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

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Abstract

Do men negatively 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 historically male-only combat occupations. 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 perceptions of workplace quality, using monthly administrative personnel records and rich survey responses. We find that integrating women into previously all-male units does not negatively affect men's performance or behavioral outcomes, including retention, promotions, demotions, separations for misconduct, criminal charges, and medical conditions. Most of our results are precise enough to rule out small, detrimental effects. However, there is a wedge between men's perceptions and performance. The integration of women causes a negative shift in male soldiers' perceptions of workplace quality, with the effects driven by units integrated with a woman in a position of authority. We discuss how these findings shed light on the roots of occupational segregation by gender.

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1 Introduction

Over the last 70 years, there has been a remarkable rise in female labor force participation (Goldin, 2006; Bailey and DiPrete, 2016). Yet many occupations and workplaces remain (either de jure or de facto) off-limits to women. As of 2023, 65 countries explicitly barred women's participation in jobs characterized by physical strength requirements, hazardous work conditions, or close contact among employees that precludes privacy. These jobs include mining, exploratory drilling, repairing buildings, and firefighting (World Bank, 2023). Even in countries where women are legally permitted to participate in such occupations, female representation is low: for example, in recent years in the U.S., women made up just four percent of construction and extraction employment. One quarter of U.S. police forces do not employ any women officers (Bureau of Labor Statistics, 2022; Federal Bureau of Investigation, 2023).[1]

Among the justifications for excluding women from these jobs is the notion that women's presence will diminish worker and firm performance. Indeed, 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; Hamilton et al., 2003). Alternatively, integrating women could create communication obstacles or incite interpersonal conflict, potentially reducing both group performance and the performance of men themselves (Lazear, 1999; Lang, 1986). Women's entry into historically male occupations could additionally 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, 2014; Folke and Rickne, 2022).

Despite widespread speculation about how the entry and presence of women in male-dominated occupations affect worker performance and attitudes, empirical evidence has been scarce. Most episodes of gender integration have occurred amid broader societal changes, which confound causal identification (Blau et al., 2012; Pan, 2015; Cortes and Pan, 2018). Moreover, examining the ramifications of women's entry requires information on worker performance, which is typically proprietary to firms and not available in even the most comprehensive government administrative data sets.

This paper leverages a rare opportunity to examine how men respond to the initial entry of women into an exclusively male occupation. In particular, we study 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 could endanger military readiness by diminishing group cohesion and morale and by triggering retaliatory or other unproductive behaviors among men (Leed, 2013; U.S. Army TRADOC Analysis Center, 2015; MacDonald, 2019). Supporters, however, touted the capacity to leverage a larger pool of talent and potential performance gains from gender diversity (Harris, 2013). The

[1]Police officer data covers over 18,000 law enforcement agencies across the U.S., including city, county, state, tribal, and federal agencies that voluntarily report administrative data and crime outcomes. In 2022, these agencies reported an average female officer force of 10%. Among agencies with 5 or more employees, 24.6% reported employing no female officers.

recency of this policy change, paired with the availability of detailed personnel and survey data, allows us to examine how the performance, behavior, and attitudes of male workers respond to the introduction of women.

Our empirical strategy is a difference-in-differences design that exploits the staggered integration of women into infantry and armor units, known as companies, in the U.S. Army. Infantry and armor are the Army's most combat-oriented occupations: soldiers in the infantry, the Army's largest occupation, engage in combat operations on the ground and soldiers in armor engage 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 perceptions of workplace quality, 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 outcomes are key performance metrics from the Army's perspective, as they largely determine a company's ability to deploy to combat if needed. 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.

Our main finding is that integrating women into all-male companies does not negatively affect men's performance or behavior, as measured by administrative personnel records. Most 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. On some metrics, there is evidence that the entry of women *positively* affects men's behavior: integration reduces separations from the Army due to misconduct by 1.28 percentage points (16% of the mean; significant at the 5% level), which could partly result from integration lowering illicit drug usage (detected by random drug tests). 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 affect the propensity to pass the test, and 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). The

effects also do not hinge on soldiers' level of experience: if we focus on male soldiers who were already assigned to a company six months prior to integration, we find the initial introduction of women has no discernible effect on men's behavior and performance. These results demonstrate 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 (Akerlof and Kranton, 2000; Goldin, 2014) and models that emphasize communication/coordination issues surrounding increased diversity (Lang, 1986; Lazear, 1999). Importantly, when we conduct a company-level analysis that incorporates all soldiers—both male and female—we again find no effect of gender integration on soldiers' outcomes.

While gender integration generally has little effect on 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 more pronounced among male officers (13.9% of a standard deviation; significant at the 1% level), relative to male enlisted soldiers (3.8% 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 in both groups. In contrast, among companies that received only female enlisted soldiers (and no female officer), integration *improves* 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 men in companies that integrate with female officers.

Why do men's perceptions of workplace quality decline when a female officer is integrated? We investigate several explanations. While negative reactions 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 and male officers have 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 also find no evidence that the decline in male officers' perceptions of the workplace is related to perceived or actual preferential treatment of female officers, as measured by male officers waiting longer for a leadership assignment relative to female colleagues.

Two remaining mechanisms could account for the decline in men's perceptions of workplace quality when a female officer is integrated: (1) increased awareness of workplace issues, especially those that dispropor-

tionately affect women and (2) negative reactions to women in positions of leadership. Consistent with the notion that female officers increase men's awareness of workplace issues, we find that male soldiers 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. 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. Consistent with this possibility, 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.

It is also possible that the rise in men's reports of workplace problems when integrated with a female leader reflects an increase in the *incidence* of these problems. While we cannot provide a definitive test between increased incidence and increased awareness, two patterns suggest that female officers, if anything, reduce the incidence of workplace problems. First, enlisted women report *fewer* workplace problems when integrated alongside a female officer (relative to being integrated with only enlisted women). Second, metrics of workplace misconduct from the administrative data show some improvements in male behavior when integration includes a female officer.

The integration of female officers also causes a decline in men's perceptions of workplace issues that do not disproportionately affect women, suggesting that the presence of a woman in a position of authority may generate broader negative reactions among men. 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). It is important to 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 to female leadership 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.

This paper contributes to multiple strands of literature, foremost the effects of gender diversity on worker performance, behavior, and job satisfaction. The existing literature has primarily studied the effects of varying female representation in workplace settings that have long been integrated.[2] The findings are mixed. Increased female representation, particularly beyond critical thresholds known as tipping points, leads men to avoid occupations and evaluate female applicants less favorably (Pan, 2015; Bagues et al., 2017). By contrast, greater representation of women in firms and workplaces is associated with lower rates of sexual

[2]A related literature examines the effects of exposure to racial/ethnic minorities on attitudes toward these groups (Boisjoly et al., 2006; Rao, 2019; Carrell et al., 2019; Lowe, 2021; Corno et al., 2022; Bursztyn et al., 2024) and effects of racial/ethnic diversity on team performance (Hjort, 2014; Marx et al., 2021).

harassment toward women and a higher likelihood of hiring female subordinates (Folke and Rickne, 2022; Battaglini et al., 2023). Using a large-scale experiment in the Norwegian military, Dahl et al. (2020) finds that increased exposure to women—through assignment to a mixed-gender, relative to an all-male, squad during bootcamp—leads men to have more favorable views toward women in the workplace and more egalitarian gender attitudes overall.[3]

A key innovation of the present paper is its investigation of the *initial* introduction of women into an exclusively male occupation. To our knowledge, only a few papers endeavor to analyze these extensive margin effects. Miller and Segal (2018) shows that integrating women into U.S. police forces led to a decline in the incidence and a rise in the reports of domestic violence. By studying the gender integration of U.S. colleges, Truffa and Wong (2022) finds that introducing female students into all-male colleges increased faculty production of gender-related research and Calkins et al. (2023) demonstrates that introducing male students into all-female colleges decreased female students' participation in STEM majors. Our paper advances this nascent literature by comprehensively analyzing the ramifications of integrating women into a previously all-male occupation, revealing that worker performance and behavior are largely unaffected by women's entry.

Our setting also offers a unique opportunity to separately analyze the ramifications of introducing female *leaders* and female *peers* into an exclusively male setting. Prior work shows that female representation among political, educational, and firm leadership positively affects public good provision, girls' educational outcomes, and how firms deal with workplace violence.[4] Female leaders may also engender backlash, particularly from men. Relative to male leaders, female leaders are evaluated more negatively, are discussed using more discriminatory language, face higher male worker turnover, and are more likely to experience early termination—despite similar or better performance (Gagliarducci and Paserman, 2012; Wu, 2018; Macchiavello et al., 2020; De Paola, Maria and Gioia, Francesca and Scoppa, Vincenzo, 2022; Husain et al., 2023). These results from the field echo lab and online experiments that show that subordinates react negatively to female bosses.[5] Overall, we find that introducing female leaders (alongside female peers) has scant effects on men's performance, retention, and behavior, but does lead to a decline in men's perceptions of workplace quality. Through the investigation of the attitudes of both male officers and male enlisted soldiers, our paper additionally documents that negative reactions to female leadership extend to male officers, that is, men who are in similar positions of authority.

By examining men's reactions to the initial entry of women, this paper also provides novel evidence on whether gender identity concerns (Akerlof and Kranton, 2000) and the pollution theory of discrimination (Goldin, 2014) can help explain occupational segregation by gender.[6] While these theories have had far-

[3]The military climate survey used in this paper does not ask questions regarding attitudes towards gender equality.

[4]See, for example, Beaman et al. (2009); Carrell et al. (2010); Porter and Serra (2020); Breda et al. (2023) and Adams-Prassl et al. (2024). In contrast, increased female representation on corporate boards and municipal councils has little effect on a variety of worker, firm, and policy outcomes (Ahern and Dittmar, 2012; Matsa and Miller, 2013; Bertrand et al., 2018; Bruhn et al., 2024b).

[5]See, for example, Grossman et al. (2019); Ayalew et al. (2021); Abel (2024); and Chakraborty and Serra (2024).

[6]Occupational segregation remains a persistent feature of the U.S. labor market as well as labor markets around the world, and continues to be a main contributor to gender gaps in pay (Blau and Kahn, 2017; Cortes and Pan, 2018). The extant empirical literature examining occupational segregation has focused on explanations relating to gender differences in abilities/skills (e.g.

reaching influence, empirical tests are rare. To the extent that diminished occupational prestige or status shapes men's response to the integration of women, our paper shows that these responses are confined to subjective workplace perceptions and do not manifest in decreased performance, retention, or conduct.[7]

2 Background: Integration of Women into Combat Occupations

2.1 The End of Ground Combat Exclusion

The U.S. military is the largest employer in the United States.[8] Infantry and armor account for roughly 25% of new Army enlistments each year and are the Army's primary combat-oriented occupations. 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.[9,10]

Prior to 2016, the U.S. military's Ground Combat Exclusion Policy (GCEP) precluded women from serving in infantry and armor positions.[11] 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. 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 (Lyles, 2011). 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 enlisted recruits to select an occupation, ship to basic training, and complete initial entry training requirements (Swick and Moore, 2018). Female officers were permitted to commission into infantry and armor starting in 2016, with the first group of newly commissioned female officers arriving at operational companies in 2017 after a year of infantry or armor officer training.

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. To be eligible to enter infantry and

physical strength), behavioral traits (e.g. competitiveness), and preferences for the non-monetary attributes of jobs (e.g. temporal flexibility). See, e.g., Niederle and Vesterlund (2007); Flory et al. (2015); Mas and Pallais (2017); Wiswall and Zafar (2018); Breda and Napp (2019); Lordan and Pischke (2022); Wasserman (2023).

[7] This stands in contrast to evidence from the marriage market, which shows an aversion to women earning more than men that manifests in stated marital dissatisfaction and the dissolution of marriages (Bertrand et al., 2015).

[8] The U.S. Department of Defense employs over 2.6 million personnel as servicemembers (Active Duty, Reserve, and Guard) or civilians (DoD Personnel, Workforce Reports & Publications, accessed 7 November 2024). *Forbes* lists Walmart, with 2.3 million employees in 2022, as the country's largest private employer. (Top 10 Largest Fortune 500 Employers In The U.S., accessed 7 November 2024).

[9] We 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).

[10] 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. 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.

[11] The Ground Combat Exclusion Policy also prevented women from serving in special forces.

armor, enlisted soldiers must pass the gender-neutral Occupational Physical Assessment Test (OPAT). After enlisting, infantry and armor soldiers must pass additional occupation-specific and gender-neutral training requirements before they can be assigned to combat units.

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. U.S. Army 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 to women.[12]

Figure A.1 shows the organizational structure of an example Brigade Combat Team (BCT). BCTs typically include 3,000 to 4,000 soldiers, are designed to be interchangeable units, and serve as the Army's predominate fighting force during combat deployments. BCTs consist of 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 soldiers, 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.[13]

Within BCTs, it was not possible to integrate all infantry and armor companies at the same time. Although U.S. 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

[12] 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 brigades in accordance with FORSCOM's plan.

[13] 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 mean fiscal year unless otherwise indicated.

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.[14] 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 of which companies to integrate within BCTs was largely left up to BCT 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 are 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 the characteristics of commanders of non-integrated companies.

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 show below that the characteristics of integrated companies are similar to companies that did not integrate.

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 significantly 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.

3 Data and Summary Statistics

3.1 Administrative Personnel Records

We leverage Army administrative personnel records to measure men's performance, behavior, and employment outcomes. Our data include individual characteristics of soldiers when they first enlist, assignment information, and various outcomes throughout a soldier's career in the Army. Assignment data are monthly snapshots that indicate, among other things, the servicemembers' rank, the Army base where the soldier is

[14] Lack of adherence to the Leaders First policy was likely due to some female officers not completing their initial officer training and potentially some commanders not following the policy. Most 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.

permanently stationed, and the brigade and company the servicemember is assigned to.

We can 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 composite scores on the Army Physical Fitness Test (APFT), the Army's 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.[15]

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 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).[16] 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.

It is additionally important to note that the integration of women did not impact men's employment prospects or wages. It was not possible for incumbent 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

[15] 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. Both the APFT and ACFT are scored on a scale that varies by age and gender.

[16] 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. (2024a) 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.

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.[17]

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 since 1990, with response rates consistently above 50%. It is administered to units roughly annually and is intended to inform commanders 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, although there are a small number of questions with binary responses that pertain to observations and experiences of workplace problems. Additional details are in Appendix C.

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 climate survey period. To construct indices that incorporate responses across the broad 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.

Climate survey responses are anonymous but they do record a respondent's company 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 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. Gender

[17] Military base pay and other financial allowances are the same across occupations, but military services can vary some enlistment 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.

[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.

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.)

3.3 Sample Construction

Our primary sample consists of military personnel assigned to 391 infantry, armor, and cavalry reconnaissance companies (i.e., combat companies) within Brigade Combat Teams from 2012 through 2020.[19] Starting in 2012 allows us to observe outcomes several years prior to the integration of women. We end in 2020 because we define most individual-level outcomes as two years after assignment and we do not observe outcomes past 2022. Appendix B.1 provides a detailed description of how we identify the combat companies in our analysis sample.

