






Parenting and Child Behavioral Problems: Old Questions and New Panel Data Analyses

Andy Grogan-Kaylor (University of Michigan)

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Co-Authors

- Nehal Eldeeb
- Lijian Zhao
- Tania Ramos-Garcia
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- Todd Herrenkohl

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Background: The importance of Parenting

"The quality of parenting has implications not only for children's development but also for broader societal outcomes, including educational attainment, labor market success, and long-term well-being. Conversely, poor and abusive parenting imposes a substantial economic burden on society, with annual costs approaching $2 trillion (Peterson et al., 2018). At the same time, investments in early childhood yield substantial returns, with estimates suggesting that every $1 invested generates between $2 and $16 in long-term benefits through improvements in children's mental health, academic performance, and achievements in the labor market (Karoly, 2012). "

Background: Physical Punishment

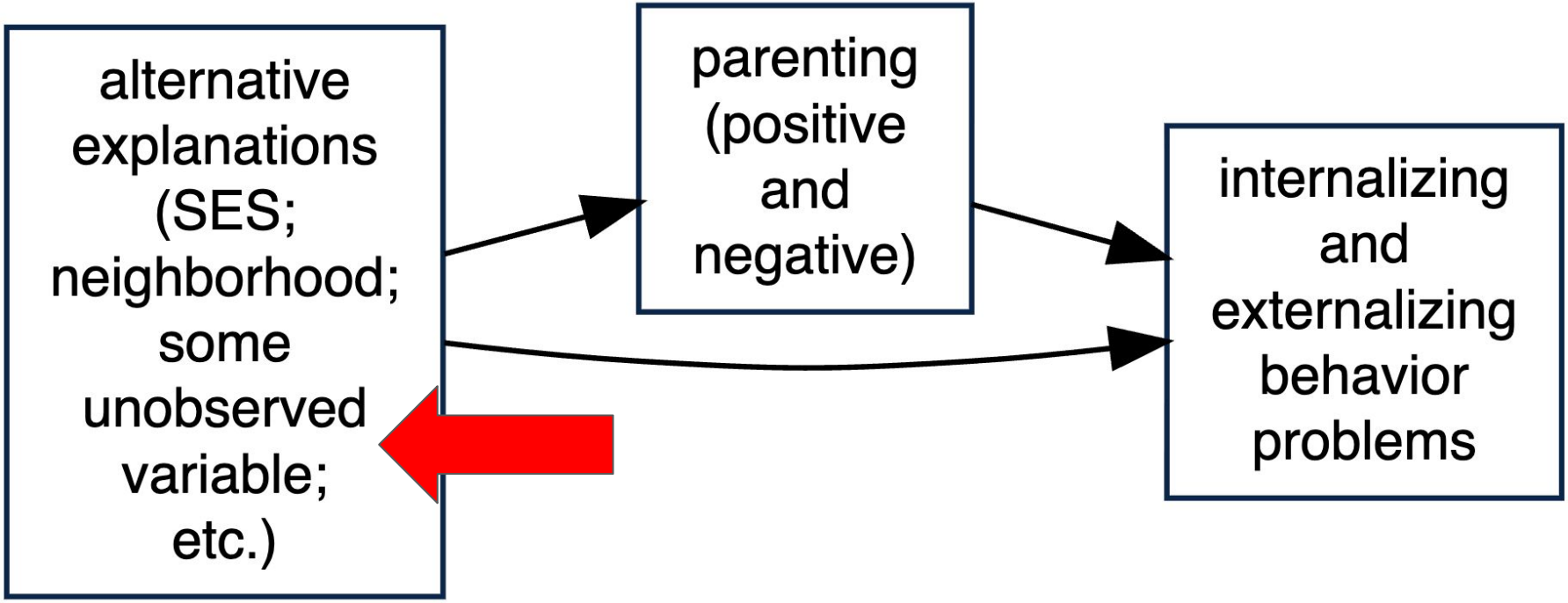
“The magnitude of violence against children is staggering. Globally, the most pervasive form of violence against children is corporal punishment. Because it often occurs in the confines of homes and other settings where children live, study and play, it is largely hidden and challenging to detect. Worldwide, it is estimated that nearly one billion children are hit, slapped, spanked, pinched, or otherwise physically punished regularly by their parents, caregivers, teachers, or other trusted adults, the same individuals responsible for nurturing, protecting, and educating them (UNICEF, 2017; World Health Organization, 2020).” (Stewart-Tufescu, 2023)

Background: Parental Warmth

"...causally oriented research has disproportionately focused on negative parenting practices (Ma et al., 2018), leaving a gap in our understanding of how positive parenting (e.g., parental warmth) predicts child outcomes. Several studies using the *Future of Families and Child Wellbeing Study* (FFCWS) sample find significant causal effects for negative parenting but fail to identify similar effects for positive parenting, including parental warmth (Altschul et al., 2016; Lee et al., 2013)."



