

# GolfWorld

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## Focus Factors

A survey of golf's top sport psychologists reveals an evolving cottage industry that is both embraced and (in some cases) barely acknowledged by tour pros

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It was 1978. The first cellular phone network was introduced in Chicago. The Boston Celtics drafted Larry Bird. "Fantasy Island" premiered on CBS, and the Dow had just topped 800. Disney World was seven years old, barely tall enough to get on its own rides. At a Golf Digest Pro Panel meeting at Disney's Contemporary Resort, Dr. Bob Rotella gave a presentation on the mental game to a group that included Sam Snead, Cary Middlecoff, Bob Toski, Davis Love Jr., Paul Runyan, Jim Flick and Peter Kostis, among others. The Murderers Row of golf instruction.

Rotella had been cautioned in advance. Snead, he was told, might not be particularly receptive to his message. Sam wasn't just old school, he was the entire university. After the presentation Rotella opened the floor for questions. Snead's hand went up. Uh-oh, thought Rotella, here it comes. "He started talking. For about 25 minutes or so he just bared his soul," says Rotella. Snead spoke about his triple bogey on the last hole at Philadelphia CC that cost him the 1939 U.S. Open. Though he had a 40-foot putt that could have gotten him into a playoff, Snead was convinced he had already blown it and three-putted. Rotella recalls him saying, "I carried that with me in every Open I ever played for the rest of my career."

Snead described how, in his prime, he'd avail himself of the ample hot water in the clubhouse at the tournament site to take long showers after every round, replaying each shot he'd hit that day. If he didn't like the one he actually hit, he'd imagine himself making a perfect pass instead. He talked about playing the next day's round in his mind as he fell asleep at night. He described how, with age, he began thinking about nothing but the bad stuff. Instead of seeing great shots, he'd imagine mistakes. He no longer slept well. On the first tee he was worried he might not be able to live up to being Sam Snead.

"He just talked about that stuff," says Rotella. "I've always said if Sam Snead hadn't been that open and honest about himself, if Snead had stood up and said, 'That's the biggest crock of crap I ever heard in my life,' I doubt that I would have had a career in golf."

Not only did Rotella have a career in golf, beginning with players such as Tom Kite, Gary Koch and Roger Maltbie, he helped launch an industry. There are no dependable numbers on how many PGA Tour players seek the counsel of a sport psychologist, but anecdotally it's a lot. Even educated guesses run all the way to 90 percent depending on how you want to calibrate the varying levels of commitment. To some players their psychologist is as important a member of the team as their wife. Others might consult someone every now and then, usually at career ebbs. And the skeptics who remain, and there are some, see little or no value in consulting one at all. You want to be more confident? Play better. Butch Harmon, a dean in the old school, encapsulates that viewpoint. "I've never understood why an athlete needs to have somebody tell them to try as hard as they can," says Harmon. "I guess if Hogan and

Nelson, Snead and Demaret, Palmer, Nicklaus and Trevino had a sport psychologist, they'd have been pretty good. Oh, that's right, they were really good." Or, as another swing instructor puts it: "Are you trying to get them to play better or get them to feel better about playing bad?"

Some players stand next to their mental coach on the putting green before they tee off while others require complete confidentiality, rarely having sessions anywhere they can be seen. Some tour players not only prefer but insist any relationship be kept in the shadows. "I can think of two unbelievably huge major championship winners, multiple times, that I've spent a lot of time with who wouldn't want anyone to know," says Rotella. The reason may be as simple as being afraid of showing weakness in a game where a strong mind is the biggest asset you can have after a good grip. What competitor wants to be seen as someone with a confidence problem? As accepted as sport psychology has become, there remains a vestigial stigma attached to it as though some confusion remains between enhancing performance at the highest level and curing an illness.

"The field either comes down to having a base in educational psychology or clinical psychology," says Dr. Dick Coop, a professor emeritus at the University of North Carolina who worked for many years with Payne Stewart and, along with Rotella, was among the first to work with professional golfers. "The clinical psychologist operates generally out of a medical model of 'You're sick, we want to heal you.' I come from the educational psychology background. Most of the best practitioners in golf are from educational psychology. Ed psych comes more from giving people tools to work with to solve problems, whether it's golf or race-car driving."

