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ANALYSIS OF SMOKING BEHAVIORS IN AFLOAT COMMANDS

by

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The U.S. Navy offers a unique opportunity to explore the social role of smoking in the military, as it is used as a stress-relief tool in a high-pressure work environment. Navy ships are socially isolated, and smoking breaks serve as one of the few reprieves away from daily work. Through these observations, the aim of this research is to answer these questions: 1) Are there any peer effects affecting the propensity to smoke among specific job types in the Navy? 2) Are there variations in smoking rates across the different ship types? I compiled a de-identified individual-level database tracking active-duty sailors and their smoking-related diagnoses from 2002 to 2011. One key finding is that sailors on larger ships, such as carriers, have lower rates of being diagnosed with smoking disorders. In addition, I found peer effects in most rating groups, whereby sailors joining a command where many of their peers were recently diagnosed with a smoking-related illness have a higher likelihood of contracting a smoking-related illness in the future. The results of my research can advise future policies to reduce smoking rates among sailors by leveraging the nuanced cultural aspect of smoking in the Navy.

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ANALYSIS OF SMOKING BEHAVIORS IN AFLOAT COMMANDS

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
CO	Commanding Officer
DEERS	Defense Enrollment Eligibility Reporting System
DMDC	Defense Manpower Data Center
DOD	U.S. Department of Defense
DON	Department of the Navy
HRBS	Health Related Behaviors Survey
MHS	Military Health System
MWR	Morale, Welfare, and Recreation
PRT	Physical Readiness Test
SECNAV	Secretary of the Navy
UIC	Unit Identification Code

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I. INTRODUCTION

The long-term adverse effects of smoking are common knowledge in the United States. While the prevalence rates among American adults have been steadily decreasing since the early 2000s, the smoking rates in the military remained relatively constant. Targeted advertising toward military service members caused the historical culture of smoking, impacting the health and readiness of our forces. The Centers for Disease Control and Prevention (CDC) cites tobacco use and its related diseases as the leading cause of death and disability in the United States (Centers for Disease Control and Prevention, 2020). As a result, the Department of Defense pushed multiple initiatives to reduce smoking rates since 1999 (Institute of Medicine, 2009).

In addition, smoking has direct impacts on military readiness. The U.S. Department of Defense (DOD) has implemented policies to combat the widespread use of tobacco by eliminating service member price discounts, restricting smoking at boot camp, limiting appropriate smoking times, and implementing cessation programs. Though these programs have helped to reduce the number of smokers in the military, the DOD still lags behind the civilian average reduction rates in recent years. In addition, 30% of current smokers in the DOD reported initiated smoking after joining the military (Bray et al., 2008). The measures already in place may not fully address issue of the culture surrounding smoking in the military.

Nicotine reduces tension in the muscles while increasing the smoker's epinephrine levels (Healey, 2014). Because of this, smokers believe that smoking relieves stress. This narrative is especially prevalent onboard navy vessels. The U.S. Navy serves as a unique opportunity to explore the social culture surrounding the service members who choose to engage in smoking. The typical stresses associated with military deployment are heightened on a ship that is socially isolated from the rest of the world. Sailors' smoke breaks may be their only reprieve from work-related stressors. Though programs designed to disincentivize smoking behavior have been implemented, these initiatives may not be addressing all the critical factors that currently motivate the Navy's smoking culture.

The aim of my research is to provide an analytical view of the smoking trends in the Navy which can inform future policies surrounding the culture of smoking. To better understand the problem of smoking in the military, it may help exploring the various characteristics of the sailors who smoke. In my research, I specifically examine whether there is variation in smoking behavior between navy occupations, or rates, and ship types. Through these observations, I report my empirical findings targeted at answering the questions:

1) Are there variations in smoking rates across the different ship types?

2) Are there any peer effects affecting the propensity to smoke among specific job types in the U. S. Navy?

My analysis suggests that smoking in the Navy is influenced by a social factor. Sailors stationed on larger ships, such as the Carrier, have lower rates of diagnoses of smoking disorders compared with sailors stationed on smaller ships. In addition, most rating groups show that there is a peer effect present. Sailors joining a command where many of their peers were recently diagnosed have a higher likelihood of also being diagnosed. These findings may influence future Navy policy involving successful smoking prevention and cessation among sailors.

II. BACKGROUND AND RELATED WORK

A. OVERVIEW

The Navy's leadership acknowledges the impact tobacco use has on the combat readiness of its sailors and aims to aggressively reduce tobacco use (Office of the Secretary of the Navy, 2020). Despite a decline in the overall numbers of military smokers since World War II, the prevalence of tobacco use among 18- to 25-year-old men and women is consistently higher among service members than their civilian counterparts (Institute of Medicine, 2009).

There is a plethora of research around the immediate and prolonged health effects of smoking on young adults. Because the DOD provides healthcare to all active-duty services members as well as their families, minimizing the smoking rates would dramatically reduce preventable costs. The CDC estimates that tobacco-related care costs the DOD at least $1.6 billion a year (CDC, 2021).

In this chapter, I will review the literature on the effects of tobacco use on sailors as it relates to military readiness. This background serves as the foundation to understanding the policies that the Navy implemented over the past decades. My review also explores some potential factors that current smoking policy does not full address such as command culture and peer effects as a source for future policy recommendations.

B. THE EFFECTS OF TOBACCO USE

1. Stress and Mental Illness

Stress is not unique to the military service. Combat and non-combat deployments expose service members to high levels of prolonged stress, however, resulting in a variety of negative effects on physical and mental readiness. Sailors in the Navy experience additional stressors due to social isolation, constrained spaces, and a monotonous high-tempo routine while at sea. Sailors under sustained stress are susceptible to stress-related illnesses such as depressive and anxiety disorders, or substance abuse (Khanna et al., 2019; Burke, 2011).

Tobacco use has a particular relationship with stress. Despite the nicotine in tobacco being an addictive stimulant, smokers claim that smoking helps relieve stress (Healey, 2014). The addictive nature of nicotine perpetuates a smoker's tendency to continue smoking. Smoking breaks provide a rare outlet away from the occupational stresses and monotony when onboard a navy vessel, creating additional incentives for sailors to take up the habit. The Health Related Behaviors Survey (HRBS) states that the most common reason for service members to initiate smoking is related to relieving stress and boredom (HRBS, 2008).

The National Comorbidity Survey (NCS) reports that people diagnosed with mental illness or substance-abuse disorder tend to participate in smoking. Those with mental illnesses are said to be twice as likely to smoke compared to persons without. One study found 41% of people with mental illnesses within the last month were also current smokers compared to 22.5% among those with no mental illnesses (Lasser et al., 2000). Particularly during combat deployments, service members are at an increased risk of major depression and substance abuse disorders of all types across all services, posing additional long-term health detriments to our personnel (Burke, 2011).

2. Physical and Mental Readiness

The literature regarding the short- and long-term physical health effects of smoking is well established. The U.S. Surgeon General Report, "*How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease"* states that directly and indirectly inhaling tobacco smoke is linked with multiple forms of cancers, and cardiovascular and pulmonary diseases (U.S. Department of Health and Human Services, 2010). Smoking also impairs physical performance and endurance. A study on Navy personnel performing the Navy Physical Readiness Test (PRT) showed that smoking was linked to lower levels of cardiorespiratory and muscular endurance (Conway, 1992).

While nicotine can increase vigilance on simple, repetitive tasks, withdrawal from nicotine can significantly impair focus, hearing, and cognitive function (Institute of Medicine, 2009). Smokers in a civilian workplace are said to be 50% more often absent from work when compared to nonsmokers. Smokers also work about 40 minutes less than

nonsmokers per day, adding to the indirect costs to mission productivity (Brill et al., 2007). In an occupation that focuses on acute awareness while on watch or operating sensitive machinery, nicotine addiction among sailors poses a significant, yet preventable risk.

C. NAVY SMOKING POLICIES

1. Navy-Wide Initiatives

According to the 2015 HRBS, the young, junior enlisted service members across all services were the most likely to engage in all forms of tobacco use (Meadows et al., 2015). In addition, a study showed that 38% of service members that currently smoke began after joining the military (Grier et al., 2010). To combat this trend, the Navy has implemented multiple initiatives to reduce smoking rates. In this section, I will review the effects of some of these policy changes. According to the most recent Secretary of the Navy's (SECNAV) policy on tobacco, price subsidies of tobacco products at Department of the Navy (DON) exchanges, Morale, Welfare, and Recreation (MWR) facilities and ship stores have been removed. Tobacco use has been disallowed at training commands for recruits and midshipmen. Smoking onboard ships is restricted to specified times and locations. Lastly, the Navy banned smoking onboard submarines in 2010.

During World War II and the Korean War, service members received tobacco products (at subsidized costs) as part of their rations. The ease of access increased the number of daily smokers in the military. According to a study analyzing veterans from this era,

35 to 79% of excess veteran mortalities are linked to tobacco-related diseases (Bedard, 2006). Remnants of this price subsidy continued with base stores selling modern service members tobacco products at lower prices compared to similar stores off base. The DON's policy of matching base prices to the local values removes one factor that made tobacco easier to access.

The DON prohibited tobacco products used by students, instructors, and staff members at recruit commands and schools. While this creates a near-tobacco-free prevalence rate among recruits at initial-entry commands, the E-1 to E-4 rank range still has the highest tobacco use rate at afloat commands. According to the 2015 HRBS, the

E-1 to E-4 rank range had an average current smoking rate of 17.9%, compared to 15% among E-5 to E-6 and 12.4% among E-7 to E-9 (Meadows et al., 2015). This suggests that this policy is not addressing additional factors affecting young, enlisted initiation rates. I explore some potential factors in greater detail in the Command-Level section.

Data regarding the presence of secondhand smoke prompted the Navy's order to ban smoking onboard submarines in 2010. A previous attempt at prohibiting smoking on submarines was repealed due to intervention from the tobacco industry. The 2010 policy allocated resources to successfully change the culture of the submarine community. The support of Chief's Mess (E-7 to E-9 rank range) was vital to enforcing the new ban as they are also the group with the highest percentage of active smokers onboard submarines. A case study reviewing the implementation of the policy determined that the command framed the purpose of the ban as to protect their non-smoking workmates rather than forcing sailors to quit (Lando et al., 2014). Any sailor interested in quitting was offered cessation counseling and nicotine replacement. Command leadership was also given the autonomy to implement the final ban when they deemed most appropriate, providing time for sailors to finish counseling and to account for each unique command culture. The success of the smoking ban implementation in the submarine community serves as a template for future policy to actively shape the culture surrounding tobacco use.

