Signing Up New Fathers: Do Paternity Establishment Initiatives Increase Marriage, Parental Investment, and Child Well-Being?
ONLINE APPENDIX

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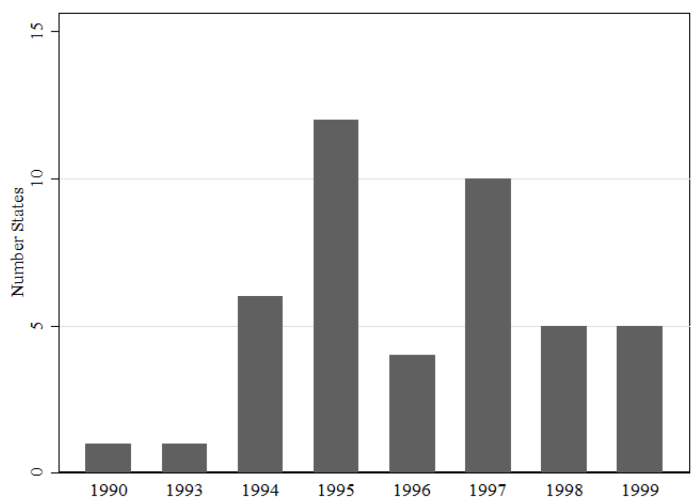
A Additional Results

Figure A1: Variation in IHVPE Program Initiation Across States



Notes: This figure plots the number of states that initiated IHVPE in each year. Forty-four states are included in the figure.

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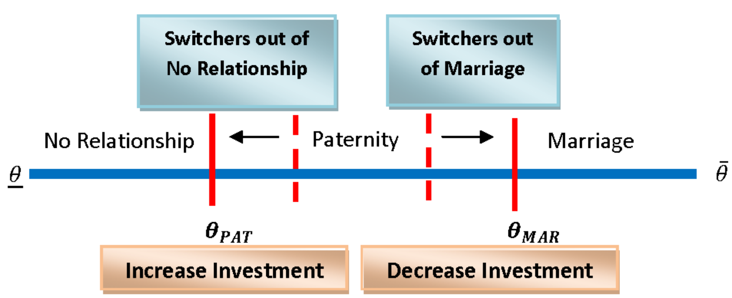
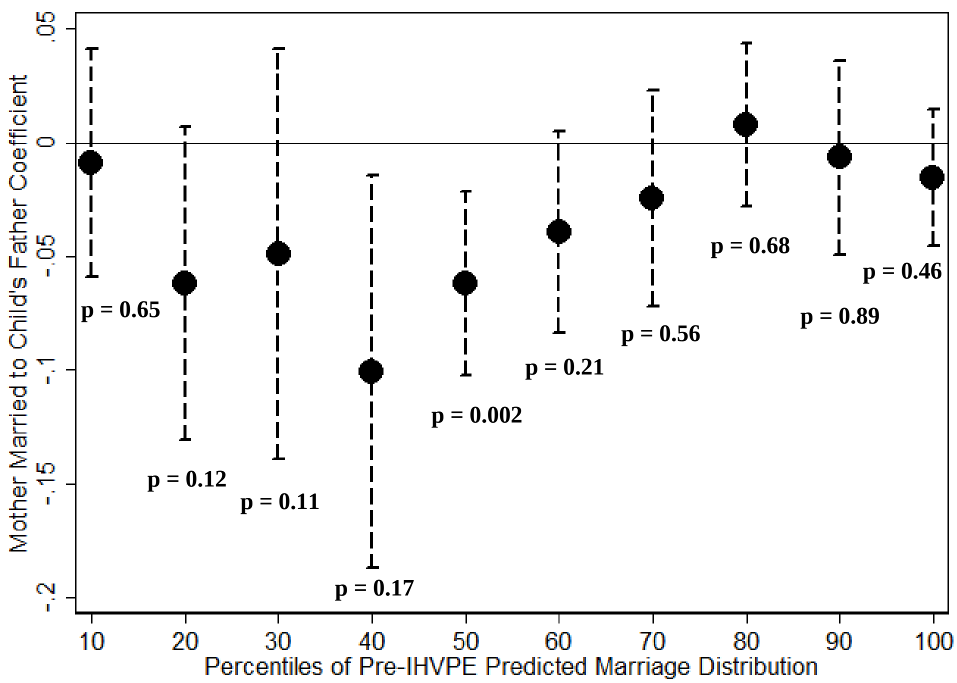
Figure A2: Number Paternities Established in 44 Analysis States: 1992-2005

Figure A3: The Effects of Lowering the Cost of Paternity on Optimal Parental Relationships



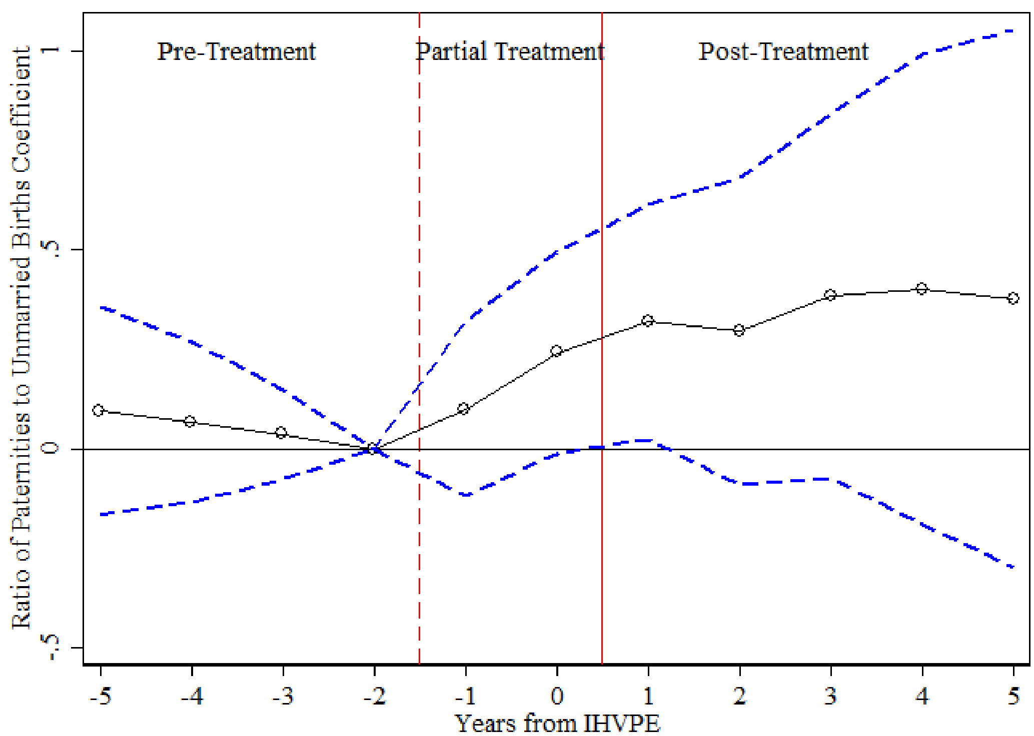
Notes: This figure shows the relationship between match quality, θ, and the optimal parental relationship choice. In a simple version of the model, parental match quality, θ, is monotonically increasing with the parental relationship state. Parents with match quality above θ_{MAR} choose marriage; parents with match quality between θ_{PAT} and θ_{MAR} choose paternity; while parents with match quality below θ_{PAT} choose no relationship. When the costs of establishing paternity are lowered, more parents choose this option: θ_{PAT} will fall while θ_{MAR} will rise.

