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U.S. Marine Corps Research Findings: Where is the Case for Co-Ed Ground Combat?

“To move forward in expanding opportunities for our female service members without considering the timeless, brutal, physical and absolutely unforgiving nature of close combat is a prescription for failure. Our future enemies will be the ultimate arbiter of such decisions – when lives of our Marines are in the balance.

“Those who choose to turn a blind eye to those immutable realities do so at the expense of our Corps’ warfighting capability and, in turn, the security of the nation.” (Memo to the Commandant from Brig. Gen. George W. Smith, Jr., August 18, 2015, p. 14)

BACKGROUND AND OVERVIEW

Ground Combat Element Integrated Task Force (GCEITF)

In 2012, the Marines initiated scientific research on the physical and operational consequences of assigning women to combat arms units such as **infantry**, **armor**, **artillery**, and **Special Operations Forces**. Hundreds of male and female Marines volunteered to participate in nine months of tests with the **Ground Combat Element Integrated Task Force (GCEITF)**.

During field exercises simulating ground combat at the **Marine Corps Air Ground Combat Center**, the **Mountain Warfare Training Center** and in the waters off of **Camp Pendleton**, **University of Pittsburgh** experts used body-monitoring and other scientific methods to gather empirical data reflecting actual experience, not theory. Elements of the Task Force research project were designed to evaluate collective performance and unit standards in simulated combat tasks. As the Smith memo stated, this was done because “Marines fight as units.” (p. 3)

On August 18, 2015, the **Marine Corps Force Innovation Office (MCFIO)** submitted to the **Commandant of the Marine Corps** a memorandum signed by **Brig. Gen. George W. Smith, Jr.**, Director of the **Marine Corps Force Innovation Office**.¹ The 33-page memo and attached documents, including briefing slides, presented significant facts from the **Marine Corps Test and Evaluation Activity (MCOTEA)** report on the Task Force research.

The various Marine Corps research projects since 2012 were conducted as part of the 3-year **Women in Services Restriction Review (WISRR)**.² The tests have produced highly credible, reality-based, empirical data that discredits theories about gender equality in the combat arms.

None of the research done by the American military or allied forces has produced evidence that women can or should be considered interchangeable with men in the combat arms. Nor is there any evidence that gender-integration would improve deployment readiness or effectiveness in direct ground combat units that attack the enemy with deliberate offensive action.

The following excerpts from the Smith report, and from a 4-page Summary of research results released on September 10, reconfirm results of many previous studies and reports on the subject. Emphasis is added throughout.

Like other government-produced analyses, this one shows signs of being written by individuals and factions with different views. This CMR Policy Analysis presents excerpts of the most compelling, consistent views, which are supported by scientific data. A separate analysis will address conflicting opinions in the same document, which were largely based on theory and speculations that have been discredited in other military communities.

Members of Congress, who have the constitutional responsibility to make policy for the military, should obtain and analyze all data in the course of hearings with independent experts. A careful, objective review of this issue is long overdue.

National security ultimately depends on the morale, discipline, deployment readiness, and combat effectiveness of well-prepared troops that fight the enemy on the ground. Sound policies should support these troops, instead of imposing burdens that make their lives more difficult and more dangerous.

Definition of Direct Ground Combat: There is no doubt that women served with courage and distinction in harm's way in recent wars. The missions of direct ground combat units such as the infantry, however, involve seeking out and attacking the enemy with deliberate offensive action.³

A 4-page Summary of the full body of research, released on September 10, established sound priorities: "In analyzing the results of the research and analysis, the primary consideration throughout has been to understand **any impact on the combat effectiveness of Marine ground combat units**. Based on the unique role the Marine Corps fulfills within the Joint Force and in the security of the nation, the benchmark of achieving the 'most combat effective' force has remained the unwavering focus." (Sept. 10 Summary, p. 2)