2. Cessation

Data suggests that the Navy's current cessation programs are not outpacing the number of new recruits participating in the culture of smoking in the fleet. A complete policy tackling the tobacco problem will include both prevention strategies and an effective cessation treatment plan. In this section, I examine the current challenges surrounding cessation programs in the Navy.

Even if a smoker desires to quit, the addictive nature of nicotine makes cessation a difficult task. Once a smoker removes the nicotine intake, the body experiences withdrawal, causing cravings for more nicotine, increased stress levels, drowsiness, headaches, and other complications. The urge to relapse increases within the first three days of trying to quit. A review done on different smoking intervention programs

determined that different treatment options including telephone, one-on-one counseling, and group counseling coupled with nicotine replacement therapies were effective in increasing successful cessation rates (Robson & Salcedo, 2014).

A study done on the effectiveness of cessation programs suggests that counseling is at least as effective as medications. Just one to three minutes of total counseling with a professional increased the success rate of quitting by 30%. By 31 to 90 minutes of total counseling, the success rates double that of the baseline. Counseling coupled with other cessation aids such as medication or nicotine replacement therapies also increased success rates (Brill et al., 2007). Because of the short- and long-term health costs and productivity loss due to smoking, increasing the availability of such treatment options will increase the chances of reducing the smoking rates to a level comparable to that of the civilian work force.

3. Command-Level Culture and Peer Effects

New recruits are mostly teenagers or in their 20s, an age group more socially dependent on peer groups compared to more senior sailors, who most likely have established families. According to a study examining the culture surrounding drinking behavior of young sailors, recruits are most vulnerable to alcohol and other substance abuse problems within their first three years of enlisting (Ames et al., 2009). The study included a survey that cited that the Navy's culture normalized drinking due to boredom, stress relief, and pressure from peers to join the social group. Young sailors are likely to be away from their parents' care for the first time and find themselves employed in a stressful occupation. A separate study reinforces the conclusion that substance abuse is higher among young, unmarried males in the military, finding that intermittent breaks from work through the social use of alcohol and tobacco are tempting, particularly during stressful deployments (Brady et al., 2019).

Despite the Navy's banning of smoking at recruit training commands, young sailors still include the highest percentage of smokers compared to officers and senior enlisted personnel. This suggests that the Navy's current policy does not account for the interpersonal aspect of the Navy's smoking culture. Commanding Officers (CO) of units

are given autonomy to implement The SECNAV's smoking policies. COs are responsible for enforcing the instructions that prohibit walking and smoking at the same time while in uniform. COs, particularly of ships, dictate the frequency, lengths, and locations of smoking breaks for their personnel (SECNAV, 2020). The freedom with which COs can enforce smoking policy creates variations in smoking cultures across different platforms, occupational communities, and leadership tenure. While the peer effects of smoking among military members is well documented, variations across various Navy communities are not. I aim to examine possible variations in smoking behaviors across various platforms and rating occupations.

III. DATA AND STUDY POPULATION

A. DATA OVERVIEW

For my empirical research, I used a de-identified panel dataset of U.S. Navy sailors tracked quarterly from 2002 to 2011. Each sailor was assigned a unique scrambled ID code to track an individual's data across various databases over time. My data includes 9,493,807 person-quarter observations that represents 606,440 sailors from 2002 to 2011. An individual who served from the beginning of 2010 to the end of 2011 would appear under the same unique ID for eight different quarter observations in this analysis. Table 1 describes the observations at the individual sailor level.

The data is a combination of quarterly observations from various administrative datasets. Individual demographics such as race, gender, marital status, rank, rate, and active-duty status were received from the Defense Enrollment Eligibility Reporting System (DEERS). Importantly, DEERS also provides attached and assigned unit information via the Unit Identification Codes (UIC). Health and behavioral diagnoses from all medical visits provided by and outsourced by TRICARE were obtained through the Military Health System (MHS) database. Deployment history was tracked using a combination of the Contingency Tracking System (CTS) along with the Post-Deployment Health Assessment data to extract dates and locations of these deployments.

Lastly, UIC information from DEERS is matched with the Integrated Ship Database from the Center for Naval Analysis to identify the ship that the sailor is assigned to for a specific quarter. Through this data, I was able to determine what type of platforms sailors were attached to over time.

B. VARIABLE DESCRIPTIONS

A crucial element of my analysis is defining my criteria for smoking behaviors and peer groups for each sailor. In this section, I describe the characteristics and variables used in my regression analysis. I created binary variables for individual characteristics such as gender, race, marital status, and rank. The summary statistics from Table 1 indicate the percentage of sailors for each characteristic by tracking each category for each unique study

ID. Because rank changes over time, that percentage was tracked using the rank distribution at the first quarter in the dataset at quarter four of 2002. Ranks below and above the E-3 to E-6 range are in the "Other" category. To help distinguish the separation between the lower and the higher ranks, I implemented an age binary variable that equaled one when the sailor is under 25 years old and zero when they are aged 25 or older.

I used a binary outcome variable that tracked an individual's clinical diagnoses related to tobacco usage. Tobacco Use equaled one when a sailor was diagnosed with a smoking-related illness or emphysema caused by smoking—specifically, if a sailor had a clinical encounter during the quarter and the principal diagnosis code based on the *International classification of diseases, 9th edition* (ICD-9) is 305.1. Tobacco Use does not remain as a one for the individual in subsequent quarters unless they had additional clinical encounter with the same ICD-9 code in that later quarter.

My dataset tracked the command each sailor was assigned to during that quarter, to include ship types and shore commands. I created binary variables for the shore commands and each major ship type. For ship types that contained fewer than 100,000 observations, I grouped them together into an "Other" platform type. These ships included minesweepers, ammunition, and patrol ships. I made land-based commands the reference group as it was common for sailors to transfer between shore commands and various platform types such as one sailor moving from a Destroyer to Land and then from Land to a Cruiser. Table 2 shows the distribution of sailors and their smoking status across Land and Afloat commands. The afloat commands' smoking distributions are further detailed based on the type of ship. It is important to acknowledge that shore commands contain sailors that are either medically or professionally barred from transferring to a ship. In addition, land-based sailors have a disproportionate opportunity to seek a medical diagnosis due to their ability to visit a doctor compared to the personnel-limited ships.

Generally, rates that perform comparable jobs as other related rates work in the same locations on a ship, increasing the likelihood that they would form peer groups through consistent interactions. To further define potential peer groups, I created binary variables based on the type of ratings each sailor was assigned. Table 3 shows the individual ratings that are grouped together based on similarities in job description. Each

sailor would be assigned a one if their assigned rate fell into an assigned category. Among the 98 individual job ratings listed in my dataset, ratings were grouped into 12 groups based on similarities in job types. For example, the Yeoman (YN) and Personnel Specialist (PS) ratings are both administrative-based jobs and may reasonably interact in social peer groups. For this reason, both ratings are categorized in the "Executive" group for the analysis of potential peer groups. Table 4 shows the distribution of sailors and their smoking status by each rating group.

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IV. RESEARCH METHODOLOGY AND RESULTS

I report the results of my analysis in two parts—the associations between individual characteristics and smoking diagnosis prevalence, and the peer effects. For this research, I used the smoking diagnosis as the primary outcome variable. The primary challenge to this analysis was determining which factors may have a correlational relationship to the outcome variable that applied to all sailors. The outcome variables are multiplied by 100 to make the results presentation neater, reducing the number of zeroes following a decimal place but would not affect the interpretation of the results. A diagnosis would be represented by an outcome of 100 and no diagnosis is represented by a 0.

A. INDIVIDUAL FACTORS

My first task was to determine which descriptive characteristics displayed a link with relatively large increases or decreases in smoking diagnosis rates, if any. I focused on analyzing the variations across platform types and rating groups.

I utilize a multiple regression controlling for individual factors such as gender, race, marital status, and rank. I also used binary variables for each rating group and platform type to capture variations in smoking behavior across Navy work domains. I repeat this regression analysis using subsets of the population. I used the same control variables as before, limiting the population to each individual rating groups to capture more detailed variations across the sample.

Table 5 shows the results of the key characteristics and their effects on smoking diagnoses (complete results of all independent variables are presented in Appendix Table 1). Land based commands (reference group) show the highest rates of smoking diagnoses compared to that of afloat commands, as noted by all the negative coefficients of the afloat platforms. This may be explained by the availability of doctors' appointments where smoking diseases are diagnosed compared to the limited medical capacities of ship.

Across all platforms, the smaller ships, such as the Destroyer and Frigate class ships, experience higher rates of smoking diagnoses compared to that of larger ships, such as the Carrier or Amphibious ships. For example, the coefficient -1.18 associated with the

Carrier platform indicates that sailors on a Carrier is 1.18 percentage points less likely to be diagnosed with a tobacco misuse disorder relative to sailors at a Land unit; whereas the coefficient of -0.32 associated with the Frigate indicates sailors on Frigate is 0.32 percentage points less likely to be diagnosed with a tobacco misuse disorder relative to land units. It is important to note that these results only indicate a correlation between characteristics and not causality. Being on a smaller ship does not cause a higher smoking diagnosis rate. There may be unobserved social causes for this correlation. With smaller ship crews, social effects may play a larger role in whether a sailor chooses to smoke. This trend largely remains the same when I analyzed rating group subsets of the data population.

Among rating groups, the aviation ratings (the reference group for rating categories) had the highest diagnoses rates while also having the largest number of sailors. On the other hand, the Special Operations ratings had the least number of sailors but also reported the lowest probability of diagnosing a smoking illness.

B. PEER EFFECTS

After analyzing the individual factors, I tested the effects of peers on the prevalence of my smoking diagnosis outcome variable. Initiating in smoking is influenced by one's social surroundings, particularly on ships where social groups interact frequently. Peer influence in this analysis is defined as the likelihood that a sailor with a particular rate and platform would be diagnosed with a tobacco related disorder when he joined a unit that already has another sailor with a similar age, rank, or rate. The outcome of this analysis is whether a sailor is diagnosed within four quarters of transferring into a new command. By limiting the sample to sailors that recently transferred, we can isolate how the effects of a social group change a sailor's behavior.