Figure A4: Effects of IHVPE on Parental Marriage by Deciles of the Pre-IHVPE Predicted Marriage Distribution



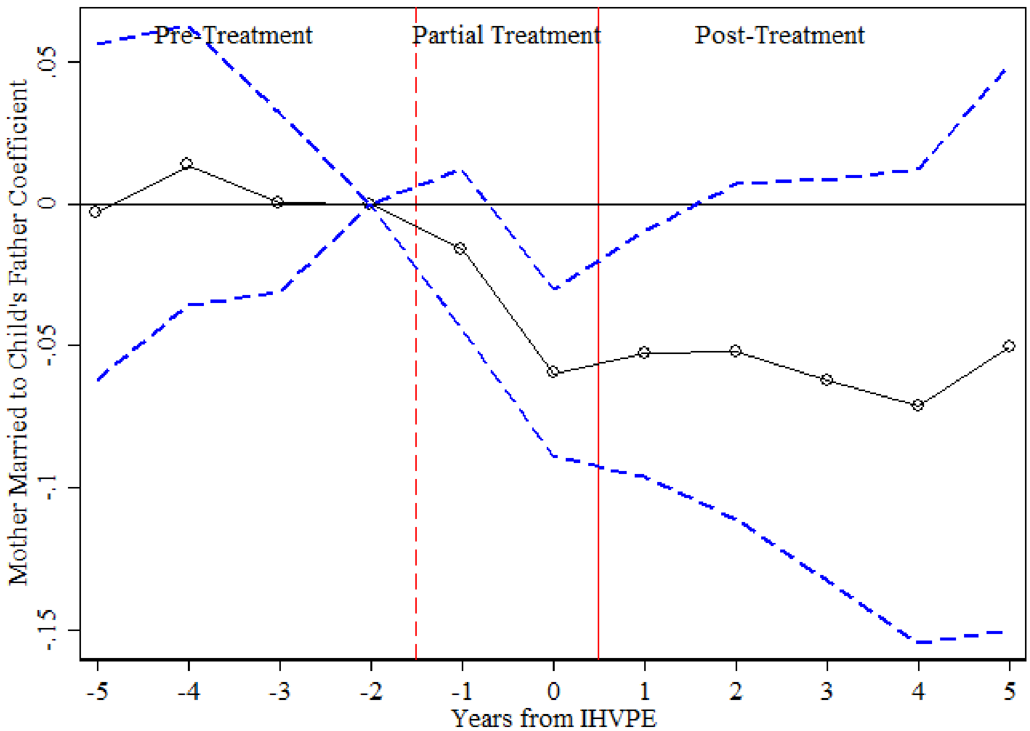
Notes: This figure plots the coefficients from estimating equation (2) for parental marriage as an outcome separately by deciles of the pre-IHVPE predicted marriage distribution. To obtain the pre-IHVPE predicted marriage distribution, I use a probit model to estimate a regression of the form: $Married_{isty} = \beta_0 + \gamma' X_{isty} + \phi' C_{st} + \mu_s + \alpha_y + \delta_s * y + \epsilon_{sy}$, where $Married_{isty}$ is an indicator for the mother being married to the child's father, and the rest of the coefficients and variables are defined as in equation (2). The 95% confidence intervals (shown as dashed bars) use standard errors clustered on the state level. The listed p-values correspond to estimates from a wild cluster bootstrap (Cameron, Gelbach and Miller, 2008) to account for the fact that the sample is split along deciles of a predicted variable.

Figure A5: Effects of IHVPE on Paternity Establishment Rates by Year: "Good Info" States Only



Notes: This figure plots θ_k coefficients (and 95% confidence intervals in dashed blue lines) from estimating the following equation: $Pat_{sy} = \beta_0 + \sum_{k=-5}^{-3} \theta_k * IHVPE_{syk} + \sum_{k=-1}^{5} \theta_k * IHVPE_{syk} + \gamma' X_{sy} + \phi' C_{sy} + \mu_s + \alpha_y + \epsilon_{sy}$, where $IHVPE_{syk}$ is an indicator for k years between IHVPE implementation and year y in state s. The omitted category is -2. The sample is limited to the 27 "good info" states for which I have the most accurate information on the timing of IHVPE implementation (please refer to the text for more details). Also see notes under Figure 1 for more information.

Figure A6: Effects of IHVPE on Parental Marriage by Year: "Good Info" States Only



Notes: This figure plots θ_k coefficients (and 95% confidence intervals in dashed blue lines) from estimating the following equation: $Y_{isty} = \beta_0 + \sum_{k=-5}^{-3} \theta_k * IHVPE_{syk} + \sum_{k=-1}^{5} \theta_k * IHVPE_{syk} + \gamma' X_{isty} + \phi' C_{st} + \mu_s + \alpha_y + \epsilon_{isty}$, where $IHVPE_{syk}$ is an indicator for k years from IHVPE implementation in state s and the child's approximate birth year y. The omitted category is -2. The sample is limited to the 27 "good info" states for which I have the most accurate information on the timing of IHVPE implementation (please refer to the text for more details). Also see notes under Figure 2 for more information.