Sometimes the problem can be confined and specific. Coop worked with a pair of Boston Red Sox catchers who couldn't throw the ball back to the pitcher. "They were both thinking how silly they would look if they made a bad throw. As long as they were in the bullpen, where it didn't matter, one of the catchers could throw it harder than the pitchers," says Coop. It took two months for the tool he gave them to take hold. "When they caught the ball, they had to look down and then raise their eyes and as soon as they saw 'Red Sox' on the jersey, they had to let it go. By defining the time of the release, it took away the decision-making."

Modern sport psychology -- with its tools of visualization and concentration -- is utilized in virtually every athletic endeavor along with pursuits ranging from music to heart surgery. But in an age of metadata analysis and advanced equipment such as TrackMan capable of measuring everything about a ball coming off a clubface, the human mind and how it functions under competitive stress remains the unquantifiable X-Factor in the tournament golfer's equation. Just as the analytical approach of Sean Foley is a world apart from the more traditional Harmon School -- not necessarily better, mind you, just different -- how soon, if ever, will advances in neuroscience make it possible to empirically identify why and how the human brain functions during competition and how it can be coerced into performing at a higher level of success?

"Research and psychological sciences have helped us cut away and trim out a lot of the bad ideas, helped us know what not to do," says Dr. Gio Valiante, a Rollins College professor who works with various tour players. "That doesn't always tell us what to do. For example, we know acceptance is generally a good thing. You hit a bad shot, you learn how to accept it and let it go. Well, you can accept your way right off the tour. You can accept your way into irrelevance."

Results do matter, even in something as immeasurable as the contribution of your sport psychologist. "Confidence we know is contagious," says Valiante. "Quantify that. Decisiveness. Quantify that. Self-doubt. Quantify that. You can't. Talent. Quantify that. You can't. The game remains very elusive. It's getting more empirical, more quantifiable, but it remains very elusive."

Rotella, a collegiate lacrosse and basketball player himself, views sport psychology at the highest level as the study of exceptionality. "I'm looking at exceptional levels of confidence and mental and emotional discipline and control, probably exceptional levels of commitment," says Rotella. "We're trying to get people in a great state of mind, in a great mood and keep them there. If they start to learn that, maybe some of their attitudes about themselves and life and competition and the world maybe aren't the best way to approach it, they take it very personally. It's part of them, whereas a lot of people, if you ask them to change their backswing, there's no emotional content. They're almost happy. 'Oh, that's why I'm not playing better.' "

Different psychologists have different approaches. Julie Elion is the founder of the Center for Athletic Performance Enhancement in Washington, D.C. Her background is in counseling. "I can talk about visualizing and pre-shot [routine], but they go out there and, say they had a father who just told them day-in and day-out they don't have it, maybe as a way of tough love, it still shows up out here. It's like their default if they screw up. I can't tell you how quickly they go to that feeling inside. You just can't ignore their emotional makeup and where they came from and messages they learned as kids and how they were raised and ways they feel about themselves."

The right fit between golfer and mental coach is crucial. "It's like a swing instructor," says Hunter Mahan, who has begun working with Dr. Fran Pirozzolo. "It's a blending of yourself and who you are and what they can bring and meshing it together. It can be as valuable as anything, and it can set you back if you get the wrong guy and you're working on the wrong things. Anything that gives you just that much of an edge at this level is huge."

So, how exactly is a golfer to know if what his psychologist contributes is a proximate cause of better performance? Where's the proof? The American tradition of getting your mind right runs all the way back to Poor Richard's Almanac and Norman Vincent Peale. Is it art, science, a combination of the two or something more akin to Sturgeon's Revelation, which posits that 90 percent of everything is crap? "Human behavior, measurable outcome, what are the things here that predict this?" says Valiante. "More and more, the defensibility of an idea is really important. Out here [on tour], historically, there hasn't been that."

