Family Structure Transitions and Changes in Maternal Resources and Well-being

Osborne, Berger, and Magnuson (2012).

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Family structure transitions and maternal well-being

- How is moving from the **two-parent family structure to another** associated with changes in maternal well-being?
- Selection bias: families experiencing family instability often initially have lower levels of resources, well-being, and general health.
- This study controls for initial family structure status (FS)
  - FS between Y0 (child's birth) and Y1 is controlled.
- Independent variable: FS between Y1 and Y5.

Model formula

- $Y_{ti} = P_{0i} + P_{1i}AGE + E_{ti}$

  - $P_{0i} = B_{00} + B_{01}FS_{0i} + B_{02}FAM_{0i} + \boldsymbol{B_{03}}FS_{ti} + E_{0i}$ *When AGE = 0 (: Year 1)*

    Falsification test

  - $P_{1i} = B_{t0} + \boldsymbol{B_{t1}}FS_{ti} + B_{t3}FAM_{0i} + E_{1i}$ *When AGE = t*

    Parameter of interest

- FS_{ti}: Family Structure transition between Y1 and Y5
- FAM_{0i}: Time-invariant background characteristics (e.g., race)
- Falsification test: tests if future transition affects past outcome. Evidence of selection bias.

Replication result

Table 2: Replication Results

	Replicated	Original
Intercept		
To 2 BioParents b/w Y0 and Y1	−0.099	−0.071
	(0.055)	(0.057)
To SocialFather b/w Y0 and Y1	0.172	0.167
	(0.089)	(0.092)
To SingleMother b/w Y0 and Y1	0.106	−0.045
	(0.092)	(0.082)
Always SingleMother b/w Y0 and Y1	0.149	0.021
	(0.088)	(0.077)
Ever Transit to 2 BioParents b/w Y1 and Y5	−0.232*	−0.059
	(0.095)	(0.083)
Ever Transit to SocialFather b/w Y1 and Y5	0.068	0.148*
	(0.072)	(0.068)
Ever Transit to SingleMother b/w Y1 and Y5	−0.014	−0.044
	(0.050)	(0.047)
Stable SingleMother b/w Y1 and Y5	−0.024	0.106
	(0.087)	(0.080)
Stable SocialFather b/w Y1 and Y5	−0.167	−0.137
	(0.157)	(0.162)
Slope		
AGE x Ever Transit to 2 BioParents b/w Y1 and Y5	0.011	−0.015
	(0.017)	(0.016)
AGE x Ever Transit to SocialFather b/w Y1 and Y5	−0.017	−0.016
	(0.013)	(0.013)
AGE x Ever Transit to SingleMother b/w Y1 and Y5	0.030**	0.029**
	(0.011)	(0.011)
AGE x Stable SingleMother b/w Y1 and Y5	−0.004	−0.011
	(0.012)	(0.013)
AGE x Stable SocialFather b/w Y1 and Y5	−0.060	−0.060
	(0.035)	(0.036)
Num.Obs.	10 359	
Num.Imp.	10	

