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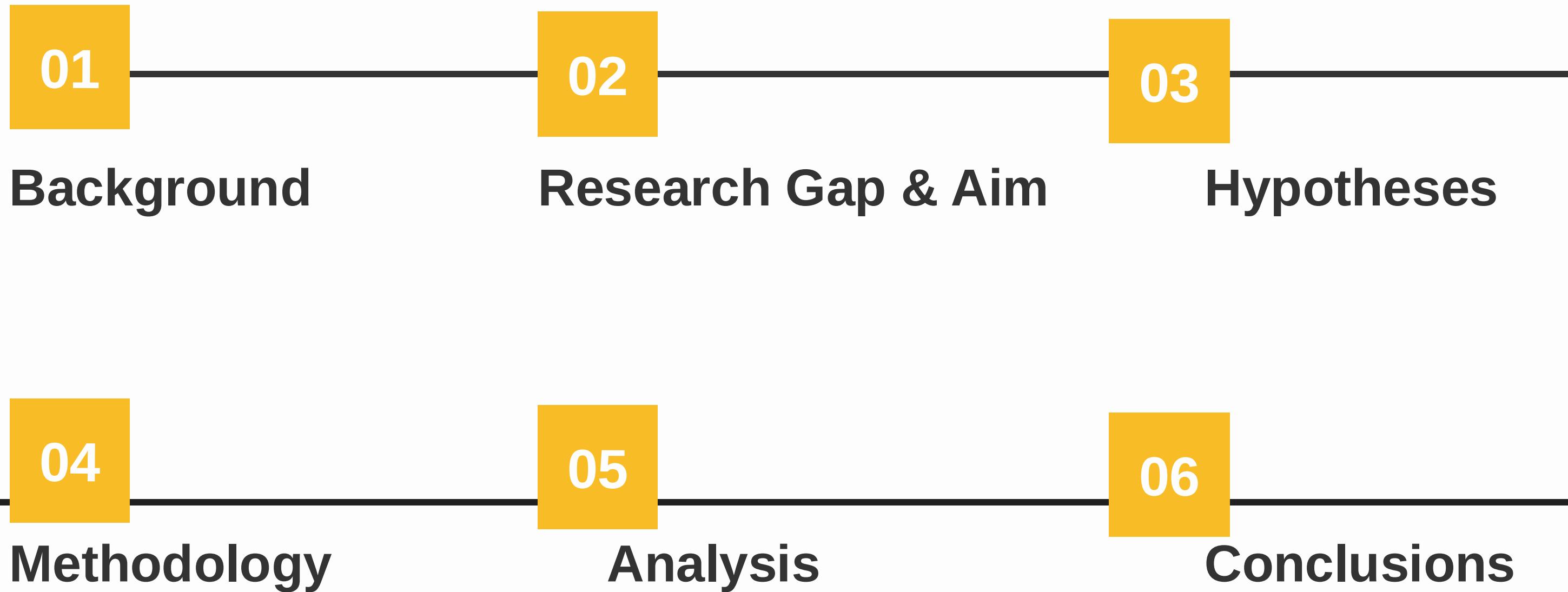
The Moderating Role of Parental Reflective Functioning and Empathy in internalizing and externalizing Problems in Hong Kong Preschoolers

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Background

Recognize and respond sensitively to a child's emotional cues
→ Prevent internalizing and externalizing problems in children
(Bowlby, 1969/1982; Stern, 1985a)

Empathy

Parental Reflective Functioning (PRF)

- Positively associated with **Maternal Sensitivity** (Bell & Ainsworth, 1972; Stacks et al., 2014)
- Negatively associated with **internalizing and externalizing problems** in children (Meng et al., 2020; Slade et al., 2019)

Background

● Empathy

To **understand** and **resonate** with others' emotional experience by taking their perspective (Rogers, 1959)

● Affective Empathy

An emotional resonance with another's emotion and concern for another's distress

● Cognitive Empathy

An intellectual understanding of another's emotion that results from taking his or her perspective

Background

● Parental Reflective Functioning (PRF)

To **understand** and **reflect** on their own and their child's mental states, and how these mental states influence their behavior and interactions (Slade, 2005)

- **Pre-mentalising (PM) (Luyten et al., 2017)**
Distorted ways of making sense of the child's behavior when mentalisation is absent or failed
- **Certainty**
Parent's level of confidence in attributing mental states to their child, and their awareness of the child's mental states as potentially opaque
- **Interest and Curiosity (IC)**
Parent's capacity to be genuinely curious about their child's inner world

Background

Empathy

Holding the child's experience in mind and heart

- Immediate emotional attunement to the child's distress
- Prioritize resonant feelings

