

Online Appendix

A: Additional Tables

Table S1: Math in Early Adolescence Regressed on Maternal Experience (Years before first birth and years between first and given child) and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child	.039*** (.006)	.029** (.010)	.043*** (.006)	.028* (.012)		.029*** (.006)	.021 (.013)	
Years between first and given child	.032*** (.006)	.029* (.012)	.033*** (.007)	.034* (.014)	.018* (.009)	.028*** (.006)	.027+ (.014)	.017+ (.009)
Number of siblings before birth	-.078*** (.020)	-.059 (.036)	-.077*** (.020)	-.083 (.052)	.010 (.032)	-.047* (.021)	-.095+ (.056)	.061 (.075)
<i>Covariates</i>								
Black	-.230*** (.038)	-.255*** (.070)	-.210*** (.040)			-.160*** (.043)		
Hispanic	-.126** (.042)	-.114 (.075)	-.102* (.044)	-.200*** (.056)		-.092* (.042)	-.034 (.125)	
Female	-.098*** (.024)	-.082* (.041)	-.092*** (.024)	-.119** (.043)	-.119*** (.029)	-.101*** (.024)	-.103* (.045)	-.107*** (.029)
Firstborn	.002 (.033)	.029 (.058)	.022 (.034)	.009 (.064)	.069+ (.037)	.035 (.036)	.042 (.065)	.041 (.040)
AFQT Score	.014*** (.001)	.014*** (.001)	.014*** (.001)	.009*** (.002)		.010*** (.001)	.007** (.003)	
Mom Ever Fight	-.101** (.039)	-.102 (.069)	-.103* (.040)	-.044 (.107)		-.083* (.038)	-.059 (.105)	
Mom Ever Steal	.018 (.033)	.076 (.058)	.028 (.034)			.028 (.032)	.041 (.081)	
Mother US Born	-.116+ (.066)	-.206+ (.125)	-.119+ (.068)			-.148* (.067)	-.254 (.199)	
<i>Mediators</i>								
Mother's education at birth						.040*** (.009)	.042* (.021)	.015 (.016)
HOME score at age 2/3						.102*** (.016)	.046 (.032)	.041* (.021)

Birth weight						.053***	.069*	.082***
						(.014)	(.029)	(.023)
Prenatal cigarette use per day						.021	.080 ⁺	.013
						(.017)	(.047)	(.032)
Prenatal alcohol use per month						.025 ⁺	.028	.019
						(.014)	(.031)	(.022)
Fraction of years between birth and age 13 single parent household						-.158***	-.156	-.170
						(.046)	(.124)	(.139)
Number of siblings between birth and age 13						-.033*	-.078*	.037
						(.016)	(.035)	(.071)
Adjusted total family income at age 2/3						.004	.010	-.001
						(.011)	(.020)	(.013)
Fraction of 5 years before birth single parent household						.031	-.001	.158*
						(.046)	(.096)	(.074)
Constant	-.566***	-.405*	-.606***	-.302	.074*	-.851***	-.441	-.239
	(.108)	(.191)	(.112)	(.218)	(.037)	(.138)	(.384)	(.255)
Observations	5380	1762	4967	1762	4967	5380	1762	4967

Note. Standard errors in parentheses. Age 10 to 13 math scores are standardized values for children with valid values in at least one year.

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Control variables include: black, Hispanic, female, firstborn, Mother's AFQT score, mother ever fight, mother ever stole, mother US born, first born, Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S2: Reading in Early Adolescence Regressed on Maternal Experience (Years before first birth and years between first and given child) and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child	.028*** (.006)	.025* (.010)	.033*** (.006)	.017 (.013)		.020*** (.006)	.011 (.013)	
Years between first and given child	.036*** (.007)	.038** (.012)	.039*** (.007)	.042** (.013)	.035*** (.009)	.033*** (.007)	.035** (.013)	.033*** (.009)
Number of siblings before birth	-.124*** (.020)	-.136*** (.037)	-.123*** (.020)	-.146** (.052)	-.105*** (.031)	-.096*** (.020)	-.165** (.058)	-.025 (.070)
<i>Covariates</i>								
Black	-.109** (.042)	-.080 (.077)	-.102* (.044)			-.051 (.047)		
Hispanic	.064 (.045)	.129 (.084)	.080+ (.047)	-1.057*** (.056)		.077+ (.045)	-.981*** (.130)	
Female	.139*** (.024)	.134** (.042)	.139*** (.025)	.090+ (.046)	.134*** (.028)	.130*** (.024)	.102* (.047)	.142*** (.029)
Firstborn	.085* (.033)	.081 (.057)	.080* (.034)	.079 (.062)	.094** (.036)	.110** (.035)	.107+ (.063)	.084* (.038)
AFQT Score	.013*** (.001)	.013*** (.001)	.014*** (.001)	.005* (.002)		.011*** (.001)	.005* (.002)	
Mom Ever Fight	-.022 (.043)	-.055 (.078)	-.013 (.044)	-.100 (.113)		-.003 (.042)	-.114 (.111)	
Mom Ever Steal	.019 (.034)	.068 (.062)	.023 (.035)			.037 (.033)	.053 (.095)	
Mother US Born	-.085 (.070)	-.185+ (.107)	-.095 (.073)			-.102 (.072)	.057 (.279)	
<i>Mediators</i>								
Mother's education at birth						.030** (.009)	.016 (.019)	.004 (.014)
HOME score at age 2/3						.107*** (.017)	.060+ (.033)	.046* (.022)
Birth weight						.040** (.014)	.055+ (.029)	.056* (.022)