In order to analyze samples that exhibited reasonable social effects, I limited the sample to commands that had more than five and fewer than 150 members of a peer group. Peer groups of less than five are unlikely to cause significant social changes, whereas sailors in groups larger than 150 may never interact with one another. I include unit fixed effects in order to remove unobserved variations across units which are correlated with the outcome. I also control for individual characteristics, including rank, race, gender, and age.

The peer effect is indicated by binary variables that represent the fraction of peers in a new command that had a diagnosis within the last four quarters. A command is shown to be either a "low" or a "high" if the fraction of peers with a recent diagnosis is above or below the median. The omitted group in this analysis is any command that has no peers with a recent diagnosis.

Column 1 of Table 6 reports the peer effects on the entire population. The rest of Table 6 analyzes subsets of the population, splitting the sailors who were never diagnosed with tobacco misuse prior to joining a new unit from those who have at least one diagnosis in their history. For the complete covariate results, consult Appendix Table 2. Across all sets of the data population, there shows to be a peer effect among the high fractions of recently diagnosed peers. For example, the coefficient of 0.31 associated with all sailors that transferred into a unit with a high fraction of peers with a recent diagnosis, denotes these sailors are 0.31 percentage points more likely to be diagnosed with a tobacco misuse disorder compared to if they transferred into a unit with no peers with a recent diagnosis. Sailors with at least one diagnosis in their medical history have a high likelihood of getting diagnosed again. Specifically, if a sailor with such history newly joined a unit that had a high fraction of peers with tobacco misuse diagnoses in the past four quarters, his probability of being diagnosed in the next four quarters is 1.49 percentage point higher (70% higher off the base mean of 2.14 percent) compared to if he joined a unit without peers with such diagnoses.

Table 7 presents the key peer effects for each of the rating groups while Appendix Table 3 shows all the covariate results. The peer effects show a similar story across most of the rating groups, where joining a unit with high fractions of peers with diagnoses is associated with an increased chance of the new sailor getting diagnosed themselves. In addition, sailors who already have a smoking history are at an increased risk. This is particularly true for Construction, Deck, and Engineering rating groups. Each of these groups resulted in a coefficient of 2.5 or higher which is an order of magnitude higher than the sailors that never had a diagnosis. As these rating groups are potentially more physically stressful ratings compared to others, taking smoking breaks may be a source of reprieve.

The Special Operations and Unrated groups' peer effects show an unusual shift in the trend. For both of these rating groups, a negative effect is shown, particularly among the commands with a high fraction of peers. This suggests that among these groups, peers with a diagnosis are potentially assisting other sailors in abstaining from smoking, creating a negative peer effect. For the Unrated category, this is also true for the commands with a low fraction of peers.

V. CONCLUSIONS AND RECOMMENDATIONS

The goal of this analysis was to answer these questions:

1) Are there variations in smoking rates across the different ship types?

2) Are there any peer effects affecting the propensity to smoke among specific job types in the U. S. Navy?

From this analysis, I found that while controlling for rating groups and other individual factors, there is higher presence of tobacco misuse diagnoses on smaller ships relative to the larger ships. This may be due to the fact that on larger ships, the peer groups as defined in this analysis are so large that sailors would never get to interact with one another. On smaller ships, peers would frequently interact, increasing the likelihood that sailors would form social groups around activities such as smoking. This is particularly true for the Frigate, Destroyer, and Cruiser class ships. Larger ships, such as the Carrier and Amphibious ships, showed a lower prevalence rate of smoking.

Peer effects are present among most rating groups. Commands where a sailor has a high relative amount of peers with a recent smoking diagnosis are more likely to be diagnosed themselves. Interestingly, the Special Operations and Unrated peer groups reversed this trend. In these groups, high numbers of peers with a diagnosis led to a decreased chance of a sailor getting a diagnosis.

This analysis had several limitations. The outcome variable was smoking diagnoses, since data on actual smoking rates was not available. While the diagnoses track the cases of severe smoking, recreational smoking is a more widespread issue among sailors. In addition, peer groups were mostly defined by sailors of the same or similar rating. This does not account for cross-rating peer interactions. Future analyses would benefit from expanding the peer groups to include age groups, ranks, gender, or other rating combinations.

Even though smoking diagnoses incidence rates are low, thousands of sailors are negatively impacted by a preventable cause. The Navy's recent implementation of a smoking ban on submarines showcases the positive effect of social groups on enforcing

smoking policy. Peer groups with sufficient buy-in may have positive effects on minimizing smoking rates. Further research analyzing the causes for the successful smoking prevention would help the Navy implement future policy. Leveraging the power of social groups to aid in smoking prevention and cessation would help reverse the culture of smoking in the Navy.

VI. THESIS DATA TABLES

Table 1. Summary Statistics of Enlisted Sailors' Smoking Behavior from 2002 to 2011

	Total	Non-Smokers	Ever Diagnosed with Smoking
E-3	21.58%	21.78%	16.79%
E-4	14.21%	14.14%	15.95%
E-5	13.34%	13.13%	18.24%
E-6	18.25%	17.94%	25.72%
Other	32.63%	33.01%	23.30%
Under 25	77.46%	77.83%	68.72%
Male	83.38%	83.73%	75.14%
Unmarried	66.64%	67.13%	54.97%
White	52.75%	52.48%	59.17%
African American	20.01%	20.31%	12.76%
Hispanic	11.60%	11.64%	10.54%
Asian	4.34%	4.33%	4.44%
Other	11.31%	11.23%	13.09%
Total Observations	9,493,807	8,653,599	840,208
Total Number of Sailors	606,440	581,985	24,455

Notes: Percentages are based on the total number of sailors for each individual characteristic

Table 2. Distribution of Platform Types and Sailor Smoking Status

	Total	Non-Smokers	Ever Diagnosed with Smoking
Land	62.73%	63.11%	53.76%
Afloat Commands	37.27%	36.89%	46.24%
Amphib	22.65%	22.76%	20.67%
Carrier	29.91%	30.00%	28.29%
Cruiser	9.73%	9.74%	9.61%
Destroyer	15.51%	15.36%	18.31%
Frigate	8.12%	8.06%	9.15%
Submarine	9.66%	9.60%	10.85%
Other	4.41%	4.48%	3.11%
Total Observations	9,493,807	8,653,599	840,208
Total Number of Sailors	606,440	581,985	24,455

Table 3. Rating Peer Groups

Rate Group	Navy Ratings
Aviation	AD, AE, AM, AO, AT, AW, AZ, PR
Deck	AB, BM, MN, AS
Engineering	DC, EM, EN, HT, GS, MM, MR
Combat Systems	ET, FC, FT, GM, IC, IT, MT, MN, ST, TM
Supply	CS, SH, SK, DK, PC, LS
Support	MA, MU, PH, PN, RP, MS
Medical	HM, HN, HA, DT, DA, DR
Executive	LN, NC, MC, PS, YN
Operations	QM, AG, AC, CT, IC, IS, OS, SM
Construction	BU, CM, CE, EO, SW, UT
Special Operations	SO, SB, ND, EOD
Unrated	All Others

Table 4. Distributions of Rating Groups and Sailor Smoking Status

	Total	Non-Smokers	Ever Diagnosed with Smoking
Aviation	15.95%	15.91%	16.93%
Engineering	15.11%	15.11%	15.14%
Operations	10.19%	10.23%	9.32%
Combat Systems	15.48%	15.34%	18.82%
Medical	8.74%	8.76%	8.40%
Supply	6.81%	6.81%	6.90%
Deck	6.10%	6.13%	5.55%
Support	4.81%	4.84%	4.08%
Executive	3.39%	3.36%	3.98%
Construction	3.11%	3.10%	3.30%
Special Operations	0.54%	0.56%	0.08%
Unrated	9.77%	9.86%	7.51%
Total Observations	9,493,807	8,653,599	840,208
Total Number of Sailors	606,440	581,985	24,455

Table 5. Effects of Individual Characteristics on Smoking Diagnosis in Enlisted Sailors

		Rating Groups				
	All Sailors	Aviation	Combat Systems	Construction	Deck	Engineering
Outcome Variable =	Diagnosed with a tobacco disorder					
Rating Groups (Ref: Aviation)						
Combat Systems	-0.149***					
	(0.016)					
Construction	-0.173***					
	(0.028)					
Deck	-0.206***					
	(0.018)					
Engineering	-0.316***					
	(0.015)					
Executive	-0.262***					
	(0.025)					
Medical	-0.306***					
	(0.017)					
Operations	-0.302***					
	(0.015)					
Special Operations	-0.790***					
	(0.036)					
Supply	-0.279***					
	(0.017)					
Support	-0.141***					
	(0.021)					
Unrated	-0.114***					
	(0.024)					
Observations	9,477,699	1,626,773	1,043,101	239,068	787,466	1,459,343

Table 5 continued

	Rating Groups					
	All Sailors	Aviation	Combat Systems	Construction	Deck	Engineering
Outcome Variable =	Diagnosed with a tobacco disorder					
Platform (Ref: Land)						
Amphibious	-0.957***	-1.283***	-1.290***	-1.556***	-0.918***	-0.657***
	(0.019)	(0.070)	(0.076)	(0.406)	(0.045)	(0.038)
Carrier	-1.179***	-1.356***	-1.488***	-0.992**	-0.984***	-1.031***
	(0.017)	(0.047)	(0.065)	(0.461)	(0.038)	(0.033)
Cruiser	-0.721***	-0.947**	-0.900***	-0.809	-0.539***	-0.501***
	(0.028)	(0.426)	(0.058)	(0.517)	(0.086)	(0.055)
Destroyer	-0.748***	-0.834**	-0.939***	-1.188***	-0.577***	-0.591***
	(0.021)	(0.351)	(0.045)	(0.394)	(0.061)	(0.040)
Frigate	-0.321***	1.015***	-0.598***	-0.692	0.098	-0.175***
	(0.031)	(0.284)	(0.081)	(0.487)	(0.089)	(0.060)
Other	-0.921***	-0.284	-1.081***	-1.940***	0.841	-0.723***
	(0.028)	(1.360)	(0.044)	(0.643)	(1.346)	(0.038)
Submarine	-0.873***	-0.407	-1.043***	-1.832*	-1.015***	-0.883***
	(0.047)	(0.699)	(0.144)	(0.940)	(0.166)	(0.090)
Observations	9,477,699	1,626,773	1,043,101	239,068	787,466	1,459,343

