Early Life Course Risk Factors for Maternal Prenatal Smoking and Poor Birth Outcomes in the U.S.

Jennifer B. Kane, Ph.D.\textsuperscript{1}, Anna Maria Siega-Riz, Ph.D.\textsuperscript{1,2}, and Kathleen Mullan Harris, Ph.D.\textsuperscript{1,3}

\textsuperscript{1}Department of Sociology, University of California, Irvine, 4171 Social Sciences Plaza A, Irvine, CA 92697
\textsuperscript{2} Department of Epidemiology, University of North Carolina, 2105A McGavran-Greenberg, Chapel Hill, NC 27599-7435
\textsuperscript{3} Department of Sociology, University of North Carolina, Hamilton Hall, Chapel Hill, NC 27599-3210

Corresponding author: Jennifer B. Kane, Department of Sociology, University of California, Irvine, 4171 Social Sciences Plaza A, Irvine, CA 92697. Phone: (949) 824-9594; Email: jbkane@uci.edu.
ABSTRACT

Prenatal smoking is the leading preventable cause of perinatal morbidity and mortality in the U.S. Yet, cessation programs demonstrate modest results, presumably due to difficulty in modifying long-term smoking behavior. This study identified early life course factors that precede prenatal smoking in an effort to refocus such efforts. Data were drawn from a prospective, population-based study—Add Health (n = 3,328). Structural equation models (SEM) identified multiple early life risk factors of prenatal smoking: lower family-of-origin SES, adolescent smoking, lower high school GPA, and teen binge drinking. Study results were robust to a different specification, propensity score matching. The SEM also demonstrated complex pathways linking family-of-origin SES, adolescent health and social behaviors, risk of prenatal smoking, and birthweight. In sum, adolescent-uptake of smoking emerged as a key risk factor for prenatal smoking. Therefore, future prenatal smoking prevention efforts may see more efficacious results by refocusing efforts to prevent adolescent-uptake of smoking.