

# The Effect of the Perinatal Condition on Adolescent Anti-Social Behavior

Manivel Rengasamy, '10

Adolescence is a tumultuous time developmentally, characterized by dramatic physiological and psychological changes. In addition, adolescence is often a common period for the occurrence of mental disorders, ranging from mood disorders such as depression or bipolar disorder to eating disorders such as anorexia nervosa [2]. Furthermore, a series of developmental time periods may influence or indicate vulnerability to mental disorders in adolescence, and one of the first such stages lies during the perinatal phase, the time five months before to one month after birth. Adverse perinatal events, such as unstable maternal emotional state, poor maternal physical state, substance abuse, or smoking, are likely to lead to mental disorders later in life [1].

Although much minor research has been done on such events, previous conclusive long-term research on mildly adverse perinatal events in reference to anti-social behavior has not been conducted. Recently, Nomura et al. investigated the effects of perinatal events on anti-social behavior during adolescence [5]. Over a period of thirty years, 1500 random individuals born to mothers involved in the Johns Hopkins Collaborative Perinatal Study site were examined. Perinatal markers, such as birthweight, head circumference, and 5-minute Apgar scores (scores reflecting infant's general health), were observed at birth. Lower birthweight, smaller head circumference, and lower

Apgar scores would be indicative of sub-optimal perinatal conditions. Children with

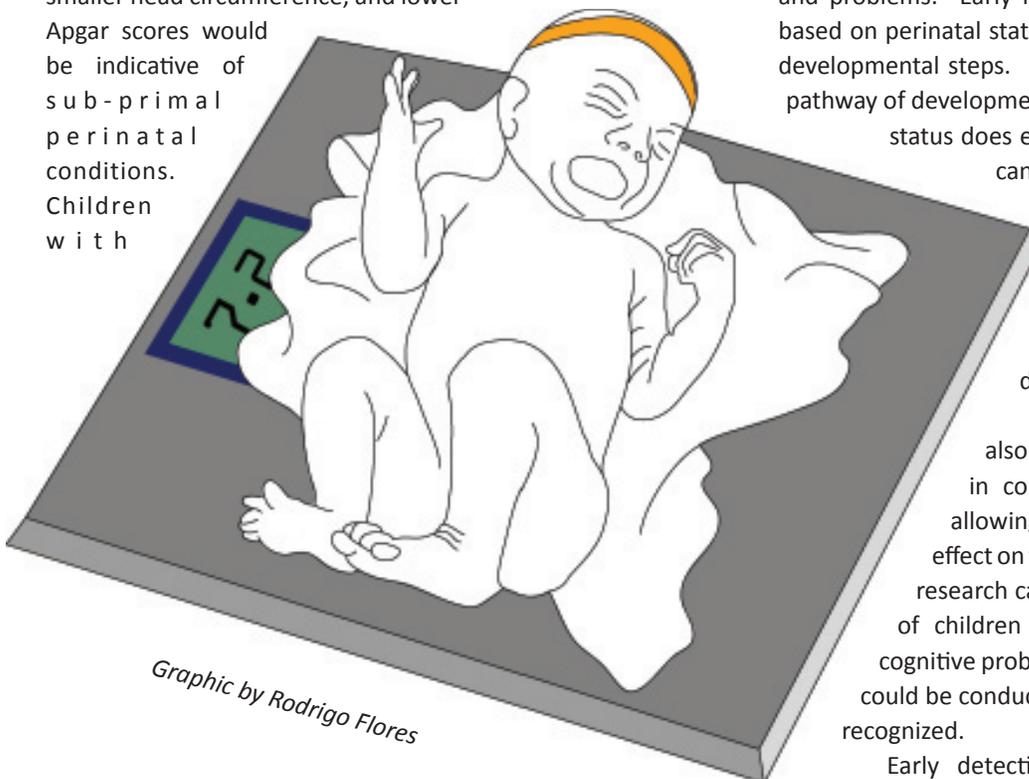
varying perinatal markers were evaluated throughout childhood for neurological problems, communication problems, academic and cognitive abilities, and adolescent anti-social behavior. After statistical analysis of data using a SEM analysis model, indirect associations were found between perinatal birth conditions and most evaluated developmental difficulties in both males and females, most notably anti-social behavior during adolescence. The pathway of perinatal condition to adverse behavioral outcome was confirmed, as poor perinatal status was correlated with a developmental problem. In a repetitive fashion, these developmental problems then positively correlated with each subsequent developmental problem. For example, poor perinatal status correlated with neurological problems, which then correlated with communication problems.