Notes: Standard errors in parentheses. Rating group regressions omitted category is the Enlisted Aviation group. Platform regressions omitted category is Land based commands. Outcomes multiplied by 100. *** p<0.01, ** p<0.05, * p<0.1

Table 5 continued

	Executive	Medical	Operations	Special Operations	Supply	Support	Unrated
Outcome Variable =	Diagnosed with a tobacco disorder						
Platform (Ref: Land)							
Amphibious	-1.125***	-1.060***	-1.052***	-0.943*	-0.948***	-1.251***	-0.361***
	(0.120)	(0.109)	(0.042)	(0.561)	(0.051)	(0.124)	(0.076)
Carrier	-1.262***	-1.082***	-1.265***	-0.966**	-1.112***	-1.394***	-0.840***
	(0.106)	(0.118)	(0.046)	(0.486)	(0.047)	(0.116)	(0.066)
Cruiser	-0.704***	-0.901***	-0.849***	-0.633	-0.743***	-1.064***	-0.104
	(0.204)	(0.224)	(0.054)	(0.765)	(0.074)	(0.208)	(0.133)
DDG	-0.867***	-0.838***	-0.831***	-0.853	-0.724***	-1.134***	-0.286**
	(0.149)	(0.161)	(0.041)	(0.618)	(0.054)	(0.178)	(0.114)
Frigate	-0.345	-0.715***	-0.513***	-0.679	-0.492***	-0.706***	0.313**
	(0.218)	(0.249)	(0.062)	(0.825)	(0.083)	(0.221)	(0.122)
Other	-1.185***	-1.068***	-0.206	-0.284	-0.837***	-1.221***	0.161
	(0.160)	(0.288)	(0.588)	(1.109)	(0.089)	(0.396)	(0.366)
Submarine	-1.315***	0.001	-1.192***	-0.381	-1.059***	-1.573***	-0.801***
	(0.305)	(0.115)	(0.122)	(0.501)	(0.111)	(0.289)	(0.207)
Observations	294,133	863,802	1,388,034	128,043	812,779	457,446	377,711

Notes: Standard errors in parentheses. Rating group regressions omitted category is the Enlisted Aviation group. Platform regressions omitted category is Land based commands. Outcomes multiplied by 100. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Peer Impacts on Smoking Diagnoses in Enlisted Sailors

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a tobacco disorder		
All Sailors			
Low Fraction of Peers with a Recent Diagnosis	-0.0576	-0.0335	0.2069
	(0.0604)	(0.0494)	(0.5012)
High Fraction of Peers with a Recent Diagnosis	0.3119***	0.1552***	1.4941***
	(0.0566)	(0.0465)	(0.4164)
Observations	552,814	497,820	54,994
Mean of Outcome	2.137	1.229	10.38

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Table 7. Peer Impacts on Smoking Diagnoses by Rating Groups

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a tobacco disorder		
Aviation			
Low Fraction of Peers with a Recent Diagnosis	-0.1819	-0.1101	-0.6203
	(0.1819)	(0.1490)	(1.2525)
High Fraction of Peers with a Recent Diagnosis	0.4438**	0.2296	1.7502
	(0.1814)	(0.1528)	(1.1261)
Observations	71,991	62,924	9,067
Mean of Outcome	2.464	1.434	9.667
Combat Systems			
Low Fraction of Peers with a Recent Diagnosis	-0.0626	-0.0826	-0.0734
	(0.1139)	(0.0955)	(0.8940)
High Fraction of Peers with a Recent Diagnosis	0.3076**	0.1282	0.8457
	(0.1283)	(0.1038)	(0.8402)
Observations	107,426	96,148	11,278
Mean of Outcome	2.018	1.148	9.404
Construction			
Low Fraction of Peers with a Recent Diagnosis	0.4512	0.2458	3.6024
	(0.4685)	(0.3731)	(4.3854)
High Fraction of Peers with a Recent Diagnosis	1.3923***	0.8477**	5.3105**
	(0.4329)	(0.3439)	(2.6315)
Observations	13,354	11,725	1,629
Mean of Outcome	2.858	1.501	12.72

Table 7 continued

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a tobacco disorder		
Deck			
Low Fraction of Peers with a Recent Diagnosis	-0.3410	-0.2778	0.3299
	(0.3532)	(0.2909)	(3.0259)
High Fraction of Peers with a Recent Diagnosis	0.5394**	0.2681	3.0141*
	(0.2578)	(0.2186)	(1.7562)
Observations	27,529	24,825	2,704
Mean of Outcome	2.257	1.404	10.12
Engineering			
Low Fraction of Peers with a Recent Diagnosis	0.2485*	0.2191*	1.2867
	(0.1483)	(0.1288)	(1.2386)
High Fraction of Peers with a Recent Diagnosis	0.3624**	0.1653	2.4852**
	(0.1463)	(0.1265)	(1.1036)
Observations	72,672	65,611	7,061
Mean of Outcome	2.060	1.197	10.14
Executive			
Low Fraction of Peers with a Recent Diagnosis	0.1428	0.0633	1.5207
	(0.3344)	(0.2322)	(2.8503)
High Fraction of Peers with a Recent Diagnosis	-0.0023	0.0029	-0.2488
	(0.2178)	(0.1629)	(1.7364)
Observations	29,577	26,869	2,708
Mean of Outcome	1.718	0.976	9.094

Table 7 continued

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a tobacco disorder		
Medical			
Low Fraction of Peers with a Recent Diagnosis	-0.0512	0.1068	-0.0903
	(0.2237)	(0.1713)	(1.9689)
High Fraction of Peers with a Recent Diagnosis	0.4316**	0.2464	1.6945
	(0.1976)	(0.1547)	(1.5699)
Observations	45,793	41,368	4,425
Mean of Outcome	2.140	1.142	11.52
Operations			
Low Fraction of Peers with a Recent Diagnosis	0.0207	-0.0012	1.1013
	(0.1498)	(0.1242)	(1.4219)
High Fraction of Peers with a Recent Diagnosis	0.2342	0.1034	1.6335
	(0.1434)	(0.1173)	(1.1616)
Observations	70,662	64,114	6,548
Mean of Outcome	1.981	1.103	10.63
Special Operations			
Low Fraction of Peers with a Recent Diagnosis	0.8205*	0.5762	12.2834
	(0.4429)	(0.3483)	(12.5806)
High Fraction of Peers with a Recent Diagnosis	-0.6088	-0.1567	-7.5473
	(0.5772)	(0.6816)	(9.5129)
Observations	6,635	6,458	177
Mean of Outcome	0.863	0.601	10.44

Table 7 continued

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a tobacco disorder		
Supply			
Low Fraction of Peers with a Recent Diagnosis	-0.1586	-0.1643	0.0127
	(0.2422)	(0.2149)	(2.1543)
High Fraction of Peers with a Recent Diagnosis	0.3657**	0.0645	3.0485**
	(0.1724)	(0.1415)	(1.4374)
Observations	50,577	46,254	4,323
Mean of Outcome	1.852	1.057	10.35
Support			
Low Fraction of Peers with a Recent Diagnosis	-0.0496	-0.0152	0.6042
	(0.2968)	(0.2392)	(2.8317)
High Fraction of Peers with a Recent Diagnosis	0.2740	-0.0396	1.9313
	(0.2796)	(0.2378)	(2.0247)
Observations	30,477	27,343	3,134
Mean of Outcome	2.452	1.463	11.17
Unrated			
Low Fraction of Peers with a Recent Diagnosis	-0.9962**	-0.5985**	-7.6613*
	(0.3946)	(0.2999)	(4.2517)
High Fraction of Peers with a Recent Diagnosis	-0.5638**	-0.0112	-8.1558***
	(0.2810)	(0.2392)	(3.0911)
Observations	26,121	24,181	1,940
Mean of Outcome	2.837	1.794	15.93

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

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APPENDIX. ADDITIONAL TABLES

Appendix Table 1. Effects of Individual Characteristics on Smoking Diagnosis in Enlisted Sailors, All Covariates

	Rating Groups					
Variables	All Sailors	Aviation	Combat Systems	Construction	Deck	Engineering
Combat Systems	-0.149***					
	(0.016)					
Construction	-0.173***					
	(0.028)					
Deck	-0.206***					
	(0.018)					
Engineering	-0.316***					
	(0.015)					
Executive	-0.262***					
	(0.025)					
Medical	-0.306***					
	(0.017)					
Operations	-0.302***					
	(0.015)					
Special Operations	-0.790***					
	(0.036)					
Supply	-0.279***					
	(0.017)					
Support	-0.141***					
	(0.021)					
Unrated	-0.114***					
	(0.024)					
Observations	9,477,699	1,626,773	1,043,101	239,068	787,466	1,459,343

