the government amongst US citizens , as well as reestablishing the relationship between the DoD and Hollywood.

Since the 1990s to today, the military has backed notable projects including television shows, video games and feature films. Some of the largest and most popular movie franchises such as the Marvel Cinematic Universe, Transformers, James Bond, etc. have worked with the military, which allows for the DoD’s recruitment effort to expand exponentially. Medina-

Contreras & Colon (2020) analyze the representation of defense organizations in the Marvel Cinematic Universe. They find:

“Corruption, however, is not perceived as the common denominator in the representation of defense organizations in the MCU films. Although there are exceptions, as in the aforesaid cases, the truth is that the role played by traditional defense forces usually sides with the hero, who can always reach where they cannot. Thus, it is common to link these negative values with agents that do not belong to the armed forces or the police. Hence corruption is restricted to villains who may be either entities that come from other planets or dimensions, agents of enemy societies, entrepreneurs in the arms industry whose greed goes beyond the common good...”

Additionally, the DoD has had its' hand in other forms of media as well, such as working on the design and technical consulting of military style video games to foster accuracy and to appeal to younger players. When analyzing how video games designed by the DoD contribute to the Military Entertainment Complex, Lenoir & Lowood (2003) state, “The Military is using newly-minted best practice of game design and business models to compete in the arena for young highly-trained cyberwarriors.” By diversifying their media reach, this may contribute to a larger radius of influence and a more controlled image for the Armed Forces.

An analysis of films backed by the DoD would find that the depiction of the Armed Forces in partnered movies will be of mostly positive or heroic nature. This, again, can be attributed to the nature of the exchange between equipment, locations, consulting, and other types of cooperation for more favorable coverage and the ability to change productions' scripts. Of course, it's beneficial for the DoD overall to be portrayed positively when films of this caliber are widely accessible to most of the American people. The image of supportive, positive, and necessary military operations within movies could mean more support from the public on military operations in real life. Therefore, the answer as to how the DoD may use their involvement in

Hollywood as a hidden albeit powerful recruitment tool lies in appealing to audiences' perceptions of military operations.

Gunn (1988) states, "by means of many communication inputs throughout our lifetime – advertising, radio, television, movies, magazines, books, comments from friends and relatives – we accumulate such images and assign values to them, good or bad." Some of our first and only understanding of subjects unknown to us may come from our exposure to film about said subjects. Film influences perceptions because of its ability to process information and pseudo experiences, particularly in the absence of an individual's own experience (Miller 1999). Pautz (2015) conducts a study on the ability of film to influence an audience by analyzing the effects of two films that featured governmental organizations such as the CIA - *Argo* (2012) which depicts a heroic rescue operation to get six Americans out of Tehran and an overall positive depiction of the government; and *Zero Dark Thirty* (2012), which also depicts a heroic mission of tracking down Osama Bin Laden but features a less than positive portrayal of governmental agents who engage in methods of torture on behalf of the US government. The study found that when interviewing viewers before and after watching both movies, about a quarter of the film audiences in this study changed their opinion on the government after watching either film. Although not of a large magnitude effect, this change in perception was captured after only watching a single film for a few hours. Dertouzes (2009) elaborates on this point, stating "advertising may have both threshold and saturation effects. That is, an advertisement has to be experienced several times before it has an effect. On the other hand, a message, after it has been heard several times, may no longer have a marginal impact. Therefore, viewership of movies depicting the government and military may have an effect on large audiences and thus the societal understandings of these subjects through long term conditioning and influence from military involvement.

Furthermore, Bautista (1989) studies the relationship among the elements portrayed in movies to attitudes and actions of viewers by using the Cognitive Dissonance Theory. In her

studies, she finds that using the elements of the public, military, and movies; dissonance may arise when the public has a positive/favorable attitude toward the military and receives a negative assertion/depiction from the movies about the military. Conversely, consonance may arise when elements have a positive association with each other. For example, During World War I and World War II, the public held positive attitudes toward the military, and movies also depicted the military positively. As a result, recruitment rates were notably high.

In the same way that the military's funding of films in order to ensure strategic placement and positive depiction of the Armed Forces may mimic companies paying for advertising for their product, we can compare the effects of favorable representation for the DoD to the goals of advertising - such as raising awareness of their product, inspiring interest in their product, and increasing acceptance and affability of their product. Within the DoD's reasoning to engage with the entertainment industry, all of these goals are mirrored as an effort to advertise to and inspire viewers to ultimately join the military. As discussed in Pautz (2015), films featuring governmental and military operations may alter viewers' perceptions and may have a larger effect over time as mentioned in Dertouzes (2009). Combined with the findings from Bautista (1989) that illustrate that recruitment rates are high when the public has a positive/favorable perception toward the military and movies also represented the military positively, it is pertinent to consider that the DoD may be subliminally influencing recruitment through its positive depictions of adventurous, heroic and glamorized recollections of military stories.

