SUPPLEMENTARY DATA

Supplementary Materials

Statistical Analysis

AAP exposures including NO_2 and $PM_{2.5}$ were modeled as long-term exposure using cumulative 12-month averaged exposure during the follow-up ($\overline{E}_t$). Liner mixed effects regression models were used to analyze relationships between adiposity and metabolic outcomes in relation to APP exposure over time. Our multi-level model is shown below:

Level 1: $$Y_{ij} = a_i + b_i\left(Age_{ij}\right) + \gamma_1 E_{Dij} + \gamma_2 Z_{ij} + f\left(Yr_{ij}\right) + \varepsilon_{ij} \quad (1)$$

Level 2a (level): $$a_i = \alpha_0 + \alpha_1 \overline{E}_t + \alpha_2 W_i + e_i \quad (2)$$

Level 2b (linear growth): $$b_i = \beta_0 + \beta_1 \overline{E}_t + \beta_2 W_i + f_i \quad (3)$$

In this modeling framework, Y_{ij} denotes a longitudinal adiposity and metabolic outcomes for participant i at observation j. Age was centered on 18 (Age_{ij}) and for BMI growth trajectory was modeled using a linear spline with four additional basis functions for the nonlinear features. Z_{ij} are time-dependent covariates such as Tanner stage, percent fat mass (where appropriate), the year to year fluctuation of the prior year AAP exposure (deviated from the average exposure across follow-up $\left(E_{Dij} = E_{ij} - \overline{E}_t\right)$, and seasonality (warm/cold). $f\left(Yr_i\right)$ is a spline function of the study entry year to adjust for temporal variations across participants by recruitment year. Participant-specific intercepts (from Level 2a) are a function of annual averaged AAP exposure$\left(\overline{E}_t\right)$, participant-level characteristics (W_i: including sex, social position category, and study wave) and a participant-level random intercept (e_i). Linear growth rates (from Level 2b) were allowed to vary by annual averaged AAP exposure (through the $\beta_1\overline{E}_t$ term) and additionally by sex for BMI which was found to be non-significant. A unified linear mixed effects model via standard software SAS proc MIXED procedure was used.

We examined the associations of the longitudinal measurements of adiposity and metabolic outcomes with the averaged AAP exposure across follow-up on rate of change of the outcome (β_1) and the averaged AAP exposure across follow-up on the outcome at age 18 (α_1). Estimated effect estimates for each AAP were reported for a 5-ppb difference in NO_2 and a 4-μg/m^3 difference in $PM_{2.5}$. Natural log transformations were performed on fasting glucose, fasting insulin, SI, AIR_g, DI and SAAT and reported as percent change. Results were considered significant at a two-sided $p<0.05$. All analyses were performed in SAS, version 9.4 (SAS, Institute, Cary, NC).

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Supplementary Table 1. Baseline Social Position Information in Exposure in Latino Children Enrolled in the Longitudinal Study

Social Position	**n=278**
Modified Four Factor Index Score	17.7 ± 9.9
Marital Status	
Single	44, 16%
Married / Civil Union	180, 65%
Living Together	11, 4%
Divorced / Separated	41, 15%
Widow	3, 0.01%
Mom Education[a]	
<7th Grade	85, 31%
7-9th Grade	54, 20%
Some High School	37, 13%
GED	58, 21%
Some University	34, 12%
Bachelor's Degree	5, 2%
Graduate School	4, 1%
Dad Education[b]	
<7th Grade	69, 36%
7-9th Grade	38, 20%
Some High School	28, 15%
GED	34, 18%
Some University	17, 9%
Bachelor's Degree	5, 3%
Graduate School	1, 0.5%
Mom Occupation[a]	
Does Not Work Outside the Home	164, 59%
Farm Laborers / Menial Service Workers	18, 7%
Unskilled Workers	31, 11%
Machine Operators and Semiskilled Workers	25, 9%
Skilled Manual Workers, Craftsman	17, 6%
Clerical and Sales Workers, Small Business Owners	8, 3%
Technicians, Semiprofessionals, Small Business Owners	8, 3%
Smaller Business Owners, Minor Professionals	4, 1%
Administrators, Lesser Professionals	2, 0.7%
Higher Executives, Major Professionals	0, 0%
Dad Occupation[b]	
Does Not Work Outside the Home	16, 8%
Farm Laborers / Menial Service Workers	7, 4%
Unskilled Workers	48, 25%

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Machine Operators and Semiskilled Workers	59, 31%
Skilled Manual Workers, Craftsman	50, 26%
Clerical and Sales Workers, Small Business Owners	6, 3%
Technicians, Semiprofessionals, Small Business Owners	5, 3%
Smaller Business Owners, Minor Professionals	0, 0%
Administrators, Lesser Professionals	0, 0%
Higher Executives, Major Professionals	1, 0.5%

Baseline social position characteristics in Latino youth. Data are reported as mean with standard deviation (SD) or with sample number and percent. Sample size is indicated as [a]277 and [b]192. Education and occupations are shown in order of ascending scores from 1-7 and 1-9, respectively.