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Student-Veterans Come Marching Home: Their Return to Studies

Alan Kotok
United States
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Five years ago, Sgt. Sarah Neyer was serving in the U.S. Army in Iraq. In the fall, she'll start a Ph.D. program in mechanical engineering at Carnegie Mellon University (CMU) in Pittsburgh, Pennsylvania.

Neyer is one of many veterans of the current conflicts in Iraq and Afghanistan coming back on campus, many of them to study science or engineering. According to the [Department of Veterans Affairs](#), more than 270,000 of the 1.65 million veterans of U.S. armed conflicts since 11 September 2001 have claimed education benefits for degree programs, including more than 13,000 graduate students.

In many respects, these veteran students are much like their nonmilitary peers. Yet military service has left many of them facing not just the usual academic challenges but also the

emotional scars of battle, semesters lost to continuing service obligations, and veteran's benefits that don't cover their educational and living expenses.

But it isn't all bad; quite the contrary. Military service has imbued many of these veterans with valuable practical and technical skills and with qualities of focus, discipline, motivation, and maturity often lacking in students with less worldly experience.

MEET THE STUDENT-VETERANS

Nathan Arroyo is an undergraduate majoring in [chemical and biomolecular engineering](#) at Ohio State University in Columbus. Arroyo first attended Ohio State in 1998, right after high school. He worked a job during his first seven quarters and, he says, his grades suffered. He decided in 2000 to join the Army for a 4-year enlistment. During that time, he was deployed twice to Iraq, the first time during the invasion in 2003. During his second deployment, in 2005, Arroyo received a [stop-loss order](#)—an involuntary enlistment extension—that kept him in Iraq until 2006. He still has about 2 years to go before he gets his degree, and while he is thinking about a career in industry, he is also considering getting a graduate degree or attending law school. He still keeps in touch with his old Army unit, now on its third Iraq deployment, and

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sends a goody box occasionally.

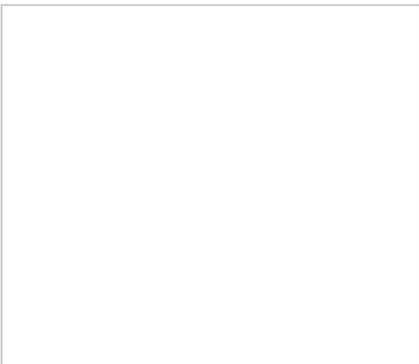
Anastasia Bodnar is a [Ph.D. candidate in genetics](#) at Iowa State University in Ames. Bodnar graduated from high school in 1997 and attended the University of South Florida in Tampa for 2 years. "I decided I needed to grow up a little bit," says Bodnar, "so I joined the Army Reserve in 1999." After 9/11, Bodnar volunteered for active duty and was sent not to Iraq or Afghanistan but to Korea. During her active Army duty, Bodnar continued her undergraduate studies at the University of Maryland's University College, which offers [distance-learning courses for military personnel](#). Later, while still on active duty, she completed her undergraduate degree at the University of Maryland's College Park campus. Bodnar was accepted into Iowa State's graduate school and moved to Iowa in May 2006, where she joined the Iowa National Guard. Her Guard unit was activated and deployed to Iraq in February 2007. However, a knee injury sustained previously on active duty disqualified her from further combat assignments. Bodnar helped start the student-veteran organization on the Iowa State campus. [Her blog](#) describes her research in genetically modified maize.

"Brian" is an Air Force reservist and a Ph.D. candidate in sociology. Because his unit is involved in sensitive duties and is subject to recall, we use a pseudonym. Brian was an engineering major as an undergraduate and in the ROTC. The year before he expected to graduate, Brian's grandfather died, which forced him to miss 2 weeks of classes. This pushed back graduation by a semester, imperiling his Air Force scholarship and commission. Brian checked with other academic departments on campus and discovered that he could get a degree in sociology on schedule. So he dropped engineering and took sociology courses during the remainder of his undergraduate work. He enjoyed his studies and did well. Following graduation, Brian served in the Air Force on active duty from 1996 to 2002. After that, he was a reservist. Brian's reserve unit was activated "eight or nine times," including two deployments during Operation Iraqi Freedom, in 2003 and 2004. Brian's Ph.D. research is in military sociology and social psychology. He would like to stay in the academic world, but he is aware of the limited job market and will consider employment with think tanks, government agencies, and government contractors. He is a single father of two children, ages 10 and 6.