It is worth exploring the ethical considerations of this phenomenon, as American values such as freedom of speech may become entangled in the process of a film partnering with the DoD. Ecklund (2007) states, "A positive view of the military should develop organically. Anyone who joins should be doing it out of a sense of duty. Whether it is because they love their country and/or believe in what they are doing. It should not be because their perception of the military has been subtly manipulated over time....While it is understandable the military would want to be portrayed positively, it should not be able to use movies, TV and video games to lure young

people into the military based on a false representation of war.” Additionally, Bautista (1989) analyzes the DoD’s involvement in the film industry in accordance with the Social Responsibility Theory of the Press, in which the media must assume the responsibility of benefitting society. The author therefore states,

“In this particular study, movie makers must assume the duty of producing films which make the public aware when the government is involved in just or unjust activities (war, nuclear arms race, international relations policies, and other activities involving the armed forces), and which aid in military recruitment efforts when it is vital that the government needs to strengthen its defense personnel levels.”

This interpretation suggests that the United States Department of Defense both violates and supports Theory of the Press. It may violate the Theory of the Press if, as stated earlier, it does not make the public aware when the government is involved in just or unjust activities. These occurrences may be insinuated when looking at the process of script approval, in which the DoD asks producers to change their script for more favorable or accurate depiction in exchange for advancement in their partnership. However, the Department of Defense’s involvement in the entertainment industries may also support the Theory of the Press as their movies can benefit society primarily by encouraging civilians to develop positive attitudes toward and/or join the military - which helps increase recruitment rates. More enthused and patriotic personnel ensure American national security and a stronger and prouder defense posture in the world (Bautista 1989).

Ultimately, the degree as to how ethical the DoD’s involvement in the American entertainment industry may be is certainly ambiguous and up for interpretation by each individual. However, there is no denying the importance of film as an art form and as a means of exchange, information, and a representation of the societal climate. Riegler (2014) ruminates on the aftermath of 9/11 and the ways that film and Hollywood have reflected societal views at that point in time. “Generally, Hollywood provides valuable insight into the social and political

realities of its context. In reference to the post 9/11 years, Hollywood has reflected the essence of that period. At the core, it addressed the profound sense of vulnerability and shattered innocence felt in the wake of the terrorist attacks...". With the magnitude of effects that film has on audiences, it could stand true that with the DoD's cooperation, they may serve as an instrument of recruitment when it comes to ensuring a strong military force and the safety of American national security.

Data and Methodology

In a document released by the Military Entertainment Media Liaison Office as requested under the Freedom of Information Act; 62 pages of film, television productions and documentaries spanning from 1911-2016 were shown to have communicated with the DoD in hopes of cooperation. The document also discloses whether the projects were approved or denied, what they were offered by the DoD, whether there were script changes requested by the DoD, and which department of the Armed Forces provided assistance. Using this document, a ratio of the number of movies made with the cooperation of the DoD out of total movies with theatrical releases per year was calculated to serve as the independent variable.

Figure 1

Case #	Title	Sub-Title	Status	Media Source	Media Type	Production Company	Public View Date	History Status	Status Date	Remarks
ET-0001-1993	LAST ACTION HERO, THE		LM	ET	FILM	COLUMBIA PICTURES	06/28/1993	Note	01/05/2000	FILM ABOUT COMIC BOOK HERO TIME TRAVELING BETWEEN COMIC BOOK WORLD AND REAL WORLD. NO MILITARY THEME. REQUESTED PERMISSION TO PLACE FICTIONAL MFG PROMOTION SIGN (EVENTUALLY WAS A BALLOON) ATOP THE MILITARY RECRUITING STATION AT TIMES SQUARE IN NYC. WE SAID OKAY. MINOR PLUG FOR THE RECRUITING STATION. FILMED IN JAN 93 WITHOUT INCIDENT. DATE APPROXIMATED, NO FILE
ET-0001-1998	PENSACOLA WINGS OF GOLD	BROKEN WINGS	APP	ET	TV	STU SEGAL PRODUCTIONS	05/18/1998	RCV APP Note	10/27/1992 10/27/1992 01/08/1998 01/14/1998 06/03/1998	CASE RECEIVED: 98-AV-0001 APPROVED ASSISTANCE MINOR CHANGES REQUESTED; VERY POSITIVE STORY, MUCH MORE REALISTIC THAN ANY OTHER PREVIOUS EPISODE; HIGH POINT OF SEASON; AUTHORIZED FILMING FOR FOUR DAYS AT CAMP PENDLETON, TO INCLUDE TWO CH-46 HELICOPTERS
ET-0001-1999	PENSACOLA WINGS OF GOLD	CUBA LIBRE	APP	ET	TV	STU SEGALL PRODUCTIONS	04/12/1999	Note	01/13/1999	PRODUCTION COMPANY MADE MINOR CHANGES TO SCRIPT; APPROVED FILMING FOR ONE DAY (THE TYPICAL ASSISTANCE) AT MCAS MIRAMAR, CA NO FLYING INVOLVED CASE RECEIVED: 99-AV-0001
ET-0001-2002	2AG	PROMISED LAND, THE	APP	ET	TV	BELISARIUS PRODUCTIONS	10/01/2002	RCV APP Note	12/10/1998 12/10/1998 07/12/2002 07/17/2002	FAKED NOTIFICATION OF APPROVAL TO CHAS. JOHNSON APPROVED FILMING FOR ONE DAY AT THE OFFICERS' CLUB AT NAVAL BASE PORT HUENEME AND AT THE FLIGHT LINE OF NAVAL AIR STATION POINT MUGLI, CA. FIRST EPISODE OF SEASON # 8.
ET-0001-2005	TUGGER		APP	ET	FILM	GENESIS ORLANDO	07/15/2005	APP Note	03/18/2005 03/18/2005	SIGNED LETTER OF APPROVAL; NOTIFICATION APPROVED WHAT IS ESSENTIALLY NON-PRODUCTION ASSISTANCE: TECHNICAL ADVICE, STOCK FOOTAGE, RESEARCH, INTERVIEWS, ETC. THIS IS AN ANIMATED FILM FOR CHILDREN THAT FEATURE THE USAF THUNDERBIRDS.
ET-0001-2006	WEST WING, THE	REQUIEM	APP	ET	TV	THE WEST WING	04/16/2006	RCV APP Note	03/18/2005 02/03/2006 02/05/2006 02/16/2006	ON OR ABOUT THIS DATE, DOD PROVIDED PHONE APPROVAL TO USAF APPROVED FILMING FUNERAL SCENE FOR WHITE HOUSE CHIEF OF STAFF LEO MCGARREY, WHO HAD BEEN PORTRAYED AS A VIETNAM VETERAN AIR FORCE PILOT, USING THE LOS ANGELES AIR FORCE BASE HONOR GUARD. THE SET WAS THE FIRST CONGREGATIONAL CHURCH IN DOWNTOWN LOS ANGELES, AS THE NATIONAL CATHEDRAL INTERIOR IN WASHINGTON DC. INCIDENTALLY, THE ACTOR JOHN SPENCER HAD DIED IN REAL LIFE.