Prenatal cigarette use per day						-.017 (.018)	.082 ⁺ (.044)	.016 (.029)
Prenatal alcohol use per month						-.003 (.014)	-.002 (.031)	-.009 (.020)
Fraction of years between birth and age 13 single parent household						-.168 ^{***} (.051)	-.218 ⁺ (.129)	-.138 (.137)
Number of siblings between birth and age 13						-.031 [*] (.016)	-.093 [*] (.038)	.073 (.067)
Adjusted total family income at age 2/3						.005 (.011)	-.000 (.024)	-.013 (.014)
Fraction of 5 years before birth single parent household						.059 (.048)	.049 (.102)	.044 (.074)
Constant	-.743 ^{***} (.118)	-.668 ^{**} (.211)	-.797 ^{***} (.123)	.028 (.241)	-.060 ⁺ (.036)	-.936 ^{***} (.148)	-.073 (.431)	-.241 (.233)
Observations	5376	1762	4963	1762	4963	5376	1762	4963

Note. Standard errors in parentheses. Age 10 to 13 reading scores are standardized values for children with valid values in at least one year.

⁺ $p < .10$, ^{*} $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$

Control variables include: black, Hispanic, female, firstborn, Mother's AFQT score, mother ever fight, mother ever stole, mother US born, first born, Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S3: Externalizing in Early Adolescence Regressed on Maternal Experience (Years before first birth and years between first and given child) and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child	-.029*** (.006)	-.028** (.009)	-.034*** (.006)	-.021+ (.012)		-.019** (.006)	-.020 (.012)	
Years between first and given child	-.016* (.007)	-.027* (.013)	-.017* (.007)	-.008 (.013)	-.024* (.010)	-.017* (.007)	-.005 (.013)	-.025* (.010)
Number of siblings before birth	-.005 (.022)	.038 (.038)	-.006 (.022)	-.058 (.040)	-.000 (.030)	-.032 (.022)	-.081+ (.044)	.060 (.063)
<i>Covariates</i>								
Black	-.022 (.046)	-.055 (.084)	-.019 (.049)			-.111* (.048)		
Hispanic	-.073 (.047)	-.086 (.085)	-.071 (.050)	.321 (.326)		-.055 (.045)	.228 (.334)	
Female	-.244*** (.025)	-.251*** (.042)	-.260*** (.027)	-.233*** (.040)	-.204*** (.028)	-.222*** (.025)	-.220*** (.040)	-.204*** (.028)
Firstborn	-.007 (.037)	.044 (.063)	-.035 (.037)	.002 (.058)	-.060+ (.036)	-.029 (.038)	-.015 (.061)	-.067+ (.039)
AFQT Score	-.003*** (.001)	-.004** (.001)	-.002** (.001)	-.005** (.002)		.001 (.001)	-.004* (.002)	
Mom Ever Fight	.067 (.046)	.085 (.074)	.050 (.048)	-.093 (.099)		.029 (.043)	-.116 (.095)	
Mom Ever Steal	.070+ (.039)	.056 (.057)	.073+ (.042)			.029 (.038)	.095 (.072)	
Mother US Born	.037 (.072)	.141 (.116)	.052 (.075)			.025 (.069)	-.233 (.239)	
<i>Mediators</i>								
Mother's education at birth						-.023* (.010)	.000 (.019)	-.014 (.014)
HOME score at age 2/3						-.154*** (.017)	-.089** (.031)	-.024 (.021)
Birth weight						-.009 (.015)	-.000 (.026)	-.018 (.021)

Prenatal cigarette use per day						.104***	.055	.022
						(.020)	(.047)	(.034)
Prenatal alcohol use per month						.013	.019	-.016
						(.014)	(.026)	(.021)
Fraction of years between birth and age 13 single parent household						.236***	.122	.041
						(.052)	(.111)	(.126)
Number of siblings between birth and age 13						-.024	-.032	.065
						(.017)	(.033)	(.060)
Adjusted total family income at age 2/3						-.024**	-.022	-.003
						(.008)	(.014)	(.011)
Fraction of 5 years before birth single parent household						.024	.155 ⁺	.020
						(.047)	(.084)	(.079)
Constant	.457***	.179	.475***	.344	.174***	.545***	.400	.213
	(.122)	(.197)	(.128)	(.215)	(.035)	(.149)	(.357)	(.225)
Observations	5673	1830	5215	1830	5215	5673	1830	5215

Note. Standard errors in parentheses. Age 10 to 13 externalizing scores are standardized values for children with valid values in at least one year.

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Control variables include: black, Hispanic, female, firstborn, Mother's AFQT score, mother ever fight, mother ever stole, mother US born, first born, Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S4: Fraction of years between birth and age 13 single parent household regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.008*** (.002)	-.010** (.003)	-.011*** (.002)	.001 (.003)	.001 (.027)
Years between first and given child	.002 (.002)	.001 (.004)	.002 (.002)	-.006 (.003)	-.005* (.002)
Number of siblings before birth	.008 (.009)	.013 (.015)	.007 (.009)	.027* (.012)	.023*** (.006)
<i>Mediator</i>					
Mother's Education at birth	-.023*** (.003)	-.027*** (.006)	-.020*** (.003)	-.014* (.006)	-.003 (.002)
<i>Covariates</i>					
Black	.301*** (.019)	.305*** (.036)	.290*** (.020)	.185*** (.055)	
Hispanic	.047* (.019)	.065+ (.038)	.035+ (.019)	-.184 (.233)	
Female	-.004 (.008)	-.020 (.014)	-.006 (.008)	-.005 (.011)	.010** (.004)
Firstborn	.071*** (.011)	.074*** (.020)	.026* (.010)	.030* (.013)	.008 (.006)
AFQT Score	-.002*** (.000)	-.002*** (.001)	-.002*** (.000)	-.002** (.001)	
Mom Ever Fight	.043* (.018)	.043 (.030)	.038* (.019)	-.030 (.036)	
Mom Ever Steal	.030* (.014)	.025 (.023)	.028+ (.014)	.057+ (.029)	
Mother US Born	.098*** (.027)	.105+ (.058)	.092*** (.028)	-.098 (.094)	
Constant	.561*** (.050)	.643*** (.103)	.559*** (.052)	.705*** (.135)	.321 (.207)
Observations	7720	2433	6958	2433	6958