Jessica Kilgore will complete her undergraduate degree in [civil and environmental engineering](#) at the University of Iowa in Iowa City in December 2008. Kilgore wants a career in public health, combining her engineering interest with the hands-on medical experience she gained as a medic in Iraq in 2005 and 2006 while on duty with the Iowa National Guard. Kilgore was deployed to Iraq almost immediately after her husband, also in the service, returned from his Iraq tour. Unsurprisingly, she found the extended separation difficult. But, she says, having a spouse at home who knew what she experienced both in Iraq and during the transition back to civilian life turned out to be an advantage. Kilgore plans to attend graduate school in engineering at the University of Iowa. She has re-enlisted in the Iowa National Guard.

John Moldovan served 9 years of active duty in the Air Force, including an 8-month deployment in 2002 and 2003 as a [C-130 Hercules](#) navigator. Based in neighboring Kyrgyzstan, he supported American and allied forces in Afghanistan. Moldovan earned a bachelor's degree in biology from Kalamazoo College in Michigan, worked 2 years as a lab technician at Oakland University in Rochester, Michigan, and then joined the Air Force in 1993. "I was just a young guy" who wanted to explore some other career options, Moldovan says. "I wanted to fly and do some traveling." When he left the Air Force in 2005, he enrolled in a master's degree program in basic medical science at Wayne State University in Detroit, which he finished in May 2008. In the fall, he begins work on his Ph.D. in [biomedical sciences](#) at the University of Michigan, Ann Arbor.

Sarah Neyer joined the Army right after high school in 2000 because she didn't have any firm career plans--plus, she says that she "wanted to experience the world, right off the bat." Neyer served 3 years of active duty, including a deployment to Iraq that started in May 2003. Her deployment was scheduled to end in September of that year, but a stop-loss order kept her in Iraq until December. Neyer says the Army is "a good place to get experienced in engineering"; she was, she says, able to get hands-on work with a wide assortment of equipment. After leaving the Army, she enrolled at California State University,



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Fullerton, but later transferred to CMU. Neyer completed her bachelor's degree in engineering in May 2008 and will enter a Ph.D. program in [mechanical engineering](#) at CMU in the fall. Neyer plans to work in the school's [Particle Flow and Tribology Lab](#).



Sarah Neyer

Jeremiah Peterson is a senior majoring in [chemistry at the University of Minnesota](#), Minneapolis. Although his dream is to become a doctor, he says that the class "that got me most thinking" was chemistry. Peterson joined the Minnesota National Guard right after high school and spent a year at the University of Minnesota before his Guard unit was activated and deployed to Iraq. Peterson was in Iraq from November 2003 to March 2005. After Iraq, he returned to the University of Minnesota. Helping veterans transition back to school is one of Peterson's intense interests. He is active in student government and his local neighborhood association. He has one more semester to go for his bachelor's degree and plans to apply to medical schools in June. Peterson has re-enlisted in the National Guard.

Cody Waters (pictured at the top) completed his bachelor's degree in [civil engineering](#) in May at the University of Missouri, Columbia. His father, a Vietnam veteran, studied engineering and encouraged Waters to do the same. Plus, "I'm a farmer and I love being outside and love working with things," says Waters. "I always loved working with machinery." After high school, Waters joined the Illinois National Guard, and after his initial Guard training in 2002, he started classes at Southern Illinois University, Carbondale. During his freshman year in 2003–04, his Guard unit was activated and deployed to Iraq. Waters returned from Iraq in July 2004 and transferred to the University of Missouri. While there, [he joined ROTC](#) and received his second lieutenant's commission and helped start a student-veteran organization. Waters has accepted an engineering job with a company specializing in railroad bridge construction in nearby Fulton, Missouri. His wife, a biomedical engineer, is working on a master's degree, and they have a 3-year-old son.