Excerpt from the 62 page document from the Military Entertainment Media Liaison Office requested by FOIA, Titled "DOD Hollywood Database"

Being “Approved”, or ‘APP” means that the military either granted funding in one of the four categories:

1. Military equipment (Tanks, fighter jets, or other equipment)
2. Locations (Access to film on bases, battlefields and any other military-owned location across the country)
3. Personnel (On duty military personnel to serve as extras)
4. Consulting (Technical consulting to foster accuracy and realism)

If the project was labeled “Approved” and granted any (or more) resource of the four categories as listed above, it was coded a “1”. If the project was labeled “Denied”, it was coded a “0”. Therefore, counting all of the “1” variables per year allowed me to get a count of the number of movies per year that cooperated with the military. This number was then divided by the number of movies that were released for public viewing in theatrical releases, to account for a ratio of the number of movies that came out that year that were partnered with the DoD.

The dependent variable is the logged number of applications submitted over a 20 year period between 1997 and 2016. Application numbers were found from the United States Center for Naval Analyses’ Population Representation in the Military Services report, an annual report that describes the characteristics of U.S military personnel. The only reports that were accessible on the internet go back from 2019 to 1997. Table A-3, Applicants for Active Component Enlistment, FY17: by Service, Gender, and Race/Ethnicity with Civilian Comparison Group, shows total number and percentages of applicants by gender, race/ethnicity, and service when compared to the general 18-24 civilian population. All dependent variables are logged so results can be interpreted as percentage change.

Figure 2

Table A-3. Applicants¹ for Active Component Enlistment, FY17: by Service, Gender, and Race/Ethnicity with Civilian Comparison Group

