

Biological and Psychological Features of Anxious Symptoms in Children

Results:

A group of 237 children were seen at 11 years of age. These children had been followed from 4 months to 11 years. Some of the children had been categorized at 4 months as high reactive and some as low reactive. The high reactives, compared with the low reactives, were more likely to show at age 11 greater activation of the right hemisphere, a larger evoked potential from the inferior colliculus, greater magnitude of waveforms in the event related potential to discrepant scenes, and greater activation of the sympathetic nervous system.

These data imply that the high reactive infants preserved an inherited excitability of the amygdala and its projections from infancy to early adolescence. Further more high reactives were very shy and had anxious symptoms.

These results point to the stability of temperamental biases favoring shy/avoidant vs, bold/sociable behavior.

Published Work:

Kagan J. 2002 Childhood predictors of states of anxiety.
Dialogues in Clinical Neuroscience (in press).

In addition these data will be published in 2003 in a book entitled "Galen Affirmed" by Harvard University Press

Kagan, J. (2001). Biological constraint, cultural variety, and psychological structures. *Annals of the New York Academy of Sciences*, 935(1), 177-190. doi: 10.1111/j.1749-6632.2001.tb03480.x

Kagan, J., & Snidman, N. (1999). Early childhood predictors of adult anxiety disorders. *Biological Psychiatry*, 46(11), 1536–1541. doi: 10.1016/S0006-3223(99)00137-7

Researcher's Contacts:

Jerome Kagan, Ph.D. Professor of Psychology
Department of Psychology
Harvard University
Cambridge MA 02138
Phone: (617) 495 3870
Fax: (617) 495 3728.
E- mail: jk@wjh.harvard.edu