Individual-Level Sample. In the analysis of administrative outcomes that follows, our preferred specification uses an individual-level sample of male soldiers who are newly assigned to a combat company. Since soldiers may 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 combat companies. We measure outcomes relative 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); see Appendix B.2 for additional details.

The specification that uses 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 the individual-level specification is that it omits servicemembers who are serving subsequent assignment spells among the 391 combat companies.[20] We therefore also use a complementary company-level specification that constructs average company-level outcomes among all men in the company.

Company-Level Sample. The unit of observation in this complementary specification is the company-by-year. Outcomes are constructed as the average of outcomes for *all male soldiers* assigned to the company (see Appendix B.3 for additional details). 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)*.

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

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

[20] 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.

2020.

3.4 Summary Statistics

Figure 1 provides a visual representation of the first stage: the percentage 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. Furthermore, once a company integrates, it stays integrated. However, the female share of companies that integrated earlier tends to be larger than the companies that integrated later and also tends to decline over time.[21] 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 A.2 confirms that the number of integrated companies has grown faster than the number of infantry and armor women assigned to integrated companies.

The integration of combat companies was driven by women in infantry and armor occupations. Figure 1 panel (B) plots the female share of companies, expanding to women belonging to *any* occupation. The similarity of panels (A) and (B) underscores 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. When we quantify the effect of integration on the percentage of company personnel who are women using a difference-in-difference specification, we find that integration increased female representation by 4.7 percentage points on average, with women in infantry and armor occupations accounting for roughly 90% of this increase (Table A.2).

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 92% of men in our sample are enlisted soldiers: 17% non-commissioned officers (NCOs) and 75% junior enlisted soldiers. Enlisted soldiers range in rank from Private to First Sergeant and have varying levels of experience. Their roles are similar to floor workers, skilled technicians, and lower-level managers in manufacturing or service industries. They work in teams to carry out military missions, handle daily administrative responsibilities, and perform hands-on tasks like operating vehicles and repairing equipment. Non-commissioned officers are the immediate supervisors of junior enlisted soldiers, leading squads within platoons or teams within squads.[22] Among the enlisted soldiers in our sample, the average Armed Forces Qualification Test (AFQT) score is at the 57th percentile of this nationally representative test of math and reading ability (Table 1 column (2)).

[21] 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 D.

[22] Unfortunately, Army personnel data only tracks soldiers down to the company level, preventing us from identifying the subordinate platoon, squad, or team that a soldier is assigned to.

The remaining 8% of the sample is commissioned officers, whose summary statistics are reported in column (3). Most commissioned officers are platoon leaders, holding the rank of Lieutenant, and are usually recent college graduates who earned their commission through West Point, a Reserve Officer Training Corps (ROTC) program, or Officer Candidate School (OCS). Each company also includes a company commander, who is a Captain. Officers often perform functions that are similar to mid-level managers in a manufacturing plant or a large retail store. They plan missions, organize logistics, and decide how to assign teams to various tasks. Relative to enlisted soldiers in our sample, commissioned officers tend to be slightly older when they are first assigned to a company in our sample (26.0 years for officers vs. 23.5 years for enlisted personnel), are more likely to be white (80% vs. 67%), and are more likely to be college graduates.[23] 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 column (5), we also report summary statistics for the infantry and armor women integrated into combat companies, 2017-2020, which we compare to newly assigned men over this same time period (column (4)). Relative to infantry and armor men, infantry and armor women assigned to combat companies are slightly younger on average (22.2 years vs. 22.7 years) and are substantially more likely to be Black (21.7% vs. 11.9%) and Hispanic (24.9% vs. 16.4%). 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 (15%, relative to 9% of men assigned to the same companies).

Table 1 panel (B) reports summary statistics for the main administrative personnel outcomes, which capture soldiers' performance, behavior, and employment outcomes over the two years from their first assignment to a combat company. Where relevant, we reverse the scale of these outcomes such that an increase represents an improvement in the behavior. Retention rates are substantially higher among male officers (94%) relative to male enlisted soldiers (78%). With regard to behavioral problems, within two years of arrival, nearly 8% of enlisted soldiers separate from the Army due to misconduct, 7% are demoted, and 12% are charged with a misdemeanor or felony (which excludes traffic-related misdemeanors). In addition 14% have a medical condition that temporarily or permanently restricts their capacity to fight. The rates of behavioral and medical issues among officers are substantially lower than among enlisted soldiers. 93% of enlisted soldiers pass the physical fitness test and 11% are promoted to Sergeant. Relative to men, women integrated into combat companies have lower retention rates, fewer behavioral problems, and slightly higher promotion rates.

Table 2 shows average responses to climate survey 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 26% of female enlisted soldiers in integrated sample units report experiencing sexual jokes, comments,

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

unwanted relationships, or unwanted touching, and 18% report the presence of bullying in their company. The comparable figures for men are 8% and 12%, respectively.

4 Empirical Strategy

The gradual integration of women into infantry and armor companies over time facilitates a staggered difference-in-differences design that allows us to estimate the causal effect of gender integration on individual and company-level outcomes.

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.[24] 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. 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 bases to infantry and armor women, and companies within a BCT belong to the same base, 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, including 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. In addition, we use alternative difference-in-differences estimators as suggested by Goodman-Bacon (2021), Callaway and Sant'Anna (2021), and others.

$D^s_{u,t}$ 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 soldier who arrives one year after that unit receives women, only $D^1_{u,t}$ will be one. We set bounds at $D^{-5}_{u,t}$ and $D^2_{u,t}$,

[24] We define physical fitness test scores as a soldier's last recorded score in the two-year period following assignment.

such that $D_{u,t}^{-5}$ is one for units receiving women five or more years in the future and $D_{u,t}^{2}$ 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 $D_{u,t}^{s}$ take the value zero.

We choose $s = -2$ (i.e. soldiers assigned to a treated unit two years prior to integration) to be the omitted group because we measure outcomes two years after arrival and 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. This 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

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 company (i.e., 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, $D^s_{u,t}$ is one if in time t unit u received its first women s years ago and zero otherwise. Note the subtle difference between $D^s_{u,t}$ in Equation (1) and Equation (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.

4.3 Climate Survey Specification

In the climate survey data, we are limited in our ability to estimate dynamic effects due to the short time range of the data. We also 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 year-month t while assigned to company u and $D_{u,t}$ is an indicator for whether company u received women at or before year-month t. Because surveys are taken throughout the calendar year, we include both BCT-by-response-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 they perceived to be most amenable to receiving women, that

[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.

is, companies that were improving over time. 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.

Next, we implement a variety of empirical tests that lend support to the validity to our key identifying assumption. Our event-study estimates, discussed in Section 5, show no 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 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

[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.

(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. 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 (column (2)), and men who were partially treated, i.e. those who arrive one year prior to integration (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.[28]

[28] 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.

The reduction in men's separation for misconduct could arise due to changes in underlying behavior and/or more lenient disciplinary practices. To shed light on whether integration improves men's underlying behavior, we leverage the Army's requirement that companies randomly test 10% of personnel for drug use each month (Department of the Army, 2016; Army Substance Abuse Program, 2018). In Table A.5, we show that gender integration does not alter soldiers' propensity to be randomly tested, but it does lower the likelihood that soldiers test positive for drugs. Most of these estimates are indistinguishable from zero owing to the rarity of positive drug tests, but the negative point estimates are consistent with integration having no—or even a positive—effect on men's conduct. Overall, these findings are inconsistent with models of gender identity and pollution theory, which predict that the entry of women would trigger negative behaviors among men (Akerlof and Kranton, 2000; Goldin, 2014).

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.[29] In line with the retention and misconduct outcomes above, integrating women tends to have small and insignificant effects on performance. Integration slightly increases 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 effect is statistically insignificant. Moreover, when we restrict to medical profiles that could arguably be affected by changing peer groups—physical injuries and psychiatric conditions—the point estimates flip sign. 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% decline relative to the mean or 5% of a standard deviation. While this decline does represent a potential drawback associated with gender integration, we note that integration does not affect the propensity to pass the Army's physical fitness test.[30] Furthermore, the decline in physical fitness scores does not translate into negative effects on other performance outcomes, such as promotions or demotions.[31]

The corresponding event studies for outcomes related to misconduct, medical readiness, promotions, and

[29] Officers can be promoted to higher ranks, but the first competitive promotion for officers is to the rank of Major, which occurs around ten years of service and is therefore too distant to measure for the Lieutenants and Captains in our sample.

[30] 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.

[31] We note that over this period, 12% 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, some soldiers in integrated companies may have transitioned to the new test slightly 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.

fitness test scores, found in Figure 2 and Figure A.3, 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. The results are also robust to using alternative difference-in-differences estimators (see Appendix D).

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).[32] 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.[33]

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. 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 changes from the integrated women, whose characteristics differ from those of men (see Table 1). Figures A.4 and A.5 report corresponding

[32] 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).

[33] 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.

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 show small, positive effects of gender integration on Army retention and not being separated for misconduct, but these effects are statistically 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.

We examine whether there are heterogeneous effects based on the intensity of treatment, by splitting treated companies by the number of women integrated in the first year (Table A.8). Across all outcomes, 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, we re-estimate Equation (4) using company-level average outcomes among men who were assigned to combat companies at least six months prior to the start of the year (Table A.9).[34] All estimates from this subsample are similar to those constructed from company-level outcomes that include all men assigned to the company. When coupled with the estimated effects of integration among individual soldiers who were assigned to companies in the year prior to integration (Table 3 column (3)), the estimates in Table A.9 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 men's perceptions of unit performance and attitudes about the workplace. Table 6 column (1) reports the results of estimating Equation (5) using men's

[34] Table A.9 columns (7) and (8) 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).

responses to the command climate survey.[35] Panel (A) reports the effects of gender integration on the "Workplace Quality Index," inclusive of all Likert scale questions in the climate 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: organizational effectiveness, equal opportunity, and sexual assault prevention and response. Results for the three sub-indices show similar patterns to the overall workplace quality index.[36]

Consistent with the results from the 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 (Table A.12). Taken together, the results in Tables 4, A.8, and A.12 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. Integration 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. The point estimate of 0.64 is consistent with approximately one additional soldier per company witnessing an incident. Gender integration causes men to be slightly more likely to report experiencing 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.

6 Heterogeneity by Rank of Men and Women

A unique feature of our setting is that gender integration included women of various ranks and affected men of various ranks. In this section, we examine whether the effects of gender integration differ by the rank of women integrated and by the rank of men.

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 sol-

[35] Estimates with all soldiers—including women—are reported in Table A.10. Estimates of Equation (5) that replace the Likert scale outcome with an indicator variable for statement agreement are reported in Table A.11 and are highly consistent with, but slightly less precise than, the results reported in Table 6.

[36] To facilitate the most direct comparison to the coverage of the 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).

diers of different ranks.[37] 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.[38] 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 show that any negative effects of integration on men's perceptions of workplace quality are more pronounced among male officers. For enlisted soldiers, the effects of integration on workplace attitudes are statistically indistinguishable 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 organization's effectiveness and ability to prevent and respond to sexual assault/harassment.

6.2 Heterogeneity by Rank of Women Integrated

Men may also 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), indicate 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 statistically differ among men assigned to units one year prior to integration (see panel (B) of Table A.13). Other administrative outcomes reveal little evidence of heterogeneity along the rank of integrated female soldiers.

Despite limited evidence that the rank of female soldiers differentially influences administrative outcomes, the negative effects of integration on men's perceptions of workplace quality are 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 columns (5) and (6) of 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.

[37] Although we can estimate heterogeneous effects of integration along other characteristics of men for our administrative outcomes, individual characteristics within the 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.

[38] 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.

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 positive effects of integration with only enlisted women on overall perceptions of workplace quality and each of its three broad sub-indices 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). The negative effects are consistently more pronounced among male officers, relative to male enlisted soldiers. It also appears that any positive effects of integration with only enlisted women 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 do not find 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? Why are the negative effects more pronounced among male officers? We explore several explanations.

6.3.1 Mechanisms Unlikely to Explain Our Findings

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. 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.

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. Most differences are small and not statistically significant, although female officers are slightly younger, have a bit less experience, and have fewer dependents than male officers. Despite having less experience, other characteristics suggest female officers might have slightly stronger qualifications. For example, female officers are more likely to have graduated from the U.S. Military Academy (West Point) and have slightly higher SAT scores. Overall, we find little evidence to suggest that results are driven by women leaders having systematically worse baseline qualifications than male leaders.

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, 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.23 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.

Preferential treatment of female officers: 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, but the decline is larger among male officers. 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. As seen in Table A.24, 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, when we separately analyze companies where most male lieutenants had to wait longer to be assigned than female lieutenants assigned to the same company, we find that the decrease in men's perceptions of workplace quality is of a similar magnitude, suggesting that women's expedited assignment is unlikely to be the root of the decline.

6.3.2 Mechanisms that Could Explain Our Findings

Preferences for gender diverse workplaces: Enlisted men experience a positive shift in perceptions of workplace quality when only enlisted women are integrated. While integration with enlisted women does not affect men's personnel outcomes, the positive shift in workplace satisfaction is consistent with other evidence documenting men's stated preference for gender-diverse workplaces (Schuh, 2024) as well as positive shifts in men's beliefs regarding gender equality when working alongside women of similar rank (Dahl et al., 2020).

Increased incidence/awareness of workplace problems: We explore whether the decline in men's perceptions of workplace quality in the presence of a female officer reflects a change in workplace problems, as reported in the climate survey. In Table 6 Panel (B), we find that 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.

Although we cannot definitively distinguish between increased *incidence* and increased *awareness* of workplace problems, two patterns weigh against the possibility that men's increased reporting of unwanted workplace problems following the integration of female leaders is driven by increased incidence of such problems. First, the results in column (5) of Table 3 suggest that there may be improvements in male behavior when a female officer integrates a company. Specifically, integration with a female officer leads to a statistically significant reduction in misdemeanors or felonies, a marginally significant reduction in separations for misconduct, and a marginally significant increase in retention.

As a second piece of evidence, survey responses from enlisted women suggest some benefits of entering

[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.

alongside a female officer, contrasting with responses from men. As summarized in Table 8, 25% of enlisted women in companies that integrated with a female officer 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 only enlisted women. Male and female enlisted soldiers' conflicting accounts of hazing, bullying, and sexual harassment/assault is consistent with female officers raising awareness of these workplace issues among men.[40] 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).

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 16.6% of a standard deviation (significant at the 1% level) but only reduces male enlisted soldiers' perceptions by a statistically insignificant 2.8% of a standard deviation (Table A.16).[41]

Negative responses to women in positions of authority: The integration of a female officer causes a decline in men's perceptions of workplace issues beyond those that disproportionately affect women, suggesting that the presence of a woman in a position of authority may generate broader negative reactions among men. Table 6 shows that gender integration with 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. When we examine more detailed categories of survey questions, we observe declines in men's perceptions of group cohesion, trust in leadership, connectedness, and inclusion at work when integrated with a female officer (Table A.27). The pervasive negative shift in men's perceptions of workplace quality is 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

[40] Another possibility is that female officers increase men's propensity to *report* workplace problems in climate surveys. This change in reporting echoes increased reports of domestic violence after police forces integrated female officers (Miller and Segal, 2018).

