Table S1. Census tract variables used to construct neighborhood socioeconomic deprivation index score; American Community Survey 5-year estimates, 2008–2012.

| Domain                  | ACS Variables                                                                 | Factor Loading Coefficients ‡ | Standardized Scoring Coefficients † |
|-------------------------|-------------------------------------------------------------------------------|------------------------------|------------------------------------|
| Education               | % of total population with less than a high school education *                 | 0.69789                      | 0.13488                            |
|                         | % of working class *                                                          | 0.73356                      | 0.14555                            |
| Occupation              | % of civilian labor force unemployed *                                        | 0.74070                      | 0.12883                            |
|                         | % of household ownership                                                     | 0.40686                      | -0.02221                           |
|                         | % of vacant households                                                       | 0.09261                      | -0.01269                           |
| Housing Conditions      | % of households with more than 1 person per room                              | 0.29262                      | 0.02743                            |
|                         | % of households in poverty *                                                  | 0.87287                      | 0.11806                            |
|                         | % of female headed households with dependent children *                        | 0.69174                      | 0.07541                            |
|                         | % of households with income <$30,000 *                                        | 0.91099                      | 0.13163                            |
|                         | % of households with public assistance *                                      | 0.51923                      | 0.10387                            |
|                         | % of households with no car *                                                 | 0.71970                      | 0.08187                            |
|                         | % of households with no phone *                                               | 0.44788                      | 0.05394                            |
|                         | % of households with incomplete plumbing                                     | 0.12188                      | -0.02924                           |
|                         | % of households with no kitchen                                               | 0.00341                      | -0.06318                           |
| Income and Poverty      | Income disparity *                                                            | 0.84599                      | 0.13443                            |
|                         | % of population below the federal poverty line *                              | 0.84468                      | 0.10973                            |
| Racial Composition      | % of population non-Hispanic African American *                               | 0.71688                      | 0.11403                            |
|                         | % of population Hispanic                                                      | 0.02200                      | -0.02905                           |
| Residential Stability   | % of residents aged ≥ 65 years                                                | -0.12764                     | -0.01385                           |
|                         | % of persons living in same residence for ≥ 5 years                           | -0.04373                     | 0.08845                            |
|                         | % of foreign born                                                             | -0.15830                     | -0.07625                           |

* Variables selected to generate the deprivation index (Cronbach’s alpha = 0.93); ‡ factor loading coefficients (for variables’ selection) and † standardized scoring coefficients (for variables’ weighting) from the first common factor.
### Table S2. Unadjusted and adjusted least squared means of fat mass index among TRACK participants by neighborhood socioeconomic deprivation (SED) quartiles.

| Model               | Unadjusted | Adjusted | Fully Adjusted |
|---------------------|------------|----------|----------------|
|                     | Q1 (Affluence) | Q2        | Q3          | Q4 (Deprivation) |
| Unadjusted ²        | 5.61 (0.27) a | 5.74 (0.20) b | 6.15 (0.26) | 6.83 (0.40) a,b |
| Adjusted ³           | 5.59 (0.28)   | 5.68 (0.20)   | 6.02 (0.27)   | 6.47 (0.40)   |
| Fully Adjusted ⁴    | 5.64 (0.31) c | 5.85 (0.24)   | 6.06 (0.30)   | 6.64 (0.41) c |

1. Model derived estimates presented as adjusted least squared means and standard error (SE); Superscript letters indicate significant differences between adjusted least squared means, p < 0.05; ² Unadjusted model accounted for participants clustered within schools; ³ Model adjusted for age, sex, race/ethnicity, parent education; and accounted for participants clustered within schools; ⁴ Model adjusted for age, sex, race/ethnicity, parent education, MVPA minutes per hour, sedentary minutes per hour, and diet quality; and accounted for participants clustered within schools. a unadjusted model-derived estimate for fat mass index is significantly lower among youth residing in Q1 compared to youth residing in Q4; b unadjusted model derived estimate for fat mass index is significantly lower among youth residing in Q2 compared to youth residing in Q4; c adjusted model-derived estimate for fat mass index is significantly lower among youth residing in Q1 compared to youth residing in Q4.

### Table S3. Odds of overweight/obesity among 5th grade TRACK participants by neighborhood socioeconomic deprivation (SED) quartiles.

| Models                | Neighborhood SED, Quartiles (Q) | Linear Trend |
|-----------------------|----------------------------------|--------------|
|                       | Q1 | Q2 | Q3 | Q4 (dep) |                  |
| Model 1: Unadjusted ¹ | 0.51 (0.30, 0.86) | 0.73 (0.45, 1.17) | 0.82 (0.49, 1.36) | 1.0 | <0.05 |
| Model 2: Adjusted ²   | 0.57 (0.33, 0.97) | 0.74 (0.45, 1.22) | 0.80 (0.48, 1.34) | 1.0 | 0.05  |
| Model 3: + MVPA ²     | 0.54 (0.32, 0.95) | 0.70 (0.42, 1.16) | 0.70 (0.41, 1.20) | 1.0 | <0.05 |
| Model 4: + Sedentary ²| 0.53 (0.31, 0.93) | 0.69 (0.42, 1.14) | 0.72 (0.42, 1.21) | 1.0 | <0.05 |
| Model 5: + Diet ²     | 0.54 (0.31, 0.93) | 0.73 (0.45, 1.20) | 0.79 (0.47, 1.32) | 1.0 | 0.06  |
| Model 6: Fully Adjusted ³ | 0.51 (0.29, 0.90) | 0.67 (0.40, 1.12) | 0.67 (0.39, 1.15) | 1.0 | <0.05 |

1. Unadjusted model accounted for participants clustered within schools; ² Model adjusted for age, sex, race/ethnicity, parent education; and accounted for participants clustered within schools; ³ Model adjusted for age, sex, race/ethnicity, parent education, MVPA, sedentary, and diet quality; and accounted for participants clustered within schools. Bold typeface indicates significant odds ratio.