Mental Armor
An Interview with Neuroscientist Amishi Jha

Amishi P. Jha studies the neuroscience of mindfulness and attention at the University of Miami, where she is associate professor of psychology and director of contemplative neuroscience for the university’s Mindfulness Research and Practice Initiative. Working with the U.S. Army and others in extremely high-stress occupations, Jha uses functional MRI, electroencephalography (EEG) and other neurobehavioral measures to study how the brain pays attention, the mental effects of stress, and ways to optimize attention.

In 2010, Jha launched the STRONG Project (Schofield Barracks Training and Research on Neurobehavioral Growth), collaborating with Elizabeth Stanley, founder of Mindfulness-Based Mind Fitness Training (MMFT), and Sara Algoe, whose Positive Emotion Resilience Training (P-ERT) program is based on positive psychology. Funded by the U.S. Department of Defense and others, the STRONG Project uses computer and brainwave testing to compare the effects of mindfulness practice and positive psychology in “resilience training” to help soldiers prepare for deployment. Jha believes that mental training will eventually prove as essential to fitness as physical training is now. For more information, visit www.amishi.com.

Inquiring Mind editors Barbara Gates and Alan Senauke interviewed Jha via Skype in fall 2013.

INQUIRING MIND: What led you to researching mindfulness?

AMISHI JHA: I grew up in a Hindu family where my mom did pujas and mala daily. Meditation practice was in the air. But we never discussed it or practiced it together.

Before I taught at the University of Miami, I was a professor of cognitive neuroscience at the University of Pennsylvania, studying attention. My son was small, my husband was in graduate school, I was trying to do the job of a tenure-track professor at this high-powered institution, and at some point I lost feeling in my teeth from grinding them. It was a profound stress response tied to burnout. As summer approached, I said okay, from what I’ve studied, I know the brain can change. So before I quit my entire career, let’s see if I can get my own brain to change.

Neuroscientist Richie Davidson had given a talk at Penn that same spring where he compared two brain images, one of a person in a negative mood and another of a person in a positive mood. After the talk was over I raised my hand and asked, “How do you get that negative brain to look like the positive one?” He said, “Meditation.” That was it.
thought, how dare he use that word? This is the Academy. We don’t say words like meditation. I was irritated, but intrigued.

That summer I bought this little book by Jack Kornfield, Meditation for Beginners, with an accompanying CD. I committed to reading a chapter each day and doing one of the practices, probably between eight and fifteen minutes. Within a couple of months, I was more present, more engaged. It got me thinking that there was something about doing this thing every day that was reacquainting me with my life. It was my attention that felt the most changed. Instead of being foggy and distracted, I was aware and connected.

So I thought to myself, hey, wait a minute; I study attention. I need to figure out how this works. I wrote my first grant by the end of that summer, got it, continued to get grants, and it’s taken off.

**IM:** What is the basic focus of your work in the Jha Lab?

**AJ:** Our research asks, what happens to the basic functions of attention and working memory when we are approaching or in a very high-stress context? That’s one side of the question. And the other side is, how might offering mindfulness training to people who are suffering through chronic stress protect against it? The populations we’re focusing on —students as exams approach, CPAs during tax season, the military—all have in common some kind of high-stress context.

**IM:** Your work with the military involves researching programs that are based in mindfulness practices. Are these programs perceived by the military as religious or as Buddhist? Is there a resistance on that basis by some people?

**AJ:** No. I would say overall that has not been a big barrier. For example, General Walter Piatt, who has been very supportive of the project, said (and this phrase really stuck in my head), “Compassion is more powerful than bullets.” My bigger challenge has been with the Buddhists. I have had an easier time speaking at the Pentagon and talking to generals than I have convincing some Buddhists that what we’re doing is okay. The angriest, flaming responses I’ve had to my research have come from Buddhists more so than the military. This really surprised me.

**IM:** Critics of training the military in mindfulness question the ethics of this training. How do you respond to that?

**AJ:** Thank you for giving me a chance to share my thoughts about this. I’m a scientist. So this is not something I would write about in a journal article. But as a person, it is for me important to convey that the same level of rigor and carefulness that I apply to my science, I apply to the decisions I make on which projects I choose versus those I do not take on.
First, let me clarify: my starting point in all of this work is that I accept, as current conditions and circumstances, that I live in a society at this point in time that has a military, and that military is actively engaged in war. That’s the starting point. I’m not debating, “Should there be a military? Should there be war?”

When I was at Penn, something happened that had a big impact on me. In Amish country outside of Philly, a veteran came into a school and shot a whole bunch of children. I remember thinking, we put the military through something that intensive and then bring them back and expect them to blend in. Without any extra support there is going to be psychosis elicited by the high-stress situation you put them through. Then of course all the data comes in: there are more suicides, domestic violence and sexual assaults involving soldiers or veterans than there are combat-related deaths.

So my own ethical considerations were, if this is the situation, what can I do? I’m just a civilian person doing research on the topic of attention. So to me, this might be a way to help.

**IM:** In your current work with the STRONG Project, what is the purpose?

**AJ:** Gandhi’s ashram is in the town I was born in. His message was a big part of my upbringing: nonviolence is part of my core philosophical thread. Yet nonviolence does not mean inaction. It doesn’t mean you do nothing. Sometimes what you do to reduce violence and suffering is take action. I would say the military work is in that spirit.