[41] It is also possible that the differential decline in officers' perceptions of workplace quality reflects an increase in the frequency with which officers must address workplace incidents related to sexual harassment or assault. We note, however, that gender integration (with or without a female officer) does not appear to boost men's (or women's) knowledge of sexual assault reporting options (see Table A.26).

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). Relative to the existing literature, we contribute the new finding that the perceptions of both male subordinates and male manager peers respond negatively to the presence of female managers (Table A.16).

In our setting, it is important to note that men's negative responses to female officers only emerge 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

How does the initial entry of women into an all-male workplace or occupation affect men's performance, behavior, and workplace satisfaction? The answer to this question has long eluded researchers due to empirical challenges arising from causal identification and data availability. By studying the end of the Ground Combat Exclusion Policy—one of the final explicit occupational barriers to women in the U.S.—and by leveraging administrative personnel records from the Army, this paper advances our understanding of the ramifications of gender diversity on the extensive margin, and additionally sheds light on whether gender identity concerns contribute to occupational segregation by gender. We find that integrating women into previously all-male Army companies has little effect 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 of integration on men's 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.

A survey of workplace attitudes tells a different story, however. Gender integration causes an overall decline in men's perceptions of workplace quality, with positive effects for units integrated with only female enlisted soldiers and negative effects for units integrated with a female officer (alongside female enlisted soldiers). The negative shift in men's perceptions of workplace quality when a female officer is present could arise from female leaders increasing men's awareness of workplace problems—particularly those that affect women such as sexual harassment and assault. Alternatively, it could reflect negative reactions to working under or alongside women in positions of authority. We note that these negative responses are confined to subjective perceptions of the workplace and do not extend to key metrics used by the Army to determine combat readiness.

Understanding how men respond to the integration of women is critical for advancing Army leaders' goals of building lethal and cohesive teams (Lacdan, 2023). The ability to successfully integrate women into all units is especially important in the context of the Army's recruiting shortfalls in 2022 and 2023 (Barndollar

and Mai, 2024; Philipps, 2023; Rogin and Corkery, 2023). Perhaps more importantly, the implications of our findings extend beyond the military setting to other workplaces that remain almost exclusively male, such as policing, firefighting, construction, and mining. Similar to the military, many of these occupations are disproportionately comprised of high school graduates and share workplace characteristics such as exposure to risk, physical demands, close-quarters work environments, and teamwork that benefits from group cohesion and positive morale. Prior research has shown that employers in such settings are less likely to hire women than men (Kline et al., 2022). If employers' reluctance to hire women is due to expectations of productivity losses from women's presence in a stereotypically male occupation, our paper provides evidence to dispel that notion.

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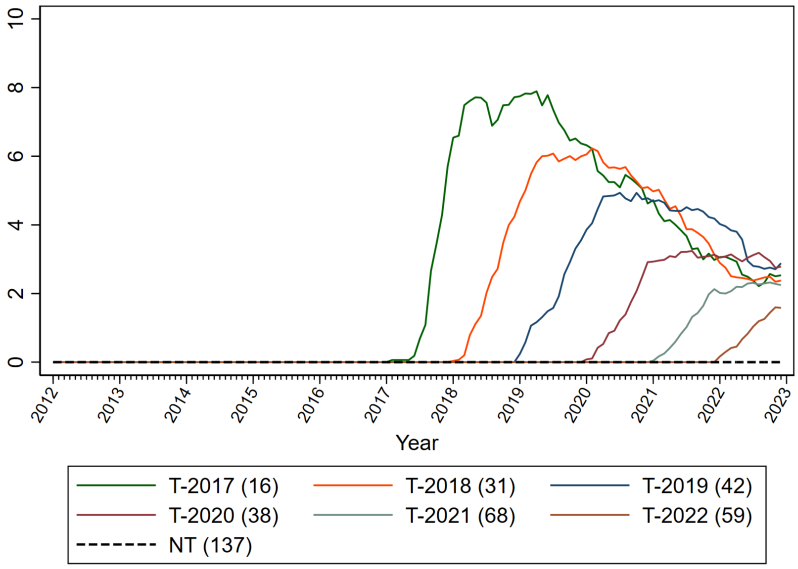
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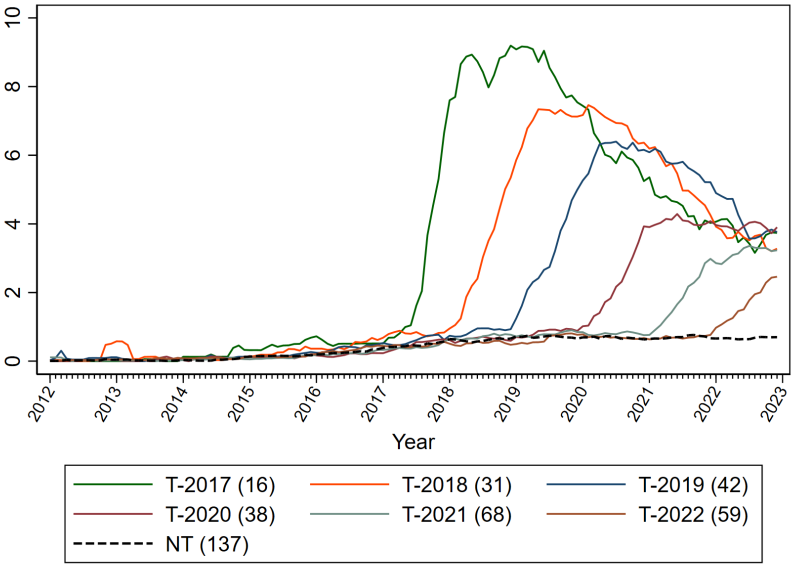
Figures and Tables

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

A. Percentage of Soldiers Who Are Infantry and Armor Women

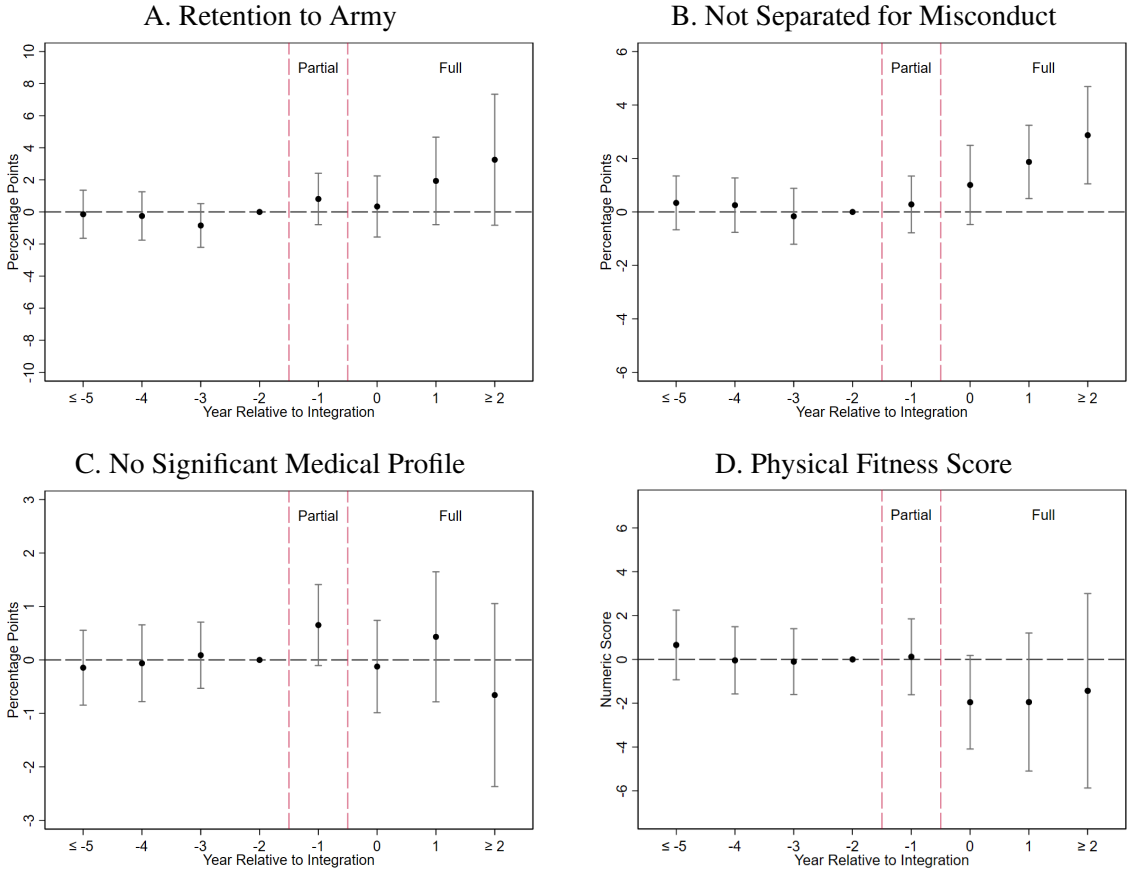


B. Percentage of Soldiers Who Are Women (All Occupations)



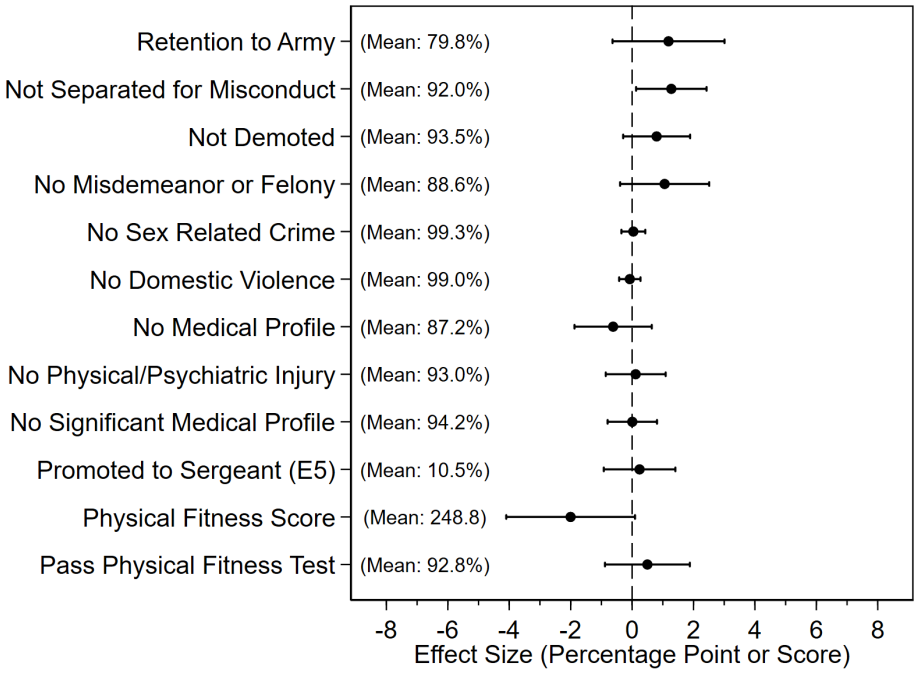
Notes: Panel (A) of this figure plots the average percentage of soldiers in infantry, armor, and cavalry reconnaissance companies within Brigade Combat Teams who are women in infantry and armor occupations over time. See Appendix B.1 for a description of how we identify the infantry, armor, and cavalry reconnaissance companies (i.e., the combat companies) in our analysis sample. 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



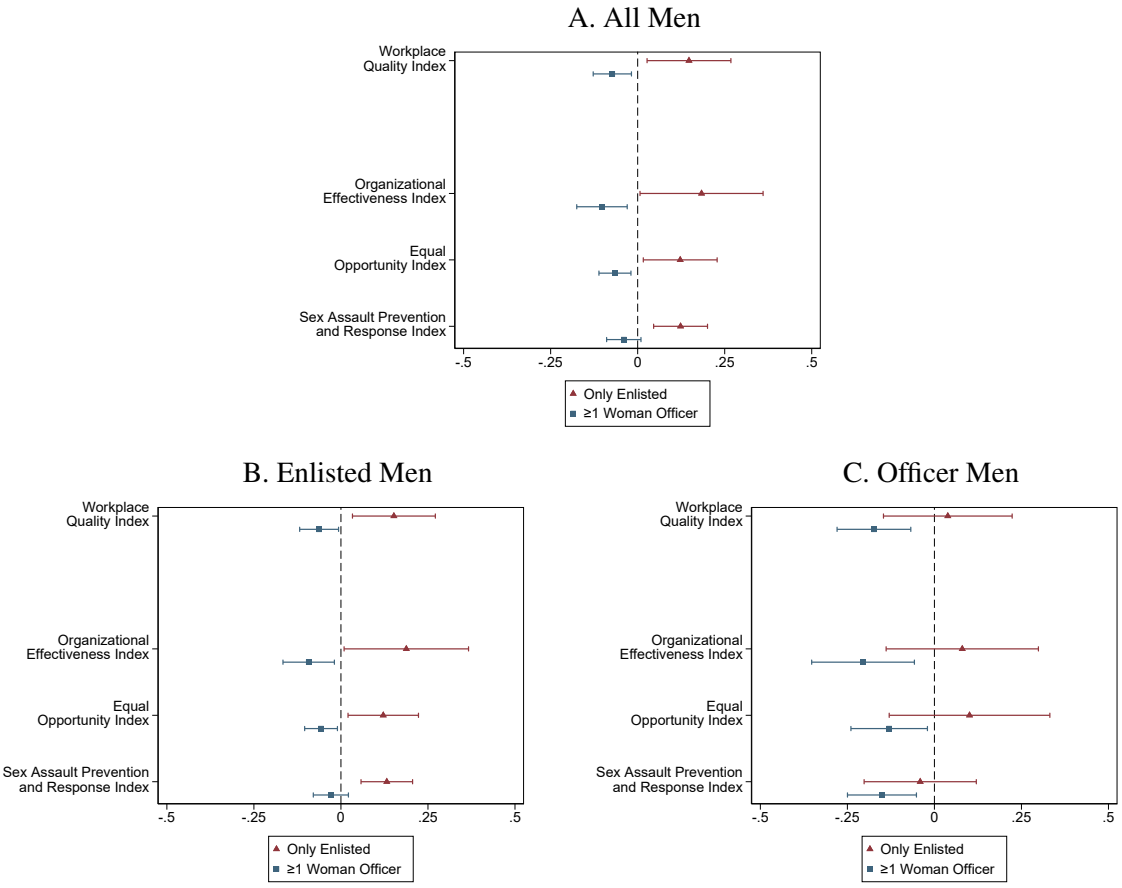
Notes: This figure reports event-study point estimates and 95% confidence intervals of the effects of gender integration on men's administrative outcomes (Equation (1)). The sample consists of 148,660 male soldiers (officers and enlisted) assigned to combat companies from 2012 through 2020 (see Section 3.3 and Appendix B.1). Outcomes are defined 2 years relative to assignment to the company (i.e. 2 years after the start of the spell). Where relevant, we reverse the scale of outcomes such that a positive coefficient represents an improvement in the behavior. 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 combat companies from 2012 through 2020 (see Section 3.3 and Appendix B.1). Estimates come from Column (2) of Table 3 which reports estimates of β_{Treat} from Equation (2). Outcomes are defined 2 years relative to assignment to the company (i.e. 2 years after the start of the spell). Where relevant, we reverse the scale of outcomes such that a positive coefficient represents an improvement in the behavior. 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 gender integration on men's responses to the Defense Organizational Climate Survey (DEOCS). All regression results are estimates of β from Equation (5), which includes company fixed effects, BCT-year fixed effects, and month-of-year fixed effects. Indices are constructed from the set of questions in the survey 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 survey period. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the climate survey. 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" include in the regression men assigned to companies that never integrated and men assigned to companies that only integrated with enlisted women in the first month of integration. Estimates for "At Least One Woman Officer" include in the regression men assigned to companies that never integrated and men assigned to companies that integrated with at least one female officer in the first month of integration. 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	57.39	57.39	-	57.11	48.32
Non-Commissioned Officer	17.30	18.89	0.00	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 (see Appendix B.1 for a description of how we identify the companies in our main sample). Columns (2) and (3) report average characteristics for the subsamples of male enlisted soldiers and male officers, respectively, in our analysis sample. Columns (4) and (5) report average characteristics of male and female infantry and armor soldiers assigned to combat companies in our sample between 2017 and 2020, respectively. 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 3.3 for additional details on how we construct the analysis sample.

