Appendix Table 1. Characteristics of the Black/African American female population, ages 18 to 45, who have just birthed a singleton baby in the U.S., Michigan, Wayne County, and the LIFE Sample (N=1,408)

Characteristic	U.S.	Michigan	Wayne County, MI	LIFE sample
Age	26.4 ± 5.9	25.6 ± 5.9	25.5 ± 5.9	27.3 ± 6.2
Married	28%	21%	17%	28%
Education				
<High school diploma/GED	19%	21%	24%	13%
High school diploma/GED or more	81%	79%	76%	87%
Mean number of live births	2.2 ± 1.4	2.6 ± 1.5	2.3 ± 1.5	2.0 ± 1.2
Low birth weight	11%	12%	12%	13%
Preterm birth	15%	16%	17%	16%

Note: Data from Centers for Disease Control and Prevention, National Center for Health Statistics, 2010 Natality data.
LIFE, Life-course Influences of Fetal Environments Study; GED, General Educational Development

Appendix Table 2. Associations of Improved Social Mobility Trajectories and SGA and PTB, Excluding Extreme/Very Preterm Births (GA<32 Weeks) N=1,362

	SGA					PTB				
Social mobility measure	B	SE	*p*-value	RR	95% CI	B	SE	*p*-value	RR	95% CI
Educational mobility trajectory										
Mother to daughter										
Model 2	-0.274	0.090	0.002	0.760	(0.640, 0.908)	-0.101	0.096	0.291	0.904	(0.750, 1.090)
Financial mobility trajectory										
Early childhood to current										
Model 2	-0.150	0.090	0.095	0.861	(0.722, 1.026)	-0.107	0.100	0.283	0.899	(0.739, 1.092)
Middle childhood to current										
Model 2	-0.132	0.082	0.108	0.877	(0.746, 1.030)	-0.118	0.090	0.188	0.888	(0.745, 1.060)

Notes: Model 2: adjusted for age, childhood SEP, and parity. Relative risks calculated from Poisson regression models. All social mobility measures are scaled so that a one-unit change corresponds with a one-SD change. Missing data were imputed using multiple imputation by chained equations.

SGA, small for gestational age; PTB, preterm birth; GA, gestational age; B, Beta; RR, risk ratio; SEP, socioeconomic position

Appendix Table 3. LIFE Sample Characteristics: Perceived Financial Situation Across the Life course

	Perceived financial situation N (%)					
Time period	Very poor, not enough to get by	Barely enough to get by	Had enough to get by but no extras	Had more than enough to get by	Well to do	Missing
Current	20 (1%)	91 (6%)	710 (50%)	445 (32%)	139 (10%)	3 (0.2%)
Early childhood: Birth to age 10	31 (2%)	129 (9%)	394 (28%)	583 (41%)	252 (18%)	19 (1%)
Middle childhood: Age 10 to 18	18 (1%)	112 (8%)	471 (33%)	568 (40%)	232 (16%)	7 (1%)

Notes: N=1,408
LIFE, Life-course Influences of Fetal Environments Study

Appendix Table 4. LIFE Sample Characteristics: Educational Attainment of Participating Woman and Her Mother

	Level of educational attainment N (%)				
Subject	<12 years of school, no GED	12 years of school or GED	Some college or 13 to 15 years of school	16+ years of school	Missing
Woman's own	115 (8%)	332 (24%)	619 (44%)	336 (24%)	6 (0.4%)
Woman's mother	146 (10%)	460 (33%)	410 (29%)	317 (23%)	75 (5%)

Notes: N=1,408
LIFE, LIFE-course Influences of Fetal Environments Study; GED, General Educational Development

Appendix Table 5. Model Fit Diagnostics for LIFE Social Mobility Unimputed Poisson Regression Models

		SGA		PTB		LBW	
Social mobility measure		McFadden's Pseudo R^2	AIC	McFadden's Pseudo R^2	AIC	McFadden's Pseudo R^2	AIC
Educational mobility trajectory							
Mother to daughter							
	Model 1	0.0041	0.853	0.0011	0.922	0.0043	0.780
	Model 2	0.0159	0.847	0.0032	0.924	0.0083	0.781
	Model 3	0.0171	0.849	0.0043	0.926	0.0099	0.782
Financial mobility trajectory							
Early childhood to current							
	Model 1	0.0007	0.855	0.0000	0.921	0.0009	0.781
	Model 2	0.0106	0.850	0.0025	0.923	0.0055	0.782
	Model 3	0.0171	0.849	0.0043	0.926	0.0099	0.782
Middle childhood to current							
	Model 1	0.0003	0.855	0.0016	0.920	0.0001	0.781
	Model 2	0.0104	0.851	0.0030	0.923	0.0054	0.782
	Model 3	0.0170	0.849	0.0048	0.926	0.0093	0.783

Notes: Model 1: bivariate. Model 2: adjusted for age, childhood SEP, and parity. Model 3: educational mobility models adjusted for age, childhood SEP, parity, and financial mobility from early childhood to current. Financial mobility models adjusted for age, childhood SEP, parity, and educational mobility from mother to daughter.