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

Alternative result

Table 4: Comparison 2: Alternative Specifications

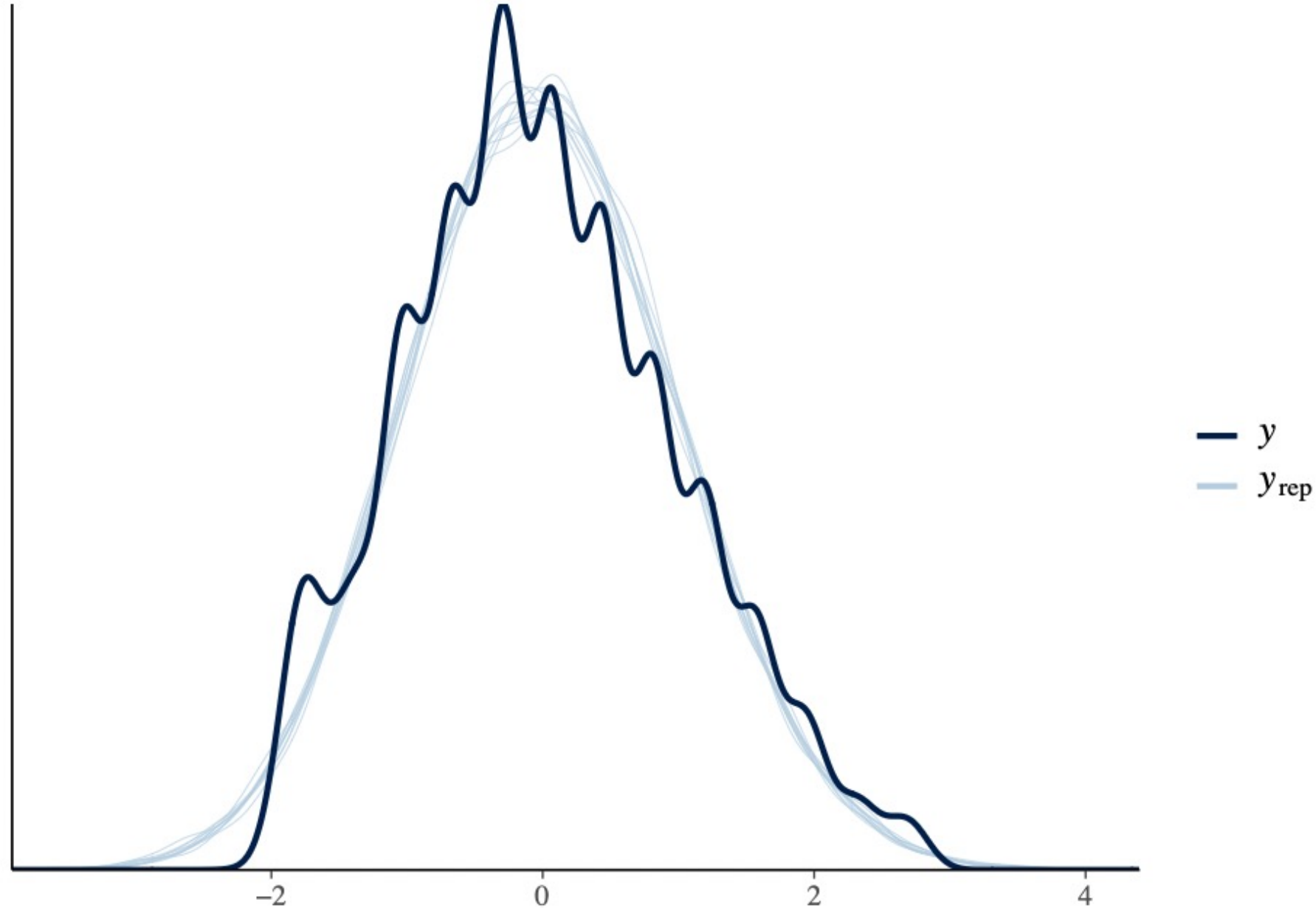
	Replicated	Random Intercept	Extensive Control	Alt. Independent
Intercept				
To 2 BioParents b/w Y0 and Y1	−0.10	−0.10	−0.10	−0.10
	(0.05)	(0.05)	(0.05)	(0.06)
To SocialFather b/w Y0 and Y1	0.17	0.17	0.17	0.15
	(0.09)	(0.09)	(0.09)	(0.08)
To SingleMother b/w Y0 and Y1	0.11	0.10	0.11	−0.02
	(0.09)	(0.09)	(0.09)	(0.06)
Always SingleMother b/w Y0 and Y1	0.15	0.15	0.15	0.05
	(0.09)	(0.09)	(0.09)	(0.06)
Ever Transit to 2 BioParents b/w Y1 and Y5	−0.23*	−0.23*	−0.23*	0.00
	(0.09)	(0.09)	(0.10)	(0.05)
Ever Transit to SocialFather b/w Y1 and Y5	0.07	0.07	0.07	−0.02
	(0.07)	(0.07)	(0.07)	(0.07)
Ever Transit to SingleMother b/w Y1 and Y5	−0.01	−0.01	−0.01	0.10
	(0.05)	(0.05)	(0.05)	(0.05)
Stable SingleMother b/w Y1 and Y5	−0.02	−0.02	−0.03	0.07
	(0.09)	(0.09)	(0.09)	(0.05)
Stable SocialFather b/w Y1 and Y5	−0.17	−0.17	−0.17	−0.25
	(0.16)	(0.16)	(0.16)	(0.18)
Slope				
AGE x Ever Transit to 2 BioParents b/w Y1 and Y5	0.01	0.01	0.01	−0.02
	(0.02)	(0.02)	(0.02)	(0.02)
AGE x Ever Transit to SocialFather b/w Y1 and Y5	−0.02	−0.02	−0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.02)
AGE x Ever Transit to SingleMother b/w Y1 and Y5	0.03**	0.03**	0.03*	−0.01
	(0.01)	(0.01)	(0.01)	(0.02)
AGE x Stable SingleMother b/w Y1 and Y5	0.00	0.00	0.00	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
AGE x Stable SocialFather b/w Y1 and Y5	−0.06	−0.06	−0.06	−0.01
	(0.03)	(0.03)	(0.04)	(0.06)
Num.Obs.	10 359	10 359	10 359	10 359
Num.Imp.	10	10	10	10

