The Effects of Gender Integration on Men: Evidence from the U.S. Military*

Kyle Greenberg
West Point and NBER

Melanie Wasserman
UCLA and NBER

E. Anna Weber
West Point

September 2024

Abstract

How do men respond when women first enter an occupation? In 2016, the U.S. military removed one of the final explicit occupational barriers to women in the U.S. by opening all positions to women, including historically male-only combat occupations. This policy change provides a rare opportunity to study the initial gender integration of an occupation. The effects of introducing women into a previously all-male group or occupation are theoretically ambiguous. Increasing gender diversity could leverage complementary skills and ideas, boosting individual and team performance. Alternatively, integrating women could create communication obstacles, lead to interpersonal conflict, or incite retaliatory behavior, potentially diminishing both group performance and the performance of men themselves. In this paper, we exploit the staggered integration of women into combat units to estimate the causal effects of the introduction of female colleagues on men's job performance, behavior, and satisfaction, using monthly administrative personnel records and rich survey responses measuring workplace climate. We find little evidence that integrating women into previously all-male units negatively impacts men's performance and behavior. Many of our results are precise enough to rule out small, detrimental effects. However, the integration of women causes a negative shift in male soldiers' perceptions of workplace quality, including job satisfaction, organizational effectiveness, and the organization's ability to address potential incidents of sexual harassment/assault. Additionally, the negative effects of integration on men's perceptions of workplace quality are confined to units that integrate with at least one female officer. We discuss how these findings shed light on the role of gender identity concerns in explaining occupational segregation by gender.

*Kyle Greenberg: Department of Social Sciences, West Point. Email: kyle.greenberg@westpoint.edu. Melanie Wasserman: UCLA Anderson School of Management. Email: melanie.wasserman@anderson.ucla.edu. E. Anna Weber: Department of Social Sciences, West Point. Email: anna.weber@westpoint.edu. We have benefited from the helpful feedback of Scott Carrell, Caitlin Myers, Serkan Ozbeklik, Wei-hsin Yu, Daniele Paserman, and seminar participants at West Point, the University of Connecticut, the U.S. Air Force Academy, the ASSA 2024 CSWEP session, Cornell, Northwestern, All-UC Demography conference, the Northeast Labor Symposium for Early Career Economists, Loyola Marymount, UC Riverside, the Institute for Defense Analysis, the Southern California Conference in Applied Microeconomics (SoCCAM), and NBER Summer Institute Gender in the Economy. We thank Anika Nerella, Kelly Orr, and Samantha Mackley for excellent research assistance. All views, opinions, and interpretations are those of the authors and do not represent the views or official positions of West Point, the U.S. Army, or the Department of Defense.

1 Introduction

Over the last 50 years, women have made substantial inroads into the labor market, including into predominantly male occupations. Yet occupational segregation by gender—the tendency of men and women to work in different occupations—remains an enduring feature of labor markets around the world (Cortes and Pan, 2018). For example, in 2023 in the U.S., female representation hovered below 20 percent in occupations ranging from construction workers and police officers to mechanical engineers and IT administrators (BLS, 2024). These differences in men's and women's work continue to be key determinants of gender gaps in pay (Goldin, 2014; Blau and Kahn, 2017).

Which forces sustain the low representation of women—or conversely, the preponderance of men—in certain occupations? A large literature has sought to explain occupational segregation by focusing on gender differences in abilities/skills (e.g. physical strength), behavioral traits (e.g. competitiveness), and preferences for the non-monetary attributes of jobs (e.g. temporal flexibility) (Niederle and Vesterlund, 2007; Flory et al., 2015; Mas and Pallais, 2017; Wiswall and Zafar, 2018; Breda and Napp, 2019; Lordan and Pischke, 2022). Other, less explored, explanations pertain to discrimination arising from gender identity concerns: women's entry into a male-dominated occupation may conflict with male workers' identity, diminish the occupation's prestige, or signal a decline in occupational skill requirements. If the presence of women leads men to discriminate, retaliate, or engage in other unproductive tasks, thereby decreasing performance, employers could be hesitant to hire women and women could be reluctant to enter or stay in these occupations (Akerlof and Kranton, 2000; Goldin, 2015; Folke and Rickne, 2022).

In this paper, we ask how men respond when women first enter an occupation. We answer this question by studying the end of one of the final explicit occupational barriers to women in the U.S.: in 2016, the U.S. military opened all positions to women, including front-line combat occupations. Upon the announcement of this policy change, critics—within and outside the military—argued that women in combat occupations would activate gender identity concerns: women's presence would endanger military readiness by diminishing group cohesion and morale and by triggering retaliatory or other unproductive behaviors toward women.[1] Supporters, however, touted the capacity to leverage a larger pool of talent and performance gains from gender diversity, potentially stemming from complementary skill sets and ideas.[2] The recency of this policy change, paired with the availability of detailed personnel and survey data, presents a rare op-

[1]For example: Will Infantry Men Accept Women as Peers? and Women Don't Belong in Combat Units (accessed 19 January 2024).
[2]For example: Women in Combat: US Military Officially Lifts Ban on Female Soldiers (accessed 19 January 2024).

portunity to study how the performance, behavior, and attitudes of male workers respond to the initial entry of women.

Our empirical strategy is a difference-in-differences design that exploits the staggered integration of women into infantry and armor units, or companies, in the U.S. Army. Infantry and armor are the most combat-oriented occupations in the Army, with infantry soldiers engaging in combat operations on the ground and armor soldiers engaging in combat operations in tanks. In each year beginning in 2017, approximately 5% to 10% of the roughly 400 combat companies affected by the policy change received their first cohort of women. Importantly, the companies integrated in each year were not chosen strategically or in a data-driven fashion. Once a company is integrated, it remains integrated and continues to receive women in future years. The integration process is ongoing: as of 2023, 137 companies had yet to be integrated, comprising a large never-treated group.

Using administrative personnel records and rich survey responses measuring organizational climate, we estimate the causal effect of the introduction of female colleagues on men's job performance, disciplinary infractions, and workplace attitudes. The administrative data include individual-level metrics of retention, promotions, demotions, criminal charges, physical fitness scores, and medical conditions. These measures largely determine a company's ability to deploy to combat if needed and thus are key performance metrics from the Army's perspective. We additionally measure men's perceptions of company performance and cohesion, confidence in leadership, beliefs about the inclusivity of the workplace, and perceptions of leader responses to harassment and discrimination using responses to the Defense Organizational Climate Survey (DEOCS), an annual survey administered by the Department of Defense.

We find that integrating women into all-male companies has little effect on men's performance and behavior outcomes measured through administrative personnel records. Many of the estimates are precise enough to rule out small detrimental effects. For example, two years after the integration of women, we can rule out a 3% increase in attrition from the Army, a 5% increase in demotions relative to the mean, and a 4% increase in criminal charges. Integration *reduces* separations from the Army due to misconduct by 1.28 percentage points (16% of the mean; significant at the 5% level). Across a wide range of performance and behavior outcomes, the only one that shows evidence of negative effects is physical fitness test scores, which decline by 2 points (significant at the 10% level), corresponding to 0.8% of mean test scores or 5% of a standard deviation. However, small declines in physical fitness do not extend to other performance outcomes, such as promotions or demotions, or to medical conditions that limit a soldier's ability to fight.

Consistent with our general conclusion that integration has little effect on men's performance and behavior, we show that effects of integration do not vary with the intensity of treatment, that is, the number of women incorporated into a company. Furthermore, the effects do not vary by the characteristics of male soldiers (enlisted v. officer) or by the characteristics of the integrated women (enlisted v. officer). These results suggest that integration does not negatively affect many metrics of men's conduct, counter to the predictions from models of gender identity that the presence of women could trigger harmful or unproductive behaviors among men.

While gender integration generally has little effect on men's performance and behavior, survey data reveal that the arrival of women leads to a slight decline in men's perceptions of workplace quality. The negative shift occurs across a range of survey questions, including perceptions of organization/leader effectiveness, workplace inclusivity, and sexual harassment/assault prevention and response. By constructing an aggregate index that incorporates attitudes across all survey statements, we find that gender integration reduces men's perceptions of workplace quality by 5% of a standard deviation.

The average reduction in men's perceptions of overall workplace quality masks two important dimensions of heterogeneity. First, the negative shift is pronounced among male officers (13.9% of a standard deviation; significant at the 1% level), relative to male enlisted soldiers (3.9% of a standard deviation; not significantly different from zero), and the difference in effect sizes between the two groups is statistically significant. Second, there is an asymmetry in the response of male soldiers to the integration of female leaders versus female junior enlisted soldiers. In particular, the negative shift in men's attitudes is confined to soldiers in companies that were assigned a female officer shortly after integration. The decline is again more substantial among male officers than among male enlisted soldiers, but occurs among both groups. In contrast, among companies that received only female enlisted soldiers (and no female officer), integration *improves* enlisted men's workplace attitudes by 14.7% of a standard deviation (significant at the 5% level), an effect that is statistically different from the reduction in workplace attitudes among enlisted men in companies that integrate with female officers.[3]

We investigate several explanations for the reduction in men's perceptions of workplace quality when a female officer is integrated. While resistance to female officers could arise from actual differences in the qualifications or leadership quality of male and female officers, the administrative data shows that female

[3]This positive shift in men's perceptions of workplace quality when integrated with enlisted women is consistent with men's stated preference for gender-diverse workplaces, documented in Schuh (2024).

and male officers have remarkably similar baseline characteristics, including educational background and experience levels. Furthermore, there is no evidence from the administrative outcomes that companies integrated with female officers perform worse (than non-integrated companies or companies integrated with only female enlisted soldiers). We additionally find no evidence that the decline in male officers' perceptions of the workplace is related to waiting longer for a platoon assignment relative to female colleagues.

Male soldiers, however, report observing more bullying, hazing, and unwanted workplace experiences or comments after the integration of a female officer. These metrics do not increase when a company is integrated only with female enlisted soldiers. The rise in men's reports of workplace problems when integrated with a female leader could reflect an increase in the incidence of these problems or an increase in the awareness of these problems.While we cannot provide a definitive test between these two mechanisms, we note that enlisted women report *fewer* workplace problems when integrated alongside a female officer (relative to being integrated with only enlisted women) and metrics of workplace misconduct from the administrative data show, if anything, improvements in male behavior when integration includes a female officer. One can potentially reconcile these patterns if the presence of a female officer increases men's *awareness* of hazing, bullying, and sexual harassment/assault.

Through their shared leadership positions, female officers could particularly increase the awareness of male officers, allowing them to gain additional insight into the experiences of female soldiers and to learn about organizational effectiveness, specifically as it pertains to women. Female soldiers, on average, report having a worse work environment than their male counterparts. Thus, officers' more pronounced negative shifts in attitudes when a female officer is integrated could reflect convergence toward female colleagues' perceptions. Consistent with this interpretation, we find that when a female officer is present upon integration, there is a significantly larger decline in male officers', relative to male enlisted soldiers', perceptions of the company's ability to prevent and respond to sexual harassment/assault.

The integration of female officers also causes a decline in men's perceptions of workplace problems that do not disproportionately affect women, suggesting that the presence of a woman in a position of authority may generate broader negative reactions. Notably, the decline in men's perceptions of workplace quality following the integration of female officers is more pronounced in survey questions related to organizational effectiveness than in questions related to equal opportunity or the company's ability to prevent and respond to sexual harassment and assault. This possible mechanism is in line with evidence from a growing literature that shows female leaders experience discrimination from male (and sometimes female) subordinates

(Husain et al., 2023; Abel, 2024; Ayalew et al., 2021). To our knowledge, there are not studies that investigate whether female managers experience discrimination from their male manager peers. We note that men's negative response to female leadership only materializes in workplace attitudes; a wide range of administrative personnel metrics show no negative effects of gender integration with a female officer on men's outcomes. Men's negative reactions also do not appear to manifest in retaliatory behavior toward women. Instead, female enlisted soldiers report some benefits of being integrated alongside a female officer, based on their responses to the workplace attitudes survey.

We conduct a series of empirical tests to probe the validity of our key identifying assumption that, absent integration, outcomes in companies that experienced gender integration would have evolved similarly to outcomes in companies that did not integrate. Using event study specifications, we find no evidence of differential trends among integrated versus non-integrated companies in the time leading up to integration. Moreover, we find that the baseline characteristics of integrated and non-integrated companies are remarkably similar, confirming that units were not systematically selected for integration. Our findings are also robust to the alternative DiD estimators outlined in Cengiz et al. (2019) and Callaway and Sant'Anna (2021). These tests support our interpretation of the estimates as the causal effect of gender integration on men's performance, behavior, and attitudes.

This paper contributes to our understanding of the roots of occupational segregation by gender by providing novel evidence on men's reactions to the initial entry of women into an occupation. As described above, the effects of introducing women into a previously all-male group or occupation are theoretically ambiguous. Increasing gender diversity could leverage complementary skill sets and ideas, boosting individual and team performance (Hong and Page, 2001). Alternatively, integrating women could create communication obstacles or lead to interpersonal conflict, potentially diminishing both group performance and the performance of men themselves (Lang, 1986; Lazear, 1999). Women's entry could additionally compromise men's occupational prestige or identity, leading to retaliatory actions toward women, discrimination, or other unproductive behaviors (Akerlof and Kranton, 2000; Goldin, 2015). Our paper shows that to the extent gender identify concerns negatively affect men in the workplace upon the integration of women, these concerns are confined to subjective workplace perceptions and do not manifest in decreased unit performance on objective measures.

Our findings from the desegregation of a previously all-male occupation complement prior experimental evidence from Dahl et al. (2020), which randomly varies male soldiers' exposure to female peers in the

Norwegian military during their six-week boot camp and finds short-run positive effects on men's attitudes regarding gender equality and no effect on men's job satisfaction or performance. In contrast, we find that the integration of women causes an overall decline in men's perceptions of workplace quality and job satisfaction.[4] While these results might seem at odds with one another, our heterogeneity analyses reveal that the decline in men's attitudes is driven by companies integrated with female leaders (officers), rather than only female peers (enlisted soldiers), suggesting that men (both subordinates and leaders) may resist the introduction of female leadership. Our findings are also in line with previous work documenting negative reactions to women in positions of authority, from educational and manufacturing settings, political offices, online marketplaces, and lab experiments.[5] An additional contribution of our paper is its documentation that negative reactions to female leadership may extend to men who are in similar positions of authority.

This paper also contributes to the broader literature on the ramifications of female representation in settings ranging from politics (Beaman et al., 2009) and corporate boards (Bertrand et al., 2018) to police forces (Miller and Segal, 2018), undergraduate teams (Karpowitz et al., forthcoming), and academia (Wu, 2020; Truffa and Wong, 2022). A subset of these papers examines how the presence of women in workplace settings shapes male colleagues' behavior. The findings are mixed. Men avoid occupations with increased female representation, particularly when it reaches a critical threshold known as a tipping point (Pan, 2015). Furthermore, a larger presence of women on scientific committees causes male evaluators to score female applicants less favorably (Bagues et al., 2017). By contrast, increased female representation in firms reduces sexual harassment toward women (Folke and Rickne, 2022) and the presence of women on judge panels increases male co-panelists' propensity to hire female clerks (Battaglini et al., 2023). Our results suggest that the introducing women into a traditionally male-only environment may worsen men's perceptions of workplace quality if women are introduced in positions of authority.

[4]The DEOCS unit climate survey does not ask questions regarding attitudes towards gender equality.

[5]There is higher male teacher turnover when working under a female principal relative to a male principal (Husain et al., 2023), early termination of female mayoral positions by all-male councils (Gagliarducci and Paserman, 2012), lower evaluations of female managers of garment factories (Macchiavello et al., 2020), and backlash toward female bosses in online and lab settings (Grossman et al., 2019; Ayalew et al., 2021; Abel, 2024; Chakraborty and Serra, 2024). In some cases, the negative reactions are driven by male subordinates (Husain et al., 2023; Gagliarducci and Paserman, 2012).

2 Background: Integration of Women into Combat Occupations

2.1 The End of Ground Combat Exclusion

Prior to 2016, the U.S. military's Ground Combat Exclusion Policy (GCEP) precluded women from serving in infantry and armor positions.[6] Infantry and armor are the Army's most combat-oriented occupations and account for roughly 25% of new Army enlistments each year. Infantry forces are predominately ground combat soldiers who operate on foot or light tactical vehicles in formations that engage in direct combat. Armor forces operate in tanks and also engage in direct combat. Armor also includes cavalry forces that primarily conduct reconnaissance in smaller tanks.[7] Military leaders recommended the removal of the combat exclusion policy in part because the exclusion of women from combat occupations impeded women's advancement in the highest ranks of the military, which are overwhelmingly sourced from combat arms branches, despite women's increasing practical experiences with combat in recent decades (Lyles, 2011).

In 2013, Secretary of Defense Leon Panetta rescinded GCEP and gave all services until January 2016 to either begin implementing plans to integrate women into all combat occupations or to request an exception. In December 2015, Secretary of Defense Ashton Carter announced that all military occupations would open to women with no exceptions starting in 2016 (see Swick and Moore (2018) and Miller (2022) for additional details). Even though all positions were officially open to women in January 2016, previously all-male infantry and armor companies did not begin integrating women until 2017 due to the time it takes for potential recruits to select an occupation, ship to basic training, and complete initial entry training requirements (Swick and Moore, 2018). The same is true for newly commissioned officers graduating from West Point, Reserve Officer Training Corps (ROTC) programs, and Officer Candidate School (OCS). Female officers were permitted to commission into infantry and armor starting in 2016, and infantry and armor officers typically spend a year in training before arriving at their first operational unit.[8]

Importantly, U.S. Army soldiers select their military occupational specialty (MOS) when they finalize their enlistment contract, so all women and men who enlisted in infantry and armor did so voluntarily.[9]

[6] The Ground Combat Exclusion policy also prevented women from serving in special forces. Recruits who enlist in special forces complete infantry initial-entry training before undergoing a rigorous assessment and selection process. Special forces recruits who do not pass all assessments typically reclassify into the infantry and are assigned to infantry units.

[7] We frequently refer to armor and cavalry forces as simply "armor" forces, but note that for enlisted personnel these are separate military occupational specialties (19D for armor, 19K for cavalry).

[8] Greenberg et al. (2023) describe how cadets at West Point and ROTC match to their military occupations, also known as branches. OCS follows a similar process.

[9] Most infantry and armor soldiers have Armed Services Vocational Aptitude Battery (ASVAB) test scores that qualify them to enlist in a wide range of military occupations, including technical occupations such as IT specialist, electrician, and intelligence analyst.

Another ideal aspect of our setting is that women's integration did not impact men's employment prospects or wages. It was not possible for men to be displaced by newly entering women—soldiers can voluntarily separate from the Army after completing their contractual obligation and the Army can separate soldiers for cause, medical reasons, or unexpected hardships, but the Army does not lay off soldiers and primarily manages changes in force size through natural attrition and adjustments to annual enlistment targets. Similarly, Army wages are fixed by Congressionally-approved pay scales that only vary by military rank and years of service. Army wages do not vary with soldiers' individual characteristics and cannot be adjusted by soldiers' supervisors.[10]

2.2 The Integration of Women Into Army Combat Units

Even after the end of the Ground Combat Exclusion Policy, the vast majority of recruits who enlisted in infantry and armor occupations remained male. The U.S. Army, therefore, decided to gradually integrate previously all-male combat units through a top-down approach that attempted to assign multiple women to integrated companies around the same time. The Army's Forces Command (FORSCOM) was responsible for executing this gradual integration plan that tracked infantry and armor women as they completed basic training and oversaw their assignment to Brigade Combat Teams. During the first few years of integration, FORSCOM's main goal was to open all Army bases to Infantry and Armor women, then to open up all Brigade Combat Teams women.[11]

Figure A.1 shows the organizational structure of an example Brigade Combat Team (BCT). BCTs typically include 3000 to 4000 soldiers, are designed to be interchangeable units, and serve as the Army's predominate fighting force during combat deployments. BCTs consist 6 or 7 subordinate battalions, each of which has 5 to 6 companies. Prior to the 2016 policy change, women could be assigned to Brigade Combat Teams, but they were limited to serving in the support battalions or in the Brigade headquarters. The 2016 policy change applied specifically to the infantry, armor, and cavalry reconnaissance companies contained within the red rectangles in Figure A.1. Of note, infantry companies typically consist of around 120 sol-

All infantry and armor soldiers qualify for other combat occupations such as combat engineer or bridge crewmember, and nearly all also qualify to enlist in noncombat occupations like truck driver, mechanic, cook, and logistics specialist.

[10] Military base pay and other financial allowances are also the same across occupations, but individual services are permitted to vary some enlistment bonuses and reenlistment bonuses by occupational specialty. The Army offered reenlistment bonuses to infantry soldiers at least through 2019 (Asch et al., 2021), suggesting that the integration of women did not generate a surplus of labor.

[11] Kyle Greenberg was assigned to the Army's Human Resources Command from 2017 through 2019 and was responsible for, among other things, ensuring female infantry and armor officers were assigned to units in accordance with FORSCOM's plan.

diers, the vast majority of which ($> 90\%$) are in infantry occupations, while armor and cavalry companies have closer to 60-80 soldiers (with similar occupational homogeneity). These traditional "front-line" forces comprise roughly 40% of all jobs in a BCT and 15% of all jobs in the Army.

The integration of women into infantry and armor formations has been a gradual process that continues today. Of the previously all-male infantry and armor companies in our analysis sample (described in Section 3.3 below), only 12% (47 of 391) were integrated by the end of fiscal year 2018. By the start of fiscal year 2023, 35% of infantry and armor companies had yet to be integrated.[12]

Even within BCTs, it was not possible to integrate all infantry and armor companies at the same time. Although Army Forces Command established the timeline for BCT integration, the Army did not have a formal policy for selecting companies within BCTs. However, the Army did require BCTs to follow a "Leaders First" integration policy that mandated a female leader, typically a lieutenant who had just completed basic officer training, be assigned to an infantry or an armor company before the company received junior enlisted female soldiers (Miller, 2022). The Leaders First policy ensured some representation of women among leaders within integrated companies and avoided scenarios where only a single female soldier was assigned to an otherwise all-male company, although adherence to this policy was not universal. Our data allow us to confirm that 17% of companies integrated between 2017 and 2020 were not assigned a female officer within a month of the company receiving its first female enlisted soldier, an important source of heterogeneity that we explore below.[13] Additionally, nearly 85% of companies that integrated between 2017 and 2020 received at least two women within the first year of integration and the median number of integrated women in the first year after a company's integration was four.

The decision on what companies to integrate within BCTs was largely left up to BCT commanders, battalion commanders, and more senior Division commanders (an Army division consists of multiple brigades). Multiple conversations with officers who served in BCTs when they were integrated suggest that the integration of specific companies was neither systematic nor data-driven. Consistent with this assertion, we show in Section 4.4 below that the characteristics of soldiers assigned to integrated companies look similar to the characteristics of soldiers assigned to non-integrated companies in the same BCT. Likewise, the observable characteristics of commanders of integrated companies do not appear to systematically differ from

[12] Army assignments and personnel actions follow the federal fiscal year schedule (October of the previous year through September of the current year). When we use the term "year" we generally mean fiscal year unless otherwise indicated.

[13] Lack of adherence to the Leaders First policy was likely due to some female officers not completing their initial officer training. The majority of companies that were assigned only enlisted women in the first month of integration did not receive a female officer in the first year of integration.

the characteristics of commanders of non-integrated companies.

Once integrated, female soldiers lived and worked alongside their male counterparts. Soldiers assigned to the same company work in close proximity to each other and typically have daily interactions. Most junior enlisted soldiers live in the same building as other junior enlisted soldiers assigned to their company. There is less interaction among soldiers assigned to different companies, mitigating the possibility of spillovers from integration. We are not aware of any formal training integrated units received before the arrival of women.

2.3 How Soldiers Are Assigned to Army Units

After completing basic training, the Army's Human Resources Command assigns soldiers to BCTs or other noncombat, training and support brigades based primarily on U.S. Army personnel requirements.[14] Once a soldier arrives to a BCT, the BCTs HR office (also known as the Brigade "Adjutant's Office" or the Brigade "S-1 Shop") is responsible for establishing a process that assigns soldiers to specific companies according to soldiers' occupation and rank in a manner that generally keeps all companies at similar personnel strength (Army Regulation 614-200). In practice, company personnel strengths fluctuate daily and are often imperfect due to lags in the time it takes for personnel managers to update soldiers' records. As a general rule, soldiers have little ability to influence the precise company they are assigned to (Lyle, 2006).

Although our difference-in-differences identification strategy (discussed in Section 4), does not require that soldiers be randomly assigned to companies, identification may be threatened if soldiers can systematically sort into infantry or armor companies that are scheduled to be integrated or that have already been integrated. We think this is unlikely considering the limited ability soldiers have to influence the specific unit they are assigned to and due to the lack of a data driven process for integrating units. We also present evidence below suggesting that the composition of companies that integrate appears similar to the composition of companies that do not integrate.

[14] See Section 2.1 of (Bruhn et al., 2024) and (Army Regulation 614-200) for additional details on how the Army assigns soldiers to brigades.

3 Data and Summary Statistics

3.1 Administrative Personnel Records

Our data combine various Army personnel records that include individual characteristics of soldiers when they first enlist, assignment information, and various outcomes throughout a soldier's career in the Army. Individual characteristics include gender, race, age, Armed Forces Qualification Test (AFQT) scores,[15] educational attainment, marital and dependent status, and military occupation. Servicemembers' assignment data include monthly snapshots that indicate, among other things, the servicemembers' rank, the Army base where the soldier is permanently stationed, and the specific unit (brigade, battalion and company) that the servicemember is assigned to.

We are able to construct key retention outcomes through our ability to observe the month that a soldier leaves the military and the specific reason for the termination of service (e.g. the end of the servicemember's contractual obligation, misconduct, medical impairment, etc.). We link to Army criminal records that reveal when soldiers are charged with misdemeanor or felony violations. Personnel records document when soldiers have medical profiles, which are formally documented medical conditions that prevent a soldier from temporarily or permanently performing assigned duties. We also observe when soldiers are promoted to higher ranks and when they are demoted (usually for misbehavior). For enlisted soldiers, we can also observe final scores on the Army Physical Fitness Test (APFT), the Army's record fitness test through 2020 that consists of three events (two minutes of pushups, two minutes of situps, and a two-mile run) that are each scored on a 0 to 100 scale that vary by age and gender.[16]

The administrative outcomes capture the main performance, behavior, and retention metrics used by the Army to assess combat readiness. While we also observe whether soldiers are wounded or killed in combat, these outcomes are too rare to include in our analysis. By the time the Army began integrating women into infantry and armor companies, deployments to combat zones were relatively infrequent and limited in scope: the primary mission of deployed U.S. forces was to train, advise, and assist local forces rather than to conduct direct combat operations. Roughly 17% of soldiers assigned to integrated companies in our sample deployed to combat at least once, with no statistically significant difference in the likelihood of

[15] AFQT scores are only available for enlisted personnel as commissioned officers do not take the AFQT.

[16] Officers also must take and pass the APFT but their scores are not recorded in their personnel files. The Army officially converted to a new fitness test, the Army Combat Fitness Test (ACFT) in October 2020. The ACFT was in a pilot phase whereby test results were not recorded on official records, specific events changed, and event scoring scales adjusted, until October 2022. As a result, our data do not include ACFT scores.

serving in a combat zone among soldiers assigned to integrated and non-integrated companies. For soldiers who deployed, the threat of injury or death was minimal. Only 50 (0.06%) of the roughly 89,000 soldiers assigned to companies in our sample between 2017 and 2020 suffered a combat injury, with even lower rates (0.02%) among soldiers assigned to integrated companies. Sadly, combat can be fatal, and this, too, was rare during the time frame of our study. Only 4 soldiers assigned to units in our sample between 2017 and 2020 died as a result of hostile action (twice in integrated units; and twice in non-integrated units).[17] Unfortunately, no official Army records measure unit performance in combat. However, even if such records existed, they would be difficult to interpret under the training and advising role of combat deployments in our setting relative to more standard combat operations.

