**Cohort Fact Sheet: Epigenetics of Minority Violence and Cognition**

1000 African American women of primarily low socioeconomic status were recruited during 3rd trimester of pregnancy in 2009-2010. Women were excluded if they were under 18 years old, had preexisting health conditions or reported smoking and drinking during pregnancy. Women were administered the My ETV (exposure to violence questionnaire at the 3rd trimester. Covariate info was collected with questionnaires. Cord blood was collected at birth and plasma was frozen at -80C. At 48 months, McCarthy Scales of Children’s Abilities were used to measure child cognitive development.

**My ETV: As measured by (Chiu et al. 2014)**

Within 2 weeks of enrollment, mothers completed the My Exposure to Violence questionnaire, assessing hearing gunshots and witnessing and/or experiencing fights, knife attacks, and/or shootings in their neighborhood. Events reported in the past year indicated exposure proximate to and during the pregnancy. Respondents indicated the event frequency on a scale of 1 (0-1 time), 2 (2-4 times), 3 (5-10 times), or 4 (>10 times). The multi-item survey was summarized into a continuous scale by using Rasch modeling based on item response theory. The model was generalized to calculate conditional probabilities for each “yes” response given the presumed event severity and accounting for features theoretically influencing severity, including frequency and whether the respondent knew the victim or perpetrator. Higher Rasch ECV scores indicate greater severity of violence exposure (eg, witnessing a knifing or shooting compared with pushing or shoving fights), as well as greater frequency, however, the actual values have no meaning.

**McCarthy Scales:**

At the 48 month visit, the McCarthy’s Scales of Children’s Abilities examination was administered by a trained psychologist. The McCarthy Scales assess five key cognitive outcomes: memory, motor, quantitative and verbal skills. The quantitative, Memory, and verbal scales were summed to create a General Cognitive Index (GCI). Raw values were correct by child age.

**miRNA Analysis:**

miRNA was isolated from 200uL cord blood plasma using the miRNeasy kit (Qiagen) and quantified with the QuantStudio™ 12 K Flex OpenArray system (Thermofisher). miRNAs were considered unexpressed at threshold (Ct < 25) and replaced with NA. We performed deltaCt normalization using miRNAs (miR-19b, miR-26a and miR-26b) that were identified by the geNorm method as being the most stable miRNAs.

**References**

Chiu Y-HM, Coull BA, Sternthal MJ, Kloog I, Schwartz J, Cohen S, et al. 2014. Effects of prenatal community violence and ambient air pollution on childhood wheeze in an urban population. Journal of Allergy and Clinical Immunology 133:713-722.e4; doi:10.1016/j.jaci.2013.09.023.