# **Appendix**

## **A1: Linearity Assumption**

Absolute upward and downward health mobility rely heavily on the assumption of linearity in the Ordinary Least Squares Specification. A Ramsey RESET test (1) in the ECLS-K sample supports this assumption[1]. A formal analysis of this assumption in a national distribution can also be found in Halliday et al. (2). Our analysis diverges from the data frame used in that previous work in two potentially important ways. First, children (and their parents) are observed at younger ages yielding less overall variation in health. Second, we are utilizing stratifications along various subpopulations to compare and contrast health mobility patterns in addition to using a full national distribution.

We employ a simple check of the linearity assumption by infusing a small amount of uniform error to reported health status to randomly break all ties in health status. As expected, the coefficient of health persistence in the noise-infused health ranks decreases marginally (from 0.411 to 0.395) and upward mobility is stable (41.35 vs. 40.95). For the national distribution, we calculate the mean child health for all parents at each percentile of parent health and plot the results in Exhibit A1.1. Based on this check, we conclude that health mobility in our sample of young children is consistent with the assumption of linearity.

[Exhibit A1.1]

For each subpopulation we pursue a similar check, but must aggregate parent health in 5 percentile bins due to smaller samples. We examine all samples visually, and all conform to the assumption of linearity and are available upon request.

**A2: Correcting for Sampling Design**

ECLS-K is a probability sample, and the main results correct for base year sampling design. Here we demonstrate that the results and main conclusions are not sensitive to the utilized sample. Specifically we examine whether an unweighted analysis and an analysis correcting for panel sample design is robust. In Exhibits A2.1 and A2.2, individual analysis is unweighted and corrected for the panel design respectively. Corresponding community analysis is in Exhibits A2.3 and A2.4. As highlighted in those Exhibits, results are stable to the sample selection, although the panel estimates suffer from some precision loss with a smaller sample.

[Exhibit A2.1]

[Exhibit A2.2]

[Exhibit A2.3]

[Exhibit A2.4]

**A3: Method for Breaking Ties of Equivalent Health**

The main method for dealing with equivalent observed health is to assign marginally better health to individuals observed more frequently as indicated in the main text. The most common report for children's health is consistent "excellent" health. The most frequent report for parents is consistent "very good" health (the second most frequent report is consistent "excellent" health). Therefore, we are most interested in breaking ties among persons in relatively better health. Since unobserved health status may at best be "excellent", we

implicitly assume an unobserved report is no better than an observed report, but can be lower. For each wave beyond the first observation, an additional report receives an additional 0.001 points assigned to the adjusted health status. This preserves the main ordering while breaking ties by frequency of observation.

This assumption is most plausible for consistently "excellent" health, and may be less clear for other ties. We therefore examine three additional methods to deal with equivalent observed health. First, rather than ordering persons with more observations in relatively better health, the order is reversed. We argue this is likely a less desirable ordering, but provides insight into the range of mobility statistics that are possible in this sample based on ordering of equivalent health. Second, we take an agnostic approach to ordering and infuse a small amount of uniform random noise to each generation. Finally, observed health is taken as observed, without modification, and ties for equivalent health are not broken. As observed in Exhibit A3.1 below, results from this sample do not appear sensitive to the method of breaking ties. Unreported results of this exercise by subpopulation suggest similar patterns.

[Exhibit A3.1]

# References

1. Ramsey JB. Tests for specification errors in classical linear least-squares regression analysis. J R Stat Soc Ser B Methodol. 1969;31(2):350–371.

2. Halliday T, Mazumder B, Wong A. The intergenerational transmission of health in the United States: A latent variables analysis. Health Econ. 2020;29(3):243–390.

3. Garbarski D. Comparing self and maternal reports of adolescents' general health status: Do self and proxy reports differ in their relationships with covariates? Qual Life Res. 2014;23(7):1953–1965.

4. Fletcher J, Jajtner KM. Intergenerational Health Mobility: Magnitudes and Importance of Schools and Place. National Bureau of Economic Research; 2019.

5. ECLS-K. ECLS-K, Base Year Public-Use Data File, Kindergarten Class of 1998-99: Data Files and Electronic Code Book (Child, Teacher, School Files), and User's Manual [Internet]. National Center for Education Statistics; 2004 [cited 2020 Jun 25]. Available from: https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001029rev

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[1] Specifically, residual health in each generation is calculated from a generation-specific OLS regression of age and age-squared on health rank. Residual parent health is regressed on child residual health to remove age controls such that the Ramsey RESET test only examines the possibility of non-linearities in parent health ranks. The slope coefficient in the normalized regression is 0.411. The F-statistic from the RESET test is 0.366 with a p-value of 0.778, failing to reject the null hypothesis of nonlinearities in the full sample.