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Dependent variable is standardized. Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S5: Number of siblings between birth and age 13 regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.052*** (.004)	-.061*** (.008)	-.044*** (.004)	-.083*** (.010)	
Years between first and given child	-.058*** (.005)	-.068*** (.008)	-.056*** (.005)	-.046*** (.012)	.033*** (.005)
Number of siblings before birth	.073** (.025)	.118** (.045)	.073** (.024)	-.346*** (.050)	-1.000*** (.027)
<i>Mediator</i>					
Mother's Education at birth	.007 (.008)	.004 (.016)	-.000 (.008)	.002 (.014)	-.000 (.004)
<i>Covariates</i>					
Black	.141** (.044)	.096 (.090)	.161*** (.047)	-.168 (.170)	
Hispanic	.189*** (.041)	.148+ (.086)	.170*** (.043)	.518+ (.281)	
Female	-.011 (.019)	-.036 (.038)	-.015 (.019)	-.005 (.035)	-.008 (.008)
Firstborn	.452*** (.027)	.548*** (.053)	.833*** (.025)	.313*** (.038)	.087*** (.019)
AFQT Score	.002** (.001)	.003* (.002)	.002* (.001)	.002 (.002)	
Mom Ever Fight	.044 (.045)	.041 (.089)	.054 (.047)	.002 (.107)	
Mom Ever Steal	-.031 (.033)	-.034 (.054)	-.042 (.035)	.038 (.086)	
Mother US Born	-.106* (.052)	-.032 (.092)	-.088 (.054)	-.326 (.340)	
Constant	.929*** (.109)	.953*** (.206)	.957*** (.112)	1.830*** (.441)	3.235 (3.107)
Observations	7740	2437	6978	2437	6978

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Dependent variable is standardized. Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S6: Birth Weight regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.008 (.006)	-.007 (.011)	-.009 (.007)	-.012 (.013)	
Years between first and given child	-.009 (.007)	-.000 (.013)	-.010 (.007)	-.004 (.015)	-.009 (.009)
Number of siblings before birth	.050* (.024)	.037 (.050)	.051* (.024)	.038 (.053)	.057 (.035)
<i>Mediator</i>					
Mother's Education at birth	.019* (.009)	.013 (.017)	.020* (.010)	.010 (.020)	-.002 (.015)
<i>Covariates</i>					
Black	-.320*** (.043)	-.303*** (.081)	-.330*** (.046)	-1.243*** (.182)	
Hispanic	.010 (.041)	-.034 (.070)	.026 (.043)	.228 (.515)	
Female	-.190*** (.024)	-.162*** (.043)	-.187*** (.026)	-.183*** (.045)	-.172*** (.028)
Firstborn	-.094* (.036)	-.061 (.064)	-.074* (.037)	-.082 (.064)	-.089* (.039)
AFQT Score	.003*** (.001)	.004** (.001)	.003** (.001)	-.001 (.002)	
Mom Ever Fight	-.056 (.042)	-.068 (.074)	-.058 (.045)	.057 (.113)	
Mom Ever Steal	-.022 (.034)	.033 (.058)	-.005 (.036)	-.066 (.094)	
Mother US Born	-.166** (.055)	-.002 (.097)	-.172** (.059)	-.304 (.374)	
Constant	.122 (.132)	-.118 (.258)	.092 (.140)	.801+ (.481)	.170 (.195)
Observations	6684	2103	5988	2103	5988

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Standardized birth weight after truncating to the .5 and 99.5 percentiles

Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S7: Prenatal cigarette use regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.019*** (.005)	-.010 (.008)	-.025*** (.005)	-.019* (.008)	
Years between first and given child	.012+ (.007)	.015 (.011)	.010 (.007)	-.011 (.011)	-.010 (.007)
Number of siblings before birth	-.030 (.024)	.010 (.048)	-.032 (.024)	.014 (.042)	-.012 (.024)
<i>Mediator</i>					
Mother's Education at birth	-.070*** (.009)	-.064*** (.016)	-.068*** (.010)	-.027+ (.014)	-.015 (.010)
<i>Covariates</i>					
Black	-.323*** (.046)	-.385*** (.090)	-.321*** (.050)	.152 (.147)	
Hispanic	-.518*** (.042)	-.618*** (.080)	-.534*** (.045)	-.165 (.531)	
Female	-.038+ (.022)	-.039 (.039)	-.022 (.024)	-.078* (.034)	-.033+ (.019)
Firstborn	.025 (.034)	.064 (.064)	-.009 (.033)	.007 (.046)	-.060* (.025)
AFQT Score	-.003*** (.001)	-.006*** (.001)	-.003** (.001)	-.004+ (.002)	
Mom Ever Fight	.125** (.046)	.117 (.082)	.122* (.049)	.052 (.098)	
Mom Ever Steal	.168*** (.037)	.135* (.058)	.175*** (.040)	.072 (.075)	
Mother US Born	.192*** (.058)	.187* (.087)	.168** (.063)	.110 (.187)	
Constant	1.152*** (.132)	1.192*** (.254)	1.191*** (.141)	.616* (.293)	.226 (.138)
Observations	6819	2148	6120	2148	6120