- **PRF - offer coherent understanding of the child's mind**
- **Empathy - provides emotional motivation for sensitive engagement**

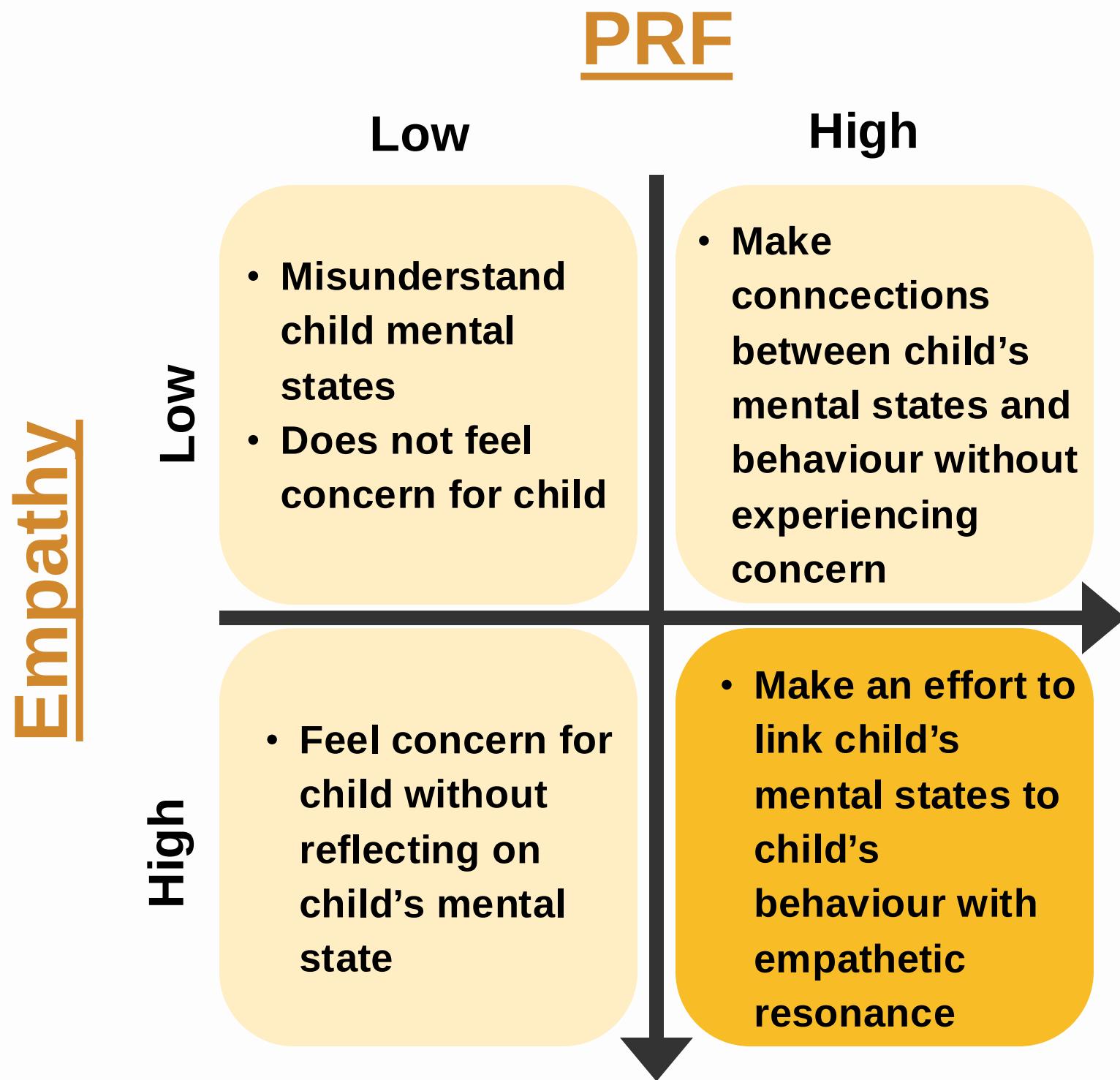
PRF

Holding the child's mind in mind

- Meta-cognitive understanding of child's mental states
- Inferring the child's thoughts/intentions

RF lays the foundation for empathy to arise (Powell, Cooper, Hoffman, & Marvin, 2014)

Background



Conceptualization of the interrelations of parental reflective functioning (PRF) and empathy(Borelli et al., 2021)

Optimal caregiving arises when both parental empathy and reflective functioning are high.

