

Submission to PAA 2007

- This paper focuses on the second research question—whether there is a best time to divorce—that I briefly alluded to in my 2006 ASA presentation. I had complete results on the main effect of parental divorce on children’s behavior problems, but only preliminary results for the effects of delaying a divorce.
- My arguments are that prior research has failed to distinguish between the effect of child’s age at divorce (i.e., “levels”) and the effect of delaying divorce (i.e., “first derivatives”, and to adequately control for selection on unobservables (see Slide #11).
- My preliminary results are briefly described in Slide #24. I am conducting a thorough set of analysis with various sensitivity checks. This focused *and* expanded analysis, with a thorough theory and literature review will be my paper for PAA 2007.

For the Sake of the Kids

Divorce and Children's Behavior Problems

Jui-Chung Allen Li

Department of Sociology
New York University

For the Sake of the Kids

“For most people, the really pressing question they are likely to wrestle with at some point in their lives is . . . ‘Should I stay married, maybe even for the sake of the kids?’ This heartfelt debate is central to the future of marriage as a permanent commitment. And it is a debate that is taking place, not only among people but within people.” (Waite & Gallagher 2000, p. 142)

“To speak of fostering an emotional democracy does not mean being weak about family duties, or about public policy towards the family. Democracy means the acceptance of obligations, as well as rights sanctioned in law. The protection of children has to be the primary feature of legislation and public policy. Parents should be legally obliged to provide for their children until adulthood, no matter what living arrangement they enter into.” (Giddens 2003, p. 64)

Research Questions

- Does parents' marital disruption *cause* lower emotional well-being in children?
 - Main effect, averaged across population
 - Policy: Should parents *avoid* a divorce?
- Is there a best time to divorce with respect to children's emotional well-being?
 - Interaction effect (more subtleties later)
 - Policy: Should parents *postpone* a divorce?
- Answer to both questions: It does not matter.

Divorce & Children's Behavior Problems

- Behavior Problems (why important?)
 - are a common indicator of children's emotional well-being for both scholarly and clinical purposes;
 - exhibit substantial continuity across the life course (Caspi, Bem, & Elder, 1989; Moffitt et al., 2002);
 - are an established predictor of educational attainments (McLeod & Kaiser, 2004).
- Children in divorced families have more behavior problems than children in two-parent families (for reviews, see Amato, 2001; Amato & Keith, 1991).
- Correlation or causation? Problem of selection bias.

Selection on Unobservables

- Selection on observables: Regression adjustment.
- Selection on unobservables: Panel data models.
 - Static selection on time-invariant unobservables: e.g., genetic mediation of personality and divorce (Jockin et al. 1996).
 - Dynamic selection:
 - contemporaneous effect on time-varying unobservables (e.g., interparental conflicts)
 - cumulative effect on time-invariant unobservables (e.g., disengaged parent).

Critique of Prior Research

- Cross-sectional studies
 - No attention to selection on unobservables.
 - Divorce has relatively strong “effects.”
- Longitudinal studies (usu. two-wave panel data)
 - They may control for pre-divorce differences (and, thus, selection on unobservables).
 - Divorce has smaller, but significant effects.
 - Data were not always adequately analyzed.
- This present study uses:
 - national representative multiwave panel data
 - advanced and adequate statistical models

Regression Adjustment & Fixed Effects

- A simple model without unobserved effects

$$y_{it} = \beta \cdot \mathbf{x}_{it} + \theta_i \cdot D_{it} + \epsilon_{it}$$

where y_{it} is the child outcome; D_{it} is the time-varying dummy variable for parental separation or divorce.

- Fixed-effects model for time-invariant unobservables

$$y_{it} = \beta \cdot \mathbf{x}_{it} + \theta_i \cdot D_{it} + c_i + v_{it}$$

- If c_i is correlated with D_{it} , then $E(\theta_i)$ estimated from the regression adjustment will be inconsistent.

Random Trends Model

- Child-specific trends for time-varying unobservables

$$y_{it} = \beta \cdot \mathbf{x}_{it} + \theta_i \cdot D_{it} + c_i + g_i \cdot t + \omega_{it}$$

- If $g_i \cdot t$ is correlated with D_{it} , then $E(\theta_i)$ estimated from the standard fixed-effects model will be inconsistent.
- A second random-trends model

$$y_{it} = \beta \cdot \mathbf{x}_{it} + \theta_i \cdot D_{it} + \gamma_i \cdot (D_{it} \cdot U_{it}) + c_i + g_i \cdot t + \omega_{it}$$

where U_{it} is the duration since divorce.