The Smith Memo listed a number of realities that would detract from that focus: "Female Marines demonstrated that they were capable of performing the physically demanding tasks, but **not necessarily at the same level as their male counterparts in terms of performance, fatigue, workload, or cohesion.**" (p. 4)

- "The assessment across all occupational specialties revealed that gender integrated teams, squads, or crews demonstrated, with very few exceptions, **degraded performance in the time to complete tasks, move under load, and achieve timely effects on target as compared to all male teams, squads, or crews.**" (p. 4)
- "[These] shortfalls . . . were **magnified in like units with a higher-density gender integration.**" (p. 4)

Methodology of Task Force: Contrary to claims that less-prepared women were involved in the Task Force research over nine months, "[F]emale volunteers within the GCEITF were universally considered to be an **above-average to well-above-average representation of the PFC-Sergeant female population** throughout the Marine Corps . . . The **male volunteers** were

considered by their unit leaders and research observers as being an **average** representation of their male peers...” (p. 4)

Minimum Standards Cannot Reduce Risks: “. . .[D]espite vastly improved and codified individual standards, **some level of risk will remain in the infantry and special operator MOSs that I do not believe can be fully mitigated** by simply applying a minimum standard.” (p. 5)

- “That risk is associated with the **unique physical demands of service in the infantry, reconnaissance and special operations occupations** that place a premium on the ability to conduct dismounted movements under load.” (p. 5)
- “[A] **Marine infantry unit must be fully capable of regularly moving dismounted for extended distances with heavy loads.** This has been the coin of the realm for Marine infantry throughout history, and the requirement for more distributed operations with **less reliance on external logistics support** reflected in **Expeditionary Force 21** now places even greater demands on the individual infantry Marine.” (p. 5)

Physiology Matters: “The associated risk is directly linked to the physiological differences between males and females. Simply, **size matters when executing a dismounted movement under load.**” (p. 5)

- “The physiological differences in **body fat** between males and females – body fat being synonymous with ‘dead weight’ to be added to whatever external equipment load is already being carried . . . **places females at a significant disadvantage from the start in infantry-related tasks.**” (p. 5)
- “On average, females possess **significantly less lean body mass, a slighter build that affects stride length and stride frequency as loads increase, less absolute V02 max production, and less power and anaerobic/aerobic capacity than males.**” (p. 5)
- “The combination of these factors constitutes a **potential risk to combat effectiveness** for a force that must be **self-sufficient for movement** and fully capable of extended dismounted operations within the highest intensity portion of the combat spectrum.” (pp. 5-6)

Combat Performance & Effectiveness - “All-male task force teams outperformed their mixed-gender counterparts in **69 percent (93 of 134)** ground combat tasks.” (Briefing Slide #1)

- “Physical differences were more pronounced in **“specialties that carried the assault load plus the additional weight of crew-served weapons and ammunition.”** (Slide #2)
- “All-male squads were faster than integrated squads on hikes, gorge crossings, and cliff ascents during the assessment in different environmental settings at MWTC.” (Slide #2)
- “Male provisional infantry (those with no formal 03xx school training) had higher hit percentages than the 0311 (school trained) females.” (Slide #3 & Sept. 10 Summary, p. 3)

- “All-male infantry crew-served weapons teams engaged targets quicker and registered **more hits on target** as compared to gender-integrated infantry crew-served weapons teams, with the exception of M2 accuracy.” (Slide #3 & Sept. 10 Summary, p. 3)
- “All-male squads, teams and crews and gender-integrated squads, teams, and crews had a noticeable difference in their performance of the **basic combat tasks of negotiating obstacles and evacuating casualties.**” (Sept. 10 Summary, p. 3)
- “Depending on the unit, male GCEITF volunteers perceived that **combat effectiveness declined** with female Marines’ presence . . . Numerous cases of compensation were observed during physically demanding tasks, in which **males shifted positions to take over certain aspects of tasks from females.**” (Slide #4)