Table A1: Timing of IHVPE Program Initiation

State	Year/Month	Source
Alabama	1994	Alabama Code Section 26-17-22, part c)
Alaska	1997	Alaska Statutes 18.50.165
Arizona	July 1996	Marjorie A. Cook
		Arizona Department of Economic Security,
		Division of Child Support Enforcement.
		Personal communication: 12/27/2010
Arkansas	1994	Arkansas Code 9-10-120
California	January 1995	California Family Code 7571
Colorado	June 1996	C.R.S. 25-2-112, Sec. 3.5
Connecticut	July 1994	Conn. Gen. Stat. Sec. 17b-27
Delaware	January 1995	paternitynet.com
DC	2/27/1998	D.C. Code Sec. 16-909.03
Florida	August 1997	Fla. Stat. Sec. 742.10
Georgia	1999	OCGA 19-7-27
Hawaii	1999	HRS 584-3.5
Idaho	May 1998	Idaho Department of Health and Welfare website
Illinois	1997	Garfinkel & Nepomnyaschy (2007)
Indiana	1997	Angelica Carter, Attorney
		with the Indiana State Child Support Bureau.
		Personal communication: 4/13/2011
Kansas	1997	KSA 38-1137
Kentucky	7/15/1996	KRS 406.025
Louisiana	1998	La.R.S. 40:46.1
Maine	1996	22 M.R.S. Sec. 2761-B
Maryland	1997	Garfinkel & Nepomnyaschy (2007)
Massachusetts	1994	Garfinkel & Nepomnyaschy (2007)
Michigan	1/21/1993	Public Health Code-Act 368 of 1978
Minnesota	June 1995	Molly Mulcahy Crawford,
		Paternity Program Administrator,
		Minnesota Department of Human Services,
		Child Support Enforcement Division.
		Personal communication: 4/20/2011
Mississippi	1995	U.S. Department of Health and Human Services
		Administration for Children and Families
		Best Practices in Child Support Enforcement Report, 1998
Missouri	July 1994	R.S. Mo 193-087
Nebraska	1995	R.R.S. 43-1408.01
Nevada	1995	Nev. Rev. Stat. Ann. 449.246
New Jersey	July 1996	NJ Paternity Opportunity Program website
New York	March 1995	LawNY website, Advocate Page
		“Paternity in New York (for Advocates)”

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Table A1 – *Continued from previous page*

State	**Year/Month**	**Source**
North Carolina	1997	GS 110-132
North Dakota	1996	N.D. Cent. Code 14-19-06
Ohio	1999	ORC Ann. 3111.71
Oregon	November 1995	Or. Admin. R. 333-011-0048
Pennsylvania	January 1998	23 PA Cons. Stat. Sec. 5103
Rhode Island	January 1995	R.I. Gen. Laws § 40-6-21.1
South Carolina	1994	S.C. Code Ann. § 44-7-77
South Dakota	1994	S.D. Codified Laws § 25-8-50
Tennessee	1994	Garfinkel & Nepomnyaschy (2007)
Texas	1999	Kevin O'Keefe, Texas Office of the Attorney General Child Support Division. Personal communication: 10/8/2010
Utah	1995	Utah Code Ann. 26-2-5
Vermont	1997	Vermont Statutes Title 15, Ch. 5, § 307
Virginia	1995	VA Code 63.2-1914
Washington	July 1989	"Child-Support-America" website (search Washington State Paternity Affidavit Program)
Wisconsin	1999	Wisconsin Bureau of Child Support, Department of Children and Families Report "Voluntary Paternity Acknowledgement" (2010)

Notes: Searches of state statutes were conducted using *LexisNexis Academic*.

Table A2: Sample Means

	Mean		Mean
State-Year Data		Child Has Private Health Insurance Coverage	0.673
Ratio of Paternities to Unmarried Births	0.935	**CS Supplement**	
Ratio of Paternities to All Births	0.313	Father Paid Any Child Support in the Past Year	0.342
Log Paternities Established	10.506	Father Paid All Child Support in the Past Year	0.210
CPS-CSS		Father Has Legal Visitation Rights	0.694
Mother is Married	0.775	Number Days Father Spent with Child in the Past Year	61.35
Mother is Never Married	0.137	Father Provided Any Gifts, Clothes, Food, Childcare or Medical Help	0.553
Mother is Married to Child's Father	0.765	**March CPS (1)**	
Mother is Married to Someone Else	0.010	Mother Worked Any Usual Hours in the Past Year	0.678
Mother's Age at Birth: <20 years	0.045	Real After-Tax Family Income in the Past Year (2010 Dollars)	56,896.20
Mother's Age at Birth: 35-45 years	0.193	**March CPS (2)**	
Mother's Education: <HS	0.141	Mother's Spouse Had Any Own Income in Past Year	0.905
Mother's Education: HS	0.296	Mother's Spouse's Age	34.438
Mother's Education: Some College	0.292	Mother's Spouse Has Less than High School Education	0.116
Mother is Non-Hispanic White	0.632	Mother's Spouse Has High School Degree	0.309
Mother is Black	0.144	**NHIS**	
Mother is Hispanic	0.173	Mother is Cohabiting with Child's Father	0.047
Child is Male	0.510	Mother is Cohabiting with Someone Else	0.019
Child's Age	2.180	Child Had Any Doctor Visits in Past 12 Months	0.852