LIFE, LIFE-course Influences of Fetal Environments Study; SGA, small for gestational age; PTB, preterm birth; LBW, low birthweight; AIC, Akaike Information Criterion; SEP, socioeconomic position

Appendix Table 6. Associations of Improved Social Mobility With Primary Birth Outcomes, Restricting Social Mobility to Either Stable/Upward Trajectories, or Stable/Downward Trajectories

	Stable/Upward Mobility					Stable/Downward Mobility				
Outcome and social mobility measure	B	SE	*p*-value	RR	95% CI	B	SE	*p*-value	RR	95% CI
Small for gestational age										
Educational mobility mother to daughter	-0.226	0.135	0.093	0.797	(0.612, 1.039)	-0.264	0.145	0.068	0.768	(0.578, 1.020)
Financial mobility early childhood	-0.285	0.161	0.077	0.752	(0.549, 1.031)	-0.104	0.122	0.394	0.901	(0.709, 1.145)
Financial mobility middle childhood	-0.421	0.177	0.017	0.656	(0.464, 0.928)	0.020	0.117	0.867	1.020	(0.810, 1.284)
Preterm birth										
Educational mobility mother to daughter	-0.206	0.135	0.127	0.814	(0.624, 1.060)	0.009	0.132	0.946	1.009	(0.779, 1.306)
Financial mobility early childhood	-0.118	0.142	0.408	0.889	(0.673, 1.174)	-0.069	0.122	0.573	0.934	(0.735, 1.186)
Financial mobility middle childhood	-0.114	0.141	0.416	0.892	(0.677, 1.175)	-0.105	0.102	0.301	0.900	(0.738, 1.099)

Notes: Model 2, which adjusted for age, childhood SEP, and parity. Relative risks calculated from Poisson regression models. All social mobility measures are scaled so that a one-unit change corresponds with a one-SD change. Missing data were imputed using multiple imputation by chained equations. Sample for "stable/up" includes social mobility values 0 through 4 (financial) or 3 (education); sample for "stable/down" includes social mobility values -4 (financial) or -3 (education) through 0. The risk ratio is interpreted as the risk of the outcome, comparing any point on the social mobility scale, to a point one-SD above it. Let's use educational mobility as an example (SD=1.1). Although the downwardly mobile/stable sample models a different segment (-3 to 0) of the educational mobility score compared to the upwardly mobile/stable subsample (0 to +3), both subscales compare an approximately one point difference representing an improvement in intergenerational educational mobility (e.g., comparing -2 vs. -0.09 for the downwardly mobile; 1 vs. 2.1 for the upwardly mobile). Therefore, someone who declines in educational mobility between generations incurs a higher SGA risk compared to one who improves in educational mobility.
SGA, small for gestational age; B, Beta; RR, risk ratio; SEP, socioeconomic position

Appendix Table 7. Associations of Improved Social Mobility With Secondary Birth Outcomes, Restricting Social Mobility to Either Stable/Upward Trajectories, or Stable/Downward Trajectories

	Stable/Upward mobility					Stable/Downward mobility				
Outcome and social mobility measure	B	SE	*p*-value	RR	95% CI	B	SE	*p*-value	RR	95% CI
Spontaneous preterm birth										
Educational mobility mother to daughter	-0.163	0.174	0.351	0.850	(0.604, 1.196)	0.150	0.172	0.385	1.162	(0.829, 1.629)
Financial mobility early childhood	-0.180	0.183	0.325	0.835	(0.583, 1.196)	-0.103	0.160	0.520	0.902	(0.659, 1.234)
Financial mobility middle childhood	-0.225	0.195	0.250	0.799	(0.545, 1.171)	-0.128	0.133	0.338	0.880	(0.678, 1.143)
Low birth weight										
Educational mobility mother to daughter	-0.168	0.141	0.233	0.846	(0.642, 1.114)	0.088	0.163	0.590	1.092	(0.793, 1.503)
Financial mobility early childhood	-0.327	0.168	0.051	0.721	(0.519, 1.001)	-0.011	0.134	0.938	0.990	(0.760, 1.288)
Financial mobility middle childhood	-0.111	0.151	0.459	0.895	(0.666, 1.202)	-0.045	0.124	0.718	0.956	(0.750, 1.219)

Notes: Model 2, which adjusted for age, childhood SEP, and parity. Relative risks calculated from Poisson regression models. All social mobility measures are scaled so that a one-unit change corresponds with a one-SD change. Missing data were imputed using multiple imputation by chained equations. Sample for "stable/up" includes social mobility values 0 through 4 (financial) or 3 (education); sample for "stable/down" includes social mobility values -4 (financial) or -3 (education) through 0. For interpretation of the coefficient, refer to the notes in Appendix Table 6.