Cumulative Impact of Injuries: “The well-documented comparative disadvantage in upper and lower-body strength resulted in **higher fatigue levels** of most women, which contributed to **greater incidents of overuse injuries** such as stress fractures.” (Sept. Summary, p. 4)

- “These realities are clearly not insurmountable nor are they always manifested **during a one-time march under load** that reflects an entry-level performance standard. Rather, the risk lies in the **cumulative impact of this physiological disadvantage over the course of regular, recurring and increasingly more challenging dismounted movements under load in the operating forces**” (p. 6 - Note: Some media reports changed the context by putting in quotes only the first part of this sentence, “*These realities are clearly not insurmountable.*”)
- “This is exacerbated by other **physiological factors** that, in concert, make females much more susceptible to injuries, **either caused by a specific event or through the cumulative impact of repetitive dismounted movements under load.**” The **disparity in injury rates** between males and females at the **Infantry Training Battalion (ITB)** and during the conduct of the GCEITF assessment, due principally to multiple marches under load, provides **an early indicator to that effect.**” (p. 6)
- “During the GCEITF assessment, **musculoskeletal injury rates** were **40.5%** for females, compared to **18.8%** for men”. (Slide #7 & Sept. 10 Summary, p. 4)
- “Within the research at the Infantry Training Battalion, enlisted females undergoing that entry-level training were injured at more than six-times the rate of their male counterparts.” (**13%** vs. **2%**) (Slide #5 & Sept. 10 Summary, p. 4)

U.S. Research Confirms British Findings: “The **United Kingdom** review on ‘Women in Ground Close Combat’ . . . highlighted **21 factors** likely to change based on the integration of women into ground combat arms specialties, **11** of which would have a negative impact; **three of those 11 negative impacts . . . could not be mitigated.** (p. 6)⁴

- Among the three factors that would negatively impact combat effectiveness without known mitigation strategies are **survivability and lethality.** This conclusion is based on the analysis that ‘a woman who is performing to the same physical performance standards as a man **will be working closer to her maximum** performance standards

capacity when carrying the same absolute combat load, and **will fatigue sooner than her male counterpart.**” (p. 6 & Slide #2)

- **“This conclusion was reinforced in our own research** during the GCEITF assessment that highlighted the disparity between males and females in **relative movement rates and lethality** with various individual weapons within the infantry occupations.” (p. 6)
- “In particular, the **overall accuracy of the female 0311 infantry volunteers declined** and the **disparity in accuracy** relative to their male counterparts **increased** as the weight of the individual weapon system increased.” (p. 6 & Slide #2)

High Standards Would Produce Tokenism: There is no reason to believe that if positions are opened, significant numbers of women will want them.

- “Based on individual propensity and the ability to meet minimum standards, it is **difficult to project a number of female infantry Marines that does not exceed what could be viewed as tokenism.**” (p. 6)
- “After a quarter century of integration and with unquestionably much lower physical standards than the U.S. Marine Corps, the **Canadian Army** has **.4%** female enlisted infantry.” (p. 6)

Potential Loss of Talented Women – “[T]he Marine Corps risks losing a number of highly talented female Marines prematurely due largely to the often **extreme physical demands** of these infantry, reconnaissance and special operations occupations.” (p. 7)

- “Service in these uniquely physically demanding occupations will place the majority of female Marines at a **competitive disadvantage** relative to their male peers...” (p. 7)
- “We need to continue to attract, develop, and retain our female Marine talent to meet future challenges across the range of military operations. The likelihood of a female Marine being less competitive in these significantly more physically demanding occupations may **adversely impact the Marine Corps’ ability to retain top female talent** and enable their progression into more senior ranks.” (p. 7)
- “Simply, any loss of this MCRC-established momentum, or worse, a downward trend in retaining our top female Marines, would be a tremendous loss for the Corps.” (p. 7)