PEACE IS HELL, SOMETIMES

Forgetting what they knew before the war

For students who started classes before they were called up for active duty, time spent in a combat zone, even if not under direct fire, disrupted academic progress. During their time away from studies, memories of former classes faded. Perhaps this was due merely to the passage of time, or perhaps this was due to a mild form of traumatic brain injury for which [memory loss is a common symptom](#). A recent [Rand Corp. study](#) found that nearly one in five Iraq and Afghanistan veterans have some form of traumatic brain injury.



Jeremiah Peterson (right) during his deployment to Iraq in 2003-2005.

Several of the veterans who returned to a university campus ran into adjustment problems caused by the hiatus and the experience of battle. Peterson, the chemistry student at the University of Minnesota, says that when he returned to the university, he struggled with remembering what he had known before and with motivation. "It was hard to find the importance of sitting down and studying," Peterson says, "when you come from a place where what's really important is that your life is on the line."

Kilgore, the University of Iowa civil engineering student, missed three semesters during her 2005–06 deployment in Iraq. When she returned, she says, she had forgotten much of what she knew before the war. She had to

relearn even simple skills, such as how to use spreadsheet software.

Arroyo, who interrupted his engineering studies at Ohio State to join the Army in 2001, served through two Iraq deployments. By the time he left the army in 2006 and returned to Ohio State, he says, he had forgotten much of the math he learned before joining up. He also found he had to reacquaint himself with the campus after 5 years--the physical layout and campus life--a process that took longer than he had anticipated.

Leaving the warrior behind

One of the most serious challenges facing returning veterans is the [psychological toll](#) inflicted by combat. Although none of the students we interviewed reported suffering from combat-related psychological problems that require treatment--many others do--some did report high levels of stress upon returning to civilian life as students.

Waters, the engineering major at the University of Missouri, Columbia, who served in Iraq from 2003 to 2004, describes a "constant stress that never goes away." Although recognizing that education is an enormous opportunity, Waters says that it comes with an intense pressure to achieve: "You can always be doing something to better yourself."



Nathan Arroyo

Compounding the stress is the need to leave behind the behaviors that serve the veterans well in a combat zone. The high state of alert may be needed in battle, or in "a combat zone where your intensity level is so high all the time," but back in civilian life, such intensity can cause problems if recalled by stress, Waters says.

Greedy institutions



Anastasia Bodnar

The demands of rigorous scientific or engineering studies can conflict with continuing military obligations. Brian, the Air Force reservist and sociology Ph.D. candidate, calls the military and graduate school "greedy institutions, in terms of time requirements, energy level, multitasking--teaching and research--and everything else." Brian's reserve unit has been called up for frequent short-term duty, in addition to two combat deployments, during his graduate studies. Fortunately, his research team and department have been able to accommodate the interruptions.

National Guard members and reservists are required to train with their units on occasional weekends and during the summer, which

caused problems for Bodnar's lab work. Bodnar, the Ph.D. candidate in genetics at Iowa State University, says that her research on maize took a hit during her summer National Guard training. "I think the hardest part was when they arranged the annual summer training during pollination season, and I'm working on corn so I had to pollinate my experimental plot. Luckily, we had enough people from the lab that were able to pick up my slack. But I felt terrible that I had to depend on other people to take care of my plants, my experiments." Eventually, Bodnar's Guard unit gave her a day off to catch up on her research.

Finding the money

Student-veterans learn quickly that serving under fire [does not guarantee](#) that Uncle Sam will pay for all, or even most, of their educational costs. After it was passed during World War II, the GI Bill became one of the U.S. government's great success stories, educating a generation

and paving the way for prosperity. But the value of the benefits offered by the GI Bill has declined over time. The most recent version of the legislation, called the [Montgomery GI Bill](#), provides a fixed monthly stipend based on length of service, deployment in a combat zone, and whether the service member was in the regular ranks or the reserves. A companion article, "[A New GI Bill for Scientists](#)," describes legislation just passed but not yet signed into law that would emulate the World War II-era GI Bill.