Causal Inference



Causal Inference (2)

The issue is well summarized by Holland (1986):

For parenting (positive and negative) to be a cause of internalizing and externalizing behavior problems we need the following things to be true:

1) parenting (positive and negative) is (are) associated with (correlated with) internalizing and externalizing behavior problems.

2) parenting (positive and negative) come(s) before internalizing and externalizing behavior problems in time.

3) alternative explanations (SES; neighborhood; **some unobserved variable**; etc.)—or other factors—cannot explain the association of (correlation of) parenting (positive and negative) and internalizing and externalizing behavior problems.

link

Random Assignment

Random assignment to parenting (positive and negative) would establish:

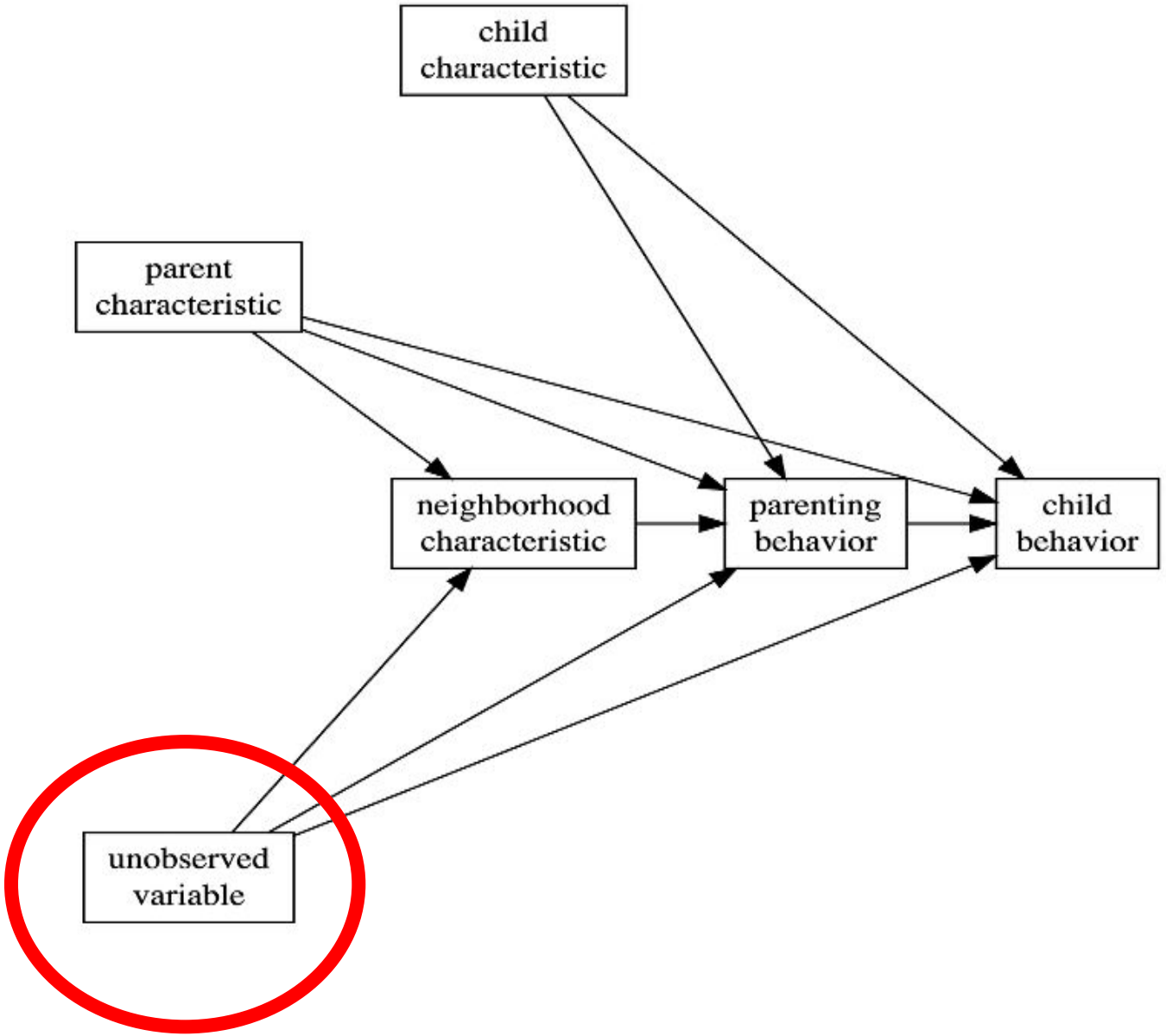
(1) **association** of parenting (positive and negative) and internalizing and externalizing behavior problems