Appendix Table 1 continued

	Rating Groups					
	All Sailors	Aviation	Combat Systems	Construction	Deck	Engineering
Variables						
Amphibious	-0.957***	-1.283***	-1.290***	-1.556***	-0.918***	-0.657***
	(0.019)	(0.070)	(0.076)	(0.406)	(0.045)	(0.038)
Carrier	-1.179***	-1.356***	-1.488***	-0.992**	-0.984***	-1.031***
	(0.017)	(0.047)	(0.065)	(0.461)	(0.038)	(0.033)
Cruiser	-0.721***	-0.947**	-0.900***	-0.809	-0.539***	-0.501***
	(0.028)	(0.426)	(0.058)	(0.517)	(0.086)	(0.055)
Destroyer	-0.748***	-0.834**	-0.939***	-1.188***	-0.577***	-0.591***
	(0.021)	(0.351)	(0.045)	(0.394)	(0.061)	(0.040)
Frigate	-0.321***	1.015***	-0.598***	-0.692	0.098	-0.175***
	(0.031)	(0.284)	(0.081)	(0.487)	(0.089)	(0.060)
Other	-0.921***	-0.284	-1.081***	-1.940***	0.841	-0.723***
	(0.028)	(1.360)	(0.044)	(0.643)	(1.346)	(0.038)
Submarine	-0.873***	-0.407	-1.043***	-1.832*	-1.015***	-0.883***
	(0.047)	(0.699)	(0.144)	(0.940)	(0.166)	(0.090)
Age (Ref: Over 25 Years Old)						
Under 25	-0.628***	-1.014***	-0.669***	-0.818***	-0.663***	-0.688***
	(0.012)	(0.032)	(0.035)	(0.087)	(0.039)	(0.027)
Gender (Ref: Female)						
Male	-0.543***	-0.879***	-0.981***	-1.403***	-0.818***	-0.746***
	(0.012)	(0.034)	(0.049)	(0.105)	(0.042)	(0.038)
Race (Ref: White)						
African American	-0.958***	-1.084***	-0.760***	-1.037***	-0.863***	-0.768***
	(0.011)	(0.032)	(0.042)	(0.087)	(0.033)	(0.027)
Hispanic	-0.577***	-0.719***	-0.266***	-0.429***	-0.655***	-0.392***
	(0.013)	(0.034)	(0.043)	(0.092)	(0.039)	(0.031)
Asian	-0.939***	-0.921***	-0.713***	-1.332***	-0.695***	-0.870***
	(0.022)	(0.062)	(0.078)	(0.165)	(0.074)	(0.050)
Other Race	0.262***	0.173***	0.326***	0.426***	0.231***	0.199***
	(0.017)	(0.046)	(0.050)	(0.121)	(0.060)	(0.039)
Marital Status (Ref: Unmarried)						
Married	0.150***	0.276***	0.140***	0.060	0.201***	0.205***
	(0.009)	(0.024)	(0.028)	(0.063)	(0.030)	(0.021)
Rank (Ref: Other Rank)						
E-3	-0.203***	-0.074*	-0.514***	-0.295***	0.020	-0.480***
	(0.016)	(0.042)	(0.064)	(0.112)	(0.048)	(0.042)
E-4	-0.486***	-0.474***	-0.938***	-0.497***	-0.148***	-0.705***
	(0.016)	(0.043)	(0.058)	(0.110)	(0.050)	(0.039)
E-5	-0.582***	-0.620***	-1.017***	-0.421***	-0.136**	-0.688***
	(0.018)	(0.047)	(0.060)	(0.123)	(0.055)	(0.042)
E-6	-0.806***	-0.999***	-1.208***	-0.871***	-0.453***	-0.879***
	(0.019)	(0.051)	(0.065)	(0.131)	(0.060)	(0.046)
Observations	9,477,699	1,626,773	1,043,101	239,068	787,466	1,459,343

Notes: Standard errors in parentheses. Rating group regressions omitted category is the Enlisted Aviation group. Platform omitted category is Land based commands. Age omitted category is sailors over 25 years old. Gender omitted category are females. Race omittied category is white. Marital status omitted category is unmarried. Rank omitted category is all other ranks. Outcomes multiplied by 100. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 1 continued

	Rating Groups						
	Executive	Medical	Operations	Special Operations	Supply	Support	Unrated
Variables							
Amphibious	-1.125***	-1.060***	-1.052***	-0.943*	-0.948***	-1.251***	-0.361***
	(0.120)	(0.109)	(0.042)	(0.561)	(0.051)	(0.124)	(0.076)
Carrier	-1.262***	-1.082***	-1.265***	-0.966**	-1.112***	-1.394***	-0.840***
	(0.106)	(0.118)	(0.046)	(0.486)	(0.047)	(0.116)	(0.066)
Cruiser	-0.704***	-0.901***	-0.849***	-0.633	-0.743***	-1.064***	-0.104
	(0.204)	(0.224)	(0.054)	(0.765)	(0.074)	(0.208)	(0.133)
Destroyer	-0.867***	-0.838***	-0.831***	-0.853	-0.724***	-1.134***	-0.286**
	(0.149)	(0.161)	(0.041)	(0.618)	(0.054)	(0.178)	(0.114)
Frigate	-0.345	-0.715***	-0.513***	-0.679	-0.492***	-0.706***	0.313**
	(0.218)	(0.249)	(0.062)	(0.825)	(0.083)	(0.221)	(0.122)
Other	-1.185***	-1.068***	-0.206	-0.284	-0.837***	-1.221***	0.161
	(0.160)	(0.288)	(0.588)	(1.109)	(0.089)	(0.396)	(0.366)
Submarine	-1.315***	0.001	-1.192***	-0.381	-1.059***	-1.573***	-0.801***
	(0.305)	(0.115)	(0.122)	(0.501)	(0.111)	(0.289)	(0.207)
Age (Ref: Over 25 Years Old)							
Under 25	-0.261***	-0.297***	-0.448***	-0.353***	-0.396***	-0.506***	-0.471***
	(0.075)	(0.040)	(0.030)	(0.087)	(0.038)	(0.060)	(0.065)
Gender (Ref: Female)							
Male	0.023	-0.166***	-0.523***	-3.352***	-0.152***	-0.391***	-0.663***
	(0.051)	(0.032)	(0.025)	(0.170)	(0.032)	(0.051)	(0.051)
Race (Ref: White)							
African American	-1.212***	-1.213***	-0.925***	-0.053	-1.047***	-0.969***	-1.161***
	(0.051)	(0.036)	(0.025)	(0.141)	(0.031)	(0.052)	(0.050)
Hispanic	-0.940***	-0.858***	-0.398***	-0.212**	-0.946***	-0.648***	-0.495***
	(0.075)	(0.041)	(0.034)	(0.105)	(0.042)	(0.063)	(0.065)
Asian	-0.993***	-0.972***	-0.645***	-0.266	-1.101***	-1.399***	-1.152***
	(0.153)	(0.065)	(0.066)	(0.221)	(0.066)	(0.122)	(0.119)
Other Race	0.353***	0.154***	0.217***	0.064	0.088	0.853***	0.407***
	(0.117)	(0.059)	(0.045)	(0.125)	(0.063)	(0.090)	(0.075)
Marital Status (Ref: Unmarried)							
Married	-0.094*	-0.028	0.053**	0.396***	0.066**	0.122***	0.339***
	(0.049)	(0.030)	(0.023)	(0.071)	(0.028)	(0.044)	(0.051)
Rank (Ref: Other Rank)							
E-3	-0.461***	-0.039	-0.026	-0.767***	-0.115**	0.284***	-0.613***
	(0.113)	(0.052)	(0.046)	(0.138)	(0.050)	(0.083)	(0.046)
E-4	-0.716***	-0.389***	0.006	-0.859***	-0.234***	-0.034	-1.136***
	(0.112)	(0.055)	(0.044)	(0.131)	(0.052)	(0.080)	(0.076)
E-5	-0.831***	-0.698***	-0.154***	-0.779***	-0.383***	-0.146	-1.595***
	(0.116)	(0.065)	(0.044)	(0.134)	(0.056)	(0.089)	(0.376)
E-6	-0.866***	-0.967***	-0.249***	-1.034***	-0.461***	-0.498***	-2.047***
	(0.121)	(0.066)	(0.050)	(0.149)	(0.059)	(0.094)	(0.293)
Observations	294,133	863,802	1,388,034	128,043	812,779	457,446	377,711

Notes: Standard errors in parentheses. Rating group regressions omitted category is the Enlisted Aviation group. Platform omitted category is Land based commands. Age omitted category is sailors over 25 years old. Gender omitted category are females. Race omittied category is white. Marital status omitted category is unmarried. Rank omitted category is all other ranks. Outcomes multiplied by 100. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 2. Peer Impacts on Smoking Diagnosis in Enlisted Sailors, All Covariates

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder		
Low Fraction of Peers with a Recent Diagnosis	-0.0576	-0.0335	0.2069
	(0.0604)	(0.0494)	(0.5012)
High Fraction of Peers with a Recent Diagnosis	0.3119***	0.1552***	1.4941***
	(0.0566)	(0.0465)	(0.4164)
Sailor that has ever been Diagnosed	8.5997***		
	(0.1708)		
Low Fraction of Peers that Recently Deployed	-0.0440	-0.0219	0.2416
	(0.0695)	(0.0551)	(0.5338)
High Fraction of Peers that Recently Deployed	0.2900***	0.2102***	1.0426**
	(0.0629)	(0.0499)	(0.5014)
Low Fraction of Peers that Recently Demoted	0.0296	-0.0938	1.0156
	(0.1021)	(0.0851)	(0.7083)
High Fraction of Peers that Recently Demoted	-0.0483	-0.0531	0.1930
	(0.0602)	(0.0478)	(0.4319)
Low Fraction of Peers that Recently Divorced	0.1269	0.1679**	-0.1349
	(0.1002)	(0.0755)	(0.7004)
High Fraction of Peers that Recently Divorced	0.1104**	0.0928**	0.6838*
	(0.0554)	(0.0430)	(0.4035)
Male	0.0281	0.1094**	-0.9809**
	(0.0600)	(0.0456)	(0.4398)

Appendix Table 2 continued

	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder		
African American	-0.8219***	-0.7676***	-1.5295***
	(0.0496)	(0.0402)	(0.4586)
Hispanic	-0.5383***	-0.5272***	-0.5362
	(0.0599)	(0.0498)	(0.5000)
Asian	-0.6048***	-0.5646***	-0.9590
	(0.1115)	(0.0919)	(0.8761)
Other Race	0.1683*	0.0813	0.8875
	(0.0948)	(0.0804)	(0.5836)
Married	-0.1841***	-0.0997**	-0.9051**
	(0.0561)	(0.0439)	(0.4062)
Age: Under 22	-0.1468**	-0.0054	-1.7512***
	(0.0614)	(0.0522)	(0.5566)
Age: 22 - 25	-0.3540***	-0.0956*	-2.3812***
	(0.0648)	(0.0537)	(0.5554)
Age: 26 - 30	-0.3886***	-0.1714***	-1.8628***
	(0.0777)	(0.0637)	(0.6326)
Age: 31 - 35	-0.5119***	-0.3097***	-2.0898***
	(0.0844)	(0.0684)	(0.6667)
Age: 36 and Up	-0.4282***	-0.3449***	-0.9369
	(0.1031)	(0.0822)	(0.7835)
1 Dependent	0.0492	0.0520	0.4114
	(0.0654)	(0.0519)	(0.4779)
2 Dependents	0.0372	0.0792	0.1336
	(0.0769)	(0.0636)	(0.5336)
3 Dependents	0.1476*	0.1099*	1.2006**
	(0.0807)	(0.0641)	(0.5515)
Observations	552,814	497,820	54,994
Mean of Outcome	2.137	1.229	10.38

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3. Peer Impacts on Smoking by Rating Groups, All Covariates