# Exhibits:

**Exhibit A1.1:** Checking the linearity assumption
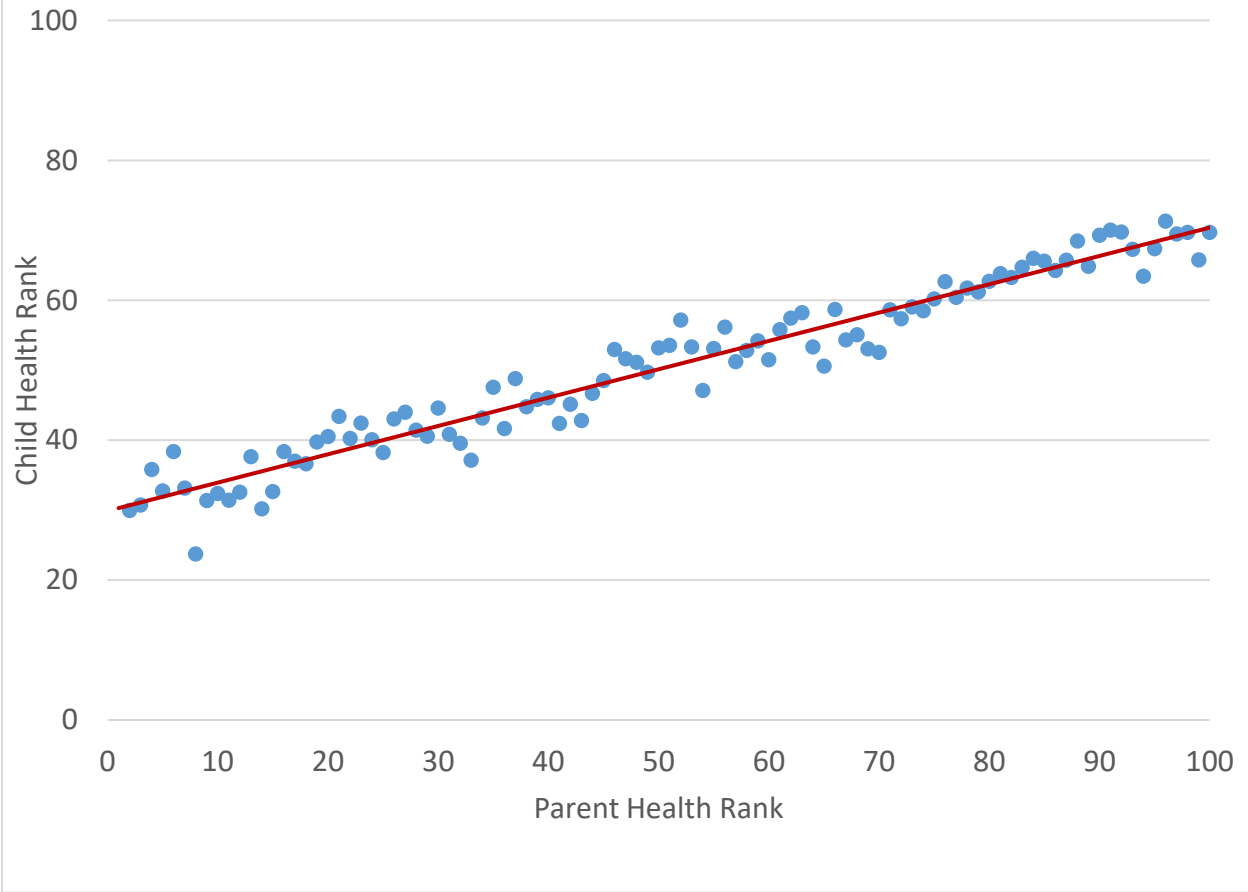


**Source**: Authors' calculations using ECLS-K data.
**Notes**: Uniform random noise infused into both generation's health to break equivalent health statuses. Child health rank (vertical axis) is the observed average rank at each percentile of parent health.

**Exhibit A2.1:** Comparison of Individual-level Results using an Unweighted Sample

| | | | Main Results (Base Year Correction) | | | | | Unweighted Sample | | | |
| | Reference | | Upward Mobility | | Downward Mobility | | | Upward Mobility | | Downward Mobility | |
| Subpopulation | Group | N | Estimate | Gap | Estimate | Gap | N | Estimate | Gap | Estimate | Gap |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All groups | | 16,025 | 41.35 | | 61.89 | | 18439 | 40.78 | | 61.53 | |
| Boys | Boys | 8,162 | 40.55 | | 61.12 | | 9435 | 39.34 | | 60.42 | |
| Female | Boys | 7,863 | 42.11 | 1.56+ | 62.70 | 1.58+ | 9004 | 42.19 | 2.85** | 62.67 | 2.25** |
| nH White | nH White | 9,476 | 44.86 | | 64.35 | | 10645 | 44.34 | | 64.09 | |
| nH Black | nH White | 2,097 | 37.71 | -7.15** | 54.98 | -9.37** | 2495 | 37.61 | -6.72** | 54.61 | -9.48** |
| Hispanic | nH White | 2,780 | 36.30 | -8.56** | 55.87 | -8.48** | 3242 | 36.14 | -8.2** | 56.08 | -8.01** |
| Other R/E | nH White | 838 | 40.58 | -4.28* | 60.21 | -4.14 | 971 | 40.76 | -3.58* | 59.09 | -5** |
| Health Insurance | Health Insurance | 14,610 | 41.99 | | 62.39 | | 16156 | 41.40 | | 62.04 | |
| No Insurance | Health Insurance | 1,402 | 35.91 | -6.08** | 54.90 | -7.48** | 1570 | 35.34 | -6.06** | 54.99 | -7.06** |
| 4+ yrs College | 4+ yrs College | 5,473 | 46.67 | | 65.26 | | 5994 | 45.11 | | 64.33 | |
| Some College | 4+ yrs College | 5,252 | 42.23 | -4.44** | 60.90 | -4.37** | 5884 | 42.02 | -3.1** | 61.13 | -3.19** |
| HS/GED | 4+ yrs College | 3,976 | 39.11 | -7.56** | 58.02 | -7.25** | 4585 | 38.21 | -6.9** | 57.05 | -7.28** |
| < HS | 4+ yrs College | 1,324 | 31.10 | -15.57** | 45.78 | -19.48** | 1618 | 30.74 | -14.37** | 46.70 | -17.62** |
| Top 25% Income | Top 25% Income | 4,297 | 46.45 | | 65.43 | | 4718 | 45.59 | | 64.83 | |
| Q2 Income | Top 25% Income | 3,823 | 45.74 | -.71 | 64.38 | -1.05 | 4265 | 44.85 | -.73 | 63.59 | -1.25 |
| Q3 Income | Top 25% Income | 4,221 | 39.93 | -6.53** | 58.25 | -7.19** | 4768 | 39.48 | -6.11** | 58.42 | -6.41** |
| Q4 Income | Top 25% Income | 3,684 | 35.26 | -11.2** | 52.07 | -13.36** | 4330 | 34.75 | -10.84** | 51.86 | -12.97** |