- γ_i gives children of divorce different slopes before and after parental divorce.

Is There a Best Time to Divorce?

- Divorce might be especially detrimental during:
 - early childhood: Freudian, socialization;
 - adolescence: lack of social control;
 - the later the better (2-parent family *is* good).
- Prior research
 - Effect of child's age at parental divorce
 - Mixed empirical findings (Wallerstein 2005)
 - Literature generally supports the common sense of “postponing” a divorce (typically, into the child's adulthood, i.e., after age 18).

Critique of Prior Research

- Selection bias: good marriages are less likely to dissolve when kids are young than bad marriages.
- Age-period-cohort identification problem in the typical cross-sectional design:

$$\text{age} = \text{age at divorce} + \text{time since divorce}$$

- Interpretations of effects of divorce:
 - Effect of age at divorce refers to \hat{y} at age x
 - Effect of postponement refers to $\frac{dy}{dx}$ at age x
- This present study uses “additive nonparametric regressions” on longitudinal data.

Data: Children of the NLSY79

- U.S. National Longitudinal Survey of Youth 1979
 - Probability sample of youth 14-21 years of age in 1979
 - Longitudinal survey, interviewed annually 1979-1994, biennially 1994-2002
 - Information on labor force, education, family, health, etc.
- Children of the NLSY 79
 - All children born to the NLSY79 women
 - Longitudinal survey, interviewed biennially 1986-2002
 - Child assessment: cognitive and socio-emotional development, substance use, family environment, etc.

Sample Restriction

- Children must be born within mother's first marriage
- Exclude children born to mothers whose first marriage ended in spousal death or for unknown reasons.
- A child must have 3+ consecutive observations to be included, and observations are restricted to ages 4-15.
- Listwise deletion (N=85 mothers) for missing data on all covariates, mean substitution for AFQT and self-esteem.
- Analytic sample: 15,391 observations, 3,442 children born to a total of 1,948 mothers.