Most of the vets contacted by *Science Careers* qualify for the GI Bill, but they say the benefits don't cover all their expenses. Moldovan, who served in the Air Force in Kyrgyzstan in 2002 and 2003, says he funded his master's degree at Wayne State largely with GI Bill benefits. But, he says, he still needed to draw on his savings to cover his living costs. Brian, a single father raising two children, ages 10 and 6, also gets GI Bill benefits. He supplements his income with a teaching assistantship from his university and part-time work on a research project.



John Moldovan

For the undergraduates in our group, the GI Bill is merely a supplement and not a primary source of funding. Arroyo and Neyer receive financial aid from their universities, whereas the National Guard members receive tuition assistance from their state governments. "The GI Bill is basically paying for my books and maybe for some booze on the weekend," Peterson says.

THEIR NEXT MISSION: A SCIENCE CAREER

Bands of brothers and sisters

Despite the obstacles these student-veterans faced on returning to campus, they all say they benefit enormously from their military experience and that they routinely apply the skills learned and attitudes developed in the military to their studies and to the larger community.

Accustomed to strong support from their military peers, many vets find themselves alone upon returning to college. "In the military," says Bodnar, "we have this very strong team culture, the buddy system, where we always have someone watching our back. ... In civilian life, that doesn't exist." Even students returning to the campus they left behind found themselves largely on their own in unfamiliar settings. "I no longer had the friends in classes that I could ask questions if I felt dumb," Peterson recalls.

Several of the veterans we interviewed sought out fellow veterans on their campuses for mutual support. The most important function of such connections, they say, is empathy and shared experience. Bodnar, Waters, and Brian each helped start student-veteran groups on their campuses that provide benefits counseling, mentoring, tutoring, and occasional social functions. Peterson was instrumental in founding a [veterans transition center](#) at the University of Minnesota.

For all of the "greediness" of the military and academic institutions, some of our veterans were able to enjoy the support of nonveterans on campus. Bodnar discovered a strong team ethic among her peers when her National Guard training coincided with her genetics research. Brian, likewise, found his research team and department accommodating of his many activations while in grad school. Kilgore reports that her fellow students and professors were willing to help her when she returned to the Iowa campus and had to relearn a lot of the routines that she had forgotten.

Attitude and skills to match



Before joining the Army, Neyer says: "I highly doubt that I would have been as motivated. ... After I came back, I was so very determined."



Jessica Kilgore

After returning from his deployment, Peterson says that he "was highly motivated to get my degree; I had confidence oozing out of my ears." Arroyo says that when he returned from Iraq and got reacquainted with the campus he left 5 years earlier, he had more discipline, could handle stress better, and could get more done than before.

The veterans also learned skills during their service that they apply in their academic training. Both Brian and Moldovan credit the training they received in classroom teaching, and the experience gained as military instructors, with their decisions to pursue Ph.D. degrees, which both hope will lead to university teaching positions. Both also say they learned

interpersonal and cross-cultural skills as a result of their military experience.

Five of the eight veterans are in graduate school or have been accepted into Ph.D. programs. Two of the undergraduates have plans to continue their educations either for graduate or professional degrees. And three of the veterans have re-enlisted in the National Guard to continue their military careers.

Advice to fellow veterans

The student-veterans we interviewed offered advice to service members considering getting a degree: Do it and enjoy it. "If you're going to college, take the new mission of integrating back into civilian life just as a regular mission," Peterson says. "This is the easy part. Try to not be stressed about it."

"Get back in it slowly," Arroyo says. "Just come back, relax, and enjoy yourself."

Neyer encourages fellow veterans to get an early start on the practicalities, such as applying for GI Bill benefits, which should be arranged well before leaving the service, because getting the paperwork completed can sometimes take a few months.

Bodnar urges fellow veterans to reach out for help if they need it. "I've seen some of these young soldiers come back, and they don't know anyone in their classes, and friendships don't come as easily in the civilian world as they do in the military. And there's the additional problem [that] no one really understands what you've been through. ... There are people out there who can help explain things and get things done. That's the most important thing: Don't let yourself get isolated."

Alan Kotok is managing editor of <i>Science Careers</i> .	Comments, suggestions? Please send your feedback to our editor .
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