- Mothers showed **more supportive behavior** during the only when both PRF and empathy were high
- The ability of mothers to **accurately judge their child's negative affect** was highest when both empathy and PRF were high

Research Gap



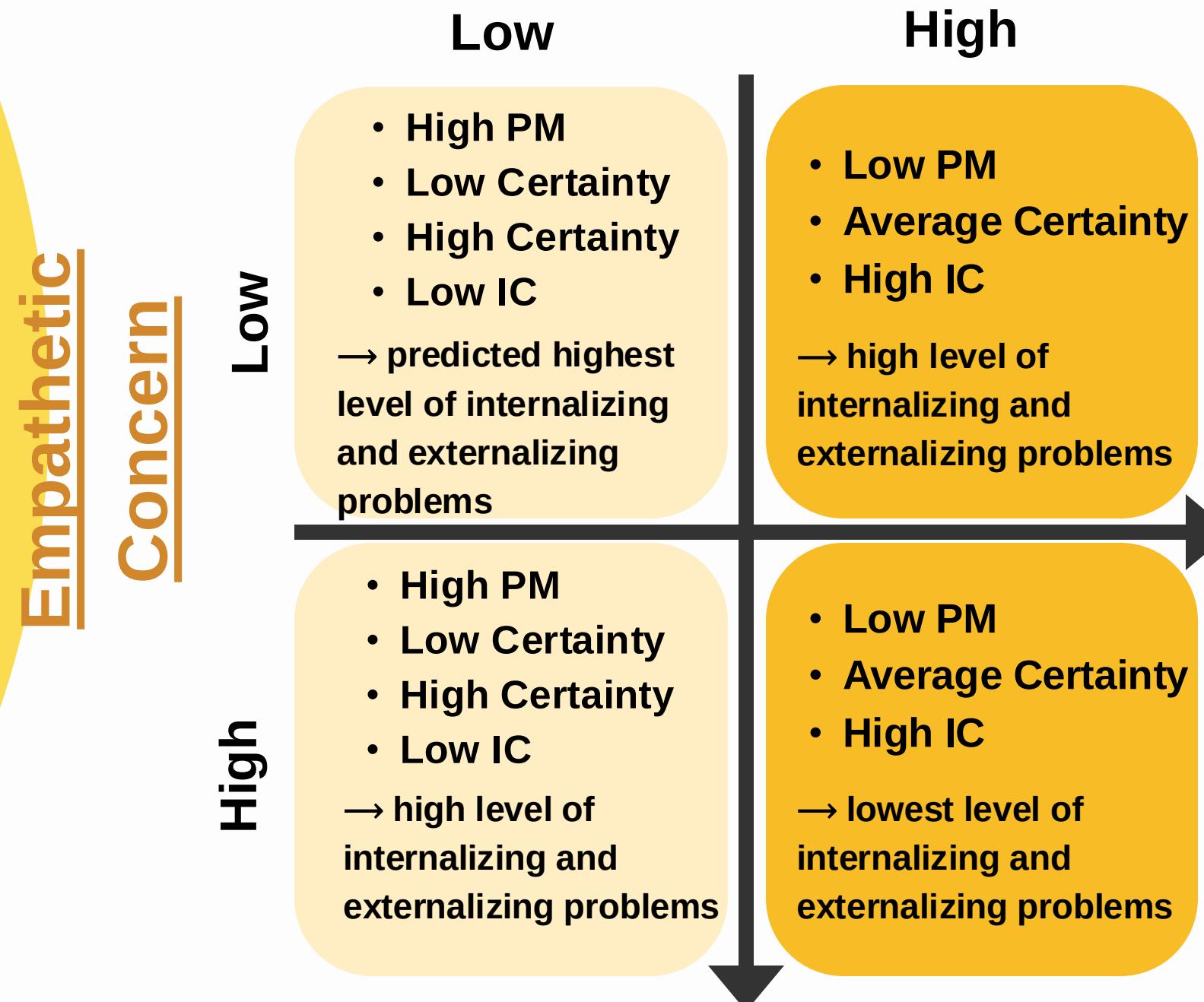
- **Unexplored joint effects of PRF dimensions & empathy on internalizing and externalizing problems in preschoolers**
- **Unexplored Role of PRF & Empathy in Asian Context**

Aim

- Explore how different combinations of PRF dimensions and empathy associated with varying levels of children's internalizing and externalizing problems in Hong Kong
- Investigate if any potential moderation or mediation effects between these constructs in internalizing and externalizing problems

Hypotheses

PRF dimensions



Hypothesis 1

Low PRF dimensions × Low Empathetic Concern
→ **highest** level of internalizing and externalizing problems