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

Bayesian result

Table 3: Comparison 1: Frequentist vs. Bayesian Models

	Frequentist	Bayesian
Intercept		
To 2 BioParents b/w Y0 and Y1	−0.10	−0.10
	[−0.21, 0.01]	[−0.21, 0.00]
To SocialFather b/w Y0 and Y1	0.17	0.17
	[0.00, 0.35]	[−0.01, 0.33]
To SingleMother b/w Y0 and Y1	0.11	0.08
	[−0.07, 0.29]	[−0.08, 0.24]
Always SingleMother b/w Y0 and Y1	0.15	0.12
	[−0.02, 0.32]	[−0.03, 0.27]
Ever Transit to 2 BioParents b/w Y1 and Y5	−0.23	−0.21
	[−0.42, −0.05]	[−0.38, −0.03]
Ever Transit to SocialFather b/w Y1 and Y5	0.07	0.08
	[−0.07, 0.21]	[−0.05, 0.22]
Ever Transit to SingleMother b/w Y1 and Y5	−0.01	0.00
	[−0.11, 0.08]	[−0.10, 0.10]
Stable SingleMother b/w Y1 and Y5	−0.02	0.00
	[−0.19, 0.15]	[−0.15, 0.16]
Stable SocialFather b/w Y1 and Y5	−0.17	−0.15
	[−0.48, 0.14]	[−0.45, 0.15]
Slope		
AGE x Ever Transit to 2 BioParents b/w Y1 and Y5	0.01	0.01
	[−0.02, 0.04]	[−0.02, 0.05]
AGE x Ever Transit to SocialFather b/w Y1 and Y5	−0.02	−0.01
	[−0.04, 0.01]	[−0.04, 0.01]
AGE x Ever Transit to SingleMother b/w Y1 and Y5	0.03	0.03
	[0.01, 0.05]	[0.00, 0.05]
AGE x Stable SingleMother b/w Y1 and Y5	0.00	−0.01
	[−0.03, 0.02]	[−0.03, 0.02]
AGE x Stable SocialFather b/w Y1 and Y5	−0.06	−0.06
	[−0.13, 0.01]	[−0.13, 0.01]
Num.Obs.	10 359	10 359
Num.Imp.	10	
RMSE		0.55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Conclusion

- Some discrepancies b/w what authors say and and the actual data.
  - TANF, dependent variables, etc.
- Information on the paper is not often enough.
  - Operationalization strategies that require readers' serious attention explained too briefly.
- The findings were quite robust, but a differently operationalized independent variable took away most of the statistical significance *even when it is intended to measure the same underlying concept* (Family Structure transition)