RACE/ ETHNICITY ²	SERVICE												TOTAL DoD			18-24 YR-OLD CIVILIAN POP			
	ARMY			NAVY			MARINE CORPS			AIR FORCE			Males	Females	Total	Males	Females	Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total							
Number																			
White	55,923	10,892	66,815	25,975	8,058	34,033	33,689	4,210	37,899	25,754	8,651	34,405	141,341	31,811	173,152	10,900,516	10,607,505	21,508,021	
Black	17,047	7,150	24,197	7,063	3,865	10,928	3,973	741	4,714	6,740	3,670	10,410	34,823	15,426	50,249	2,169,352	2,259,360	4,428,712	
AIAN ³	585	181	766	302	168	470	292	52	344	281	172	453	1,460	573	2,033	217,828	214,204	432,032	
Asian	3,520	949	4,469	2,061	762	2,823	1,063	178	1,241	1,480	576	2,056	8,124	2,465	10,589	891,396	884,589	1,775,986	
NHPI ⁴	254	92	346	382	175	557	287	57	344	365	173	538	1,288	497	1,785	72,570	84,715	157,285	
Two or more	289	121	410	1,363	645	2,008	1,032	197	1,229	1,498	659	2,157	4,182	1,622	5,804	508,739	477,616	986,355	
Unknown	45	10	55	2,845	991	3,836	133	32	165	79	38	117	3,102	1,071	4,173	0	0	0	
TOTAL	77,663	19,395	97,058	39,991	14,664	54,655	40,469	5,467	45,936	36,197	13,939	50,136	194,320	53,465	247,785	14,760,401	14,527,990	29,288,391	
Hispanic	13,912	4,325	18,237	6,089	2,741	8,830	10,999	1,849	12,848	6,163	2,744	8,907	37,163	11,659	48,822	3,293,726	3,204,936	6,498,662	
Not Hispanic	63,747	15,069	78,816	33,888	11,919	45,807	29,438	3,614	33,052	29,978	11,172	41,150	157,051	41,774	198,825	11,466,675	11,323,054	22,789,729	
Unknown	4	1	5	14	4	18	32	4	36	56	23	79	106	32	138	0	0	0	
TOTAL	77,663	19,395	97,058	39,991	14,664	54,655	40,469	5,467	45,936	36,197	13,939	50,136	194,320	53,465	247,785	14,760,401	14,527,990	29,288,391	
Percent																			
White	72.01	56.16	68.84	64.95	54.95	62.27	83.25	77.01	82.50	71.15	62.06	68.62	72.74	59.50	69.88	73.85	73.01	73.44	
Black	21.95	36.87	24.93	17.66	26.36	19.99	9.82	13.55	10.26	18.62	26.33	20.76	17.92	28.85	20.28	14.70	15.55	15.12	
AIAN ³	0.75	0.93	0.79	0.76	1.15	0.86	0.72	0.95	0.75	0.78	1.23	0.90	0.75	1.07	0.82	1.48	1.47	1.48	
Asian	4.53	4.89	4.60	5.15	5.20	5.17	2.63	3.26	2.70	4.09	4.13	4.10	4.18	4.61	4.27	6.04	6.09	6.06	
NHPI ⁴	0.33	0.47	0.36	0.96	1.19	1.02	0.71	1.04	0.75	1.01	1.24	1.07	0.66	0.93	0.72	0.49	0.58	0.54	
Two or more	0.37	0.62	0.42	3.41	4.40	3.67	2.55	3.60	2.68	4.14	4.73	4.30	2.15	3.03	2.34	3.45	3.29	3.37	
Unknown	0.06	0.05	0.06	7.11	6.76	7.02	0.33	0.59	0.36	0.22	0.27	0.23	1.60	2.00	1.68	0	0	0	
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Hispanic	17.91	22.30	18.79	15.23	18.69	16.16	27.18	33.82	27.97	17.03	19.69	17.77	19.12	21.81	19.70	22.31	22.06	22.19	
Not Hispanic	82.08	77.70	81.21	84.74	81.28	83.81	72.74	66.11	71.95	82.82	80.15	82.08	80.82	78.13	80.24	77.69	77.94	77.81	
Unknown	0.01	0.01	0.01	0.04	0.03	0.03	0.08	0.07	0.08	0.15	0.17	0.16	0.05	0.06	0.06	0	0	0	
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

1. Refers to non-prior service (NPS) individuals whose first formal application (i.e., taking a screening physical exam or the Armed Services Vocational Aptitude Battery (ASVAB)) was in FY17. Does not include participants in the High School Testing Program unless otherwise tested.

2. The race groupings used in this table reflect the number of individuals who indicate a single racial identity. Individuals who self-identify as multiracial are counted in the "two or more" category.

3. American Indian, Alaska Native

4. Native Hawaiian, Pacific Islander

Rows and columns may not add to totals due to rounding.

Source: Civilian data from Bureau of Labor Statistics Current Population Survey, noninstitutional, age 18-24, October 2016-September 2017 average. Military data are provided by the Defense Manpower Data Center (DMDC).

Note: An excerpt of Table A-3: Applicants for Active Component Enrollment, FY17: by Service, Gender and Race/Ethnicity with Civilian Comparison Group

Additional models were organized with respect to race and gender as dependent variables. Ultimately, six models were investigated within this study for the period between 1997 and 2016, including the following:

- # of applications per year
- # of female applications per year
- # of male applications per year
- # of applications from the White population per year
- # of applications from the Black population per year
- # of applications from the Hispanic population per year

Control variables include unemployment rate and high school dropout rate. Poverty rates for each demographic group were also introduced to disentangle the impact of economic status from racial and gender identity were selected after (Kleykamp, 2005) determined economic status as one of the key determinants to enlistment. These variables were found from the US Bureau for Labor Statistics, as well as the Federal Reserve Economic Data.

Behaviorally, the impact of movies on audiences may take several years of exposure and conditioning prior to making the decision to submit an application for military service. The independent variable of the DoD partnered movie per year ratio was lagged by 1 year, 2 years and 3 years to account for longer periods of time in which an audience would be subjected to the recurring depiction of positive military portrayal. When running models with lagged independent variables, applications submitted in 1997 were included with the DoD partnered movie per year ratio in 1996 at a one-year lag. At a two-year lag, applications submitted in 1997 were included with a DoD partnered movie per year ratio in 1995.