Hypothesis 2

High PRF dimensions × Low Empathetic Concern
→ lower level of internalizing and externalizing problems
due to moderate moderation effect

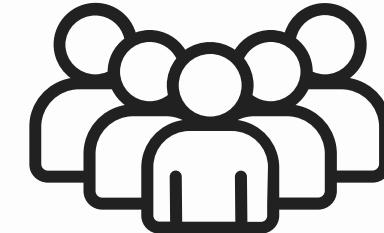
Hypothesis 3

Low PRF dimensions × High Empathetic Concern
→ lower level of internalizing and externalizing problems
due to moderate moderation effect of empathetic concern

Hypothesis 4

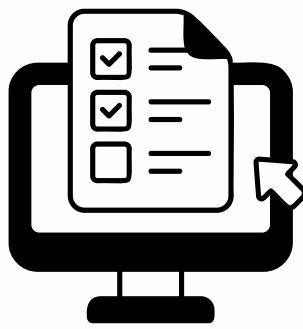
High PRF dimensions × High Empathetic Concern
→ **lowest** level internalizing and externalizing problems

Methodology



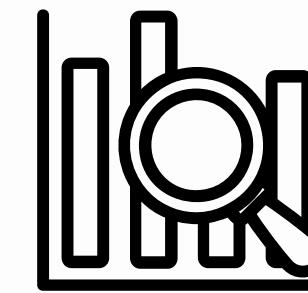
Participants

Mothers of children aged 2-5 were recruited from local kindergartens and psychiatric clinic



Measures

- Parental Reflective Functioning Questionnaire (PRFQ)
- Empathetic Concern Subscale in Interpersonal Reactivity Index - Parent Version (IRI-P)
- Child Behavior Checklist 1½–5



Statistical Analysis

- Bivariate correlation
- Estimated marginal means
- Hierarchical multiple regression
- Simple slope model

