



Marilyn Sharp, principal investigator of the physical demands study for the U.S. Army Research Institute of Environmental Medicine of Natick Soldier Systems Center in Natick, Mass., says researchers have visited and tested Soldier volunteers at many installations including Fort Bliss, Texas, and Fort Sill, Okla. (Photos by Martha C. Koester / NCO Journal)

Physical Demands Study Goal

Identify The Ideal Soldier For The Job

By Martha C. Koester — NCO Journal

The Army is looking at updating the standards for combat-related military occupational specialties. Once final data from the physical demands study have been analyzed, the Army will be closer to realizing its goal — finding the right Soldier for the right job.

Researchers from the U.S. Army Research Institute of Environmental Medicine of Natick Soldier Systems Center at Natick, Mass., are working with the U.S. Army Training and Doctrine Command on collecting data in the physical demands study. Hundreds of Soldiers at various Army installations have been tested in the research.

The physical demands study is part of Soldier 2020, which will help the Army determine the standards necessary to perform combat-related MOS's, including those in armor, infantry, field artillery and combat engineering. Soldier 2020 is an initiative designed to integrate women into once-closed MOS's.

“Soldier 2020 is about a standards-based Army — upholding the standards of our profession — the Army Profession,” said Sgt. Maj. of the Army Daniel A. Dailey during the 2013 unveiling of the initiative,

when he was TRADOC senior enlisted advisor. “Our work will allow us to match the right Soldiers, regardless of whether they are men or women, to jobs that best correspond to their abilities.”

Testing gets underway

Physical demands study researchers have logged thousands of miles in travel to test hundreds of Soldier volunteers at various Army installations including Fort Bliss, Texas; Fort Sill, Okla., and Fort Carson, Colo. They have also tested hundreds of Soldiers in the human research volunteer pool at Natick.

After identifying 31 common and physically demanding tasks in combat-related MOS's, researchers got to work.

“We went out to different posts, and we [interviewed NCOs] to obtain feedback on the accuracy of the tasks identified for their respective MOS's,” said Marilyn Sharp, USARIEM's principal investigator of the study. “We then asked [volunteers] to do the tasks as they were described by TRADOC. We measured. We timed them. We asked them how hard they were working. We try to get the essential aspects of the task.”



USARIEM researchers watch as volunteers simulate tasks for the physical demands study in Natick, Mass. The study is part of Soldier 2020, which will help the Army determine the necessary standards for combat-related MOS's. (Photos by Martha C. Koester / NCO Journal)

“What we hope to do in the end is come up with a battery of five or six tests of these physical fitness tests and predictor tests, which will predict performance in your MOS,” Sharp said. “That way we can say in order to be qualified as combat engineer you need to [perform] these five tests, and this is what you need to score on those tests or you probably are not going to make it in that job. That’s the bottom line.”

USARIEM researchers also observed and measured small groups of male and female Soldier volunteers who performed critical task simulations. This helped researchers examine the physiological demands of each task. Measurements included heart rate, oxygen consumption and completion time for each Soldier.

“We performed a line of load-carriage studies where we tracked [Soldiers’] motion and force, so we can figure out what kind of stresses and strains are being placed on the Soldier,” said Dr. Joseph Seay, lead biomechanist of the physical demands study. “... If we find out that one particular activity seems to be relaying a lot of injuries, we can try to simulate that activity as best we can and provide information back up the chain.”

Collaborative effort

The team of USARIEM investigators includes exercise physiologists, biomechanists and psychologists, as well as Staff Sgt. Shaun Morand, the NCO in charge of the physical demands study.

“We have about nine or so Soldiers working on this study, rotating throughout,” Morand said. “There’s a lot of travel involved. So the Soldiers, most of them laboratory technicians, we’re kind of working outside our MOS strength, trying to help.”

Once the physical demands study is completed, USARIEM researchers will provide TRADOC with recommended courses of action. Then TRADOC will analyze data, which may ultimately lead to changes in the standards for combat-related MOS's.

Morand is among the team members proudly sharing and collecting a few new skills while participating in the massive research effort. Working on the study has afforded him several broadening opportunities.

“I think it’s gratifying because you’re seeing major changes that are coming in the Army and you’re a part of that,” Morand said. “This study is going to change the future of the Army. Also, I have never been involved in the research field area, so I am learning a lot as well about the whole process. There’s a lot more to it than I thought.” ■

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