Statements of Principle

The 1992 **Presidential Commission on the Assignment of Women in the Armed Forces** conducted a thorough, year-long study of women in combat policies in all service branches. The Commission’s review was guided by over-arching principles quoted in the Smith report:

“A military unit at maximum combat effectiveness is a military unit least likely to suffer casualties. **Winning in war** is often only a matter of inches, and **unnecessary distraction or any dilution of the combat effectiveness puts the mission and lives in jeopardy.** Risking the lives of a military unit in combat to provide career opportunities or

accommodate the personal desires or interests of an individual, or group of individuals, is more than bad military judgment. It is morally wrong.” (p. 13)

Brig. Gen. Smith added a passage from the Marine Corps Warfighting Doctrinal Publication *Warfighting*:

“Of all the consistent patterns we can discern in war, there are two concepts of universal significance in generating combat power: **speed and focus**. Speed is rapidity of action. It applies to both time and space. Speed over time is tempo – the consistent ability to operate quickly. Speed over distance, or space, is the ability to move rapidly. Both forms are genuine sources of combat power. In other words, *“speed is a weapon.”* (p. 13)

The Smith report also quoted from the Presidential Commission report a “fundamental tenet that is as relevant today as it was nearly a quarter century ago.”

“Service members are encouraged to pursue opportunities and career enhancements in the Armed Forces, limited only by the needs and good of the Service. But when it comes to combat assignments, **the needs of the military must take precedence over all other considerations**, including the career prospects of individual service members.” (p. 13)

“With this primary consideration, the Marine Corps has analyzed factors such as speed and tempo, lethality, readiness, survivability, and cohesion — **critical components to fighting and winning in direct ground combat.**” (Sept. 10 Summary, p. 2)

Policy Implementation

Additional sections of the Smith MCFIO report failed to recognize the constitutional responsibility of **Congress** to make policy for the military, including the question of whether civilian women should become eligible for **Selective Service** obligations. Administration mandates have essentially precluded discussion of what the data suggests would be the best option: **retention of sound policies that do not attempt to treat women like men in the combat arms.**

None of this is necessary, since Defense Department data have shown for decades that military women are promoted at rates equal to or faster than men. Should women become eligible for the combat arms,⁵ assignments will have to be involuntary, just like men. This could create serious problems with recruiting and retention. A 2013 survey of **Army** women found that **92.5%** of **30,000** respondents would reject combat arms assignments if they were offered.

Sections of the report also were flawed by the inclusion of many presumptions that are largely unsupported by empirical evidence or actual experience. For purposes of clarity, inconsistent passages that attempt to cushion the impact of reality-based data will be analyzed separately.

- In the meantime, it should be noted that the plan calls for “leadership,” defined as full support for gender-integration, without which “this integration effort will very likely be fraught with friction and unduly protracted – potentially a greater drain on combat effectiveness and unit readiness.” (p. 8)

- Military personnel are subject to civilian orders, but this statement pre-emptively precludes informed discussion of the consequences of implementation. This would allow unresolved problems to worsen, while exempting Pentagon policy makers, including current leaders, from responsibility for their actions.
- “Successful integration” was defined as “Combat effectiveness and readiness are enhanced.” (p. 8) This expectation is contradicted by voluminous evidence that gender-integration in the combat arms would have many negative consequences without benefits measured in terms of combat effectiveness.
- In addition, the implementation plan recommended “Developing assignment policies and practices that discourage gender-favoritism, discrimination, and/or exclusion.” (p. 9) This expectation cannot be met as long as the Navy Department continues to mandate “**gender diversity goals,**” including a **25%** quota of women on each Navy ship.⁶
- Pressures to accept “**equal but lower**” standards would be accelerated by political and ideological demands for “**gender-diversity metrics**” (read, quotas) recommended by the Pentagon-endorsed **Military Leadership Diversity Commission (MLDC)**.