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 Indices (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 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 Suicide Tendency in Workplace	38.70	38.50	42.26	44.68
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 Assault Incident	1.26	1.28	0.97	5.85
Observations	59185	56086	3083	479

Notes: This table reports average responses to the Defense Organizational Climate Survey (DEOCS). Indices are constructed from the set of survey questions that 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 companies that had not yet been integrated at the time of the survey. The "Workplace Quality Index" takes the average z-score across all Likert scale questions in the survey. The three following sub-indices take the average across the subset of statements within that category in the original survey. Appendix C contains a complete list of climate survey questions. "Report Any Hazing in Workplace" and "Report Any Bullying in Workplace" are one if a soldier reported that at least one of the types of hazing or bullying described in the survey occurred in their workplace and zero otherwise. "Report Any Suicide Tendency in Workplace" is one if a soldier knows someone in the organization who has thought of, attempted, or died by suicide 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. Appendix C contains a complete list of climate survey questions. See Section 3.3 for additional details on the climate survey sample.

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	248.78	-2.00*	-0.01
		(1.07)	(0.85)
Pass Physical Fitness Test	92.80	0.50	-0.18
		(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 combat companies from 2012 through 2020. See Section 3.3 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 enlisted soldiers for outcomes that are only relevant or observed for enlisted personnel (not separated for misconduct, 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, by Share of Women in Integrated Companies

	$<$ Median ($\approx 5.1\%$)		$\geq$ Median ($\approx 5.1\%$)			
	Arrived During or After Int.	Arrived 1-Year Before Int.	Arrived During or After Int.	Arrived 1-Year Before Int.	P-value (1) v. (3)	P-value (2) v. (4)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Retention and Misconduct						
Retention to Army	0.96	1.21	1.25	-0.01	0.851	0.438
	(1.05)	(0.84)	(1.41)	(1.43)		
Not Separated for Misconduct	0.93	-0.04	1.85**	0.44	0.348	0.629
	(0.72)	(0.52)	(0.80)	(0.89)		
No Demotion	0.10	-0.56	2.25***	0.81	0.018	0.092
	(0.73)	(0.51)	(0.71)	(0.69)		
No Misdemeanor or Felony	0.92	-0.65	1.94*	0.94	0.404	0.149
	(0.94)	(0.70)	(0.99)	(0.91)		
No Sex Related Crime	0.07	-0.06	0.16	-0.07	0.784	0.983
	(0.26)	(0.19)	(0.26)	(0.23)		
No Domestic Violence	0.01	0.31**	-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	-0.41	-0.26	-0.59	0.32	0.859	0.545
	(0.81)	(0.57)	(0.84)	(0.85)		
No Physical/Psychiatric Injury	0.52	0.58	-0.22	0.81	0.384	0.779
	(0.66)	(0.45)	(0.65)	(0.71)		
No Significant Medical Profile	0.15	0.90**	-0.19	0.20	0.642	0.308
	(0.54)	(0.44)	(0.56)	(0.57)		
Promoted to Sergeant (E5)	0.49	0.12	-0.02	0.97	0.611	0.426
	(0.81)	(0.62)	(0.71)	(0.90)		
Physical Fitness Score	-1.47	-0.44	-2.65*	1.32	0.458	0.271
	(1.29)	(1.02)	(1.46)	(1.34)		
Pass Physical Fitness Test	0.90	0.03	0.25	-0.24	0.557	0.828
	(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 estimates reported in columns (1) and (2) includes men 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 estimates reported in columns (3) and (4) includes men 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 (3) report estimates of β_{Treat} from Equation (2), and columns (2) and (4) report estimates of and $\beta_{PartTreat}$ from Equation (2). Column (5) reports the p-value from a test that the effect of integration is equal when companies integrate with more or less women among men assigned to companies during or after integration (column (1) v. column (3)). Column (6) reports the p-value from a test that the effect of integration is equal when companies integrate with more or less women among men assigned to companies in the year prior to integration (column (2) v. column (4)). Standard errors, reported in parentheses, are clustered on company. See the notes for Table 1 for additional details on the sample and outcomes.

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

	Men and Women		Men Only		Men, Climate Survey 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. Columns (2), (4), and (6) report estimates of β from Equation (4). 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 climate survey outcomes. Averages constructed from binary outcomes are multiplied by 100 to reflect percentages. Standard errors, reported in parentheses, are clustered on company.

Table 6: Effects of Gender Integration on Perceptions of Workplace Quality

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Perceived Workplace Quality Indices (Standard Deviation Effect)							
Workplace Quality Index	-0.048*	-0.038	-0.139***	0.049	-0.073***	0.147**	0.001
	(0.027)	(0.028)	(0.051)		(0.028)	(0.062)	
Organizational Effectiveness Index	-0.067*	-0.056	-0.160**	0.125	-0.103***	0.184**	0.003
	(0.036)	(0.037)	(0.069)		(0.037)	(0.090)	
Equal Opportunity Index	-0.044*	-0.036	-0.081	0.403	-0.065***	0.122**	0.001
	(0.024)	(0.024)	(0.056)		(0.024)	(0.054)	
Sexual Assault Prevention and Response Index	-0.027	-0.014	-0.154***	0.006	-0.040	0.120***	0.000
	(0.024)	(0.024)	(0.050)		(0.026)	(0.040)	
Panel B: Workplace Incident Questions (Percentage Point Effect)							
Report No Hazing in Workplace	-0.69	-0.69	-0.12	0.589	-1.76**	3.54**	0.001
	(0.72)	(0.76)	(0.84)		(0.76)	(1.56)	
Report No Bullying in Workplace	-1.17	-1.17	1.41	0.180	-1.91*	3.64	0.028
	(1.05)	(1.08)	(1.71)		(1.08)	(2.35)	
Report No Suicide Tendency in Workplace	-3.04	-3.82	12.79**	0.005	-1.98	-2.68	0.898
	(2.84)	(2.86)	(6.52)		(3.06)	(4.77)	
Did Not Have Unwanted Workplace Experience	-1.15	-1.11	-1.29	0.934	-1.92**	2.99*	0.006
	(0.88)	(0.91)	(2.16)		(0.88)	(1.68)	
Made Sexual Jokes? (No)	-0.40	-0.47	1.23	0.363	-0.98	2.55***	0.001
	(0.62)	(0.65)	(1.96)		(0.63)	(0.95)	
Said Dont Act Like Man/Woman? (No)	-1.08*	-1.04*	-1.69	0.563	-1.27**	0.68	0.042
	(0.59)	(0.62)	(1.05)		(0.63)	(0.88)	
Made Comments on Appear? (No)	-0.89*	-0.88*	-0.20	0.401	-0.95*	0.69	0.149
	(0.49)	(0.52)	(0.67)		(0.53)	(1.10)	
Attempted Relationship? (No)	-0.50	-0.46	-1.38	0.379	-0.66*	1.02	0.051
	(0.34)	(0.34)	(1.17)		(0.34)	(0.80)	
Unwanted Sexual Touch? (No)	-0.13	-0.09	-0.10	0.983	-0.18	1.34*	0.071
	(0.35)	(0.37)	(0.11)		(0.37)	(0.78)	
Did Not Observe Potential Assault Incident	-0.64*	-0.53	-2.17*	0.179	-0.54	-0.45	0.910
	(0.33)	(0.34)	(1.27)		(0.33)	(0.81)	
Observations	59185	56086	3083		51643	38989	

Notes: This table reports the effects of gender integration on men's perceptions of workplace quality as reported in organizational climate surveys. Column (1) reports estimates of β from Equation (5) for all men in combat companies who responded to climate surveys. 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 that 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 female officers or with only enlisted women, respectively. The sample for estimates reported in column (5) includes men assigned to companies that never integrated and men assigned to companies that integrated with a female officer in the first month of integration. The sample for estimates reported in column (6) includes men assigned to companies that never integrated and men assigned to companies that only integrated with enlisted women in the first month of integration. Column (7) reports the p-value from a test that the effect of integration is equal when companies integrate with a female officer versus integrating with only enlisted women. Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions. Section 3.3 provides additional details on the climate survey sample, and Appendix C contains a complete list of climate survey questions.

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

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (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 combat companies 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 that 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 female officers or with only enlisted women, respectively. The sample for estimates reported in column (5) includes men assigned to companies that never integrated and men assigned to companies that integrated with a female officer in the first month of integration. The sample for estimates reported in column (6) includes men assigned to companies that never integrated and men assigned to companies that only integrated with enlisted women in the first month of integration. Column (7) reports the p-value from a test that the effect of integration is equal when companies integrate with a female officer versus integrating with only enlisted women. Standard errors, reported in parentheses, are clustered on company. See Table A.13 for estimates of $\beta_{PartTreat}$ from Equation (2).

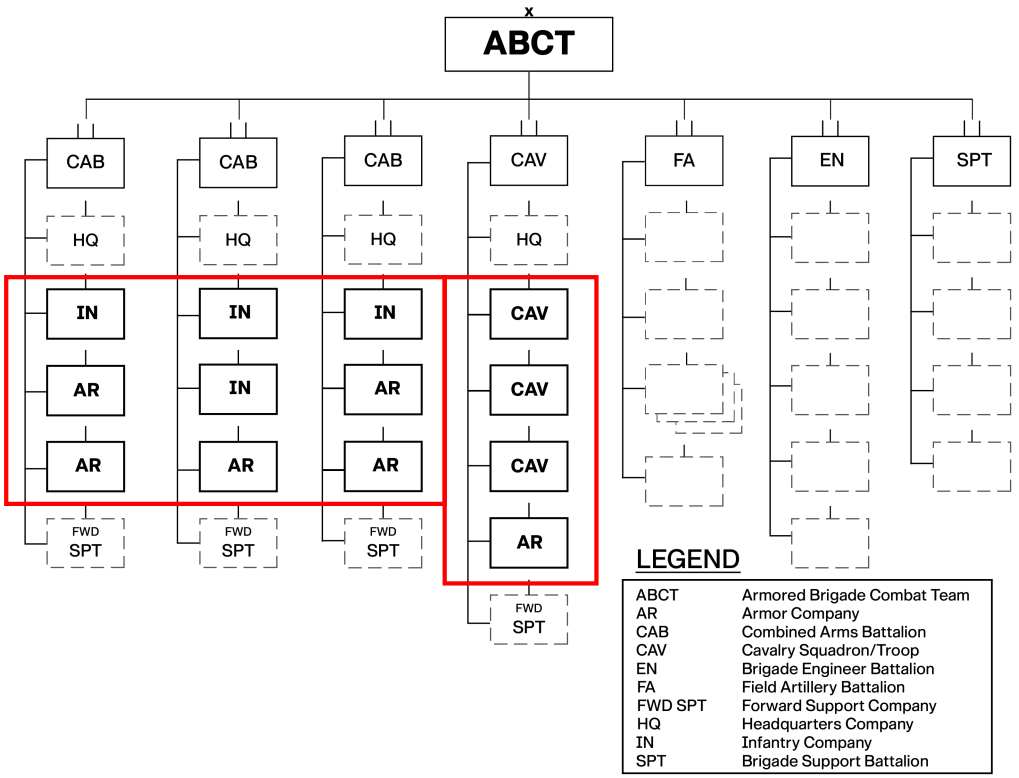
Table 8: Summary Statistics of Perceptions of Workplace Quality of Enlisted Soldiers in Integrated Companies by Rank of Integrated Women

	Enlisted Men			Enlisted Women		
	≥1 Woman Officer	Only Enlisted Women	P-value (1) v. (2)	≥1 Woman Officer	Only Enlisted Women	P-value (4) v. (5)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Perceived Workplace Quality Indices (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 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 Suicide Tendency in Workplace	38.75	37.05	0.256	43.75	43.84	0.989
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 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 organizational climate survey for the subsamples identified by the column headings. See Section 3.3 for additional details on the climate survey sample. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions. Appendix C contains a complete list of climate survey questions.