Rating Groups	Aviation			Combat Systems		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	-0.1819	-0.1101	-0.6203	-0.0626	-0.0826	-0.0734
	(0.1819)	(0.1490)	(1.2525)	(0.1139)	(0.0955)	(0.8940)
High Fraction of Peers with a Recent Diagnosis	0.4438**	0.2296	1.7502	0.3076**	0.1282	0.8457
	(0.1814)	(0.1528)	(1.1261)	(0.1283)	(0.1038)	(0.8402)
Sailor that has ever been Diagnosed	7.4022***			7.6895***		
	(0.4423)			(0.3534)		
Low Fraction of Peers that Recently Deployed	0.0452	0.1196	-0.3245	-0.1313	0.0091	-0.6723
	(0.1900)	(0.1603)	(1.0715)	(0.1506)	(0.1084)	(1.0556)
High Fraction of Peers that Recently Deployed	0.6752***	0.3875***	2.3568**	0.2722*	0.2059*	0.4536
	(0.1851)	(0.1468)	(1.1262)	(0.1524)	(0.1180)	(1.0119)
Low Fraction of Peers that Recently Demoted	-0.4914**	-0.3268**	-1.3302	0.3914**	0.0242	3.6085***
	(0.1937)	(0.1594)	(1.2406)	(0.1832)	(0.1436)	(1.3296)
High Fraction of Peers that Recently Demoted	-0.3912**	-0.1519	-1.8816**	0.2593*	0.1359	1.3573
	(0.1821)	(0.1371)	(0.9181)	(0.1382)	(0.1076)	(0.8606)
Low Fraction of Peers that Recently Divorced	0.2017	0.2629*	-0.4171	-0.0037	0.1742	-0.7181
	(0.1868)	(0.1568)	(1.0868)	(0.2014)	(0.1335)	(1.3690)
High Fraction of Peers that Recently Divorced	0.1948	0.1204	0.7865	0.0428	0.1105	0.4088
	(0.1646)	(0.1295)	(0.9182)	(0.1208)	(0.0919)	(0.8466)
Male	-0.7129***	-0.2032	-3.9956***	0.2057	0.2294**	0.3209
	(0.1929)	(0.1569)	(1.0113)	(0.1566)	(0.1144)	(1.0253)

Appendix Table 3 continued

Rating Groups	Aviation			Combat Systems		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	-1.0231***	-0.8043***	-2.4997**	-0.8192***	-0.6824***	-2.8759***
	(0.1437)	(0.1155)	(1.0074)	(0.1136)	(0.0931)	(1.0374)
Hispanic	-0.3071*	-0.4158***	0.1953	-0.2882**	-0.2617**	-0.2234
	(0.1593)	(0.1460)	(1.1079)	(0.1417)	(0.1108)	(1.0256)
Asian	0.0508	-0.1828	2.3626	-0.4487*	-0.4441**	-0.5153
	(0.3510)	(0.2845)	(2.1197)	(0.2533)	(0.1967)	(1.7479)
Other Race	0.0493	0.0213	-0.3199	-0.0670	-0.0478	0.0160
	(0.2467)	(0.2123)	(1.2672)	(0.1855)	(0.1497)	(1.2014)
Married	-0.4038***	-0.1189	-2.2163***	-0.4087***	-0.1747*	-1.5007*
	(0.1559)	(0.1288)	(0.8351)	(0.1315)	(0.1025)	(0.8420)
Age: Under 22	-0.0556	0.0451	-1.1399	-0.2836**	-0.0995	-2.2935*
	(0.1922)	(0.1568)	(1.2724)	(0.1354)	(0.1105)	(1.1983)
Age: 22 - 25	-0.3300*	-0.1398	-1.3295	-0.5864***	-0.2529**	-3.1339***
	(0.1966)	(0.1499)	(1.3494)	(0.1369)	(0.1131)	(1.1986)
Age: 26 - 30	-0.2134	0.0096	-1.0240	-0.3876**	-0.2538*	-1.2494
	(0.2469)	(0.1963)	(1.4342)	(0.1630)	(0.1307)	(1.3624)
Age: 31 - 35	-0.7663***	-0.3483	-2.3508	-0.7327***	-0.4372***	-2.8735**
	(0.2612)	(0.2129)	(1.5005)	(0.1751)	(0.1465)	(1.3713)
Age: 36 and Up	-0.2988	-0.4503*	1.3511	-0.8240***	-0.6728***	-2.0438
	(0.2925)	(0.2357)	(1.7520)	(0.2297)	(0.1762)	(1.7153)
1 Dependent	0.1695	0.1749	0.4957	0.3266**	0.1488	1.2014
	(0.2082)	(0.1659)	(1.0671)	(0.1488)	(0.1175)	(0.9690)
2 Dependents	0.2558	0.1242	0.9109	0.5034***	0.3577**	1.1109
	(0.2286)	(0.1877)	(1.1995)	(0.1800)	(0.1463)	(1.1445)
3 Dependents	0.3676	0.1014	2.2900*	0.4444**	0.2414*	1.2812
	(0.2402)	(0.2021)	(1.1730)	(0.1899)	(0.1425)	(1.2119)
Observations	71,991	62,924	9,067	107,426	96,148	11,278
Mean of Outcome	2.464	1.434	9.667	2.018	1.148	9.404

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 continued

Rating Groups	Construction			Deck		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	0.4512	0.2458	3.6024	-0.3410	-0.2778	0.3299
	(0.4685)	(0.3731)	(4.3854)	(0.3532)	(0.2909)	(3.0259)
High Fraction of Peers with a Recent Diagnosis	1.3923***	0.8477**	5.3105**	0.5394**	0.2681	3.0141*
	(0.4329)	(0.3439)	(2.6315)	(0.2578)	(0.2186)	(1.7562)
Sailor that has ever been Diagnosed	10.2068***			8.2783***		
	(0.9403)			(0.7019)		
Low Fraction of Peers that Recently Deployed	0.7364	0.4166	3.1735	-0.5687	-0.3011	-1.4151
	(0.5196)	(0.3940)	(3.5109)	(0.3581)	(0.2826)	(2.4831)
High Fraction of Peers that Recently Deployed	-0.1310	-0.0387	0.2100	0.2835	0.0406	2.6188
	(0.5233)	(0.4177)	(4.0321)	(0.2576)	(0.2185)	(2.1824)
Low Fraction of Peers that Recently Demoted	0.5546	1.4893	-4.2187	0.4324	-0.1665	5.8246
	(0.8036)	(0.9311)	(2.9125)	(0.9263)	(0.7811)	(4.7768)
High Fraction of Peers that Recently Demoted	-0.7559*	-0.3244	-2.2207	-0.5137*	-0.3665*	-2.7116
	(0.4497)	(0.3474)	(2.2569)	(0.2773)	(0.2210)	(2.1052)
Low Fraction of Peers that Recently Divorced	-0.3291	-0.1563	1.2033	0.6708	1.1295*	-4.9267
	(0.8681)	(0.6954)	(4.8697)	(0.7263)	(0.6502)	(3.7882)
High Fraction of Peers that Recently Divorced	-0.5491	-0.4602	-0.7402	-0.0532	-0.0381	0.8647
	(0.5372)	(0.3661)	(2.7227)	(0.2857)	(0.2221)	(2.0252)
Male	-1.1408*	-0.4457	-3.6720	-0.0316	0.0003	-1.5970
	(0.6293)	(0.4548)	(3.3822)	(0.2699)	(0.2344)	(1.9575)

Appendix Table 3 continued

Rating Groups	Construction			Deck		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	-1.3177***	-1.3103***	-1.1457	-0.7410***	-0.8855***	2.8482
	(0.4217)	(0.3926)	(3.0391)	(0.2151)	(0.1786)	(1.9693)
Hispanic	-1.5146***	-1.3179***	-3.3530	-1.1024***	-0.8158***	-3.4548*
	(0.4865)	(0.3281)	(3.9511)	(0.2841)	(0.2391)	(2.0242)
Asian	-1.6132**	-0.8460	-2.4449	-0.4539	-0.8029*	1.6630
	(0.7791)	(0.5665)	(6.2761)	(0.5281)	(0.4451)	(4.3288)
Other Race	0.8382	-0.2946	7.2177**	0.1186	0.1706	0.2549
	(0.5680)	(0.4640)	(3.2440)	(0.5020)	(0.4318)	(3.2508)
Married	-0.1818	-0.1571	-0.5534	0.0954	0.2122	-0.3955
	(0.4243)	(0.2727)	(2.5762)	(0.2439)	(0.2178)	(1.8845)
Age: Under 22	0.8032	0.4468	5.2596	0.1138	0.3343	-4.1140*
	(0.5287)	(0.4337)	(3.6322)	(0.3064)	(0.2567)	(2.4714)
Age: 22 - 25	0.9781*	0.5322	4.8990	0.1231	0.3250	-1.2698
	(0.5353)	(0.4417)	(3.2915)	(0.3273)	(0.2546)	(2.7636)
Age: 26 - 30	0.2783	-0.2652	6.4591*	-0.6346**	-0.3251	-3.7041
	(0.6570)	(0.5347)	(3.4865)	(0.3201)	(0.2771)	(2.6248)
Age: 31 - 35	0.0776	-0.3587	4.8677	0.3670	0.3304	0.0444
	(0.6559)	(0.5016)	(4.4127)	(0.4081)	(0.3298)	(3.3644)
Age: 36 and Up	0.0623	-0.5223	5.4472	0.2791	0.2107	-1.4761
	(0.7678)	(0.5976)	(4.8588)	(0.5101)	(0.3975)	(3.5012)
1 Dependent	0.2959	0.2809	-0.0543	0.0273	-0.1838	3.4666
	(0.5394)	(0.3961)	(3.0285)	(0.2819)	(0.2392)	(2.5122)
2 Dependents	-0.3890	0.2187	-1.9676	-0.1856	-0.1277	1.3340
	(0.5443)	(0.4738)	(3.3832)	(0.3746)	(0.3258)	(2.7919)
3 Dependents	0.4549	0.7034	1.1908	-0.1231	-0.1738	1.5274
	(0.5280)	(0.4555)	(3.0895)	(0.3823)	(0.3426)	(2.9998)
Observations	13,354	11,725	1,629	27,529	24,825	2,704
Mean of Outcome	2.858	1.501	12.72	2.257	1.404	10.12