Additionally, a one-year lagged version of the dependent variable was included as a control in model (ii) and model (iii) to account for any autocorrelation – in which the number of applications in one year would have an effect on the applications for the next year. Controlling for this feature ensures that the time series models are sound. Last, for each lagged independent variable of the DoD Movies Per Year Ratio, the ratios of years before were added as control variables as well (for example – if testing the DODMPY ratio on a three year lag, the 2 year lag, the 1 year lag, and the baseline year are included on the righthand side as controls).

Summarizing, the following Ordinary Least Squares time series models were estimated:

$$(i) \quad l_total_app_t = \beta_0 + \beta_1 dodmovieyear_ratio_t + e_t$$

Where l_total_app is logged total applications and $dodmovieyear$ is the DoD Partnered Movies per Year Ratio.

$$(ii) \quad l_total_app_t = \beta_0 + \beta_1 dodmovieyear_ratio_t + \beta_2 unem_t + \beta_3 hs_drop_t + \beta_4 lagged_l_total_app_t + e_t$$

Where l_total_app is logged total applications, $dodmovieyear$ is the DoD Partnered Movies per Year Ratio, $unem$ is unemployment rate, hs_drop is high school dropout rate, and $lagged_l_total_app$ is lagged logged total application by 1 year.

$$(iii) \quad l_h_total_app = \beta_0 + \beta_1 dodmovieyear_ratio_2L_t + \beta_2 dodmovieyear_ratio_1L_t + \beta_3 dodmovieyear_ratio_t + \beta_4 unem_t + \beta_5 hs_drop_t + \beta_6 pov_ti + \beta_7 lagged_h_total_app_t + e_t$$

Where $l_h_total_app$ is logged total applications of individuals from the Hispanic population, $dodmovieyear_2l$ is the DoD Partnered Movies per Year Ratio lagged by 2 years, $dodmovieyear_1l$ is the DoD Partnered Movies per Year Ratio lagged by 1 year, $dodmovieyear_1l$ is the DoD Partnered Movies per Year Ratio the year of release, $unem$ is unemployment rate, hs_drop is high school dropout rate, pov_h is Hispanic poverty rate, and $lagged_l_total_app$ is lagged logged total application by 1 year.

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
Female Applicants	20	65739.8	12821.56	45844	86635
Male Applicants	20	244668	40204.76	170298	305031
White Applicants	20	202526.4	27800.37	147349	250999
Black Applicants	20	60472.85	15033.34	33292	89459
Hispanic Applicants	20	42095.85	5271.717	35196	57015
DoD Movie per Year Ratio	20	.0054337	.0053522	.0009217	.0231884

From a summary statistics table, it is visible that White and Male applicants have the largest makeup of the DoD. Additionally, it is important to consider the magnitude of the DoD Movie per Year Ratio. The average of all years studied from 1997-2016 is approximately .005, which is a relatively small percentage (this can be interpreted as on average, .5% of movies released per year are partnered with the DoD). As a result, for ease of interpretation, coefficients from regression results are scaled down by approximately 200x (as the mean of .005 would need to be multiplied by 200 to equal a baseline index of 1). Therefore, the coefficients as interpreted within the results section are divided by 200.

Regression Results

The following are regression results for log applications, log male applications, log female applications, log applications from individuals from the White population, log applications from individuals of the Black population, and log applications from individuals of the Hispanic population.

Results 1

Log Applications Model

	(1) Base	(2) Control	(3) 1yr. Lag	(4) 2yr. Lag	(5) 3yr. Lag
DoD Partnered Movies per Year Ratio	7.29* (3.95)	-1.02 (5.83)	-1.01 (5.97)	-1.83 (5.57)	-3.77 (6.42)
Unemployment Rate		4.45 (3.57)	4.45 (3.70)	4.60 (3.90)	4.82 (4.33)
High School Drop Out Rate		5.02*** (0.96)	5.00*** (1.08)	3.93*** (1.05)	4.19*** (1.09)
Log Applications (lagged by 1 year)		-0.25 (0.17)	-0.25 (0.18)	-0.25 (0.19)	-0.28 (0.23)
DoD Partnered Movies per Year Ratio Lagged 1 Year			0.12 (3.10)	-3.84 (5.77)	-5.47 (8.74)
DoD Partnered Movies per Year Ratio Lagged 2 Years				7.72 (7.29)	5.92 (5.63)
DoD Partnered Movies per Year Ratio Lagged 3 Years					2.97 (5.84)
Constant	12.01*** (0.05)	14.33*** (1.89)	14.33*** (1.95)	14.44*** (2.10)	14.71*** (2.58)
Observations	20	19	19	19	19
R^2	0.071	0.281	0.281	0.320	0.325
Adjusted R^2	0.020	0.075	0.004	-0.020	-0.104

Standard errors in parentheses

Source: US Center for Naval Analyses and the Military Entertainment Liaison Office