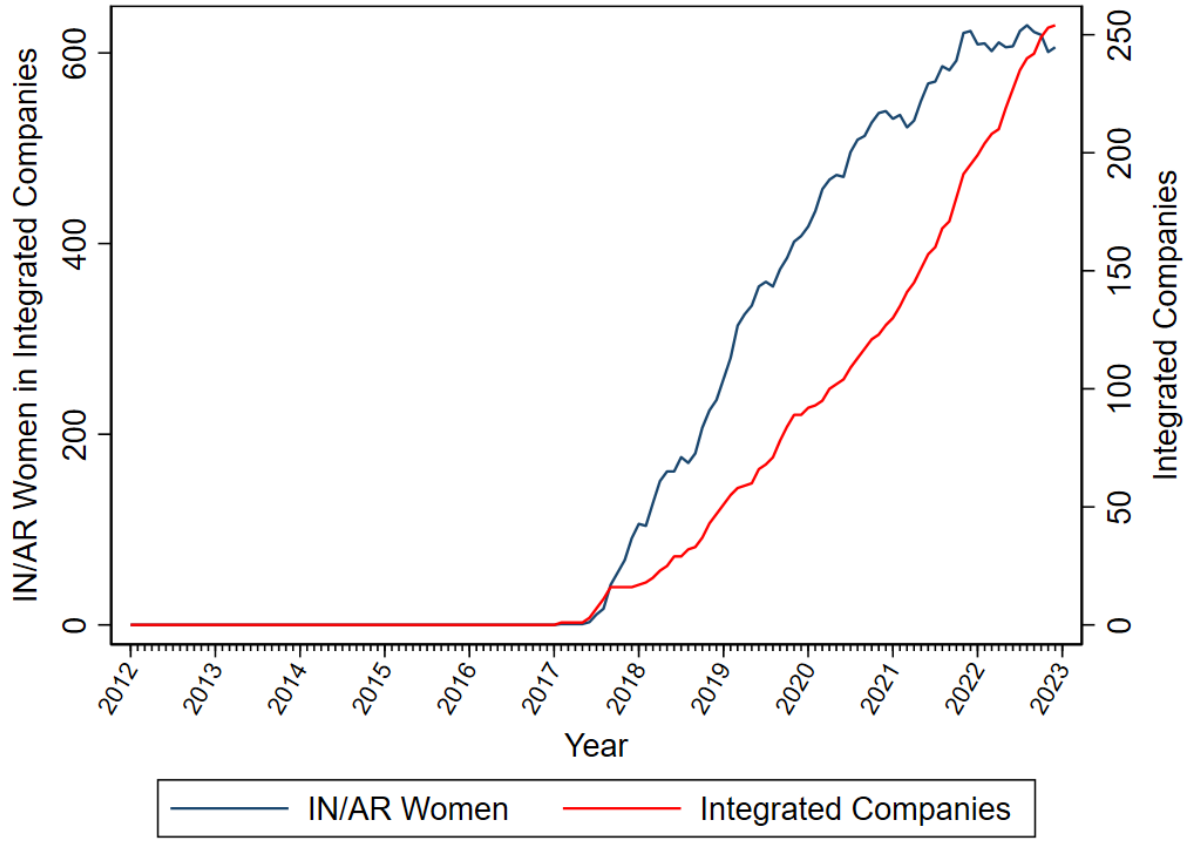
A Additional Figures and Tables

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



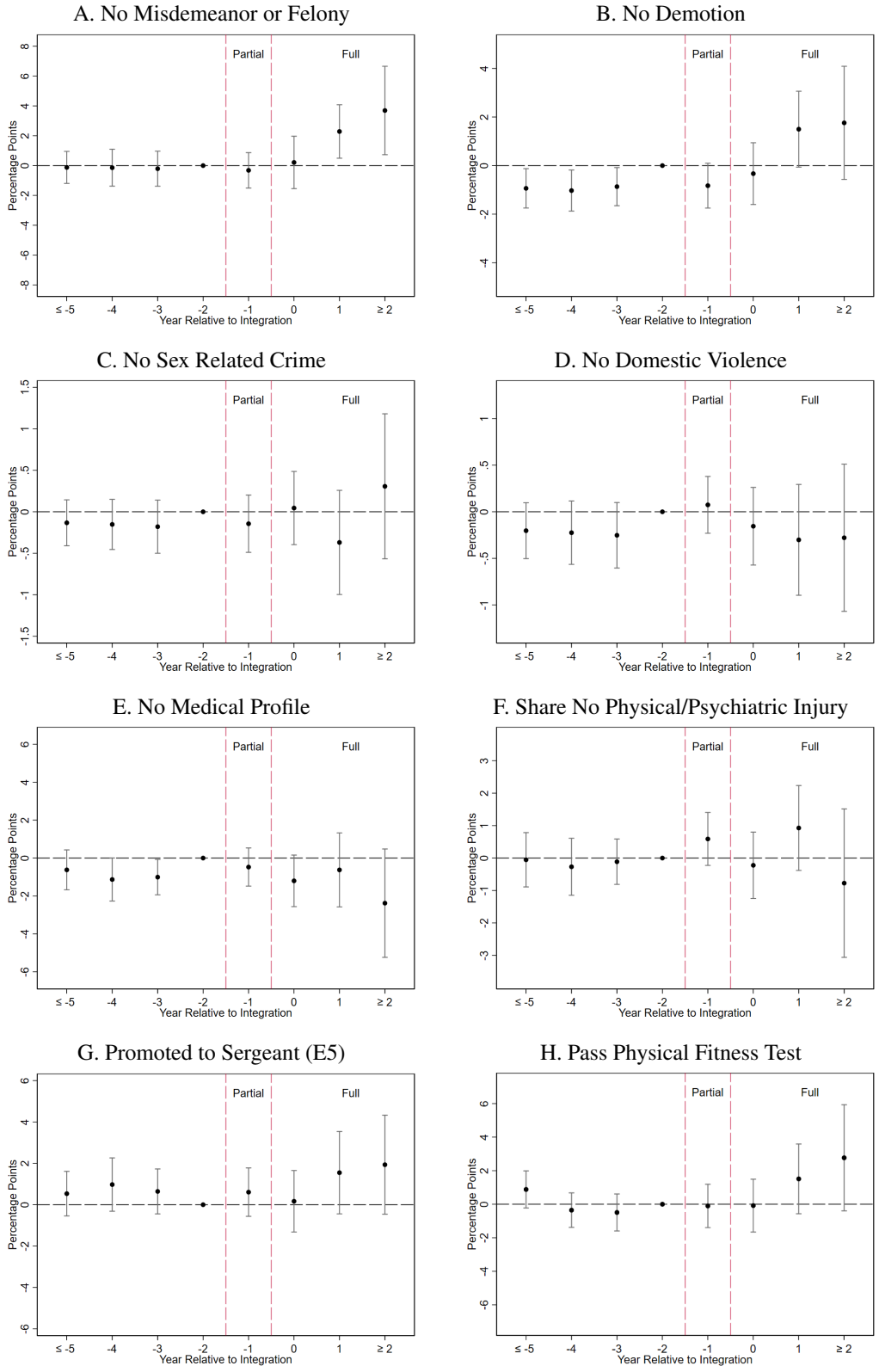
Notes: This figure shows the structure of an Armored Brigade Combat Team (BCT). Our primary analysis sample consists of the infantry (i.e. rifle) companies, armor companies, and cavalry troops, which are depicted inside the red boxes in the figure. Prior to 2016, women could not serve in the infantry 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: Number of IN/AR Women and Number of Integrated Companies



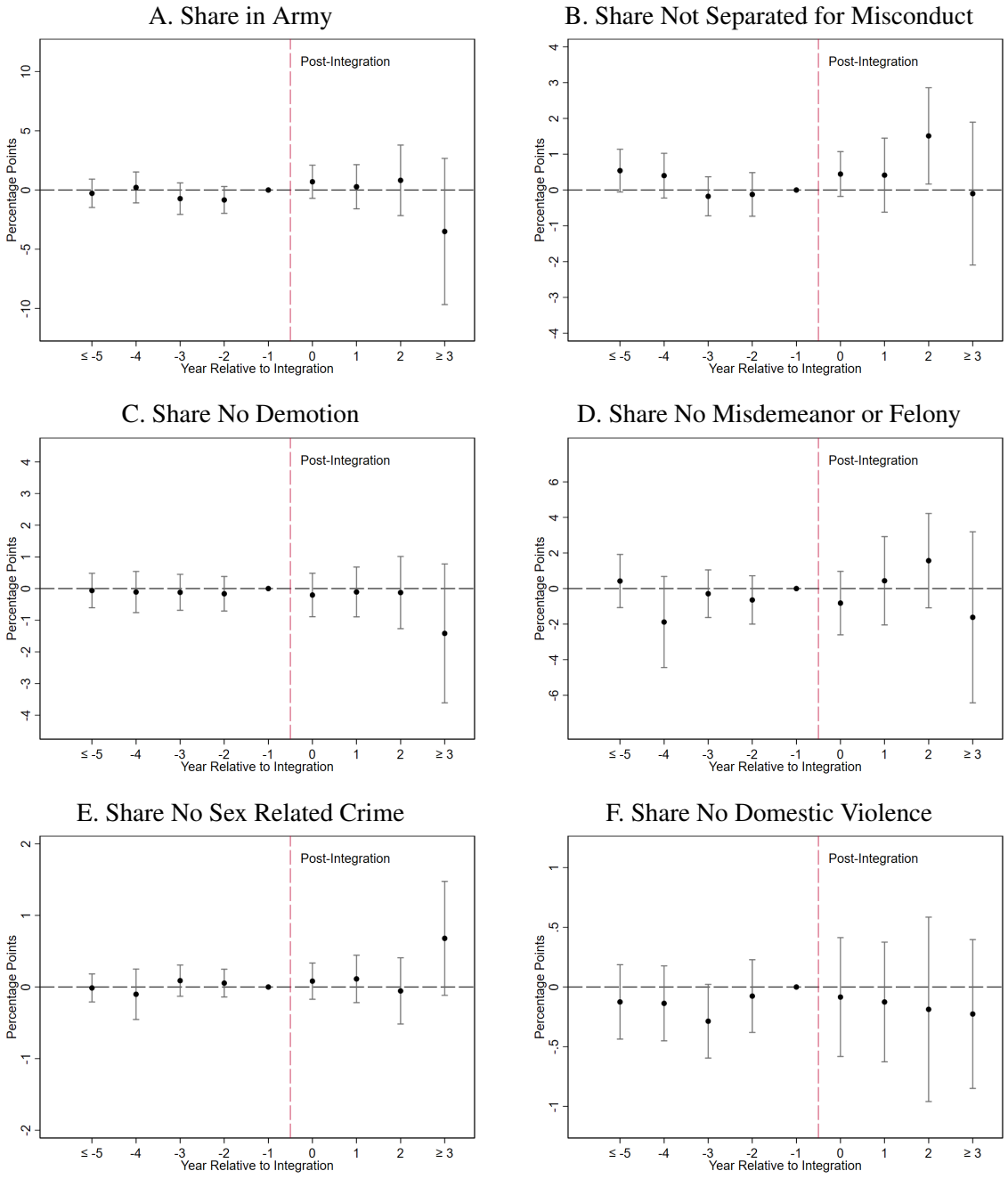
Notes: The blue series in this figure reports the number of women in infantry and armor occupations who are assigned to the combat companies in our sample over time (corresponding to the left y-axis). The red series in this figure reports the total number of companies that had been assigned at least one female infantry and armor soldier (red series, corresponding to the right y-axis) over time. Appendix B.1 describes how we identify the combat companies in our analysis sample.

Figure A.3: Event Study Estimates for Other Admin. Outcomes, Individual-Level Spec.



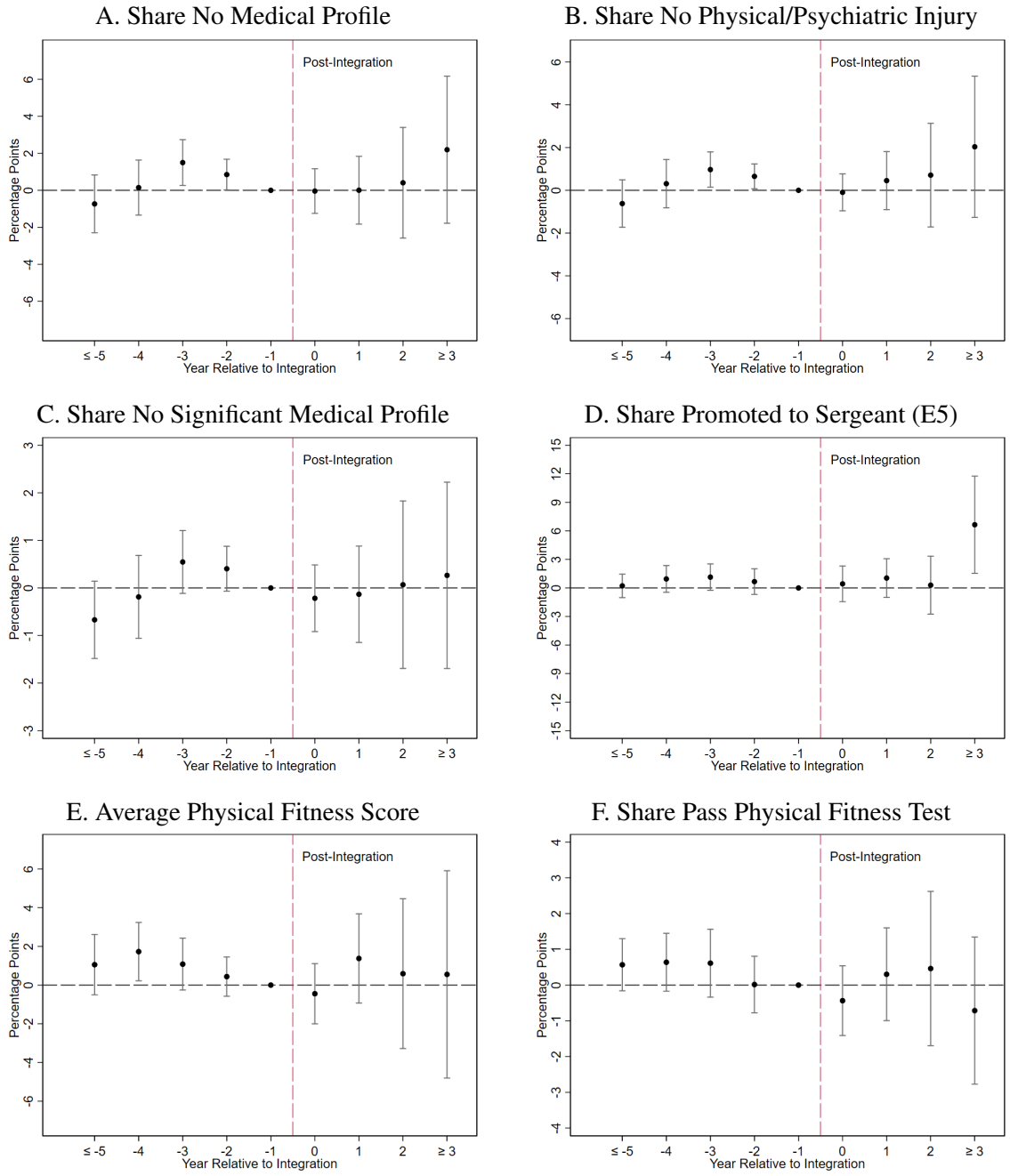
Notes: This figure reports event-study point estimates and 95% confidence intervals of the effects of gender integration on men for additional administrative outcomes (Equation (1)). See the notes for Figure 2 for additional details. Confidence intervals are derived from standard errors that cluster on company.