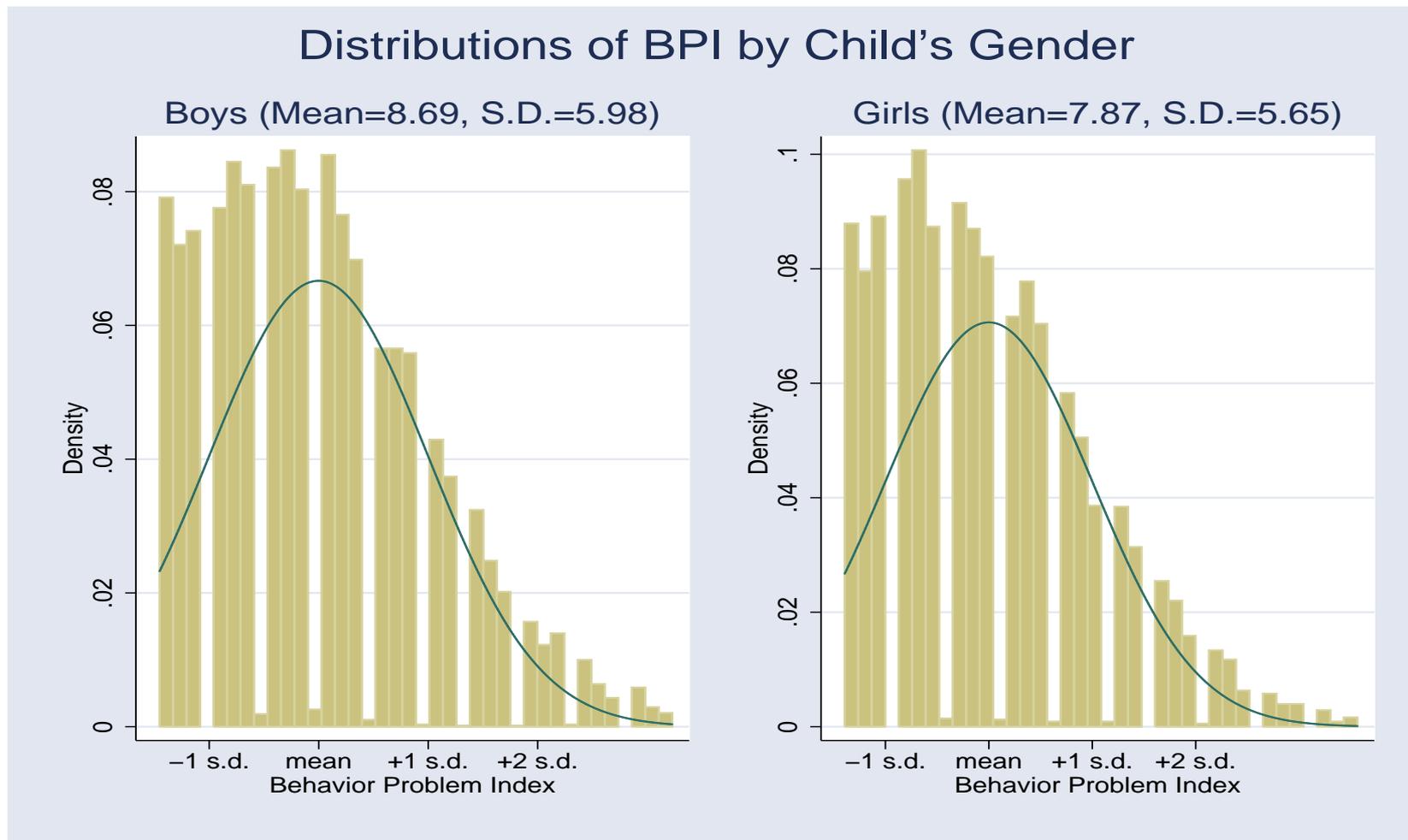
Patterns of Panel Data

Boys			Girls		
Freq.	Percent	Pattern	Freq.	Percent	Pattern
160	9.08	..xxxxx..	154	9.17xxx
156	8.85	...xxxxx	151	8.99	..xxxxx..
151	8.56	xxxxx....	150	8.93	.xxxxx...
144	8.17	.xxxxx...	140	8.34	xxxxx....
142	8.05xxx	139	8.28	...xxxxx
131	7.43xxxx	135	8.04xxxx
127	7.20	xxxxx.....	116	6.91	xxxxx.....
120	6.81	...xxxxx.	106	6.31	...xxxxx.
61	3.46	...xxxx..	61	3.63	..xxxxxxx.
54	3.06	xxx.....	53	3.16	.xxxxxxx..
517	29.33	(other patterns)	474	28.23	(other patterns)
1,763	100.00		1,679	100.00	