**Source**: Authors' calculations using ECLS-K data.

**Notes**: Main Results correspond to reported estimates in Table A4.1 below. Health mobility is the predicted health rank from an OLS regression of parent health rank on child health rank under the assumption of linearity (controlling for age – normalized to mean-zero – in each generation). Parents report all characteristics. Race/ethnicity and health insurance status refers to the child's characteristics, while educational attainment refers to the highest attaining parent's education. $p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **

**Exhibit A2.2:** Comparison of Individual-level Results using a Panel Sample

| | | | Main Results (Base Year Correction) | | | | | Panel Correction: Waves 1 - 7 | | | |
| | | | Upward Mobility | | Downward Mobility | | | Upward Mobility | | Downward Mobility | |
| Subpopulation | Reference Group | N | Estimate | Gap | Estimate | Gap | N | Estimate | Gap | Estimate | Gap |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All groups | | 16,025 | 41.35 | | 61.89 | | 6,330 | 39.80 | | 64.51 | |
| Boys | Boys | 8,162 | 40.55 | | 61.12 | | 3,221 | 37.30 | | 62.07 | |
| Female | Boys | 7,863 | 42.11 | 1.56+ | 62.70 | 1.58+ | 3,109 | 42.07 | 4.77** | 66.79 | 4.73** |
| nH White | nH White | 9,476 | 44.86 | | 64.35 | | 4,317 | 43.56 | | 65.52 | |
| nH Black | nH White | 2,097 | 37.71 | -7.15** | 54.98 | -9.37** | 457 | 37.50 | -6.06* | 61.23 | -4.29 |
| Hispanic | nH White | 2,780 | 36.30 | -8.56** | 55.87 | -8.48** | 993 | 32.26 | -11.3** | 60.40 | -5.12* |
| Other R/E | nH White | 838 | 40.58 | -4.28* | 60.21 | -4.14 | 301 | 44.65 | 1.09 | 61.95 | -3.57 |
| Health Insurance | Health Insurance | 14,610 | 41.99 | | 62.39 | | 5,897 | 40.28 | | 64.72 | |
| No Insurance | Health Insurance | 1,402 | 35.91 | -6.08** | 54.90 | -7.48** | 430 | 35.12 | -5.16+ | 60.24 | -4.47 |
| 4+ yrs College | 4+ yrs College | 5,473 | 46.67 | | 65.26 | | 2,658 | 44.52 | | 66.49 | |
| Some College | 4+ yrs College | 5,252 | 42.23 | -4.44** | 60.90 | -4.37** | 2,061 | 41.75 | -2.76 | 64.18 | -2.31 |
| HS/GED | 4+ yrs College | 3,976 | 39.11 | -7.56** | 58.02 | -7.25** | 1,255 | 36.12 | -8.4** | 58.41 | -8.08** |
| < HS | 4+ yrs College | 1,324 | 31.10 | -15.57** | 45.78 | -19.48** | 356 | 28.34 | -16.18** | 50.55 | -15.93** |
| Top 25% Income | Top 25% Income | 4,297 | 46.45 | | 65.43 | | 2,095 | 43.34 | | 66.06 | |
| Q2 Income | Top 25% Income | 3,823 | 45.74 | -.71 | 64.38 | -1.05 | 1,757 | 45.17 | 1.82 | 66.68 | .62 |
| Q3 Income | Top 25% Income | 4,221 | 39.93 | -6.53** | 58.25 | -7.19** | 1,460 | 37.49 | -5.86* | 60.40 | -5.67** |
| Q4 Income | Top 25% Income | 3,684 | 35.26 | -11.2** | 52.07 | -13.36** | 1,018 | 33.85 | -9.49** | 55.85 | -10.21** |