Figure A.4: 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.5: 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: Effect of Integration on Climate Survey Quality

	All Soldiers			Men Only		
	All Ranks	Enlisted	Officers	All Ranks	Enlisted	Officers
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Response Rate						
Post Gender Integration	-0.028	-0.030	-0.009	-0.031	-0.033	-0.019
	(0.033)	(0.034)	(0.053)	(0.033)	(0.034)	(0.053)
Company-Month Observations	1391	1391	1391	1391	1391	1391
Panel B: Attention Check Pass Rate						
Post Gender Integration	0.007	0.006	-0.006	0.008	0.008	0.012
	(0.015)	(0.015)	(0.039)	(0.015)	(0.016)	(0.042)
Company-Month Observations	1391	1391	1280	1391	1391	1272

Notes: This table reports the effects of gender integration on measures of the quality of the organizational climate survey-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 (Equation (5)). "Response rate" is calculated as the number of survey 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 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 v. 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
	[.57]	[.47]	(.04)	(.05)
Average Initial AFQT Score (Enl. Only)	57.05	56.40	-0.64	-0.34
	[5.26]	[4.84]	(.5)	(.27)
Percent of Soldiers: High School Dropout/GED	6.79	6.93	0.14	0.07
	[2.73]	[3.26]	(.3)	(.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]	(.38)	(.4)
Percent of Soldiers: White	67.27	66.47	-0.80	0.32
	[6.81]	[6.86]	(.67)	(.61)
Percent of Soldiers: Hispanic	16.05	15.98	-0.06	0.06
	[4.34]	[4.97]	(.45)	(.49)
Percent of Soldiers: Other Race	5.94	5.66	-0.27	-0.25
	[2.82]	[2.62]	(.25)	(.29)
Average Years of Service	3.62	3.60	-0.02	0.01
	[.44]	[.42]	(.04)	(.04)
Percent of Soldiers: Non-Commissioned Officers	29.66	30.42	0.76	0.84
	[5.55]	[5.52]	(.52)	(.52)
Percent of Soldiers: Commissioned Officers	4.94	5.43	0.49***	0.07
	[1.53]	[1.82]	(.15)	(.16)
Percent of Soldiers: Females, non-IN/AR	0.57	0.84	0.27***	0.10
	[.79]	[.98]	(.09)	(.1)
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 companies that were integrated in that year ("Newly Integrated Companies") and companies 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 v. 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

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Effects on Random Drug Testing							
Number of Random Drug Tests	0.02	0.03	0.01	0.918	0.03	-0.29	0.223
	(0.12)	(0.13)	(0.17)		(0.14)	(0.23)	
Panel B: Effects on Drug Use (from random tests, scaled by 100)							
Number of Positive Random Drug Tests	-0.85	-0.93	0.43	0.076	-0.84	-1.64*	0.440
	(0.60)	(0.65)	(0.54)		(0.69)	(0.87)	
Number Positive Marijuana	-0.59	-0.61	0.19	0.165	-0.57	-1.65**	0.179
	(0.50)	(0.54)	(0.29)		(0.57)	(0.67)	
Number Positive Cocaine	-0.43*	-0.52**	0.43	0.035	-0.36	-0.64	0.565
	(0.24)	(0.26)	(0.38)		(0.25)	(0.45)	
Observations	74466	67768	6698		66911	45778	

Notes: This table reports the effects of gender integration on random drug testing outcomes when the sample is split by the rank of men and by the rank of the integrating women. 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. The average soldier receives 2.4 random drug tests over the two year period (Panel (A)) and tests positive 0.029 times (Panel (B)). Marijuana and cocaine account for 83% of positive drug tests. Outcomes in Panel (B) are scaled by 100 and only reflect results from random drug tests. Standard errors, reported in parentheses, are clustered on company.

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 Profile	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*	-0.01	0.076	-1.49	0.39	0.095	-1.87*	0.20	0.101
	(1.07)	(0.85)		(1.00)	(0.83)		(1.01)	(0.83)	
Pass Physical Fitness Test	0.50	-0.18	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		148660			148653			148571	

Notes: 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). 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. 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.

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)	248.78	-2.00*	-0.01
		(1.07)	(0.85)
Pass Physical Fitness Test	92.80	0.50	-0.18
		(0.70)	(0.60)
Physical Fitness Score $\geq$ 270	33.71	-2.53**	-0.18
		(1.19)	(0.90)
Missing Physical Fitness Score	12.47	1.57	1.66**
		(1.13)	(0.80)
Panel B: Sensitivity to Missing Fitness Score Imputations			
Phys Fitness Score, missing imputed with predicted Score	248.71	-1.61	0.11
		(0.98)	(0.81)
Phys Fitness Score, missing imputed with p10	243.07	-2.34**	-0.67
		(1.07)	(0.87)
Phys Fitness Score, missing imputed with p50	249.43	-1.54	0.18
		(0.99)	(0.81)
Phys Fitness Score, missing imputed with p90	254.05	-0.96	0.80
		(1.13)	(0.89)
Observations		136175	

Notes: Panel (A) of this table reports the effects of gender integration on additional physical fitness outcomes. Columns (2) and (3) report estimates of β_{Treat} and $\beta_{PartTreat}$ from Equation (2). 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, by Share of Women Integrated

	Men & Women			Men Only					
	$<$ Median ($\approx 5.1\%$)	$\geq$ Median ($\approx 5.1\%$)	P-value (1) v. (2)	$<$ Median ($\approx 5.1\%$)	$\geq$ Median ($\approx 5.1\%$)	P-value (4) v. (5)	$<$ Median Survey Years	$\geq$ Median Survey Years	P-value (7) v. (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 administrative 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: Men in Companies 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	84.25	-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	92.07	-0.28
		(0.55)		(0.52)		(0.53)		(0.42)
Share No Significant Medical Profile	94.11	-0.19	94.01	-0.24	94.06	-0.37	93.64	-0.48
		(0.39)		(0.40)		(0.39)		(0.44)
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 administrative 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 companies 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: Effects of Integration on Perceptions of Workplace Quality, Including Women

		Soldier Heterogeneity by Individual's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Soldiers	Enlisted Soldiers	Officer Soldiers	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A:Likert Scale Questions							
Workplace Quality Index	-0.050*	-0.041	-0.148***	0.039	-0.073***	0.143**	0.001
	(0.027)	(0.028)	(0.052)		(0.028)	(0.061)	
Organizational Effectiveness Index	-0.063*	-0.056	-0.148**	0.168	-0.097***	0.182**	0.003
	(0.036)	(0.037)	(0.068)		(0.037)	(0.089)	
Equal Opportunity Index	-0.045*	-0.039	-0.093	0.321	-0.066***	0.121**	0.002
	(0.024)	(0.024)	(0.057)		(0.024)	(0.056)	
Sexual Assault Prevention and Response Index	-0.036	-0.024	-0.191***	0.001	-0.048*	0.109***	0.000
	(0.024)	(0.024)	(0.051)		(0.025)	(0.041)	
Panel B: Reported Incidents							
Report No Hazing in Workplace	-0.68	-0.71	-0.36	0.750	-1.67**	3.38**	0.001
	(0.70)	(0.74)	(0.94)		(0.74)	(1.50)	
Report No Bullying in Workplace	-1.04	-1.12	0.84	0.363	-1.68	3.25	0.045
	(1.02)	(1.06)	(1.99)		(1.07)	(2.29)	
Report No Suicide Tendency in Workplace	-2.76	-3.51	12.15*	0.006	-1.68	-2.89	0.826
	(2.81)	(2.83)	(6.26)		(3.03)	(4.81)	
Did Not Have Unwanted Workplace Experience	-1.53*	-1.50*	-1.47	0.987	-2.20**	2.29	0.009
	(0.88)	(0.91)	(2.40)		(0.89)	(1.59)	
Made Sexual Jokes? (No)	-0.67	-0.73	1.06	0.405	-1.15*	2.03**	0.002
	(0.63)	(0.65)	(2.28)		(0.65)	(0.87)	
Said Dont Act Like Man/Woman? (No)	-1.29**	-1.28**	-1.38	0.937	-1.51**	0.47	0.029
	(0.58)	(0.61)	(1.14)		(0.62)	(0.84)	
Made Comments on Appear? (No)	-1.00**	-1.04**	0.36	0.218	-1.03*	0.40	0.207
	(0.50)	(0.52)	(1.13)		(0.55)	(1.09)	
Attempted Relationship? (No)	-0.77**	-0.79**	-0.84	0.969	-0.96***	0.83	0.038
	(0.35)	(0.36)	(1.32)		(0.37)	(0.79)	
Unwanted Sexual Touch? (No)	-0.04	-0.03	-0.09	0.867	-0.08	1.35*	0.083
	(0.35)	(0.36)	(0.11)		(0.37)	(0.76)	
Did Not Observe Potential Assault Incident	-0.82**	-0.72**	-2.15*	0.206	-0.76**	-0.49	0.748
	(0.35)	(0.36)	(1.17)		(0.36)	(0.82)	
Observations	60246	57048	3181		52541	39495	

Notes: This table reports the effects of gender integration on climate survey responses when also including responses from women. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions, and the notes for Table 6 for a description of the samples used to construct estimates in each column.

Table A.11: 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 Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Workplace Quality Index	-0.020*	-0.016	-0.050***	0.089	-0.027**	0.056**	0.003
	(0.012)	(0.012)	(0.019)		(0.012)	(0.026)	
Organizational Effectiveness Index	-0.027*	-0.022	-0.068***	0.100	-0.038**	0.070*	0.005
	(0.015)	(0.015)	(0.026)		(0.015)	(0.036)	
Equal Opportunity Index	-0.019*	-0.015	-0.028	0.577	-0.026**	0.052**	0.005
	(0.011)	(0.011)	(0.023)		(0.011)	(0.026)	
Sexual Assault Prevention and Response Index	-0.012	-0.008	-0.043**	0.066	-0.012	0.042**	0.012
	(0.011)	(0.011)	(0.017)		(0.012)	(0.020)	
Observations	59185	56086	3083		51643	38989	

Notes: This table reports the effects of gender integration on men's responses to the organizational climate survey. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Standard errors are clustered at the company level. Indices are constructed from the set of questions in the organizational climate survey which ask soldiers to rate agreement with statements about the workplace environment on a 7-point Likert scale. We recode responses as 1 for "agree" if the respondent chose one of the three "agree" responses for a positive statement or one of the three "disagree" responses for a negative statement, and 0 otherwise. Each outcome is a sub-index that calculates the share of all Likert scale questions agreed with in the climate survey under the given category heading. A complete list of climate survey questions can be found in Appendix C.

Table A.12: Effects of Gender Integration on Perceptions of Workplace Quality, by Share of Women in Integrated Companies

	$<$ Median ($\approx 5.1\%$)	$\geq$ Median ($\approx 5.1\%$)	P-value (1) v. (2)
	(1)	(2)	(3)
Panel A: Perceived Workplace Quality Indices (Standard Deviation Effect)			
Workplace Quality Index	-0.049	-0.059	0.846
	(0.039)	(0.038)	
Organizational Effectiveness Index	-0.081	-0.073	0.904
	(0.053)	(0.047)	
Equal Opportunity Index	-0.045	-0.057*	0.786
	(0.034)	(0.032)	
Sexual Assault Prevention and Response Index	-0.010	-0.041	0.481
	(0.032)	(0.035)	
Panel B: Workplace Incident Questions (Percentage Point Effect)			
Report No Hazing in Workplace	-0.18	-1.83*	0.217
	(1.01)	(1.03)	
Report No Bullying in Workplace	-0.93	-2.51	0.431
	(1.45)	(1.55)	
Report No Suicide Tendency in Workplace	-3.80	-3.47	0.951
	(4.11)	(3.76)	
Did Not Have Unwanted Workplace Experience	-1.93*	-0.86	0.500
	(1.00)	(1.40)	
Made Sexual Jokes? (No)	-0.99	-0.21	0.514
	(0.69)	(1.03)	
Said Dont Act Like Man/Woman? (No)	-1.23**	-1.25	0.986
	(0.62)	(0.97)	
Made Comments on Appear? (No)	-0.94*	-0.85	0.924
	(0.56)	(0.83)	
Attempted Relationship? (No)	-0.68	-0.06	0.311
	(0.47)	(0.42)	
Unwanted Sexual Touch? (No)	-0.52	0.34	0.167
	(0.46)	(0.47)	
Did Not Observe Potential Assault Incident	-0.27	-0.92*	0.296
	(0.43)	(0.49)	
Observations	50307	40325	

Notes: This table reports the effects of gender integration on men's climate survey responses 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 estimates reported in column (1) 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 column (2) 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. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions.

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 Integrated Women		
	Arrived 1-Year Before Int.	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Retention and Misconduct							
Retention to Army	1.03	0.91	0.32	0.68	0.90	1.22	0.84
	0.77	(0.84)	(1.21)		(0.87)	(1.43)	
Not Separated for Misconduct	0.18	0.18	-	-	0.24	-0.28	0.56
	0.48	(0.48)			(0.54)	(0.76)	
No Demotion	-0.29	-0.39	0.06	0.42	-0.40	0.89	0.16
	0.44	(0.48)	(0.26)		(0.50)	(0.82)	
No Misdemeanor or Felony	-0.26	-0.41	0.24	0.47	-0.40	1.37	0.19
	0.58	(0.63)	(0.65)		(0.62)	(1.27)	
No Sex Related Crime	-0.04	-0.05	-0.04	0.96	0.06	-0.27	0.39
	0.15	(0.17)	(0.22)		(0.17)	(0.36)	
No Domestic Violence	0.22	0.25*	-0.09	0.16	0.23	0.46*	0.40
	0.14	(0.15)	(0.19)		(0.16)	(0.25)	
Panel B: Medical Readiness and Performance							
No Medical Profile	0.05	0.13	-1.52	0.14	0.33	-0.76	0.29
	0.47	(0.52)	(0.97)		(0.52)	(0.95)	
No Physical/Psychiatric Injury	0.64*	0.66	-0.32	0.18	1.06***	-0.90	0.02
	0.38	(0.42)	(0.60)		(0.41)	(0.75)	
No Significant Medical Profile	0.67*	0.67*	0.31	0.57	0.87**	-0.05	0.19
	0.36	(0.40)	(0.48)		(0.40)	(0.63)	
Promoted to Sergeant (E5)	0.17	0.17	-	-	0.42	0.53	0.92
	0.52	(0.52)			(0.58)	(1.01)	
Physical Fitness Score	-0.02	-0.01	-	-	1.08	-4.11***	0.00
	0.85	(0.85)			(0.95)	(1.49)	
Pass Physical Fitness Test	-0.19	-0.18	-	-	0.76	-3.32***	0.00
	0.60	(0.60)			(0.65)	(1.16)	
Observations	148660	136175	12485		133253	91634	

Notes: This table reports the effects of gender integration on men assigned to combat companies 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 female officers or with only enlisted women, respectively. Column (7) reports the P-value from a test that the effect of integration is equal when companies integrate with a female officer versus integrating with only enlisted women. Standard errors, reported in parentheses, are clustered on company.

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

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

Notes: This table reports the effects of gender integration on company-level average administrative outcomes 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 that first integrated with a female officer. The sample for estimates reported in columns (2), (5), and (8) includes companies that never integrated and companies that first integrated with only enlisted women. 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-value (1) v. (2)	≥1 Woman Officer	Only Enlisted Women	P-value (4) v. (5)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Perceived Workplace Quality Indices (Standard Deviation Effect)						
Workplace Quality Index	-0.063**	0.152**	0.001	-0.174***	0.039	0.047
	(0.029)	(0.061)		(0.057)	(0.100)	
Organizational Effectiveness Index	-0.093**	0.188**	0.004	-0.205**	0.080	0.035
	(0.038)	(0.091)		(0.080)	(0.119)	
Equal Opportunity Index	-0.057**	0.122**	0.001	-0.130**	0.101	0.076
	(0.024)	(0.052)		(0.060)	(0.125)	
Sexual Assault Prevention and Response Index	-0.028	0.129***	0.000	-0.166***	-0.062	0.252
	(0.026)	(0.039)		(0.057)	(0.085)	
Panel B: Workplace Incident Questions (Percentage Point Effect)						
Report No Hazing in Workplace	-1.80**	3.67**	0.001	-0.98	2.35	0.119
	(0.81)	(1.62)		(0.85)	(1.98)	
Report No Bullying in Workplace	-1.96*	3.90	0.023	0.53	3.27	0.433
	(1.12)	(2.39)		(1.93)	(3.51)	
Report No Suicide Tendency in Workplace	-2.79	-2.97	0.975	13.75*	1.96	0.324
	(3.08)	(4.85)		(7.67)	(9.54)	
Did Not Have Unwanted Workplace Experience	-1.90**	3.44**	0.004	-0.82	-9.14*	0.152
	(0.91)	(1.72)		(2.40)	(5.33)	
Made Sexual Jokes? (No)	-1.01	2.66**	0.002	0.53	-0.62	0.768
	(0.64)	(1.07)		(2.35)	(3.24)	
Said Dont Act Like Man/Woman? (No)	-1.26*	1.01	0.020	-1.03	-5.44**	0.114
	(0.65)	(0.91)		(1.36)	(2.45)	
Made Comments on Appear? (No)	-0.98*	0.76	0.145	-0.19	-0.29	0.937
	(0.56)	(1.16)		(0.97)	(0.76)	
Attempted Relationship? (No)	-0.67*	1.29*	0.010	-0.22	-5.56	0.305
	(0.36)	(0.68)		(0.16)	(5.22)	
Unwanted Sexual Touch? (No)	-0.16	1.48*	0.063	-0.10	-0.22	0.744
	(0.39)	(0.81)		(0.11)	(0.37)	
Did Not Observe Potential Assault Incident	-0.46	-0.08	0.651	-1.74	-6.94*	0.182
	(0.34)	(0.84)		(1.25)	(3.83)	
Observations	48932	37005		2695	1976	

Notes: This table reports the effects of gender integration on men's responses to the organizational climate survey, separately for enlisted men and male officers and by the rank of women when companies first integrate. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions.

