

Back to Nurture

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By Alfie Kohn

Neckties narrow and then widen again as the years go by; today's hot hairstyle will soon be painfully passe. Chances are such phases do not faze you. But in the field of science, including the study of human behavior, you may prefer to think there are no passing fads, no swings of intellectual fashion – only a steady progression toward Truth.

Think again.

A generation ago, most mental and emotional problems were put down to bad mothering, unhealthy social influences, and other features of the environment. Since then, however, psychiatry has become "remedicalized" and psychology has worked feverishly to adopt the methods of the hard sciences. At least three quarters of the research now conducted at the National Institute of Mental Health – that's mental health – is biological in nature.

On just about any given psychological issue, genetic factors get more attention than cultural factors do; emotional problems are more likely to be investigated by looking at brains than at families. Ask the people doing (or funding) such research and they'll tell you this shift reflects nothing more than a recognition of promising data. If the study of anxiety now focuses more on plasma catecholamines than on unemployment or bad marriages, they say, it is because we know better now.

But others are not so sure. "The pendulum has swung very far in the other direction," observes Lyman Wynne, a respected schizophrenia researcher at the University of Rochester. Some investigators are so eager to find a simple biological cause of mental illness that they "fail to look at the environmental data or even acknowledge that they exist."

To be sure, most psychiatrists and psychologists will declare that it's not a question of nature versus nurture, inherited versus environmental factors. Both play a part in influencing what we do. But watch carefully: nurture receives lip service these days while nature receives enormous grants (some of them, not surprisingly, from drug companies). Hemlines are on the way up again and biological answers to psychological questions are back in vogue. Researchers – and, by extension, science reporters and the general public – take on faith that we are what our genes, hormones, and neurotransmitters have made us.

The press especially loves to cover dramatic "linkage" research, which attempts to find a gene responsible for a given behavior. In 1987 researchers announced that they had found the precise gene that caused bipolar disorder. DEFECTIVE GENE TIED TO FORM OF MANIC-DEPRESSIVE ILLNESS, the New York Times trumpeted. But after expanding the original study and reanalyzing the data two years later, the researchers had to admit they were mistaken.

The same pattern of apparent success followed by retraction has been repeated with linkage research on schizophrenia (in 1988 and 1989) and alcoholism (in 1990). In all three cases, the popular press excitedly announced that the "genetic flaw" responsible for the disorder had at last been found. Later, alert readers noticed follow-up articles, far less prominent than the original reports, acknowledging that the first discovery had been a false alarm.

It seems remarkable that genetic explanations still command a largely uncritical loyalty in the face of such retractions and other data that have raised questions about how much genes really contribute to even the most serious disorders, the ones referred to as mental illnesses. For instance, a recent report in a leading psychiatric journal found little evidence that "hereditary factors are of any importance" in determining who will develop relatively mild depression, the kind that used to be called neurotic. Most of the studies that have claimed some role for the genes are limited to very serious depression or bipolar disorder (in which depression alternates with periods of frenzied activity).

Even then, several studies have found that nine out of ten individuals with an extreme mood disorder had no close biological relative with the same problem. In looking at people whose parents gave them up for adoption – which is believed to be the best way of teasing apart nature and nurture – the strongest predictor of who was going to develop these disorders was the background of their adopted parents or other environmental factors such as how old they were when they were adopted.

As for schizophrenia, the best known psychosis, although almost all specialists now believe that genes play some role, "the evidence for a genetic contribution," Wynne concedes, "is not overpoweringly strong."

Wynne has been helping to direct a new Finnish study that is following about 200 children put up for adoption by their schizophrenic mothers. Genetics did play a role in determining who was ultimately diagnosed with the disorder, but only in the context of certain family environments. Of the 49 children who were placed in well-functioning families, not one became schizophrenic.

Meanwhile, a study published in the *New England Journal of Medicine* used MRI (magnetic resonance imaging) to compare the brains of 15 sets of identical twins, one of whom in each pair was schizophrenic. Differences in the brains were noted in almost every pair – even though identical twins have identical genes. Clearly, something other than genetic factors must have produced those differences.

Then there's the question of why some people drink to excess. The current climate in our culture "seems dominated by the view that alcoholism is a biologically determined medical disease . . . [even though] there remain serious questions concerning the consistency of the empirical support for the existence of a genetic influence on alcoholism," according to the authors of a study published in 1992 in the *Journal of Abnormal Psychology*. That study found that identical twins were only somewhat more likely – and, in the case of women and older men, not any more likely – than fraternal twins to share a diagnosis of alcohol abuse or dependence. Other studies have found that identical twins were more likely than fraternal twins to have alcoholism in common. But the difference was substantially reduced, according to a British study, once the tendency for identical twins to live together was factored in. Cohabiting fraternal twins were more likely to share a drinking problem than identical twins who lived apart.

Researchers at the University of Michigan found something even more remarkable. When they looked at the grown children of men with drinking problems, they discovered that nearly 85 percent drank very little or not at all, suggesting not only an aversion to their fathers' destructive habit but also the capacity to choose moderation. "People seem to be overwilling to accept genetic influence" as the key explanation for excessive drinking, says Robert Plomin, a prominent behavioral geneticist. "But the evidence for this isn't all that convincing."

Does all of this mean that biological factors are unrelated to how we behave? Of course not. Notes Leon Kamin, chair of the psychology department at Northeastern University: "There have to be biological correlates" to behavior. "Every time I emit a word, something has changed in my brain. Everything is a biological condition. So what?"

Just because a behavior or emotion corresponds to a change in a neurotransmitter (the chemical messengers in the brain) doesn't mean the neurotransmitter caused the behavior, says Kamin. That assumption – which is widely made – is much like "finding mucus in the nose of someone with a cold and saying, 'Aha! Mucus causes colds.'"

"These days people are ready to accept quite uncritically almost any claim that fits in with a framework of biological determinism," Kamin continues. "As soon as claims are made" about a neurobiological basis of some behavior, "they're on the front page everywhere."

Why the biological bias? For starters, we might reflect on a comment once made by the psychologist Abraham Maslow: "It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." Translation: Train researchers primarily to do biological research and they'll approach every behavioral problem as if were biological in origin. Eventually these researchers will rise to positions of power and support more research that matches their own orientation.

Under such circumstances, few people are even looking at psychological problems from another point of view, such as a family-environment perspective. Researchers who might do such work "are discouraged about being able to get funding," says Wynne. "They feel the cards are stacked against them, so they don't apply."

For the rest of us, biological explanations have caught on for several reasons. First, they're easy to understand. If a father and son both have a tendency to hit the bottle, it's easiest to assume that alcoholism must be an inherited disease. (That Junior shares his dad's home may, of course, matter more than that he shares half of his genes.)

Second, genetic explanations are reassuring since they allow some people to feel less responsible for how they behave. Organizations composed of people suffering from mental disorders – or their parents – are especially fond of the theory that these problems are due to no-fault diseases that simply "happen" to people.

Finally, genetic theories are widely accepted simply because we've heard so much about them. The popular press seems particularly inclined to publicize research with a biological bent, perhaps because reporters share the general public's biases or because hard science claims make for sexier stories. Millions of readers open their newspapers and magazines to find articles based on the unproven assumption that our emotions can be explained by our brain chemistry.

In the days when biological factors were ignored by psychologists, when skewed parenting was thought to be enough to make people schizophrenic, some scientists stood up and said, "Hold on. It's not that simple." Today it's biological determinists whose work has taken over the field. It may be time once again to take a stand against the current fashion.

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