To the extent to which metrics will become available, they will likely arise from neuroscience and chemistry. "Freud said once we learn the language of biology, psychology will be rendered reasonably irrelevant," says Valiante. "What he meant is psychology is chemistry. They just didn't have the tools back then to measure the body chemicals. Every emotion has a corresponding chemical reaction, and we know more and more what those reactions are. So, yeah, I think there's a paradigm shift undergoing." At the same time, nothing is always so. "I don't foresee this thing becoming formulaic," he continues. "There's always going to be an element of what's elusive. The Rotella quote, 'Golf is not a game of perfect,' remains true absolutely."

While most sport psychologists working with tour players have a background in educational psychology, the path Pirozzolo took was through neuroscience. A baseball and football player who put himself through graduate school at the University of Chicago, Pirozzolo has worked with the U.S. military and the Secret Service as well as being the sport psychologist for the New York Yankees. "There's a second neural system that makes good decisions, maybe better than the linear cognitive one that we normally use," says Pirozzolo who is currently involved in a study of "big C" and "little c" creativity. "That could be the source of that whole thin-slicing [finding patterns in small windows as described in *Blink: The Power of Thinking Without Thinking*], to establish that there really is a neural home for creative thoughts, divergent thinking, whatever you want to call it. Beyond that, to understand how they interact." Instead of wearing himself out with linear step-by-step thinking, the elite golfer needs to trust that neural intelligence. "It's a non-conscious processing thing. Athletes in other sports trust it better. You don't plan how to take a ground ball and make a throw, you just do it," says Pirozzolo.

If golfers across a broad spectrum of abilities are given visual stimuli, say, the 12th hole at Augusta National, and asked to imagine playing the shot, brain scans show strikingly different results. "Elite players' brains are lit up in three areas. Beginning players' brains are lit up in like 12 areas, showing that they're thinking about irrelevant stuff," says Pirozzolo. "If you and I were charged with a difficult problem in a nuclear plant, we'd go through a whole bunch of things but an expert would say, you don't understand, you don't have to worry about this because that's not how it works. Neuroplasticity is experience dependent. The brain will grow in direct response, depending on age, with the experiences it's having."

But no one plays the final nine holes of the U.S. Open in an MRI tube so, at the moment at least, it's not possible to know how Phil Mickelson's brain might differ from Justin Rose's or yours or mine.

When it comes to reacting under pressure, some of this may be genetic, the old nature-versus-nurture argument that was the basis of the bet in "Trading Places." A recent New York Times article about why some children test better than others, talked at length about the COMT (catechol-O-methyltransferase) gene that guides the breakdown of enzymes, like dopamine, released under stress. Some have a gene that breaks the enzymes down faster -- think cool under pressure -- while others break it down more slowly, and so perform less well under stress, or an individual may have a combination of the two. Studies also appear to show that even people with the slower-acting gene can perform just as well under stress as people with the faster-acting gene if they are properly trained. Think fighter pilot.

This brings us back to golf and developing approaches both to teaching and learning and, to some extent, defining what the latter is. "If you're going to be an expert, you have to lock on to the idea that there are better ways of doing things and you can't touch every base. It's a privileged focus," says Pirozzolo. "I think there's going to be a greater and greater appreciation of this, and people are going to see an advantage to learning about it. There are smaller and larger genetic contributions for everything, but still the most powerful effect is always going to be experience or the environment."



**Julie Elion: Credited with helping Lefty improve his outlook on links courses, the D.C.-based counselor says default positions are formed early. Photo: Dom Furore**

How does one learn to be cool under stress? "Neuroplasticity and practice," says Pirozzolo. "That's what's so encouraging about what we can do. We can come closer than ever to understanding how experiences are going to result in growth or no growth. It's a brand-new kind of concept about memory. If you are more careful about the

information that you process and reprocess, it's a learning experience, so that it alters the brain from there on. The more you go into the brain to find that memory of that swing or whatever it is, the more you're building up."

The conclusion is that giftedness is learned more than people realize. "That's what a lot of our research points to," says Pirozzolo. "I'll always remember Sam Snead saying in an angry way, 'Everyone says I'm a natural, but it took me a million balls to be a natural.'"

Those first learned behaviors are particularly crucial. "When you get a player in the final group of the last round, what happens there is so critically important because it's so hard to get there," says Coop. "What you learn and the success you have there is very critical. Then you go back and pick it apart. You didn't fail totally, you did these four things right and this is where you broke down. The first learned behavior is the behavior that comes out under pressure situations."

