Enhancing Warfighter Performance

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By Dr. Katelyn Allison, Dr. Scott Lephart, and Cmdr. Katie Shobe, USN

Women serve throughout the U.S. military, but until recently they were officially barred from serving in ground combat assignments and units. On 24 January 2013, then-Secretary of Defense Leon Panetta and Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey rescinded the direct ground combat definition and assignment rule. In addition, they set a deadline of 1 January 2016 for the integration of women into all combat roles.

This modification of a longtime Defense Department policy warrants the evaluation of current standards and the validation of gender-neutral performance and training standards across all the services. The standards must ensure proper selection of personnel for the respective military occupational specialties (MOSs) based on the skills and capabilities required, regardless of gender.

In anticipation of formally moving female Marines into combat roles, Commandant of the Marine Corps General James F. Amos directed that “measured and responsible research” be conducted to provide him with the “information and data necessary to make an informed and educated recommendation on potential policy changes.” As outlined in an All Marine Message, ALMAR 012/12, released in April 2012, the research will include an exception to the ground assignment policy, quantitative research, and a total force survey.

As part of its implementation plan, the Marine Corps already has assigned female officers and staff noncommissioned officers in open MOSs to more than 20 previously closed, non-infantry combat arms battalions. The Corps also has afforded female officers and enlisted personnel the opportunity to volunteer for infantry training. Several female Marines successfully completed the enlisted Infantry Training Battalion (ITB) on an experimental basis. Although these women graduated from ITB, they will remain in their originally assigned MOSs through the Corps’ research phase. In September 2014, three female Marine officers successfully passed the combat endurance test, part of the Infantry Officer Course at Quantico, Virginia. The Marine Corps also began to explore gender-neutral training standards by reconsidering the requirements for upper body strength in the Marine Corps’ annual physical fitness test, working toward a minimal standard for pull-up performance for both male and female Marines.

Ground Combat Element Integrated Task Force

Analyzing gender-neutral physical, physiological, and tactical requirements for ground combat arms MOSs is necessary to determine whether the physical readiness standards are appropriate for both men and women to meet safely and successfully the specialties’ demands. All this needs to be done, in the commandant’s words, while “sustaining unit effectiveness, readiness, and cohesion.”

A Marine Administrative Message, MARADMIN 252/14, released in May 2014, announced “a deliberate, measured, and responsible approach” to studying the integration of women into combat units by establishing a Ground Combat Element Integrated Task Force (GCE ITF) as an experimental unit that will integrate women into MOSs and combat units. The Marine Corps Operational Test and Evaluation Activity, supported by outside agencies, will evaluate the unit’s performance in an operational environment over 12 months. The research team includes the RAND Corporation, Center for Naval Analyses, Naval Health Research Center, and the University of Pittsburgh. Through an Office of Naval Research grant, University of Pittsburgh’s Neuromuscular Research Laboratory/Warrior Human Performance Research Center is providing this effort with a number of resources.

Pfc. Christina Fuentes Montenegro was one of the first three women to graduate from the Marine Corps’ Infantry Training Battalion in October 2013. Placed in harm’s way in supporting roles for more than a decade, female Marines may now have the opportunity to join combat units. Photo by Sgt. Tyler Main.
Warrior Human Performance

Research Model

The University of Pittsburgh’s Warrior Human Performance Research Model (WHPRM) addresses the culturally specific injury prevention and human performance needs of tactical athletes. It was developed originally for the 101st Airborne Division based on the university’s successful research on anterior cruciate ligament injuries in female athletes.

The WHPRM uses an expanded public health approach to determine injury patterns, risk factors for injury, and effectiveness of intervention programs in this unique population based on their occupational requirements.

The Pittsburgh team has successfully employed the WHPRM for the U.S. Special Operations Command’s components, including Naval Special Warfare Command and Marine Corps Special Operations Command through Office of Naval Research grants, as well as the Air Force and Army special operations commands.

The University of Pittsburgh’s GCE ITF research objectives include several specific phases consistent with the WHPRM that will enable a thorough scientific approach to testing and analyzing tactical requirements and developing musculoskeletal and physiological profiles of Marines. In the first phase, the WHPRM provides recommendations on test protocols to determine predictors of MOS school and GCE ITF unit integration. Baseline physical, physiological, musculoskeletal, and performance laboratory and field screening characteristics will be tested to provide correlates/predictors of school and unit integration outcomes.

The testing also will provide a longitudinal assessment of physical, physiological, and performance characteristics during GCE ITF unit integration. The assessment will enable the team to identify changes in these characteristics as male and female Marines are integrated within the GCE ITF combat arms unit.

For the second phase, the model surveys and analyzes musculoskeletal injuries during MOS school and GCE ITF unit integration. Detailed demographic, medical, injury, training, and nutrition history will be collected during baseline testing and integrated into the University of Pittsburgh Military Epidemiology Database. Prospective injuries will be tracked in this database, and data collected as part of the first phase will be used to determine risk factors for injury during the GCE ITF evaluation.

Future Research

At the request of the Marine Corps Training and Education Command, the University of Pittsburgh also plans to conduct a longitudinal study with the Marine Corps, beyond the GCE ITF, to assess long-term force-wide readiness. This phase will initiate research for prospective, longitudinal surveillance of injury, health, and performance by identifying the scope and magnitude of musculoskeletal injuries of female and male Marines. The research also will identify predictors of injury and optimal performance and provide results of research findings to the Marine Corps’ Training and Education Command.

About the authors:

Dr. Allison is a faculty member of the Department of Sports Medicine and Nutrition at the University of Pittsburgh.

Dr. Lephart is a distinguished professor and chair of the Department of Sports Medicine and Nutrition and the founding director of the Neuromuscular Research Laboratory at the University of Pittsburgh.

Cmdr. Shobe, Ph.D., is a program officer in the Warfighter Protection and Applications Division at the Office of Naval Research.