(2) the **time order** of parenting (positive and negative) and internalizing and externalizing behavior problems; and

(3) would let us **rule out the effect of alternative explanations** (SES; neighborhood; other unobserved variable etc.).

However, in many cases (including this one) we cannot ethically perform random assignment.

Addressing These Questions With Panel Data



Addressing These Questions With Panel Data (2)

$$\text{behavior problems} = \beta_0 + \Sigma\beta \text{ parenting} + \beta \text{ time} + \Sigma\beta \text{ covariates} + \mathbf{u_{0i}} + e_{it}$$

- $\mathbf{u_{0i}}$ is estimated for each member of the data set.
- $\mathbf{u_{0i}}$ therefore controls for any fixed characteristic (time invariant) of study participants, **whether observed or unobserved**: e.g. neighborhood characteristics, family life, parenting style, whether observed or unobserved.
- For time varying variables, $\mathbf{u_{0i}}$ similarly controls for the time invariant component of that variable.
- As always, see **`help xtreg`** to access the PDF manuals for an amazing explanation of these models!
- Limitations:
  - These models do not account for possible reciprocal effects; that's another presentation (!): cross-lagged regression models.
  - These models also do not entirely control for time varying covariates.

Stata Commands

Stata has long had an excellent (and intuitive!!!) set of random effect and fixed effects estimators:

```
xtreg y x1 x2 x3, i(id) re
```

```
xtreg y x1 x2 x3, i(id) fe
```

More recently Stata has included a correlated random effects estimator that combines the best of these two models.

```
xtreg y x1 x2 x3, i(id) cre
```

Data and Sample

"...longitudinal panel data from N = 2,701 families in the Future of Families and Child Well-Being Study...

...we estimated multiple models across child ages 3, 5, and 9 (mean age at first wave = 35.8 months, sd = 2.6, range: 30-50; 47.8% female; 21.1% white, 47.6% black, 27.3% Hispanic, 4.0% other)"



Key Multivariate Results

Random Effects, Fixed Effects, and Correlated Random Effects

	ext_RE	ext_FE	ext_CRE	int_RE	int_FE	int_CRE
variables						
child's sex						
Girl	-0.031 **		-0.028 **	-0.007		-0.007
child's age	-0.005 **	-0.005 **	-0.005 **	-0.002 **	-0.001	-0.001
primary caregiver	-0.061 **	-0.023	-0.023	-0.052 **	-0.037 *	-0.037 *
warmth						
coparenting	-0.027 **	-0.015	-0.015	-0.016 **	-0.002	-0.002
parental spanking	0.048 **	0.038 **	0.038 **	0.014 **	0.014 **	0.014 **

Conclusions

"... findings have implications for both intervention and future research. The robust within-family associations between physical punishment and child behavior problems suggest that efforts to reduce harsh disciplinary practices remain an important target for parenting programs and prevention efforts. Similarly, the finding that within-family increases in caregiver warmth were associated with reductions in internalizing behavior suggests that interventions aimed at strengthening emotionally supportive parenting practices may be beneficial for children's emotional adjustment."









Reference

Grogan-Kaylor, A. (2025). *Multilevel Thinking: Discovering Variation, Universals, and Particulars in Cross-Cultural Research*. Oxford University Press. https://doi.org/10.1093/9780197806494.001.0001