* p<.1, ** p<.05, *** p<.01

Results 1 shows the results from the model on log applications. Applications refer to all genders and race/ethnicities. From the baseline model which only ran the DoD Partnered Movies per Year Ratio (DODMPY for short) on log applications, it appears that the DODMPY coefficient is positive and significant. Although initially positive, the model is most definitely suffering from omitted variable bias – and with the addition of the control variables of Unemployment Rate, High School Drop Out Rate, and Lagged Log Applications – it can be seen that the DODMPY coefficient drop significance through the 1 year, 2 year, and 3 year lagged regressions as well. The inclusion of the controls improve the R squared from .071 to .325, indicating the variables included are good starting indicators for what drives enlistment. Additionally, the control variable, high school dropout rate is significant at the 1% level throughout all models, meaning that across the general population, high school dropout rate is a significant indicator of enlistment rates. Although not significant, the DODMPY coefficient is negative throughout all models, which is not supportive of the hypothesis that DoD partnered movies would positively affect enlistment.

Results 2 depicts the results from the model of logged male applications. It can be seen that the DODMPY ratio in the year the movie is released is positive amongst all models and is significant at the 10% level with the first level of controls. Additionally, although not statistically significant, the fact that all coefficients are positive shows that there is a positive effect. As a result, it can be considered that there is upward pressure being put on applications from movies. The regressions also entail a higher adjusted R^2 of .715, signifying that the variables selected are good indicators of what drives enlistments for male applicants. Also, high school dropout rate is significant at the 1% level across all models. The significant coefficient can be interpreted as, “for every 1 unit increase in the DODMPY ratio, male applications will increase by 7.57%, all else held constant.

Results 2

Log Male Applications Model

	(1) Base	(2) Control	(3) 1yr. Lag	(4) 2yr. Lag	(5) 3yr. Lag
DoD Partnered Movies per Year Ratio	20.66*** (5.65)	15.14* (8.44)	13.17 (9.41)	12.19 (9.40)	13.01 (11.21)
Unemployment Rate		4.53* (2.20)	3.92 (2.40)	3.73 (2.46)	3.43 (2.65)
High School Drop Out Rate		6.32*** (1.93)	6.94*** (2.00)	6.20** (2.22)	5.91** (2.43)
Log Male Applications (lagged by 1 year)		-0.05 (0.30)	0.06 (0.29)	0.11 (0.26)	0.14 (0.28)
DoD Partnered Movies per Year Ratio Lagged 1 Year			-6.05 (4.35)	-8.34 (7.11)	-7.50 (7.94)
DoD Partnered Movies per Year Ratio Lagged 2 Years				3.70 (7.11)	5.19 (7.55)
DoD Partnered Movies per Year Ratio Lagged 3 Years					-2.20 (4.35)
Constant	12.28*** (0.05)	12.11*** (3.45)	10.73*** (3.35)	10.24*** (3.00)	9.86** (3.27)
Observations	20	19	19	19	19
R^2	0.424	0.692	0.706	0.713	0.715
Adjusted R^2	0.392	0.604	0.593	0.569	0.534

Standard errors in parentheses

Source: US Center for Naval Analyses and the Military Entertainment Liaison Office

* p<.1, ** p<.05, *** p<.01

Results 3 encompasses results from the model on log of female applications. The DODMPY ratio in the year the movie is released is positive amongst all models and is also either 5 or 10% significant amongst all models. Looking at model 5, the fact that all coefficients are positive and significant show that the DOD partnered movies do have a sizeable effect on the female populations. Additionally, the highest adjusted R squared at .85 shows that the variables selected may very well explain a female applicant's reasoning for applying to the military. The coefficient of model 5 can be directly interpreted as, "for every 1 unit increase in the DODMPY ratio, female applications increase by 9.52%, all else held constant.

Results 4 shows results from the model on log applications from individuals of the White population. Here it is visible that the DODMPY coefficients the year that the movies are released is positive, although not significant. As opposed to its significance in other models, the high school dropout rate is not significant. The Poverty Rate for the White population and the Unemployment Rate are both statistically significant, and seem to be economic determinants for individuals from the White population to apply to join the military.

Results 5 illustrate the results from the models on log applications from individuals of the Black population. The DODMPY ratio is positive at the baseline year, but not significant. However, the DODMPY ratio at a 2-year lag is significant at the 10% level. It may be interesting to consider that the lag effect could be interpreted as a conditioning effect, and prior literature highlights the DoD's discriminatory practices of increasing recruiting tactics amongst minority communities, which would be important to investigate further. The significance of the poverty rate and unemployment rate show that these are significant economic determiners for individuals of the Black population to apply to the military. The adjusted R squared for this model is .792, which is a good capture of reasonings for applicants from the Black population to want to enlist. The interpretation of the significant 2 year lagged coefficient can be interpreted as, "For every 1 unit increase in the DODMPY ratio 2 years after the movies are viewed, applications sent by the Black population will increase by 11.26%, all else held constant.