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

Covariate	Subsample Company Means			with BCT & Infantry Company FE		
	Not Yet Integrated	$\geq$ 1 Woman Officer	No Woman Officers	$\geq$ 1 Woman Officer	No Woman Officers	P-value (4) v. (5)
	(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 Woman Officers

Covariate	Subsample Company Means			with BCT & Infantry Company FE		
	Not Yet Integrated	$\geq$ 1 Woman Officer	Only Enlisted Women	$\geq$ 1 Woman Officer	Only Enlisted Women	P-value (4) v. (5)
	(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 Men		$\geq$ 1 Woman Officer		Only Enlisted Women	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All Men						
Post Integration	-0.048*	-0.046*	-0.073***	-0.068**	0.147**	0.155***
	(0.027)	(0.026)	(0.028)	(0.027)	(0.062)	(0.052)
R^2	0.051	0.094	0.052	0.096	0.054	0.096
Controls		X		X		X
Panel B: Sample Restricted to Enlisted Men						
Post 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)
R^2	0.052	0.072	0.053	0.074	0.055	0.074
Controls		X		X		X
Panel C: Sample Restricted to Male Officers						
Post Integration	-0.139***	-0.099*	-0.174***	-0.145***	0.039	0.099
	(0.051)	(0.054)	(0.057)	(0.059)	(0.100)	(0.091)
R^2	0.257	0.281	0.264	0.284	0.269	0.300
Controls		X		X		X

Notes: This table reports the effects of gender integration on men's perceptions of workplace quality with and without additional controls. Panel (A) includes survey responses from all men in combat companies, panel (B) restricts to enlisted men, and panel (C) restricts to male officers. Column (1) re-estimates the effects of integration on the overall workplace quality index (see Table 6). 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).

Table A.20: Effect of Gender Integration On Perceptions of Workplace Quality, Interaction with Predicted Workplace Quality

	Benchmark	Interacted with Predicted Workplace Quality
	(1)	(2)
Panel A: All Integrated Companies		
Post Integration	-0.048*	-0.042
	(0.027)	(0.026)
(Post Integration) x (Predicted Workplace Quality)		-0.016
		(0.017)
Observations	59185	59184
R^2	0.051	0.102
Panel B: $\geq$ 1 Woman Officer at Integration		
Post Integration	-0.073***	-0.063**
	(0.028)	(0.027)
(Post Integration) x (Predicted Workplace Quality)		-0.024
		(0.019)
Observations	51643	51642
R^2	0.052	0.104
Panel C: Only Enlisted Women at Integration		
Post Integration	0.147**	0.129**
	(0.062)	(0.054)
(Post Integration) x (Predicted Workplace Quality)		-0.039
		(0.031)
Observations	38989	38988
R^2	0.054	0.103

Notes: Column (1) of Panels (A), (B), and (C) re-estimates the effects of integration on the overall workplace quality index, repeating the estimates reported in the first row of columns (1), (5), and (6) of Table 6. See Table 6 for a discussion of the construction of the workplace quality index. Column (2) includes an interaction of the treatment (whether a company was integrated with women by the time of the response, or D_{ut} from equation (5)) with predicted workplace quality. The predicted workplace quality index is constructed from a regression of the workplace quality index on the additional controls used in Table A.19 and is standardized to have a mean of zero and a variance of 1. The regressions used to derive results reported in column (2) 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-of-year fixed effects).

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

	Benchmark	Reweighted
	(1)	(2)
Panel A: $\geq$ 1 Woman Officer at Integration		
Post Integration	-0.073***	-0.092***
	(0.028)	(0.035)
Observations	51643	51627
Panel B: Only Enlisted Women at Integration		
Post Integration	0.147**	0.107
	(0.062)	(0.086)
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 used in Table A.19.

Table A.22: Summary Statistics for Lieutenants

	Male LT's	Female LT's	P-value (1) v. (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 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. Characteristics and outcomes that are only relevant to or available for enlisted soldiers (e.g., AFQT scores, Promotion to Sergeant, and others) are not reported.

Table A.23: Summary Statistics for Enlisted Women

	Enlisted Women $\geq$ 1 Woman Officer	Enlisted Women No Woman Officer	Enlisted Women No Woman 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 for the first time between 2017 and 2020, analogous to how we construct our primary analysis sample of men in combat companies (see the notes for Table 1 and Section 3.3). 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 restricts the sample from column (2) to enlisted women who arrived prior to the assignment of the company's first female officer.

Table A.24: Distribution of Lieutenant (LT) "Staff Wait" Time

Panel A: Time to Company, 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 Co, LTs in Integrated Companies

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 female and male lieutenants (LTs) spend between first being assigned to their parent brigade and then subsequently being assigned to a combat company within that brigade. Panel (A) reports the distribution for all assigned to the combat companies in our sample for the first time between 2017 and 2020. Panel (B) restricts to lieutenants assigned to gender-integrated companies.

Table A.25: Effect of Gender Integration on Perceptions of Workplace Quality By Male Lieutenants' Relative "Staff Wait" Time

	All Companies	$\geq$ 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 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^2	0.051	0.052	0.053	0.053	0.054
Panel B: Male Officer Responses					
Post Integration	-0.139***	-0.174***	-0.175***	-0.139	-0.186**
	(0.051)	(0.057)	(0.066)	(0.094)	(0.081)
Observations	3083	2695	2496	2055	2029
R^2	0.258	0.264	0.265	0.258	0.281
Panel C: Male Enlisted Responses					
Post Integration	-0.038	-0.063**	-0.072**	-0.058	-0.112**
	(0.028)	(0.029)	(0.031)	(0.036)	(0.054)
Observations	56086	48932	45289	38135	37005
R^2	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 companies that first integrated with enlisted women only. Column (3) further restricts to companies 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 male lieutenants spend waiting to be assigned to a combat company is greater than the average time female lieutenants spend waiting to be assigned. 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.

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

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Share Correct: Can Take Restricted Report	-0.67	-0.20	-5.24	0.137	1.02	-0.23	0.691
	(1.07)	(1.05)	(3.79)		(3.13)	(1.05)	
SAR Coordinator (Yes)	-2.35*	-1.95	-7.97	0.245	-3.68	-1.37	0.561
	(1.41)	(1.44)	(5.51)		(3.76)	(1.45)	
Victim Advocate (Yes)	-0.70	-0.32	-3.97	0.511	4.12	-0.73	0.184
	(1.51)	(1.50)	(6.12)		(3.63)	(1.58)	
Healthcare Provider (Yes)	-0.70	-0.74	3.93	0.404	1.67	-0.49	0.556
	(1.50)	(1.50)	(6.00)		(3.50)	(1.55)	
Chain of Command (No)	0.12	1.02	-9.44*	0.052	-1.23	1.32	0.561
	(1.72)	(1.76)	(5.61)		(4.23)	(1.79)	
Military Police (No)	0.29	1.01	-8.76	0.100	4.22	0.15	0.242
	(1.43)	(1.42)	(6.37)		(3.44)	(1.52)	
Victim Attorney Knowledge	-2.02	-1.15	-11.15***	0.016	1.80	-1.82	0.249
	(1.44)	(1.51)	(4.02)		(3.01)	(1.50)	
Observations	59185	56086	3083		51643	38989	

Notes: This table reports the effects of gender integration on men's responses to organizational climate survey questions relating to knowledge of sexual assault reporting and response. Responses are coded so that one indicates a correct response. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions. A list of the organizational climate survey questions analyzed here can be found in Table C.3.

Table A.27: Effect of Gender Integration on Perceptions of Workplace Quality, More Specific Categories of Questions

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Organizational Effectiveness Sub-Indices							
Organizational Committment	-0.076*	-0.066	-0.172**	0.232	-0.115***	0.224**	0.001
	(0.042)	(0.042)	(0.086)		(0.044)	(0.091)	
Senior Leadership	-0.104**	-0.094*	-0.187**	0.273	-0.132***	0.133	0.041
	(0.047)	(0.048)	(0.085)		(0.048)	(0.123)	
Organizational Performance	-0.063	-0.051	-0.163*	0.204	-0.106**	0.206**	0.005
	(0.044)	(0.045)	(0.091)		(0.047)	(0.102)	
Group Cohesion	-0.051	-0.037	-0.146	0.216	-0.104**	0.237**	0.002
	(0.042)	(0.042)	(0.092)		(0.044)	(0.100)	
Trust in Leadership	-0.105**	-0.092*	-0.221**	0.147	-0.147***	0.211*	0.004
	(0.051)	(0.052)	(0.090)		(0.053)	(0.116)	
Connectedness	-0.108**	-0.097**	-0.181**	0.343	-0.141***	0.155	0.012
	(0.045)	(0.046)	(0.089)		(0.046)	(0.111)	
Job Satisfaction	-0.034	-0.022	-0.195*	0.077	-0.062**	0.146*	0.009
	(0.031)	(0.031)	(0.103)		(0.031)	(0.075)	
Organizational Processes	-0.033	-0.027	-0.055	0.674	-0.055**	0.159***	0.001
	(0.025)	(0.026)	(0.068)		(0.027)	(0.059)	
Engagement	-0.038	-0.027	-0.122*	0.170	-0.075**	0.193**	0.002
	(0.033)	(0.034)	(0.070)		(0.034)	(0.083)	
Panel B: Equal Opportunity Sub-Indices							
Inclusion at Work	-0.091**	-0.082**	-0.139*	0.465	-0.125***	0.148	0.005
	(0.037)	(0.037)	(0.079)		(0.036)	(0.091)	
Discrimination	-0.015	-0.007	-0.053	0.513	-0.029	0.087*	0.020
	(0.019)	(0.019)	(0.073)		(0.019)	(0.047)	
Sexual Harassment	-0.024	-0.018	-0.045	0.625	-0.040	0.145***	0.000
	(0.025)	(0.025)	(0.053)		(0.026)	(0.042)	
Panel C: Sexual Assault Prevention and Response Sub-Indices							
Sexual Assault Prevention Climate	-0.015	-0.005	-0.110*	0.082	-0.027	0.125***	0.003
	(0.025)	(0.025)	(0.063)		(0.027)	(0.047)	
Sexual Assault Response Climate	-0.051*	-0.039	-0.162***	0.033	-0.068**	0.129***	0.000
	(0.029)	(0.030)	(0.050)		(0.031)	(0.050)	
Sexual Assault Reporting Climate	-0.031	-0.014	-0.207***	0.003	-0.037	0.084*	0.021
	(0.026)	(0.026)	(0.066)		(0.027)	(0.049)	
Sexual Harassment Reporting Climate	-0.016	-0.003	-0.136**	0.040	-0.031	0.141***	0.001
	(0.028)	(0.029)	(0.063)		(0.029)	(0.046)	
Observations	59185	56086		3083	51643		38989

Notes: This table reports the effects of gender integration on men's responses to specific sub-categories of the organizational climate survey. All sub-categories are defined according to how the survey groups questions, which is shown in Table C.1. All regressions include company fixed effects, BCT-year fixed effects, and month-of-year fixed effects (Equation (5)). Indices are constructed from the set of questions in the organizational climate survey 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 companies that had not yet been integrated at the time of the survey. Standard errors, reported in parentheses, are clustered on company.

B Additional Details on Sample Construction

B.1 Identifying Combat Companies in Our Sample

We start with a company-by-month panel, from fiscal years 2012 through 2022, of all companies within the 31 Active-Component Army Brigade Combat Teams (BCTs) that were active in 2018. This requires us to first identify distribution management sub-levels (DMSLs), the variable the Army uses to track brigade-level organizations, that are BCTs (most DMSLs are not BCTs). Since values of DMSL sometimes change even when a BCT remains intact, we built a document that maps every BCT to its DMSL across years, which allows us to generate a one-to-one correspondence between BCT and a time-consistent DMSL, which is important for the correct coding of BCT-by-year fixed effects.

BCTs are comprised of subordinate companies that are defined by 6-character Unit Identification Codes (UICs). We exclude any headquarters companies, rear detachment companies, or other detached companies that are not standard companies. These are companies with 6-character UICs that end in "AA" or whose fifth character ends in a number, "H", "R", or "T". After excluding companies with 6-character UICs that end in "AA" or whose fifth character ends in a number, "H", "R", or "T", most soldiers are assigned to companies with a UIC that ends in "0". The other soldiers are either in detachments that are still part of the standard line company, or they are soldiers who are assigned to a "temporary" UIC for administrative purposes only, but who still work in the standard line company on a day-to-day basis. We therefore define companies according to the first 5 characters of the UIC going forward. This results in 1,457 distinct companies (defined by 5-character UICs) and 123,807 distinct company-by-month observations.

We exclude 73,305 company-by-month observations (1066 distinct companies) that do not have at least 50 infantry or armor soldiers (military occupational specialty career management fields of 11 and 19, respectively) assigned to them for at least 60% of the 132 months between 2012 and 2022. Roughly 80% of these companies are not infantry or armor companies, and the remainder are predominately companies that were dissolved between 2014 and 2017 when Army force structure changes reduced the number of BCTs from 45 to 31 (Lopez, 2013; U.S. Army Public Affairs, 2018). This leaves us with our analysis sample, consisting of 391 companies (50,502 company-by-month observations). In each of these companies, the majority of soldiers (typically $\geq 90\%$) are either infantry soldiers or armor soldiers.

B.2 Construction of Individual-Level Sample for Newly Assigned Soldiers

We start with a soldier-by-month panel of all soldiers assigned to a company in the company-by-month panel described in Section B.1. For soldiers assigned to companies at the start of the panel (October 2011), we look further back in their assignment history to determine the first month that they were assigned to the company. Since we define company according to the first five characters of the UIC, we make sure to exclude any soldiers who are assigned to UICs where the fifth and sixth character are "AA" since these UICs are associated with Headquarters Units, as described above, not the infantry or armor companies within our sample.

We then restrict this soldier-by-month panel to form a new dataset that contains one observation for every

soldier "spell", where a spell constitutes the period of time that a soldier is assigned to a company within our sample. We combine spells that we believe to be part of the same spell but split up by training periods. Specifically, if a soldier has two spells in the same company in our sample that are separated by fewer than six months, we consider this the same spell.

