

## 'Superkids' of psychotic parents

While children of parents with serious psychiatric problems may be considered at "high risk" for emotional difficulties of their own, recent studies indicate that some of these children are considerably more competent and creative than the average child.

Among the latest work to be reported in this area is a four-year follow-up study of children of psychotic mothers. In the study, done by researchers from Boston and Chicago, those children were compared with a control group of children whose mothers had no mental illness. Each child was interviewed individually and tested in the areas of psychopathology, peer relationships, academic functioning, hobbies, interests and expertise, cognitive development and deployment of attention and behavior during testing, interview and observation.

The researchers report in the November *AMERICAN JOURNAL OF PSYCHIATRY* that "the six most socially and intellectually competent high risk children were strikingly more competent, colorful, creative and talented than the six highest functioning control children." As compared with others in the high risk group, the competent youngsters — dubbed "superkids" by the scientists — more often reported having a best friend, and had "extensive and positive contact with an extrafamilial adult." And despite the mother's difficulties, another apparently important factor for the competent youngsters was their "warm relationship with the mother," reports the research team led by Henry Grunbaum, associate professor of clinical psychiatry at Harvard Medical School.

The results also indicate that "the most competent children appear to be more likely to have schizophrenic mothers, while the least competent children are likely to have severely depressed mothers," according to the investigators.

## Lecithin and tardive dyskinesia

Perhaps the most common unsavory side effect of antipsychotic drug treatment is the development of tardive dyskinesia (TD) — an affliction involving involuntary twitching of the face, tongue, arms and legs. The condition is thought to be linked to abnormally low levels of the chemical transmitter acetylcholine in the brain, and researchers recently obtained encouraging results by administering the chemical precursor choline to TD-suffering patients (SN: 2/11/78, p. 85).

However, there were preliminary indications at the time that an even more effective treatment might be lecithin, another choline precursor that seems to resist much of the chemical breakdown undergone by pure choline in the intestine. Lecithin, researchers reasoned, could more powerfully boost and maintain a person's blood and brain choline levels, and do so without the "rotten fish" smell produced by the gut bacterial breakdown.

Now, investigators in Missouri and Puerto Rico report in the November *AMERICAN JOURNAL OF PSYCHIATRY* that all six patients treated with lecithin over a 14-day period experienced "significant improvement." The subjects, long-term adult patients at the St. Louis State Hospital who had either moderate or severe TD, were also tested in a "double blind" procedure, with a placebo.

"The trend was for progressive improvement throughout the study, with the greatest improvement on the last day of lecithin ingestion," according to the team, headed by Jan V. Jackson of the Missouri Institute of Psychiatry in St. Louis. The results suggest that long-term administration of lecithin might lead to progressively greater improvement, "possibly ... complete recovery," say the researchers. In addition, "some therapeutic effect" lasted for up to 10 days after the last dose, and five of the subjects exhibited lecithin-induced improvements even though they were actively taking antipsychotic drugs during the study.

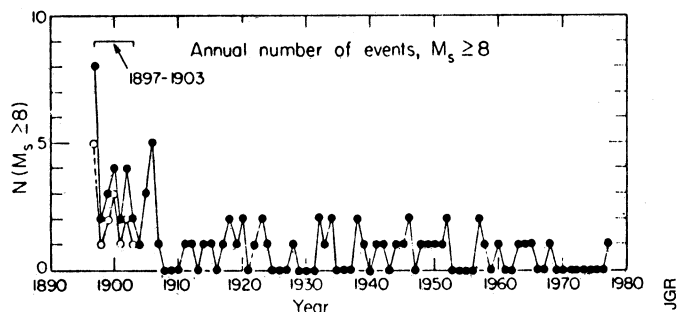
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## Flattening an earthquake peak

Judging from available earthquake data, the turn of the century was a very shaky time. During the period 1897 to 1906, according to these records, the number of earthquakes larger than magnitude 8 was significantly higher than during recent years. But this peak may be due to a calibration error, say Hiroo Kanamori of California Institute of Technology and Katsuyuki Abe, now of Hokkaido University in Sapporo, Japan.

Kanamori and Abe found that the type of seismograph used in the original calculations became "saturated," or went off scale, when recording events larger than magnitude 8. The original researcher had factored in a constant to compensate for saturation when calculating magnitudes, but Kanamori and Abe questioned the reliability of that constant.

To find out what the calibration should be, Kanamori and Abe set up a replica of the original seismograph side by side with a seismograph at Cal Tech that doesn't have the saturation problem. They recorded 11 quakes ranging from 6.1 to 8.0 during 1977 and 1978. From those data and other experiments, the researchers found a systematic error in the calculated magnitudes. When refigured, the earthquakes were reduced in size by as much as 0.6. "This reduction," say the researchers in the Oct. 10 *JOURNAL OF GEOPHYSICAL RESEARCH*, "is large enough to suggest that the turn-of-the-century seismicity peak is of marginal significance."



Annual number of quakes larger than 8. Solid circles mark accepted values; open circles 1897 to 1906 show revised values.

## Cooling off volcano-ice age link

Volcanic eruptions have often been fingered as a cause of climatic cooling (SN: 3/16/74, p. 176; 3/20/76, p. 185). Based on evidence from deep sea cores, the theory proposes that airborne dust and ash from violent volcanic eruptions may reduce the amount of incoming sunlight enough to cause global temperatures to drop and, if conditions are primed, to cause an ice age. But Michael R. Rampino of NASA Goddard Institute for Space Studies, Stephen Self of Dartmouth College and Rhodes W. Fairbridge of Columbia University suggest in the Nov. 16 *SCIENCE* that the geochemical record is unclear enough that "a case can equally be made for the converse relationship — that is, climatic change as a trigger for some explosive volcanic eruptions."

The researchers compared a list of the largest known eruptions of the past 100,000 years with well established records of climate for the last 100,000, 10,000 and 200 years. They noted an apparent coincidence between volcanic events and cooling, but they found that many cooling trends *preceded* violent eruptions and other cooling intervals showed no correlation with eruptions. During the past 200 years, for example, the huge eruptions of Tambora in 1815, Krakatoa in 1883 and the series of Virgin Islands eruptions in 1902 all occurred after 10 or more years of recorded temperature decreases. The researchers suggest that the same orbital variations proposed as the cause of major glaciations (SN: 11/10/79, p. 324; 12/4/76, p. 356) may also create crustal stress that is released in volcanic eruptions.

393