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 continued

Rating Groups	Engineering	Executive				
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	0.2485*	0.2191*	1.2867	0.1428	0.0633	1.5207
	(0.1483)	(0.1288)	(1.2386)	(0.3344)	(0.2322)	(2.8503)
High Fraction of Peers with a Recent Diagnosis	0.3624**	0.1653	2.4852**	-0.0023	0.0029	-0.2488
	(0.1463)	(0.1265)	(1.1036)	(0.2178)	(0.1629)	(1.7364)
Sailor that has ever been Diagnosed	8.2579***			7.7453***		
	(0.4981)			(0.6498)		
Low Fraction of Peers that Recently Deployed	-0.1278	-0.1053	-0.0231	0.3655	0.1480	3.2549
	(0.1648)	(0.1315)	(1.3309)	(0.3051)	(0.2648)	(2.7284)
High Fraction of Peers that Recently Deployed	0.1049	0.1567	-0.4034	0.0462	-0.0010	1.5660
	(0.1814)	(0.1482)	(1.2883)	(0.2178)	(0.1681)	(2.1903)
Low Fraction of Peers that Recently Demoted	0.3475	-0.0200	3.4175	-0.0155	0.1106	0.2501
	(0.4343)	(0.2699)	(2.8286)	(0.2556)	(0.2868)	(2.6115)
High Fraction of Peers that Recently Demoted	-0.1224	-0.2349**	1.2817	-0.0064	-0.0462	1.7935
	(0.1382)	(0.1067)	(1.1624)	(0.2900)	(0.1840)	(2.6505)
Low Fraction of Peers that Recently Divorced	0.1266	0.0923	1.1564	-0.2122	-0.4908**	3.8880
	(0.2834)	(0.1950)	(2.0472)	(0.3300)	(0.2066)	(4.1798)
High Fraction of Peers that Recently Divorced	0.2185	0.1405	1.4054	-0.3693*	-0.3148**	-1.3668
	(0.1369)	(0.1097)	(0.9886)	(0.2021)	(0.1604)	(1.7524)
Male	0.1738	0.1561	-1.4495	0.2997*	0.2033	-0.3263
	(0.2166)	(0.1684)	(1.5595)	(0.1762)	(0.1416)	(1.6266)

Appendix Table 3 continued

Rating Groups	Engineering			Executive		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	-0.7817***	-0.7884***	-1.4270	-0.8690***	-0.7320***	-2.7741
	(0.1382)	(0.1071)	(1.3149)	(0.1906)	(0.1550)	(1.8131)
Hispanic	-0.4342***	-0.5318***	0.5183	-1.0061***	-0.8661***	-1.4825
	(0.1616)	(0.1400)	(1.3827)	(0.2306)	(0.1772)	(2.6278)
Asian	-0.7275***	-0.6999***	-1.2773	-0.3442	-0.6604*	2.4469
	(0.2626)	(0.2171)	(2.2550)	(0.4218)	(0.3618)	(3.8659)
Other Race	0.0216	-0.0012	0.6595	0.1277	0.3502	-1.5561
	(0.2471)	(0.2011)	(1.6409)	(0.3963)	(0.3575)	(2.5664)
Married	-0.0374	0.0661	-0.7166	0.0366	-0.1864	1.3511
	(0.1651)	(0.1363)	(1.1930)	(0.1908)	(0.1550)	(1.7593)
Age: Under 22	-0.2261	-0.1353	-0.0055	-0.4730*	-0.3234	-2.7900
	(0.1573)	(0.1385)	(1.3743)	(0.2652)	(0.2193)	(3.0659)
Age: 22 - 25	-0.2488	-0.0976	-0.4059	-0.6020**	-0.4043*	-3.8481
	(0.1582)	(0.1332)	(1.3343)	(0.2594)	(0.2120)	(2.7037)
Age: 26 - 30	-0.5006**	-0.2513	-0.8321	-0.8013***	-0.3526	-6.8077**
	(0.2070)	(0.1703)	(1.5250)	(0.2884)	(0.2363)	(2.8366)
Age: 31 - 35	-0.4373*	-0.4130**	0.6657	-0.8507***	-0.6143***	-5.8867**
	(0.2299)	(0.1899)	(1.6203)	(0.3036)	(0.2319)	(2.9901)
Age: 36 and Up	-0.0546	-0.3245	3.5948*	-0.8296**	-0.4818	-5.3583*
	(0.2787)	(0.2296)	(1.9970)	(0.3780)	(0.2992)	(3.1172)
1 Dependent	-0.0788	-0.0171	0.0060	-0.0152	-0.0655	2.5768
	(0.1811)	(0.1547)	(1.3779)	(0.2110)	(0.1766)	(2.1111)
2 Dependents	-0.1377	-0.0622	-0.0290	-0.1768	0.0070	-0.8728
	(0.2161)	(0.1901)	(1.5019)	(0.2592)	(0.2158)	(2.5647)
3 Dependents	0.3395	0.3076	1.4469	-0.1731	0.0094	1.6975
	(0.2231)	(0.1969)	(1.4233)	(0.2641)	(0.2104)	(2.5039)
Observations	72,672	65,611	7,061	29,577	26,869	2,708
Mean of Outcome	2.060	1.197	10.14	1.718	0.976	9.094

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 continued

Rating Groups	Medical	Operations				
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	-0.0512	0.1068	-0.0903	0.0207	-0.0012	1.1013
	(0.2237)	(0.1713)	(1.9689)	(0.1498)	(0.1242)	(1.4219)
High Fraction of Peers with a Recent Diagnosis	0.4316**	0.2464	1.6945	0.2342	0.1034	1.6335
	(0.1976)	(0.1547)	(1.5699)	(0.1434)	(0.1173)	(1.1616)
Sailor that has ever been Diagnosed	10.0425***			9.2146***		
	(0.5279)			(0.4859)		
Low Fraction of Peers that Recently Deployed	0.2012	-0.0426	3.2869	-0.0155	-0.0515	0.5272
	(0.2507)	(0.1871)	(2.5480)	(0.1774)	(0.1382)	(1.7565)
High Fraction of Peers that Recently Deployed	0.2703	0.2799*	0.2450	0.3336**	0.2458*	1.6052
	(0.1951)	(0.1594)	(2.0016)	(0.1696)	(0.1359)	(1.5739)
Low Fraction of Peers that Recently Demoted	-0.2735	-0.1175	-1.2102	0.1269	-0.1084	1.1154
	(0.3253)	(0.3713)	(2.1597)	(0.3737)	(0.2220)	(3.1214)
High Fraction of Peers that Recently Demoted	0.1648	0.1417	0.1732	0.0781	-0.0620	1.7219
	(0.2057)	(0.2000)	(1.3476)	(0.1576)	(0.1242)	(1.3724)
Low Fraction of Peers that Recently Divorced	-0.3919	-0.2425	-0.9821	0.1301	0.1121	-0.1535
	(0.4037)	(0.3049)	(2.8839)	(0.3560)	(0.2729)	(3.5249)
High Fraction of Peers that Recently Divorced	0.2484	0.0784	2.3583*	0.2693*	0.2153**	0.8502
	(0.1756)	(0.1349)	(1.3590)	(0.1388)	(0.1062)	(1.2074)
Male	0.3925**	0.4413***	-0.3856	-0.3358**	-0.0207	-3.5293***
	(0.1600)	(0.1172)	(1.2307)	(0.1511)	(0.1092)	(1.2436)

Appendix Table 3 continued

Rating Groups	Medical			Operations		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	-0.6989***	-0.8981***	1.7121	-0.7324***	-0.6119***	-2.5297**
	(0.1825)	(0.1349)	(1.8882)	(0.1194)	(0.1019)	(1.1699)
Hispanic	-0.6989***	-0.8661***	1.2867	-0.2517	-0.1601	-1.0714
	(0.1787)	(0.1470)	(1.7405)	(0.1676)	(0.1411)	(1.4856)
Asian	-0.7458**	-0.3586	-4.3180*	-0.0532	-0.0222	-1.9993
	(0.3176)	(0.2730)	(2.3389)	(0.3774)	(0.3000)	(3.5882)
Other Race	0.2132	-0.2169	2.9589	0.1663	0.0751	1.2803
	(0.3131)	(0.2624)	(1.8991)	(0.2533)	(0.2131)	(1.8684)
Married	-0.2919*	-0.1719	-1.7440	-0.1449	-0.1233	-0.4451
	(0.1684)	(0.1209)	(1.5100)	(0.1430)	(0.1129)	(1.1213)
Age: Under 22	-0.4044**	-0.1567	-4.2591**	-0.1306	0.0149	-1.7825
	(0.2028)	(0.1620)	(1.8659)	(0.1562)	(0.1381)	(1.7044)
Age: 22 - 25	-0.3463	-0.2041	-2.7013	-0.6023***	-0.1699	-4.6660***
	(0.2478)	(0.1989)	(1.9264)	(0.1638)	(0.1420)	(1.7197)
Age: 26 - 30	-0.6153**	-0.4149*	-3.0706	-0.4511**	-0.2336	-3.3511*
	(0.2879)	(0.2266)	(2.3186)	(0.2041)	(0.1607)	(1.9508)
Age: 31 - 35	-0.8189***	-0.4990**	-6.0741**	-0.3304	-0.3114*	0.0172
	(0.3011)	(0.2508)	(2.5614)	(0.2253)	(0.1860)	(2.0374)
Age: 36 and Up	-0.6501*	-0.4339	-5.3597*	-0.3447	-0.1343	-1.8202
	(0.3599)	(0.2763)	(2.9877)	(0.3059)	(0.2608)	(2.5456)
1 Dependent	0.1226	0.0284	1.2999	0.1516	0.2953**	-1.5916
	(0.2140)	(0.1437)	(1.8030)	(0.1853)	(0.1491)	(1.4240)
2 Dependents	0.0020	0.1135	-0.4256	0.1597	0.1139	-0.0109
	(0.2289)	(0.1826)	(1.8087)	(0.2021)	(0.1641)	(1.4782)
3 Dependents	0.2496	0.1316	2.7292	-0.0191	0.0783	-0.5353
	(0.2533)	(0.1901)	(1.9832)	(0.2135)	(0.1621)	(1.6698)
Observations	45,793	41,368	4,425	70,662	64,114	6,548
Mean of Outcome	2.140	1.142	11.52	1.981	1.103	10.63

