

Infants' Sweat Response Predicts Aggressive Behavior as Toddlers

April 23, 2013

Infants who sweat less in response to scary situations at age 1 show more physical and verbal aggression at age 3, according to new research published in [Psychological Science](#), a journal of the [Association for Psychological Science](#).

Lower levels of sweat, as measured by skin conductance activity (SCA), have been linked with conduct disorder and aggressive behavior in children and adolescents. Researchers hypothesize that aggressive children may not experience as strong of an emotional response to fearful situations as their less aggressive peers do; because they have a weaker fear response, they are more likely to engage in antisocial behavior.

Psychological scientist Stephanie van Goozen of Cardiff University and colleagues wanted to know whether the link between low SCA and aggressive behaviors could be observed even as early as infancy.

To investigate this, the researchers attached recording electrodes to infants' feet at age 1 and measured their skin conductance at rest, in response to loud noises, and after encountering a scary remote-controlled robot. They also collected data on their aggressive behaviors at age 3, as rated by the infants' mothers.

The results revealed that 1 year-old infants with lower SCA at rest and during the robot encounter were more physically and verbally aggressive at age 3.

Interestingly, SCA was the only factor in the study that predicted later aggression. The other measures taken at infancy — mothers' reports of their infants' temperament, for instance — did not predict aggression two years later.

These findings suggest that while a physiological measure (SCA) taken in infancy predicts aggression, mothers' observations do not.

“This runs counter to what many developmental psychologists would expect, namely that a mother is the best source of information about her child,” van Goozen notes.

At the same time, this research has important implications for intervention strategies:

“These findings show that it is possible to identify at-risk children long before problematic behavior is readily observable,” van Goozen concludes. “Identifying precursors of disorder in the context of typical development can inform the implementation of effective prevention programs and ultimately reduce the psychological and economic costs of antisocial behavior to society.”

Co-authors on this research include Erika Baker, Katherine Shelton, Eugenia Baibazarova, and Dale Hay of Cardiff University.

This research was supported by studentships from the School of Psychology, Cardiff University, and by a grant from the Medical Research Council.