

# The Role of Unpredictability in Daily Parent-Adolescent Conflict on Adolescent Internalizing and Externalizing Problems

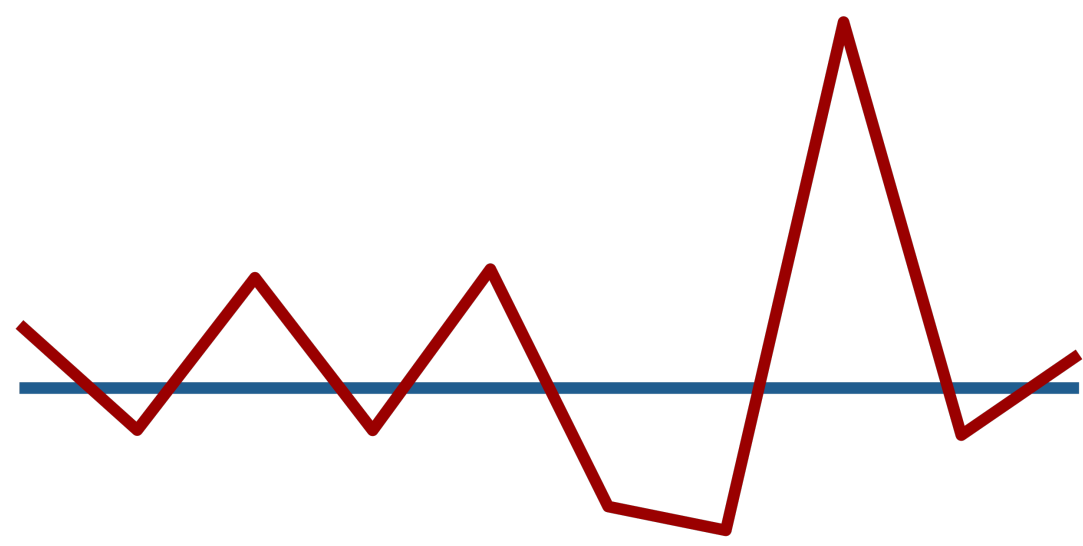


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**HOPE**  
family center

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## Background

Parent-child relationship plays a critical role in child adjustment (Doom et al., 2024; Ellis et al., 2022). Recent research emphasizes not just the average level, but the **unpredictability** of parent-child conflict as a key form of environmental adversity (Walasek et al., 2024).