B, Beta; RR, risk ratio; SEP, socioeconomic position

Appendix Table 8. Associations of Improved Social Mobility Trajectories and Spontaneous Preterm Birth

Social mobility measure	B	SE	*p*-value	RR	95% CI
Educational mobility trajectory					
Mother to daughter					
Model 2	0.019	0.109	0.862	1.019	(0.823, 1.261)
Model 3	0.049	0.109	0.651	1.051	(0.848, 1.302)
Financial mobility trajectory					
Early childhood to current					
Model 2	-0.153	0.114	0.180	0.858	(0.687, 1.073)
Model 3	-0.170	0.117	0.145	0.844	(0.672, 1.060)
Middle childhood to current					
Model 2	-0.176	0.102	0.086	0.839	(0.687, 1.025)
Model 3	-0.186	0.104	0.073	0.830	(0.678, 1.017)

Notes: Model 2: adjusted for age, childhood SEP, and parity. Model 3: adjusted for age, childhood SEP, parity, and for the other form of social mobility (e.g., models for educational mobility controlled for financial mobility from early childhood; models for financial mobility controlled for educational mobility). Relative risks calculated from Poisson regression models; reference=full term births. Indicated preterm births excluded (N=88). All social mobility measures are scaled so that a one-unit change corresponds with a 1-SD change. Missing data were imputed using multiple imputation by chained equations. N=1,320 (N=143 spontaneous preterm, N=1,177 full term).

B, Beta; RR, risk ratio; SEP, socioeconomic position

Appendix Table 9. Associations of Improved Social Mobility Trajectories and Low Birth Weight

Social mobility measure		B	SE	*p*-value	RR	95% CI
Educational mobility trajectory						
Mother to daughter						
	Model 1	0.042	0.069	0.535	1.043	(0.912, 1.193)
	Model 2	-0.041	0.095	0.667	0.960	(0.797, 1.156)
	Model 3	-0.019	0.097	0.846	0.981	(0.811, 1.187)
Financial mobility trajectory						
Early childhood to current						
	Model 1	-0.071	0.069	0.306	0.931	(0.813, 1.067)
	Model 2	-0.129	0.095	0.175	0.879	(0.730, 1.059)
	Model 3	-0.118	0.097	0.223	0.888	(0.734, 1.075)
Middle childhood to current						
	Model 1	-0.016	0.071	0.817	0.984	(0.856, 1.130)
	Model 2	-0.099	0.089	0.265	0.906	(0.761, 1.078)
	Model 3	-0.093	0.090	0.305	0.911	(0.764, 1.088)

Notes: Model 1: bivariate. Model 2: adjusted for age, childhood SEP, and parity. Model 3: adjusted for age, childhood SEP, parity, and for the other form of social mobility (e.g. models for educational mobility controlled for financial mobility from early childhood; models for financial mobility controlled for educational mobility). Relative risks calculated from Poisson regression models. All social mobility measures are scaled so that a one-unit change corresponds with a 1-SD change. Missing data were imputed using multiple imputation by chained equations. N=1408.
B, Beta; RR, risk ratio; SEP, socioeconomic position

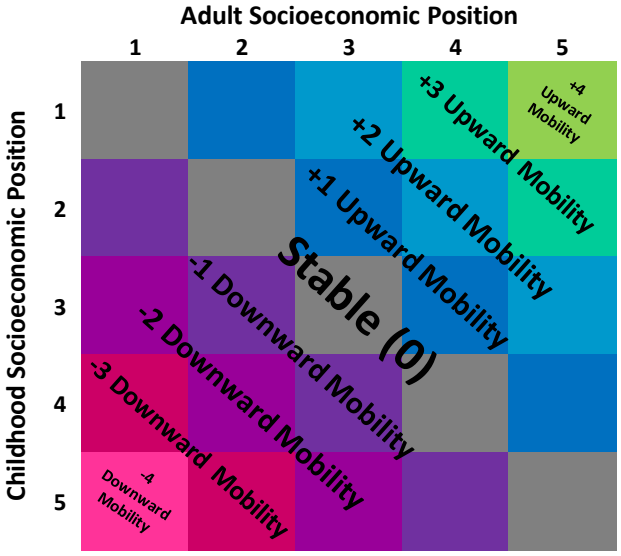
Appendix Table 10. Associations of Improved Social Mobility Trajectories and Primary Birth Outcomes, Restricted by Age

