

Why Practice Makes Perfect

In 1983, the Army sent me to the German Shooting Sports School in Weisbaden to teach at an A-level shooting coaching school before the Olympics. One of the other teachers was a psychology professor at a nearby university who had been a bronze-medal winner in the Olympics. I managed to retain one vital bit of information he gave regarding the way the mind works.

He discussed research which showed the brain has a capacity of about seven tasks it can handle at one time. This is well-known and well-documented now, but it was fairly new information at that time. I have used this tidbit in other articles to emphasize the importance of being able to shoot the "automatic" shot. (The idea is when you shoot, you should only be consciously focusing on one thing, usually the target, and let the rest of the shot occur automatically.) Basically, the fewer thoughts or tasks your brain has to manage, the more likely it is you will reach your overall goal. Now there is some new research that shows why this works.

An experiment was done in which the subjects were told a number and then instructed to deliver the number to another room down the hall to receive a reward. In the typical way such experiments are performed, the subjects were not aware of the real goal of the investigators. Each person was given either a two or seven-digit number. As they walked down the hall, the real experiment occurred. A graduate student would seem to randomly meet with the subject and offer him/her some refreshments. The choices were either a very fattening, sugary cookie or fruit. It turns out those persons who had to remember a seven-digit number chose the cookie 95% of the time, while the two-digit persons took the fruit about half the time. At some point in the experiment, there was a conversation about healthy choices in eating that preceded the whole process.

The premise of the experiment was: Most of the time people don't make totally rational decisions and, when the brain is stressed, the decisions made are more emotional and more protective. In this case, trying to remember a seven-digit number under stress engendered a more emotional response than the easier two digits.

At first, this did not sound like a particularly rigorous experiment. After all, I love chocolate-chip cookies, but after reading the paper, it was clear the experimenters were onto something. Stress appears to change the way we think, often in subtle ways, and the

results can be distracting or even disastrous. Most of the time we are not even aware of what we do in these situations, we just do it and move on. These decisions can lead to a lack of focus and/or lack of perfection. At some point in our development as a shooter, this can cause a lot of problems.

Early in a shooter's career, there are usually so many things going on it is hard to tell what is distracting and what is not. Ironically, this beginning has important consequences down the road. Not only can you pick up bad habits (which are usually obvious later on and can be fixed), you also can develop mindsets that are based on an emotional response to stress and only pop up during a match. These mindsets are what make match stress hard to deal with at times.

In the experiment I cited, the subjects were not told they had to memorize the



Photo by Johnny Cantu

numbers, but it was implied strongly. The task they were given was to be rewarded if they delivered the number in the "right way," which most of them thought was by memorizing it. Because there was a time constraint, memorizing a long number was more stressful. Under the rules, they could have written the number down, but they were not explicitly told that. This ambiguity was part of the stress factored into the experiment.

The external stress of the rules of the experiment pushed their brains into a more emotional mode, and the subjects acted accordingly. Had they been able to parse the rules a little better (by having more time to explore the rules, for example), a number of them would have figured out the less-stress alternatives, and the rate of cookie eating may have diminished.

The same is true in any performance. The more you have figured out ahead of time, the less effect external stress has

on your brain. The stress is still there, but it is handled in a completely different way. The key lies in the number of tasks you have to perform consciously and the mindset you have going into the task to begin with.

The experiment was a one-time thing for most of the subjects. This is very similar to what a beginning shooter experiences when they enter their first match. Most of the match is a unique experience, even if they have attended matches before as an onlooker, because they are now viewing it from the inside. The bases of match stress — social acceptance, personal expectations, absolute scoring, public viewing, etc. — are there from the beginning, and even the rankest beginner feels them. As time goes on, these factors may have even more influence on the shooter's match shooting unless something positive is done about it.

In the experiment, the subjects went on with their lives and probably never thought about it, except for the money they made for what was an easy task. Any emotional mindset they might have generated went no further. The same is not true for competitive shooters.

The whole process of competition is linked — what happened to you in the last match affects what is going to happen in the next and what will happen in practice. In an ideal world, we learn from our past experiences, eliminate the bad things and develop our skills and abilities. In the process, we progress until we achieve perfection. The problem is, we often don't know what we need to eliminate or how to perfect what we have because, a lot of the time, we can't recognize what we need to do. Or, if we do, we have an emotional attachment to a mindset that does not allow us to change.

Each time we go out to shoot, we use

both the emotional and rational side of our brain. The experimenters came to the conclusion that, most of the time when we are under stress, we go with the emotional side of our brain and, by doing so, we give up the rational, conscious style of decision-making. Science writer Shankar Vedantam calls this "The Hidden Brain" (also the title of his book on the subject) and points out we often go on autopilot and don't even know it. Our autopilot is more emotionally based and can cause us to make choices we would not make if we thought things through. But don't despair, there is an obvious answer.

The counter to being overwhelmed by match stress is learning to be more rational and then making that your autopilot. Shooters have known for years practice helps them deal with stress situations. Learning with a coach is even more effective, because a coach will not only be able to observe and modify but will imbue a strong rational order to your practice. It is much easier to learn good technique, tactics and how to prepare from someone who has been through the technical and mental challenges shooting in matches presents. In addition, detrimental mindsets can be avoided with an experienced mentor.

But you have to practice. Repetition rewires the brain and strengthens the autopilot. You have to practice everything — technique, mental skills and even fitness — if you want your autopilot to be at its best. As you continue to practice, you get better and better.

"Most of us think of ourselves as being conscious, intentional, deliberate creatures... I have become, in some ways, much more humble about my views and much less certain about myself."

Shankar Vedantam

Another skill you need to use is *analysis*. Each time you shoot, you have to ask yourself if you showed signs of a more emotional response to the various stresses than needed. Did you stray outside your routines when you shot in a match? Were you impulsive, angry or uninterested while in the match? Did you find yourself craving sugar? (That last one is a direct result of the brain feeling stressed; glucose is brain fuel and, if the brain is working too hard due to stress, it craves sugar, just like in the experiment.) If you find you are stuck in your progress, ask yourself those questions. They may help reveal some of the workings of your hidden brain that are not useful when you shoot. Once you find out what the problem is, you can substitute an automatic set of thoughts that will be helpful in your shooting.

Professional shooters have this type of mindset. They are very practical and avoid emotional responses while in a match. They may be very emotional persons but not in a match. They have learned to adjust their autopilot in order to win and are willing to learn how to diminish the effects of their emotional hidden brain in order to reach their goal of winning.

The way to perfection is through practice, perfect practice with a coach. Be aware of your hidden brain and how it affects you. Learn to use it to your advantage by changing the way you think. **SS**

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