Results 3

Log Female Applications Model

	(1) Base	(2) Control	(3) 1yr. Lag	(4) 2yr. Lag	(5) 3yr. Lag
DoD Partnered Movies per Year Ratio	27.50*** (7.42)	19.75** (8.53)	19.56* (9.06)	19.78** (8.64)	19.03* (9.73)
Unemployment Rate		1.49 (1.79)	1.36 (1.96)	1.36 (2.06)	1.41 (2.19)
High School Drop Out Rate		2.99 (3.07)	3.07 (3.21)	3.43 (3.61)	3.46 (3.82)
Log Female Applications (lagged by 1 year)		0.36 (0.21)	0.39 (0.25)	0.38 (0.27)	0.39 (0.28)
DoD Partnered Movies per Year Ratio Lagged 1 Year			-1.90 (5.96)	-0.82 (6.23)	-1.53 (7.76)
DoD Partnered Movies per Year Ratio Lagged 2 Years				-2.01 (5.16)	-2.78 (5.87)
DoD Partnered Movies per Year Ratio Lagged 3 Years					1.26 (4.96)
Constant	10.93*** (0.05)	6.64*** (2.11)	6.29** (2.53)	6.35** (2.65)	6.32** (2.80)
Observations	20	19	19	19	19
R^2	0.567	0.849	0.850	0.851	0.852
Adjusted R^2	0.543	0.805	0.792	0.777	0.758

Standard errors in parentheses

Source: US Center for Naval Analyses and the Military Entertainment Liaison Office

* $p < .1$, ** $p < .05$, *** $p < .01$

Results 4

Log White Applications Model

	(1)	(2)	(3)	(4)	(5)
	Base	Control	1yr. Lag	2yr. Lag	3yr. Lag
DoD Partnered Movies per Year Ratio	14.91*** (4.64)	6.99 (7.76)	6.63 (7.92)	5.32 (6.72)	7.88 (6.48)
Poverty Rate (White Pop.)		-10.18*** (3.18)	-9.43* (4.33)	-10.51** (4.18)	-10.17** (4.29)
Unemployment Rate		6.56*** (2.08)	6.02** (2.73)	6.27* (2.98)	5.84* (3.05)
High School Drop Out Rate		0.75 (2.29)	1.31 (2.75)	0.20 (2.71)	0.06 (2.74)
Log White Applications (lagged by 1 year)		0.15 (0.27)	0.21 (0.26)	0.24 (0.23)	0.26 (0.24)
DoD Partnered Movies per Year Ratio Lagged 1 Year			-2.94 (6.04)	-4.99 (7.38)	-2.88 (8.10)
DoD Partnered Movies per Year Ratio Lagged 2 Years				4.43 (8.21)	7.02 (8.22)
DoD Partnered Movies per Year Ratio Lagged 3 Years					-4.35 (2.49)
Constant	12.13*** (0.04)	10.96*** (3.02)	10.16*** (2.98)	9.97*** (2.83)	9.73*** (2.92)
Observations	20	19	19	19	19
R^2	0.317	0.723	0.727	0.740	0.753
Adjusted R^2	0.280	0.617	0.591	0.575	0.556

Standard errors in parentheses

Source: US Center for Naval Analyses and the Military Entertainment Liaison Office

* p<.1, ** p<.05, *** p<.01

Results 5

Log Black Applications Model

	(1)	(2)	(3)	(4)	(5)
	Base	Control	1yr. Lag	2yr. Lag	3yr. Lag
DoD Partnered Movies per Year Ratio	30.65*** (6.28)	17.87 (17.54)	20.95 (13.58)	19.66 (16.26)	13.77 (14.49)
Poverty Rate (Black Pop.)		-6.39* (3.38)	-8.09** (3.66)	-10.41** (3.49)	11.40*** (3.30)
Unemployment Rate		5.96 (3.84)	7.70* (4.13)	10.00** (3.57)	12.25*** (3.83)
High School Drop Out Rate		3.92 (3.12)	1.66 (2.53)	-1.25 (4.13)	0.08 (3.89)
Log Black Applications lagged by 1 year)		0.20 (0.25)	0.06 (0.28)	-0.05 (0.26)	-0.21 (0.26)
DoD Partnered Movies per Year Ratio Lagged 1 Year			16.14 (15.84)	8.54 (13.46)	3.23 (15.49)
DoD Partnered Movies per Year Ratio Lagged 2 Years				22.51* (11.38)	15.15 (11.87)
DoD Partnered Movies per Year Ratio Lagged 3 Years					14.34 (9.16)
Constant	10.81*** (0.06)	9.61*** (2.98)	11.54*** (3.43)	13.29*** (2.96)	15.01*** (3.01)
Observations	20	19	19	19	19
R^2	0.432	0.584	0.630	0.749	0.792
Adjusted R^2	0.400	0.424	0.445	0.590	0.626