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 continued

Rating Groups	Special Operations			Supply		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	0.8205*	0.5762	12.2834	-0.1586	-0.1643	0.0127
	(0.4429)	(0.3483)	(12.5806)	(0.2422)	(0.2149)	(2.1543)
High Fraction of Peers with a Recent Diagnosis	-0.6088	-0.1567	-7.5473	0.3657**	0.0645	3.0485**
	(0.5772)	(0.6816)	(9.5129)	(0.1724)	(0.1415)	(1.4374)
Sailor that has ever been Diagnosed	9.4274***			8.7299***		
	(3.0205)			(0.5123)		
Low Fraction of Peers that Recently Deployed	0.0885	-0.1667	3.1085	0.3065	0.1672	2.1877
	(0.3832)	(0.3234)	(13.9407)	(0.2106)	(0.1649)	(2.1894)
High Fraction of Peers that Recently Deployed	-0.1943	-0.0689	-6.3152	0.4690***	0.3347***	2.2325
	(0.2203)	(0.2833)	(12.2373)	(0.1554)	(0.1285)	(1.5722)
Low Fraction of Peers that Recently Demoted	0.5474	0.5312	-2.6579	0.3026	0.1043	3.2458
	(0.4236)	(0.3798)	(14.0862)	(0.3100)	(0.3137)	(2.3563)
High Fraction of Peers that Recently Demoted	0.4426	0.0296	12.4025	-0.1143	-0.0790	0.8926
	(0.3383)	(0.3588)	(10.0149)	(0.1607)	(0.1286)	(1.7394)
Low Fraction of Peers that Recently Divorced	0.7348	0.3469	19.7428	0.3205	0.3696	-0.1642
	(0.6492)	(0.4656)	(22.5723)	(0.3095)	(0.2797)	(2.7863)
High Fraction of Peers that Recently Divorced	0.4325	0.3136	8.6441	0.1598	0.1647	1.0502
	(0.4976)	(0.4248)	(8.0078)	(0.1575)	(0.1245)	(1.4571)
Male	0.3143	0.3994		0.3401**	0.1718	2.9381**
	(0.3925)	(0.2851)		(0.1467)	(0.1138)	(1.4110)

Appendix Table 3 continued

Rating Groups	Special Operations			Supply		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	1.3606	1.4626*	0.2073	-0.8225***	-0.7857***	-1.3450
	(0.9014)	(0.8661)	(16.0954)	(0.1787)	(0.1434)	(1.5840)
Hispanic	0.1334	-0.0233	10.9857	-0.8859***	-0.7455***	-3.4035*
	(0.3507)	(0.2757)	(13.2585)	(0.2005)	(0.1633)	(1.9605)
Asian	-0.0884	-0.4397*	17.9134	-1.0931***	-0.7723***	-4.8235*
	(0.4604)	(0.2519)	(11.9032)	(0.3215)	(0.2749)	(2.7961)
Other Race	-0.4108	-0.1591	-20.0621**	0.3913	0.1714	2.7430
	(0.3134)	(0.2676)	(9.3774)	(0.3305)	(0.2845)	(2.4720)
Married	0.0942	-0.0344	1.9186	-0.0955	0.0515	-1.0670
	(0.4748)	(0.4045)	(7.9333)	(0.1888)	(0.1480)	(1.6449)
Age: Under 22	0.1869	0.2155	-14.1503	-0.3120	-0.1841	-1.8772
	(0.3928)	(0.2844)	(14.4952)	(0.1933)	(0.1647)	(2.3871)
Age: 22 - 25	-0.3510	-0.0915	-21.4712*	-0.4228**	-0.0635	-3.5722
	(0.2347)	(0.1663)	(11.4803)	(0.2029)	(0.1716)	(2.2636)
Age: 26 - 30	-0.3877	-0.1051	-27.7892	-0.4122*	-0.1023	-3.3873
	(0.5190)	(0.3929)	(17.3308)	(0.2365)	(0.2053)	(2.5548)
Age: 31 - 35	-0.8781*	-0.4126	-40.1381**	-0.4727*	-0.2693	-3.5154
	(0.4683)	(0.3998)	(14.9652)	(0.2521)	(0.1892)	(2.7773)
Age: 36 and Up	-1.7869***	-0.8583**	-32.5267***	-0.5593**	-0.2143	-3.9173
	(0.5504)	(0.4047)	(11.5021)	(0.2837)	(0.2231)	(2.8330)
1 Dependent	-0.3680	-0.2819	2.5062	-0.3622**	-0.3349**	-1.6843
	(0.5124)	(0.4770)	(10.0373)	(0.1822)	(0.1498)	(1.6848)
2 Dependents	-0.0162	-0.1240	10.0420	-0.2362	-0.2401	-0.5213
	(0.5924)	(0.4215)	(14.0185)	(0.2321)	(0.1828)	(2.0575)
3 Dependents	-0.1882	-0.3704	21.7272	-0.1057	-0.2079	-0.2053
	(0.4378)	(0.5094)	(13.0927)	(0.2395)	(0.1819)	(2.1037)
Observations	6,635	6,458	177	50,577	46,254	4,323
Mean of Outcome	0.863	0.601	10.44	1.852	1.057	10.35

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 continued

Rating Groups	Support	Unrated				
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
Low Fraction of Peers with a Recent Diagnosis	-0.0496	-0.0152	0.6042	-0.9962**	-0.5985**	-7.6613*
	(0.2968)	(0.2392)	(2.8317)	(0.3946)	(0.2999)	(4.2517)
High Fraction of Peers with a Recent Diagnosis	0.2740	-0.0396	1.9313	-0.5638**	-0.0112	-8.1558***
	(0.2796)	(0.2378)	(2.0247)	(0.2810)	(0.2392)	(3.0911)
Sailor that has ever been Diagnosed	9.1103***			13.6360***		
	(0.6449)			(1.2009)		
Low Fraction of Peers that Recently Deployed	-0.1366	-0.0518	-1.2354	-0.4131	-0.3289	0.1709
	(0.3439)	(0.2700)	(3.3861)	(0.5136)	(0.4685)	(2.8422)
High Fraction of Peers that Recently Deployed	0.3715	0.3207	0.7648	0.0364	0.0364	-0.0977
	(0.3410)	(0.2361)	(3.3299)	(0.2995)	(0.2515)	(2.6178)
Low Fraction of Peers that Recently Demoted	-0.2560	-0.2326	-1.5061	-0.5730	-0.8441**	-6.7688
	(0.5882)	(0.5761)	(2.9571)	(0.4592)	(0.3996)	(5.8176)
High Fraction of Peers that Recently Demoted	-0.6159*	-0.2294	-3.8185*	0.4146	0.2384	2.4422
	(0.3333)	(0.2891)	(1.9493)	(0.2766)	(0.2440)	(2.8598)
Low Fraction of Peers that Recently Divorced	0.4396	0.0971	1.5638	0.7164	0.6437	-1.5656
	(0.5546)	(0.3860)	(3.7244)	(0.7036)	(0.5702)	(4.7882)
High Fraction of Peers that Recently Divorced	-0.2630	-0.0656	-2.7422	0.3219	0.3842	-0.4472
	(0.2776)	(0.2339)	(1.9934)	(0.4861)	(0.4233)	(3.7228)
Male	-0.1250	-0.0630	-0.6591	0.6705**	0.1647	5.1146**
	(0.2326)	(0.2020)	(1.6024)	(0.2841)	(0.2158)	(2.4476)

Appendix Table 3 continued

Rating Groups	Support			Unrated		
	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis	All Sailors	Sailors Never Been Diagnosed	Sailors with at Least One Diagnosis
Outcome Variable =	Diagnosed with a Tobacco Disorder					
African American	-1.1567***	-1.0121***	-3.6917*	-0.8996***	-0.8855***	-1.9560
	(0.2092)	(0.1631)	(1.9354)	(0.2465)	(0.2021)	(3.2514)
Hispanic	-0.5987**	-0.5981***	-0.6890	-0.8490***	-0.7691***	-1.6208
	(0.2700)	(0.2271)	(2.3249)	(0.3181)	(0.2696)	(2.8095)
Asian	-1.2442**	-1.0859**	-2.9177	-1.3994**	-1.7125***	5.4110
	(0.6206)	(0.5172)	(4.2742)	(0.6645)	(0.5207)	(7.9434)
Other Race	0.4633	0.4159	0.6665	0.5049	0.5400	1.1584
	(0.5190)	(0.4432)	(2.7003)	(0.5405)	(0.4859)	(3.1127)
Married	-0.1162	-0.2508	0.5825	0.0717	-0.3974	4.0485
	(0.2924)	(0.2052)	(2.0915)	(0.3488)	(0.2750)	(3.1972)
Age: Under 22	0.0516	0.0389	0.9471	0.0819	0.4523**	-4.7614**
	(0.2682)	(0.2793)	(2.7502)	(0.2633)	(0.2230)	(2.4123)
Age: 22 - 25	-0.4226	-0.1418	-2.5216	0.4514	0.6051*	-1.2867
	(0.3355)	(0.2997)	(2.5014)	(0.3651)	(0.3327)	(3.5918)
Age: 26 - 30	-0.0596	0.1004	-0.1875	0.7044	0.4246	8.9949
	(0.3358)	(0.3222)	(3.0601)	(0.8451)	(0.6774)	(8.9020)
Age: 31 - 35	-0.2758	-0.0687	-2.1027	-1.7745	-0.5168	-9.0894
	(0.3851)	(0.3156)	(2.9455)	(1.2021)	(1.2046)	(6.5620)
Age: 36 and Up	-0.2449	-0.2636	1.3090	-1.5764	-1.5282**	
	(0.4482)	(0.3593)	(3.7913)	(1.0739)	(0.7563)	
1 Dependent	0.1357	0.2760	-0.2727	-0.3900	-0.1674	1.0762
	(0.3164)	(0.2590)	(2.2621)	(0.3291)	(0.2735)	(3.2925)
2 Dependents	-0.1528	0.1012	-2.1196	-0.4449	0.0519	-1.8522
	(0.3792)	(0.3130)	(2.4531)	(0.4788)	(0.4586)	(3.7126)
3 Dependents	-0.2461	-0.1730	0.5327	0.6239	0.7755	3.4425
	(0.3748)	(0.2792)	(2.5846)	(0.9757)	(0.8374)	(7.8284)
Observations	30,477	27,343	3,134	26,121	24,181	1,940
Mean of Outcome	2.452	1.463	11.17	2.837	1.794	15.93

Notes: Standard errors in parentheses. Outcomes multiplied by 100. Models control for unit fixed effects. Omitted category is no peers with a recent diagnosis*** p<0.01, ** p<0.05, * p<0.1

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