3.2 Defense Organizational Climate Survey

We measure soldiers' views of the workplace environment with responses to the Defense Organizational Climate Survey (DEOCS). This Congressionally-mandated survey has been conducted throughout the military on an annual basis since it started as the Military Equal Opportunity Climate Survey in 1990, with response rates consistently above 50 percent. It is administered to units annually or shortly after any change in command and is intended to inform commanders and supervisors with confidential feedback about the work environment. Respondents are informed that their survey responses are anonymous, encouraging truthful reporting of beliefs. We study responses to version 4.1 of the survey, which was administered between September 2017 and July 2020, and thus overlaps most directly with the implementation of gender integration.[18]

This version of the survey is separated into three broad sections. The Organizational Effectiveness section includes questions about unit performance, self-identification with the unit, confidence in leadership, and group cohesion. The Equal Opportunity section asks about the inclusiveness of the group and about the presence of hazing, bullying, and discrimination. The Sexual Assault Prevention and Response section asks about leadership and peers' likely responses to incidents or reports of assault and harassment. Most questions are framed as statements with a seven-point agree-disagree Likert scale available for responses,

[17] Combat casualty rates around the time of gender integration were an order of magnitude lower than those experienced by soldiers who deployed during the height of combat operations in Iraq and Afghanistan. For example, (Bruhn et al., 2024) find that 2.24% of soldiers assigned to Brigade Combat Teams between 2005 and 2015 suffered a combat injury and 0.29% suffered a combat death within three years.

[18] The preceding and following versions of the survey ask different sets of questions, making it difficult to measure any longer-run impact on attitudes in a consistent way. In particular, version 5, which began being administered in late 2020, substantially reduced the number of questions about perceived organizational performance.

although there are a small number of questions with binary responses.

For each of these three broad categories of questions, we construct a workplace quality index from the set of relevant Likert scale questions. First, we recode responses as necessary so that larger numbers reflect a more favorable work environment. We then rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses. We use the mean and standard deviation among men in sample units which were not treated during the DEOCS period. To construct indices that incorporate responses across the category, we take the average of these z-scores for the set of relevant statements. We also construct an overall workplace quality index which takes the average of responses across all Likert scale questions in the survey.

DEOCS responses are anonymous but they do record a respondent's unit and the month that the survey was taken, allowing us to determine the integration status of the soldier's company at the time of response. The survey also asks respondents to indicate their gender and broad categories of rank, which allow us to distinguish between commissioned officers and enlisted personnel and to focus on the responses of male soldiers. The survey includes two attention check questions, and we exclude any responses that fail these checks.[19]

3.3 Sample Construction

Our primary sample consists of officers and enlisted soldiers assigned to 391 infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams from 2012 through 2020.[20] Starting the panel in 2012 allows us to observe outcomes several years prior to the integration of women. The panel ends in 2020 because we define our individual-level outcomes as two years after assignment and we do not observe outcomes past 2022.[21]

In the analysis of administrative outcomes that follows, our preferred sample is an individual-level sample of male soldiers who are newly assigned to one of the 391 companies. Since soldiers frequently change companies both within and across Brigade Combat Teams, we define a soldier's "month of assignment" as the first month that we observe the soldier within one of the 391 companies. All outcomes are measured rel-

[19] Gender integration does not impact the share of soldiers who complete the survey or the rate of correct answers to the attention check questions. See Table A.1.

[20] These are the companies within the red rectangles depicted in Figure A.1, as described in Section 2.2 above.

[21] We exclude companies that do not have at least 50 Infantry or Armor soldiers assigned to them for at least 60% of months between 2012 and 2022. These are predominately companies that were dissolved between 2014 and 2017 when the Army force restructuring reduced the number of BCTs from 45 to 32 (Lopez, 2013).

ative to the first month of assignment (e.g. demoted to a lower rank within two years of being first assigned to a company in our sample).

The newly arrived individual-level sample offers the cleanest identification if the integration of women causes endogenous sorting of male soldiers across companies. It also obviates concerns about how to denote the treatment status of soldiers who are first assigned to an integrated company but are then subsequently assigned to a company that is not integrated, or vice-versa. However, the main drawback of this sample is that it omits servicemembers who are assigned prior to 2012 or are serving subsequent assignment spells among the 391 companies.[22] We therefore also use a complementary company-level male sample where the unit of observation is the company-by-year and outcomes are constructed as the average of outcomes for *all male soldiers* assigned to the company at the start of the year. To explore how the integration of women may influence company-level male and female outcomes, we additionally analyze a company-level sample where outcomes are constructed as the average for *all soldiers (i.e. including women)*.

The anonymous nature of DEOCS responses prevents us from identifying when respondents were assigned to companies and thus our DEOCS sample consists of all soldiers present in the company, similar to the company-level administrative sample. We also note that the DEOCS data is only available to us for responses submitted from September 2017 through July 2020. To facilitate a comparison of results derived from DEOCS survey responses to results derived from administrative outcomes, we also present company-level results when we restrict the company-level panel to fiscal years 2018 through 2020.

3.4 Summary Statistics

Figure 1 provides a visual representation of the first stage: the percent of personnel assigned to companies in our sample who are women, over time and broken down by the year that companies integrate. Combat companies are primarily comprised of soldiers in infantry or armor occupations, but there are also soldiers in support roles such as supply specialists and administrative clerks. Panel (A) plots the female share of companies, restricting to women in the newly opened infantry/armor occupations. Upon integration, the female share increases. Once a company integrates, it stays integrated. However, Figure 1 panel (A) shows that the female share of companies that integrated earlier tends to be larger than the companies that integrated

[22] Relatedly, restricting to "first spells" introduces some classical measurement error when soldier change companies within a few months of their initial assignment. For example, if a soldier is assigned to Company A in August 2017 and then changes to Company B in October 2017, the individual-level sample treats this observation as an assignment to Company A in August 2017.

later and declines over time.[23] Most of the reduction in the share of women assigned to integrated companies reflects a shift in Army policy in recent years to integrate more companies even if it means assigning fewer women to integrated companies (Rempfer, 2020).

Figure 1 panel (B) plots the female share of companies, expanding to women belonging to *any* occupation. Table A.2, which uses a difference-in-difference specification to quantify the effect of integration on the percent of company personnel who are women, indicates that integration increased female representation by 4.7 percentage point on average, with women in infantry and armor occupations accounting for roughly 90% of this increase. Overall, the similarity of panels (A) and (B) in Figure 1 and the results reported in Table A.2 underscore that few women in occupations other than infantry and armor were assigned to the companies in our sample over the time-period of our study.

In Table 1 we present summary statistics for our individual-level sample of newly arrived male soldiers, measured when they first arrive at an infantry or armor company. As reported in column (1), the men in our sample are relatively young (average age of 23.8), predominately white (68%), and are mostly high school graduates. Roughly 8% of men in our sample are officers (usually lieutenants and sometimes captains), 17% are non-commissioned officers (i.e. sergeants), and the remaining 75% are junior enlisted. Among the enlisted soldiers in our sample (which includes non-commissioned officers), the average AFQT score is at the 57th percentile of this nationally representative test of math and reading ability.

Table 1 columns (2) and (3) report separate summary statistics for enlisted personnel and for officers in the individual-level sample. Relative to enlisted soldiers in our sample, officers tend to be slightly older when they are first assigned to a company in our sample (26.0 years for officers vs. 23.6 years for enlisted personnel), are more likely to be white (80% vs. 67%), and are nearly all college graduates.[24] Although not reported in our summary statistics, enlisted men in our sample spend an average of 22 months in their assigned company before moving to another company or leaving the Army while officers in our sample spend an average of 12 months in their assigned company.

In Table 1 columns (4) and (5), we report summary statistics for the infantry and armor men and women assigned to the combat companies in our analysis sample between 2017 and 2020. Relative to infantry and armor men, infantry and armor women assigned to combat companies are slightly younger on average (21.7 years vs. 22.6 years) and are substantially more likely to be Black (14.6% vs. 10.4%) and Hispanic

[23] In light of the heterogeneity in treatment intensity over time, we also estimate alternative difference-in-differences estimators as suggested by Goodman-Bacon (2021), Callaway and Sant'Anna (2021), and others. See Appendix C.

[24] Officers are required to have a college degree by the time they reach the rank of Captain.

(25.9% vs. 16.3%). The women who integrated combat companies have lower average AFQT scores than men in combat companies (48th percentile vs. 57th percentile), but are more likely to have some college experience, the latter of which is partly attributable to the relatively large share of integrating women being officers (19%, relative to 9% of men assigned to the same companies).

Table 2 shows average responses to DEOCS questions in various categories by rank, gender, and treatment status. Officers consistently report a more positive workplace experience than enlisted soldiers across all types of units. Female officers and enlisted soldiers of both genders generally report a worse work environment in sample units as compared to out of sample (noncombat) units. Of particular note, more than 30% of female enlisted soldiers in integrated sample units report experiencing sexual jokes, comments, unwanted relationships, or unwanted touching, and 20% report the presence of bullying in their company.

4 Empirical Strategy

The gradual integration of women into infantry and armor companies over time facilitates an event-study design that allows us to estimate how individual and company-level outcomes change after companies are integrated.

4.1 Individual-level Specification: Newly Arrived Soldiers

In order to estimate the effect of gender integration on soldiers newly assigned to combat units, we use the following dynamic two-way fixed effects model:

$$y_{iut} = \sum_{s \neq -2} \beta_s D^s_{u,t} + \alpha_u + \delta_{BCT,t} + \gamma_m + \varepsilon_{iut} \tag{1}$$

where y_{iut} is an outcome for soldier i who is assigned to company (unit) u in year t. As a point of clarification, each soldier in our individual-level sample has exactly one observation—t refers to the year that we first observe soldier i assigned to a company, u, in our sample. We measure most outcomes two years from the date of arrival, such as retention to the Army two years from arrival to the unit or medical profiles within the two-year period after arriving at the unit. α_u are company fixed effects, γ_m are month of arrival fixed effects, and $\delta_{BCT,t}$ are BCT-by-year-of-arrival fixed effects. We can include BCT-by-year fixed effects

because integration was phased in across companies within the same BCTs, as described in Section 2.2. Importantly, BCT-by-year fixed effects guard against the possibility that BCTs may have been targeted for integration based on attributes we cannot observe. Since the initial goal of the Army's integration plan was to open all Army posts to infantry and armor women, and companies within a BCT belong to the same post, including BCT-by-year fixed effects also ensures we compare integrated companies to non-integrated companies that served in the same location. We also report results from specifications with individual-level controls, denoted by X_i, that include fixed effects for race, AFQT score, military occupation (e.g., infantry or armor), education level (GED or high school dropout, high school graduate, and some college or more), year of birth, and years of service at the start of the assignment.

The variables, $D^s_{u,t}$, are dynamic treatment variables that indicate the time gap between when the unit u first received women and the year when the soldier arrived, t. Thus, for a soldier who arrives to a company three years before that company receives its first woman $D^{-3}_{u,t}$ will be 1, and all other $D^s_{u,t}$ will be zero. For a solider who arrives one year after that unit receives women, only $D^1_{u,t}$ will be one. $D^{-5}_{u,t}$ and $D^2_{u,t}$ capture the bounds, such that $D^{-5}_{u,t}$ is one for units receiving women five or more years in the future and $D^2_{u,t}$ is one for units which received their first women two or more years ago. For soldiers in a unit in which no infantry or armor woman had ever served by the end of 2020, all $D^s_{u,t}$ take the value zero.

We choose $s = -2$ (i.e. soldiers assigned to a treated unit 2 years prior to integration) to be the omitted group, because they are the most recent group of soldiers to be assigned to a treated unit who do not work alongside women during their first two years in the unit. Treated soldiers arriving on or after the year that a company is integrated (i.e. $s = 0$) work alongside women for the full two years over which we observe their outcomes. Treated soldiers arriving in year $s = -1$ work alongside women for one year. For example, male soldiers assigned in 2016 to a company that received its first female soldiers in 2017, are partially treated by the presence of women in their second year.

The estimated coefficients β_s represent the dynamic effects of increased time of exposure of the *unit* to women. Note that the dynamic effects do *not* represent the within-soldier dynamic response to increased individual exposure to women. By construction, all fully treated soldiers are treated for the same length of time.

We also estimate the following difference-in-differences specification:

$$y_{iut} = \beta_{Treat} D_{u,t} + \beta_{PartTreat} D_{u,t}^{-1} + \alpha_u + \delta_{BCT,t} + \gamma_m + \varepsilon_{iut} \tag{2}$$

where $D_{u,t} = 1$ for soldiers assigned to unit u in year t if the company is integrated with women in year t or earlier, and is 0 otherwise. Notably, our difference-in-differences specification continues to include $D_{u,t}^{-1} = 1$, a term for partially treated men who are assigned to integrated units one year before integration. If estimates of β_{Treat} and $\beta_{PartTreat}$ differ, one explanation could be that gender integration has different effects on men assigned to companies that are already integrated relative to effects on men who spend time in all-male companies before the companies become integrated. However, we acknowledge that these terms may also capture differences that occur because partially treated men spend less time in integrated units than fully treated men. We cluster standard errors at the level of the unit (i.e. company) in both our event-study and our difference-in-differences specifications.

4.2 Company-level Specification: All Soldiers

As discussed in Section 3.3, we also construct event-study estimates from a sample where the unit of observation is the company-by-year and outcomes reflect annual averages of either all men assigned to the company or all men and women assigned to the company, regardless of time of arrival:

$$y_{ut} = \sum_{s \neq -1} \beta_s D_{u,t}^{s} + \alpha_u + \delta_{BCT,t} + \varepsilon_{ut} \tag{3}$$

where y_{ut} is the outcome for unit u in year t. We construct most company-level outcomes as the number of times the outcome occurs among soldiers assigned to company u in year t divided by the number of soldiers assigned to company u at the start of year t. For example, company-level demotions are calculated as the number of soldiers assigned to company u who are demoted in year t divided by the number of soldiers assigned to company u at the start of the year.[25] Here, $D_{u,t}^{s}$ is one if in time t unit u received its first women s years ago and zero otherwise. Note the subtle difference between $D_{u,t}^{s}$ in Equation (1) $D_{u,t}^{s}$ in Equation

[25] For Army retention and separation from the Army for misconduct, y_{ut} is the average annual outcome across soldiers assigned to company u at the start of year t. We construct company-level average APFT scores as the average of all recorded APFT scores for soldiers assigned to company u in year t.

(3): t in the former (individual-level) equation reflects the year that a soldier is assigned to company u, whereas t in the latter (company-level) equation reflects the year of the company-level observation.

We also estimate the following difference-in-differences specification:

$$y_{ut} = \beta D_{u,t} + \alpha_u + \delta_{BCT,t} + \varepsilon_{ut} \tag{4}$$

where $D_{u,t}$ is an indicator for whether company u ever received women by observation time t. We continue to cluster standard errors at the company level for the company-level specifications.

4.3 DEOCS Specification

In the DEOCS survey response data, we are limited in our ability to estimate time effects due to the short time range of the data, and we cannot identify whether any individual soldier arrived to the unit before, during, or after the process of integration in an integrated unit. We therefore estimate the difference-in-differences specification:

$$y_{iut} = \beta D_{u,t} + \alpha_u + \delta_{BCT,y} + +\gamma_m + \varepsilon_{iut} \tag{5}$$

where y_{iut} is the survey response of soldier i, taking the survey at time t while assigned to company u and $D_{u,t}$ is an indicator for whether company u had ever received women at or before time t. Because surveys are taken throughout the calendar year, we include both BCT-by-year fixed effects $\delta_{BCT,y}$ to control for time trends and month-of-year fixed effects γ_m to control for any seasonality common to all units. Standard errors are clustered at the company level.

4.4 Potential Threats to Identification

Across all specifications, our main identifying assumption is that absent integration, outcomes in companies that experienced gender integration would have evolved similarly to outcomes in companies that did not integrate. The most plausible threat to the validity of this assumption is that within BCTs, commanders may have chosen to assign women to companies trending in a direction more amenable to receiving women. We evaluate this possibility in several ways. First, based on knowledge acquired through our experience working

with the U.S. Army and through conversations with commanders who served in BCTs that integrated, it is unlikely that commanders integrated companies based on company-level characteristics. We are not aware of any efforts to collect data that would allow the Army or commanders to determine which companies are most amenable to integration. Additionally, there is substantial turnover in units, so even if commanders attempted to time the integration of one particular soldier, it's possible, even probable, that the composition of the integrated unit will change in a few months.

Next, we implement a variety of empirical tests that lend support to the validity to our key identifying assumption. Our event-study estimates allow us to check for evidence of differential trends in outcomes between integrated and non-integrated units in the years leading up to integration. We can also directly test whether companies were systematically selected for integration by comparing the characteristics of integrated companies to the characteristics of non-integrated companies in our sample. The results of this test are reported in Table A.3.[26] While there are some statistically significant differences in the characteristics of integrated and non-integrated companies, most of these differences attenuate, and all are statistically insignificant, when we include BCT fixed effects and company-type fixed effects (i.e., whether the company is an infantry company or an armor company).[27] Relative to companies that did not integrate, integrated companies have similar AFQT scores, similar average education levels, similar shares of soldiers from minority groups, and similar shares of non-commissioned and commissioned officers. Table A.4 further shows that commanders of integrated and non-integrated companies have similar demographic characteristics, marital status, SAT scores, and pre-command performance evaluations, suggesting that integrated companies do not have stronger (or weaker) commanders than companies that do not integrate. Considering that integrated companies' and their commanders' characteristics are similar to the characteristics of non-integrated companies, we think it is unlikely that BCT commanders or other leaders could have systematically integrated units such that treated companies were trending in a direction more amenable to integration than non-treated companies.

An additional concern is bias arising from spillover effects of integrated companies to non-integrated companies within a given BCT. As mentioned above, soldiers typically work and live alongside the other soldiers in their same company, and interact less with soldiers outside of their company, mitigating the

[26] We construct this test by comparing average characteristics of soldiers assigned to integrated companies (in the year prior to integration) to average characteristics of soldiers assigned to companies that did not integrate in the same year. See the notes for Table A.3 for additional details.

[27] Our difference-in-differences specification includes BCT-by-year fixed effects and company fixed effects, the latter of which inherently control for the type of company since companies do not change types.

possibility of spillovers from integration.

5 Results

5.1 Administrative Outcomes: Individual-Level Specification

We begin by presenting the effects of gender integration on administrative metrics of job satisfaction/fit, behavior, and performance. In what follows, we reverse the scale of outcomes when necessary, so that a positive coefficient represents an improvement in the outcome. We focus first on newly arrived male soldiers (both enlisted and officers), using the individual-level event study specification outlined in Equation (1). Figure 2 plots the coefficients on dynamic treatment effect variables, $D^s_{u,t}$, with vertical lines representing 95% confidence intervals. The x-axis represents event time: the year of a soldier's arrival to the company relative to the year in which the company was integrated. Recall that the omitted group is $s = -2$, those soldiers who arrive two years prior to integration and therefore do not work alongside women during their first two years, the period over which we measure each outcome.

Figure 2, panel (A) presents results for Army retention—whether a soldier continues to serve in the Active Duty Army, two years after arrival in the company—and panel (B) presents results for whether a soldier has *not* separated from the Army due to misconduct (which includes being barred from reenlistment), again two years after assignment. Separations for misconduct only occur among enlisted soldiers. Additionally, here and elsewhere, we define each outcome so that a positive coefficient represents an improvement in the behavior, and a negative coefficient represents a worsening of the behavior. For both Army retention and separations from the Army due to misconduct, we observe little evidence of pre-trends: in the time leading up to integration, the coefficients are small and statistically insignificant. This pattern is consistent with the notion that the outcomes of companies chosen for integration were on parallel trajectories relative to those that were not (yet) chosen. After gender integration, the coefficients are positive but generally insignificant. For non-separations, the effects are positive and statistically significant among men who arrive one or more years after the unit was integrated, implying that integration reduced separations for misconduct.

Figure 3 and Table 3 report difference-in-differences results based on the estimation of Equation 2. As noted above, in Table 3 we provide separate estimates for men who were fully treated, i.e. those who arrive during or after the year of integration (reported in column 2), and men who were partially treated, i.e. those who arrive one year prior to integration (reported in column 3). Consistent with the findings in the event

studies, the introduction of female colleagues has a positive, albeit insignificant, effect on men's propensity to stay in the Army (first row, panel (A)). The effects of gender integration on retention are estimated with sufficient precision to rule out a 3% increase in Army attrition among men who arrive during or after integration and a 2% increase in attrition among men who arrive one year prior to integration.

Among men who are fully treated, gender integration increases rates of non-separation (i.e. reduces separation) for misconduct by 1.3 percentage points, which is statistically significant at the 5% level. The findings are similar when we consider additional administrative outcomes related to job satisfaction/fit and misconduct: demotions (typically used by commanders as a form of nonjudicial punishment for misbehavior), misdemeanor/felony charges (excluding misdemeanor traffic violations), sex-related criminal charges, and domestic violence charges. As depicted in Figure 3, across these various metrics of misconduct and criminal offenses, there is little evidence of negative effects of gender integration on men's behavior. The coefficients tend to be positive among men who arrive during or after integration and are generally estimated with sufficient precision to rule out small detrimental effects. For example, among men who arrive during or after integration, we can rule out that the integration of women causes a 5% increase in demotions and a 4% increase in misdemeanors or felonies relative to the means. Among men who arrive one year prior to integration, point estimates tend to be small, statistically insignificant, and mixed in sign. But we acknowledge that the relative rarity of these outcomes does not permit us to rule out an 18% increase in demotions or a 12% increase in misdemeanors or felonies.

These results are consistent with integration having a positive effect on men's conduct, counter to the prediction from models of gender identity that the presence of women triggers negative behaviors among men. Another possibility is gender integration leads to more lenient disciplinary practices. Since the Army requires Commanders to randomly drug test 10% of the military personnel in their unit per month (Department of the Army, 2016; Army Substance Abuse Program, 2018), we can use the results from these random drug tests to potentially infer whether integration changes men's underlying behavior. Appendix Table A.5 reports on the effects of gender integration on the likelihood that soldiers test positive for drugs while also confirming that integration does not alter soldiers' propensity to be randomly tested. The results suggest that, if anything, gender integration reduces drug use among men, although the rarity of drug use in the Army implies that these estimates are not consistently distinguishable from zero, with p-values ranging from 0.07 to 0.40.

Panel (B) of Table 3 reports the effects of gender integration on men's job performance, as measured by

medical readiness, promotions to sergeant (i.e., the grade of E5), and physical fitness test scores achieved during the Army Physical Fitness Test (APFT). Promotions to sergeant are only relevant for enlisted soldiers assigned to companies below the rank of sergeant, and physical fitness scores are only recorded for enlisted soldiers. In line with the retention and misconduct outcomes above, integrating women tends to have small and insignificant effects on performance. Point estimates suggest that integration might slightly increase medical profiles (medical conditions that prevent a soldier from performing assigned duties) among men who arrive during or after a unit is integrated, but the estimated effect of gender integration on any medical profile is statistically insignificant and flips to positive in magnitude when we restrict to medical profiles that could arguably be affected by changing peer groups—physical injuries and psychiatric conditions. Similarly, we find that integration has no effect on significant medical profiles (conditions that are severe enough to prevent a soldier from continuing to serve) and may even reduce significant medical profiles among men who arrive one year prior to integration (significant at the 10% level).

Although most outcomes suggest that integration does not negatively impact men, a possible exception is physical fitness scores. Among men who arrive during or after integration, physical fitness scores decline by 2 points (significant at the 10% level), a 0.8 percent decline relative to the mean or 5 percent of a standard deviation. While this decline does represent a potential drawback associated with gender integration, we consider this a rather modest effect that does not appear to negatively affect soldiers who are on the margin of passing the Army's physical fitness test.[28] Furthermore, the decline in physical fitness scores does not translate into negative effects on other performance outcomes, such as promotions or demotions.[29]

The corresponding event studies for outcomes related to misconduct, medical readiness, promotions, and fitness test scores, found in Figure 2 and Figure A.2, lend further credence to the identifying assumption that absent integration, newly arrived soldiers in integrated and non-integrated companies would have followed parallel trends. As an additional robustness check, Table A.6 shows that our results hardly change with the inclusion of individual controls or with the inclusion of individual controls interacted with year fixed effects. The stability of our estimates is notable considering that individual controls explain a substantial amount of variation in our outcomes, often increasing R^2 values by 300% or more.

[28] Table A.7 panel (A) further shows that the negative effects of integration on physical fitness scores stem from the upper end of the test score distribution.

[29] We note that over this period, 12 percent of newly arrived soldiers did not take the APFT due to a transition to a new physical fitness test. Based on our analysis of the effects of integration on missing APFT scores, it appears that soldiers in integrated companies may have transitioned to the new test earlier than soldiers in non-integrated companies. In Table A.7 panel (B), we impute missing scores using predicted scores or various percentiles of the score distribution (10th, 50th, 90th). We cannot reject that the effects of integration are the same with and without the imputation.

We explore whether there are heterogeneous effects of integration by the intensity of treatment, proxied by the number of women integrated into a unit in the 12 months after a unit is first integrated. Across all units that integrated between 2017 and 2020, the median share of women assigned to the company within the first year of integration (i.e., number of women assigned to the company divided by the total number of personnel in the company) was 5.1%. In Table 4, we estimate individual-level specifications that split soldiers in treated units into two groups: those assigned to units where the share of women assigned to the company in the first year of integration falls below 5.1% (columns 1–3) and those assigned to units where the share of women assigned to the company in the first year is equal to or exceeds 5.1% (columns 4–6).[30] Each subsample includes the control group of soldiers assigned to units that are never integrated, and thus the subsamples are not mutually exclusive. With the exception of not demoted—where we observe positive effects among men assigned to units with a larger share of women—we cannot reject that effects are the same across the two specifications. To the extent there are significant effects of integration in the full sample of newly arrived soldiers, the effects are slightly amplified when men are treated more intensely. For example, the reduction in separations from misconduct that we observed in the full sample (Table 3) is driven by men who are assigned to units with more women. Similarly, the negative effect of integration on APFT scores is more pronounced among men in units with greater treatment intensity, but treatment effects on APFT scores are not statistically different across the two treatment groups.[31]

5.2 Administrative Outcomes: Company-Level Specification

We expand the analysis to all soldiers, regardless of time of arrival, in order to estimate the effect of gender integration on company-wide outcomes. Note that each outcome is computed at the company-year level using all soldiers assigned to the company in the year of the observation, not just soldiers assigned to a company in our sample for the first time (see Section 4.2 for additional details). Table 5 reports the results of the difference-in-differences specification outlined in Equation 4. Columns (1) and (2) include both male and female soldiers. Columns (3) and (4) include only male soldiers, omitting mechanical compositional

[30] We also split companies that integrated in 2021 according to this 5.1% threshold. Because our outcomes data ends in 2022 and we measure most outcomes out to two years after soldiers arrive at their first company, soldiers assigned to companies that integrated in 2021 contribute to estimates of $\beta_{PartTreat}$ in Equation (2).

[31] Drawing on empirical estimates of tipping points for the gender composition of blue-collar occupations (Pan, 2015) and racial composition of neighborhoods (Card et al., 2008), we estimate the effects of integration on men when we restrict treated units to those where the share of women assigned in the first year exceeds 13% of company personnel. We find that the improvements in men's misconduct and demotion, and the negative effects on fitness test scores are larger in magnitude (but less precise). There is no evidence of negative effects on other outcomes.

changes from the integrated women, whose characteristics differ from those of men (see Table 1). Figures A.3 and A.4 report corresponding event-study estimates for company-level average outcomes constructed from all men and women assigned to the company.

The results from our company-level specification echo the individual-level analysis of newly arrived soldiers. Columns (2) and (4) of Table 5 suggest small, positive effects of gender integration on Army retention and not being separated for misconduct, but these effects are small and insignificant. In the case of physical fitness scores, point estimates are insignificant and we can rule out a reduction in fitness scores of 2.1 points (6% of a standard deviation). Our estimates are generally precise enough to rule out small negative effects of integrating women on company-wide performance, although not necessarily for extremely rare events (e.g., sex-related crimes and domestic violence).

A natural question is how gender integration impacted infantry and armor companies during combat operations. Unfortunately, the rarity of combat deaths and combat injuries by the time units began integrating, as discussed in Section 3.1, make it difficult to use casualty rates as a proxy for either the severity of combat or unit performance. Many of our other results that derive from soldiers' administrative records weigh against the hypothesis that gender integration harms a unit's combat readiness (see Tables 3 and 5). For example, integration does not appear to increase injuries that limit a soldier's ability to deploy. Nor does integration appear to increase physical fitness test failures or disciplinary actions that render soldiers unable to continue serving and deploying to combat. However, we acknowledge that the impact of gender integration on organizational performance during high-intensity combat operations remains an open question worthy of additional study.

Table A.8 reports estimates from our company-level specification when we split treated companies by the number of women integrated in the first year. Across all outcomes in our company-level specification, we cannot reject the null that effects are the same in companies with more or fewer integrated women.

To further explore whether the introduction of women has different effects on men who were already assigned to all-male combat companies at the time of integration, Table A.9 reports estimates of β from Equation 4 when we construct company-level average outcomes among men who were assigned to combat companies at least six months prior to the start of the year.[32] All estimates from this subsample are similar to those constructed from company-level outcomes that include all men assigned to the company. When

[32] See columns (7) and (8)–other columns of Table A.9 are meant to facilitate comparisons to our baseline company-level specification that constructs outcomes from all men assigned to the company (columns (3) and (4) of Table 5).

coupled with the estimated effects of integration among individual soldiers who were assigned to companies in the year prior to integration (refer to column (3) of Table 3), the estimates in Table A.9 help to confirm that gender integration did not have uniquely harmful effects on the performance and behavior of men who served in infantry and armor companies prior to the integration of women.