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Dependent variable is standardized. Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S8: Prenatal alcohol use regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.010 ⁺ (.006)	-.011 (.010)	-.010 ⁺ (.006)	-.023 ⁺ (.012)	
Years between first and given child	.004 (.006)	-.007 (.011)	.004 (.006)	-.020 ⁺ (.011)	-.019* (.009)
Number of siblings before birth	-.079*** (.021)	-.044 (.037)	-.078*** (.021)	-.038 (.038)	-.008 (.030)
<i>Mediator</i>					
Mother's Education at birth	-.027** (.009)	-.037* (.015)	-.026** (.009)	-.043* (.019)	-.011 (.013)
<i>Covariates</i>					
Black	-.078 ⁺ (.042)	-.196* (.077)	-.064 (.045)	.109 (.184)	
Hispanic	-.105* (.043)	-.190* (.080)	-.107* (.046)	-.818 (.542)	
Female	-.022 (.024)	-.009 (.041)	-.027 (.025)	-.007 (.043)	.001 (.028)
Firstborn	.050 (.034)	.072 (.060)	.055 (.034)	.064 (.056)	.024 (.034)
AFQT Score	.009*** (.001)	.008*** (.001)	.009*** (.001)	.002 (.003)	
Mom Ever Fight	-.048 (.040)	-.024 (.068)	-.047 (.042)	-.086 (.095)	
Mom Ever Steal	.208*** (.035)	.183** (.059)	.212*** (.037)	.032 (.084)	
Mother US Born	.261*** (.052)	.195 ⁺ (.105)	.268*** (.055)	-.190 (.354)	
Constant	-.003 (.127)	.331 (.241)	-.019 (.135)	1.386** (.436)	.267 (.170)
Observations	6836	2153	6136	2153	6136

Note. Standard errors in parentheses

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Dependent variable is standardized. Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S9: HOME score at age 2/3 regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.000 (.006)	-.007 (.010)	-.001 (.006)	-.009 (.012)	
Years between first and given child	.004 (.007)	.006 (.013)	.001 (.007)	.023 (.015)	.002 (.011)
Number of siblings before birth	-.135*** (.024)	-.141** (.047)	-.133*** (.024)	-.172** (.055)	-.086* (.034)
<i>Mediator</i>					
Mother's Education at birth	.045*** (.009)	.050** (.017)	.048*** (.009)	.038* (.019)	.022 (.014)
<i>Covariates</i>					
Black	-.566*** (.042)	-.549*** (.075)	-.574*** (.045)	.601*** (.153)	
Hispanic	-.160*** (.044)	-.260** (.090)	-.149** (.046)	-.052 (.147)	
Female	.095*** (.022)	.142*** (.039)	.091*** (.024)	.091* (.043)	.098*** (.029)
Firstborn	.075* (.034)	.102 (.064)	.075* (.035)	.099 (.064)	.096** (.036)
AFQT Score	.005*** (.001)	.007*** (.001)	.006*** (.001)	.006** (.002)	
Mom Ever Fight	-.021 (.042)	.036 (.073)	.004 (.044)	.086 (.099)	
Mom Ever Steal	-.033 (.034)	-.068 (.060)	-.044 (.036)	-.193* (.086)	
Mother US Born	.020 (.063)	-.201+ (.111)	.014 (.066)	.007 (.374)	
Constant	-.481*** (.135)	-.456+ (.246)	-.503*** (.141)	-.906* (.444)	-.285 (.180)
Observations	5984	1925	5492	1925	5492

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Standardized HOME Score. Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S10: Adjusted total net family income at age 2/3 regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	.026*** (.006)	.026* (.011)	.029*** (.006)	.001 (.014)	
Years between first and given child	.006 (.006)	.009 (.010)	.006 (.006)	.013 (.009)	.004 (.008)
Number of siblings before birth	.018 (.014)	-.004 (.022)	.019 (.014)	-.023 (.031)	-.007 (.026)
<i>Mediator</i>					
Mother's Education at birth	.079*** (.014)	.086** (.028)	.076*** (.014)	.064* (.030)	.012 (.018)
<i>Covariates</i>					
Black	-.123** (.039)	-.114 (.071)	-.104* (.041)	1.533*** (.175)	
Hispanic	-.015 (.042)	-.010 (.082)	.006 (.043)	.536 (.360)	
Female	.022 (.025)	-.019 (.042)	.015 (.026)	.032 (.041)	.019 (.037)
Firstborn	-.056 (.039)	-.018 (.068)	-.035 (.042)	-.009 (.063)	-.070 (.045)
AFQT Score	.005*** (.001)	.004* (.002)	.005*** (.001)	.007** (.003)	
Mom Ever Fight	-.001 (.032)	.002 (.060)	.008 (.033)	.094+ (.056)	
Mom Ever Steal	.006 (.037)	-.069 (.053)	-.003 (.036)	-.241 (.155)	
Mother US Born	-.146+ (.077)	-.118 (.110)	-.102 (.067)	.041 (.196)	
Constant	-1.212*** (.188)	-1.319** (.402)	-1.234*** (.202)	-1.634*** (.421)	-.075 (.234)
Observations	6544	2090	5960	2090	5960

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S11: Fraction of 5 years before birth single parent household regressed on maternal experience (Years before first birth and years between first and given child) and controls

