

**A study in Hollywood violence:** The fight sequences between Dolph Lundgren, right, and Carl Weathers in *Rocky IV* stimulated much higher brain activity among children than neutral images, according to researcher John Murray.

# Beaten unconsciously

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USA TODAY

Media violence may trigger aggression in kids by stimulating brain regions involved in fighting for survival and storing readily recalled traumatic memories, a scientist will report Friday.

Functional magnetic resonance imaging (MRI) scans show that violent film clips activate children's brains in a distinctive, potentially violence-promoting pattern, says Kansas State University psychologist John Murray. He will speak at the Society for Research in Child Development meeting in Minneapolis.

The brain scans were done on eight youngsters, ages 8 to 13, as they watched TV for 18 minutes, six minutes each of boxing sequences from *Rocky IV*, non-violent PBS clips and just a blank screen marked with an "X."

Compared with MRIs done before the study, and scans taken during non-violent scenes, the boxing images evoked much greater activation of three brain regions:

► **The amygdala**, which registers

## Violent images may alter kids' brain activity, spark hostility

emotional arousal and detects threats to survival.

► **The premotor cortex**, an area believed to rev up when a person thinks about responding to a threat.

► **The posterior cingulate**, reserved for storing long-term memory of important, often troubling events. For instance, this area activates when Vietnam combat veterans and rape victims recall their trauma.

Although children may consciously know violence on the screen isn't real, "their brains are treating it as real, the gospel truth," Murray says. There's no proof this brain activation will spur aggression, "but it does give us great rea-

son for concern."

Flashbacks readily occur after post-traumatic stress; images of on-screen aggression also may recur and influence kids, he says.

One Yale University study showed a delayed effect a few days after youngsters watched aggressive TV spots: When prompted with cues similar to those in the TV scene, they, too, behaved aggressively.

But Murray's study "is way too small to make a case" for the brain-aggression link, says Yale psychologist Dorothy Singer, an expert on how TV affects children. "It's very important stuff, but we need larger numbers."

And kids' TV viewing habits don't promote belligerent behavior nearly as much as exposure to real violence and parents' failure to monitor their youngsters' activities, a recent study of 2,245 students showed.

Still, "if your child is watching lots of TV, then you have reason to be concerned," says Mark Singer of Case Western Reserve University in Cleveland. "Many, many studies show it isn't healthy."