5.3 Workplace Attitudes

We now move to estimating the effect of gender integration on beliefs about the unit's performance and attitudes about the workplace. The results of estimating Equation (5) among the sample of men's responses are shown in the first column of Table 6.[33] Panel (A) reports the effects of gender integration on the "Workplace Quality Index," inclusive of all Likert scale questions in the DEOCS survey. The point estimate from this regression is -0.048, indicating a decline in perceived workplace quality by men of approximately 5% of a standard deviation, which is significant at the 10% level. We next separate the workplace quality index into three components based on the question groups in the survey. Results for the three sub-indices show similar patterns to the overall workplace quality index.[34]

Table A.10 also reports estimates of the effects of integration on workplace beliefs and attitudes separately for men assigned to treated units where share of women assigned to the company in the first year falls below 5.1% and those assigned to units where the share exceeds 5.1%. Similar to results with administrative outcomes, we find little evidence that the effects of integration on men's perceptions of workplace quality vary with the number of women integrated. Taken together, the results in Tables 4, A.8, and A.10 suggest that the effects of integration across a range of outcomes related to performance, behavior, and perceptions of workplace quality are quite similar for male soldiers in companies with more versus fewer women.

Panel (B) of Table 6 reports the effects of gender integration on men's responses to questions about the occurrence of adverse workplace events. We again reverse the scale of these outcomes, so that a positive coefficient represents a more positive work environment (or a decline in the presence of the adverse event). We do not find any significant effects of integration on whether men report the general presence of bullying or hazing in their workplace. Gender integration causes men to be slightly more likely to experience

[33] We show here the results among men only. Estimates with all soldiers–including women–are reported in Table A.11. Estimates of Equation (5) that replace the Likert scale outcome with an indicator variable for statement agreement are reported in Table A.12 and are highly consistent with, but slightly less precise than, the results reported in Table 6.

[34] To facilitate the most direct comparison to the coverage of our DEOCS unit climate survey data, columns (5) and (6) of Table 5 report estimates of Equation (4) on company-level average administrative personnel outcomes when we restrict the company-by-year panel to observations from fiscal years 2018 through 2020 (October 2017–September 2020). Recall that our unit climate survey data includes responses from September 2017 through July 2020.

comments on their appearance or related to "not acting like a man or woman," but the effects of integration on overall unwanted workplace experiences related to sexual harassment or assault are statistically insignificant. Integration also slightly increases the likelihood that male soldiers report observing a situation that they believe could have led to a sexual assault in the past year.[35] The point estimate of 0.64 is consistent with approximately one additional soldier per company witnessing an incident.

6 Heterogeneity by Rank of Men and Women

6.1 Heterogeneity by Rank of Men

Overall, gender integration has little effect on men's retention, various measures of misconduct, or medical fitness. It is possible, however, that these average effects mask heterogeneous responses among male soldiers of different ranks.[36] We examine whether the effects of gender integration differ by soldier rank by estimating separate specifications for enlisted soldiers and officers. Columns (2) and (3) of Table 7 report the effects of integration on men assigned to integrated units during or after integration, β_{Treat} from Equation (2), when we construct separate estimates for enlisted soldiers and officers. For completeness, columns (2) and (3) of Table A.13 report the effect of integration on men assigned to integrated units one year prior to integration separately for enlisted men and officers, while Table A.14 shows analogous estimates from the company-level specification where company-level average outcomes are constructed only from officers or enlisted personnel assigned to a unit. Among the administrative outcomes we can observe for enlisted soldiers and officers, we see little evidence that integration affects men's performance and observed behaviors differently between these two groups.

In contrast to the limited evidence of heterogeneous treatment effects by men's rank among the administrative outcomes, columns (2) and (3) of Table 6 suggest that any negative effects of integration on men's perceptions of workplace quality are more pronounced among male officers. For enlisted soldiers, we cannot statistically distinguish any effects of integration on workplace attitudes and beliefs from zero. For officers, gender integration causes a statistically significant decline in overall perceptions of workplace quality equal to 13.9% of a standard deviation, an effect that is driven by declines in male officers' perceptions of their

[35] Virtually all soldiers who reported observing such an incident also report taking some action to prevent an assault or report the situation to a superior.

[36] Although we can estimate heterogeneous effects of integration along other characteristics of men for our administrative outcomes, individual characteristics within the DEOCS unit climate survey data are limited to gender and broad rank categories due to anonymity requirements. We therefore focus this subsection on differential effects between enlisted men and officer men.

organization's effectiveness and ability to prevent and respond to sexual assault/harassment.

If the increase in observing incidents that could have led to sexual assault (see panel (B) of Table 6) reflects a true increase in the frequency of such incidents, the decline in officers' beliefs in the organization's quality with respect to sexual assault and harassment incidents could reflect an increase in the frequency with which they, as leaders, must address such incidents while enlisted men would not. If male officers had little information but positive beliefs about the Army's ability to deal with such incidents, increased practical exposure might cause them to negatively update such beliefs.

6.2 Heterogeneity by Rank of Women Integrated

Men may respond differently to the integration of female peers versus female leaders. While the Army prioritized assigning a female officer to companies upon integration, approximately 17% of integrated companies were assigned only female enlisted soldiers within the first month of integration, and the majority of companies that first integrated with only enlisted women were not assigned a female officer for a year or longer. To explore this potential heterogeneity, we use a methodology similar to how we estimate heterogeneity by treatment intensity but split companies into those that did receive a female officer in the first month of integration and those that received only enlisted women in the first month.

The results in columns (5) and (6) of Tables 7 and A.13, and in Table A.15 (company-level specification), suggest that the rank of integrated women does not differentially affect outcomes related to men's retention, behavior, and performance. Integration may have more negative effects on men's APFT scores when companies are only integrated with female enlisted soldiers, but these effects only differ among men assigned to units one year prior to integration (see panel (B) of Table A.15). Other administrative outcomes reveal little evidence of heterogeneity along the rank of female soldiers.

Despite limited evidence that the rank of female soldiers differentially influences administrative outcomes, any negative effects on men's perceptions of workplace quality appear to be driven exclusively by units that integrated with at least one female officer. This can be seen in panel (A) of Figure 4, with corresponding point estimates in Table 6. For units that first integrate with a female officer, the pattern of responses is generally similar to, but larger in magnitude than, the overall effect of integration. Perceived workplace quality declines by 7.3% of a standard deviation in response to the integration of a group of women that includes an officer, with the largest decline (10.3% of a standard deviation) seen in responses to questions about perceived organizational effectiveness. In contrast, among companies that integrated with

only enlisted women, the introduction of women *increases* men's perceptions of workplace quality by 14.7% of a standard deviation. The effect of integration with only enlisted women on overall perceptions of workplace quality and each of its three broad sub-indexes are statistically significant and statistically different from the effect of integration with at least one female officer.

The effect of integration with at least one female officer is negative and significant at the 5% level across most categories of questions among both enlisted men and among male officers (see panels (B) and (C) of Figure 4, with corresponding point estimates reported in Table A.16). It also appears that any positive effects of integration with enlisted women only on perceptions of workplace quality are predominately driven by enlisted men, but corresponding estimates for male officers are too imprecise to rule out differential effects.

Although not reported, we note that we find little evidence of heterogeneous treatment effects along other characteristics of integrated women, including women's height, race, AFQT score, and marital status in both administrative outcomes and reported workplace attitudes.

6.3 Understanding Heterogeneity by Rank

Why do men's perceptions of workplace quality deteriorate when a company is integrated with a female officer? Why do they improve when a company is integrated with only female enlisted soldiers? We explore several explanations.

Characteristics of companies: We test whether the baseline characteristics of companies integrated with a female officer systematically differ from those integrated with only enlisted soldiers. Table A.17 reveals that the characteristics of soldiers in companies integrated with and without a female officers—including age, race/ethnicity composition, educational background, and years of experience—are remarkably similar. In Table A.18, however, we observe that commanders of companies integrated without female officers tend have stronger performance evaluations and are younger/less experienced than commanders of companies that were integrated with a female officer.

Although commanders of companies integrated with only female enlisted soldiers appear to be stronger leaders on some dimensions, we provide various pieces of evidence that differences in the quality of company leadership do not explain heterogeneity by women's rank. First, in Table A.19, we re-estimate our main results for the effects of integration on perceptions of workplace quality on men when we include controls for company and commander characteristics, measured pre-integration, and individual-level controls

for respondents' military rank (recall that rank and gender are the only individual-level characteristics we observe among respondents to the anonymous survey). The point estimates for the effects of integration on men's attitudes are insensitive to these controls. This is true for the overall effect of gender integration, when companies integrate with a female officer, and when companies integrate with only enlisted women.[37]

Second, in Table A.20, we use the company-level and individual controls to construct a predicted workplace quality index, which we then interact with the main effect of integration (D_{ut}) and all other controls in equation (5). Adding the workplace quality index and all interactions doubles R^2 values but hardly changes the estimated effect of integration among all treated companies and when separately estimating effects for companies that first integrated with female officers or only with female enlisted soldiers. Furthermore, the effect of integration does not vary with predicted workplace quality, suggesting that gender integration was not uniquely effective among companies predisposed towards higher perceptions of workplace quality. Finally, in Table A.21 we implement a propensity score reweighting approach that reweights companies that integrated with a female officer to more closely resemble the observable characteristics of companies that integrated with only enlisted women. This reweighting exercise hardly changes the estimated effect of integrating with a female officer. We also obtain similar, but nosier, results when we reweight companies that integrated with only enlisted women to more closely resemble the observable characteristics of companies that integrated with female officers (see panel (B) of Table A.21).

Characteristics of officers: Next, we assess whether female officers differ from male officers in their baseline qualifications, experience level, or other demographic characteristics. Panel (A) of Table A.22 shows that the observable characteristics of female first and second lieutenants, the rank of nearly all female officers who integrated companies, are largely similar to male lieutenants. Female officers are from slightly more diverse race/ethnic backgrounds, have a little less experience, are more likely to be married but also have fewer dependents, and are more likely to have graduated from West Point and have slightly higher SAT scores. But these differences are small and generally not statistically significant.

Leadership quality of officers: While male and female officers have similar qualifications, it remains possible that female officers are less efficacious leaders (conditional on qualifications), prompting a decline in men's perceptions of workplace quality. As described above, across a range of administrative outcomes,

[37] The results by male soldier rank are also similar when company controls are included (Tables A.23 and A.24).

we find little evidence of heterogeneous treatment effects by the presence of a female officer upon integration (Tables 7 and A.13). The results are similar when we analyze the individual outcomes of newly-arrived male soldiers, company-wide outcomes including all male soldiers, and company-wide outcomes including all male and female soldiers (Table A.15). In Table A.25 we also look specifically at the outcomes of the enlisted women who were integrated alongside a female officer and those who were integrated with only enlisted women. Note that this analysis is descriptive. Being integrated with a female officer does not appear to be consistently associated with better or worse outcomes among female enlisted soldiers. On some metrics, female enlisted soldiers fare better when integrated with a female officer: they have slightly higher physical fitness scores and lower rates of misdemeanors/felonies. Other metrics reveal that they could fare worse: there are lower promotion rates to sergeant and higher rates of medical profiles.

In Table 6 Panel (B), we further explore differences in the leadership of male and female officers using observations of workplace problems and negative workplace experiences, as reported in DEOCS. When a female officer is present, integration leads to a rise in male soldiers' observations of bullying and hazing in the workplace, and reports of unwanted workplace experiences (including sexual jokes or comments, attempts to establish an unwanted romantic relationship, and unwanted sexual touching). None of these metrics increases when a company is integrated only with enlisted women. The reports from enlisted women tell a different story, however. Based on women's survey responses in Table 8, there appear to be some benefits of entering alongside a female officer: 25% report an unwanted workplace experience, while 32% report such an experience when integrated with enlisted women only. In addition, 18% of enlisted women integrated with a female officer report bullying in the workplace, while 25% report it when integrated with enlisted women. We also note that the overall workplace quality index is slightly higher for enlisted women integrated alongside a female officer, which reflects enlisted women's beliefs that their company is better able to address issues of sexual harassment and assault when a female officer is present. These patterns are consistent with prior work documenting that female-managed firms deal more harshly with perpetrators of workplace violence (Adams-Prassl et al., 2024). Furthermore, if female officers raise awareness of these workplace issues among men, one can potentially reconcile male and female enlisted soldiers' conflicting accounts of observations of hazing, bullying, and sexual harassment/assault when a female officer is present.

Through their shared leadership positions, female officers could particularly increase the awareness of male officers. Female soldiers, on average, report having a worse work environment than their male counterparts (Table 2). Thus, officers' more pronounced negative shifts in attitudes when a female officer is

integrated could reflect greater awareness of women's experiences of and institutional responses to sexual misconduct, that is, convergence toward female colleagues' perceptions. Consistent with this interpretation, we find that, when a female officer is present upon integration, the difference in the effects of integration between male officers and male enlisted soldiers is large, and statistically distinguishable, on the index of survey questions related to perceptions of the unit's ability to prevent and respond to sexual harassment and sexual assault. Integration reduces male officers' perceptions by 15.1% of a standard deviation (significant at the 1% level) but only reduces male enlisted soldiers' perceptions by a statistically insignificant 2.9% of a standard deviation (Table A.16). However, to the extent that integration with a female officer increases men's awareness of workplace problems, it does not appear to boost men's (or women's) knowledge of sexual assault reporting options (see Table A.26).[38]

Officer assignment process: Both enlisted men and male officers experience a decline in perceptions of workplace quality when a female officer is part of the initial integration of their company. In addition to the reasons mentioned above, we also explore whether notions of "fairness" in the officer assignment process may have contributed to the decline in male officers' attitudes. In particular, the Leader First policy—which prioritized assigning a female officer to a company upon initial integration—may have led female officers to be assigned more quickly than male officers to platoon leader positions. We find evidence consistent with the possibility that female lieutenants were often assigned to platoon leader positions faster than male lieutenants. As seen in Table A.27, the median female lieutenant spends one month in a BCT before being assigned to an infantry or armor line company, whereas the median male lieutenant spends three months between assignment to a BCT and placement in a line company.[39] However, Table A.28 does not suggest that the effect of integration on men's perceptions of workplace quality are worse in companies where most male lieutenants had to wait longer to be assigned to an infantry or an armor company than female lieutenants assigned to the same company.

Negative responses to women in positions of authority: The presence of a female officer also causes a

[38] Two DEOCS questions assess knowledge of sexual assault reporting options. The first asks which individuals can receive a Restricted Report of sexual assault. A Restricted Report permits the victim to report a crime without automatically triggering an investigation or revealing identifying information about the victim or the perpetrator to commanders. The second question asks whether service members who report they were sexually assaulted are eligible for a military attorney.

[39] Most lieutenants who are assigned to a BCT but not yet placed in a line company serve as assistant staff officers. Most lieutenants in infantry and armor line companies serve as platoon leaders.

decline in men's perceptions of workplace issues that do not disproportionately affect women, which is consistent with the possibility that men may negatively react to women in positions of authority. For example, Table 6 suggests that the integration of female officers causes men's perceptions of organizational effectiveness to decline more than men's perceptions of equal opportunity or their company's ability to prevent and respond to sexual assault. This possible mechanism is also in line with evidence from a growing literature that shows female leaders experience discrimination from male (and sometimes female) subordinates. For example, male teachers leave schools at higher rates when working under female principals relative to male principals (Husain et al., 2023), workers' (both male and female) job satisfaction and interest in continuing to work at a firm declines more when receiving critical feedback from a female boss relative to a male boss (Abel, 2024), and workers provide lower evaluations of female relative to male managerial candidates (Ayalew et al., 2021). We are not aware of studies that investigate whether female managers experience discrimination from their male manager peers.

In our setting, it is important to note that men's negative responses to female officers only materialize in workplace attitudes; a wide range of administrative personnel metrics—including retention—show no negative effects of gender integration with a female officer on men's outcomes. To the extent that men respond negatively to working with a female officer, such resistance also does not manifest in retaliatory behavior toward women. Instead, female enlisted soldiers report some benefits of being integrated alongside a female officer, based on their responses to the workplace attitudes survey.

7 Conclusion

This paper studies a 2016 policy change that formally ended the U.S. military's exclusion of women from serving in combat occupations to estimate the effect of integrating women into previously all-male organizations on men's performance, behavior, and perceptions of workplace quality. We find that integrating women into previously all-male Army companies has few negative effects on men's performance, behavior, or Army retention patterns. Integration slightly lowers men's physical fitness test scores, but *reduces* separations for misconduct. We can rule out small harmful effects on outcomes such as retention in the Army, criminal charges, promotions, demotions, and medical fitness. Supporting our interpretation of few negative effects, there is little heterogeneity by the number of women integrated into the unit, male soldier's rank, or the rank of integrated women.

However, we do find some evidence that the integration of women has a negative impact on men's perceptions of workplace quality, with the negative effects driven by military companies that integrate with at least one female officer. If anything, companies that integrate with only female enlisted soldiers have positive effects on men's perceptions of workplace quality. This decline in men's responses does not appear to be driven by differences in male and female officer characteristics, actual unit performance, or any gender differences in the length of time waiting for platoon assignment. Possible alternative explanations include a potential increase in incidence or awareness of under-reported workplace problems, or a negative response by men to working as a subordinate or peer to a woman in a position of authority.

We thus find mixed evidence for the role of gender identity concerns in occupational segregation. Men do have slightly lower subjective reports of job satisfaction and workplace quality, but only when female leaders are present. However, we find no evidence that the introduction of women into infantry and armor units decreased men's performance or the combat readiness of these companies across the range of relevant available metrics.

References

Abel, Martin, "Do workers discriminate against female bosses?," *Journal of Human Resources*, 2024, *59* (2), 470–501.

Adams-Prassl, Abi, Kristiina Huttunen, Emily Nix, and Ning Zhang, "Violence against women at work," *The Quarterly Journal of Economics*, 2024, *139* (2), 937–991.

Akerlof, George A. and Rachel E. Kranton, "Economics and Identity," *The Quarterly Journal of Economics*, 2000, *115* (3), 715–753.

Army Substance Abuse Program, *Unit Prevention Leader's Urinalysis Collection Handbook* 2018.

Asch, Beth J, Michael G Mattock, Patricia K Tong, and Jason M Ward, *Increasing Efficiency and Incentives for Performance in the Army's Selective Reenlistment Bonus (SRB) Program*, RAND, 2021.

Ayalew, Shibiru, Shanthi Manian, and Ketki Sheth, "Discrimination from below: Experimental evidence from Ethiopia," *Journal of Development Economics*, 2021, *151*, 102653.

Bagues, Manuel, Mauro Sylos-Labini, and Natalia Zinovyeva, "Does the Gender Composition of Scientific Committees Matter?," *American Economic Review*, April 2017, *107* (4), 1207–38.

Battaglini, Marco, Jorgen M. Harris, and Eleonora Patacchini, "Interactions with Powerful Female Colleagues Promote Diversity in Hiring," *Journal of Labor Economics*, 2023, *41* (3), 589–614.

Beaman, Lori, Raghabendra Chattopadhyay, Esther Duflo, Rohini Pande, and Petia Topalova, "Powerful Women: Does Exposure Reduce Bias?*," *The Quarterly Journal of Economics*, 11 2009, *124* (4), 1497–1540.

Bertrand, Marianne, Sandra E Black, Sissel Jensen, and Adriana Lleras-Muney, "Breaking the Glass Ceiling? The Effect of Board Quotas on Female Labour Market Outcomes in Norway," *The Review of Economic Studies*, 06 2018, *86* (1), 191–239.

Blau, Francine D. and Lawrence M. Kahn, "The Gender Wage Gap: Extent, Trends, and Explanations," *Journal of Economic Literature*, 2017, *55* (3), 789–865.

BLS, "U.S. Bureau of Labor Statistics Labor Force Statistics from the Current Population Survey Table 11 Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity," 2024. Available at https://www.bls.gov/cps/cpsaat11.htm.

Breda, Thomas and Clotilde Napp, "Girls' comparative advantage in reading can largely explain the gender gap in math-related fields," *Proceedings of the National Academy of Sciences*, 2019, *116* (31), 15435–15440.

Bruhn, Jesse, Kyle Greenberg, Matthew Gudgeon, Evan K Rose, and Yotam Shem-Tov, "The effects of combat deployments on veterans' outcomes," *Journal of Political Economy*, 2024, *132* (8), 000–000.

Callaway, Brantly and Pedro H.C. Sant'Anna, "Difference-in-Differences with multiple time periods," *Journal of Econometrics*, 2021, *225* (2), 200–230. Themed Issue: Treatment Effect 1.

Card, David, Alexandre Mas, and Jesse Rothstein, "Tipping and the Dynamics of Segregation," *The Quarterly Journal of Economics*, 2008, *123* (1), 177–218.

Cengiz, Doruk, Arindrajit Dube, Attila Lindner, and Ben Zipperer, "The Effect of Minimum Wages on Low-Wage Jobs*," *The Quarterly Journal of Economics*, 05 2019, *134* (3), 1405–1454.

Chakraborty, Priyanka and Danila Serra, "Gender and leadership in organisations: The threat of backlash," *The Economic Journal*, 2024, *134* (660), 1401–1430.

Cortes, Patricia and Jessica Pan, "Occupation and Gender," in "The Oxford Handbook of Women and the Economy," Oxford University Press, 07 2018.

Dahl, Gordon B, Andreas Kotsadam, and Dan-Olof Rooth, "Does Integration Change Gender Attitudes? The Effect of Randomly Assigning Women to Traditionally Male Teams*," *The Quarterly Journal of Economics*, 12 2020, *136* (2), 987–1030.

Department of the Army, *Army Regulation 600-85: The Army Substance Abuse Program* 2016.

Flory, Jeffrey A., Andreas Leibbrandt, and John A. List, "Do Competitive Workplaces Deter Female Workers? A Large-Scale Natural Field Experiment on Job Entry Decisions," *The Review of Economic Studies*, 2015, *82* (1 (290)), 122–155.

Folke, Olle and Johanna Rickne, "Sexual Harassment and Gender Inequality in the Labor Market," *The Quarterly Journal of Economics*, 05 2022, *137* (4), 2163–2212.

Gagliarducci, Stefano and M. Daniele Paserman, "Gender Interactions within Hierarchies: Evidence from the Political Arena," *The Review of Economic Studies*, 2012, *79* (3), 1021–1052.

Goldin, Claudia, "A Grand Gender Convergence: Its Last Chapter," *American Economic Review*, April 2014, *104* (4), 1091–1119.

_ , *A Pollution Theory of Discrimination: Male and Female Differences in Occupations and Earnings*, Chicago, IL: University of Chicago Press,

Goodman-Bacon, Andrew, "Difference-in-differences with variation in treatment timing," *Journal of Econometrics*, 2021, *225* (2), 254–277. Themed Issue: Treatment Effect 1.

Greenberg, Kyle, Parag A Pathak, and Tayfun Sönmez, "Redesigning the US Army's Branching Progress: A Case Study in Minimalist Market Design," *arXiv preprint arXiv:2303.06564*, 2023.

Grossman, Philip J, Catherine Eckel, Mana Komai, and Wei Zhan, "It pays to be a man: Rewards for leaders in a coordination game," *Journal of Economic Behavior & Organization*, 2019, *161*, 197–215.

Hong, Lu and Scott E. Page, "Problem Solving by Heterogeneous Agents," *Journal of Economic Theory*, 2001, *97* (1), 123–163.

Husain, Aliza N., David A. Matsa, and Amalia R. Miller, "Do Male Workers Prefer Male Leaders?," *Journal of Human Resources*, 2023, *58* (5), 1480–1522.

Jakiela, Pamela, "Simple Diagnostics for Two-Way Fixed Effects," 2021.

Karpowitz, Chris, Stephen O'Connell, Jessica Preece, and Olga Stoddard, "Strength in Numbers: Gender Composition, Leadership, and Women's Influence in Teams," *Journal of Political Economy*, forthcoming.

Lang, Kevin, "A Language Theory of Discrimination," *The Quarterly Journal of Economics*, 1986, *101* (2), 363–382.

Lazear, Edward P., "Culture and Language," *Journal of Political Economy*, 1999, *107* (S6), S95–S126.

Lopez, Todd, "Brigade combat teams cut at 10 posts will help other BCTs grow," 2013. https://www.army.mil/article/106373/Brigade_combat_teams_cut_at_10_posts_will_help_other_BCTs_grow/.

Lordan, Grace and Jörn-Steffen Pischke, "Does Rosie Like Riveting? Male and Female Occupational Choices," *Economica*, 2022, *89* (353), 110–130.

Lyle, David S, "Using Military Deployments and Job Assignments to Estimate the Effect of Parental Absences and Household Relocations on Children's Academic Achievement," *Journal of Labor Economics*, 2006, *24* (2), 319–350.

Lyles, General Lester L., "From Representation to Inclusion: Diversity Leadership for the 21st-Century Military," Technical Report, Military Leadership Diversity Commission 3 2011.

Macchiavello, Rocco, Andreas Menzel, Atonu Rabbani, and Christopher Woodruff, "Challenges of change: An experiment promoting women to managerial roles in the bangladeshi garment sector," Technical Report, National Bureau of Economic Research 2020.

Mas, Alexandre and Amanda Pallais, "Valuing Alternative Work Arrangements," *American Economic Review*, 2017, *107* (12), 3722–3759.

Miller, Amalia R and Carmit Segal, "Do Female Officers Improve Law Enforcement Quality? Effects on Crime Reporting and Domestic Violence," *The Review of Economic Studies*, 09 2018, *86* (5), 2220–2247.

Miller, Catherine J, "A Mixed Methods Study of the Effects of Gender Integration on Perceptions of Women in US Army Combat Units," *University of Maryland Theses and Dissertations*, 2022.

Niederle, Muriel and Lise Vesterlund, "Do Women Shy Away From Competition? Do Men Compete Too Much?*," *The Quarterly Journal of Economics*, 08 2007, *122* (3), 1067–1101.

Pan, Jessica, "Gender Segregation in Occupations: The Role of Tipping and Social Interactions," *Journal of Labor Economics*, 2015, *33* (2), 365–408.

Rempfer, Kyle, "Army adjusts 'leader first' policy, plans to integrate women into last 9 brigade combat teams this year," 2020. https://www.armytimes.com/news/your-army/2020/06/08/army-adjusts-leader-first-policy-plans-to-integrate-women-into-last-9-brigade-combat-teams-this-year/.

Roth, Jonathan, Pedro H.C. Sant'Anna, Alyssa Bilinski, and John Poe, "What's trending in difference-in-differences? A synthesis of the recent econometrics literature," *Journal of Econometrics*, 2023, *235* (2), 2218–2244.

Schuh, Rachel, "Miss-allocation: The value of workplace gender composition and occupational segregation," *FRB of New York Staff Report*, 2024, (1092).

Swick, Andrew and Emma Moore, "The (mostly) good news on women in combat," *Center for a New American Security*, 2018, *19*.

Truffa, Francesca and Ashley Wong, "Undergraduate gender diversity and direction of scientific research," *Working Paper, Stanford Univ., Stanford, CA*, 2022.

United States Army, "Army Regulation 614-200: Enlisted Assignments and Utilization Management," 2019. Available at: https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN14314_AR614-200_FINAL.pdf, Last accessed: November 26, 2021.

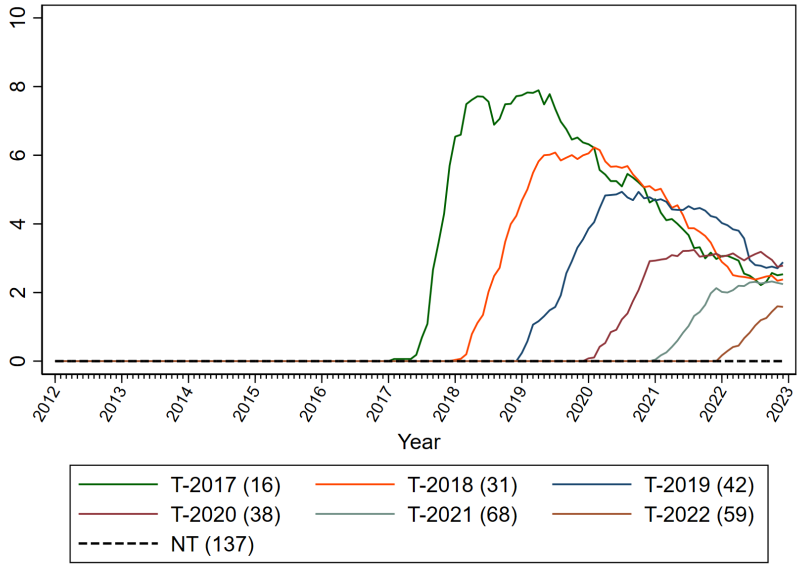
Wiswall, Matthew and Basit Zafar, "Preference for the Workplace, Investment in Human Capital, and Gender," *Quarterly Journal of Economics*, 2018, *133* (1), 457–507.

