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*Editor's Note: The following research will be released at the Society for Prevention Research ([www.preventionresearch.org](http://www.preventionresearch.org)) 2005 annual meeting, May 25-27, 2005, Washington, DC.*

## **CAN PREVENTION PROGRAMS HELP HEAL CHILDREN'S BRAINS?**

*Researchers study young people affected by trauma*

- How do changes in the brain influence teenagers' tendency to take risks?
- How do thinking and behavioral problems affect teenagers' response to drug abuse prevention programs?
- Can the imprint of trauma on children's brains and behavior be healed by intensive social intervention?

Recent research shows that the human brain continues to develop new connections from cell to cell, and structure to structure, from childhood throughout the teenage years. Importantly, the connections between an area of the brain called the prefrontal cortex, which controls complex cognitive skills, and structures within an area called the limbic system, which controls emotions, do not fully form until early adulthood. Thus, teenagers' sometimes mystifying tendency to act impulsively and take risks may be rooted in brains that are still developing and lack the emotional control mechanisms that adults take for granted. To make matters worse, trauma during childhood can profoundly affect brain development in some young people. Are these brain mechanisms 'hard-wired' realities or are there programs that can help traumatized children and teens overcome these disadvantages, avoid risky behavior, and succeed at home, in school, and in the community?

The opening presentation in this session will outline how biologically-based changes in teenage brains affect behavior, and what that means for programs aimed at preventing teens from making harmful choices. Two teams of researchers who have studied how intervention programs affect young people's brains and behavior will then share their findings.

One study examined how cognitive and emotional regulation skills affect responses to a standard program aimed at helping teenagers avoid drug use and other risky behaviors. Investigators found that those with deficits in these skills exhibited less improvement in behavior in response to the intervention, irrespective of IQ. Another study looked at how levels of the stress hormone cortisol changed in maltreated children taking part in a program called Early Intervention Foster Care, as opposed to children in standard foster care. The Early Intervention program, which focuses on social support for children and caregivers, has already shown promise in helping children bond successfully once placed in permanent adoptions. Emerging evidence suggests that the program may also help to normalize cortisol levels while reducing children's symptoms of anxiety.

*Sources: Elizabeth Ginexi PhD., National Institutes of Health; Ronald Dahl MD, University of Pittsburgh; Philip Fisher PhD, Oregon Social Learning Center; Diana Fishbein PhD, Research Triangle Institute.*