Notes: The state-year data (N=601) on paternity establishment rates is available for the following 43 states over 1992-2005: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, DC, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, and Wisconsin. The CPS-CSS sample (N=38,445) includes all women with a youngest child aged 5 years or less in the household who were between the ages of 18 and 45 at the time of childbirth in the above 43 states and Washington (44 sample states) in 1994, 1996, 1998, 2000, 2002, 2004, 2006 and 2008. The CS Supplement sample (N=7,082) limits the CPS-CSS sample to mothers who are eligible to be asked the CS Supplement questions and who are not married to their youngest children's biological fathers. The March CPS (1) sample (N=212,504) includes all women with a youngest child aged 5 years or less in the household who were between the ages of 18 and 45 at the time of childbirth in the 44 sample states over 1989-2010. The March CPS (2) sample (N=162,691) limits the March CPS (1) sample to married mothers who are matched to their spouses. The NHIS sample comes from the Sample Child Files over 1997-2010 on all women with a sample child aged 7 years old or less in the household who were between the ages of 18 and 45 at the time of childbirth in the 43 sample states. Sample sizes in the NHIS data cannot be released due to confidentiality concerns. Please see the text for more information about approximate sample sizes. All individual-level samples omit individuals who moved from abroad last year and assign the state of last year's residence as the state of child's birth. Mothers are coded as married to the biological father if they are married and their youngest child is coded as living with both parents in the household. Mothers are coded as married to someone other than the biological father if they are married, but their youngest child is coded as living with one parent in the household. After-tax income is calculated using the TAXSIM program at the NBER. The state-year means are weighted by state-year populations, while individual-level data means are weighted by the provided sample weights.

Table A3: Effects of IHVPE on Mobility Between State of Birth and State of Residence: 1990 and 2000 Census, and 2001-2010 ACS

	Dependent Variable: Child Lives in State Different than State of Birth				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Pre-Treat. Mean of Dep. Var.	0.1051	0.1269	0.1266	0.1266	0.1266
IHVPE Program Exists in State and Year of Child's Birth	-0.0056	-0.0057	-0.0064	-0.0063	-0.0044
	(0.0066)	(0.0068)	(0.0070)	(0.0070)	(0.0041)
Mother and Child Controls	√	√	√	√	√
Year FEs	√	√	√	√	√
State FEs	√	√	√	√	√
State Time-Varying Characteristics Controls		√	√	√	√
Child Support Laws Controls			√	√	√
State EITC Implementation				√	√
AFDC/TANF Implementation				√	√
State-Specific Time Trends					√
N	2,352,381	1,658,860	1,624,957	1,624,957	1,624,957
R-squared	0.0290	0.0289	0.0293	0.0293	0.0303

Notes: Each column is a separate regression. The data come from the 1990 and 2000 5% U.S. Census samples and the 2001-2010 American Communities Survey samples available through IPUMS. The 2001-2004 ACS samples represent approximately 0.5% of the population in each year. The 2005-2010 ACS samples are 1% samples. The sample of analysis includes all women with a youngest child aged 5 years old or less in the household who were between the ages of 18 and 45 at the time of childbirth in the 44 sample states (the states listed in the notes to Table 1 and Washington) in these years. Treatment is assigned based on the child's state of residence (to be comparable to the main analyses in the CPS-CSS, March CPS, and NHIS). The dependent variable in all columns is an indicator for the child's residence state being different from the child's state of birth. The mother and child controls include controls for the woman's age at childbirth (<20, 20-24, 25-34; 35-44 omitted), woman's education (less than HS, HS, some college; college+ omitted), woman's race (non-Hispanic white, non-Hispanic black, Hispanic; other omitted), child sex, total number of children in the household (1, 2; 3 or more omitted), and indicators for the youngest child's age in years. The controls for state characteristics in the year before include the unemployment rate, the poverty rate, the state minimum wage, the percent of the population that receives AFDC/TANF benefits, the AFDC/TANF benefit for a 4-person family, the percent of the population on Medicaid, the percent of population receiving WIC, total spending on child support enforcement, an indicator for a Democratic governor, and the fraction of the state House that is Democratic. The child support laws controls are indicators for whether the following laws are in place in the state and year of observation: universal wage withholding, New Hires directory, license revocation for non-payment, and joint custody. The state EITC implementation controls are indicators for whether a state EITC has been implemented in the state and year of observation. The AFDC/TANF implementation controls are indicators for whether the AFDC waiver or the TANF program is implemented by the state and year of observation. All regressions are weighted by the Census and ACS person weights. Robust standard errors are clustered on the state level.
Significance levels: + p<0.10 ** p<0.05 *** p<0.01

Table A4: IHVPE and Pregnancy Behaviors and Birth Outcomes

Dependent Variable	**Pre-Treat. Mean of Dep. Var.**	**Coefficient**	**SE**
1st Tri. Prenatal Care Initiation	0.799	-0.0040	(0.0030)
Child is Male	0.512	0.0005	(0.0003)
Maternal Weight Gain (lbs.)	30.644	-0.1387	(0.0890)
Birth Weight (g)	3324.488	-0.7896	(0.8771)
Low Birth Weight (<2500g)	0.074	0.0003	(0.0003)
Very LBW (<1500g)	0.014	0.0000	(0.0001)
Gestation (weeks)	38.956	-0.0127+	(0.0068)
Any Complications	0.322	0.0043	(0.0072)
Any Abnormal Cond. of Newborn	0.069	0.0010	(0.0040)

Notes: Each coefficient is from a separate regression. Please refer to Tables 1 and 2 for details about the sample and controls. All regressions are weighted by the number of births in each cell. Robust standard errors are clustered on the state level.
Significance levels: + p<0.10 ** p<0.05 *** p<0.01

Table A5: Effects of IHVPE on Marriage Rates *At Childbirth* In Years After IHVPE

	Dependent Variable: Proportion Married Births				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Pre-Treat. Mean of Dep. Var.	0.681	0.682	0.681	0.681	0.681
Year of IHVPE Initiation	0.0060	0.0082	0.0088	0.0082	0.0124**
	(0.0054)	(0.0057)	(0.0060)	(0.0057)	(0.0060)
One Year Post IHVPE	0.0023	0.0039	0.0036	0.0027	0.0072
	(0.0061)	(0.0068)	(0.0070)	(0.0060)	(0.0068)
Two Years Post IHVPE	0.0025	0.0046	0.0038	0.0031	0.0067
	(0.0039)	(0.0046)	(0.0048)	(0.0042)	(0.0054)
Three Years Post IHVPE	0.0018	0.0036	0.0034	0.0024	0.0052
	(0.0040)	(0.0046)	(0.0047)	(0.0040)	(0.0043)
Four Years Post IHVPE	0.0005	0.0021	0.0016	0.0015	0.0040
	(0.0027)	(0.0029)	(0.0028)	(0.0027)	(0.0036)
Five Years Post IHVPE	-0.0001	0.0001	-0.0001	-0.0002	0.0031
	(0.0022)	(0.0020)	(0.0022)	(0.0022)	(0.0031)
Mother and Child Controls	√	√	√	√	√
Year FEs	√	√	√	√	√
State FEs	√	√	√	√	√
State Time-Varying Characteristics Controls		√	√	√	√
Child Support Laws Controls			√	√	√
State EITC Implementation				√	√
AFDC/TANF Implementation				√	√
State-Specific Time Trends					√
N	602	573	545	545	545