	OLS			Fixed Effects	
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)
Years between age 16 and first child	-.018*** (.002)	-.021*** (.004)	-.018*** (.002)	-.014*** (.004)	
Years between first and given child	-.003 (.002)	-.008+ (.004)	-.003 (.002)	-.010* (.004)	-.004 (.003)
Number of siblings before birth	-.028** (.010)	-.014 (.017)	-.028** (.010)	-.033+ (.017)	-.053*** (.010)
<i>Mediator</i>					
Mother's Education at birth	-.011*** (.003)	-.017** (.006)	-.011*** (.003)	-.010 (.006)	-.005 (.003)
<i>Covariates</i>					
Black	.261*** (.016)	.245*** (.031)	.262*** (.017)	.014 (.061)	
Hispanic	.045** (.016)	.022 (.030)	.035* (.017)	.150 (.094)	
Female	.005 (.008)	-.013 (.014)	.003 (.008)	-.005 (.012)	.005 (.007)
Firstborn	.245*** (.012)	.253*** (.022)	.242*** (.012)	.214*** (.018)	.208*** (.010)
AFQT Score	-.002*** (.000)	-.002*** (.001)	-.002*** (.000)	-.002* (.001)	
Mom Ever Fight	.035* (.016)	.032 (.026)	.033* (.017)	.026 (.037)	
Mom Ever Steal	.051*** (.012)	.035+ (.021)	.047*** (.013)	.031 (.030)	
Mother US Born	.058* (.023)	.074+ (.042)	.055* (.024)	.149* (.075)	
Constant	.675*** (.049)	.819*** (.088)	.680*** (.051)	.644*** (.118)	.763 (1.226)
Observations	7691	2423	6937	2423	6937

Note. Standard errors in parentheses

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Control variables include: Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S12: Mother's education at birth predicted by years between age 16 and first birth (2SLS Model)

	Years between Age 16 and first birth	Mother's Education at Birth
	First Stage	Second Stage
<i>Instrumental Variable</i>		
Prior Medicaid funding restrictions	-.706*** (.156)	
<i>State Characteristics</i>		
Income per capita	-.237*** (.031)	
Unemployment Rate	-.088*** (.023)	
Average AFDC Benefit per Family	.001+ (.001)	
<i>Predicted Value for 2SLS</i>		
Years between Age 16 and first birth		0.235* (0.096)
Constant	11.209*** (.392)	7.510*** (1.054)
R ²	.455	.507
F-Statistic	20.582	20.582
N	5135	5135

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Control variables include: years between first and given child, number of siblings before birth, black, Hispanic, female, firstborn, Mother's AFQT score, mother ever fight, mother ever stole, mother US born, first born

B: Approaches to addressing general experience endogeneity

Given the possible endogeneity in the relationship between general life experience and our outcomes, we attempted an instrumental variables approach to understand the causal impact of an additional year of general life experience. We attempted an instrumental variable approach using both age of menarche and miscarriages before the first birth as instruments for years between age 16 and first child following prior literature (e.g. Miller, 2011; Hotz et al., 2005). We found age of menarche to produce a very weak first stage, which resulted in a poor instrument for the purposes of this analysis. In regards to miscarriages, we found miscarriages to produce a strong first stage equation but the small number of miscarriages before the first birth in our sample resulted in standard errors that were too large to detect significance given the size of the coefficients in our OLS results (Tables 3-5).

We also attempted using the timing of changes in abortion laws across states from 1970 to 1998 as instruments. Specifically, Medicaid funding restrictions, and parental notification or consent laws from Bitler and Zavodny (2001) were used in our analysis. The timing of those changes fit particularly well with the year of birth of the first born children in our sample.

Given the age of mothers for these law changes, they could have an effect on teen pregnancy. As such, we took advantage of these law changes to see if they could be an instrument to look at the causal impact of a teen birth on our outcomes of interest. Similarly, we find that using these laws resulted in standard errors that were too large to detect significance given the effect sizes in our regressions. So our estimates of the effects were neither significantly different from zero nor significantly different from our main OLS results.

C: Non-linearities and Heterogeneity

Table S13 Non-linear Relations

Panel A: Math in Early Adolescence Regressed on Maternal Experience and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child (2-year categories – Baseline 0-2)								
2-4 Years	.087 (.056)	-.055 (.108)	.087 (.056)	.019 (.170)		.044 (.055)	-.022 (.170)	
4-6 Years	.143* (.060)	-.062 (.115)	.133* (.061)	.034 (.163)		.080 (.060)	-.014 (.166)	
6-8 Years	.176** (.065)	.110 (.119)	.154* (.066)	.123 (.165)		.091 (.066)	.049 (.164)	
8-10 Years	.236*** (.068)	-.024 (.124)	.220** (.069)	-.033 (.168)		.131+ (.069)	-.113 (.167)	
10-12 Years	.312*** (.074)	.085 (.134)	.318*** (.076)	.091 (.177)		.182* (.076)	-.022 (.184)	
12-14 Years	.396*** (.083)	.190 (.146)	.372*** (.086)	.331 (.210)		.257** (.086)	.231 (.211)	
14-16 Years	.351*** (.094)	.086 (.172)	.386*** (.101)	.077 (.230)		.220* (.098)	.033 (.234)	
16+ Years	.501*** (.098)	.272 (.182)	.511*** (.102)	.288 (.239)		.363*** (.101)	.157 (.243)	
Years between first and given child (2-year categories – Baseline 0-2)								
2-4 Years	.024 (.048)	-.003 (.086)	.026 (.048)	-.002 (.088)	-.056 (.055)	.018 (.048)	-.020 (.087)	-.034 (.056)
4-6 Years	.021 (.054)	.045 (.092)	.021 (.054)	.017 (.095)	-.030 (.063)	.005 (.054)	-.019 (.097)	.004 (.065)
6-8 Years	.056 (.065)	-.040 (.118)	.055 (.065)	.054 (.119)	-.016 (.073)	.041 (.065)	.010 (.119)	.011 (.076)