**Fig1.** Average level and the unpredictability

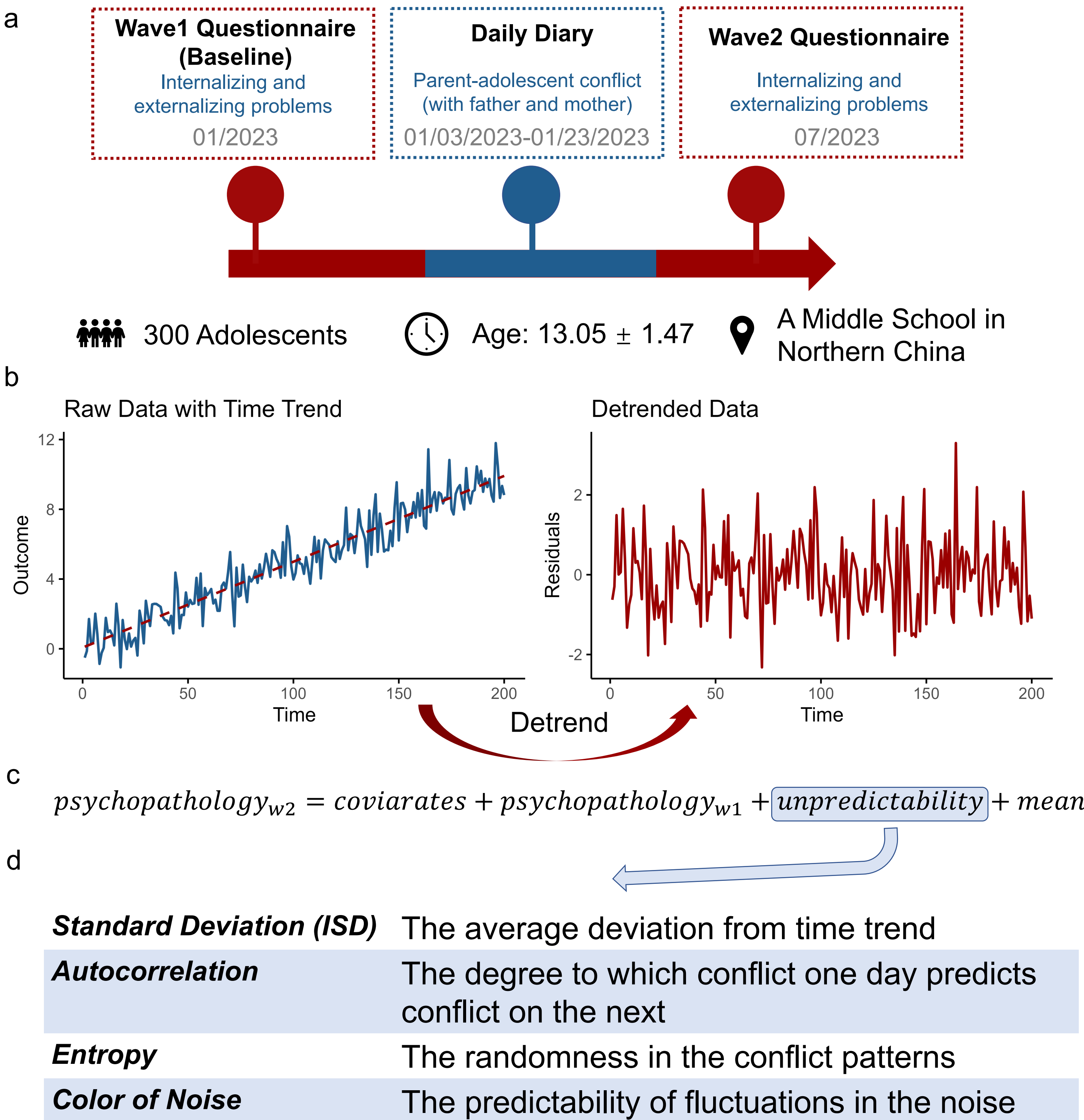
Limited research has examined:

- Daily-level unpredictability (Lippold et al., 2016);
- Its long-term implications for adolescent adjustment;
- Different aspects of unpredictability (Li et al., 2023; Walasek 2024; Young et al., 2020).

## Our Study

- Examined daily parent-adolescent conflict unpredictability with both parental figures.
- Investigated its impact on adolescent adjustment over six months.
- Compared multiple unpredictability metrics recently proposed (Walasek et al., 2024).