Notes: Each column is a separate regression. Please refer to Tables 1 and 2 for details about the sample and controls. All regressions are weighted by the number of births in each cell. Robust standard errors are clustered on the state level.
Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A6: Welfare Reform, IHVPE, and Parental Marriage: CPS-CSS 1994-2008

	Dependent Variable: Mother is Married to Child's Biological Father			
	(1)	**(2)**	**(3)**	**(4)**
IHVPE Program Exists in State and Year of Child's Birth	-0.0308**			-0.0281**
	(0.0090)			(0.0088)
AFDC Waiver or TANF Implemented		0.0046		
		(0.0148)		
AFDC Waiver Implemented			0.0028	0.0024
			(0.0214)	(0.0221)
TANF Implemented			0.0056	-0.0042
			(0.0167)	(0.0166)
N	36,241	36,241	36,241	36,241

Notes: Each column is a separate regression. Please refer to Table 3 for details about the sample and controls. Information on AFDC waiver and TANF implementation is available from Bitler, Gelbach and Hoynes (2006). All regressions also include mother and child controls, controls for state time-varying characteristics (excluding controls for the percent of the population that receives welfare benefit and the welfare benefit for a 4-person family), controls for child support laws, and controls for state EITC implementation. All regressions include state and child birth year fixed effects, and state-specific time trends. All regressions are weighted by the CPS person weights. Robust standard errors are clustered on the state level.
Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A7: Effects of IHVPE on Marriage by State Child Support Disregard Policies

	Dependent Variable: Mother is Married to Child's Biological Father			
	All Sample Mothers (Child Birth Years 1990-2003)		Welfare Recipients (Child Birth Years 1990-2003)	
	Disregard: $50/month +	Disregard: <$50/month	Disregard: $50/month +	Disregard: <$50/month
Pre-Treat. Mean of Dep. Var.	0.741	0.711	0.184	0.133
IHVPE Program Exists in State and Year of Child's Birth	-0.0132+	0.0151	-0.0334	0.0214
	(0.0067)	(0.0169)	(0.0221)	(0.0768)
N	97,340	29,280	8,110	1,137

Notes: Each column is a separate regression using data from the March CPS. Data on child support disregard policies come from Cancian, Meyer and Roff (2007) for years 1990-2003. The sample is split according to the disregard amount in each child's state and year of birth. Please refer to Tables 3 and 4 for details about the sample and controls. All regressions are weighted by the CPS person weights. Robust standard errors are clustered on the state level.
Significance levels: + p<0.10 ** p<0.05 *** p<0.01

Table A8: Complier Characteristics of Parents Induced Out of Marriage by IHVPE: CPS-CSS 1994-2008

Maternal Characteristic	**Fraction of Sample (Weighted)**	**Relative Likelihood "Complier" Has Characteristic**
Mother's Age at Birth: <20	0.045	0.730
Mother's Age at Birth: 20-24	**0.203**	**2.922**
Mother's Age at Birth: 25-34	0.558	0.590
Mother's Age at Birth: 35+	0.195	0.059
Mother's Education: <HS	0.141	0.858
Mother's Education: HS degree	**0.296**	**1.692**
Mother's Education: Some College	0.292	0.883
Mother's Education: College+	0.270	0.355
Mother is Non-Hispanic White	0.632	0.706
Mother is Black	**0.144**	**1.822**
Mother is Hispanic	**0.173**	**1.793**
Child is Male	0.510	0.804

Notes: The table reports an analysis of the "complier characteristics" of parents who are induced out of marriage as a result of IHVPE. The ratios in column 2 give the relative likelihood that "compliers" have the characteristic indicated on the left. The relative likelihood ratio is calculated by dividing the IHVPE coefficient for the subsample defined by each characteristic by the overall IHVPE coefficient (0.028). Please refer to Table 3 for details about the sample and controls.

Table A9: Effects of IHVPE on Child Health Insurance Provision: CPS-CSS 1994-2008

	Any Private Health Insurance Coverage	**Coverage by Member of Household**	**Coverage by Person Outside Household**	**Coverage by Medicaid**	**Coverage by CHIP**	**Any Health Insurance Coverage**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Pre-Treat. Mean of Dep. Var.	0.681	0.635	0.046	0.236	0.050	0.866
IHVPE Program Exists in	-0.0263**	-0.0284**	0.0021	0.0064	0.0192	-0.0072
State and Year of Child's Birth	(0.0101)	(0.0113)	(0.0039)	(0.0110)	(0.0189)	(0.0108)
N	36,241	36,241	36,241	36,241	15,177	36,241

Notes: Each column is a separate regression. Please refer to Table 3 for more details about the sample and controls. All regressions are weighted by the CPS person weights. Information on CHIP coverage is only available in 2002, 2004, 2006, and 2008 in the CPS-CSS. Robust standard errors are clustered on the state level.

Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A10: Effects of IHVPE on Mothers' Labor Supply, Different Definitions: March CPS 1989-2010

	Any Hours Worked	**Mother is Employed**	**Mother is in Labor Force**	**Any Wage Income**	**Log Wage**	**Usual Hours Worked**
Pre-Treat. Mean of Dep.Var.	0.681	0.582	0.630	0.643	9.227	23.610
IHVPE Program Exists in State	0.0175**	0.0152+	0.0127+	0.0189**	0.0234	0.4745
and Year of Child's Birth	(0.0074)	(0.0080)	(0.0072)	(0.0075)	(0.0145)	(0.3087)
N	184,562	184,562	184,562	184,562	118,581	184,562

Notes: Each coefficient is from a separate regression. Please refer to Table 4 for details about the sample and controls. All regressions include mother and child controls, controls for state time-varying characteristics, controls for child support laws, and controls for state EITC and AFDC/TANF implementation. All regressions include state and child birth year fixed effects, and state-specific time trends. All regressions are weighted by the CPS person weights. Robust standard errors are clustered on the state level.
Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A11: Net Effects of IHVPE on Father Involvement: CPS-CSS 1994-2008, Accounting for Selection Out of Marriage

Dependent Variable	**Pre-Treat. Mean of Dep. Var.**	**Coefficient**	**SE**
Father Made Any CS Payments in Last Year	0.863	-0.0131	(0.0078)
Father Made All CS Payments in Last Year	0.836	-0.0115	(0.0085)
Father Paid On Time All or Most of the Time in Last Year	0.878	-0.0132	(0.0098)
Father Has Court-Ordered Visitation Rights	0.931	-0.0074	(0.0085)
Father Has Joint Legal Custody	0.801	-0.0233**	(0.0084)
Number Days Father Spent with Child	299.545	-6.0948**	(2.8886)
Father Provided Gifts for Child	0.887	-0.0037	(0.0092)
Father Provided Clothes for Child	0.856	-0.0092	(0.0075)
Father Provided Food for Child	0.828	-0.0084	(0.0090)
Father Covered Childcare Expenses for Child	0.795	-0.0142	(0.0085)
Father Paid for Medical Expenses for Child	0.806	-0.0066	(0.0100)

Notes: Sample sizes range from N=33,293 to N=35,297. Each coefficient is from a separate regression. Married fathers are included in the regressions and are assumed to have made all their "child support payments" and to have made them on time in the previous year. They are assumed to have "visitation rights" and "joint legal custody", and are assumed to have spent 365 days with the child in the past year. They are assumed to have provided gifts, food, clothes, childcare, and medical help for the child. Please refer to Table 3 for details about the sample and controls. All regressions include mother and child controls, controls for state time-varying characteristics, controls for child support laws, and controls for state EITC and AFDC/TANF implementation. All regressions include state and child birth year fixed effects, and state-specific time trends. All regressions are weighted by the CPS person weights. Robust standard errors are clustered on the state level.
Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A12: Effects of IHVPE on Imputed Private Child Health Insurance Provision: CPS-CSS 1994-2008

	Dependent Variable: Child Has Private Health Insurance (=1 if married parents)				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Pre-Treat Mean of Dep. Var.	0.846	0.846	0.847	0.847	0.847
IHVPE Program Exists in State and Year of Child's Birth	-0.0282***	-0.0228***	-0.0227***	-0.0231***	-0.0241***
	(0.0060)	(0.0053)	(0.0056)	(0.0056)	(0.0061)
Mother and Child Controls	√	√	√	√	√
Year FEs	√	√	√	√	√
State FEs	√	√	√	√	√
State Time-Varying Characteristics Controls		√	√	√	√
Child Support Laws Controls			√	√	√
State EITC Implementation				√	√
AFDC/TANF Implementation				√	√
State-Specific Time Trends					√
N	38,445	37,454	36,241	36,241	36,241
R-squared	0.1969	0.1979	0.1979	0.1980	0.1987

Notes: Each column is a separate regression. Children of married parents are coded as having private health insurance. Please refer to Table 3 for details about the sample and controls. All regressions include mother and child controls, controls for state time-varying characteristics, controls for child support laws, and controls for state EITC and AFDC/TANF implementation. All regressions include state and child birth year fixed effects, and state-specific time trends. All regressions are weighted by the CPS person weights. Robust standard errors are clustered on the state level.
Significance levels: + $p<0.10$ ** $p<0.05$ *** $p<0.01$

Table A13: Balance Test of Maternal and Child Characteristics after Reweighting: CPS-CSS 1994-2008

	Raw Unweighted CSS Sample			IPW Weighted Sample		
	(1)	(2)	(3)	(4)	(5)	(6)
Covariates	**IHVPE = 0**	**IHVPE = 1**	**Std. Diff. (2)-(1)**	**IHVPE = 0**	**IHVPE = 1**	**Std. Diff (5)-(4)**
Mother's Age at Birth: <20	0.104	0.116	**0.040**	0.116	0.113	**-0.008**
Mother's Age at Birth: 20-24	0.341	0.356	**0.032**	0.357	0.343	**-0.028**
Mother's Age at Birth: 25-34	0.453	0.403	**-0.100**	0.411	0.419	**0.016**
Mother's Age at Birth: 35-44	0.102	0.122	**0.062**	0.114	0.122	**0.027**
Mother's Education: <HS	0.228	0.208	**-0.049**	0.211	0.229	**0.043**
Mother's Education: HS	0.386	0.372	**-0.027**	0.377	0.372	**-0.012**
Mother's Education: Some College	0.309	0.330	**0.045**	0.329	0.320	**-0.020**
Mother is Non-Hispanic White	0.480	0.460	**-0.039**	0.473	0.470	**-0.006**
Mother is Black	0.344	0.314	**-0.063**	0.326	0.319	**-0.014**
Mother is Hispanic	0.144	0.171	**0.074**	0.158	0.164	**0.017**
Child is Male	0.497	0.494	**-0.006**	0.497	0.491	**-0.011**
Child's Age Less than 1	0.101	0.207	**0.288**	0.154	0.165	**0.031**
Child's Age 1	0.162	0.202	**0.102**	0.198	0.191	**-0.017**
Child's Age 2	0.147	0.186	**0.102**	0.176	0.172	**-0.010**
Child's Age 3	0.200	0.149	**-0.138**	0.164	0.157	**-0.019**
Child's Age 4	0.185	0.148	**-0.100**	0.166	0.167	**0.003**
Child's Age 5	0.204	0.109	**-0.267**	0.143	0.148	**0.014**
Total Kids in HH: 1	0.348	0.358	**0.021**	0.365	0.357	**-0.018**
Total Kids in HH: 2	0.354	0.335	**-0.041**	0.348	0.334	**-0.029**

Notes: This table reports the means and standardized differences across means of maternal and child characteristics between treatment (IHVPE= 1) and comparison (IHVPE= 0) observations. Columns 1 and 2 report the means in the raw unweighted CSS sample. Column 3 reports the standardized difference, i.e., the difference between column 2 and column 1 divided by the standard deviation of the variable in the sample. Columns 4 and 5 report means, which are reweighted using inverse propensity scores. Specifically, I first estimate a logit model, regressing a dummy for treatment (IHVPE= 1) on all of the covariates listed in this table in the CSS sample. The predicted value from this model is the propensity score, which is then normalized to add to one. Treatment observations are then weighted by $1/p$, while comparison observations are weighted by $1/(1-p)$. Column 6 reports the standardized difference between the weighted means, i.e., the difference between column 5 and column 4 divided by the standard deviation of the variable in the sample.