Behavior Problem Index, Coding

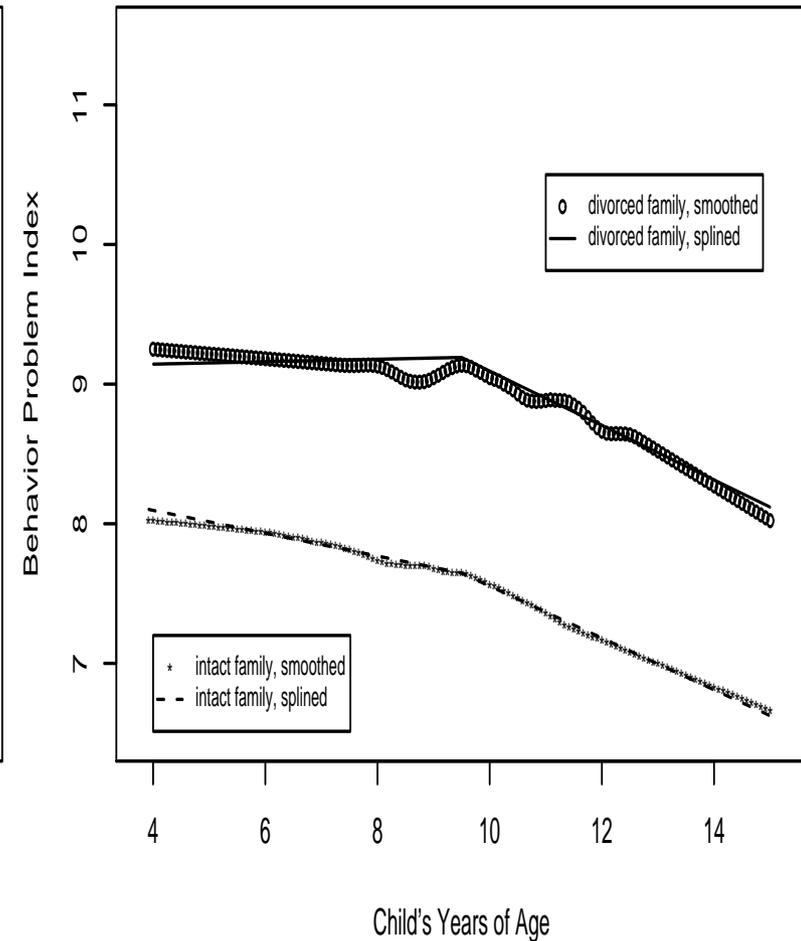
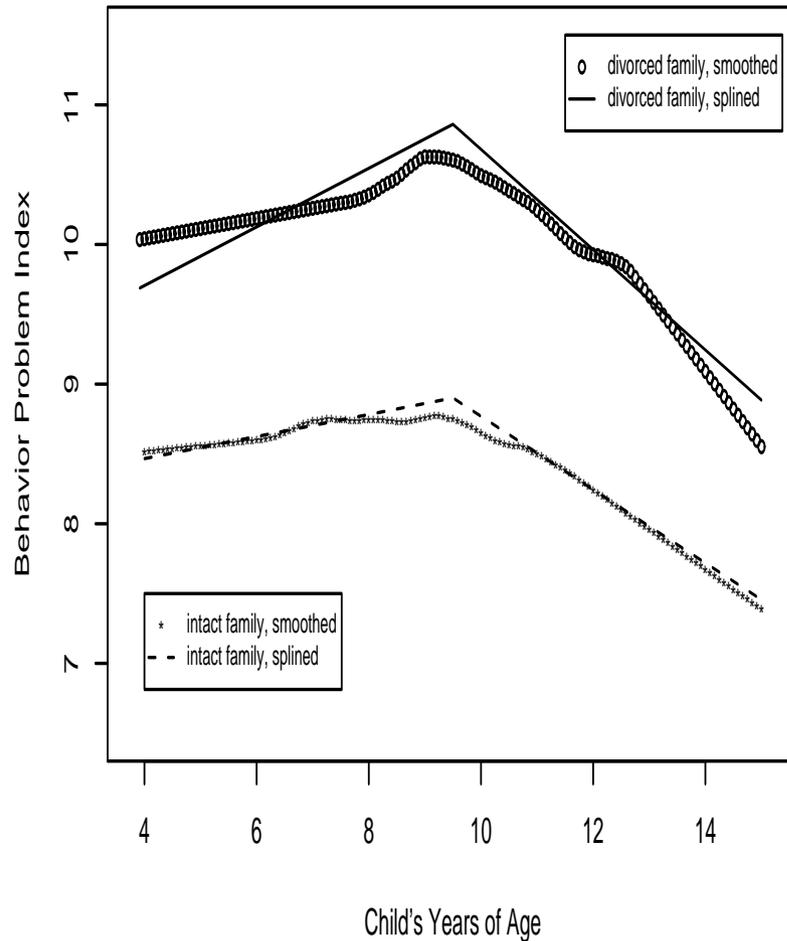
- Behavior Problem Index: an item is scored 1 if answered “often” or “sometimes true”, and 0 if answered “not true.” Thus, the higher the score (0-28), the greater level the behavior problem.
- Items: tells lies; is cruel or mean to others; does not feel sorry for misbehaving; breaks things deliberately; disobedient at school; trouble getting along with teachers; sudden change in mood; feels or complains no one loves him/her; too fearful or anxious; feels worthless/inferior; unhappy, sad or depressed; clings to adults; cries too much; demands a lot of attention; too dependent on others; high strung, tense, nervous; argues too much; disobedient at home; stubborn, sullen, or irritable; strong temper, loses it easily; difficulty concentrating; easily confused/in a fog; impulsive; overly active; trouble getting along with others; not liked by other children; withdrawn.