Long-Term Assessment

This section of the Smith report may have been written or influenced by consultants or contractors who benefit from government grants. Two-and-a-half pages of bullets recommended “Long-Term Assessment” projects that would involve millions in Defense Department contracts, stretching out for **twenty years**. (pp. 10-12) The list amounts to a job-guarantee program for **RAND** and other contracting organizations that are not independent, objective, or likely to challenge the administration's monolithic group-think on military/social issues.⁷

Costly long-term plans to subsidize professional group-thinking would guarantee semi-annual (for four years) and then annual biased reports and even more problematic “solutions” to problems that the social-policy contractors helped to create with ideological recommendations.

Some of these expenditures would duplicate resources already available. For example, the recommendation for an “assessment” of **Joint Advertising, Market Research, and Studies (JAMRS)** data on female and male propensity and reasons to serve or not serve in the Marine Corps disregarded what is already known.

- According to JAMRS surveys done between January 2013 and March 2014, which were not service specific, the announced change in policies affecting women caused **12%** of male respondents and **20%** of females to say they would be less likely to join the military. Since only **4%** of females say they are “definitely or probably” inclined to be Marines, direct ground combat eligibility would reduce propensity even more.
- The JAMRS survey also found that **19%** of male and **17%** of female “influencers” would be less likely to recommend military service.

Bullets on the wish list did not provide estimates of costs or analyses of which items in the Marines’ scarce budgets should be sacrificed to pay for them. Congress has yet to review or

authorize projected expenditures, both direct and indirect, which could be avoided by retaining current sound policies in the combat arms.

Need for Diligent Oversight – Congress should review all research closely, and intervene to stop implementation of the administration’s plans before members have sufficient time to consider research already done. Attention must be given to the many unresolved controversies that were barely mentioned in current research. For example:

- Military women's opposition to being treated like men in the combat arms
- Readiness implications of non-deployability and health-related personnel losses
- Impact on unit cohesion, properly defined as mutual trust for *survival* in battle
- Complicated dynamics of male and female relationships in the military "workplace"
- Distractions and tensions leading to sexual misconduct, both voluntary and involuntary
- Consequences for recruiting, retention, and reassignment costs ⁸
- Cultural ambivalence about combat violence against women
- Eligibility for Selective Service obligations, tied to direct ground combat assignments

In the process of exercising diligent oversight, Congress should challenge all assumptions and theories, political mandates, media bias, public misperceptions, and misguided group-think in academia and the administration. Respect for military women, which is greater than ever, demands nothing less.

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1. This document was covered by a [“Memorandum for the Commandant of the Marine Corps.”](#) from Brigadier General George W. Smith, Jr., Director, Marine Corps Force Innovation Office, Subject: United States Marine Corps Assessment of Women in Service Assignments, dated August 18, 2015, and marked “Pre-Decisional – Not Releasable Under FOIA.” The 33-page report listed seven enclosures that were not made available. It is possible that the 4-page Summary that was released on September 10, 2015, referred to information in those enclosures. A September 23, 2015, article by *San Diego Union-Tribune* reporter **Gretel C. Kovach**, titled [Marines on Women in Combat: It’s Complicated](#), included a link to the document. On the same day Military.com re-published the Kovach article, omitting the link to the actual Smith report, and adding a new, highly-misleading headline: [Marines See Benefits to Women in Combat, As Well as Risks](#). The only “benefit” mentioned from gender-integration was “general diversity,” a dubious goal at best.
 2. Starting in 2012, the Marines began multiple phases of research involving both enlisted women and officers. At the **Marine Corps Recruit Depot at Parris Island, SC**, a mandatory requirement of three pull-ups for female recruits had to be withdrawn because more than half of the women could not meet that male minimum standard. Over 100 women passed the Infantry Training Battalion (ITB) **School of Infantry-East at Camp Geiger, NC** – a course that is not as demanding as the **Infantry Officer Course (IOC)** at **Quantico, VA**. The Marines sought 100 women to attempt the Infantry Officer Course, but of **29** who tried, none were successful.