All of our funding has come from the medical command of the Department of Defense and the U.S. Army, to investigate if and how resilience training may improve the ways in which the brain can pay attention, be situationally aware (for example, of one’s surroundings), and manage and recover from stress. The Army realizes that body armor and physical exercise are necessary to protect soldiers’ bodies and keep them physically healthy. Now they are trying to understand how brains and minds might also be protected and kept healthy over the cycles of military deployment.

So the main purpose of the STRONG Project is to understand how resilience training might provide soldiers with “mental armor.”

**IM:** So what does this “mental armor” protect them from?

**AJ:** Part of this is to protect people from psychological injury—from hurting themselves, their families or others, for example. Front and center is the idea that to make good decisions, to actually see what’s happening around you, you need your full attentional capacity and full ability to regulate and observe your own emotions. Discernment is going to be your best skill set in a very high-stress, rapidly changing, conflict-ridden environment.

There’s the challenge. Being in a high-stress situation degrades the capacity to be discerning. Under high stress, we just don’t see what’s going on. We go on auto-pilot. We
react based on stereotypes. So the training helps soldiers base their decisions on what is actually in front of them instead of on assumptions. Being more discerning is what it means to be a better soldier.

Here’s an example. A medic trained in Mindfulness-based Mind Fitness Training (MMFT) saw someone walking across a bridge and thought, “Oh my gosh, that’s a boy. That could be my son.” He described his previous deployments as a blur, whereas this time he was present to what was happening.

The training is never explicit in terms of “do no harm,” but it is saying, “Whatever harm you might have done reactively, inappropriately without thinking, you are going to be better able to control that.”

**IM:** So in the STRONG Project, what is your research finding?

**AJ:** We are just starting now to write up the results and they should be out this year. But, the STRONG Project was asking a couple of key questions. One involved dosing: how much training is necessary in order to see benefits? Liz Stanley’s initial program involved twenty-four hours of training. It is hard to get that much time when you’re dealing with predeployment units; they don’t want to give you any time. So we titrated down from twenty-four to sixteen hours. Then we did another version that offered eight hours of training. Every training group was eight weeks long.

The decision to investigate dosing in the STRONG Project came from results we found in our prior published work on Marines, which revealed that there is a dose-response effect so that more time spent practicing leads to greater improvements. In that project, participants were assigned thirty minutes of practice a day. But many people didn’t do that. The people who took the course but didn’t practice at all, or practiced less than twelve minutes a day, didn’t change over the training period. But the people who practiced twelve minutes a day or more did see benefits.

A second question in the STRONG Project involved content: what should you emphasize in the training if the amount of time you have to offer it is short? If you’ve got eight hours of time, should you be using it to describe the value of what they’re doing or should you just actually engage in practice with them? So we did a manipulation of training versus didactic content when you only have eight hours.

The third question involved the nature of the resilience training. We compared mindfulness to a positive-psychology-based program.

**IM:** In your research on soldiers, have you found that some of the stress they experience has to do with the framework of the war: “Is this a war that’s worth fighting?” Are you seeing people who are suffering from questioning the war and/or their own functionality in the military?
AJ: From my sampling, the main issue is not, “Is this war worth fighting?” because essentially it’s always the case that somebody else is going to determine if they’re going to go or not. And once the decision has been handed to them, their responsibility is to do their job. We do know that when people come back, they report PTSD, anxiety and depression. For those that actually have full-blown psychological disease of that sort, the data suggests that they were three times more likely to say they engaged in unethical behavior while they were deployed. So their stress is not so much about the nature of the conflict or whether they should be engaged in it, it’s about whether they themselves did something they didn’t feel was right.

So it may be that when you feel you’ve engaged in unethical behavior, it contributes to difficult and sometimes lifelong illness. To me, that’s a very important thing to know. The other piece of this is that we know that people are much more able to hold their own ethical compass and have their behavior be in line with their ethical code, the more attention and working memory capacity that they have. So there is a really strong interrelationship between decision making, ethics and these core cognitive capacities. If you degrade the capacity, you may not be able to live in line with what you know to be the right way to behave. It’s not about knowing what’s correct or not. It’s about being able to act in accord with that. So if we are able to bolster these capacities, increase attention and increase emotion regulation so that people are better able to align their behavior with what they know to be the right way to behave, we may have a chance of reducing errors and mistakes, and also the lifelong psychological disease related to that.

IM: Is there anything else you would like to say to complete our conversation?

AJ: Returning to our earlier exchange about the ethics of offering this training to the military, I really want to ask what makes somebody worthy of being able to receive instruction and practices that are going to help reduce their suffering. What criteria should you use to decide who is and isn’t going to be eligible for that? My view is that everybody should be offered this opportunity.

It is my view that your job description shouldn’t exclude you. It shouldn’t dictate if you’re going to be able to learn some things that may help you behave in a way that allows you to become more present and aware of your behavior and what’s happening in your mind, which we see as part of the path of reducing suffering.

Especially with data suggesting that learning these practices strengthens the very capacities that allow participants to behave in ways more ethically aligned with their values, there is even more motivation to offer this training to the military.

IM: Some critics argue that such training might make a soldier a more adept killer, which is not an appropriate use of practices based in the teachings of the Buddha.
AJ: What do we mean by “adept killer”? I’ve had people challenge me, “You’re just trying to create super soldiers.” My response is that if a soldier has a machine gun that can destroy an entire village, I want to make sure that person has the capacity to really know what they’re doing and have full control over their faculties, to be able to withhold as appropriate, not be reactive. So a super soldier in many ways is one that can control when to not pull the trigger, not to just pull the trigger.

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