Behavior Problem Index, Distributions



Behavior Problem Index, Age Patterns

Observed Age Patterns of BPI by Child's Gender



Descriptive Statistics: Children

Characteristics of Child	Intact Family		Divorced Family	
	Mean	S.D.	Mean	S.D.
Hispanic, Child	0.18	—	0.26	—
Black, Child	0.14	—	0.22	—
birth order of Child	1.79	0.86	1.79	0.9
age of mother at birth of child	25.65	3.98	23.48	4.02
Child's age (in months) at Separation/Divorce	—	—	59.83	38.70
N (Boys)	1,021		742	
Hispanic, Child	0.19	—	0.23	—
Black, Child	0.13	—	0.23	—
birth order of Child	1.79	0.90	1.80	0.92
age of mother at birth of child	25.78	4.05	23.43	4.13
Child's age (in months) at Separation/Divorce	—	—	59.48	38.62
N (Girls)	941		738	

Descriptive Statistics: Mother

Selective Characteristics of Mother	Intact Family		Divorced Family	
	Mean	S.D.	Mean	S.D.
foreign-born	0.08	—	0.07	—
intact family at age 14	0.78	—	0.66	—
magazine, newspapers, library card in HH at age 14	0.49	—	0.39	—
raised as Catholic	0.43	—	0.37	—
frequency of religious activities in 1979	3.58	1.66	3.38	1.71
AFQT percentile score	48.17	27.2	35.17	24.17
< 12 years of schooling	0.11	—	0.21	—
13-15 years of schooling	0.26	—	0.28	—
>= 16 year of schooling	0.27	—	0.12	—
age at 1st marriage	21.89	3.44	20.15	3.07
age at 1st birth	23.88	4.34	21.21	3.99
self esteem, 1980	32.59	3.92	31.86	3.81
N	1,037		911	

Results: OLS & Fixed-Effects Models

	Boys			Girls		
	OLS1	OLS2	FE	OLS1	OLS2	FE
parental divorce	1.63**	1.16**	0.45	1.39**	0.98**	0.48
	(0.27)	(0.27)	(0.36)	(0.24)	(0.24)	(0.39)

- OLS1 controls for child's race/ethnicity, and an age spline with a node at 9.5 years.
- OLS2 adds controls of child's birth order, mother's age at child's birth, mother's nativity, education, total family income at her 1st marriage, mother's age at 1st marriage, age at 1st birth, mother was raised as a Catholic, mother's religiosity in 1979; mother had her first sex before age 20, mother's family structure at age 14, any regular reading materials in mother's household when she was at age 14, mother's self-esteem measured in 1980 and AFQT percentile score, and dummy indicators for missing data on self-esteem and AFQT.