**Source**: Authors' calculations using ECLS-K data.
**Notes**: Main Results correspond to reported estimates in Table A4.1 below. Health mobility is the predicted health rank from an OLS regression of parent health rank on child health rank under the assumption of linearity (controlling for age – normalized to mean-zero – in each generation). Parents report all characteristics. Race/ethnicity and health insurance status refers to the child's characteristics, while educational attainment refers to the highest attaining parent's education. Panel correction employs ECLS-K parent weights, strata, and clusters for waves 1 – 7. $p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **

**Exhibit A2.3:** Community-level Results using an Unweighted Sample

| Subpopulation | Reference Group | N | Main Results (Base Year Correction) Upward Mobility Estimate | Gap | Downward Mobility Estimate | Gap | N | Unweighted Sample Upward Mobility Estimate | Gap | Downward Mobility Estimate | Gap |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All communities | | 15,176 | 40.99 | | 61.60 | | 16289 | 40.79 | | 61.58 | |
| Urban | Urban | 6,235 | 40.02 | | 61.15 | | 6739 | 40.44 | | 61.20 | |
| Urban Fringe - Large Towns | Urban | 5,869 | 42.08 | 2.07 | 61.70 | .55 | 6229 | 41.90 | 1.46 | 61.99 | .79 |
| Small Towns - Rural | Urban | 3,072 | 40.52 | .51 | 61.62 | .47 | 3321 | 39.34 | -1.1 | 61.05 | -.15 |
| T1 Married | Top third | 5,298 | 43.63 | | 64.67 | | 5393 | 42.78 | | 63.87 | |
| T2 Married | Top third | 5,074 | 41.97 | -1.67 | 62.81 | -1.86+ | 5200 | 42.14 | -.64 | 62.69 | -1.18 |
| T3 Married | Top third | 4,725 | 38.77 | -4.86** | 57.64 | -7.03** | 4937 | 38.96 | -3.83** | 57.81 | -6.06** |
| T1 nH white | Top third | 5,207 | 43.47 | | 63.88 | | 5398 | 43.56 | | 64.25 | |
| T2 nH white | Top third | 4,889 | 46.04 | 2.57* | 64.74 | .86 | 5175 | 45.45 | 1.89+ | 64.41 | .16 |
| T3 nH white | Top third | 4,303 | 40.78 | -2.7+ | 58.54 | -5.34** | 4781 | 40.43 | -3.12* | 58.54 | -5.7** |
| T1 Insured | Top third | 5,402 | 43.17 | | 64.01 | | 5579 | 42.83 | | 63.69 | |
| T2 Insured | Top third | 4,893 | 43.04 | -.13 | 61.75 | -2.26* | 5058 | 42.52 | -.31 | 61.43 | -2.26* |
| T3 Insured | Top third | 4,868 | 38.35 | -4.82** | 58.65 | -5.36** | 5148 | 37.96 | -4.87** | 58.17 | -5.52** |
| T1 Education | Top third | 5,302 | 46.76 | | 65.42 | | 5477 | 45.86 | | 64.73 | |
| T2 Education | Top third | 5,073 | 47.08 | .32 | 64.63 | -.79 | 5382 | 44.99 | -.88 | 63.62 | -1.11 |
| T3 Education | Top third | 4,801 | 42.64 | -4.12** | 58.51 | -6.92** | 5237 | 41.15 | -4.71** | 57.70 | -7.03** |
| T1 Income | Top third | 5,279 | 46.42 | | 65.33 | | 5465 | 45.78 | | 64.90 | |
| T2 Income | Top third | 5,113 | 46.64 | .22 | 65.07 | -.27 | 5400 | 45.96 | .18 | 64.80 | -.1 |
| T3 Income | Top third | 4,784 | 40.50 | -5.92** | 58.58 | -6.75** | 5231 | 40.10 | -5.68** | 57.99 | -6.91** |

**Source**: Authors' calculations using ECLS-K data.
**Notes**: Main Results correspond to reported estimates in Table A4.2 below. T represents the tercile of a particular characteristic. *Married* refers to the portion of married parents; *nH white* refers to the portion of non-Hispanic white children; *Insurance* refers to the portion of children with health insurance in Kindergarten; *Education* refers to the parent(s)' highest educational attainment, and *Income* refers to imputed parent income from Kindergarten (1998-1999) in $1,000s. All estimates adjusted for corresponding individual characteristics.
$p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **

**Exhibit A2.4:** Community-level Results using a Panel Sample

| Subpopulation | Reference Group | Main Results (Base Year Correction) | | | | | Panel Correction: Waves 1 - 7 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Upward Mobility Estimate | Gap | Downward Mobility Estimate | Gap | N | Upward Mobility Estimate | Gap | Downward Mobility Estimate | Gap |
| All communities | | 15,176 | 40.99 | | 61.60 | | 6,102 | 40 | | 64.83 | |
| Urban | Urban | 6,235 | 40.02 | | 61.15 | | 2,200 | 40 | | 64.78 | |
| Urban Fringe - Large Towns | Urban | 5,869 | 42.08 | 2.07 | 61.70 | .55 | 2,407 | 41 | 1.15 | 63.96 | -.82 |
| Small Towns - Rural | Urban | 3,072 | 40.52 | .51 | 61.62 | .47 | 1,495 | 39 | -1.12 | 66.27 | 1.49 |
| T1 Married | Top third | 5,298 | 43.63 | | 64.67 | | 2,655 | 42 | | 65.44 | |
| T2 Married | Top third | 5,074 | 41.97 | -1.67 | 62.81 | -1.86+ | 2,068 | 40 | -1.83 | 64.97 | -.47 |
| T3 Married | Top third | 4,725 | 38.77 | -4.86** | 57.64 | -7.03** | 1,364 | 37 | -5.22* | 61.83 | -3.62+ |
| T1 nH white | Top third | 5,207 | 43.47 | | 63.88 | | 2,692 | 44 | | 65.95 | |
| T2 nH white | Top third | 4,889 | 46.04 | 2.57* | 64.74 | .86 | 1,907 | 45 | 1.97 | 66.30 | .35 |
| T3 nH white | Top third | 4,303 | 40.78 | -2.7+ | 58.54 | -5.34** | 1,257 | 36 | -7.33** | 57.66 | -8.29** |
| T1 Insured | Top third | 5,402 | 43.17 | | 64.01 | | 2,472 | 42 | | 66.00 | |
| T2 Insured | Top third | 4,893 | 43.04 | -.13 | 61.75 | -2.26* | 1,982 | 41 | -.65 | 64.50 | -1.5 |
| T3 Insured | Top third | 4,868 | 38.35 | -4.82** | 58.65 | -5.36** | 1,645 | 37 | -4.51* | 62.86 | -3.14 |
| T1 Education | Top third | 5,302 | 46.76 | | 65.42 | | 2,551 | 46 | | 67.05 | |
| T2 Education | Top third | 5,073 | 47.08 | .32 | 64.63 | -.79 | 2,070 | 46 | .14 | 66.49 | -.56 |
| T3 Education | Top third | 4,801 | 42.64 | -4.12** | 58.51 | -6.92** | 1,481 | 43 | -2.72 | 65.77 | -1.28 |
| T1 Income | Top third | 5,279 | 46.42 | | 65.33 | | 2,551 | 44 | | 66.34 | |
| T2 Income | Top third | 5,113 | 46.64 | .22 | 65.07 | -.27 | 2,093 | 47 | 2.98 | 67.75 | 1.41 |
| T3 Income | Top third | 4,784 | 40.50 | -5.92** | 58.58 | -6.75** | 1,458 | 39 | -5.41* | 62.93 | -3.41 |

**Source**: Authors' calculations using ECLS-K data.
**Notes**: Main Results correspond to reported estimates in Table A4.2 below. T represents the tercile of a particular characteristic. *Married* refers to the portion of married parents; *nH white* refers to the portion of non-Hispanic white children; *Insurance* refers to the portion of children with health insurance in Kindergarten; *Education* refers to the parent(s)' highest educational attainment, and *Income* refers to imputed parent income from Kindergarten (1998-1999) in $1,000s. All estimates adjusted for corresponding individual characteristics. Panel correction employs ECLS-K parent weights, strata, and clusters for waves 1 – 7. $p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **

**Exhibit A3.1:** Sensitivity of Results to Breaking Ties of Equivalent Health

|  | Main Results | Reorder | Noise | None |
|---|---|---|---|---|
| Rank Slope | 0.411 | 0.379 | 0.395 | 0.396 |
|  | (0.008) | (0.008) | (0.008) | (0.008) |
| Upward Mobility | 41.345 | 40.419 | 40.946 | 40.867 |
|  | (0.549) | (0.532) | (0.533) | (0.537) |
| Downward Mobility | 61.889 | 59.351 | 60.672 | 60.651 |
|  | (0.486) | (0.504) | (0.478) | (0.489) |

**Source**: Authors' calculations using Add Health.

**Notes**: Main results are presented in the first column for comparison. Reordering ranks such that persons with more reports are ordered with lower health is in the second column. The third column infuses random noise to health in each generation, and the final column does not adjust ties.