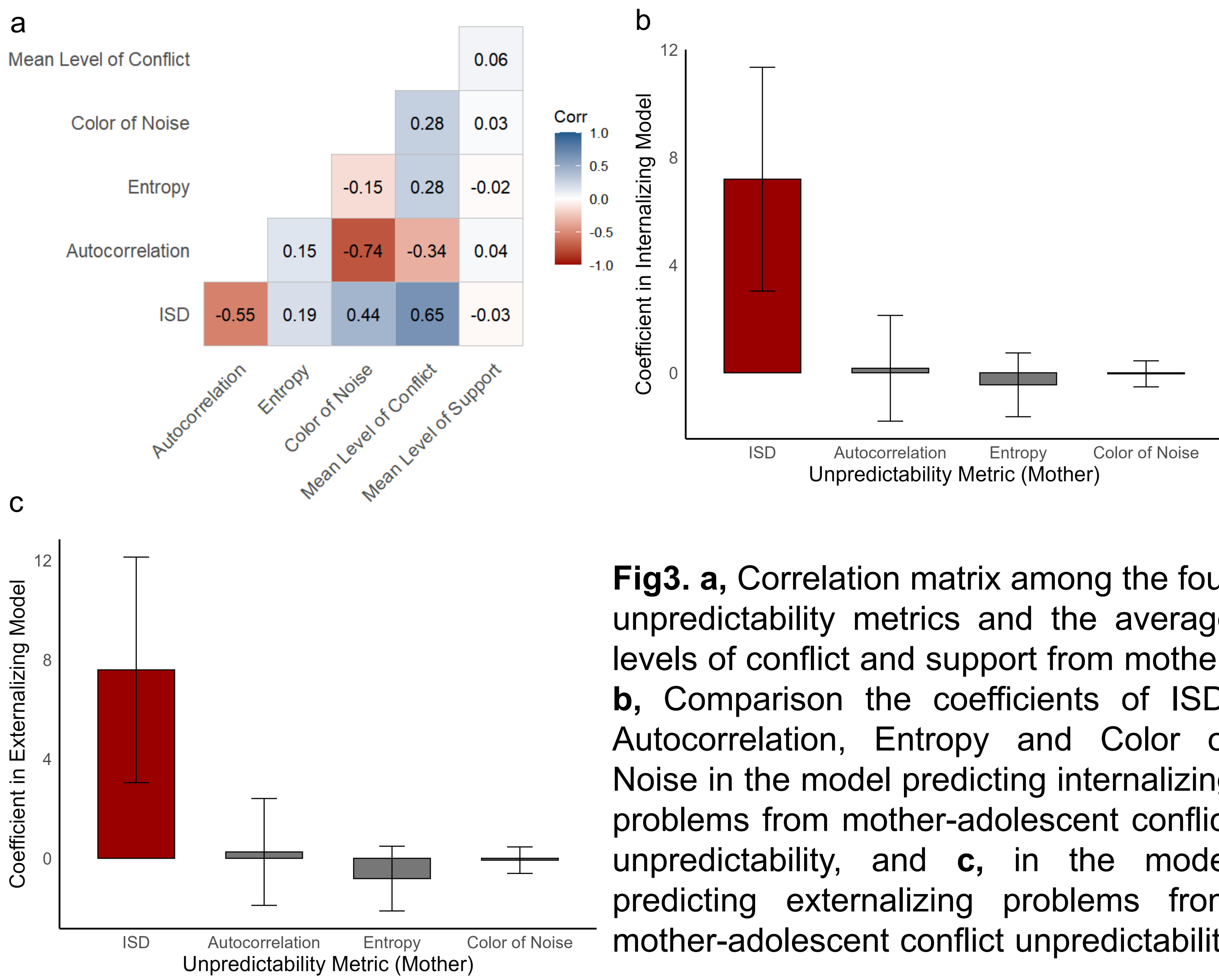
## Methods



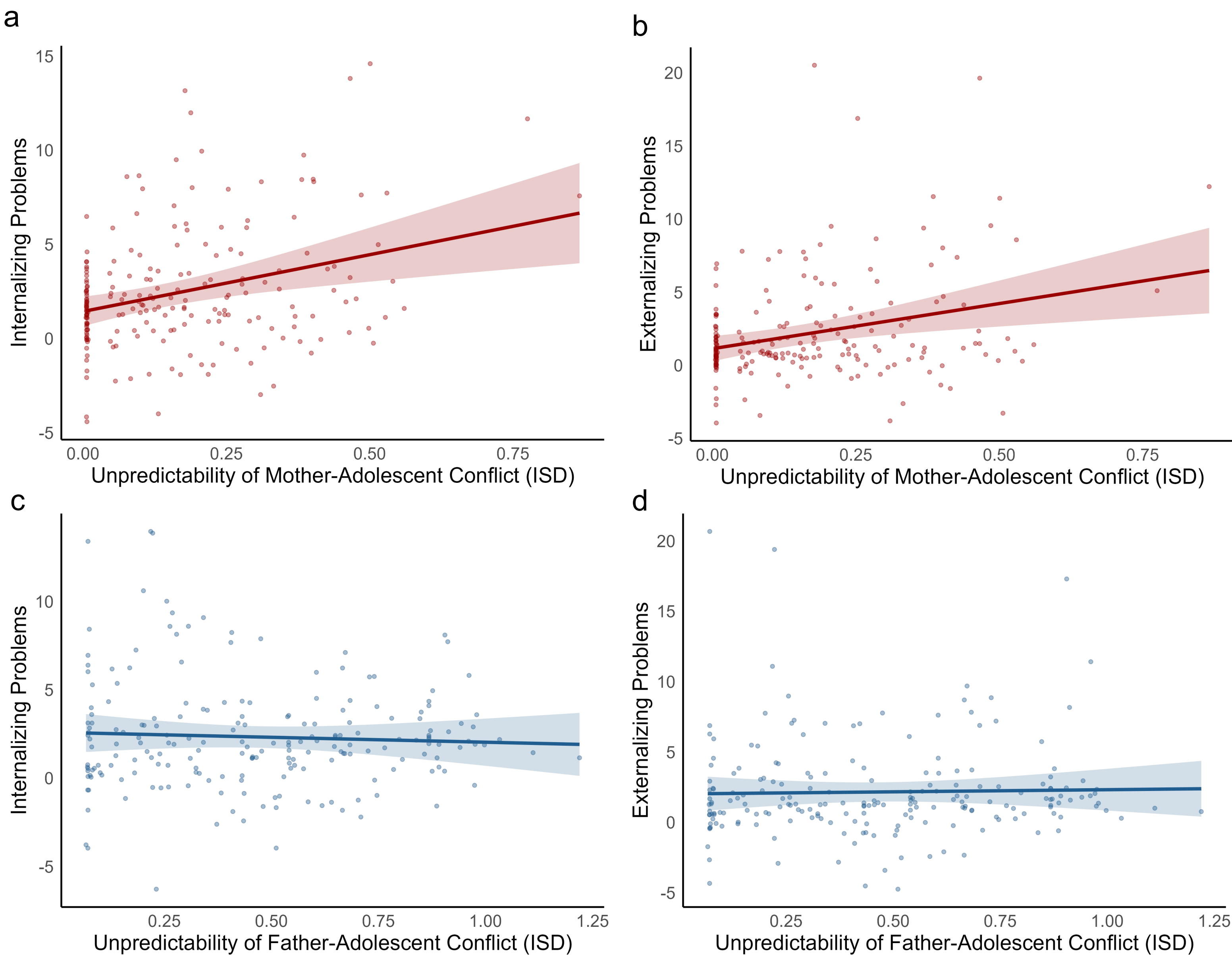
**Fig2.** **a**, Overview of the longitudinal study design. **b**, A schematic illustration showing how we detrended the time effect from daily diary data. **c**, Internalizing and externalizing problems were predicted by age, gender, baseline symptoms, unpredictability, and the average level of parent-adolescent conflict and parental support. **d**, Four metrics used to quantify unpredictability.

## Results:

### Unpredictability → Change in Psychopathology



**Fig3.** **a**, Correlation matrix among the four unpredictability metrics and the average levels of conflict and support from mother. **b**, Comparison the coefficients of ISD, Autocorrelation, Entropy and Color of Noise in the model predicting internalizing problems from mother-adolescent conflict unpredictability, and **c**, in the model predicting externalizing problems from mother-adolescent conflict unpredictability.



**Fig4.** Partial residual and partial regression plots showing the contribution of **a**, unpredictability in mother-adolescent conflict to internalizing problems, and **b**, externalizing problems, **c**, unpredictability in father-adolescent conflict to internalizing problems, and **d**, externalizing problems.

## Conclusion

- The **unpredictability of mother-adolescent conflict** showed a stronger association with adolescent adjustment than the unpredictability of father.
- Among the unpredictability metrics, **ISD** emerged as a more robust predictor of adolescent's outcomes.

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Ellis, B. J., Sheridan, M. A., Belsky, J., & McLaughlin, K. A. (2022). Why and how does early adversity influence development? Toward an integrated model of dimensions of environmental experience. *Development and Psychopathology*, 34(2), 447–471.

Li, Z., Sturge-Apple, M. L., Platts, C. R., & Davies, P. T. (2023). Testing different sources of environmental unpredictability on adolescent functioning: Ancestral cue versus statistical learning and the role of temperament. *Journal of Child Psychology and Psychiatry*, 64(3), 437–448.

Lippold, M. A., Davis, K. D., Lawson, K. M., & McHale, S. M. (2016). Day-to-day consistency in Positive Parent-Child Interactions and Youth Well-Being. *Journal of Child and Family Studies*, 25(12), 3584–3592.

Walasek, N., Young, E. S., & Frankenhuis, W. E. (2024). A framework for studying environmental statistics in developmental science. *Psychological Methods*.

Young, E. S., Frankenhuis, W. E., & Ellis, B. J. (2020). Theory and measurement of environmental unpredictability. *Evolution and Human Behavior*, 41(6), 550–556.