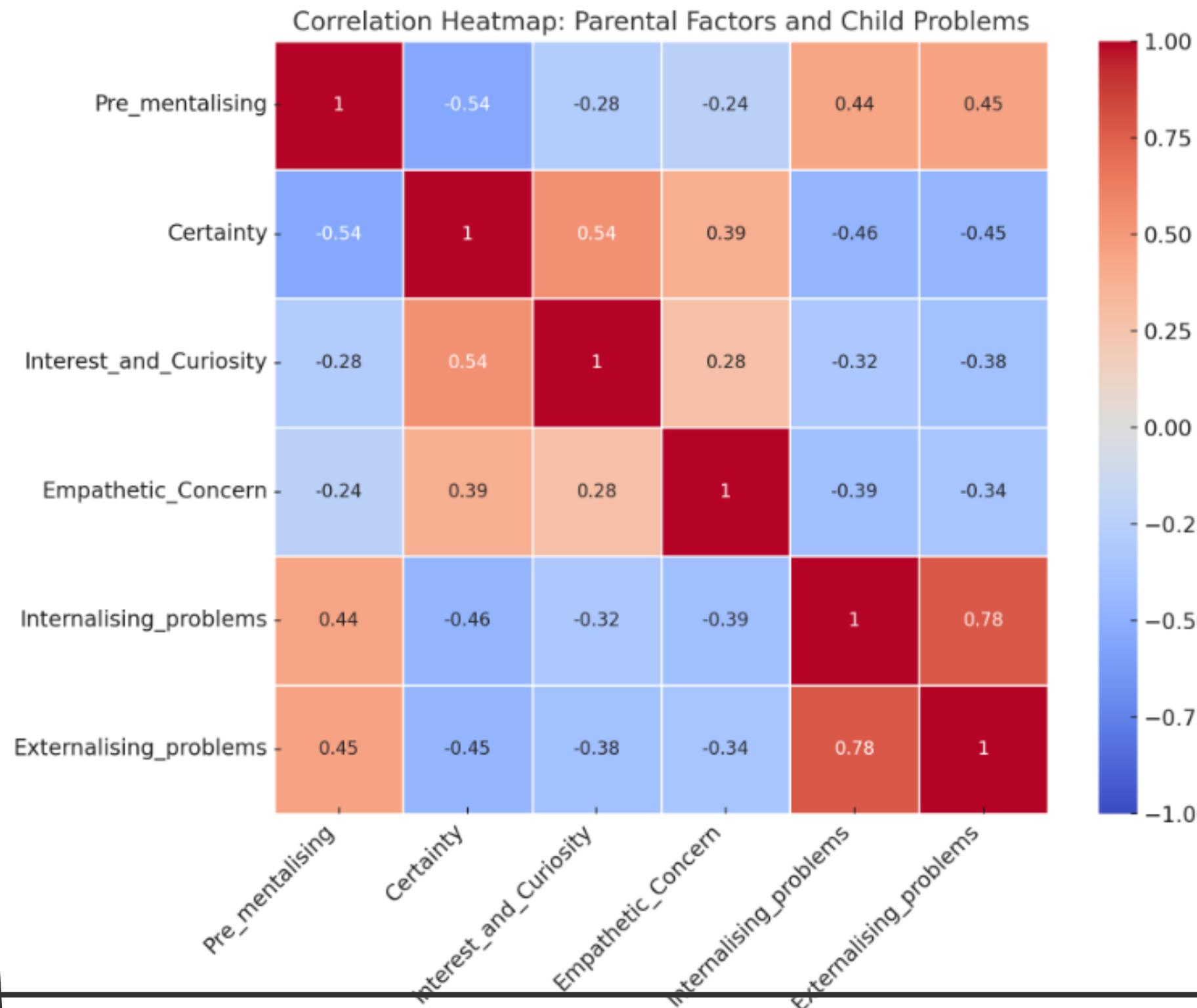
Result

Descriptive Data

Characteristic (N=92)	N(%)
Mother recruitment source	
Clinic sample	18 (19.6%)
Community kindergartens	74 (80.4%)
Mother age (years)	$M = 34.6, SD = 4.6$
Child gender	
Male	53(57.6%)
Female	39(42.4%)
Child age (years)	$M = 4.2, SD = 2.8$
Children with SEN or developmental delay	10 (10.9%)

Result

Correlation Analysis



- PM is positively associated with both internalizing and externalizing problems.
- Certainty, EC, and IC are negatively associated with child problems.
- Parenting traits are interrelated
 - Higher PM is related to lower certainty ($r = -.54$) and lower EC ($r = -.24$)
 - EC is related to higher certainty ($r = .39$) and higher IC ($.28$)

Result

Interaction Effect

Certainty x Empathetic Concern