Wu, Alice H., "Gender Bias among Professionals: An Identity-Based Interpretation," *The Review of Economics and Statistics*, 12 2020, *102* (5), 867–880.

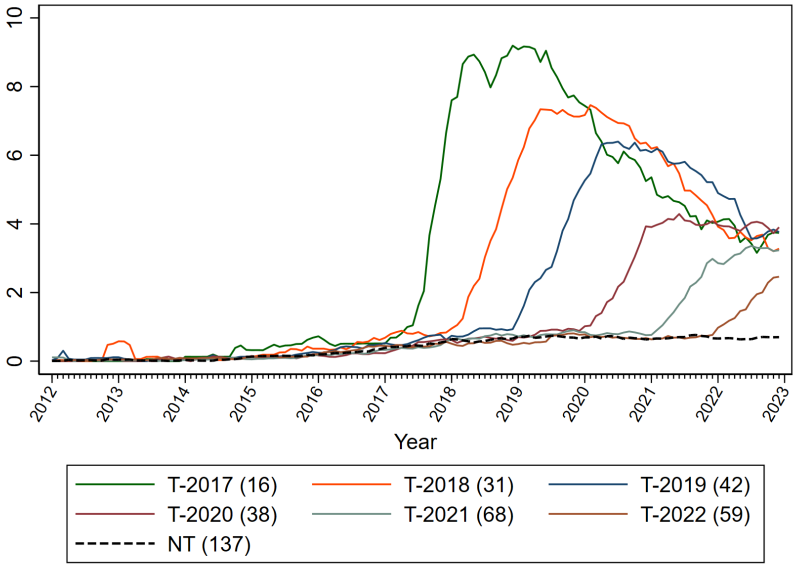
Figures and Tables

Figure 1: Integration of Female Soldiers Into All-Male Companies Over Time

A. Percentage of Soldiers Who Are Infantry and Armor Women

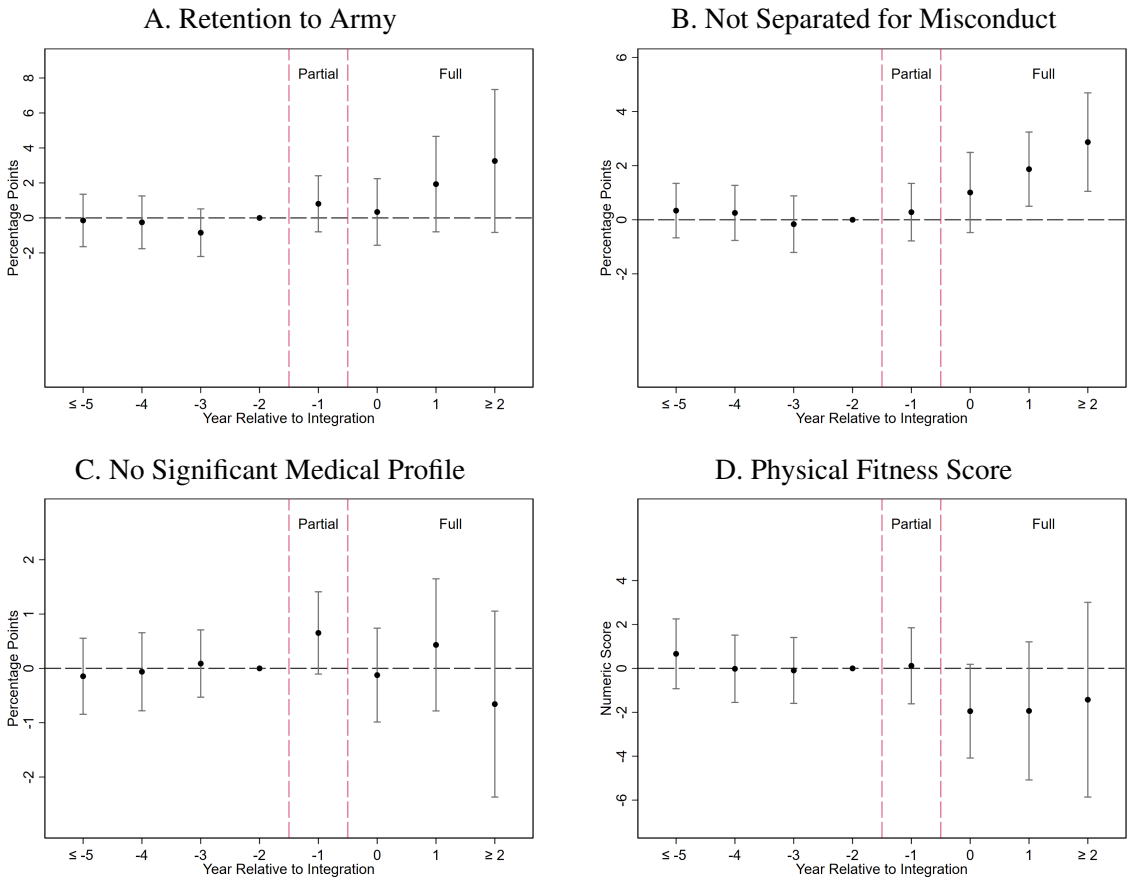


B. Percentage of Soldiers Who Are Women (All Occupations)



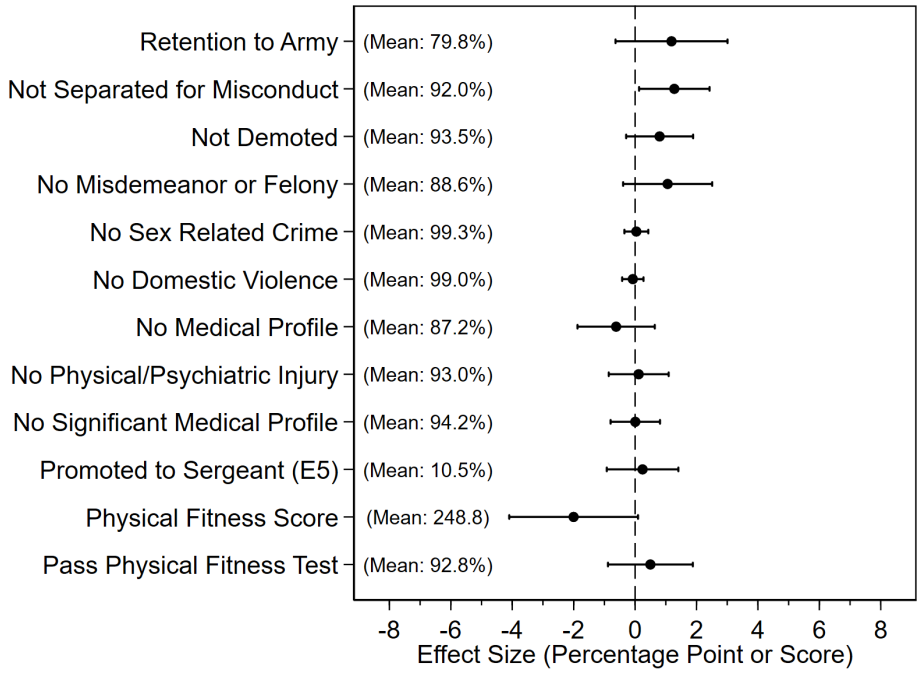
Notes: Panel (A) of this figure plots the average percentage of soldiers in a company who are women in infantry and armor occupations over time. We report a separate series for each integration cohort, with the number of companies in that cohort listed in parentheses in the legend. For example, the green series consists of all companies that integrated in 2017, computes for each company the percentage of soldiers who are women in infantry and armor occupations, and then takes the average of the company shares in each month. The "Never Treated (NT)" cohort consists of companies that had not integrated by the end of 2022. Panel (B) plots the average percentage of soldiers in a company who are women (including women who are not in infantry and armor occupations), also reporting separate series for each integration cohort.

Figure 2: Event-Study Estimates of the Effects of Integration on Men's Administrative Outcomes



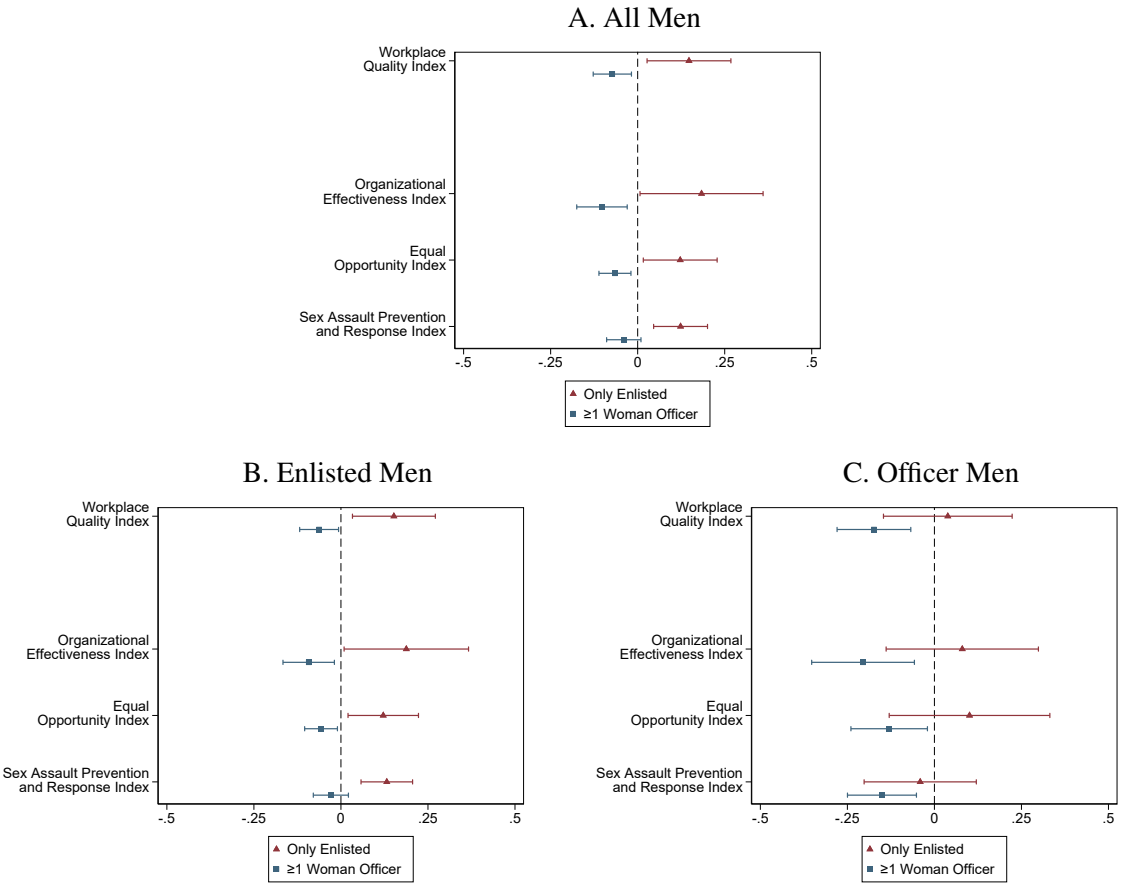
Notes: This figure reports event-study point estimates and 95% confidence intervals of the effects of gender integration on men's administrative outcomes (Equation (1)). The sample consists of 148,660 male soldiers (officers and enlisted) assigned to infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams from 2012 through 2020 (see Section 3.3). Outcomes are defined relative to 2 years after assignment to the company (i.e. 2 years after the start of the spell). Panel (A) reports event-study effects of integration on still being in the Active Duty Army two years after the start of the spell. Panel (B) reports effects on not being separated from the Army for misconduct, which also includes not being formally barred from reenlistment. Panel (C) reports effects on not having a significant medical profile, which is a medical profile the Army deems significant enough to limit a soldier's ability to continue serving. Panel (D) reports effects on Army Physical Fitness Test (APFT) scores, which are only recorded for enlisted personnel within our data. Confidence intervals are derived from standard errors that are clustered on company.

Figure 3: Effects of Gender Integration on Men's Administrative Outcomes



Notes: This figure reports point estimates and 95% confidence intervals of the effects of gender integration on men's administrative outcomes among men assigned to companies during or after the integration of women. The sample consists of male officers and enlisted soldiers assigned to infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams from 2012 through 2020 (see Section 3.3). Estimates come from Column (2) of Table 3 which reports estimates of β_{Treat} from Equation (2). Outcomes are defined relative to 2 years after assignment to the company (i.e. 2 years after the start of the spell). We limit the sample to 136,127 enlisted soldiers for outcomes that are only relevant or observed for enlisted personnel (not separated for misconduct, promoted to Sergeant, physical fitness scores). The outcome not separated for misconduct also includes not being barred from reenlistment. Misdemeanors and felonies exclude traffic-related misdemeanors. Physical fitness scores are official scores from the Army Physical Fitness Test (APFT), which has a range of 0 to 300 and a standard deviation of 38 within our sample. Our data do not contain physical fitness scores for officers. Promoted to Sergeant is further restricted to enlisted soldiers who had not yet reached the rank of Sergeant when they were assigned to their company (N = 110,452).

Figure 4: Effect of Integration on Perceptions of Workplace Quality, by Rank of Men and Integrated Women



Notes: This figure reports point estimates and 95% confidence intervals of the effect of the gender integration status of a soldier's company on his responses to DEOCS survey questions. All regressions include company fixed effect, BCT-year fixed effects, and month-of-year fixed effects. Indices are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. For regressions including all ranks, we use the mean and standard deviation across all ranks; for regressions specific to officers or enlisted, we use the mean and standard deviation within the relevant population. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indices take the average across the subset of statements identified as the stated category in the original survey. Estimates for "Only Enlisted Integrated" include in the regression units which integrated during the DEOCS coverage period and had only enlisted women arrive in the first three months as a treatment group as well as all units not integrated during the DEOCS coverage period as a control group. Estimates for "At Least One Officer Integrated" include in the regression units which integrated during the DEOCS coverage period and had at least one female officer arrive in the first three months as a treatment group as well as all units not integrated during the DEOCS coverage period as a control group. Confidence intervals are derived from standard errors that are clustered by company.

Table 1: Summary Statistics of Baseline Characteristics and Administrative Outcomes

	Men				Women
	All	Enlisted	Officers	2017 - 2020	In Integrated Companies
	(1)	(2)	(3)	(4)	(5)
Panel A: Baseline Characteristics					
Age	23.74	23.54	25.97	22.69	22.16
Male	100.00	100.00	100.00	100.00	0.00
Black	11.06	11.60	5.18	11.90	21.73
Hispanic	14.78	15.48	7.15	16.40	24.90
Other Race	5.89	5.73	7.65	5.94	7.35
HS Graduate, No College	83.15	90.02	7.24	83.39	75.36
Some College +	16.85	9.98	92.76	16.61	24.64
Years of Service	2.18	2.15	2.49	1.20	0.85
Married	30.33	30.27	30.99	20.02	20.10
Number Dependents	0.75	0.77	0.59	0.47	0.33
Enlisted	91.60	100.00	0.00	91.07	84.59
AFQT Score	57.34	57.39	-	57.07	49.62
Non-Commissioned Officer	17.30	18.89	-	8.51	8.06
Officer	8.40	0.00	100.00	8.93	15.41
US Military Academy	26.10	-	26.10	23.68	29.80
Average SAT	1200.73	-	1200.73	1200.96	1218.32
Share Missing SAT	30.40	-	30.40	27.38	29.14
Panel B: Administrative Outcomes					
Retention to Army	79.79	78.46	94.33	84.48	78.47
Not Separated for Misconduct	91.99	91.99	-	93.33	95.05
No Demotion	93.49	92.90	99.84	93.91	92.65
No Misdemeanor or Felony	88.59	87.71	98.16	87.11	91.84
No Sex Related Crime	99.28	99.23	99.79	99.05	99.49
No Domestic Violence	98.98	98.91	99.86	98.96	99.39
No Medical Profile	87.21	86.43	95.67	91.00	89.90
No Physical/Psychiatric Profile	92.97	92.46	98.60	95.60	91.02
No Significant Medical Profile	94.25	93.82	98.92	96.22	93.47
Promoted to Sergeant (E5)	10.55	10.55	-	10.33	11.47
Physical Fitness Score	248.78	248.78	-	243.30	241.16
Pass Physical Fitness Test	92.80	92.80	-	91.19	88.80
Observations	148660	136175	12485	52868	980

Notes: This table reports average characteristics and outcomes of soldiers in our analysis sample. Column (1) reports average characteristics of male officers and male enlisted soldiers who were assigned to the infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams in our sample for the first time between 2012 and 2020. Columns (2) and (3) report average characteristics for the subsamples of male enlisted soldiers and male officers in our analysis sample. Columns (4) and (5) report average characteristics of female and male infantry and armor soldiers assigned to combat companies in our sample between 2017 and 2020. Binary variables are multiplied by 100 to reflect percentages. Baseline characteristics are measured at the time soldiers are assigned to the company, outcomes are measured two years from the date of assignment. We do not report averages for variables that are not relevant or not observed for the sub-population in question (e.g., Armed Forces Qualification Test (AFQT) scores, not separated for misconduct, promoted to Sergeant, physical fitness scores for officers; SAT scores for enlisted personnel). The outcome not separated for misconduct also includes not being barred from reenlistment. Misdemeanors and felonies exclude traffic-related misdemeanors. Physical fitness scores are official scores from the Army Physical Fitness Test (APFT), which has a range of 0 to 300 and a standard deviation of 38 within our sample. See Section 3 for additional details on how we construct the analysis sample and outcomes.

Table 2: Summary Statistics of Perceptions of Workplace Quality in Combat Companies

	Men			Women
	All	Enlisted	Officers	In Integrated Companies
	(1)	(2)	(3)	(4)
Panel A: Perceived Workplace Quality Indicies (Average Z-Scores)				
Workplace Quality Index	0.142	0.120	0.545	-0.039
Organizational Effectiveness Index	0.104	0.081	0.506	0.023
Equal Opportunity Index	0.117	0.095	0.518	-0.059
Sexual Assault Prevention and Response Index	0.203	0.180	0.606	-0.101
Panel B: Workplace Incident Questions (Percentage)				
Report Any Suicide Tendency in Workplace	38.70	38.50	42.26	44.68
Report Any Hazing in Workplace	6.23	6.53	0.84	9.19
Report Any Bullying in Workplace	11.99	12.49	2.92	18.16
Report Any Unwanted Workplace Experience	7.54	7.78	3.15	26.10
Made Sexual Jokes?	3.70	3.79	2.14	15.06
Said Dont Act Like Man/Woman?	4.62	4.79	1.43	12.13
Made Sexual Comments on Appear?	3.18	3.33	0.45	11.72
Attempted Sexual Relationship?	1.26	1.32	0.13	9.62
Unwanted Sexual Touch?	1.65	1.74	0.06	3.14
Observed Potential Sex Assault Incident	1.26	1.28	0.97	5.85
Observations	59185	56086	3083	479

Notes: This table reports average responses to the DEOCS survey. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report Any Suicide Tendency in Workplace" is one if a solider knows someone in the organization who as though of, attempted, or died by suicide and zero otherwise. "Report Any Hazing in Workplace" and "Report Any Bullying in Workplace" are one if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and zero otherwise. "Report Had Any Unwanted Workplace Experience" is one if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and zero otherwise. Responses to the component questions are given underneath. "Observed Potential Sex Assault Incident" is one if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and zero otherwise. A complete list of DEOCS questions can be found in Appendix B.

Table 3: Effects of Gender Integration on Men's Administrative Outcomes

	Outcome Mean	Arrived During or After Int.	Arrived 1-Year Before Int.
	(1)	(2)	(3)
Panel A: Retention and Misconduct			
Retention to Army	79.79	1.19	1.03
		(0.93)	(0.77)
Not Separated for Misconduct	91.99	1.28**	0.18
		(0.59)	(0.48)
No Demotion	93.49	0.80	-0.29
		(0.56)	(0.44)
No Misdemeanor or Felony	88.59	1.06	-0.26
		(0.74)	(0.58)
No Sex Related Crime	99.28	0.04	-0.04
		(0.20)	(0.15)
No Domestic Violence	98.98	-0.07	0.22
		(0.18)	(0.14)
Panel B: Medical Readiness and Performance			
No Medical Profile	87.21	-0.62	0.05
		(0.64)	(0.47)
No Physical/Psychiatric Injury	92.97	0.12	0.64*
		(0.50)	(0.38)
No Significant Medical Profile	94.25	0.01	0.67*
		(0.41)	(0.36)
Promoted to Sergeant (E5)	10.55	0.24	0.17
		(0.59)	(0.52)
Physical Fitness Score	248.79	-2.00*	-0.02
		(1.07)	(0.85)
Pass Physical Fitness Test	92.81	0.50	-0.19
		(0.70)	(0.60)
Observations		148660	

Notes: This table reports the effects of gender integration on men's administrative outcomes. The sample consists of male officers and enlisted soldiers assigned to infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams from 2012 through 2020. See Section 3 and the notes for Table 1 for additional details on sample and outcome construction. Column (1) reports the mean of the outcome listed on the left side of the table. Column (2) reports estimates of β_{Treat} from Equation (2). Column (3) reports estimates of $\beta_{PartTreat}$ from Equation (2), both including every combination of brigade-by-year fixed effects and month of arrival fixed effects. Outcomes are defined relative to 2 years after assignment to the company (i.e. 2 years after the start of the spell). We limit the sample to 136,127 enlisted soldiers for outcomes that are only relevant or observed for enlisted personnel (not separated for misconduct, promoted to Sergeant, physical fitness scores). Promoted to Sergeant is further restricted to enlisted soldiers who had not yet reached the rank of Sergeant when they were assigned to their company (N = 110,452). Standard errors, reported in parentheses, are clustered on company.

Table 4: Effects of Gender Integration on Men, Split by Share of Women Assigned in First Year of Integration

	$<$ Median ($\approx 5.1\%$)			$\geq$ Median ($\approx 5.1\%$)				
	Outcome Mean	Arrived During or After Int.	Arrived 1-Year Before Int.	Outcome Mean	Arrived During or After Int.	Arrived 1-Year Before Int.	P-Val for Equiv (2) vs. (5)	P-Val for Equiv (3) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Retention and Misconduct								
Retention to Army	80.16	0.96	1.21	79.66	1.25	-0.01	0.851	0.438
		(1.05)	(0.84)		(1.41)	(1.43)		
Not Separated for Misconduct	92.08	0.93	-0.04	91.89	1.85**	0.44	0.348	0.629
		(0.72)	(0.52)		(0.80)	(0.89)		
No Demotion	93.45	0.10	-0.56	93.42	2.25***	0.81	0.018	0.092
		(0.73)	(0.51)		(0.71)	(0.69)		
No Misdemeanor or Felony	88.51	0.92	-0.65	88.35	1.94*	0.94	0.404	0.149
		(0.94)	(0.70)		(0.99)	(0.91)		
No Sex Related Crime	99.26	0.07	-0.06	99.31	0.16	-0.07	0.784	0.983
		(0.26)	(0.19)		(0.26)	(0.23)		
No Domestic Violence	98.97	0.01	0.31**	98.95	-0.10	0.20	0.686	0.657
		(0.22)	(0.15)		(0.24)	(0.23)		
Panel B: Medical Readiness and Performance								
No Medical Profile	87.30	-0.41	-0.26	87.34	-0.59	0.32	0.859	0.545
		(0.81)	(0.57)		(0.84)	(0.85)		
No Physical/Psychiatric Injury	93.02	0.52	0.58	93.08	-0.22	0.81	0.384	0.779
		(0.66)	(0.45)		(0.65)	(0.71)		
No Significant Medical Profile	94.22	0.15	0.90**	94.28	-0.19	0.20	0.642	0.308
		(0.54)	(0.44)		(0.56)	(0.57)		
Promoted to Sergeant (E5)	10.59	0.49	0.12	10.35	-0.02	0.97	0.611	0.426
		(0.81)	(0.62)		(0.71)	(0.90)		
Physical Fitness Score	249.41	-1.46	-0.45	248.66	-2.66*	1.32	0.455	0.269
		(1.29)	(1.02)		(1.46)	(1.34)		
Pass Physical Fitness Test	93.09	0.90	0.02	92.73	0.25	-0.24	0.558	0.830
		(0.86)	(0.71)		(0.95)	(1.07)		
Observations		121215			103672			

Notes: This table reports the effects of gender integration separately for subsamples that are formed by splitting integrated companies on the median share of company personnel who are infantry or armor women. The sample for means and estimates reported in columns (1) - (3) includes soldiers assigned to companies that never integrated and soldiers assigned to companies where the number of infantry and armor women assigned to the company in the first year of integration is less than 5.1% of total company personnel. The sample for means and estimates reported in columns (4) - (6) includes soldiers assigned to companies that never integrated and soldiers assigned to companies where the number of infantry and armor women assigned to the company in the first year of integration is greater than or equal to 5.1% of total company personnel. Columns (1) and (4) report outcome means, columns (2) and (5) report estimates of β_{Treat} from Equation (2), and columns (3) and (6) report estimates of and $\beta_{PartTreat}$ from Equation (2). Column (7) reports the p-value for a test of equivalence of the estimate of β_{Treat} (column (2) vs. column (5)). Column (8) reports the p-value for a test of equivalence of the estimate of $\beta_{PartTreat}$ (column (3) vs. column (6)). See the notes for Table 1 for additional details on the sample and outcomes. Standard errors, reported in parentheses, are clustered on company.

Table 5: Effects of Gender Integration on Company-Level Average Outcomes

	Men and Women		Men Only		Men, DEOCS Years	
	Outcome Mean	Post-Integration	Outcome Mean	Post-Integration	Outcome Mean	Post-Integration
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Retention and Misconduct						
Share in Army	82.35	0.89	82.33	0.70	83.31	1.32
		(0.64)		(0.64)		(0.93)
Share Not Separated for Misconduct	95.69	0.41	95.68	0.37	96.48	0.51
		(0.26)		(0.27)		(0.38)
Share Not Demoted	96.70	-0.10	96.70	-0.05	97.22	0.10
		(0.29)		(0.29)		(0.43)
Share No Misdemeanor or Felony	89.73	-0.06	89.73	-0.10	89.50	-1.28
		(0.91)		(0.92)		(1.16)
Share No Sex Related Crime	99.55	0.07	99.55	0.07	99.49	0.17
		(0.12)		(0.12)		(0.15)
Share No Domestic Violence	99.21	-0.02	99.21	-0.04	98.99	-0.07
		(0.19)		(0.20)		(0.33)
Panel B: Medical Readiness and Performance						
Share No Medical Profile	82.35	-0.27	82.42	-0.37	84.93	0.03
		(0.75)		(0.76)		(0.65)
Share No Physical/Psychiatric Injury	91.52	-0.09	91.64	-0.00	93.52	0.15
		(0.55)		(0.55)		(0.45)
Share No Significant Medical Profile	94.10	-0.21	94.11	-0.19	95.38	-0.19
		(0.39)		(0.39)		(0.42)
Share Promoted to Sergeant (E5)	11.87	0.18	11.89	0.30	14.42	-0.47
		(0.72)		(0.71)		(1.18)
Average Physical Fitness Score	256.15	-0.44	256.18	-0.45	249.74	-0.30
		(0.84)		(0.85)		(0.88)
Share Pass Physical Fitness Test	96.45	-0.40	96.47	-0.34	94.91	-0.12
		(0.40)		(0.40)		(0.56)
Observations		3434		3434		1170

Notes: This table reports the effects of gender integration on company-level average outcomes, as described in Section 4.2. The unit of observation is the company-by-year. In columns (1) and (2) outcomes are constructed as the annual average of all personnel assigned to the company. In columns (3) and (4) outcomes are constructed as the annual average of only male personnel assigned to the company. In columns (5) and (6) outcomes are constructed as the annual average of only male personnel, but where the sample is restricted to observations from 2018 through 2020 to most closely reflect coverage of DEOCS command climate survey outcomes. Columns (2), (4), and (6) report estimates of β from Equation 4. Outcomes are multiplied by 100 to reflect percentages. Standard errors, reported in parentheses, are clustered on company.