## A4: Full Tables of Descriptive Statistics

**Exhibit A4.1:** Health Mobility at the Individual Level

| Subpopulation | N | Average Health Child | Average Health Parent | Reference Group | Upward Mobility Estimate | Upward Mobility 95% CI | Upward Mobility Gap | Downward Mobility Estimate | Downward Mobility 95% CI | Downward Mobility Gap |
|---|---|---|---|---|---|---|---|---|---|---|
| All groups | 16,025 | 91.0 | 84.1 | | 41.35 | (40.27 -- 42.42) | | 61.89 | (60.93 -- 62.85) | |
| Boys | 8,162 | 90.7 | 84.2 | Boys | 40.55 | (39.18 -- 41.92) | | 61.12 | (59.82 -- 62.42) | |
| Female | 7,863 | 91.3 | 83.9 | Boys | 42.11 | (40.83 -- 43.38) | 1.56+ | 62.70 | (61.53 -- 63.87) | 1.58+ |
| nH White | 9,476 | 92.2 | 86.2 | nH White | 44.86 | (43.4 -- 46.33) | | 64.35 | (63.34 -- 65.36) | |
| nH Black | 2,097 | 89.1 | 80.9 | nH White | 37.71 | (34.95 -- 40.48) | -7.15** | 54.98 | (52.14 -- 57.81) | -9.37** |
| Hispanic | 2,780 | 88.6 | 80.2 | nH White | 36.30 | (34.26 -- 38.34) | -8.56** | 55.87 | (53.49 -- 58.25) | -8.48** |
| Other R/E | 838 | 90.6 | 82.6 | nH White | 40.58 | (37.1 -- 44.06) | -4.28* | 60.21 | (54.96 -- 65.46) | -4.14 |
| Health Insurance | 14,610 | 91.2 | 84.4 | Health Insurance | 41.99 | (40.96 -- 43.02) | | 62.39 | (61.46 -- 63.31) | |
| No Insurance | 1,402 | 89.1 | 80.5 | Health Insurance | 35.91 | (32.86 -- 38.96) | -6.08** | 54.90 | (51.77 -- 58.04) | -7.48** |
| 4+ yrs College | 5,473 | 93.1 | 88.6 | 4+ yrs College | 46.67 | (44.5 -- 48.84) | | 65.26 | (63.83 -- 66.7) | |
| Some College | 5,252 | 91.2 | 84.2 | 4+ yrs College | 42.23 | (40.71 -- 43.74) | -4.44** | 60.90 | (59.35 -- 62.44) | -4.37** |
| HS/GED | 3,976 | 89.7 | 81.4 | 4+ yrs College | 39.11 | (37.28 -- 40.94) | -7.56** | 58.02 | (56.09 -- 59.94) | -7.25** |
| < HS | 1,324 | 86.3 | 76.0 | 4+ yrs College | 31.10 | (28.71 -- 33.5) | -15.57** | 45.78 | (42.19 -- 49.37) | -19.48** |
| Top 25% Income | 4,297 | 93.3 | 89.0 | Top 25% Income | 46.45 | (44.24 -- 48.67) | | 65.43 | (64.02 -- 66.85) | |
| Q2 Income | 3,823 | 92.2 | 86.3 | Top 25% Income | 45.74 | (43.93 -- 47.55) | -.71 | 64.38 | (62.65 -- 66.12) | -1.05 |
| Q3 Income | 4,221 | 90.6 | 83.0 | Top 25% Income | 39.93 | (38.05 -- 41.8) | -6.53** | 58.25 | (56.3 -- 60.19) | -7.19** |
| Q4 Income | 3,684 | 87.9 | 78.3 | Top 25% Income | 35.26 | (33.89 -- 36.62) | -11.2** | 52.07 | (50.24 -- 53.9) | -13.36** |

**Source**: Authors' calculations using ECLS-K data.

**Notes**: Health mobility is the predicted health rank from an OLS regression of parent health rank on child health rank under the assumption of linearity (controlling for age – normalized to mean-zero – in each generation). Parents report all characteristics. Race/ethnicity and health insurance status refers to the child's characteristics, while educational attainment refers to the highest attaining parent's education. Results adjusted for base year sampling design. $p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **.