This research is vital since it provides a study of relatively normal-term infants, rather than early or late-term infants. Although early and late-term infants present many mental problems, normal-term infants should also be a target population studied for future problems [3]. Thus, perinatal research has great incentive directly based on its findings. By allowing for a method to directly correlate moderately poor perinatal status to future anti-social behavior, the research can provide better understanding to help prevent potential anti-social behavior and problems. Early in life, such individuals can be identified based on perinatal status and supported properly in subsequent developmental steps. By conclusively identifying that a general pathway of developmental problems starting with poor perinatal status does exist, anti-social difficulties in adolescence

can be limited by examining various stages of child development and resolving cognitive and emotional issues. Future study and research could seriously reduce anti-social behavior, which is often a factor in multiple mental disorders.

Children born in perinatal conditions also may have more modifiable outcomes in comparison to early or late-term infants, allowing this research to have a serious profound effect on the lives of many future children. Perinatal research can help in early identification and support of children at risk for neurological, emotional, or cognitive problems. Based on simple scientific tests that could be conducted by nurses, individuals at risk could be recognized.

Early detection of these problems could aid the

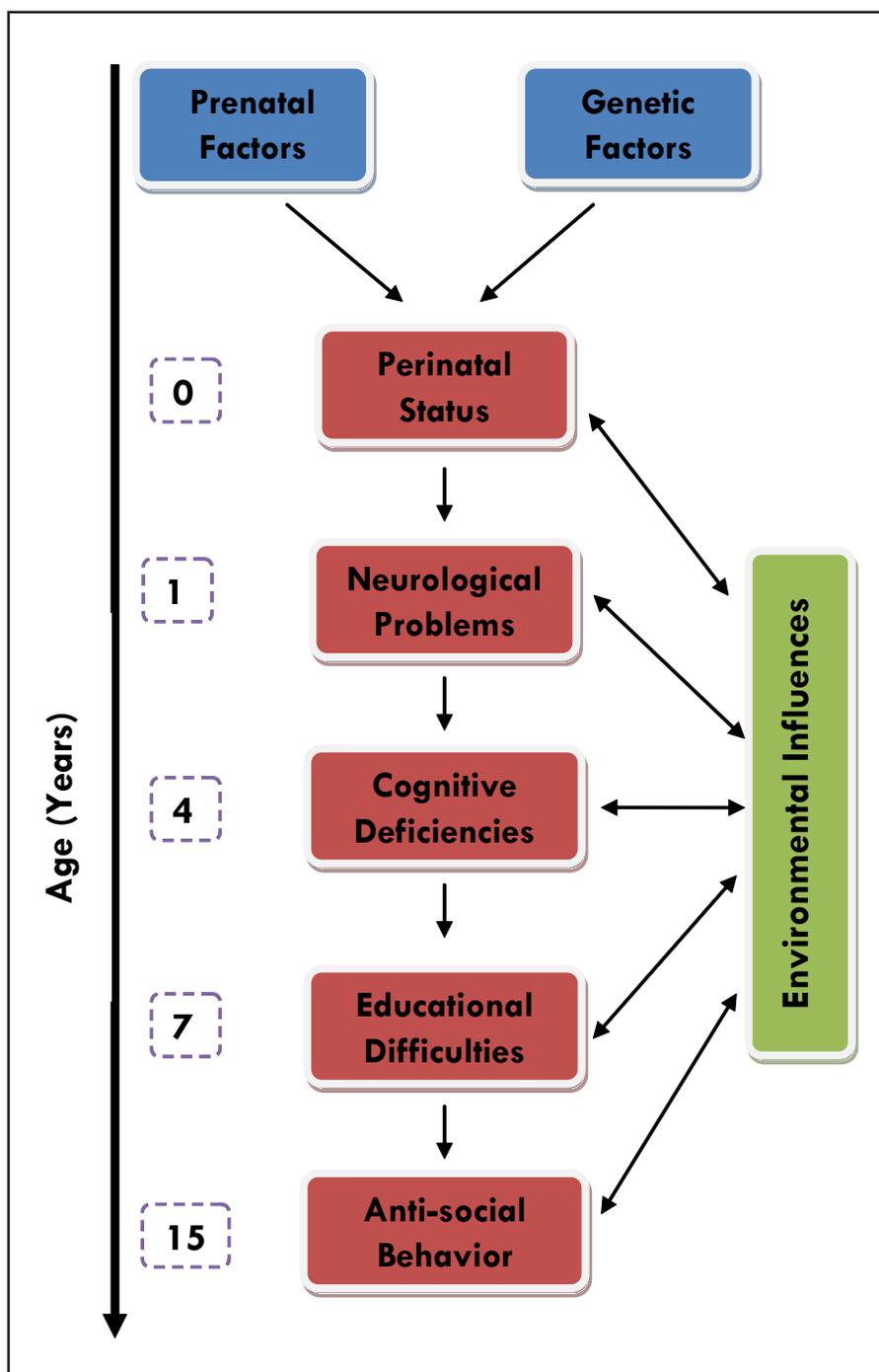


Graphic by Rodrigo Flores

educational system financially by promoting earlier and less costly treatment. Educators might be able to better lead students toward academic and social success with specialized management. In addition, parents could be more prepared to work with the educational system and their children since these parents will be equipped with knowledge of the difficulties their children might face [4]. Lastly, the healthcare system would be well-served as doctors would be able to efficiently use time to treat medical ailments and not spend time making diagnoses. Although Nomura’s research does not have complete external validity (88% of infants were of African American descent), future studies could also incorporate a more representative population sample, allowing implementation of these beneficial actions based on this research.