Empathetic Concern Level	Certainty Level	Predicted value for internalizing problems	Predicted value for externalizing problems
Low	Low	14.3	15.6
	Mean	10.0	11.0
	High	5.7	6.7
Mean	Low	11.2	12.6
	Mean	8.5	9.7
	High	5.6	6.2
High	Low	8.1	9.5
	Mean	7.0	8.4
	High	5.8	7.3

- The highest predicted internalizing and externalizing problem score occurred when mothers had **low certainty and low empathic concern**.
- Lowest predicted internalizing and externalizing score occur when **average level of Empathetic concern and High certainty** were exhibited.

All comparisons between levels were statistically significant ($p = .02$).

Result

Interaction Effect

Pre-mentalizing x Empathetic Concern

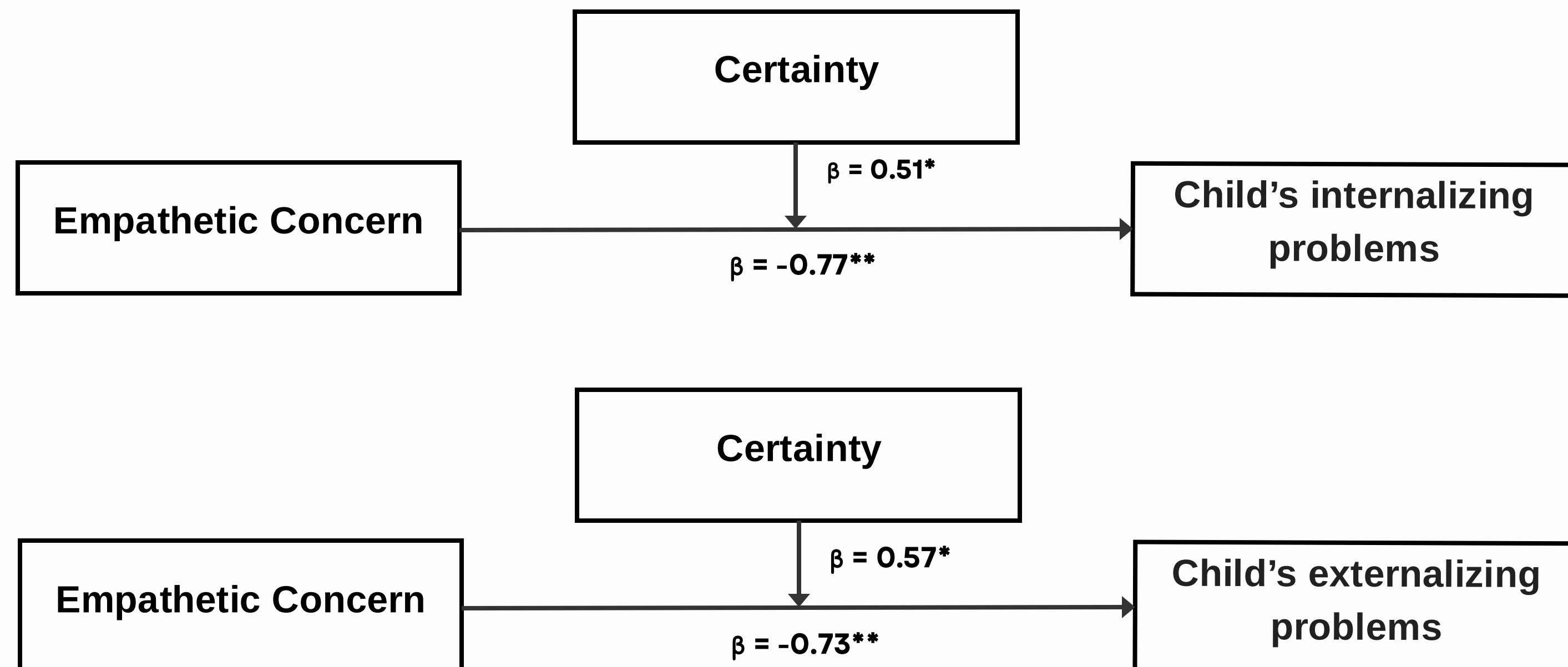
Empathic Concern	Pre-mentalising level	Predicted Score for externalizing problem
Low	Low	7.3
	Mean	11.8
	High	16.26
Mean	Low	7.0
	Mean	10.0
	High	13.0
High	Low	6.7
	Mean	8.2
	High	9.7