Table 6: Effect of Integration on Perceptions of Workplace Quality

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	≥1 Woman Officer	Only Enlisted Women	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Perceived Workplace Quality Indicies (Standard Deviation Effect)							
Workplace Quality Index	-0.048*	-0.038	-0.139***	0.048	-0.073***	0.147**	0.008
	(0.027)	(0.028)	(0.048)		(0.028)	(0.061)	
Organizational Effectiveness Index	-0.067*	-0.056	-0.160**	0.123	-0.103***	0.184**	0.017
	(0.036)	(0.037)	(0.064)		(0.037)	(0.090)	
Equal Opportunity Index	-0.044*	-0.036	-0.081	0.400	-0.065***	0.122**	0.013
	(0.024)	(0.024)	(0.052)		(0.023)	(0.054)	
Sexual Assault Prevention and Response Index	-0.027	-0.015	-0.137***	0.012	-0.040	0.123***	0.003
	(0.024)	(0.024)	(0.044)		(0.025)	(0.039)	
Panel B: Workplace Incident Questions (Percentage Point Effect)							
Report No Hazing in Workplace	-0.69	-0.69	-0.12	0.587	-1.76**	3.54**	0.013
	(0.72)	(0.76)	(0.79)		(0.75)	(1.56)	
Report No Bullying in Workplace	-1.17	-1.17	1.41	0.177	-1.91*	3.64	0.058
	(1.04)	(1.08)	(1.61)		(1.07)	(2.35)	
Report No Suicide Tendency in Workplace	-3.04	-3.82	12.79**	0.005	-1.98	-2.68	0.412
	(2.83)	(2.85)	(6.13)		(3.06)	(4.75)	
Did Not Have Unwanted Workplace Experience	-1.15	-1.11	-1.29	0.933	-1.92**	2.99*	0.002
	(0.87)	(0.91)	(2.03)		(0.87)	(1.67)	
Made Sexual Jokes? (No)	-0.40	-0.47	1.23	0.360	-0.98	2.55***	0.001
	(0.62)	(0.64)	(1.84)		(0.62)	(0.94)	
Said Dont Act Like Man/Woman? (No)	-1.08*	-1.04*	-1.69*	0.561	-1.27**	0.68	0.012
	(0.59)	(0.62)	(0.98)		(0.63)	(0.88)	
Made Comments on Appear? (No)	-0.89*	-0.88*	-0.20	0.398	-0.95*	0.69	0.052
	(0.49)	(0.52)	(0.63)		(0.53)	(1.10)	
Attempted Relationship? (No)	-0.50	-0.46	-1.38	0.376	-0.66*	1.02	0.024
	(0.34)	(0.34)	(1.10)		(0.34)	(0.80)	
Unwanted Sexual Touch? (No)	-0.13	-0.09	-0.10	0.983	-0.18	1.34*	0.037
	(0.35)	(0.37)	(0.10)		(0.37)	(0.78)	
Did Not Observe Potential Assault Incident	-0.64*	-0.53	-2.17*	0.176	-0.54	-0.45	0.979
	(0.33)	(0.34)	(1.20)		(0.33)	(0.81)	
Observations	59185	56086	3072		51643	38989	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report No Suicide Tendency in Workplace" is zero if a solider knows someone in the organization who as though of, attempted, or died by suicide and one otherwise. "Report No Hazing in Workplace" and "Report No Bullying in Workplace" are zero if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and one otherwise. "Did Not Have Unwanted Workplace Experience" is zero if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and one otherwise. Effects on the component questions are given underneath. "Did Not Observe Potential Sex Assault Incident" is zero if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and one otherwise. A complete list of DEOCS questions can be found in Appendix B.

Table 7: Effects of Gender Integration on Men's Administrative Outcomes, by Rank

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	≥1 Woman Officer	Only Enlisted Women	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Retention and Misconduct							
Retention to Army	1.19	1.21	-0.97	0.16	1.72*	0.74	0.59
	(0.93)	(0.97)	(1.41)		(1.02)	(1.73)	
Not Separated for Misconduct	1.28**	1.28**	-	-	1.21*	1.67*	0.65
	(0.59)	(0.59)			(0.65)	(0.87)	
No Demotion	0.80	0.82	0.03	0.23	0.89	1.25	0.81
	(0.56)	(0.61)	(0.25)		(0.60)	(1.49)	
No Misdemeanor or Felony	1.06	1.12	-0.48	0.18	1.61**	-0.78	0.13
	(0.74)	(0.81)	(0.84)		(0.81)	(1.48)	
No Sex Related Crime	0.04	0.04	-0.14	0.63	0.03	0.33	0.42
	(0.20)	(0.21)	(0.37)		(0.22)	(0.33)	
No Domestic Violence	-0.07	-0.11	0.23	0.24	-0.05	-0.49	0.29
	(0.18)	(0.19)	(0.23)		(0.19)	(0.39)	
Panel B: Medical Readiness and Performance							
No Medical Profile	-0.62	-0.73	-0.19	0.71	-0.32	-1.14	0.60
	(0.64)	(0.72)	(1.20)		(0.70)	(1.47)	
No Physical/Psychiatric Injury	0.12	0.10	-0.45	0.48	0.34	-1.00	0.26
	(0.50)	(0.55)	(0.53)		(0.54)	(1.11)	
No Significant Medical Profile	0.01	-0.07	0.51	0.45	0.15	-0.89	0.37
	(0.41)	(0.46)	(0.57)		(0.44)	(1.11)	
Promoted to Sergeant (E5)	0.24	0.24	-	-	0.46	-0.18	0.66
	(0.59)	(0.59)			(0.65)	(1.30)	
Physical Fitness Score	-2.00*	-2.00*	-	-	-2.07*	-1.87	0.93
	(1.07)	(1.07)			(1.14)	(2.17)	
Pass Physical Fitness Test	0.50	0.50	-	-	1.04	-1.73	0.14
	(0.70)	(0.70)			(0.74)	(1.82)	
Observations	148660	136175	12485		133253	91634	

Notes: This table reports the effects of gender integration on men assigned to units during or after integration when the sample is split by the rank of men and by the rank of the integrating women. Column (1) reports estimates of β_{Treat} from Equation (2) for the full sample (identical to column (2) of Table 3). Columns (2) and (3) report the effects of integration for male enlisted soldiers and male officers, respectively. Column (4) reports the P-value from a test integration has the same effect on enlisted men and male officers. Columns (5) and (6) report the effects of integration when companies first integrate with only enlisted women or with female officers, respectively. Column (7) reports the P-value from a test that the effect of integration is equal when companies integrate with only enlisted women versus integrating with a female officer. Standard errors, reported in parentheses, are clustered on company. See Table A.13 for estimates of $\beta_{PartTreat}$ from Equation (2).

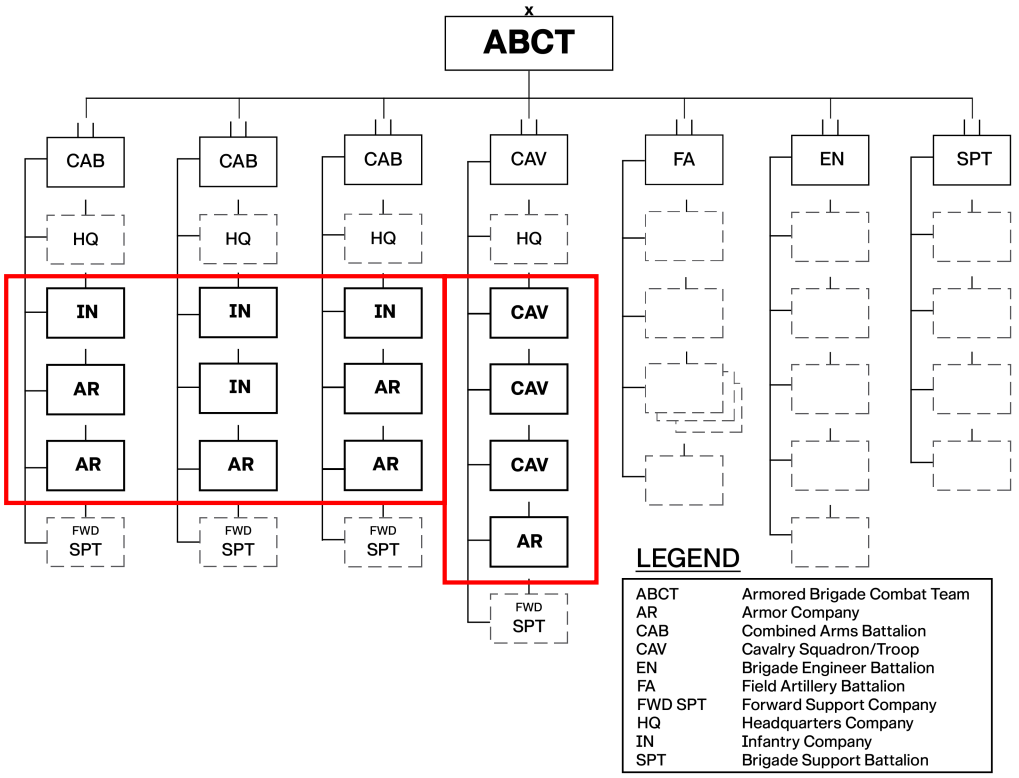
Table 8: Summary Statistics of Perceptions of Workplace Quality of Enlisted Soldiers in Integrated Units by Rank of Integrated Women

	Enlisted Men			Enlisted Women		
	≥1 Woman Officer	Only Enlisted Women	P-Val for (1) vs (2)	≥1 Woman Officer	Only Enlisted Women	P-Val for (4) vs (5)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Perceived Workplace Quality Indicies (Average Z-Scores)						
Workplace Quality Index	0.078	0.115	0.053	-0.085	-0.104	0.794
Organizational Effectiveness Index	0.032	0.066	0.138	-0.037	-0.001	0.665
Equal Opportunity Index	0.052	0.103	0.008	-0.092	-0.129	0.627
Sexual Assault Prevention and Response Index	0.149	0.181	0.120	-0.137	-0.215	0.370
Panel B: Workplace Incident Questions (Percentage)						
Report Any Suicide Tendency in Workplace	38.75	37.05	0.256	43.75	43.84	0.989
Report Any Hazing in Workplace	7.21	6.57	0.410	10.71	8.22	0.496
Report Any Bullying in Workplace	13.78	12.76	0.324	17.56	24.66	0.199
Report Any Unwanted Workplace Experience	8.72	6.49	0.005	25.30	31.51	0.301
Made Sexual Jokes?	4.56	2.91	0.003	13.43	17.81	0.372
Said Dont Act Like Man/Woman?	4.98	4.06	0.141	12.24	13.70	0.742
Made Sexual Comments on Appear?	4.02	2.38	0.001	12.54	9.59	0.453
Attempted Sexual Relationship?	1.86	1.07	0.021	10.75	9.59	0.765
Unwanted Sexual Touch?	2.13	1.23	0.014	3.88	2.74	0.604
Observed Potential Sex Assault Incident	1.72	1.68	0.920	6.85	4.11	0.316
Observations	5231	1309		336	73	

Notes: This table reports average responses to the DEOCS survey. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report Any Suicide Tendency in Workplace" is one if a solider knows someone in the organization who as though of, attempted, or died by suicide and zero otherwise. "Report Any Hazing in Workplace" and "Report Any Bullying in Workplace" are one if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and zero otherwise. "Report Had Any Unwanted Workplace Experience" is one if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and zero otherwise. Responses to the component questions are given underneath. "Observed Potential Sex Assault Incident" is one if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and zero otherwise. A complete list of DEOCS questions can be found in Appendix B.

A Additional Figures and Tables

Figure A.1: Brigade Combat Team (BCT) Organizational Structure



Notes: This figure shows the structure of an Armored Brigade Combat Team (BCT). Our primary analysis sample consists of the infantry (i.e. rifle) companies, armor companies, and cavalry troops, which are depicted inside the red boxes in the figure. Prior to 2016, women could not serve in the infantry and armor occupations that constitute over 90% of jobs in these companies and were typically prohibited from being assigned to these companies regardless of occupation (see Figure 1). Other types of BCTs (i.e., Infantry Brigade Combat Teams and Stryker Brigade Combat Teams) have similar structures but with different mixes of infantry rifle and armor companies. See U.S. Army Field Manual 3-96 (Brigade Combat Team) for additional details.

Figure A.2: Event Study Estimates for Other Admin. Outcomes, Individual-Level Spec.

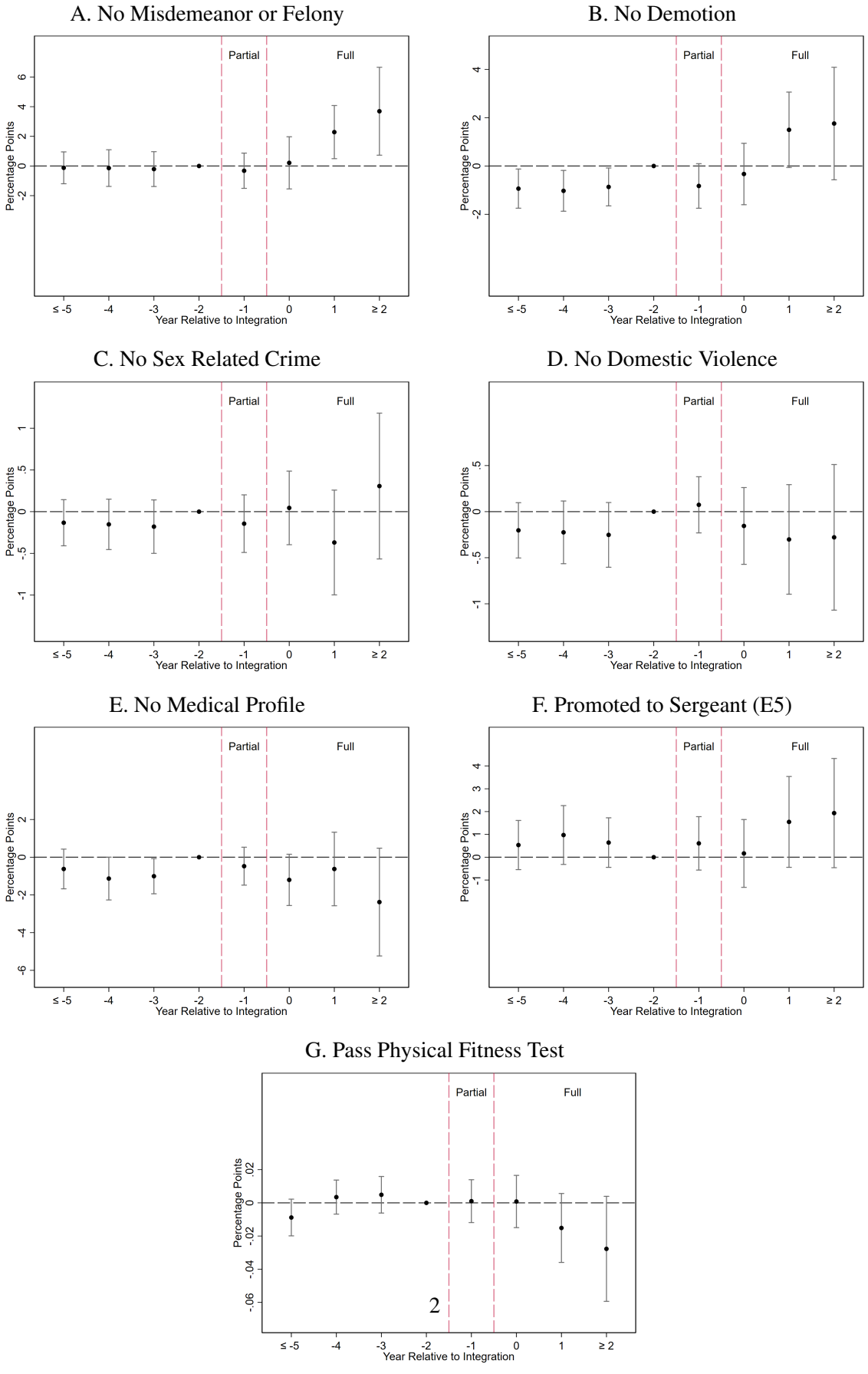
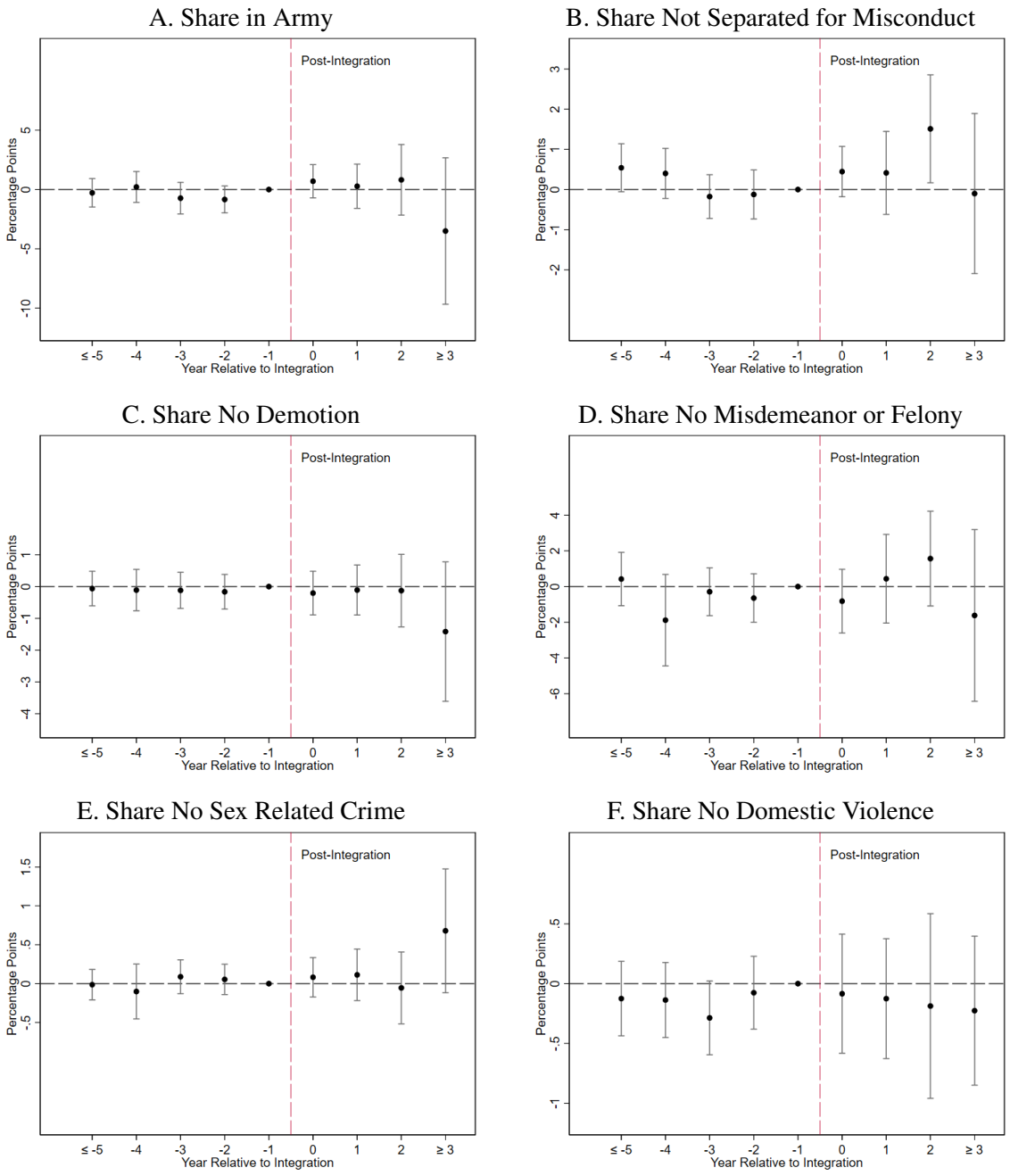
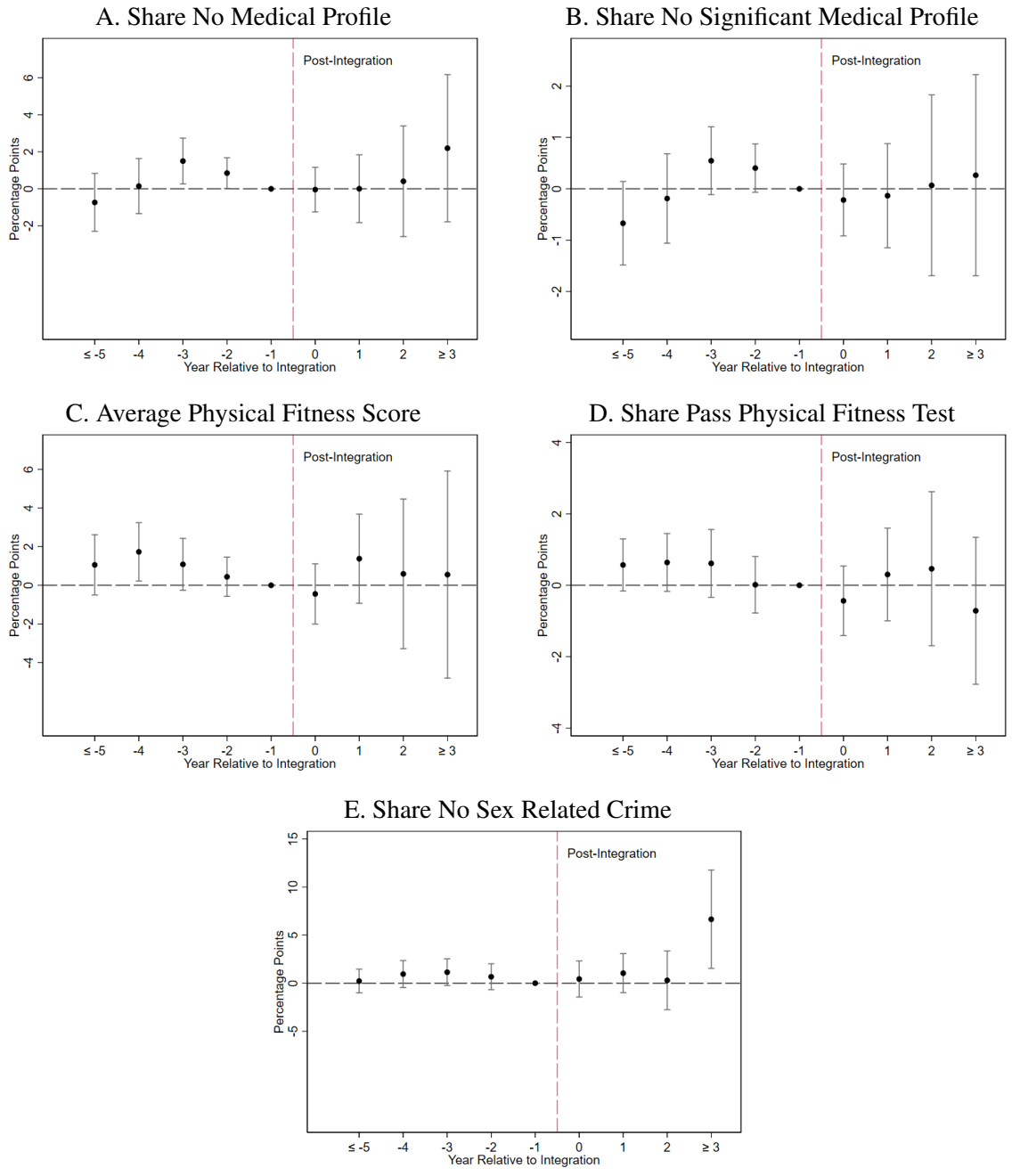


Figure A.3: Event Study Estimates for Admin. Outcomes, Company-Level Specification



Notes: This figure reports event-study point estimates and 95% confidence intervals of the effects of gender integration on company-level averages of administrative outcomes (Equation (3)). The unit of observation is the company-by-year. Outcomes are constructed as the annual average of all personnel assigned to the company, including women. Confidence intervals are derived from standard errors that cluster on company.

Figure A.4: Additional Event-Study Estimates, Admin. Outcomes, Company-Level Specification



Notes: This figure reports event-study point estimates and 95% confidence intervals of the effects of gender integration on company-level averages of additional administrative outcomes (Equation (3)). The unit of observation is the company-by-year. Outcomes are constructed as the annual average of all personnel assigned to the company, including women. Confidence intervals are derived from standard errors that cluster on company.

Table A.1: Integration Effect on DEOCS Survey Quality

	All Soldiers			Men Only		
	All Ranks (1)	Enlisted (2)	Officers (3)	All Ranks (4)	Enlisted (5)	Officers (6)
Panel A: Response Rate						
Post Gender Integration	-0.0367	-0.0390	-0.0145	-0.0402	-0.0425	-0.0259
	(0.0281)	(0.0288)	(0.0456)	(0.0280)	(0.0286)	(0.0457)
Panel B: Attention Check Pass Rate						
Post Gender Integration	0.00730	0.00621	-0.00374	0.00838	0.00793	0.0149
	(0.0126)	(0.0133)	(0.0335)	(0.0130)	(0.0136)	(0.0354)

Notes: This table reports the effects of gender integration on measures of the quality of the DEOCS survey. Outcomes are calculated at a unit-month level. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. "Response rate" is calculated as the number of DEOCS responses associated with the indicated soldier rank and gender divided by the number of soldiers with that rank and gender assigned to the unit according to administrative data. "Attention Check Pass Rate" is the share of responses associated with the indicated soldier rank and gender which have correct responses to both of the attention check questions in the DEOCS survey. Standard errors are clustered at the company level.

Table A.2: "First Stage:" The Effect of Gender Integration on the Percentage of Women in Combat Companies

	Percent Women in Company	Percent IN/AR Women in Company
	(1)	(2)
Post Integration	4.69***	4.14***
	(0.31)	(0.30)
Untreated Mean	0.19	0.00
Observations	3434	

Notes: This table reports the effect of gender integration on the percentage of women in the combat companies in our analysis sample. The unit of observation is the company-by-year. Each column reports estimates of β from Equation 4. The outcome in column (1) is the share of personnel assigned to a company in a specific year who are women, and the outcome in column (2) is the share of personnel assigned to a company in a specific year who are women from the infantry and armor occupations. Outcomes are multiplied by 100 to reflect percentages. Standard errors, reported in parentheses, are clustered on company.

Table A.3: Covariate Balance: Characteristics of Integrated Companies vs. Non-Integrated Companies

	Company Mean Not Yet Integrated	Company Mean Newly Integrated	Raw Difference	Difference with BCT & Infantry Company FE
	(1)	(2)	(3)	(4)
Average Age	24.48	24.47	-0.01	-0.03
	[0.57]	[0.47]	(0.04)	(0.05)
Average Initial AFQT Score (Enl. Only)	57.05	56.40	-0.64	-0.34
	[5.26]	[4.84]	(0.50)	(0.27)
Percent of Soldiers: High School Dropout/GED	6.79	6.93	0.14	0.07
	[2.73]	[3.26]	(0.30)	(0.37)
Number of Soldiers: IN/AR	109.98	98.06	-11.93***	0.87
	[26.06]	[25.89]	(2.38)	(1.66)
Percent of Soldiers: Black	10.75	11.89	1.14***	-0.14
	[3.77]	[4.29]	(0.38)	(0.40)
Percent of Soldiers: White	67.27	66.47	-0.80	0.32
	[6.81]	[6.86]	(0.67)	(0.61)
Percent of Soldiers: Hispanic	16.05	15.98	-0.06	0.06
	[4.34]	[4.97]	(0.45)	(0.49)
Percent of Soldiers: Other Race	5.94	5.66	-0.27	-0.25
	[2.82]	[2.62]	(0.25)	(0.29)
Average Years of Service	3.62	3.60	-0.02	0.01
	[0.44]	[0.42]	(0.04)	(0.04)
Percent of Soldiers: Non-Commissioned Officers	29.66	30.42	0.76	0.84
	[5.55]	[5.52]	(0.52)	(0.52)
Percent of Soldiers: Commissioned Officers	4.94	5.43	0.49***	0.07
	[1.53]	[1.82]	(0.15)	(0.16)
Percent of Soldiers: Females, non-IN/AR	0.57	0.84	0.27***	0.10
	[0.79]	[0.98]	(0.09)	(0.10)
P-Value from Joint Test			0.000	0.488

Notes: This table compares average company characteristics of newly integrated companies to average characteristics of companies that have not yet been treated. To construct the sample, we first construct a sub-sample for each year between 2017 and 2020 (inclusive) that consists of units that were integrated in that year ("Newly Integrated Companies") and units that had not yet been integrated as of that year ("Not Yet Integrated"). We then append sub-samples from each of the four years in question, so that the total number of observations reflects the number of years between 2017 and 2020 that each company in our sample has either yet to be integrated or was integrated in that year. The sample includes 1410 company-by-year observations. Company characteristics reflect averages among soldiers (officers and enlisted) assigned to the company on the first day of the fiscal year (i.e. 1 October) that a company is integrated, or the first day of the fiscal year for companies not yet integrated. Column (1) reports summary statistics for companies that are not yet integrated. Column (2) reports summary statistics for newly integrated companies. Column (3) reports the raw difference in means between newly integrated and not-yet-integrated companies. Column (4) reports estimates from a regression of the company characteristic on an indicator variable for a company being newly integrated with fixed effects for every combination of Brigade Combat Team and subsample year and separate fixed effects for whether the company is an infantry company interacted with subsample year fixed effects. All regression estimates and summary statistics are weighted by the number of personnel assigned to the company in the year prior to the observation. Standard deviations are reported in brackets. Standard errors, clustered on company, are reported in parentheses.