Results: A Sensitivity Analysis

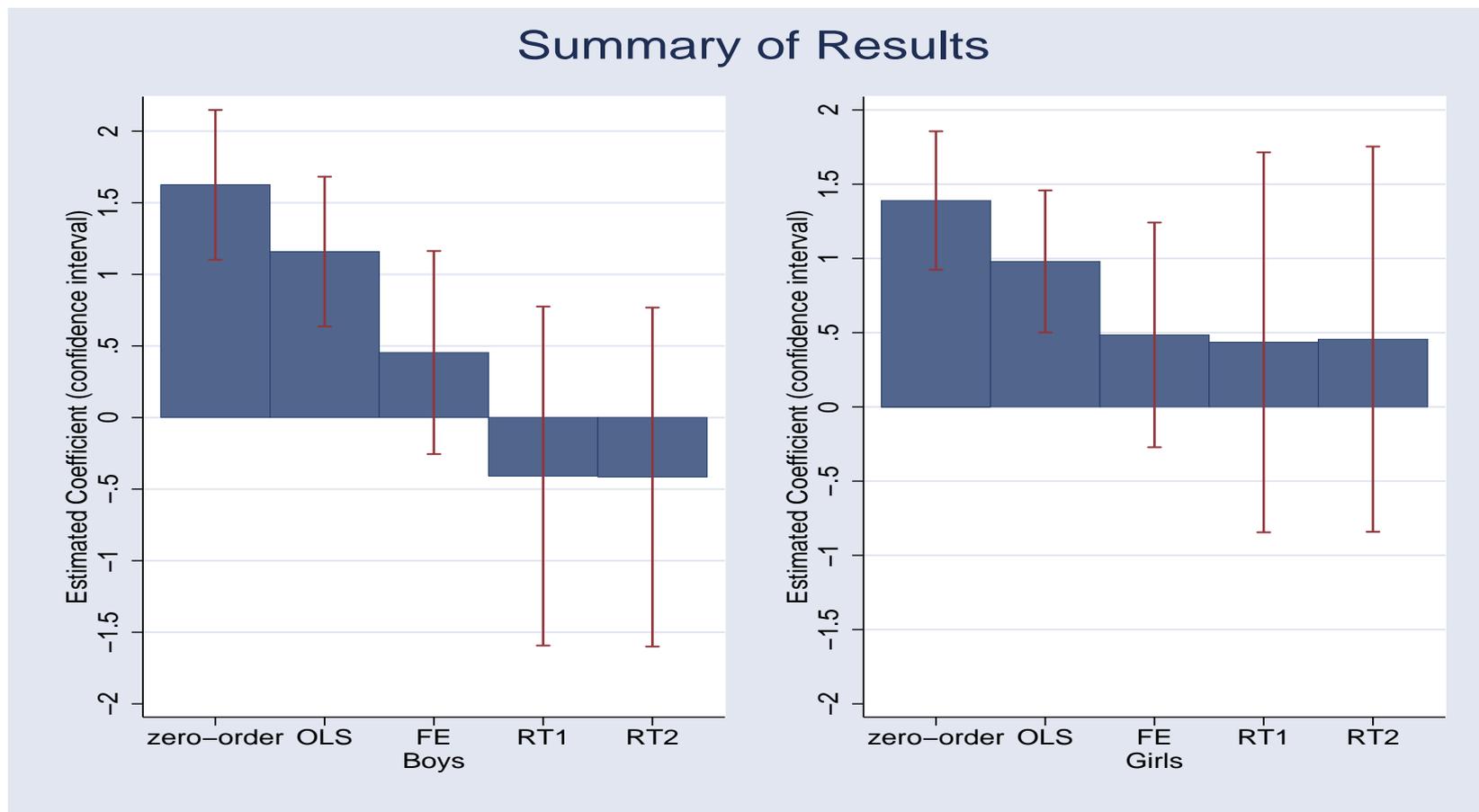
	Boys			Girls		
	OLS1	OLS2	FE	OLS1	OLS2	FE
parental divorce (3+ obs./child)	1.63** (0.27)	1.16** (0.27)	0.45 (0.36)	1.39** (0.24)	0.98** (0.24)	0.48 (0.39)
parental divorce (2+ obs./child)	1.76** (0.23)	1.20** (0.24)	0.50 (0.33)	1.51** (0.21)	1.00** (0.22)	0.46 (0.37)

Results: Random Trend Models

	Boys			Girls		
	FE	RT1	RT2	FE	RT1	RT2
parental divorce	0.45 (0.36)	-0.41 (0.60)	-0.42 (0.60)	0.48 (0.39)	0.44 (0.65)	0.46 (0.66)
time since divorce			-0.04 (0.30)			0.09 (0.32)

Note: All models control for a linear spline of child's age with a node at 9.5 years.

No Causal Effect of Divorce



- No effect of divorce → we should remain “policy neutral” with respect to divorce (& marital status)

Results: Child's Age at Divorce

- Additive nonparametric regression *without* fixed effects shows U-shaped effects by age at divorce.
 - Point estimates: Children of divorce had more behavior problems than children in intact families. Divorce is associated with lower emotional well-being.
 - Negative slope before age 10 and positive slope after 10. Divorce is associated with lowest emotional well-being when it occurs during a child's early childhood and adolescence.
- Additive nonparametric regression *with* fixed effects shows a bumpy but roughly flat line.
 - Point estimates for children of divorce fall around the same level as children in intact families, with a zero slope.

Why Is There No Effect?

- Why might we expect any effect of divorce?
 - Legal status changes; coresidence changes.
 - What else must change with divorce???
 - A disengaged parent remains disengaged regardless of whether s/he is married with the other parent and lives in the household. No change with divorce.
- Ideal vs. Reality
 - Marriage vows stipulate a stylized utopian
 - The effects of marriage vs. non-marriage (or divorce) come from how real life is led
- At the risk of tautology: Good marriages are good for kids, bad marriages are bad for kids.

Conclusion: No Effect of Divorce

Public Sociology: Should we raise the “cost” of divorce to encourage couples to stay married for the sake of the kids?

- Widespread concern for child well-being; disagreement on whether avoiding/postponing divorce achieves this end.
- This paper provides no evidence that divorce and children’s behavior problems are causally linked. Evidence consistent with selection on unobserved family factors and processes.
- More specific, targeted interventions might be more effective for improving children’s emotional well-being than preventing a divorce. Don’t convict the wrong guy!