B More Details on the Conceptual Framework

In this Appendix, I present additional mathematical details to the model discussed in Section II.

Consider parents who derive utility from child quality (Q), private adult consumption (C), and match quality (θ), and who can choose between three relationship contracts: marriage (m), paternity (p), and no legal relationship (n). I denote mothers by subscript x and fathers by subscript y, and represent the parental utility functions as follows:[1]

For each parent $i \in \{x, y\}$,

$$U_{ij} = \beta_i U_Q\Big(Q(K_j, \delta_j\theta)\Big) + (1-\beta_i)U_C\Big(C_{ij}\Big) + \delta_j\theta - \gamma_{ij}d_j \qquad j \in \{m, p, n\}$$

$U_Q(\cdot)$ represents utility from child quality, $U_C(\cdot)$ represents utility from adult consumption, and β_i, $0 < \beta_i < 1$, represents the weight each parent places on his/her preferences toward children relative to other adult consumption goods. In each state j, child quality, Q, is a positive concave function of total parental investment, K_j. Additionally, as in Tartari (2015), I allow for match quality, θ, to enter the child quality production function, and assume that investments and match quality are complements ($\frac{\partial^2 Q}{\partial K \partial\theta} > 0$).

Couples are heterogeneous in θ, which is distributed according to a cumulative distribution function, $F(\theta)$, with support $(\underline{\theta}, \overline{\theta})$. θ can take on both positive and negative values; the negative values imply that some parents experience a *cost* from interacting with each other. The degree to which match quality can impact child quality and parental utility depends on the level of parental interaction and is captured by parameter δ_j. δ_j varies by state j and is proportional to the amount of parental rights that the father has. As fathers have full parental rights in marriage, fewer rights in paternity, and even fewer rights in the state of no relationship, I assume that: $\delta_m = 1$, $\delta_p = \alpha$, and $\delta_n = \rho$, for some $0 \leq \rho < \alpha < 1$. Note that while legally fathers have no rights to their children in the “no relationship” state, I allow for the possibility of some (informal) interaction between parents in this state.

Finally, there are fixed costs associated with entering into the marriage and paternity establishment contracts that are separate from match quality: $d_m > 0$ and $d_p > 0$, while $d_n = 0$.[2]

Modes of interaction Next, it is necessary to characterize the modes of interaction between parents. In marriage, it is reasonable to assume that parents expect to cooperate. They have transferrable utility, and maximize their joint utility subject to a joint income constraint, which is the sum of their individual incomes, Y_x and Y_y:[3]

$$\max_{K_m, C_{xm}, C_{ym}} (\beta_x + \beta_y)U_Q\Big(Q(K_m, \theta)\Big) + (1-\beta_x)U_C\Big(C_{xm}\Big) + (1-\beta_y)U_C\Big(C_{ym}\Big) + 2\theta - d_m$$
$$\text{s.t.} \quad K_m + C_{xm} + C_{ym} = Y_x + Y_y$$

Outside marriage, following the literature (e.g., Weiss and Willis, 1985; Del Boca and Flinn, 1995; Willis, 1999; Roff and Lugo-Gil, 2012), I assume the parents do *not* bargain cooperatively and instead face a static Stackelberg game, where the father chooses his child support payment, s, given the mother's response function, while the mother chooses her spending on the child given the father's payment. In states $j \in \{p, n\}$, the maternal response function is given by $K_j(s_j)^*$, the solution to the following maximization problem:

$$\max_{K_j, C_{xj}} \beta_x U_Q\Big(Q(K_j, \delta_j\theta)\Big) + (1-\beta_x)U_C\Big(C_{xp}\Big) + \delta_j\theta - \gamma_{xj}d_j \qquad \text{s.t.} \quad K_j + C_{xj} = Y_x + s_j$$

The father then maximizes his indirect utility, taking into account the maternal optimal response function for child investment, $K_j(s_j)^*$:

[1] I assume quasi-linear utility functions, which follows Edlund (2013), Flinn (2000), Chiappori and Oreffice (2008), Brown and Flinn (2011), and Roff and Lugo-Gil (2012), among others.

[2] The parameter γ_{ij} ($0 \leq \gamma_{ij} \leq 1$, $\gamma_{xj} + \gamma_{yj} = 1$) depicts how the parents share the fixed costs of marriage and paternity establishment, and is exogenous to the model.

[3] Prices are normalized to one.

$$\max_{s_j} \beta_y U_Q\Big(Q(K_j(s_j)^*, \delta_j\theta)\Big) + (1-\beta_y)U_C\Big(Y_y - s_j\Big) + \delta_j\theta - \gamma_{yj}d_j \qquad \text{s.t.} \quad s_j \geq \overline{s}_j$$

where $\overline{s}_p = \overline{s}$ (for some $0 < \overline{s} < Y_y$), and $\overline{s}_n = 0$. In other words, in the paternity state, fathers' child support payments must comply with child support orders; by contrast, fathers who do not enter the paternity contract are not subject to any child support order constraints.

C CPS-CSS Sample Construction

The CPS-CSS analysis sample is constructed as follows. I first create a "youngest child" data set by considering all individuals who are the youngest within their household and who are aged 5 years or less.[4] I drop all children who have been adopted, who have a parent that died, or who live with either no biological parent or only a father. All children who live with at least one parent have information on the line number of his/her parent in the household (which can be a mother or a father). Thus, I am able to merge youngest children who list their mothers' line numbers directly to their mothers. I merge children who list their fathers' line numbers to their fathers and merge the fathers to their spouses in the household to obtain information on the mothers. I drop all father-child pairs in which the father cannot be merged to a spouse in the household.[5] This results in a data set of mother/youngest-child pairs, and I use the mother as the unit of observation in all analyses.