Table A.4: Covariate Balance: Commander Characteristics of Integrated Companies vs. Non-Integrated Companies

	Company Mean Not Yet Integrated	Company Mean Newly Integrated	Raw Difference	Difference with BCT & Infantry Company FE
	(1)	(2)	(3)	(4)
Could Not Identify Commander	2.97	3.15	0.19	0.47
	[16.97]	[17.55]	(1.52)	(1.88)
Percent Strong Evaluations	57.98	55.16	-2.82	-2.64
	[35.15]	[31.67]	(3.15)	(3.54)
Black Commander	3.56	7.58	4.02	1.56
	[18.55]	[26.58]	(2.55)	(3.12)
Hispanic Commander	5.33	5.87	0.54	1.52
	[22.46]	[23.59]	(2.31)	(2.90)
Other Race Commander	4.86	4.96	0.10	-2.19
	[21.51]	[21.81]	(2.21)	(3.12)
Commander Married	75.02	72.55	-2.46	-0.92
	[43.31]	[44.81]	(4.25)	(5.56)
Commander Age	30.52	30.35	-0.17	-0.24
	[3.01]	[2.64]	(0.26)	(0.34)
Commander SAT Score	1195.27	1180.77	-14.50	-13.09
	[154.57]	[167.60]	(19.45)	(26.63)
Commander Missing SAT Score	30.48	33.34	2.85	6.79
	[46.05]	[47.34]	(4.68)	(5.49)
Commander Years of Service	7.55	7.39	-0.16	-0.11
	[2.34]	[1.76]	(0.18)	(0.22)
Commander from West Point	30.14	37.17	7.03	3.07
	[45.91]	[48.53]	(4.76)	(6.02)
Commander From ROTC	49.64	44.10	-5.54	-3.27
	[50.02]	[49.85]	(4.92)	(6.08)
P-Value from Joint Test			0.158	0.317

Notes: This table compares characteristics of company commanders in newly integrated companies to characteristics of commanders in companies that have not yet been treated. We construct the sample in the same way as described in the notes for Table A.3. The sample includes 1410 company-by-year observations for "could not identify commander", 945 company-by-year observations for "commander SAT score", and 1366 company-by-year observations for all other outcomes. Commander characteristics are measured on the first day of the year of integration (or the first day of the year of the observation for companies not yet integrated). Column (1) reports summary statistics of commanders of not yet integrated companies. Column (2) reports summary statistics of commanders of companies integrated in the same year. Column (3) reports the raw difference in means between newly integrated and not-yet-integrated companies. Column (4) reports estimates from a regression of the company commander characteristic on an indicator variable for a company being newly integrated with fixed effects for every combination of Brigade Combat Team and subsample year and separate fixed effects for whether the company is an infantry company interacted with subsample year fixed effects. All regression estimates and summary statistics are weighted by the number of personnel assigned to the company in the year prior to the observation. Standard deviations are reported in brackets. Standard errors, clustered on company, are reported in parentheses. The percent of strong evaluations is defined as the percentage of the Commander's previous performance evaluations that were categorized as 'Most Qualified', the highest ranking on an evaluation report.

Table A.5: Effects of Gender Integration on Random Drug Test Outcomes

	Outcome Mean	Arrived During or After Int.	Arrived 1-Year Before Int.
	(1)	(2)	(3)
Number of Random Drug Tests	2.41	0.02	0.05
		(0.12)	(0.09)
Number of Positive Random Drug Tests	2.93	-0.85	-0.62
		(0.60)	(0.45)
Number Positive Marijuana	1.83	-0.59	-0.50
		(0.50)	(0.35)
Number Positive Cocaine	0.59	-0.43*	-0.17
		(0.24)	(0.20)
Number Positive Opiates	0.12	-0.06	-0.07
		(0.07)	(0.06)
Observations		74466	

Notes: This table reports the effects of gender integration on random drug testing outcomes. The sample includes soldiers first assigned to an infantry or armor combat company from January 2015 until April 2020. We do not have drug test data outside of this window. All outcomes are measured in the first two years after soldiers are assigned to their company. Outcomes are scaled by 100.

Table A.6: Effects of Gender Integration on Men, Robustness to Additional Controls (Administrative Outcomes)

	Baseline Estimates			With Individual Controls			Individual Controls x Year FE		
	During or After Int.	1-Year Before Int.	R^2	During or After Int.	1-Year Before Int.	R^2	During or After Int.	1-Year Before Int.	R^2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Retention and Misconduct									
Retention to Army	1.19	1.03	0.033	0.96	0.85	0.085	0.75	0.75	0.094
	(0.93)	(0.77)		(0.88)	(0.73)		(0.89)	(0.73)	
Not Separated for Misconduct	1.28**	0.18	0.015	1.23**	0.22	0.028	1.12*	0.16	0.032
	(0.59)	(0.48)		(0.58)	(0.47)		(0.59)	(0.46)	
No Demotion	0.80	-0.29	0.009	0.73	-0.33	0.029	0.74	-0.28	0.031
	(0.56)	(0.44)		(0.54)	(0.43)		(0.54)	(0.43)	
No Misdemeanor or Felony	1.06	-0.26	0.012	0.88	-0.36	0.040	0.80	-0.32	0.042
	(0.74)	(0.58)		(0.72)	(0.55)		(0.73)	(0.55)	
No Sex Related Crime	0.04	-0.04	0.006	0.04	-0.03	0.007	0.04	-0.04	0.011
	(0.20)	(0.15)		(0.20)	(0.16)		(0.19)	(0.16)	
No Domestic Violence	-0.07	0.22	0.006	-0.07	0.22	0.010	-0.07	0.24*	0.013
	(0.18)	(0.14)		(0.18)	(0.14)		(0.18)	(0.14)	
Panel B: Medical Readiness and Performance									
No Medical Profile	-0.62	0.05	0.023	-0.55	0.12	0.100	-0.36	0.16	0.107
	(0.64)	(0.47)		(0.61)	(0.43)		(0.60)	(0.43)	
No Physical/Psychiatric Injury	0.12	0.64**	0.023	0.21	0.72**	0.074	0.16	0.67*	0.082
	(0.50)	(0.38)		(0.46)	(0.36)		(0.44)	(0.36)	
No Significant Medical Profile	0.01	0.67*	0.019	-0.15	0.58*	0.039	-0.10	0.62*	0.045
	(0.41)	(0.36)		(0.41)	(0.35)		(0.40)	(0.35)	
Promoted to Sergeant (E5)	0.24	0.17	0.018	0.27	0.12	0.067	0.07	-0.14	0.084
	(0.59)	(0.52)		(0.58)	(0.48)		(0.57)	(0.46)	
Physical Fitness Score	-2.00*	-0.02	0.076	-1.50	0.39	0.096	-1.87*	0.21	0.101
	(1.07)	(0.85)		(1.00)	(0.83)		(1.01)	(0.83)	
Pass Physical Fitness Test	0.50	-0.19	0.026	0.49	-0.17	0.030	0.10	-0.37	0.034
	(0.70)	(0.60)		(0.70)	(0.60)		(0.71)	(0.60)	
Observations	119221			119218			119174		

Notes: The sample includes 1410 company-by-year observations for all characteristics. This table reports the effects of gender integration on men's administrative outcomes. See the notes for Table 3 for additional details on the sample and outcomes. Columns (1) and (2) report original estimates of β_{Treat} and $\beta_{PartTreat}$ from Equation (2) and are identical to estimates reported in Table 3. Column (3) reports the R^2 from this baseline regression. Columns (4) and (5) report estimates of β_{Treat} and $\beta_{PartTreat}$ from Equation (2) when including additional individual-level covariates, with the R^2 reported in column (6). Columns (7) and (8) report estimates of β_{Treat} and $\beta_{PartTreat}$ from Equation (2) when including additional individual-level covariates that are interacted with year fixed effects, with the R^2 reported in column (9). Standard errors, reported in parentheses, are clustered on company. Individual-level covariates include fixed effects for race (white, Black, Hispanic, or other), AFQT score, military occupation, education level (GED or high school dropout, high school graduate, and some college or more), year of birth, and years of service at the start of the assignment.

Table A.7: Additional Physical Fitness Test Score Results

	Outcome Mean	Arrived During or After Int.	Arrived 1-Year Before Int.
	(1)	(2)	(3)
Panel A: Additional Physical Fitness Score Delineations			
Physical Fitness Score (Baseline Result)	248.79	-2.00*	-0.02
		(1.07)	(0.85)
Pass Physical Fitness Test	92.81	0.50	-0.19
		(0.70)	(0.60)
Physical Fitness Score $\geq$ 270	33.72	-2.52**	-0.18
		(1.19)	(0.90)
Missing Physical Fitness Score	12.47	1.57	1.65**
		(1.13)	(0.80)
Panel B: Sensitivity to Missing Fitness Score Imputations			
Phys Fitness Score, missing imputed with predicted Score	248.72	-1.61	0.11
		(0.98)	(0.81)
Phys Fitness Score, missing imputed with p10	243.08	-2.34**	-0.67
		(1.07)	(0.86)
Phys Fitness Score, missing imputed with p50	249.44	-1.54	0.17
		(0.99)	(0.81)
Phys Fitness Score, missing imputed with p90	254.05	-0.96	0.79
		(1.13)	(0.89)

Notes: This table reports the effects of gender integration on additional physical fitness outcomes (panel A). Panel B reports the effects of gender integration on physical fitness scores when using various techniques to impute missing scores.

Table A.8: Effects of Gender Integration on Company-Level Outcomes, Split by Share of Women Assigned In First Year of Integration

	Men & Women			Men Only					
	$<$ Median ($\approx$ 5.1%)	$\geq$ Median ($\approx$ 5.1%)	P-Val for Equiv. (1) vs. (2)	$<$ Median ($\approx$ 5.1%)	$\geq$ Median ($\approx$ 5.1%)	P-Val for Equiv (4) vs. (5)	$<$ Median DEOCS Years	$\geq$ Median DEOCS Years	P-Val for Equiv (7) vs. (8)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Retention and Misconduct									
Share in Army	0.40	1.38*	0.409	0.36	1.09	0.541	0.70	2.33*	0.325
	(0.85)	(0.83)		(0.85)	(0.83)		(1.01)	(1.31)	
Share Not Separated for Misconduct	0.38	0.34	0.944	0.35	0.30	0.915	0.58	0.42	0.819
	(0.33)	(0.35)		(0.33)	(0.35)		(0.55)	(0.47)	
Share Not Demoted	-0.44	0.16	0.273	-0.43	0.28	0.198	-0.36	0.45	0.327
	(0.42)	(0.35)		(0.42)	(0.35)		(0.64)	(0.53)	
Share No Misdemeanor or Felony	0.07	0.32	0.875	0.11	0.24	0.933	-0.46	-1.91	0.524
	(0.89)	(1.27)		(0.89)	(1.30)		(1.29)	(1.88)	
Share No Sex Related Crime	0.10	0.13	0.862	0.11	0.12	0.941	0.20	0.24	0.900
	(0.14)	(0.15)		(0.14)	(0.16)		(0.16)	(0.26)	
Share No Domestic Violence	-0.10	0.18	0.457	-0.11	0.15	0.494	-0.54	0.48	0.093
	(0.33)	(0.18)		(0.33)	(0.19)		(0.50)	(0.34)	
Panel B: Medical Readiness and Performance									
Share No Medical Profile	-0.13	0.50	0.658	-0.21	0.42	0.663	0.29	-0.29	0.660
	(1.03)	(0.98)		(1.05)	(0.98)		(0.88)	(0.98)	
Share No Physical/Psychiatric Injury	0.01	0.32	0.774	0.06	0.48	0.694	0.17	0.45	0.754
	(0.84)	(0.66)		(0.83)	(0.67)		(0.60)	(0.63)	
Share No Significant Medical Profile	-0.09	-0.13	0.955	-0.08	-0.08	0.996	-0.30	0.21	0.537
	(0.55)	(0.54)		(0.55)	(0.53)		(0.51)	(0.65)	
Share Promoted to Sergeant (E5)	-0.40	0.07	0.731	-0.40	0.32	0.741	-1.38	0.12	0.498
	(1.11)	(0.84)		(1.09)	(0.83)		(1.67)	(1.60)	
Average Physical Fitness Score	-1.18	-0.23	0.558	-1.24	-0.17	0.570	-0.41	-0.18	0.880
	(1.24)	(1.07)		(1.21)	(1.09)		(1.19)	(1.28)	
Share Pass Physical Fitness Test	-1.00*	-0.10	0.242	-0.99*	0.04	0.245	-1.00	1.28	0.052
	(0.54)	(0.54)		(0.54)	(0.52)		(0.73)	(0.82)	
Observations	2664	2505		2664	2505		903	853	

Notes: This table reports the effects of gender integration on company-level average outcomes on subsamples formed by splitting integrated companies on the median share of company personnel who are infantry or armor women. The unit of observation is the company-by-year. Columns (1), (2), (4), (5), (7), and (8) report estimates of β from Equation 4 for the samples identified in the column headings. The sample for estimates reported in columns (1), (4), and (7) includes companies that never integrated and companies where the number of infantry and armor women assigned to the company in the first year of integration is less than 5.1% of total company personnel. The sample for estimates reported in columns (2), (5), and (8) includes companies that never integrated and companies where the number of infantry and armor women assigned to the company in the first year of integration is greater than or equal to 5.1% of total company personnel. In columns (1) and (2) outcomes are constructed as the annual average of all men and women assigned to the company. In columns (4) and (5) outcomes are constructed as the annual company average of only men. In columns (7) and (8) outcomes are constructed as the annual company average of only men, but where the sample is restricted to observations from 2018 through 2020. Columns (3), (6), and (9) report p-values from tests that the estimates reported in the preceding columns are equal. Standard errors, reported in parentheses, are clustered on company.

Table A.9: Company-Level Effects of Integration Among Men Assigned to Units at Least 6 Months Prior to Integration

	Men Only		Exclude Post Treat		Exclude 2012		$\geq$ 6 Months in Unit	
	Outcome Mean	During or After Int.	Outcome Mean	During or Before Int.	Outcome Mean	During or Before Int.	Outcome Mean	During or Before Int.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Retention and Misconduct								
Share in Army	82.33	0.70	82.24	1.37**	81.90	1.52**	78.69	0.89
		(0.64)		(0.68)		(0.68)		(0.84)
Share Not Separated for Misconduct	95.68	0.37	95.64	0.36	95.77	0.43	93.29	0.09
		(0.27)		(0.28)		(0.28)		(0.43)
Share Not Demoted	96.70	-0.05	96.68	-0.16	96.82	-0.17	97.42	-0.02
		(0.29)		(0.33)		(0.34)		(0.31)
Share No Misdemeanor or Felony	89.73	-0.10	89.71	-0.43	90.00	-0.38	93.81	-0.56
		(0.92)		(0.94)		(0.95)		(0.65)
Share No Sex Related Crime	99.55	0.07	99.56	0.08	99.56	0.09	99.73	0.01
		(0.12)		(0.12)		(0.12)		(0.08)
Share No Domestic Violence	99.21	-0.04	99.22	-0.03	99.21	-0.02	99.45	0.10
		(0.20)		(0.25)		(0.25)		(0.16)
Panel B: Medical Readiness and Performance								
Share No Medical Profile	82.42	-0.37	82.28	-0.24	82.31	-0.57	84.31	-0.24
		(0.76)		(0.73)		(0.72)		(0.63)
Share No Physical/Psychiatric Injury	91.64	-0.00	91.53	-0.13	91.56	-0.38	92.38	-0.04
		(0.55)		(0.52)		(0.53)		(0.45)
Share No Significant Medical Profile	94.11	-0.19	94.01	-0.24	94.06	-0.37	94.28	-0.19
		(0.39)		(0.40)		(0.39)		(0.41)
Share Promoted to Sergeant (E5)	11.89	0.30	11.74	-0.01	11.74	-0.02	13.00	0.35
		(0.71)		(0.81)		(0.82)		(0.94)
Average Physical Fitness Score	256.18	-0.45	256.55	-0.70	255.42	-0.71	255.88	-0.51
		(0.85)		(0.81)		(0.81)		(0.87)
Pass Physical Fitness Test	96.47	-0.34	96.57	-0.44	96.30	-0.39	96.36	-0.40
		(0.40)		(0.46)		(0.47)		(0.50)
Observations		3434		3282		2912		2872

Notes: This table reports the effects of gender integration on company-level average outcomes for enlisted soldiers and officers in companies during or after integration. The unit of observation is the company-by-year. Columns (1) and (2) repeat estimates reported in columns (3) and (4) of Table 5, where outcomes are constructed as the average among male personnel assigned to the company. Columns (3) and (4) of this table report estimates from a subsample that excludes company-by-year observations in the year after a company has been integrated. Columns (5) and (6) report estimates that further exclude observations from 2012 since we do not observe assignments prior to this year. Columns (7) and (8) are estimates where company-level average outcomes are constructed only from soldiers who were assigned to a company for at least six months prior to the start of the year. We exclude observations in the years after companies are integrated to ensure the composition of soldiers in treated and control units remains comparable. Soldiers who were assigned to companies that have been integrated for more than one year, and who were assigned to the company prior to integration, will have been assigned to the company for 18 months or longer, whereas soldiers in control companies will have been assigned to the company for only 6 months or longer. Standard errors, reported in parentheses, are clustered on company.

Table A.10: Effect of Integration on Perceptions of Workplace Quality, Split by Share of Women Assigned in First Year of Integration

	$<$ Median ($\approx 5.1\%$)	$\geq$ Median ($\approx 5.1\%$)	P-Val for (1) vs. (2)
	(1)	(2)	(3)
Panel A: Perceived Workplace Quality Indicies (Standard Deviation Effect)			
Workplace Quality Index	-0.049	-0.059	0.827
	(0.039)	(0.038)	
Organizational Effectiveness Index	-0.081	-0.073	0.582
	(0.053)	(0.046)	
Equal Opportunity Index	-0.045	-0.057*	0.695
	(0.034)	(0.032)	
Sexual Assault Prevention and Response Index	-0.008	-0.042	0.498
	(0.032)	(0.035)	
Panel B: Workplace Incident Questions (Percentage Point Effect)			
Report No Hazing in Workplace	-0.18	-1.83*	0.451
	(1.01)	(1.02)	
Report No Bullying in Workplace	-0.93	-2.51	0.045
	(1.44)	(1.54)	
Report No Suicide Tendency in Workplace	-3.80	-3.47	0.982
	(4.10)	(3.75)	
Did Not Have Unwanted Workplace Experience	-1.93*	-0.86	0.965
	(1.00)	(1.39)	
Made Sexual Jokes? (No)	-0.99	-0.21	0.626
	(0.69)	(1.03)	
Said Dont Act Like Man/Woman? (No)	-1.23**	-1.25	0.649
	(0.62)	(0.97)	
Made Comments on Appear? (No)	-0.94*	-0.85	0.107
	(0.56)	(0.83)	
Attempted Relationship? (No)	-0.68	-0.06	0.384
	(0.47)	(0.42)	
Made Unwanted Sexual Touch? (No)	-0.52	0.34	0.942
	(0.46)	(0.47)	
Did Not Observe Potential Assault Incident	-0.27	-0.92*	0.161
	(0.43)	(0.49)	
Observations	50307	40325	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report No Suicide Tendency in Workplace" is zero if a solider knows someone in the organization who as though of, attempted, or died by suicide and one otherwise. "Report No Hazing in Workplace" and "Report No Bullying in Workplace" are zero if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and one otherwise. "Did Not Have Unwanted Workplace Experience" is zero if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and one otherwise. Effects on the component questions are given underneath. "Did Not Observe Potential Sex Assault Incident" is zero if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and one otherwise. A complete list of DEOCS questions can be found in Appendix B.

Table A.11: Effect of Integration on Perceptions of Workplace Quality, Including Women

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	≥1 Woman Officer	Only Enlisted Women	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A:Likert Scale Questions							
Workplace Quality Index	-0.050*	-0.041	-0.148***	0.038	-0.073***	0.143**	0.012
	(0.027)	(0.028)	(0.049)		(0.028)	(0.061)	
Organizational Effectiveness Index	-0.063*	-0.056	-0.148**	0.166	-0.097***	0.182**	0.022
	(0.036)	(0.037)	(0.064)		(0.037)	(0.089)	
Equal Opportunity Index	-0.045*	-0.039	-0.093*	0.318	-0.066***	0.121**	0.020
	(0.024)	(0.024)	(0.054)		(0.023)	(0.055)	
Sexual Assault Prevention and Response Index	-0.034	-0.024	-0.175***	0.002	-0.047*	0.114***	0.006
	(0.023)	(0.024)	(0.047)		(0.025)	(0.040)	
Panel B: Reported Incidents							
Report No Hazing in Workplace	-0.68	-0.71	-0.36	0.749	-1.67**	3.38**	0.019
	(0.69)	(0.73)	(0.89)		(0.74)	(1.50)	
Report No Bullying in Workplace	-1.04	-1.12	0.84	0.360	-1.68	3.25	0.119
	(1.02)	(1.06)	(1.87)		(1.07)	(2.29)	
Report No Suicide Tendency in Workplace	-2.76	-3.51	12.15**	0.006	-1.68	-2.89	0.362
	(2.80)	(2.82)	(5.90)		(3.02)	(4.80)	
Did Not Have Unwanted Workplace Experience	-1.53*	-1.50*	-1.47	0.987	-2.20**	2.29	0.011
	(0.88)	(0.91)	(2.27)		(0.89)	(1.59)	
Made Sexual Jokes? (No)	-0.67	-0.73	1.06	0.402	-1.15*	2.03**	0.004
	(0.63)	(0.65)	(2.14)		(0.64)	(0.86)	
Said Dont Act Like Man/Woman? (No)	-1.29**	-1.28**	-1.38	0.937	-1.51**	0.47	0.028
	(0.58)	(0.60)	(1.07)		(0.62)	(0.83)	
Made Comments on Appear? (No)	-1.00**	-1.04**	0.36	0.216	-1.03*	0.40	0.126
	(0.50)	(0.52)	(1.07)		(0.55)	(1.08)	
Attempted Relationship? (No)	-0.77**	-0.79**	-0.84	0.969	-0.96***	0.83	0.036
	(0.35)	(0.36)	(1.24)		(0.37)	(0.79)	
Made Unwanted Sexual Touch? (No)	-0.04	-0.03	-0.09	0.866	-0.08	1.35*	0.083
	(0.34)	(0.36)	(0.11)		(0.37)	(0.76)	
Did Not Observe Potential Assault Incident	-0.82**	-0.72**	-2.15*	0.203	-0.76**	-0.49	0.950
	(0.35)	(0.36)	(1.10)		(0.36)	(0.82)	
Observations	60246	57048	3170		52541	39495	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report No Suicide Tendency in Workplace" is zero if a solider knows someone in the organization who as though of, attempted, or died by suicide and one otherwise. "Report No Hazing in Workplace" and "Report No Bullying in Workplace" are zero if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and one otherwise. "Did Not Have Unwanted Workplace Experience" is zero if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and one otherwise. Effects on the component questions are given underneath. "Did Not Observe Potential Sex Assault Incident" is zero if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and one otherwise. A complete list of DEOCS questions can be found in Appendix B.

Table A.12: Effect of Integration on Perceptions of Workplace Quality, Using Share of Statements Agreed With

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	≥1 Woman Officer	Only Enlisted Women	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Workplace Quality Index	-0.020*	-0.016	-0.050***	0.087	-0.027**	0.056**	0.018
	(0.012)	(0.012)	(0.017)		(0.012)	(0.026)	
Organizational Effectiveness Index	-0.027*	-0.022	-0.068***	0.098	-0.038**	0.070*	0.025
	(0.015)	(0.015)	(0.025)		(0.015)	(0.036)	
Equal Opportunity Index	-0.019*	-0.015	-0.028	0.575	-0.026**	0.052**	0.028
	(0.011)	(0.011)	(0.022)		(0.011)	(0.026)	
Sexual Assault Prevention and Response Index	-0.012	-0.008	-0.043***	0.064	-0.012	0.042**	0.031
	(0.011)	(0.011)	(0.016)		(0.012)	(0.020)	
Observations	59185	56086	3072		51643	38989	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses such that a one indicates agreement with a positive statement or disagreement with a negative statement and a zero indicates a neutral or negative response. The "Workplace Quality Index" takes the average response across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. A complete list of DEOCS questions can be found in Appendix B.

Table A.13: Effect of Gender Integration on Men's Administrative Outcomes by Rank, Men who Arrived 1-year Prior to Integration

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	Only Enlisted Women	≥1 Woman Officer	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Retention and Misconduct							
Retention to Army	78.46	0.91	0.32	0.68	1.22	0.90	0.84
		(0.84)	(1.21)		(1.43)	(0.87)	
Not Separated for Misconduct	91.99	0.18	-	-	-0.28	0.24	0.56
		(0.48)	-		(0.76)	(0.54)	
No Demotion	92.90	-0.39	0.06	0.42	0.89	-0.40	0.16
		(0.48)	(0.26)		(0.82)	(0.50)	
No Misdemeanor or Felony	87.71	-0.41	0.24	0.47	1.37	-0.40	0.19
		(0.63)	(0.65)		(1.27)	(0.62)	
No Sex Related Crime	99.23	-0.05	-0.04	0.96	-0.27	0.06	0.39
		(0.17)	(0.22)		(0.36)	(0.17)	
No Domestic Violence	98.91	0.25*	-0.09	0.16	0.46*	0.23	0.40
		(0.15)	(0.19)		(0.25)	(0.16)	
Panel B: Medical Readiness and Performance							
No Medical Profile	86.43	0.13	-1.52	0.14	-0.76	0.33	0.29
		(0.52)	(0.97)		(0.95)	(0.52)	
No Physical/Psychiatric Injury	92.45	0.66	-0.32	0.18	-0.90	1.06***	0.02
		(0.42)	(0.60)		(0.75)	(0.41)	
No Significant Medical Profile	93.82	0.67*	0.31	0.57	-0.05	0.87**	0.19
		(0.40)	(0.48)		(0.63)	(0.40)	
Promoted to Sergeant (E5)	10.55	0.17	-	-	0.53	0.42	0.92
		(0.52)	-		(1.01)	(0.58)	
Physical Fitness Score	248.78	-0.01	-	-	-4.09***	1.07	0.00
		(0.85)	-		(1.49)	(0.95)	
Pass Physical Fitness Test	92.80	-0.18	-	-	-3.33***	0.76	0.00
		(0.60)	-		(1.16)	(0.65)	
Observations	148660	136175	12485		91634	133253	

Notes: This table reports the effects of gender integration on men assigned to units one year prior to integration when the sample is split by the rank of men and by the rank of the integrating women. Column (1) reports estimates of $\beta_{PartTreat}$ from Equation (2) for the full sample (identical to column (3) of Table 3). Columns (2) and (3) report estimates of $\beta_{PartTreat}$ for male enlisted soldiers and male officers, respectively. Column (4) reports the P-value from a test integration has the same effect on enlisted men and male officers. Columns (5) and (6) report estimates of $\beta_{PartTreat}$ when companies first integrate with only enlisted women or with female officers, respectively. Column (7) reports the P-value from a test that the effect of integration is equal when companies integrate with only enlisted women versus integrating with a female officer. Standard errors, reported in parentheses, are clustered on company.