Failure is a given in golf, even for the best. "Now, if someone asked me 'What is the easiest way to be confident?' I would describe Tiger Woods, Phil Mickelson and Rory McIlroy," says Rotella. "Win early, win early by a wide margin on a regular basis, win early by a wide margin on a regular basis against kids two to five years older than you. Ninety-nine percent of the people who come to work with me haven't had that. If you have to be the winner to feel like a winner, this game will kill you. Did you do the stuff you know you have to do to win and did you play like a winner today? Now, someone can still beat you. The world's going to say you're a loser, but you've got to know the difference."

The mental game is helping to tailor modern practice sessions. Increasingly, mindlessly beating balls is viewed as mentally and physically counterproductive. "We strongly believe that introducing desirable difficulties makes the tasks more memorable and so [the mind's] better able to handle the decay that happens from disuse. Just more resiliency in the memory store. Better consolidation," says Pirozzolo. You don't have to have a doctorate in anything to arrive at that conclusion. The Englishman Dave Alred calls himself a "performance coach," and his methods were arrived at through his experiences on the rugby pitch. In the past he has worked with Luke Donald and Padraig Harrington to maximize their practices, but what he was actually doing was introducing desirable difficulties.

"I separate repair, which is working on technique, with reps, which is trying to consolidate a technique, and then tournament or match, which is trying to re-create the same environment and therefore [later] elicit the same behavior from the athlete." Alred's practices would go something like this: "You could be working on wedge repair, five [shots] to 90 or something," he says. "Within that you suddenly throw in one 3-wood. Completely random. No preparation. No warning. Nothing. He's got to go right back, pre-shot routine, visualize the target. All of that. That behavior is more related, isn't it, to a round of golf." And precisely the kind of stress inoculation that makes it more memorable and, over time, more retrievable.

Visualization remains a key tool. C.J. Wilson, a starting pitcher for the Los Angeles Angels of Anaheim, works closely with Pirozzolo. Like the 99 percent who turn to Rotella for help, Wilson never believed himself to be gifted or exceptional. "I wasn't one of these guys who threw it 100 miles an hour in high school. I wasn't a phenom," he says. "It's your ability to command the strike zone that defines your ability to pitch in the major leagues. My enemy is the swing. I'm trying to figure out how to defeat the swing. Fran and I talk about how to use your mental imagery to enhance your actual imagery. You're trying to envision what you're about to do in 3-D, smell, sound, everything. He's had me doing slow-motion training. A regular windup would take three or four seconds, these are like 20 or 30. There'll be a small light source so I can barely see what's going on. Then in the void of the room I'll just visualize the whole field. Then I'll put a particular hitter in there, and I'll visualize in slow motion throwing the perfect pitch to

him, through all my different pitch sequences. If I'm feeling good, I'll probably do just a couple. If I make a couple of weird ones, I'll kind of rewind it. The last one I try to visualize an outcome. I see the ball coming out. I have a particular target. I see the ball going there. I see him swinging and missing or grounding out or whatever. I try to feel the positivity of that happening. I try to crawl into that moment and imagine what it takes to get there."

Just like Mickelson mapping the greens of Augusta National, Wilson charts the hitters, breaking the strike zone down into sections, using triangles for curve balls, circles for fastballs and keeping note of each hitter's success against those particular pitches in those particular zones. "All my success is based on the goal, if I can get a little bit better at this, then it will help my whole game," says Wilson. "Once you start making fewer mistakes, then you're really shaving tenths. You're looking for that one extra good pitch. Sometimes that's the difference between a good and a bad game."

The margin in championship golf is every bit as thin. Making one more six-foot putt a day can be a ticket to the Hall of Fame. Could Payne Stewart have won the U.S. Open at Pinehurst without Dick Coop? Could Darren Clarke have won the British Open at Royal St. George's without Bob Rotella? Justin Rose the U.S. Open at Merion without Gio Valiante? Could Mickelson have won at Muirfield if Julie Elion hadn't given him a tool the year before to help him see links golf in a different reality? It's unknowable. There's still no TrackMan of the mind. "There's no way to know what these pathways are, that I can tell," says Coop. "I've never seen anybody create one."

Yet.