The Dark Side Of The Brain

VIOLENCE: A Combination Of Problems

First Draft

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Violence is a very complex human behavior that, current research shows, may very possibly be the result of psychological, social and biological factors combined. A well-known authority on brain research through SPECT (single photon emission computed tomography) studies, Dr. Daniel G. Amen, M.D., has identified the SPECT profile of the violent or aggressive patient through hundreds of children, teenagers, and adult SPECT studies:

- Decreased activity in the pre-frontal cortex (trouble thinking)
- Increased cingulated activity (getting stuck on thoughts)
- Focal increased or decreased activity in the left temporal lobe (short fuse)
- Focal increased activity in the basal ganglia and/or limbic system (anxiety and moodiness)

Dr. Amen writes: “These findings point to a brain SPECT profile of the aggressive patient that involves several specific areas of the brain, especially the left hemisphere. When these findings are taken together, they suggest that aggression is a complex process mediated by several different areas of the brain.” (Amen, p. 217)

Dr. Amen also points out that there is a well-established connection between substance abuse and violence. “Substances traditionally linked with violence (e.g., cocaine, methamphetamine, and alcohol) cause abnormal perfusion patterns in the areas (of the brain) that have been associated with violent behavior.” Other substances, for example, nicotine and caffeine, may also be involved and may magnify the negative effects of other substance.

We must understand the intricacies of the connection between substance abuse and violence. Dr. Amen points out five patterns connecting the links between drug, violence, and the brain:

1. Using drugs, especially alcohol, may directly elicit aggressive behavior.
2. Drug or alcohol usage may impair executive function and increase the likelihood of aggression.
3. Drugs or alcohol may be used as self-medication for underlying brain problems involved in aggression.

4. Cingulate problems, in conjunction with pre-frontal cortex and temporal lobe problems, can exacerbate additions and potentially violent situations.
5. Drug or alcohol abuse may be involved in poor decision-making processed or provocative behaviors that put a person in high-risk situations.

Dr. Amen offers several strategies for effectively dealing with substance abuse and violence, among them:

A. Evaluation of brain functions for proper diagnosis and effective early intervention.
B. Screening for history of head injuries.
C. Screening for underlying psychiatric and neurological conditions that may contribute or exacerbate the drug-alcohol-violence connection. For example, many substance-abuse-violent individuals also suffer from Attention Deficit Disorder (ADD), bipolar disorder, learning disabilities and other dysfunctional conditions.
D. SPECT studies for especially difficult or complicated cases since these studies show cerebral damage to the abuser-violent patients and may enhance treatment compliance; show past brain trauma; and show family members and others a medical contribution to problems so they encourage the abuser-violent patients to comply with appropriate treatments.

We can conclude that violence is determined by a large number of interconnected factors:
Brain system function
Genetic factors
Metabolic factors
Psychodynamic and emotional issues
Overall health
History of brain trauma
The effects of prescribed medications, in some cases, and
Abused substances.

As Dr. Amen explains: “When someone is healthy, he or she has a high degree of control and usually needs intense provocation to elicit a violent reaction.” Over time, however, changes in habits, conducts, behaviors, body functions and other body systems lead to diminished ability to regulate aggressive impulses.

Keeping healthy is the best prescription for your brain and for non-violence.