	8+ Years	.176*	.081	.168*	.186	.089	.140*	.128	.107
		(.071)	(.127)	(.071)	(.135)	(.089)	(.070)	(.134)	(.089)
	Number of siblings before birth	-.062**	-.034	-.063**	-.056	.029	-.033	-.078	.086
		(.020)	(.034)	(.020)	(.047)	(.028)	(.021)	(.052)	(.071)
<i>Mediators</i>									
	Mother's education at birth						.038***	.041+	.013
							(.009)	(.022)	(.016)
	HOME score at age 2/3						.105***	.048	.042+
							(.016)	(.031)	(.022)
	Birth weight						.052***	.076**	.079***
							(.014)	(.029)	(.022)
	Prenatal cigarette use per day						.025	.084+	.016
							(.017)	(.050)	(.031)
	Prenatal alcohol use per month						.025+	.029	.019
							(.014)	(.031)	(.021)
	Fraction of years between birth and age 12 biological father in household						-.159***	-.128	-.181
							(.047)	(.127)	(.139)
	Number of siblings between birth and age 13						-.039*	-.086*	.048
							(.015)	(.034)	(.071)
	Adjusted total family income at age 2/3						.004	.009	-.000
							(.011)	(.021)	(.013)
	Fraction of 5 years before birth of single parent household						.026	-.029	.145+
							(.046)	(.100)	(.076)
	Constant	-.391***	-.131	-.381***	.058	.142**	-.643***	-.215	-.165
		(.113)	(.203)	(.115)	(.301)	(.049)	(.146)	(.402)	(.251)
	Observations	5380	1762	4967	1762	4967	5380	1762	4967
<i>Additional Tests</i>									
	Years between age 16 and first child								
	<i>Joint Differences (p-value)</i>	.000	.205	.000	.392		.027	.526	
	<i>Joint Differences from 0 (p-value)</i>	.000	.251	.000	.497		.040	.616	
	Years between first and given child								
	<i>Joint Differences (p-value)</i>	.031	.626	.052	.417	.278	.084	.572	.330
	<i>Joint Differences from 0 (p-value)</i>	.059	.776	.093	.583	.308	.152	.725	.458

Panel B: Reading in Early Adolescence Regressed on Maternal Experience and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child (2-year categories – Baseline 0-2 Years)								
2-4 Years	.096 (.065)	-.024 (.118)	.094 (.066)	.024 (.186)		.049 (.064)	-.011 (.185)	
4-6 Years	.154* (.066)	-.026 (.114)	.156* (.067)	.035 (.186)		.088 (.065)	.007 (.188)	
6-8 Years	.202** (.070)	.121 (.127)	.185** (.071)	.121 (.190)		.115+ (.070)	.060 (.190)	
8-10 Years	.251*** (.075)	.025 (.128)	.260*** (.077)	.012 (.184)		.144+ (.075)	-.033 (.189)	
10-12 Years	.286*** (.079)	.146 (.135)	.309*** (.081)	.115 (.201)		.157+ (.080)	.044 (.208)	
12-14 Years	.310*** (.088)	.242 (.148)	.317*** (.092)	.187 (.219)		.177+ (.090)	.124 (.223)	
14-16 Years	.253* (.099)	.084 (.180)	.294** (.104)	-.004 (.246)		.119 (.100)	-.012 (.254)	
16+ Years	.365*** (.100)	.171 (.180)	.376*** (.104)	.058 (.248)		.228* (.103)	-.039 (.256)	
Years between first and given child (2-year categories – Baseline 0-2 Years)								
2-4 Years	.038 (.050)	.069 (.085)	.040 (.050)	.084 (.083)	.047 (.054)	.037 (.050)	.080 (.083)	.051 (.055)
4-6 Years	.089 (.057)	.127 (.103)	.094 (.057)	.157 (.100)	.103+ (.061)	.078 (.058)	.145 (.101)	.115+ (.064)
6-8 Years	-.003 (.066)	-.076 (.119)	.005 (.067)	.039 (.123)	-.018 (.075)	-.010 (.067)	.020 (.123)	-.011 (.077)
8+ Years	.286*** (.073)	.279* (.132)	.300*** (.074)	.334* (.141)	.261** (.092)	.263*** (.073)	.300* (.142)	.255** (.093)
Number of siblings before birth	-.107***	-.112**	-.107***	-.118*	-.070*	-.080***	-.145*	.018

	(.019)	(.035)	(.019)	(.050)	(.028)	(.020)	(.057)	(.067)
<i>Mediators</i>								
Mother's education at birth						.031**	.023	.007
						(.010)	(.020)	(.015)
HOME score at age 2/3						.106***	.061+	.047*
						(.017)	(.034)	(.021)
Birth weight						.037*	.057*	.054*
						(.014)	(.029)	(.021)
Prenatal cigarette use per day						-.013	.087*	.013
						(.018)	(.044)	(.030)
Prenatal alcohol use per month						-.002	.002	-.008
						(.014)	(.031)	(.021)
Fraction of years between birth and age 12 biological father in household						-.166**	-.214	-.167
						(.051)	(.131)	(.138)
Number of siblings between birth and age 13						-.036*	-.099**	.086
						(.015)	(.037)	(.068)
Adjusted total family income at age 2/3						.006	-.002	-.014
						(.011)	(.023)	(.014)
Fraction of 5 years before birth of single parent household						.054	.053	.040
						(.049)	(.105)	(.077)
Constant	-.654***	-.496*	-.659***	-.101	-.030	-.834***	-.140	-.274
	(.126)	(.226)	(.130)	(.384)	(.048)	(.157)	(.445)	(.250)
Observations	5376	1762	4963	1762	4963	5376	1762	4963
<i>Additional Tests</i>								
Years between age 16 and first child								
<i>Joint Differences (p-value)</i>	.071	.389	.066	.953		.557	.980	
<i>Joint Differences from 0 (p-value)</i>	.016	.493	.017	.970		.508	.991	
Years between first and given child								
<i>Joint Differences (p-value)</i>	.000	.001	.000	.034	.001	.000	.048	.002
<i>Joint Differences from 0 (p-value)</i>	.000	.001	.000	.039	.002	.000	.059	.003