- Highest predicted child externalizing problem score occurred when mothers had **high pre-mentalising and low empathetic concern**.
- Lowest predicted child externalizing problem score occurred when mothers had **low pre-mentalising and high empathetic concern**.

All comparisons between PM levels were statistically significant ($p = .05$)

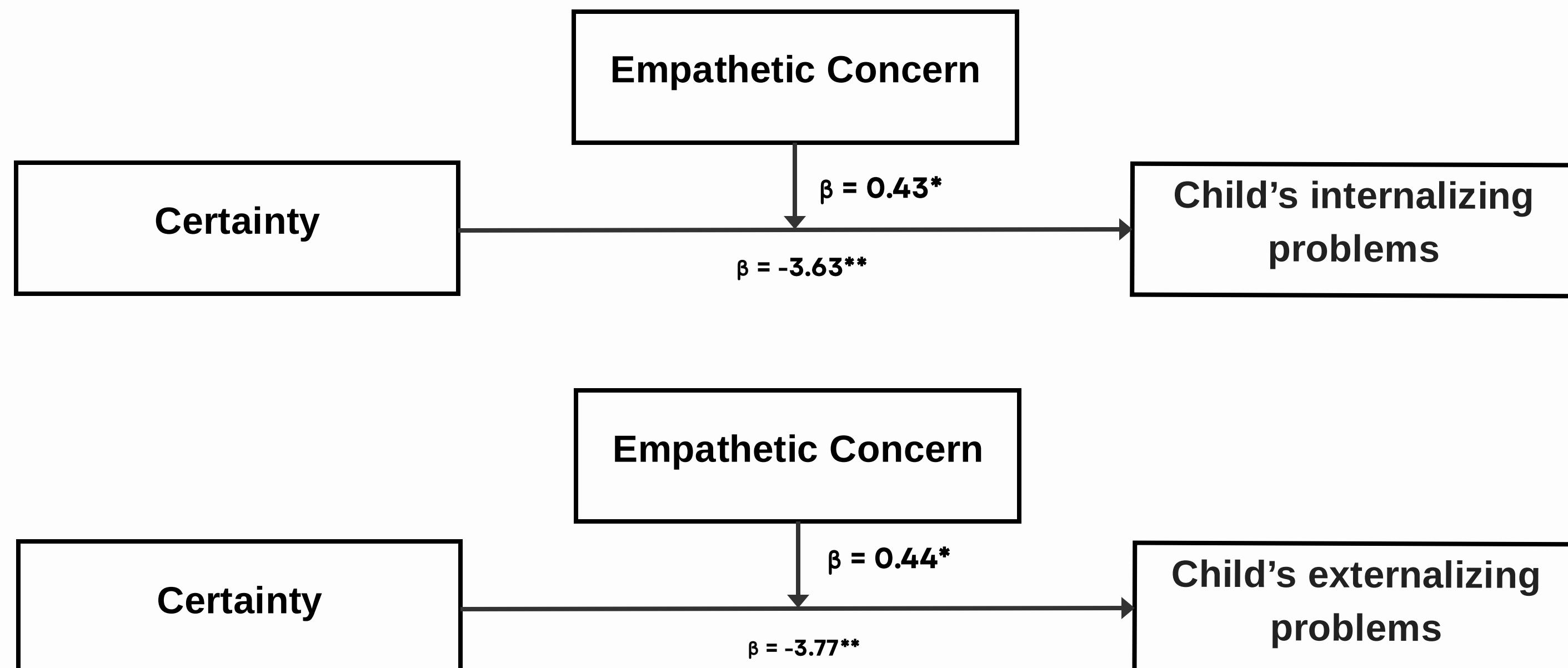
Result

Certainty significantly moderates the relationship between empathetic concern in mothers and children's internalizing and externalizing problems.



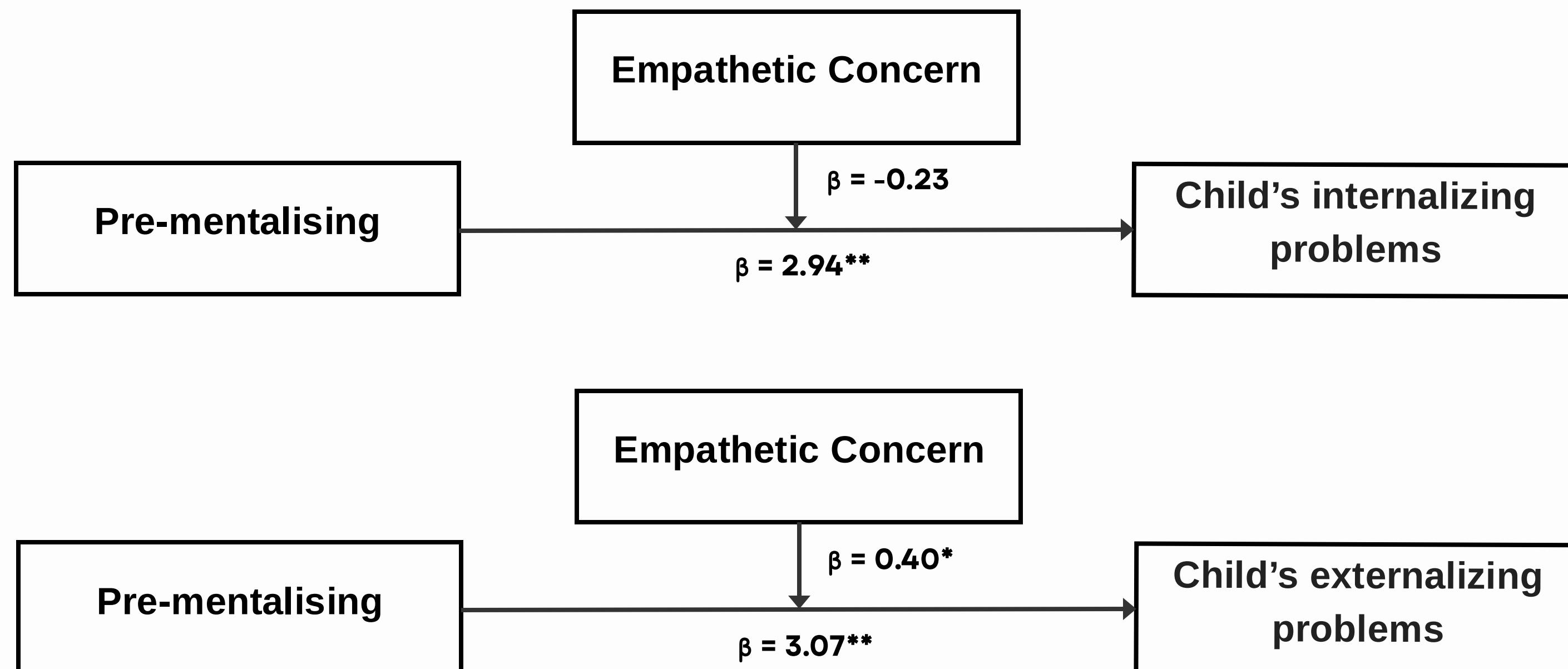
Result

Empathetic Concern significantly moderates the relationship between certainty level in mothers and children's internalizing and externalizing problems.



Result

Empathetic Concern significantly moderates the relationship between pre-mentalisation in mothers and children's externalizing problems.