In 2013, the **USMC Training and Education Command (TECOM)** collected data from **409** male and **379** female volunteers performing five “**proxy**” tests simulating **ground combat element (GCE)** tasks. These tests confirmed that gender-related disparities are most significant in events measuring upper-body strength and endurance. See [Interim CMR Special Report, Sept. 2014, U.S. Marine Corps Research Findings: Where Is the Case for Co-Ed Ground Combat?](#) TECOM research, among other things, reported the following findings:

- In a **Pull-up** test of upper-body strength used in the PFT, women averaged **3.59** pull-ups, compared to **15.69** for the men – more than four times as many.

- The **Clean & Press** event involves single lifts of progressively heavier weights from the ground to above the head (**70, 80, 95, 115 lbs.**), plus **6 reps** with a **65 lb.** weight. In this event **80%** of the men passed the **115 lb.** test, but only **8.7%** of the women passed.
 - In the **120 mm Tank Loading Simulation**, a gunnery skills test, participants were asked to lift a simulated round weighing **55 lb.**, **5 times**, in **35 seconds** or less. Quoting the report, "*Less than 1% of men . . . [compared to] 18.68% of the women . . . could not complete the tank loading drill in the allotted time.*" The report added, "*It would be very likely that failure rates would increase in a more confined space [such as a tank].*"
 - In the **155 mm Artillery Lift-and-Carry**, a test simulating ordnance stowing, volunteers had to pick up a **95 lb.** artillery round and carry it **50 meters** in **under 2 minutes**. Noted the report, "*Less than 1% of men, compared to 28.2% of women, could not complete the 155 mm artillery round lift-and-carry in the allotted time.*" If trainees had to "*shoulder the round and/or carry multiple rounds, the 28.2% failure rate would increase.*"
 - On the **Obstacle Course Wall-with-Assist-Box** test, a **20"** high box, (used to simulate a helping-hand) essentially reduced the height of the **7 ft. wall** to approximately **5'4."** Quoting the report, "*Less than 1.2% of the men could not get over the obstacle course wall using an assist box, while wearing [protective equipment] . . . [compared to] 21.32% of women who could not get over the obstacle course wall . . .*"
3. "Female Marines earned **422 Combat Action Ribbons in Iraq and Afghanistan.**" The decorations recognized their courageous service 'in harm's way' in a war zone. "However, none of those awards reflected a female Marine having to 'locate, close with and destroy the enemy' in deliberate offensive combat operations." (pp. 1-2, Smith report)
 4. See [CMR Policy Analysis: New British Ministry of Defence Review Paper Shreds Case for Women in Ground Close Combat \(GCC\)](#), February 2015.
 5. In July 2013 congressional testimony before the **House Armed Services Committee**, in response to a question from **Rep. Loretta Sanchez**, Marine **Lt. Gen. Robert Milstead** confirmed that assignments would have to be on the same involuntary basis as men. "*That's why they're called orders.*"
 6. In May 2015 **Navy Secretary Ray Mabus** announced that he wants [1 in 4 Marine recruits to be women](#), and Vice Chief of Naval Operations **Adm. Michelle Howard** wants to see [25% of Navy ship crews to be women](#).
 7. On several occasions since the 1990s, RAND has provided to the Defense Department reports that misstate issues and declare "success" for the consequences of their own policy recommendations, despite contrary evidence.
 8. According to Army documents CMR obtained by FOIA, when inappropriate assignments make it necessary to change specialties, reassignment and retraining cost over \$30,000 per person. Decisions to drop out add over \$17,000 in basic training costs, not counting individual recruitment expenditures that are higher for women.

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*Prepared by the **Center for Military Readiness (CMR)**, an independent, non-partisan, public policy organization that reports on and analyzes military/social issues. More information is available at: www.cmrlink.org.*