Once we have a panel of soldier spells, we restrict to each soldier's first spell for those with spells starting in 2012 or later to construct our analysis sample. The end result is one observation per soldier corresponding to the first time in 2012 or later that a soldier is assigned to one of the 391 companies in our sample.

For baseline soldier characteristics, we use characteristics defined at the time a soldier enlists or that are determined in the month that the soldier is first assigned to a company in our sample. Baseline characteristics determined according to an enlisted soldier's date of enlistment, or an officer's date of commission, include sex, race, education level, AFQT score (enlisted only), source of commission (officers only), and SAT score (officers only). Baseline characteristics determined at the time a soldier is assigned to a combat company include military occupation, military rank, age, years of service, marital status, and number of dependents.

We construct soldier-level outcomes to examine retention, conduct, health, performance, and other characteristics coming from internal Army administrative data. Outcomes for the individual-level specification are constructed as ever occurring within 2 years relative to the start of the soldier's first spell (i.e., relative to the month that a soldier is first assigned to a combat company). For example, "No Demotion" is defined as not being demoted within 2 years of a soldier being assigned to the company. Individual-level outcomes are generated regardless of whether the soldier remains assigned to the same company during the 2-year period: if a soldier is assigned to a combat company in our sample, but 23 months later is demoted while assigned to a noncombat company out of our sample, then that soldier is still identified as being demoted within 2 years. We define physical fitness test scores as a soldier's last record score in the two-year period following assignment to a combat company.[42]

Outcomes related to separations for misconduct, promotion to Sergeant, and physical fitness scores, are only available for enlisted personnel and not for officers. Separations for misconduct are constructed from a specific personnel separation code that is only possible for enlisted personnel. As such, we restrict this outcome to enlisted personnel only. The rank of Sergeant is a rank that is only possible for enlisted personnel.[43] Officers and enlisted personnel take the same physical fitness tests, but personnel records only include test score results for enlisted personnel.

Since most outcomes are measured as of 2 years after a soldier's assignment to a combat company, we restrict the individual-level sample to observations where soldiers are assigned to combat companies between 2012 and 2020, inclusive.

[42] Soldiers are required to take two record physical fitness tests per year.

[43] Officers can be promoted to higher ranks, but the first competitive promotion for officers is to the rank of Major, which occurs around ten years of service and is therefore too distant to measure for the Lieutenants and Captains in our sample who are usually several years away from being considered for promotion to Major.

B.3 Construction of the Company-by-Year Panel for the Company-Level Sample

To generate a company-by-year panel with outcomes that reflect the behavior and performance of all soldiers in a company during a specific year (regardless of time of arrival), we begin with a soldier-by-month panel where each observation is a soldier assigned to a combat company in the sample described in Section B.1.

For the purpose of checking balance on, and controlling for, company characteristics (see Tables A.3, A.17, A.19, A.20, and A.21), we generate a file of soldier covariates at the company-by-year level by averaging covariates among soldiers assigned to the company on the last day of the preceding fiscal year (which starts in October and ends in September). To do this, we restrict to September observations in the soldier-by-month panel, then average characteristics at the company-by-month level (which is now the company-by-year level). For example, the company-level covariates for Company A in 2017 reflect the covariates derived from soldiers assigned to Company A in September 2016.

We construct outcomes that reflect averages at the company-by-year level as described below. Our goal is to construct outcomes that best reflect behavior and performance measures that occur within combat companies themselves. To account for changes in personnel throughout the year, we generally construct unit averages from binary outcomes as the number of times the outcome occurs within the company during the year, but divided by the number of personnel assigned to the company at the start of the year. One key exception to this rule is outcomes that measure retention or separation from the Army. To account for soldiers who are briefly assigned to noncombat companies before they separate from the Army, we construct retention outcomes strictly from soldiers assigned to the company at the start of the year.

- **Share in Army.** Among soldiers assigned to a specific combat company at the start of the year, this is the share within the company who were no longer in the Active Duty Army by the last month of the year.
- **Share Not Separated For Misconduct.** We construct this as 1 minus the share separated for misconduct, where share separated for misconduct is the total number of separations from the Army for misconduct among enlisted soldiers assigned to a combat company in our sample divided by the number of enlisted soldiers assigned to the company at the start of the year.
- **Share Not Demoted.** We construct this as 1 minus the share demoted, where share demoted reflects the total number of demotions among soldiers assigned to a combat company in our sample divided by the number of soldiers assigned to the company at the start of the year.
- **Share No Misdemeanor or Felony.** We construct this as 1 minus the share charged with a misdemeanor or felony, where the share charged with a misdemeanor or felony is the total number of soldiers assigned to a combat company in our sample who are charged with a misdemeanor or felony during the year divided by the number of soldiers assigned to the company at the start of the year.
- **Share No Medical Profile.** We construct this as 1 minus the share of medical profiles in the company, where the share of medical profiles reflects the total number of soldiers assigned to the company who

have a medical profile during the year divided by the number of soldiers assigned to the company at the start of the year.

- **Share Promoted to Sergeant.** Among junior enlisted soldiers (below the rank of Sergeant) assigned to a specific combat company at the start of the year, this is the share within the company who were promoted to Sergeant by the last month of the year.
- **Average Physical Fitness Test Score.** This reflects the average APFT score among all enlisted soldiers during the months that they are assigned to a combat company within our sample. We first construct a soldier-by-month panel of each soldier's most recent APFT score in months that they are assigned to a combat company. We then construct the average APFT score at the individual-by-year level among months where the soldier has a valid APFT score on record. We then average across individuals to arrive at an average APFT score at the company-by-year level.

For comparability to our individual-level specification, we limit the company-by-year analysis to observations in years 2012 through 2020, inclusive. Finally, we exclude 17 company-by-year observations (0.4% of all possible observations) where the company had fewer than 10 soldiers assigned to it at the start of the fiscal year.[44] As described in the notes of Table 5, we estimate separate specifications that construct averages among everyone assigned to the company, among only men assigned to the company, and among only men when we restrict to years 2018 through 2020 to maximize comparability to our command climate survey sample.

[44]There are 68 other instances where the company did not exist in a particular year and thus had no soldiers assigned to it.

C Organizational Climate Survey Questions

Table C.1: List of Likert Scale Questions in Organizational Climate 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 Harassment
(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.*

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

Table C.2: List of Organizational Climate Survey 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 C.3: List of Organizational Climate Survey 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)**

D 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.3 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 D.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 D.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 D.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 base year 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 company level.

Alternative estimation strategies also yield results similar to our main specifications when applied to the climate survey data. Table D.2 shows the results of estimating a stacked regression in the spirit of Cengiz et al. (2019) to replicate our main set of results from the climate survey. For each treatment cohort in each BCT we construct a comparison group consisting of all never-treated units in the BCT. In this analysis, we define cohort according to the initial month of treatment and whether or not a female officer was integrated. 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. Results using a CS-style estimator, available upon request, are similar to the stacked regression results due to the short time frame of the data.

Figure D.1: Residual Treatment Status for Company-Years in Administrative Data

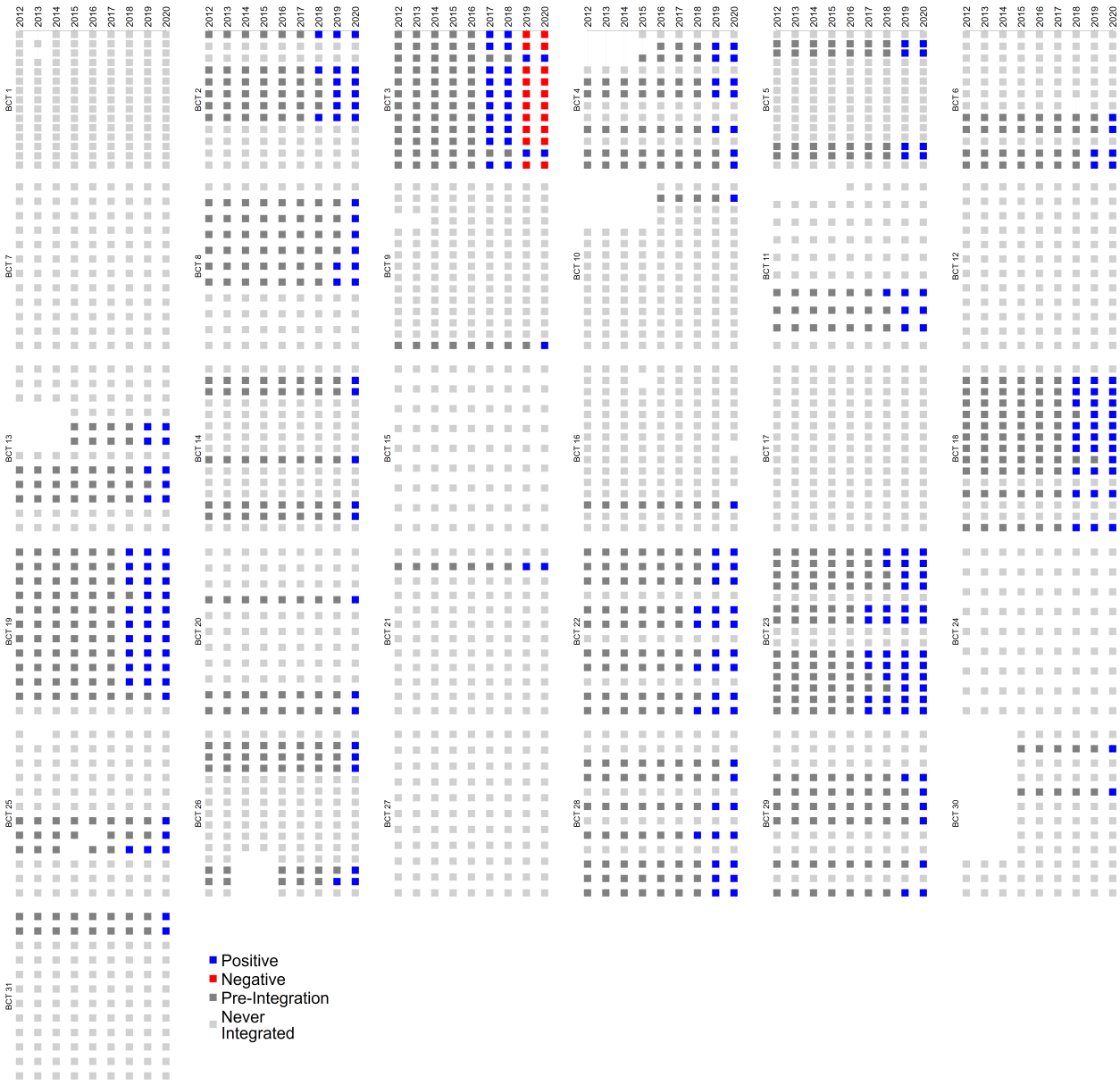


Table D.1: Alternative Difference-in-Differences Estimators of Effects of Gender Integration on Men's Administrative Outcomes

	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.

Table D.2: Stacked Regression Estimated Effects of Gender Integration on Perceptions of Workplace Quality

		Soldier Heterogeneity by Men's Rank			Company Heterogeneity by Rank of Integrated Women		
	All Men	Enlisted Men	Officer Men	P-value (2) v. (3)	≥1 Woman Officer	Only Enlisted Women	P-value (5) v. (6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Perceived Workplace Quality Indices (Standard Deviation Effect)-[=p]							
Workplace Quality Index	-0.066**	-0.052	-0.179***	0.021	-0.098***	0.122*	0.004
	(0.033)	(0.033)	(0.052)		(0.034)	(0.071)	
Organizational Effectiveness Index	-0.090**	-0.077*	-0.201***	0.077	-0.130***	0.148	0.013
	(0.042)	(0.042)	(0.069)		(0.041)	(0.108)	
Equal Opportunity Index	-0.074**	-0.061**	-0.160***	0.121	-0.097***	0.068	0.013
	(0.029)	(0.029)	(0.062)		(0.030)	(0.063)	
Sexual Assault Prevention and Response Index	-0.030	-0.015	-0.164***	0.005	-0.057*	0.129***	0.000
	(0.029)	(0.029)	(0.048)		(0.031)	(0.038)	
Panel B: Workplace Incident Questions (Percentage Point Effect)							
Report No Hazing in Workplace	-1.15	-1.11	-0.66	0.716	-1.96**	3.77*	0.007
	(0.88)	(0.93)	(0.83)		(0.89)	(2.00)	
Report No Bullying in Workplace	-0.93	-1.03	1.81	0.286	-2.15*	6.42***	0.000
	(1.18)	(1.23)	(2.22)		(1.26)	(2.02)	
Report No Suicide Tendency in Workplace	-1.29	-2.41	15.55**	0.010	-2.51	6.06	0.301
	(3.05)	(3.06)	(7.00)		(3.13)	(7.94)	
Did Not Have Unwanted Workplace Experience	-0.67	-0.56	-1.91	0.468	-1.86*	6.50***	0.000
	(0.95)	(0.99)	(1.58)		(0.99)	(1.21)	
Made Sexual Jokes? (No)	-0.73	-0.67	-1.92	0.457	-1.54**	4.08***	0.000
	(0.68)	(0.72)	(1.47)		(0.71)	(1.01)	
Said Dont Act Like Man/Woman? (No)	-0.77	-0.71	-1.91	0.366	-1.54*	3.86***	0.000
	(0.73)	(0.76)	(1.22)		(0.79)	(0.80)	
Made Comments on Appear? (No)	-0.99*	-0.96*	-1.46*	0.630	-1.52***	2.20***	0.000
	(0.54)	(0.57)	(0.84)		(0.59)	(0.80)	
Attempted Relationship? (No)	-0.29	-0.27	0.02	0.435	-0.88**	3.25***	0.000
	(0.34)	(0.36)	(0.16)		(0.35)	(0.35)	
Unwanted Sexual Touch? (No)	0.00	0.05	-0.30	0.610	-0.48	2.89***	0.000
	(0.43)	(0.46)	(0.53)		(0.46)	(0.52)	
Did Not Observe Potential Assault Incident	-0.92**	-0.73*	-3.39**	0.071	-1.19***	0.74	0.019
	(0.38)	(0.39)	(1.41)		(0.42)	(0.71)	
Observations	109034	103343	5661		90125	18909	

Notes: This table reports the effects of gender integration on men's perceptions of workplace quality as reported in organizational climate surveys, as estimated from a stacked difference-in-difference regression. Column (1) reports estimates of β from Equation (5) for all men in combat companies who responded to climate surveys. 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 that 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 female officers or with only enlisted women, respectively. The sample for estimates reported in column (5) includes men assigned to companies that never integrated and men assigned to companies that integrated with a female officer in the first month of integration. The sample for estimates reported in column (6) includes men assigned to companies that never integrated and men assigned to companies that only integrated with enlisted women in the first month of integration. Column (7) reports the p-value from a test that the effect of integration is equal when companies integrate with a female officer versus integrating with only enlisted women. Standard errors, reported in parentheses, are clustered on company. See the notes for Table 2 for additional details on the construction of Workplace Quality Indices and descriptions of Workplace Incident Questions. Section 3.3 provides additional details on the climate survey sample, and Appendix C contains a complete list of climate survey questions.