Panel C: Externalizing in Early Adolescence Regressed on Maternal Experience and other controls

	OLS			Fixed Effects		With Mediators		
	Full Sample	Cousin Sample	Sibling Sample	Cousin FE	Sibling FE	OLS	Cousin FE	Sibling FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years between age 16 and first child (2-year categories – Baseline 0-2 Years)								
2-4 Years	-.145 ⁺ (.075)	-.120 (.130)	-.136 ⁺ (.075)	.053 (.169)		-.086 (.071)	.046 (.167)	
4-6 Years	-.244 ^{***} (.072)	-.050 (.125)	-.244 ^{***} (.073)	.057 (.169)		-.158 [*] (.069)	.056 (.167)	
6-8 Years	-.366 ^{***} (.077)	-.346 ^{**} (.126)	-.377 ^{***} (.078)	-.088 (.165)		-.243 ^{**} (.077)	-.093 (.168)	
8-10 Years	-.421 ^{***} (.084)	-.224 (.150)	-.421 ^{***} (.086)	-.110 (.174)		-.266 ^{**} (.083)	-.119 (.179)	
10-12 Years	-.519 ^{***} (.086)	-.329 [*] (.140)	-.500 ^{***} (.089)	-.297 ⁺ (.177)		-.341 ^{***} (.087)	-.305 ⁺ (.181)	
12-14 Years	-.524 ^{***} (.097)	-.416 ^{**} (.153)	-.534 ^{***} (.101)	-.425 [*] (.184)		-.350 ^{***} (.098)	-.425 [*] (.190)	
14-16 Years	-.519 ^{***} (.104)	-.386 [*] (.177)	-.515 ^{***} (.109)	-.410 [*] (.207)		-.329 ^{**} (.104)	-.431 [*] (.217)	
16+ Years	-.499 ^{***} (.106)	-.384 [*] (.172)	-.506 ^{***} (.112)	-.304 (.205)		-.315 ^{**} (.108)	-.318 (.214)	
Years between first and given child (2-year categories – Baseline 0-2)								
2-4 Years	-.021 (.054)	-.017 (.084)	-.023 (.054)	.008 (.080)	.014 (.056)	-.030 (.053)	.014 (.080)	.012 (.056)
4-6 Years	-.043 (.062)	-.033 (.095)	-.044 (.062)	-.061 (.094)	-.032 (.065)	-.038 (.061)	-.043 (.095)	-.030 (.066)
6-8 Years	-.096 (.070)	-.096 (.118)	-.096 (.070)	-.193 ⁺ (.114)	-.094 (.080)	-.102 (.069)	-.182 (.114)	-.090 (.081)
8+ Years	-.232 ^{**} (.078)	-.251 [*] (.127)	-.231 ^{**} (.079)	-.187 (.128)	-.217 [*] (.094)	-.234 ^{**} (.077)	-.160 (.130)	-.220 [*] (.094)
Number of siblings before birth	-.007 (.021)	.027 (.038)	-.006 (.021)	-.040 (.038)	-.012 (.027)	-.034 (.022)	-.065 (.041)	.036 (.062)

<i>Mediators</i>									
Mother's education at birth									
HOME score at age 2/3									
Birth weight									
Prenatal cigarette use per day									
Prenatal alcohol use per month									
Fraction of years between birth and age 12 biological father in household									
Number of siblings between birth and age 13									
Adjusted total family income at age 2/3									
Fraction of 5 years before birth of single parent household									
Constant	.562*** (.132)	.146 (.219)	.540*** (.136)	.596+ (.316)	.125* (.049)	.582*** (.157)	.409 (.355)	.173 (.223)	
Observations	5673	1830	5215	1830	5215	5673	1830	5215	
<i>Additional Tests</i>									
Years between age 16 and first child									
<i>Joint Differences (p-value)</i>	.000	.050	.000	.069		.033	.073		
<i>Joint Differences from 0 (p-value)</i>	.000	.039	.000	.096		.010	.106		
Years between first and given child									
<i>Joint Differences (p-value)</i>	.004	.114	.006	.107	.031	.003	.132	.028	
<i>Joint Differences from 0 (p-value)</i>	.009	.201	.013	.192	.063	.007	.227	.058	

Note. Standard errors in parentheses. Age 10 to 13 externalizing scores are standardized values for children with valid values in at least one year.