**Exhibit A4.2**: Health mobility descriptive statistics at the community level.

| Subpopulation | Range | N | Average Health Child | Average Health Parent | Reference Group | Upward Mobility Estimate | Upward Mobility 95% CI | Upward Mobility Gap | Downward Mobility Estimate | Downward Mobility 95% CI | Downward Mobility Gap |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All Schools | | 15,176 | 91.0 | 84.1 | | 40.99 | (39.93 -- 42.06) | | 61.60 | (60.68 -- 62.53) | |
| Urban | | 6,235 | 90.3 | 83.1 | Urban | 40.02 | (38.48 -- 41.56) | | 61.15 | (59.65 -- 62.66) | |
| Urban Fringe - Large Towns | | 5,869 | 91.6 | 85.0 | Urban | 42.08 | (40.33 -- 43.84) | 2.07 | 61.70 | (60.21 -- 63.19) | .55 |
| Small Towns - Rural | | 3,072 | 91.0 | 83.9 | Urban | 40.52 | (37.74 -- 43.31) | .51 | 61.62 | (59.3 -- 63.95) | .47 |
| T1 Married | 83.3 - 100 | 5,298 | 92.7 | 87.4 | Top third | 43.63 | (41.77 -- 45.5) | | 64.67 | (63.39 -- 65.94) | |
| T2 Married | 65 - 83.2 | 5,074 | 91.1 | 83.9 | Top third | 41.97 | (40.19 -- 43.74) | -1.67 | 62.81 | (61.38 -- 64.25) | -1.86+ |
| T3 Married | 6.4 - 64.9 | 4,725 | 89.3 | 81.2 | Top third | 38.77 | (36.91 -- 40.64) | -4.86** | 57.64 | (55.38 -- 59.89) | -7.03** |
| T1 nH white | 85 - 100 | 5,207 | 92.4 | 86.6 | Top third | 43.47 | (41.72 -- 45.22) | | 63.88 | (62.52 -- 65.24) | |
| T2 nH white | 42.1 - 84.9 | 4,889 | 91.6 | 84.7 | Top third | 46.04 | (43.86 -- 48.22) | 2.57* | 64.74 | (63.1 -- 66.37) | .86 |
| T3 nH white | 0 - 42.1 | 4,303 | 88.9 | 80.6 | Top third | 40.78 | (38.03 -- 43.52) | -2.7+ | 58.54 | (56.11 -- 60.97) | -5.34** |
| T1 Insured | 100 - 100 | 5,402 | 92.2 | 86.4 | Top third | 43.17 | (41.52 -- 44.81) | | 64.01 | (62.68 -- 65.34) | |
| T2 Insured | 89.8 - 98.5 | 4,893 | 91.3 | 84.4 | Top third | 43.04 | (41.46 -- 44.62) | -.13 | 61.75 | (60.29 -- 63.22) | -2.26* |
| T3 Insured | 26 - 89.8 | 4,868 | 89.5 | 81.7 | Top third | 38.35 | (36.76 -- 39.94) | -4.82** | 58.65 | (56.7 -- 60.6) | -5.36** |
| T1 Education | 14.6 - 19.3 | 5,302 | 93.0 | 88.4 | Top third | 46.76 | (44.44 -- 49.08) | | 65.42 | (63.94 -- 66.91) | |
| T2 Education | 13.3 - 14.6 | 5,073 | 91.4 | 84.4 | Top third | 47.08 | (44.67 -- 49.48) | .32 | 64.63 | (63 -- 66.27) | -.79 |
| T3 Education | 9.2 - 13.3 | 4,801 | 88.9 | 80.2 | Top third | 42.64 | (39.99 -- 45.29) | -4.12** | 58.51 | (56.46 -- 60.55) | -6.92** |
| T1 Income | 58.2 - 328.9 | 5,279 | 93.1 | 88.3 | Top third | 46.42 | (44.03 -- 48.82) | | 65.33 | (63.95 -- 66.72) | |
| T2 Income | 36.2 - 58.2 | 5,113 | 91.4 | 84.5 | Top third | 46.64 | (44.22 -- 49.05) | .22 | 65.07 | (63.17 -- 66.96) | -.27 |
| T3 Income | 6.6 - 36. 2 | 4,784 | 88.8 | 80.1 | Top third | 40.50 | (37.81 -- 43.2) | -5.92** | 58.58 | (56.31 -- 60.85) | -6.75** |

**Source**: Authors' calculations using ECLS-K data.

**Notes**: Notes from Exhibit A4.1 apply. T represents the tercile of a particular characteristic. *Married* refers to the portion of married parents; *nH white* refers to the portion of non-Hispanic white children; *Insurance* refers to the portion of children with health insurance in Kindergarten; *Education* refers to the parent(s)' highest educational attainment, and *Income* refers to imputed parent income from Kindergarten (1998-1999) in $1,000s. Results adjust for base year sampling design. p < 0.1 +, p < 0.5 *, p < 0.1 **

**A5: Full Tables of Regression Analysis**

**Exhibit A5.1**: Estimating Individual Characteristics and Health Mobility

| | Full Sample | Gender | Race/ Ethnicity | Health Insurance | Education | Income |
|---|---|---|---|---|---|---|
| Parent Health | 0.411** | 0.411** | 0.390** | 0.408** | 0.372** | 0.380** |
| | (0.00836) | (0.0116) | (0.0124) | (0.00847) | (0.0173) | (0.0184) |
| 2.group x Parent Health | | 0.000446 | -0.0443+ | -0.0280 | 0.00152 | -0.00677 |
| | | (0.0163) | (0.0251) | (0.0305) | (0.0224) | (0.0254) |
| 3.group x Parent Health | | | 0.00175 | | 0.00627 | -0.0132 |
| | | | (0.0262) | | (0.0243) | (0.0248) |
| 4.group x Parent Health | | | 0.00289 | | -0.0784* | -0.0433+ |
| | | | (0.0381) | | (0.0344) | (0.0246) |
| 2.group | | 1.547 | -6.044** | -5.384** | -4.480* | -0.543 |
| | | (1.057) | (1.954) | (1.942) | (1.783) | (1.984) |
| 3.group | | | -8.606** | | -7.716** | -6.194** |
| | | | (1.759) | | (1.730) | (1.872) |
| 4.group | | | -4.356* | | -13.61** | -10.12** |
| | | | (2.093) | | (2.153) | (1.805) |
| Constant | 31.07** | 30.27** | 35.12** | 31.79** | 37.37** | 36.96** |
| | (0.682) | (0.875) | (0.993) | (0.659) | (1.457) | (1.509) |
| N | 16025 | 16025 | 15191 | 16012 | 16025 | 16025 |

**Source:** Authors' calculations using ECLS-K.
**Notes**: Estimates from OLS model of the following form: $Rank_c = \beta_0 + \beta_1 Rank_p + \beta_2 Group + \beta_3(Group\ x\ Rank_p) + age\ controls + \varepsilon$. All models incorporate normalized (i.e. mean-zero) age controls in each generation of quadratic form fully interacted across the grouping variable (coefficients omitted from table for parsimony). Grouping variable detailed in Table A5.1.1 below. Health mobility is calculated as $E(child's\ rank|p(rank) = x) = \beta_0 + \beta_1(x)$ from each OLS regression. Upward mobility is defined at the 25th percentile (i.e. $x = 25$), and downward mobility is defined at the 75th percentile (i.e. $x = 75$).
$p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **.