Next, using the youngest child's age at the time of the survey, I calculate the child's approximate birth year: *birth year = survey year − child age − 1*.[6] Since there is some variation in how minors are treated in IHVPE programs, I limit my analysis to mothers aged 18-45 at the time of childbirth. I also drop mothers who are missing CPS-CSS person weights, although all results are similar when using unweighted regressions. Finally, I drop all mothers who moved from outside the U.S. in the last year.

In this sample, a mother is categorized as married to the child's biological father if she is married and her youngest child is coded as living with both parents in the household. A mother is categorized as married to someone other than the biological father if she is married, but the youngest child is coded as living with only a mother in the household. The CSS analysis is limited to mothers who responded to the CSS questions and who are not married to their youngest children's biological fathers.[7]

[4] I randomly pick one child if there are multiple children that satisfy this condition (e.g., non-singleton children or "Irish twins").

[5] I do this because I want to use the mother as the unit of observation and I cannot observe information on the child's mother when the father is listed as the child's parent and the parents are not married. As a result, all mother-child pairs in which the unmarried parents are cohabiting and the child's parent is listed as the father are dropped. This results in only about 1% of the sample being dropped. This may still be problematic if there is an effect of IHVPE programs on the likelihood that unmarried parents cohabit. However, I can check this given that I do observe mother-child pairs in which the unmarried parents are cohabiting and the child's parent is listed as the mother. There is no statistically significant effect of IHVPE on cohabitation for these mothers—the coefficient of interest is -0.000082 with a standard error of 0.0005. Additionally, results from the NHIS data where respondents are explicitly asked about cohabitation suggest that there are no effects of IHVPE on parental cohabitation; instead, the likelihood that a mother cohabits with someone other than the father increases. Thus, I can conclude that this omission is likely negligible.

[6] I chose this specification because the data are collected in March; therefore, only individuals born in the first three months of the year will have had their birthday by the time of the survey.

[7] There are some mothers who are eligible to be asked CSS questions, but are coded as married to their youngest children's fathers. This is because these mothers have older children with fathers outside the household. I drop these mothers from the CSS analysis.

D Addressing Selection in the Unmarried Sample using Lee (2009) Bounds

As discussed in Section V, results on father involvement and child well-being in families with unmarried parents are complicated by the IHVPE-driven decline in parental marriage. To address this issue of selection, I calculate upper and lower bound estimates on the effect sizes following Lee (2009). The idea is to trim the unmarried sample by the number of "extra" individuals who are there post-IHVPE. The upper bound estimate assumes that the "extra" individuals are located at the bottom of the outcome distribution (i.e., parents who would have otherwise been married have the worst outcomes), while the lower bound estimate assumes that the "extra" individuals are located at the top of the outcome distribution (i.e., parents who would have otherwise been married have the best outcomes).

I implement this method by estimating separate regressions of equation (2) with an indicator for being in the unmarried (or CSS) sample as the outcome for 16 mutually exclusive groups of mothers defined by interactions between maternal education (less than high school, high school degree, some college, college or more) and race (non-Hispanic white, non-Hispanic black, Hispanic, and other) categories. For each group, g, I obtain the coefficient on the IHVPE indicator, β_g, and then trim the group by ($\beta_g * 100$) percent of the post-IHVPE sample. To calculate the lower bound of the effect on each outcome, I drop post-IHVPE observations that are in the top ($\beta_g * 100$) percent of the post-IHVPE outcome distribution; for the upper bound, I drop post-IHVPE observations that are in the bottom ($\beta_g * 100$) percent of the post-IHVPE outcome distribution. For binary outcomes, the lower bound trim drops ($\beta_g * 100$) percent of post-IHVPE observations that all have a value of "1", while the upper bound trim drops ($\beta_g * 100$) percent of the post-IHVPE observations that all have a value of "0".[8]

References

Bitler, Marianne P., Jonah B. Gelbach, and Hilary W. Hoynes. 2006. "Welfare reform and children's living arrangements." *Journal of Human Resources*, 41(1): 1–27.

Brown, Meta, and Christopher J Flinn. 2011. "Family law effects on divorce, fertility and child investment." New York University, unpublished manuscript.

Cameron, A Colin, Jonah B Gelbach, and Douglas L Miller. 2008. "Bootstrap-based improvements for inference with clustered errors." *The Review of Economics and Statistics*, 90(3): 414–427.

Cancian, Maria, Daniel R. Meyer, and Jennifer Roff. 2007. "Testing New Ways to Increase the Economic Well-Being of Single-Parent Families: The Effects of Child Support Policies on Welfare Participants." Institute for Research on Poverty Discussion Paper 1330-07.

Chiappori, P.A., and S. Oreffice. 2008. "Birth control and female empowerment: An equilibrium analysis." *Journal of Political Economy*, 116(1): 113–140.

Del Boca, Daniela, and Christopher J Flinn. 1995. "Rationalizing child-support decisions." *The American Economic Review*, 1241–1262.

Edlund, Lena. 2013. "The role of paternity presumption and custodial rights for understanding marriage patterns." *Economica*, 80: 650–669.

Flinn, Christopher J. 2000. "Modes of interaction between divorced parents." *International Economic Review*, 41(3): 545–578.

[8] Results that simply trim the top and bottom 2% of each outcome distribution yield similar, but wider bounds. Lee (2009) shows that bounds calculated by conditioning on covariates (such as education and race above) are narrower than those calculated without controlling for any covariates.

Lee, David S. 2009. "Training, wages, and sample selection: Estimating sharp bounds on treatment effects." *Review of Economic Studies*, 76(3): 1071–1102.

Roff, Jennifer, and Julieta Lugo-Gil. 2012. "A model of child support and the underground economy." *Labour Economics*, 19(5): 668–681.

Tartari, Melissa. 2015. "Divorce and the Cognitive Achievement of Children." *International Economic Review*, 56(2): 597–645.

Weiss, Yoram, and Robert J. Willis. 1985. "Children as collective goods and divorce settlements." *Journal of Labor Economics*, 268–292.

Willis, Robert J. 1999. "A theory of out-of-wedlock childbearing." *Journal of Political Economy*, 107(S6): S33–S64.