A New Discipline Emerges: The Psychology of Science

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You've heard of the history of science, the philosophy of science, maybe even the sociology of science. But how about the psychology of science? In a new article in *Current Directions in Psychological Science*, a journal published by the Association for Psychological Science, San Jose State University psychologist Gregory J. Feist argues that a field has been quietly taking shape over the past decade, and it holds great promise for both psychology and science.

"Science is a cognitive act by definition: It involves personality, creativity, developmental processes," says Feist—everything about individual psychology. So what is the psychology of science? "Simply put," he writes, it is "the scientific study of scientific thought and behavior." The psychology of science isn't just about scientists, though. It's about how children make organized sense of the world, what comprises scientific talent and interest—or growing disinterest—and even people's embrace of pseudoscience.

Reviewing about two dozen articles, Feist mentions work in many psychological subspecialties. Neuroscientists have observed the brain correlations of scientific reasoning, discovering, for instance, that people pay more attention to data that concur with their own personal theories. Developmental psychologists have found that infants can craft theories of the way the world works. They've also looked at the ages at which small children begin to distinguish theories from evidence.

In its focus on such processes as problem-solving, memory, and creativity, cognitive psychology may be the most mature of the specialties in its relationship to the doing of science. Feist's own work in this area offers some intriguing findings. In meta-analyses of personality studies of scientific interest and creativity, he has teased out a contradiction: People who are highly interested in science are higher than others in "conscientiousness" (that is, such traits as caution and fastidiousness) and lower in "openness" to experience. Meanwhile, scientific creativity is associated with low conscientiousness and high openness.

Feist believes that a new psychology of science is good for science, which has become more and more important to society, culture, and the economy. Educators need to understand the ways children and adolescents acquire the requisites of scientific inquiry, he says, "and we want to encourage kids who have that talent to go that way."

But the new sub-discipline is also good for psychology. "Like other disciplines, psychology is fracturing into smaller and smaller areas that are isolated from each other," he says. "The psychology of science is one of the few recent disciplines that bucks that trend. We're saying: 'Let's look at the whole person in all the basic psychological areas—cognition, development, neuroscience—and integrate it in one phenomenon.' That's an approach which is unusual these days."