

Child temperament and sex-based driven effects on maternal functioning and child's externalizing behavior problems

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Introduction

Externalizing behavior problems (EP) : aggressive, oppositional or rule-breaking behaviors [1].

➤ Prevalence in children : 1% to 10%, with **greater proportion of boys than girls** [2, 3].

Differential susceptibility model (4; Belsky, 2013): specific dispositional traits, such as **temperament and biological sex**, could place children at greater risk of negative outcomes, such as **EP**, especially exposed to more adverse parenting.

Temperamental vulnerability

Negative affectivity (+)
Extraversion (+) → ↑ risk of EP [5].
Effortful control (-)

Adverse parenting practices

Hostility (+)
Neglect (+)
Psychological distress (+) → Consistently associated with ↑ EP [6].
Warmth/Sensitivity (-)

Externalizing problems

Sex-based differences have also been observed between temperament and EP [7] and parenting and EP [8], yet findings have been less consistent for the latter [6].

Aims of the study

1 Investigate if and how maternal hostility, neglect, warmth, and psychological distress explain the expected associations between child temperament factors and EP.

2 Examine if the sex of the child moderates the associations between temperament factors and adverse parenting and distress in the prediction of EP.

Methods

Participants:

- 339 children (B = 200, G = 139, 41% G) between 6.33 and 10.50 years old ($M = 8.50$, $SD = .93$) at T1.
- Clinical sample **receiving psychosocial services** in school for **diagnosed EP**.
- Attrition of 31 children between T1 and T3 (T1; $n = 339$, T2; $n = 311$ and T3; $n = 308$).

Measures

Instruments: T1, T2, T3 measures completed by the mother.

- **T1: Children's behavior questionnaire – Short form** [9]: Temperament.
- **T2: Parental Acceptance-Rejection Questionnaire** [10]: Parenting practices (Hostility, neglect, warmth).
- **T2: Psychiatric Symptom Index** [11]: Maternal psychological distress.
- **T3: Child Behavior Checklist** [12]: Child externalizing problems.

Results

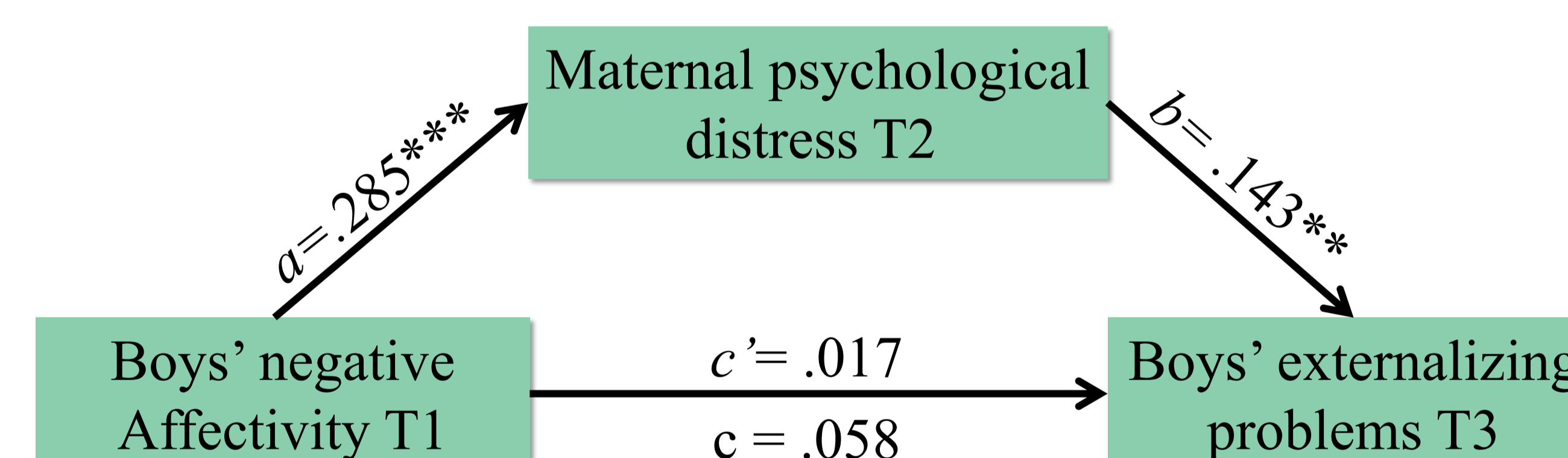
Preliminary analysis: *t*-test for independent sample.

- No significant differences between boys and girls in severity of EP ($p > .05$) and parenting practices and distress ($p > .05$).
- Girls presented higher levels of effortful control ($t = -2.94$, $p < .01$) and negative affectivity ($t = -2.46$, $p < .05$) than boys.

Mediation models: 12 tested models using path analysis (Mplus 7.4)

Results revealed one significant indirect effect of child temperament on EP via parenting behaviors, which was moderated by the child's sex.

Figure 1. Indirect effect of boys' negative affectivity on externalizing problems, via maternal psychological distress (not observed in girls).



Note. $p < .001$

3 other mediation models, but not moderated by sex :

- **Maternal psychological distress** mediated the direct association between child **extraversion** and **EP** ($\beta = 0.021$, $SE = 0.010$, $[CI = 0.005, 0.045]$), 15.3% of the total effect.
- **Maternal hostility** mediated the direct association between child **extraversion** and **EP** ($\beta = 0.015$, $SE = 0.009$, $[CI = 0.001, 0.045]$), 11.3% of the total effect.
- **Maternal psychological distress** mediated the direct association between **child effortful control** and **EP** ($\beta = -0.017$, $SE = 0.010$, $[CI = -0.042, -0.002]$), 13% of the total effect.

“Child's temperament-driven effect on maternal psychological distress and hostility, which in turn, predict externalizing behavior problems”

Discussion

- Boys' higher negative affectivity (ex., fear, anger when confronted with new / unpleasant situations) contributed to higher EP, via greater maternal psychological distress, but this was not observed among girls.
 - Links with mothers' expected behaviors and gender schemas?
 - Acceptance (or lack thereof) of negative affectivity behaviors?
- Child higher extraversion (impulsivity, risk taking, rule-breaking) was directly associated with higher EP and this association was partially mediated by greater maternal hostility and psychological distress.
 - Two potential reactions from the mother :
 - **Hostility** → Manage the child's difficult behaviors
 - **Psychological distress** → Feeling powerless or overwhelmed
- Greater maternal psychological distress (symptoms of depression, anxiety, irritability, cognitive problems) also explained the direct association between lower child effortful control and higher EP.
 - Child regulatory difficulties (such as low effortful control) have been previously linked to maternal anxiety [13].

Limitations:

- Clinical sample → not generalized to children of the general population
- Mother reports only → shared measurement bias

Conclusions:

- Temperament-based interventions for children with EP
- Increased support for mothers regarding mental health and adequate parenting practices

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