Table A.14: Effects of Gender Integration on Company-Level Average Outcomes, Enlisted vs. Officers

	Men and Women			Men Only			Men, DEOCS Years		
	Enlisted	Officers	P-Val for (1) vs. (2)	Enlisted	Officers	P-Val for (4) vs. (5)	Enlisted	Officers	P-Val for (7) vs. (8)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Retention and Misconduct									
Share in Army	0.92	0.05	0.436	0.76	-0.02	0.493	1.44	-0.58	0.246
	(0.66)	(0.89)		(0.66)	(0.92)		(0.96)	(1.45)	
Share Not Separated for Misconduct	0.42	-	-	0.39	-	-	0.54	-	-
	(0.28)	-		(0.28)	-		(0.40)	-	
Share Not Demoted	-0.11	-0.02	0.803	-0.06	0.09	0.684	0.09	0.02	0.884
	(0.31)	(0.20)		(0.31)	(0.16)		(0.45)	(0.03)	
Share No Misdemeanor or Felony	-0.29	0.21	0.643	-0.13	0.58	0.507	-1.39	0.36	0.195
	(0.98)	(0.48)		(0.98)	(0.42)		(1.21)	(0.59)	
Share No Sex Related Crime	0.06	-0.02	0.761	0.06	0.20	0.461	0.15	0.36	0.474
	(0.13)	(0.23)		(0.13)	(0.15)		(0.16)	(0.24)	
Share No Domestic Violence	-0.05	0.09	0.563	-0.05	0.09	0.561	-0.10	0.24	0.417
	(0.21)	(0.11)		(0.21)	(0.11)		(0.35)	(0.23)	
Panel B: Medical Readiness and Performance									
Share No Medical Profile	-0.40	0.05	0.745	-0.38	-0.41	0.988	0.04	-0.47	0.711
	(0.75)	(1.18)		(0.75)	(1.23)		(0.66)	(1.21)	
Share No Physical/Psychiatric Injury	0.01	-0.64	0.414	0.03	-0.66	0.394	0.23	-1.20*	0.069
	(0.54)	(0.58)		(0.54)	(0.60)		(0.45)	(0.64)	
Share No Significant Medical Profile	-0.18	-0.42	0.654	-0.18	-0.44	0.627	-0.19	0.06	0.700
	(0.39)	(0.37)		(0.39)	(0.39)		(0.42)	(0.50)	
Share Promoted to Sergeant (E5)	0.18	-	-	0.30	-	-	-0.47	-	-
	(0.72)	-		(0.71)	-		(1.18)	-	
Average Physical Fitness Score	-0.44	-	-	-0.42	-	-	-0.31	-	-
	(0.84)	-		(0.85)	-		(0.88)	-	
Share Pass Physical Fitness Test	-0.40	-	-	-0.33	-	-	-0.11	-	-
	(0.40)	-		(0.40)	-		(0.56)	-	
Observations	3434	3394		3434	3394		1170	1169	

Notes: This table reports the effects of gender integration on company-level average outcomes where company averages are constructed separately for enlisted soldiers and for officers for companies during or after integration. The unit of observation is the company-by-year. In columns (1) and (2) outcomes are constructed as the annual average of all (i.e. men and women) enlisted personnel or all officers assigned to the company. In columns (4) and (5) outcomes are constructed as the annual company average of only male enlisted personnel or male officers. In columns (7) and (8) outcomes are constructed as the annual company average of only male enlisted personnel or male officers, but where the sample is restricted to observations from 2018 through 2020 to most closely reflect coverage of DEOCS command climate survey outcomes. Columns (1), (2), (4), (5), (7), and (8) report estimates of β from Equation 4 for the samples identified in the column headings. Columns (3), (6), and (9) report p-values from tests that the estimates reported in the preceding columns are equal. Standard errors, reported in parentheses, are clustered on company.

Table A.15: Effects of Gender Integration on Company-Level Outcomes, Split by Rank of Women Who First Integrated Companies

	Men and Women			Men Only			Men, DEOCS Years		
	Only Enlisted Women	≥1 Woman Officer	P-Val for (1) vs. (2)	Only Enlisted Women	≥1 Woman Officer	P-Val for (4) vs. (5)	Only Enlisted Women, DEOCS	≥1 Woman Officer, DEOCS	P-Val for (7) vs. (8)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Retention and Misconduct									
Share in Army	-1.09	1.34**	0.106	-1.42	1.18*	0.090	-1.68	2.00**	0.094
	(1.36)	(0.67)		(1.40)	(0.67)		(1.99)	(0.97)	
Share Not Separated for Misconduct	-0.04	0.48	0.452	-0.20	0.46	0.346	-0.21	0.66	0.349
	(0.64)	(0.29)		(0.64)	(0.29)		(0.82)	(0.44)	
Share Not Demoted	-0.57	-0.01	0.492	-0.57	0.05	0.447	-0.13	0.19	0.710
	(0.76)	(0.32)		(0.76)	(0.32)		(0.72)	(0.50)	
Share No Misdemeanor or Felony	0.50	-0.02	0.785	0.42	-0.06	0.804	0.44	-1.78	0.404
	(1.65)	(1.01)		(1.66)	(1.02)		(2.37)	(1.28)	
Share No Sex Related Crime	0.10	0.10	0.988	0.09	0.10	0.960	-0.04	0.22	0.430
	(0.22)	(0.13)		(0.23)	(0.13)		(0.29)	(0.18)	
Share No Domestic Violence	0.21	-0.00	0.532	0.20	-0.03	0.504	0.35	-0.12	0.389
	(0.25)	(0.22)		(0.26)	(0.22)		(0.39)	(0.38)	
Panel B: Medical Readiness and Performance									
Share No Medical Profile	-1.02	0.18	0.451	-0.98	0.06	0.513	-0.49	-0.20	0.870
	(1.38)	(0.83)		(1.37)	(0.83)		(1.59)	(0.73)	
Share No Physical/Psychiatric Injury	-1.67*	0.23	0.072	-1.37	0.30	0.112	-0.45	0.08	0.649
	(0.87)	(0.60)		(0.87)	(0.61)		(1.06)	(0.52)	
Share No Significant Medical Profile	-1.00	-0.00	0.273	-1.00	0.02	0.268	-1.12	-0.16	0.326
	(0.81)	(0.43)		(0.83)	(0.42)		(0.87)	(0.47)	
Share Promoted to Sergeant (E5)	-1.03	0.09	0.498	-0.96	0.22	0.492	1.97	-0.99	0.271
	(1.47)	(0.79)		(1.46)	(0.79)		(2.19)	(1.34)	
Average Physical Fitness Score	-3.04*	-0.02	0.111	-3.35**	0.03	0.107	-3.42*	0.25	0.094
	(1.69)	(0.91)		(1.70)	(0.92)		(1.86)	(0.95)	
Share Pass Physical Fitness Test	-1.74	-0.11	0.191	-1.64	-0.05	0.199	-1.48	0.62	0.166
	(1.20)	(0.41)		(1.17)	(0.40)		(1.42)	(0.59)	
Observations	2083	3086		2083	3086		702	1054	

Notes: This table reports the effects of gender integration on company-level average outcomes for companies during or after integration separately for companies that were first integrated with only female enlisted soldiers and for companies that were first integrated with female officers. The unit of observation is the company-by-year. Columns (1), (2), (4), (5), (7), and (8) report estimates of β from Equation 4 for the samples identified in the column headings. The sample for estimates reported in columns (1), (4), and (7) includes companies that never integrated and companies where all women assigned to the company during the first three months of integration were enlisted soldiers. The sample for estimates reported in columns (2), (5), and (8) includes companies that never integrated and companies where at least one woman assigned to the company during the first month of integration was an officer. In columns (1) and (2) outcomes are constructed as the annual average of all men and women assigned to the company. In columns (4) and (5) outcomes are constructed as the annual company average of only men. In columns (7) and (8) outcomes are constructed as the annual company average of only men, but where the sample is restricted to observations from 2018 through 2020. Columns (3), (6), and (9) report p-values from tests that the estimates reported in the preceding columns are equal. Standard errors, reported in parentheses, are clustered on company.

Table A.16: Effect of Integration on Perceptions of Workplace Quality for Male Enlisted and Officers

	Enlisted Men			Male Officers		
	≥1 Woman Officer	Only Enlisted Women	P-Val for (1) vs. (2)	≥1 Woman Officer	Only Enlisted Women	P-Val for (4) vs. (5)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Perceived Workplace Quality Indicies (Standard Deviation Effect)						
Workplace Quality Index	-0.063**	0.152**	0.010	-0.174***	0.039	0.135
	(0.029)	(0.061)		(0.054)	(0.094)	
Organizational Effectiveness Index	-0.093**	0.188**	0.023	-0.205***	0.080	0.062
	(0.038)	(0.091)		(0.075)	(0.112)	
Equal Opportunity Index	-0.057**	0.122**	0.015	-0.130**	0.101	0.170
	(0.024)	(0.052)		(0.056)	(0.118)	
Sexual Assault Prevention and Response Index	-0.029	0.132***	0.002	-0.151***	-0.041	0.534
	(0.026)	(0.038)		(0.051)	(0.082)	
Panel B: Workplace Incident Questions (Percentage Point Effect)						
Report No Hazing in Workplace	-1.80**	3.67**	0.014	-0.98	2.35	0.455
	(0.80)	(1.62)		(0.80)	(1.86)	
Report No Bullying in Workplace	-1.96*	3.90	0.047	0.53	3.27	0.476
	(1.12)	(2.38)		(1.81)	(3.30)	
Report No Suicide Tendency in Workplace	-2.79	-2.97	0.492	13.75*	1.96	0.092
	(3.07)	(4.84)		(7.21)	(8.98)	
Did Not Have Unwanted Workplace Experience	-1.90**	3.44**	0.001	-0.82	-9.14*	0.170
	(0.90)	(1.71)		(2.26)	(5.01)	
Made Sexual Jokes? (No)	-1.01	2.66**	0.001	0.53	-0.62	0.913
	(0.64)	(1.07)		(2.22)	(3.05)	
Said Dont Act Like Man/Woman? (No)	-1.26*	1.01	0.005	-1.03	-5.44**	0.080
	(0.65)	(0.91)		(1.28)	(2.30)	
Made Comments on Appear? (No)	-0.98*	0.76	0.047	-0.19	-0.29	0.377
	(0.56)	(1.15)		(0.91)	(0.71)	
Attempted Relationship? (No)	-0.67*	1.29*	0.004	-0.22	-5.56	0.326
	(0.36)	(0.68)		(0.15)	(4.91)	
Made Unwanted Sexual Touch? (No)	-0.16	1.48*	0.035	-0.10	-0.22	0.583
	(0.39)	(0.81)		(0.11)	(0.35)	
Did Not Observe Potential Assault Incident	-0.46	-0.08	0.666	-1.74	-6.94*	0.157
	(0.33)	(0.84)		(1.18)	(3.61)	
Observations	48932	37005		2687	1962	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. Indicies are constructed from the set of questions in the DEOCS which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as necessary so that larger numbers reflect a more favorable work environment and rescale responses into z-scores by subtracting the mean and dividing by the standard deviation of responses among men in sample units which were not treated during the DEOCS period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the DEOCS. The three following sub-indicies take the average across the subset of statements within that category in the original survey. "Report No Suicide Tendency in Workplace" is zero if a solider knows someone in the organization who as though of, attempted, or died by suicide and one otherwise. "Report No Hazing in Workplace" and "Report No Bullying in Workplace" are zero if a soldier reported that at least one of types of hazing or bullying described in the survey occurred in their workplace and one otherwise. "Did Not Have Unwanted Workplace Experience" is zero if a soldier responded "yes" to any one of five questions about their personal experience with inappropriate sexual workplace conduct and one otherwise. Effects on the component questions are given underneath. "Did Not Observe Potential Sex Assault Incident" is zero if a soldier reported that they personally witnessed a situation which they believe could have led to a sexual assault and one otherwise. A complete list of DEOCS questions can be found in Appendix B.

Table A.17: Covariate Balance: Company Characteristics, With / Without Female Officers

Covariate	Subsample Company Means			with BCT & Infantry Company FE		
	Not Yet Integrated	$\geq$ 1 Female Officer	No Female Officers	$\geq$ 1 Female Officer	No Female Officers	P-Val for Equal.
	(1)	(2)	(3)	(4)	(5)	(6)
Average Age	24.48	24.48	24.41	-0.04	0.01	0.654
	[0.57]	[0.48]	[0.43]	(0.06)	(0.09)	
Average Initial AFQT Score (Enl. Only)	57.05	56.47	56.10	-0.32	-0.45	0.814
	[5.26]	[4.83]	[5.00]	(0.28)	(0.52)	
Percent of Soldiers: High School Dropouts/GED	6.79	6.99	6.60	0.21	-0.64	0.250
	[2.73]	[3.37]	[2.69]	(0.40)	(0.67)	
Number of Soldiers: IN/AR	109.98	98.15	97.60	0.31	3.85	0.298
	[26.06]	[25.99]	[25.99]	(1.73)	(3.34)	
Percent of Soldiers: Black	10.75	11.84	12.13	-0.28	0.66	0.223
	[3.77]	[4.34]	[4.07]	(0.44)	(0.70)	
Percent of Soldiers: Hispanic	16.05	15.77	17.09	-0.12	1.05	0.193
	[4.34]	[5.09]	[4.23]	(0.53)	(0.83)	
Percent of Soldiers: Other Race	5.94	5.69	5.53	-0.17	-0.67	0.446
	[2.82]	[2.60]	[2.79]	(0.32)	(0.60)	
Average Years of Service	3.62	3.61	3.50	0.01	-0.01	0.803
	[0.44]	[0.43]	[0.34]	(0.05)	(0.08)	
Percent of Soldiers: Non-Commissioned Officers	29.66	30.90	27.99	1.14**	-0.70	0.013
	[5.55]	[5.61]	[4.43]	(0.57)	(0.62)	
Percent of Soldiers: Officers	4.94	5.44	5.37	0.11	-0.15	0.453
	[1.53]	[1.86]	[1.66]	(0.16)	(0.34)	
Percent of Soldiers: Females, non-IN/AR	0.57	0.85	0.77	0.13	-0.07	0.374
	[0.79]	[0.99]	[0.98]	(0.10)	(0.22)	
P-Value from Joint Test				0.169	0.164	

Notes: This table compares average company characteristics of integrated companies that received at least 1 female officer at integration (106 companies) compared to companies that received only enlisted female soldiers at integration (21 companies). We construct the sample and company mean characteristics in the same way as described in the notes for Table A.3. The sample includes 1410 company-by-year observations for all characteristics. Column (1) reports summary statistics for companies that are not yet integrated. Columns (2) and (3) report summary statistics for newly integrated companies by whether they received any female officers in the month that they were integrated. Columns (4) and (5) report estimates from a regression of the company characteristic on an indicator variable for a company being integrated with at least one officer or with no female officers. The regression estimates reported in columns (4) and (5) include fixed effects for every combination of Brigade Combat Team and subsample year and separate fixed effects for whether the company is an infantry company interacted with subsample year fixed effects. Column (6) reports P-values from tests of the hypothesis that estimates reported in columns (4) and (5) are equal. All regression estimates and summary statistics are weighted by the number of military personnel assigned to the company at the start of the year. Standard deviations are reported in brackets. Standard errors, clustered on company, are reported in parentheses.

Table A.18: Covariate Balance: Commander Characteristics, With / Without Female Officers

Covariate	Subsample Company Means			with BCT & Infantry Company FE		
	Not Yet Integrated	$\geq$ 1 Female Officer	Only Enlisted Women	$\geq$ 1 Female Officer	Only Enlisted Women	P-Val for Equal.
	(1)	(2)	(3)	(4)	(5)	(6)
Could Not Identify Commander	2.97	1.89	9.62	-0.31	4.61	0.523
	[16.97]	[13.67]	[30.22]	(1.41)	(7.84)	
Percent Strong Evaluations	57.98	53.33	65.30	-5.62	15.18*	0.012
	[35.15]	[30.87]	[34.97]	(3.70)	(7.92)	
Black Commander	3.56	6.08	15.91	0.84	5.84	0.563
	[18.55]	[24.00]	[37.58]	(3.53)	(7.57)	
Hispanic Commander	5.33	4.62	12.74	0.07	10.18	0.262
	[22.46]	[21.10]	[34.26]	(2.62)	(9.18)	
Other Race Commander	4.86	4.51	7.47	-2.74	1.09	0.537
	[21.51]	[20.86]	[27.02]	(3.14)	(6.47)	
Commander Married	75.02	70.26	85.28	-3.48	14.35	0.067
	[43.31]	[45.94]	[36.40]	(5.95)	(9.10)	
Commander Age	30.52	30.52	29.42	-0.10	-1.08**	0.057
	[3.01]	[2.80]	[1.11]	(0.35)	(0.53)	
Commander SAT Score	1195.27	1195.18	1124.54	-2.24	-59.38	0.313
	[154.57]	[165.66]	[168.39]	(29.29)	(51.38)	
Commander Missing SAT Score	30.48	37.34	11.16	9.95*	-12.07	0.020
	[46.05]	[48.61]	[32.34]	(5.91)	(8.52)	
Commander Years of Service	7.55	7.49	6.86	-0.02	-0.62**	0.051
	[2.34]	[1.88]	[0.67]	(0.23)	(0.30)	
Commander from West Point	30.14	36.93	38.51	1.43	12.87	0.400
	[45.91]	[48.50]	[49.99]	(6.34)	(13.03)	
Commander From ROTC	49.64	41.68	57.47	-3.75	-0.40	0.809
	[50.02]	[49.54]	[50.79]	(6.37)	(13.42)	
P-Value from Joint Test				0.279	0.082	

Notes: This table compares characteristics of company commanders of integrated companies that received at least 1 female officer at integration (106 companies) compared to companies that received only enlisted female soldiers at integration (21 companies). We construct the sample and company commander characteristics in the same way as described in the notes for Tables A.3 and A.4. The sample includes 1410 company-by-year observations, but we cannot identify company commanders in 44 observations, so all characteristics except for "could not identify commander" include only 1366 company-by-year observations. Column (1) reports summary statistics for companies that are not yet integrated. Columns (2) and (3) report summary statistics for newly integrated companies by whether they received any female officers in the month that they were integrated. Columns (4) and (5) report estimates from a regression of the company characteristic on an indicator variable for a company being integrated with at least one officer or with no female officers. The regression estimates reported in columns (4) and (5) include fixed effects for every combination of Brigade Combat Team and subsample year and separate fixed effects for whether the company is an infantry company interacted with subsample year fixed effects. Column (6) reports p-values from tests that estimates reported in columns (4) and (5) are equal. All regression estimates and summary statistics are weighted by the number of personnel assigned to the company in the year prior to the observation. Standard deviations are reported in brackets. Standard errors, clustered on company, are reported in parentheses. The percent of strong evaluations is defined as the percentage of the Commander's previous performance evaluations that were categorized as 'Most Qualified', the highest ranking on an evaluation report.

Table A.19: Effect of Integration on Perceptions of Workplace Quality With Controls: All Male Soldiers

	Effect of Gender Integration		$\geq$ 1 Woman Officer		Only Enlisted Women	
	(1)	(2)	(3)	(4)	(5)	(6)
Post Gender Integration	-0.048*	-0.046*	-0.073***	-0.068**	0.147**	0.155***
	(0.027)	(0.026)	(0.028)	(0.027)	(0.061)	(0.052)
Commander Share Strong Evals		-0.036**		-0.026		-0.003
		(0.018)		(0.019)		(0.023)
Black Commander		-0.068**		-0.067**		-0.081**
		(0.030)		(0.033)		(0.033)
Hispanic Commander		0.006		-0.013		-0.009
		(0.020)		(0.022)		(0.026)
Other Race Commander		0.034		0.029		0.028
		(0.023)		(0.024)		(0.031)
Commander Married		0.017		0.027**		0.029*
		(0.013)		(0.013)		(0.015)
Commander Age		0.002		-0.001		-0.000
		(0.004)		(0.004)		(0.006)
Commander SAT Score / 100		-0.006		-0.006		-0.004
		(0.005)		(0.005)		(0.007)
Commander Missing SAT Score		-0.001		0.007		-0.011
		(0.018)		(0.018)		(0.021)
Commander Years of Service		-0.009*		-0.005		-0.006
		(0.005)		(0.005)		(0.006)
Commander from West Point		-0.056**		-0.053*		-0.030
		(0.026)		(0.027)		(0.032)
Commander from ROTC		-0.035		-0.027		-0.006
		(0.022)		(0.022)		(0.029)
Could Not Identify Commander		-0.004		-0.010		0.031
		(0.024)		(0.026)		(0.029)
Average Age		0.020		0.008		-0.042
		(0.024)		(0.025)		(0.030)
Average AFQT		-0.002		-0.001		-0.006
		(0.004)		(0.004)		(0.005)
Share HSD/GED		-0.474*		-0.383		-0.275
		(0.272)		(0.281)		(0.346)
Number of IN/AR Soldiers		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.001)
Share Black		-0.509**		-0.658***		-0.547*
		(0.200)		(0.198)		(0.300)
Share Hispanic		-0.234		-0.258		0.047
		(0.188)		(0.193)		(0.277)
Share Other Race		-0.438		-0.326		-0.559
		(0.312)		(0.311)		(0.398)
Average Years of Service		-0.090***		-0.089***		-0.019
		(0.032)		(0.034)		(0.040)
Share NCO		0.298		0.284		0.395*
		(0.182)		(0.198)		(0.205)
Share Officers		-0.420		-0.138		-1.833***
		(0.519)		(0.556)		(0.619)
Share of Females non-IN/AR		-0.205		0.012		-0.566
		(0.663)		(0.705)		(0.919)
Observations	59185	59184	51643	51642	38989	38988
R-Squared	0.051	0.094	0.052	0.096	0.054	0.096

Notes: This table reports the effects of gender integration with and without additional controls. Column (1) re-estimates the effects of integration on the overall workplace quality index. Column (2) includes controls for company characteristics and commander characteristics, measured in the month prior to the survey response, and includes fixed effects for respondents' military rank, year of response, and month of response (fixed effects are not reported in the table). Columns (3) and (4) report corresponding estimates when the treatment is defined as a company integrating with a female officer at the time of integration (excluding responses from soldiers in companies that first integrated with only female enlisted soldiers). Columns (5) and (6) report estimates when the treatment is defined as a company integrating with only female enlisted soldiers in the month of integration (excluding responses from soldiers in companies that first integrated with female officers). Commander SAT scores are divided by 100.

Table A.20: Effect of Integration On Perceptions of Workplace Quality, Controlling for Predicted Workplace Quality

	Benchmark	Controlling for Predicted Workplace Quality	Interacted with Predicted Workplace Quality
	(1)	(2)	(3)
Panel A: All Integrated Units			
Workplace Quality Index	-0.0482*	-0.0365	-0.0418
	(0.0274)	(0.0249)	(0.0263)
Pred Work Quality		0.1396***	0.2382
		(0.0030)	(103.1532)
(Workplace Qual Index) x (Pred Work Qual)			-0.0160
			(0.0170)
Pred Work Quality			0.0000
			(.)
Observations	59185	59184	59184
R-Squared	0.051	0.093	0.102
Panel B: Units with $\geq$ 1 Woman Officer at Integration			
Workplace Quality Index	-0.0728***	-0.0556**	-0.0626**
	(0.0280)	(0.0253)	(0.0270)
Pred Work Quality		0.1400***	0.1962
		(0.0032)	(21.8394)
(Workplace Qual Index) x (Pred Work Qual)			-0.0237
			(0.0187)
Pred Work Quality			0.0000
			(.)
Observations	51643	51642	51642
R-Squared	0.052	0.095	0.104
Panel C: Units With Only Enlisted Women at Integration			
Workplace Quality Index	0.1474**	0.1275**	0.1289**
	(0.0614)	(0.0533)	(0.0541)
Pred Work Quality		0.1392***	0.0941
		(0.0038)	(.)
(Workplace Qual Index) x (Pred Work Qual)			-0.0394
			(0.0305)
Pred Work Quality			0.0000
			(.)
Observations	38989	38988	38988
R-Squared	0.054	0.094	0.103

Notes: Column (1) of Panels (A), (B), and (C) re-estimate the effects of integration on the overall workplace quality index (the specification reported in Table 6). See Table 6 for discussion of the construction of the workplace quality index. Column (2) controls for predicted workplace quality, which is standardized to have a mean of zero and a standard deviation of 1, and is constructed from a regression of the workplace quality index on the additional controls used in Table A.19. Column (3) includes an interaction of predicted workplace quality and the indicator for whether the respondent's company received women by the time of the response (D_{ut} from equation (5)). The regression results reported in column (3) also interact the predicted workplace quality index with all other fixed effects included in the baseline specification (DMSL-by-year fixed effects, UIC fixed effects, and month fixed effects), which is why we do not report the main estimate of the Predicted Workplace Quality index in this column.

Table A.21: Effect of Integration On Perceptions of Workplace Quality, Inverse Probability Weighting

	Benchmark	Reweighted
	(1)	(2)
Panel A: Units with $\geq$ 1 Female Officer at Integration		
Workplace Quality Index	-0.0728***	-0.0923***
	(0.0280)	(0.0345)
Observations	51643	51627
Panel B: Units with Only Enlisted Women at Integration		
Workplace Quality Index	0.1474**	0.1069
	(0.0614)	(0.0863)
Observations	38989	38988

Notes: Column 1 of this table re-estimates the effects of integration on the overall workplace quality index according to the rank of women integrated in to the unit (columns (5) and (6) of Table 6) See Table 6 for discussion of the construction of the workplace quality index. Panel (A) re-estimates the effect of integration when restricting treatment to companies integrated with at least one female officer in the first month of integration with inverse probability weights constructed from a logit regression in which the dependent variable is a dummy for being a response from a company that first integrated with no female officers in the next year. Panel (B) re-estimates the effect of integration when restricting treatment to companies integrated with no female officers in the first month of integration with inverse probability weights constructed from a logit regression in which the dependent variable is a dummy for being a response from a company that was integrated with at least one female officer in the next year. The logit regressions used to construct weights for estimates reported in Column (2) of panels (A) and (B) include independent variables that are the same as the controls shown in Table A.19.

Table A.22: Summary Statistics for Lieutenants

	Male LT's	Female LT's	P-Val for (1) vs. (2)
	(1)	(2)	(3)
Panel A: Baseline Characteristics			
Age	25.07	24.61	0.00
Male	100.00	0.00	-
Black	6.17	4.79	0.54
Hispanic	8.61	10.96	0.84
Other Race	8.42	10.96	0.30
HS Graduate, No College	0.07	0.00	0.73
Some College +	99.93	100.00	0.73
Years of Service	1.60	1.36	0.00
Married	21.76	24.66	0.58
Number Dependents	0.38	0.25	0.00
Enlisted	0.00	0.00	-
AFQT Score	-	-	-
Non-Commissioned Officer	-	-	-
Officer	100.00	100.00	-
US Military Academy	24.13	28.08	0.12
Average SAT	1203.78	1220.59	0.08
Share Missing SAT	26.84	30.14	0.08
Panel B: Administrative Outcomes			
Retention to Army	95.87	93.15	0.00
Not Separated for Misconduct	-	-	-
No Demotion	99.77	99.32	0.00
No Misdemeanor or Felony	98.10	98.63	0.83
No Sex Related Crime	99.74	99.32	0.13
No Domestic Violence	99.79	100.00	0.57
No Medical Profile	96.19	96.58	0.60
No Physical/Psychiatric Profile	99.03	96.58	0.10
No Significant Medical Profile	99.16	98.63	0.32
Promoted to Sergeant (E5)	-	-	-
Physical Fitness Score	-	-	-
Pass Physical Fitness Test	-	-	-
Observations	4310	146	

Notes: This table reports average characteristics and outcomes of first and second infantry and armor lieutenants who were assigned to the combat companies in our sample between 2017 and 2020. Column (1) reports averages for male lieutenants, and column (2) reports averages for female lieutenants.

Table A.23: Effect of Integration on Perceptions of Workplace Quality With Controls: Male Enlisted

	Effect of Gender Integration		≥ 1 Woman Officer		Only Enlisted Women	
	(1)	(2)	(3)	(4)	(5)	(6)
Post Gender Integration	-0.038	-0.043	-0.063**	-0.066**	0.152**	0.159***
	(0.028)	(0.027)	(0.029)	(0.028)	(0.061)	(0.054)
Commander Share Strong Evals		-0.040**		-0.030		-0.007
		(0.018)		(0.019)		(0.023)
Black Commander		-0.063**		-0.065**		-0.074**
		(0.030)		(0.032)		(0.036)
Hispanic Commander		0.008		-0.011		-0.007
		(0.020)		(0.022)		(0.027)
Other Race Commander		0.032		0.025		0.025
		(0.024)		(0.024)		(0.032)
Commander Married		0.016		0.026*		0.028*
		(0.013)		(0.013)		(0.016)
Commander Age		0.002		-0.001		0.000
		(0.004)		(0.004)		(0.006)
Commander SAT Score / 100		-0.005		-0.006		-0.003
		(0.006)		(0.006)		(0.007)
Commander Missing SAT Score		-0.002		0.005		-0.010
		(0.019)		(0.019)		(0.022)
Commander Years of Service		-0.008*		-0.005		-0.005
		(0.005)		(0.005)		(0.006)
Commander from West Point		-0.059**		-0.058**		-0.030
		(0.027)		(0.028)		(0.033)
Commander from ROTC		-0.037		-0.030		-0.004
		(0.023)		(0.024)		(0.030)
Could Not Identify Commander		-0.006		-0.011		0.026
		(0.024)		(0.026)		(0.029)
Average Age		0.019		0.006		-0.042
		(0.024)		(0.025)		(0.031)
Average AFQT		-0.002		-0.001		-0.006
		(0.004)		(0.004)		(0.005)
Share HSD/GED		-0.508*		-0.412		-0.252
		(0.276)		(0.283)		(0.355)
Number of IN/AR Soldiers		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.001)
Share Black		-0.516**		-0.674***		-0.620**
		(0.206)		(0.205)		(0.303)
Share Hispanic		-0.263		-0.296		-0.018
		(0.193)		(0.200)		(0.283)
Share Other Race		-0.388		-0.260		-0.499
		(0.315)		(0.312)		(0.406)
Average Years of Service		-0.096***		-0.094***		-0.021
		(0.033)		(0.034)		(0.041)
Share NCO		0.323*		0.309		0.447**
		(0.187)		(0.201)		(0.213)
Share Officers		-0.284		-0.027		-1.641**
		(0.545)		(0.585)		(0.663)
Share of Females non-IN/AR		-0.098		0.173		-0.410
		(0.690)		(0.733)		(0.978)
Observations	56086	56086	48932	48932	37005	37005
R-Squared	0.052	0.072	0.053	0.074	0.055	0.074

Notes: This table reports the effects of gender integration with and without additional controls when restricting the sample to survey responses from male enlisted soldiers. See the notes of Table A.19 for additional details.