Stratifying groups are defined as follows:

**Exhibit A5.1.1**: Grouping variables for individual characteristics

| | Gender | Race/ Ethnicity | Health Insurance | Education | Income |
|---|---|---|---|---|---|
| 1.group = reference | Boys | nH White | Insured | 4+ years college | Q1 Income (top) |
| 2.group | Girls | nH Black | Not Insured | Some college | Q2 Income |
| 3.group | | Hispanic | | HS/GED | Q3 Income |
| 4.group | | Other | | < HS | Q4 Income |

**Exhibit A5.2**: Estimating Community Characteristics and Health Mobility

| | All Schools | Urbanicity | Race Composition | Portion Married | Portion Insured | Average Education | Average Income |
|---|---|---|---|---|---|---|---|
| Parent Health | 0.412** | 0.423** | 0.408** | 0.421** | 0.417** | 0.373** | 0.378** |
| | (0.00892) | (0.0123) | (0.0160) | (0.0164) | (0.0148) | (0.0201) | (0.0209) |
| 2.group x Parent Health | | -0.0303+ | -0.0342 | -0.00377 | -0.0426+ | -0.0220 | -0.00961 |
| | | (0.0161) | (0.0218) | (0.0211) | (0.0223) | (0.0218) | (0.0226) |
| 3.group x Parent Health | | -0.000784 | -0.0528+ | -0.0434+ | -0.0109 | -0.0558* | -0.0167 |
| | | (0.0286) | (0.0317) | (0.0248) | (0.0237) | (0.0259) | (0.0278) |
| 2.group | | 2.827+ | 3.422* | -1.575 | 0.939 | 0.866 | 0.455 |
| | | (1.499) | (1.651) | (1.554) | (1.469) | (1.829) | (1.671) |
| 3.group | | 0.528 | -1.375 | -3.774* | -4.542** | -2.728 | -5.503** |
| | | (2.166) | (2.072) | (1.669) | (1.479) | (1.897) | (1.870) |
| 2.ind x Parent Health | | | -0.0105 | -0.0461* | -0.0252 | 0.0217 | -0.00422 |
| | | | (0.0335) | (0.0206) | (0.0318) | (0.0235) | (0.0262) |
| 3.indv x Parent Health | | | 0.0150 | | | 0.0384 | -0.0117 |
| | | | (0.0320) | | | (0.0275) | (0.0241) |
| 4.ind x Parent Health | | | 0.0248 | | | -0.0211 | -0.0294 |
| | | | (0.0439) | | | (0.0381) | (0.0277) |
| 2.ind | | | -3.857+ | -0.0553 | -1.901 | -3.690* | -0.532 |
| | | | (1.974) | (1.246) | (1.603) | (1.592) | (1.812) |
| 3.ind | | | -6.255** | | | -6.962** | -2.706 |
| | | | (1.869) | | | (1.721) | (1.693) |
| 4.ind | | | -3.250 | | | -11.68** | -6.741** |
| | | | (2.105) | | | (2.112) | (1.777) |
| Constant | 30.69** | 29.45** | 33.27** | 33.12** | 32.74** | 37.43** | 36.97** |
| | (0.693) | (0.953) | (1.195) | (1.284) | (1.110) | (1.600) | (1.673) |
| N | 15176 | 15176 | 14399 | 15097 | 15163 | 15176 | 15176 |

**Source:** Authors' calculations using ECLS-K.

**Notes**: Estimates from OLS model of the following form: $Rank_c = \beta_0 + \beta_1 Rank_p + \beta_2 Group + \beta_3(Group\ x\ Rank_p) + \beta_4 Ind.\ group + \beta_5(Ind.\ group\ x\ Rank_p) + age\ controls + \varepsilon$. All models incorporate normalized (i.e. mean-zero) age controls in each generation of quadratic form fully interacted across the community grouping variable (coefficients omitted from table for parsimony). Models additionally controlled for

appropriate individual characteristics ($Ind.\,group$) as outlined in Table A5.2.1 and Table A5.1.1. Health mobility is calculated as $E(child's\,rank|p(rank) = x) = \beta_0 + \beta_1(x)$ from each OLS regression. Upward mobility is defined at the 25th percentile (i.e. $x = 25$), and downward mobility is defined at the 75th percentile (i.e. $x = 75$). $p < 0.1$ +, $p < 0.5$ *, $p < 0.1$ **.

Stratifying groups are defined as follows:

**Exhibit A5.2.1**: Mapping control variables for regressions

| | Urbanicity | Race Composition | Portion Married | Portion Insured | Average Education | Average Income |
|---|---|---|---|---|---|---|
| 1.group = reference | Urban | Top Third | Top Third | Top Third | Top Third | Top Third |
| 2.group | Suburban | Middle Third | Middle Third | Middle Third | Middle Third | Middle Third |
| 3.group | Rural | Bottom Third | Bottom Third | Bottom Third | Bottom Third | Bottom Third |
| Ind.group variable | n/a | Race/Ethnicity | Marital Status | Health Insurance | Education | Income |