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Control variables include: black, Hispanic, female, firstborn, Mother's AFQT score, mother ever fight, mother ever stole, mother US born, first born, Mom's birth year, Child's birth decade (born 1980s, 1990s, 2000s)

Table S14: Exploring differential effects of maternal age by race, maternal education and maternal IQ Panel

A: Math

	(1)	(2)	(3)	(4)
Life Experience	.031*** (.008)	.040*** (.006)	.044*** (.008)	.050*** (.014)
Parent Experience	.032*** (.009)	.027*** (.007)	.036*** (.007)	.050*** (.012)
Number of siblings before birth	-.100*** (.024)	-.080*** (.021)	-.077*** (.020)	-.079*** (.020)
Moderation				
Mom Education is Greater than HS Graduate	.172+ (.101)			
Life Experience X Mom Education is Greater than HS Graduate	-.003 (.009)			
Parenting Experience X Mom Education is Greater than HS Graduate	-.003 (.009)			
Black	-.257*** (.046)	-.221** (.085)	-.228*** (.038)	-.230*** (.038)
Life Experience X Black		-.004 (.008)		
Parenting Experience X Black		.006 (.007)		
Hispanic	-.147** (.049)	-.168+ (.096)	-.125** (.042)	-.127** (.042)
Life Experience X Hispanic		-.001 (.009)		
Parenting Experience X Hispanic		.012 (.008)		
Mother AFQT Score	.013*** (.001)	.014*** (.001)	.015*** (.002)	.014*** (.001)
Life Experience X Mother AFQT ($\times 10^{-3}$)			-.1345 (.1248)	
Parenting Experience X Mother AFQT ($\times 10^{-3}$)			-.1445 (.1188)	
Mother US Born	-.124+ (.072)	-.114+ (.066)	-.114+ (.066)	.082 (.154)

Life Experience X Mother US Born				-.012 (.014)
Parenting Experience X Mother US Born				-.020 ⁺ (.011)
Constant	-.487 ^{***} (.137)	-.560 ^{***} (.113)	-.629 ^{***} (.118)	-.748 ^{***} (.168)
Observations	3747	5380	5380	5380

Note. Standard errors in parentheses

Covariates not shown include: firstborn, mother ever fight, mother ever steal, child birth year in decade, mom birth year

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Panel B: Reading

	(1)	(2)	(3)	(4)
Life Experience	.037*** (.009)	.027*** (.006)	.046*** (.008)	.038** (.015)
Parent Experience	.046*** (.010)	.032*** (.008)	.044*** (.008)	.054*** (.013)
Number of siblings before birth	-.129*** (.026)	-.124*** (.020)	-.119*** (.020)	-.124*** (.020)
Moderation				
Mom Education is Greater than HS Graduate	.356*** (.103)			
Life Experience X Mom Education is Greater than HS Graduate	-.020* (.009)			
Parenting Experience X Mom Education is Greater than HS Graduate	-.020* (.009)			
Black	-.128* (.050)	-.145 (.092)	-.100* (.042)	-.110** (.042)
Life Experience X Black		.004 (.008)		
Parenting Experience X Black		.002 (.008)		
Hispanic	.059 (.052)	-.018 (.110)	.070 (.045)	.064 (.045)
Life Experience X Hispanic		.003 (.009)		
Parenting Experience X Hispanic		.012 (.009)		
Mother AFQT Score	.012*** (.001)	.013*** (.001)	.018*** (.002)	.013*** (.001)
Life Experience X Mother AFQT ($\times 10^{-3}$)			-.4451*** (.1175)	
Parenting Experience X Mother AFQT ($\times 10^{-3}$)			-.2639* (.1247)	
Mother US Born	-.039 (.081)	-.081 (.071)	-.082 (.071)	.103 (.181)

Life Experience X Mother US Born				-.011 (.014)
Parenting Experience X Mother US Born				-.020 ⁺ (.012)
Constant	-.882 ^{***} (.150)	-.717 ^{***} (.123)	-.929 ^{***} (.127)	-.915 ^{***} (.191)
Observations	3744	5376	5376	5376

Note. Standard errors in parentheses

Covariates not shown include: firstborn, mother ever fight, mother ever steal, child birth year in decade, mom birth year

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Panel C: Externalizing

	(1)	(2)	(3)	(4)
Life Experience	-.031*** (.009)	-.018** (.007)	-.048*** (.008)	-.040** (.014)
Parent Experience	-.015 (.010)	-.009 (.008)	-.024** (.009)	-.012 (.015)
Number of siblings before birth	-.002 (.027)	-.009 (.022)	-.009 (.022)	-.006 (.022)
Moderation				
Mom Education is Greater than HS Graduate	-.285** (.107)			
Life Experience X Mom Education is Greater than HS Graduate	.013 (.009)			
Parenting Experience X Mom Education is Greater than HS Graduate	.008 (.009)			
Black	-.001 (.055)	.153 (.103)	-.032 (.046)	-.018 (.047)
Life Experience X Black		-.021** (.008)		
Parenting Experience X Black		-.004 (.009)		
Hispanic	-.046 (.056)	.229* (.109)	-.078+ (.047)	-.074 (.047)
Life Experience X Hispanic		-.026** (.009)		
Parenting Experience X Hispanic		-.019* (.009)		
Mother AFQT Score	-.002* (.001)	-.003*** (.001)	-.008*** (.002)	-.003*** (.001)
Life Experience X Mother AFQT ($\times 10^{-3}$)			.4606*** (.1317)	
Parenting Experience X Mother AFQT ($\times 10^{-3}$)			.2966* (.1355)	
Mother US Born	.057 (.082)	.025 (.072)	.035 (.071)	-.043 (.196)
Life Experience X Mother US Born				.012

Parenting Experience X Mother US Born				(.014)
				-.003
Constant	.426**	.348**	.650***	.531**
	(.163)	(.128)	(.136)	(.204)
Observations	3906	5673	5673	5673

Note. Standard errors in parentheses

Covariates not shown include: firstborn, mother ever fight, mother ever steal, child birth year in decade, mom birth year

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$