	Small for gestational age					Preterm birth				
Social mobility measure	B	SE	*p*-value	RR	95% CI	B	SE	*p*-value	RR	95% CI
Educational mobility trajectory										
Mother to daughter										
Entire LIFE sample (N=1,408)	-0.272	0.091	0.003	0.762	(0.638, 0.910)	-0.079	0.084	0.347	0.924	(0.783, 1.090)
Restricted to 20+ years (N=1,289)	-0.333	0.094	<0.001	0.717	(0.596, 0.862)	-0.087	0.087	0.319	0.917	(0.773, 1.088)
Restricted to 25+ years (N=856)	-0.327	0.117	0.005	0.721	(0.573, 0.907)	-0.138	0.106	0.192	0.871	(0.708, 1.072)
Financial mobility trajectory										
Early childhood to current										
Entire LIFE sample (N=1,408)	-0.158	0.089	0.077	0.854	(0.717, 1.017)	-0.083	0.087	0.339	0.920	(0.776, 1.092)
Restricted to 20+ years (N=1,289)	-0.156	0.094	0.095	0.855	(0.712, 1.028)	-0.103	0.090	0.251	0.902	(0.756, 1.076)
Restricted to 25+ years (N=856)	-0.198	0.112	0.077	0.820	(0.659, 1.022)	-0.071	0.113	0.528	0.931	(0.747, 1.161)
Middle childhood to current										
Entire LIFE sample (N=1,408)	-0.141	0.082	0.084	0.868	(0.740, 1.019)	-0.103	0.079	0.190	0.902	(0.773, 1.053)
Restricted to 20+ years (N=1289)	-0.140	0.085	0.099	0.869	(0.736, 1.027)	-0.127	0.080	0.113	0.881	(0.752, 1.031)
Restricted to 25+ years (N=856)	-0.187	0.101	0.063	0.830	(0.681, 1.011)	-0.093	0.100	0.351	0.911	(0.750, 1.108)

Notes: Model 2, which adjusted for age, childhood SEP, and parity. Relative risks calculated from Poisson regression models. All social mobility measures are scaled so that a one-unit change corresponds with a one-SD change. Missing data were imputed using multiple imputation by chained equations. N=1,408.

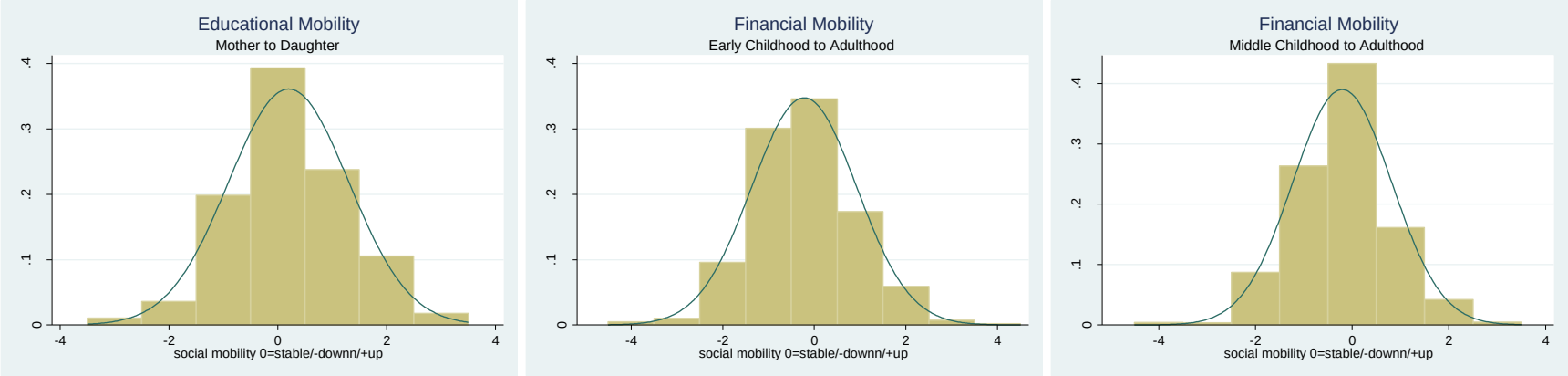
LIFE, Life-course Influences of Fetal Environments Study; B, Beta; RR, risk ratio; SEP, socioeconomic position

Appendix Figure 1. Conceptual operationalization of social mobility measures.



Notes: The financial mobility scale ranges from -4 to +4, as shown here; however the educational mobility scale ranges from -3 to +3.

Appendix Figure 2. Distribution of social mobility measures (N=1,408).



Notes: Missing values excluded from histograms (educational mobility=5.7%, financial mobility early childhood=0.02%, financial mobility middle childhood=0.01%).