Results 6

Log Hispanic Applications Model

	(1)	(2)	(3)	(4)	(5)
	Base	Control	1yr. Lag	2yr. Lag	3yr. Lag
DoD Partnered Movies per Year Ratio	-5.50* (3.05)	10.09 (10.23)	10.30 (10.76)	9.06 (9.57)	9.78 (9.33)
Poverty Rate (Hispanic Pop.)		-3.72*** (1.18)	-4.08* (2.08)	-5.19** (1.97)	-5.02** (2.18)
Unemployment Rate		5.25* (2.45)	5.67* (3.16)	6.39* (3.25)	6.17 (3.56)
High School Drop Out Rate		-1.10 (1.92)	-1.54 (2.18)	-2.76 (2.17)	-2.74 (2.22)
Log Hispanic Applications lagged by 1 year)		0.22 (0.24)	0.20 (0.24)	0.28 (0.24)	0.28 (0.25)
DoD Partnered Movies per Year Ratio Lagged 1 Year			2.35 (8.38)	0.87 (8.21)	1.26 (8.74)
DoD Partnered Movies per Year Ratio Lagged 2 Years				7.42 (8.39)	7.87 (8.65)
DoD Partnered Movies per Year Ratio Lagged 3 Years					-1.17 (4.67)
Constant	10.69*** (0.04)	8.87*** (2.52)	9.17*** (2.51)	8.66*** (2.58)	8.62*** (2.69)
Observations	20	19	19	19	19
R^2	0.062	0.550	0.553	0.593	0.594
Adjusted R^2	0.010	0.376	0.329	0.334	0.269

Standard errors in parentheses

Source: US Center for Naval Analyses and the Military Entertainment Liaison Office

* p<.1, ** p<.05, *** p<.01

Results 6 captures models of log applications coming from individuals of the Hispanic population per year. The DODPYR ratio is negative after the baseline model, meaning that although not significant, DODMPY would have a negative relationship on applications submitted from the Hispanic population. Unemployment rate and Hispanic poverty rate are significant as well, indicating that these are factors for individuals of the Hispanic population to apply to join the military. Additionally, the R^2 is low in comparison to other models at a maximum of .59, signifying there are other variables missing explaining Hispanic application rates. This concurs with prior literature, which has illustrated that recruiters have yet to identify strong determinates of enlistment, and struggle with capturing the Hispanic population amongst their recruitment efforts.

From these results, we can conclude that the viewership of movies partnered with the DoD do not have a statistically significant effect on overall applications. However, different demographics observe different effects, some of which are of significance. The model depicting log male applications with controls in the same year as the movies released reveals that the DODMPY ratio is significant at a 10% level. Additionally, the model depicting log female applications with controls in the same year as the movies released reveals the DODMPY ratio to be significant at either the 5% or 10% level amongst all coefficients. Last, applicants of the Black population see a 10% significant and positive coefficient with a 2-year lagged DODMPY ratio. Therefore, DoD backed movies are found to have a positive and significant effect on male and female applications when modeled with control variables, and applicants from the Black population at a 2 year lag.

Conclusion

We can conclude that the partnership between the Department of Defense and Hollywood is successful in terms of recruitment and influencing audiences to join the military.

Any impact across any population would suggest that the viewership of movies partnered with the DoD had some sort of effect on an applicant's decision to apply. We have evidence of influence across the male population, the female population, and individuals from the Black population.

These findings illuminate the relationship between government, media, political institutions, and audiences. Additionally, it highlights the importance of art forms such as film and how the consumption of media and art may have real world implications (in this case, increasing military enlistments). Whether the government being involvement in media is considered ethical or not; or whether it is welcome by audiences or not; it is still important to consider the effects that messaging within popular entertainment may have on audiences. As mentioned prior, this interaction effect when looked at under the lens of the Social Responsibility Theory of the Press may be considered beneficial for society as it contributes to the overarching safety of all, or may be considered detrimental to society as it teeters on the border between media censorship and artistic expression. Like many aspects of the United States, these sorts of effects are multifaceted, sometimes complicated, and always extremely interesting to investigate.

Future research may investigate the determinants of the two-year lagged effect of these results on Black applicants. Additionally, further research into the economic and social determinants of military recruitment of individuals from the Hispanic population would yield better understanding of what affects Hispanic enlistment rates. The study could also produce models for other demographic populations including White Female and White Male applications, Black Female and Black Male applications, and Hispanic Female and Hispanic Male populations as given in the Center for Naval Analyses' Applicant for Active Component Enrollment tables. Analysis of smaller, specific groups may allow us to further understand the relationship between the Department of Defense and entertainment industry interactions and military applications.

The DoD Hollywood Database released by the Military Entertainment Media Liaison Office could foster a natural extension of the research, as well. Possible avenues of research from information included in this document include looking at each branch of the military's' effect on audiences, and could answer questions such as "are films partnered with the Army or Navy more likely to increase application rates?" Additionally, the document allows us to look at production companies, which could serve as a potential control variable to consider if the film was produced by one of the top five production studios in the US. These studios often partner with the DoD, and include Universal Pictures, Paramount Pictures, Warner Bros., Walt Disney Pictures, and Columbia Pictures. The extensions to this topic may aid in our understanding of the relationship between media and the military, and how it may impact specific audiences in the future.

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