Table A.24: Effect of Integration on Perceptions of Workplace Quality With Controls: Male Officers

	Effect of Gender Integration		≥ 1 Woman Officer		Only Enlisted Women	
	(1)	(2)	(3)	(4)	(5)	(6)
Post Gender Integration	-0.139***	-0.098*	-0.174***	-0.145***	0.039	0.099
	(0.048)	(0.051)	(0.054)	(0.056)	(0.094)	(0.085)
Commander Share Strong Evals		0.041		0.025		0.086*
		(0.037)		(0.039)		(0.048)
Black Commander		-0.199**		-0.125		-0.260**
		(0.085)		(0.093)		(0.110)
Hispanic Commander		-0.027		-0.030		-0.039
		(0.043)		(0.046)		(0.052)
Other Race Commander		0.008		0.027		0.047
		(0.048)		(0.052)		(0.069)
Commander Married		0.035		0.055*		0.060*
		(0.026)		(0.029)		(0.032)
Commander Age		0.003		-0.000		-0.001
		(0.008)		(0.008)		(0.009)
Commander SAT Score / 100		-0.017		-0.012		-0.013
		(0.010)		(0.010)		(0.014)
Commander Missing SAT Score		0.024		0.051		-0.018
		(0.033)		(0.032)		(0.046)
Commander Years of Service		-0.016		-0.012		-0.016
		(0.010)		(0.012)		(0.013)
Commander from West Point		0.012		0.043		-0.020
		(0.058)		(0.055)		(0.073)
Commander from ROTC		0.013		0.049		-0.014
		(0.048)		(0.046)		(0.065)
Could Not Identify Commander		0.057		0.040		0.145**
		(0.050)		(0.060)		(0.059)
Average Age		-0.000		0.011		-0.026
		(0.049)		(0.052)		(0.055)
Average AFQT		0.004		0.006		-0.002
		(0.008)		(0.008)		(0.009)
Share HSD/GED		-0.273		-0.423		-0.584
		(0.527)		(0.577)		(0.668)
Number of IN/AR Soldiers		-0.002		-0.001		-0.002*
		(0.001)		(0.001)		(0.001)
Share Black		-0.260		-0.298		0.505
		(0.395)		(0.423)		(0.538)
Share Hispanic		0.221		0.291		1.002*
		(0.385)		(0.420)		(0.574)
Share Other Race		-0.846		-1.090*		-1.083
		(0.532)		(0.563)		(0.670)
Average Years of Service		0.047		0.024		0.021
		(0.066)		(0.068)		(0.080)
Share NCO		-0.051		-0.118		-0.330
		(0.339)		(0.352)		(0.433)
Share Officers		-1.506		-0.764		-3.408***
		(1.042)		(1.075)		(1.207)
Share of Females non-IN/AR		-1.772		-2.122		-2.620
		(1.432)		(1.568)		(1.956)
Observations	3072	3072	2687	2687	1962	1962
R-Squared	0.257	0.281	0.263	0.283	0.266	0.297

Notes: This table reports the effects of gender integration with and without additional controls when restricting the sample to survey responses from male officers. See the notes of Table A.19 for additional details.

Table A.25: Summary Statistics for Enlisted Women

	Enlisted Women $\geq$ 1 Female Officer	Enlisted Women No Female Officer	Enlisted Women No Female Officer Arriving Pre-Officer
	(1)	(2)	(3)
Panel A: Baseline Characteristics			
Age	20.85	21.58	22.08
Male	0.00	0.00	0.00
Black	17.05	15.66	9.43
Hispanic	29.48	27.71	33.96
Other Race	6.75	7.23	7.55
HS Graduate, No College	90.41	93.98	90.57
Some College +	9.59	6.02	9.43
Years of Service	0.17	0.39	0.42
Married	12.43	12.05	15.09
Number Dependents	0.20	0.23	0.30
Enlisted	100.00	100.00	100.00
AFQT Score	47.90	47.65	49.64
Non-Commissioned Officer	1.60	7.23	11.32
Officer	0.00	0.00	0.00
US Military Academy	-	-	-
Average SAT	-	-	-
Share Missing SAT	-	-	-
Panel B: Administrative Outcomes			
Retention to Army	78.33	82.22	81.13
Not Separated for Misconduct	93.96	96.39	96.23
No Demotion	92.35	93.33	92.45
No Misdemeanor or Felony	93.20	82.22	81.13
No Sex Related Crime	99.72	98.89	98.11
No Domestic Violence	100.00	96.67	96.23
No Medical Profile	91.08	95.56	96.23
No Physical/Psychiatric Profile	92.21	96.67	96.23
No Significant Medical Profile	93.06	96.67	98.11
Promoted to Sergeant (E5)	7.40	7.79	8.51
Physical Fitness Score	240.03	240.50	237.25
Pass Physical Fitness Test	87.55	90.54	89.58
Observations	706	90	53

Notes: This table reports average characteristics and outcomes of infantry and armor enlisted women assigned to the combat companies in our sample. Column (1) reports averages for enlisted women assigned to companies that were assigned a female officer during the first month that the company integrated. Column (2) reports averages for enlisted women assigned to companies that first integrated with only enlisted women, and column (3) further restrict the sample from column (2) to enlisted women who arrived prior to the assignment of the company's first female officer.

Table A.26: Effect of Integration on Sexual Assault and Harrassment Reporting Knowledge

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Intergrated Women		
	All Men	Enlisted Men	Officer Men	P-Val for (2) vs. (3)	≥1 Woman Officer	Only Enlisted Women	P-Val for (5) vs. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Share Correct: Can Take Restricted Report	-0.67	-0.20	-5.24	0.135	1.02	-0.23	0.390
	(1.06)	(1.04)	(3.56)		(3.12)	(1.05)	
SAR Coordinator (Yes)	-2.35*	-1.95	-7.97	0.074	-3.68	-1.37	0.914
	(1.41)	(1.43)	(5.18)		(3.75)	(1.44)	
Victim Advocate (Yes)	-0.70	-0.32	-3.97	0.299	4.12	-0.73	0.088
	(1.51)	(1.50)	(5.76)		(3.62)	(1.57)	
Healthcare Provider (Yes)	-0.70	-0.74	3.93	0.986	1.67	-0.49	0.550
	(1.49)	(1.50)	(5.64)		(3.49)	(1.54)	
Chain of Command (No)	0.12	1.02	-9.44*	0.974	-1.23	1.32	0.445
	(1.72)	(1.75)	(5.28)		(4.22)	(1.79)	
Military Police (No)	0.29	1.01	-8.76	0.474	4.22	0.15	0.719
	(1.43)	(1.42)	(5.99)		(3.43)	(1.51)	
Victim Attorney Knowledge	-2.02	-1.15	-11.15***	0.015	1.80	-1.82	0.055
	(1.43)	(1.50)	(3.78)		(3.00)	(1.49)	
Observations	59185	56086	3072		51643	38989	

Notes: This table reports the impact of a unit's gender integration status on responses in the DEOCS survey relating to knowledge of sexual assault reporting and response. Responses are coded so that one indicates a correct repsonse. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Standard errors are clustered at the company level. A list of the DEOCS questions analyzed here can be found in Table B.3.

Table A.27: Distribution of Lieutenant (LT) "Staff Wait" Time

Panel A: Time to Unit, All LTs

Months to First Company	Women	Men
0	52	561
1	34	731
2	17	568
3	14	467
4-6	14	966
7-12	13	791
13-18	1	175
19+		42
Observations	145	4301

Panel B: Time to Unit, LTs in Integrated Units

Months to First Company	Women	Men
0	52	289
1	34	344
2	17	259
3	14	230
4-6	14	487
7-12	13	396
13-18	1	78
19+		18
Observations	145	2101

Note: The tables above report the distribution of the number of months Lieutenants (LTs) spend between first being assigned to their parent brigade and then subsequently being assigned to a combat company within that brigade.

Table A.28: Effect of Integration By Male Lieutenants' Relative "Staff Wait" Time

	All Units	$\geq$ 1 Woman Officer At Integration	First Spell Female LT At Integration	Male LTs Wait Longer	Female LTs Wait as Long
	(1)	(2)	(3)	(4)	(5)
Panel A. Male Responses (All Ranks)					
Post Gender Integration	-0.048*	-0.073***	-0.083***	-0.070*	-0.115**
	(0.027)	(0.028)	(0.030)	(0.036)	(0.052)
Observations	59181	51639	47797	40200	39042
R-Squared	0.051	0.052	0.053	0.053	0.054
Panel B. Male Officer Responses					
Post Gender Integration	-0.139***	-0.174***	-0.175***	-0.139	-0.186**
	(0.048)	(0.054)	(0.062)	(0.089)	(0.076)
Observations	3072	2687	2488	2046	2019
R-Squared	0.257	0.263	0.264	0.256	0.279
Panel C. Male Enlisted Responses					
Post Gender Integration	-0.038	-0.063**	-0.072**	-0.058	-0.112**
	(0.028)	(0.029)	(0.030)	(0.036)	(0.054)
Observations	56086	48932	45289	38135	37005
R-Squared	0.052	0.053	0.054	0.054	0.056

Notes: Column (1) repeats the baseline estimates of the effects of gender integration on men's perceptions of workplace quality, as reported in panel A of Table 6. Column (2) excludes units that first integrated with enlisted women only. Column (3) further restricts to units that first integrated with female Lieutenants who were on their first spell in a unit within our sample (and omits 2 such companies where no male Lieutenant was assigned to the company within 6 months of integration). Column (4) reports the effect of integration where treatment is restricted to companies where the average time female Lieutenants spend waiting to be assigned to a company is less than the average time male Lieutenants spend waiting to be assigned (so male Lieutenants generally wait longer than female Lieutenants). In column (5) the treatment is restricted to companies where the average time female Lieutenants spend waiting to be assigned to a company is equal to or longer than the average time male Lieutenants spend waiting to be assigned (so male Lieutenants generally do not wait longer than female Lieutenants).

B DEOCS Survey Questions

Table B.1: List of Likert Scale Questions in DEOCS Survey

Organizational Effectiveness

Organizational Commitment

(1) I feel like "part of the family" in this workgroup.
(2) This workgroup has a great deal of personal meaning to me.
(3) I feel a strong sense of belonging to this workgroup.

Senior Leadership

(4) My senior leader puts processes in place to facilitate the sharing of information throughout the organization.
(5) My senior leader clarifies our organization's goals and priorities.
(6) My senior leader communicates a clear vision for the future.
(7) My senior leader listens to the concerns of the organization's military members/employees.

Organizational Performance

(8) When short suspense/tasks arise, people in my organization do an outstanding job in handling these situations.
(9) My organization's performance, compared to similar organizations, is high.
(10) My organization makes good use of available resources to accomplish its mission.

Group Cohesion

(11) My workgroup is united in trying to reach its goals for performance.
(12) We all take responsibility for the performance of the workgroup.
(13) If members of our workgroup have problems in the workplace, everyone wants to help them so we can get back on task.

Trust in Leadership

(14) I can rely on my immediate supervisor to act in my organization's best interest.
(15) My immediate supervisor follows through with commitments he or she makes.
(16) I feel comfortable sharing my work difficulties with my immediate supervisor.
(17) My immediate supervisor treats me fairly.

Connectedness

(18) My future seems dark to me.*
(19) These days, I think I am a burden on people in my life. * †
(20) These days, I feel like I belong.†
(21) These days, I feel that there are people I can turn to in times of need.†

Job Satisfaction

(22) I like my current job.
(23) I feel satisfied with my current job.
(24) I am happy with my current job.

Organizational Processes

(25) Programs are in place to address military members'/employees' concerns.

(26) Discipline is administered fairly.
(27) Decisions are made after reviewing relevant information.

Engagement
(28) At my workplace, I am mentally resilient.
(29) I am enthusiastic about my work.
(30) Time flies when I am working.

Equal Opportunity/Equal Employment Opportunity/Fair Treatment

Inclusion at Work
(31) Coworkers are treated as valued members of the team without losing their unique identities.
(32) I feel excluded by my workgroup because I am different.*
(33) Within my workgroup, I am encouraged to offer ideas on how to improve operations.
(34) Military members/employees in my workgroup are empowered to make work-related decisions on their own.
(35) Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among military members/employees of my workgroup.
(36) The decision-making processes that impact my workgroup are fair.

Discrimination
Discrimination based on _____ does **not** occur in my workplace.
(37) Race/Color/National Origin
(38) Religion
(39) Sex
(40) Sexual Orientation

(41) Racial slurs, comments, and/or jokes are used in my workplace.*
(42) Sexist slurs, comments, and/or jokes are used in my workplace.*
(43) I believe I can use my chain of command/supervision to address concerns about discrimination without fear of retaliation/reprisal.

Sexual Assault Response and Prevention
(44) My chain of command/supervision adequately responds to allegations of sexual harassment.
(45) My chain of command/supervision plays an active role in the prevention of sexual harassment.
(46) Individuals from my workplace use offensive gestures that are sexual in nature.*
(47) Individuals from my workplace have been offered rewards or special treatment in return for engaging in sexual behavior.*

Sexual Assault Prevention and Response

Sexual Assault Prevention Climate
My immediate supervisor:
(48) Models respectful behavior.
(49) Promotes responsible alcohol use.
(50) Would correct individuals who refer to coworkers as "honey," "babe," "sweetie," or use other unprofessional language at work.

(51) Would stop individuals who are talking about sexual topics at work.
(52) Would intervene if an individual was receiving sexual attention at work (e.g., staring at someone's chest, standing too close, rubbing someone's shoulders).
(53) Encourages individuals to help others in risky situations that could result in harmful outcomes (example harmful outcomes include: sexual assault, violence, or suicide).

Sexual Assault Response Climate

If a coworker were to report a sexual assault allegation, my chain of command/supervision would:

(54) Take the report seriously.
(55) Keep the knowledge of the report limited to those with a need to know.
(56) Discourage military members/employees from spreading rumors and speculation about the allegation.
(57) Promote healthcare, legal, or other support services to the reporter.
(58) Support the individual for speaking up.

Sexual Assault Reporting Climate

In my workgroup, reporters of sexual assault allegation would be:

(59) Excluded from social interactions or conversations.*
(60) Subjected to insulting or disrespectful remarks or jokes.*
(61) Blamed for causing problems.*
(62) Denied career opportunities (e.g., denied training, awards, or promotions).*
(63) Disciplined or given other corrective action.*
(64) Discouraged from moving forward with the report.*

Sexual Harassment Reporting Climate

In my workgroup, military members/employees who file a sexual harassment complaint would be:

(65) Excluded from the social interactions or conversations.*
(66) Subjected to insulting or disrespectful remarks or jokes.*
(67) Blamed for causing problems.*
(68) Denied career opportunities (e.g., denied training, awards, or promotions).*
(69) Disciplined or given other corrective action.*
(70) Discouraged from moving forward with the complaint.*

---

* Responses are inverted before inclusion in the index. † Responses were given on a 6-point scale.

Table B.2: List of DEOCS Questions about Workplace Incidents

Suicide

In the past 12 months, I have known someone in my organization who has thought of, attempted, or died by suicide.

(1) Thought of
(2) Attempted
(3) Died by Suicide

Hazing

Individuals in my workplace are pressured to engage in which of the following acts as a part of an initiation or admission process (without a proper military or other governmental purpose).

(1) Physically harmful acts
(2) Psychologically harmful acts
(3) Illegal or dangerous acts

Bullying

Individuals in my workplace who are seen as "different" are targets of:

(1) Aggression
(2) Abusive or malicious pranks
(3) Active attempts to damage their reputation

Unwanted Workplace Experience

While under your current senior leader **and** within the last 12 months, did someone from your workplace:

(1) Repeatedly tell sexual "jokes" that made you uncomfortable, angry, or upset?
(2) Embarrass, anger, or upset you by repeatedly suggesting that you do not act like a man/woman is supposed to?
(3) Make repeated sexual comments about your appearance or body that made you uncomfortable, angry, or upset?
(4) Make repeated attempts to establish an unwanted romantic or sexual relationship with you?
(5) Intentionally touch you in a sexual way when you did not want them to?

Bystander Intervention Experience in Past 12 Months

(1) In the past 12 months, I observed a situation that I believe was, or could have led to, a sexual assault.

Table B.3: List of DEOCS Sexual Assault Reporting Knowledge Questions

All the following types of people can receive an Unrestricted Report of sexual assault. However, a Restricted (confidential) Report can only be made to certain people. Please identify which of the following types of people can take a Restricted Report.

(1) Sexual Assault Response Coordinator **(Yes)**
(2) Victim Advocate **(Yes)**
(3) Military Service Healthcare Personnel **(Yes)**
(4) Anyone in my chain of command/supervision **(No)**
(5) Criminal investigator and/or military police officer **(No)**
(6) Service members who report they were sexually assaulted are eligible for the service of a military attorney (examples include Special Victims' Counsel – Army/Air Force or a Victims' Legal Counsel – Navy/Marine Corps). **(True)**

C Alternative Difference-in-Difference Estimators

Recent work including Callaway and Sant'Anna (2021), Goodman-Bacon (2021), and Roth et al. (2023) has highlighted a number of potential pitfalls of the two-way fixed effects estimator when applied in situations with staggered treatment timing.

Several features of our setting are reassuring relative to these criticisms. Most importantly, we have a large number of companies that are never treated during our period of study, and thus most of our identification of the causal effect of integration is coming from the comparison of treated companies to not-yet-treated companies, rather than a comparison of treated-early to treated-late companies. Our event study estimates shown in Figures 2 and A.2 allow for dynamic treatment effects and support our overall conclusions, along with supporting the parallel trends assumption. Our main specification includes BCT-by-year fixed effects, so the comparison "control" group for each treated unit is restricted to the most directly comparable set of units. Finally, because of the institutional features of our setting, we believe that the timing of unit treatment is uncorrelated with unit and commander characteristics. We provide supportive evidence that company and commander characteristics are balanced across treated and untreated companies in Tables A.3 and A.4.

In the rest of this section, we provide additional evidence that supports the validity of the empirical strategy. We also use the alternative estimators outlined in Cengiz et al. (2019) and Callaway and Sant'Anna (2021). In Figure C.1 we show the residual treatment status for each unit in our sample, as suggested by Jakiela (2021). These residuals from a regression of treatment status on the fixed effects are proportional to the weights placed on the observations in our main specifications. We estimate the residuals using a regression at the unit-year level with a treatment status indicator as the outcome and BCT-by-year and unit fixed effects as the regressors. Not-treated unit-years are in grey, treated unit-years with positive residuals are in blue, and treated unit-years with negative residuals are in red. Only a small number of treated observations have negative weights and are thus acting primarily as "control" observations for later-treated units. Further, all of these negatively-weighted observations occur in a single BCT. This analysis confirms that our two-way fixed effects estimates are estimated primarily from comparisons between treated and never-treated or not-yet-treated units.

In Table C.1 we estimate the treatment effects of gender integration on our set of administrative outcomes using alternative estimation strategies. In all cases, we continue to find no evidence that gender integration harms the performance of male soldiers. Column (1) replicates column (2) from Table 3 for comparison. In column (2), we re-estimate the two-way fixed effects model from the paper, but drop BCT 11C, thus eliminating all treated observations with negative weights seen in Figure C.1. In column (3), we estimate a "stacked" regression in the spirit of Cengiz et al. (2019) which avoids any comparison between treated-earlier and treated-later units. For each treatment cohort in each BCT we construct a comparison group consisting of all never-treated units in the BCT. For treated units with no such available comparison group, we omit them from the analysis. We then stack all treatment groups in a single dataset and estimate the two-way fixed effect regression with treatment-group-by-fiscal-year fixed effects instead of BCT-by-fiscal-year fixed effects, along with unit-by-treatment-group fixed effects and month-of-year-by-treatment-group fixed effects to fully saturate the specification.

Finally, in column (4) we report the estimated treatment effects following the procedure in Callaway and Sant'Anna (2021). Because their main estimator does not allow for subgroup-by-time controls and our main specification includes BCT-by-year fixed effects, we adjust their procedure by constructing all $ATT(g,t)$'s, i.e. the 2x2 DiD estimators, separately within each BCT. We continue to use two years prior to treatment as the baseyear for each estimated $ATT(g,t,BCT)$ to account for potential integration effects during the second year of observation for soldiers who arrive in the year prior to integration. To construct the average post-treatment effect, we aggregate across all post-treatment $ATT(g,t,BCT)$'s by taking the weighted average across all estimates, weighted by the number of treated observations in cohort g, in BCT BCT, at time t. Standard errors shown are derived using a clustered bootstrap procedure with 100 iterations, where we resample with replacement at the UIC level.

Figure C.1: Residual Treatment Status

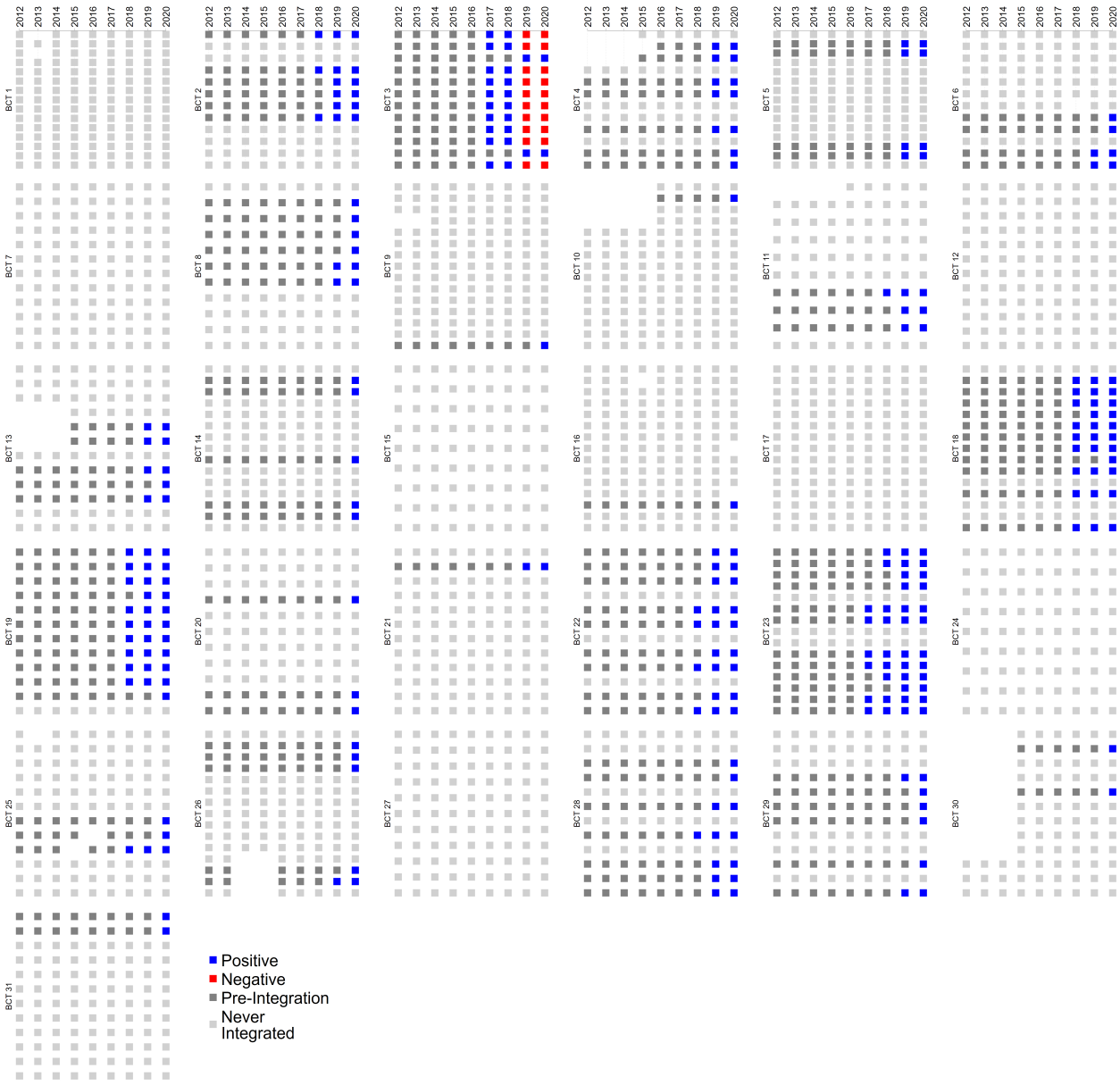


Table C.1: Alternative Difference-in-Differences Estimators of Effects of Gender Integration on Men's Administrative Outcomes

	Baseline DiD	DiD, no 11C	Stacked	Modified CSDiD
	(1)	(2)	(3)	(4)
Panel A: Retention and Misconduct				
Retention to Army	1.19	1.17	1.54	1.31
	(0.93)	(0.95)	(1.06)	(1.68)
Not Separated for Misconduct	1.28**	1.14*	1.57***	2.88**
	(0.59)	(0.59)	(0.57)	(1.18)
No Demotion	0.80	0.63	0.90	-0.05
	(0.56)	(0.56)	(0.60)	(0.88)
No Misdemeanor or Felony	1.06	0.85	1.09	1.15
	(0.74)	(0.75)	(0.76)	(1.37)
No Sex Related Crime	0.04	0.00	-0.01	-0.36
	(0.20)	(0.20)	(0.20)	(0.39)
No Domestic Violence	-0.07	-0.07	-0.25	-0.37
	(0.18)	(0.18)	(0.19)	(0.31)
Panel B: Medical Readiness and Performance				
No Medical Profile	-0.62	-0.67	-0.14	-1.70
	(0.64)	(0.66)	(0.69)	(1.33)
No Physical/Psychiatric Injury	0.12	0.10	0.20	-0.10
	(0.50)	(0.50)	(0.44)	(0.80)
No Significant Medical Profile	0.01	0.09	0.10	0.19
	(0.41)	(0.42)	(0.36)	(0.57)
Promoted to Sergeant (E5)	0.24	0.02	-0.13	-0.11
	(0.59)	(0.59)	(0.60)	(1.08)
Physical Fitness Score	-2.00*	-2.06*	-2.56**	-3.17
	(1.07)	(1.09)	(1.15)	(1.98)
Pass Physical Fitness Test	0.50	0.62	0.55	0.39
	(0.70)	(0.72)	(0.77)	(1.29)
Observations	148660	144452	192144	50512

Notes: This table reports the effects of gender integration on men's administrative outcomes using alternative difference in difference estimation techniques. The sample consists of male officers and enlisted soldiers assigned to infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams from 2012 through 2020. See Section 3 and the notes for Tables 1 and 3 for additional details on sample and outcome construction and estimation. This table reports the effects of integration on soldiers arriving during or after their company's integration. Column (1) replicates the main specification from Table 3. Column (2) re-estimates our main specification, but dropping BCT 11C, the only BCT with treated observations with negative residual treatment status. Column (3) estimates a stacked regression, where each treated cohort within each BCT is paired with a control group of never treated companies in the same BCT, and we stack all such comparison groups in a single dataset. We then estimated a TWFE regression including all fixed effects in the baseline specification interacted with group fixed effects. Column (4) shows the results of an estimation procedure consistent with Callaway and Sant'Anna (2021), where we compute all possible within BCT 2X2 difference-in-difference comparisons between treated and not-yet-treated companies, and compute the ATT as the average across these estimates weighted by the number of treated observations used to construct the estimate. Standard errors, reported in parentheses, are clustered on company.