In the field of child development, this research has laid a significant stepping stone on which to reduce anti-social behavior in adolescence, as well as other psychological problems throughout childhood. The longitudinal study of Nomura et al. has made significant progress in understanding the long-term effect of the comprehensive perinatal condition and its prediction ability of developmental problems. Future research can help to identify if an actual cause-effect relationship exists between perinatal status and developmental psychological outcomes, such as anti-social disorder. Clearly, the research regarding the perinatal status and its effect on anti-social behavior in adolescents is a major step forward in child development and psychology.

*Manivel Rengasamy is a junior double-majoring in Biochemistry & Cell Biology and Psychology at Lovett College.*



(Flowchart by Nicky Mehtani and Manivel Rengasamy)

**References**

- Allen N. B., Lewinsohn P. N., & Seeley J. R. Prenatal and perinatal influences on risk for psychopathology in childhood and adolescence. *Development and Psychopathology* 2008; 10, 513±529
- Bhatia SK, Bhatia SC. Childhood and adolescent depression. *Am Fam Physician* 2007; 75: 73-80, 83-84
- Kenworthy OT, Bess FH, Stahlman MT, Lindstrom DP. Hearing, speech, and language outcome in infants with extreme immaturity. *Am J Otol* 1987;8:419-425
- Litt J., Taylor HG, Klein N, Hack M. Learning disabilities in children with very low birthweight: Prevalence, neuropsychological correlates, and educational interventions. *Journal of Learning Disabilities* 2005;38:130–141
- Nomura Y., Rajendran K., Brooks-Gunn J., Newcorn JH. Roles of perinatal problems on adolescent antisocial behaviors among children born after 33 completed weeks: a prospective investigation. *J Child Psychol Psychiatry* 2008; 49:1108–1117
- Saigal S, Pinelli J, Hoult L, Kim MM, Boyle M. Psychopathology and social competencies of adolescents who were extremely low birth weight. *Pediatrics* 2003;111:969–975

