

Schizophrenia: Consenting adults . . .

Apathy, hallucinations, inappropriate emotions, and confused or paranoid thoughts rank among the central symptoms of schizophrenia. Nonetheless, a new study suggests that determined investigators can help people suffering from this disorder discern the pros and cons of participating in research.

Scientists and clinicians have raised concerns about the ability of individuals with severe psychiatric conditions to grasp the risks and benefits of research projects they're asked to take part in. For example, up to one-half of hospitalized patients with schizophrenia and one-quarter of those with major depression exhibit markedly impaired judgment in interviews conducted shortly after their admission (SN: 1/7/95, p. 8).

Schizophrenia sufferers, however, understand and remember much about proposed clinical trials after exposure to thorough procedures for gaining their "informed consent," contends a research team led by psychiatrist Donna A. Wirshing of the West Los Angeles Veterans Affairs Medical Center.

The researchers recruited 49 psychiatric patients diagnosed with schizophrenia who were already participating in ongoing trials of several antipsychotic medications. An experimenter first read to each patient an informed-consent document concerning an upcoming randomized clinical trial. A researcher then administered a survey that Wirshing's team devised to gauge how well volunteers understood what they had heard.

Surveys probed for knowledge about the study's procedures and goals, patients' available choices as participants, their physicians' responsibilities to the investigation, and potential ill effects of antipsychotic drugs that were to be given in the trial.

Five patients answered all survey questions correctly on an initial test. For the rest, a researcher immediately explained any items that were answered incorrectly and administered the survey again. Another 26 patients correctly answered all questions on a second try, and 18 did so after three or more attempts.

One week later, all the volunteers still answered most survey items correctly, the scientists report in the November *AMERICAN JOURNAL OF PSYCHIATRY*. This finding held even for patients displaying the most severe thought disturbances and hallucinations.

In an accompanying editorial, psychiatrist Paul S. Appelbaum of the University of Massachusetts Medical School in Worcester remarks that other tactics to boost psychiatric patients' capacity to consent to research should also be explored. These include involving family members in the teaching process and using instructional videotapes, he says. —*B.B.*

. . . and memory lapses

Schizophrenia is often marked by poor performance on memory tests, accompanied by diminished activity in frontal brain areas involved in reasoning. It's unclear, however, whether these mental lapses tap into a neural disturbance specific to the disorder or reflect the unwillingness of frequently apathetic schizophrenia sufferers to make the mental effort to remember. A study directed by neuroscientist Paul C. Fletcher of the Institute of Neurology in London lends support to the latter view.

Twelve people with schizophrenia and seven adults with no psychiatric ailments underwent positron emission tomography (PET) scanning as they learned and recalled lists of 1 to 12 words. PET scans yield measures of blood-flow changes in the brain, an indirect sign of mental activity.

In schizophrenia, frontal brain activity and memory performance dropped as tasks became more demanding, consistent with a lack of mental effort, Fletcher's group reports in the November *ARCHIVES OF GENERAL PSYCHIATRY*. In contrast, the researchers found, frontal activity rose in the mentally healthy adults as they successfully recalled more information on progressively more challenging tasks. —*B.B.*

Voles are addicted to love

It's said that love is a drug. In a rodent species, scientists may now have proof. They've collected evidence that love, or more accurately, the choice of a mate, stimulates the brain in the same way as do drugs such as cocaine and heroin. "This type of social attachment uses the same reward pathway," says Thomas R. Insel of Emory University in Atlanta.

For many years, Insel has examined the brain chemistry behind the monogamy of one strain of voles (SN: 11/27/93, p. 360). When these rodents mate, their brains release chemicals that prompt the animals to form enduring partnerships. In females, it's a compound called oxytocin that drives the vole's attachment to a partner. In fact, injections of oxytocin into the brain of a female vole can duplicate the effects of mating and induce pair bonding. Drugs blocking oxytocin's action prevent females from pairing with males after mating.

Hoping to explain oxytocin's effects, Insel and his colleagues Brenden S. Gingrich and Carissa Cascio have studied the role of another brain chemical, the neurotransmitter dopamine. Recent research indicates that the addictive nature of many drugs, including nicotine, depends on dopamine. The drugs' pleasant sensations are stimulated by the neurotransmitter's release within a brain region called the nucleus accumbens (SN: 7/20/96, p. 38). Over time, the brain appears to become more and more dependent on this dopamine, causing people to crave the drugs.

Insel's group has now found that this reward mechanism may drive the monogamy of voles as well. Brain injections of dopaminelike drugs induce female voles to prefer a single male, without mating, while dopamine-blocking agents inhibit the usual bonding that occurs after mating. The researchers also measured the natural production of the neurotransmitter within the brains of female voles as they mated. Within the nucleus accumbens of mating females, the scientists found dramatic dopamine increases, which lasted for several hours.

Insel and his colleagues have discovered that brain cells in the nucleus accumbens sport the cell-surface proteins that oxytocin activates. Blocking these receptors made it less likely that female voles would pair after mating. From such evidence, the researchers hypothesize that mating induces oxytocin production, which in turn stimulates the release of dopamine. —*J.T.*

The threat of a piece of pumpkin pie

Some people with the eating disorder anorexia nervosa may have an actual fear of food, according to a new study. Alan J. Strohmayr of the North Shore University Hospital in Manhasset, N.Y., and his colleagues found that people with anorexia nervosa experienced a stress response, detected by activation of their sweat glands, when simply viewing photos of pizza, pasta, ice cream, and other foods. People with bulimia, who deliberately vomit after eating, didn't react in the same way.

The researchers tested five women with anorexia nervosa and five with bulimia. On average, sweat gland activity in those with anorexia nervosa increased by 52 percent when they saw the images of a dozen different foods.

Many psychologists argue that anorexia nervosa stems from a fear of gaining weight, which causes people to avoid eating and, in some cases, to starve themselves to death. A food phobia, says Strohmayr, hasn't been considered before. It's not surprising that people with bulimia don't share this phobia, since they don't refrain from eating, he adds.

Strohmayr notes that current psychological treatments for anorexia nervosa often prove unsuccessful. He suggests that people with the eating disorder might be treated with desensitization therapy. Patients would be gradually exposed to their phobia—food—more often. This approach has worked for people with fears of flying and spiders, for example. —*J.T.*