

Pedophilia patients are found to have deficits in brain activation

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Pedophilia, the sexual attraction of adults to children, is a significant public health concern and it does not respond well to treatment. Additionally, the brain mechanisms underlying pedophilia are not well understood. A new study being published in the September 15th issue of *Biological Psychiatry* is the first of its kind to use functional brain imaging to describe neural circuits contributing to pedophilia.

Using functional magnetic resonance imaging, or fMRI, Walter and colleagues report that pedophilic patients showed reduced activation of the hypothalamus, a brain region involved in regulating physiologic arousal and hormone release, as compared to healthy individuals when they were viewing sexually arousing pictures of adults. Deficits of activation in the frontal cortex were associated with the extent of pedophilic behavior. In other words, when shown erotic pictures of adults, the brains of the pedophilic patients had reduced reactions in the pleasure center of the brain, indicating an altered sexual interest.

John H. Krystal, M.D., Editor of *Biological Psychiatry* and affiliated with both Yale University School of Medicine and the VA Connecticut Healthcare System, comments that, “the ability to intervene rationally in this disorder is limited by shortcomings in our understanding of its neurobiology. The findings provide clues to the complexity of this disorder, [and] this deficit may predispose individuals who are vulnerable to pedophilia to seek other forms of stimulation.” It is important to acknowledge and consider however, that it is currently unknown “whether this pattern of brain activation is a risk factor for the

development of pedophilia or a consequence of their pedophilic sexual experiences,” according to Dr. Krystal, and future research will be needed.

One of the study’s authors, Georg Northoff, M.D., Ph.D., adds, “[These findings] may open the door for better understanding the neurobiology of this disorder which is of forensic, criminal and public concern. Our results may thus be seen as the first step towards establishing a neurobiology of pedophilia which ultimately may contribute to the development of new and effective means of therapies for this debilitating disorder.”

Source: Elsevier

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