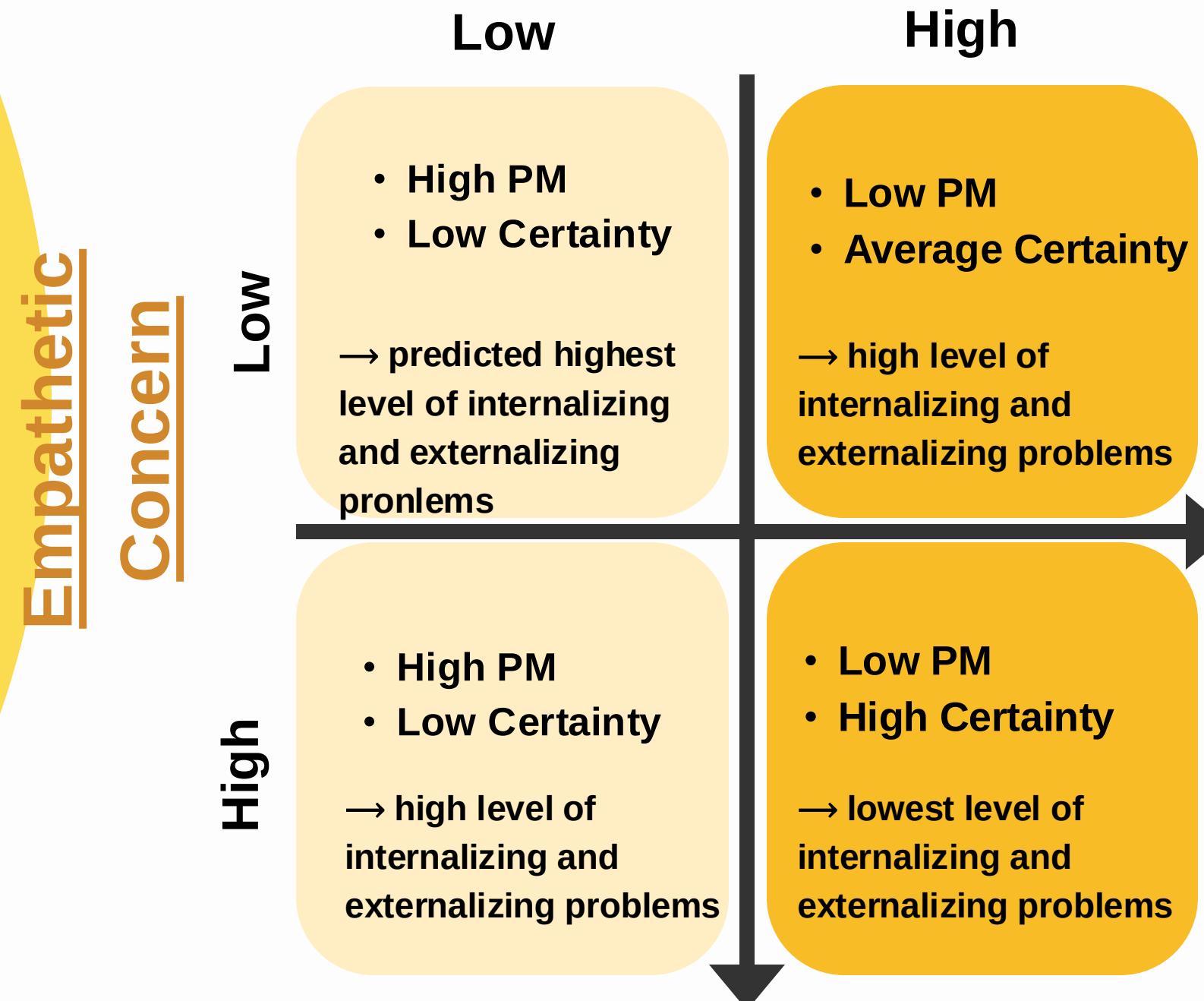
Result

Simple Slope Analysis

1. **Certainty** buffers child internalizing ($\beta=-0.92$ to -0.45 , $p<.001$) and externalizing problems ($\beta=-0.91$, $p<.001$) only when mothers exhibit low-to-average empathy.
1. **Empathetic Concern** buffers child internalizing ($\beta=-4.67$ to -2.95 , $p<.001$) and externalizing problems ($\beta=-5.08$ to -3.17 , $p<.001$) only when mothers exhibit low-to-average certainty level.
2. **Empathetic Concern** buffers child's externalizing problem ($\beta=4.02$ to 2.67 , $p<.001$) when mothers exhibit average-to-high pre-mentalization

Summary

PRF dimensions



Hypothesis 1

Low PRF dimensions × Low Empathetic Concern
→ **highest** level of internalizing and externalizing problems

Hypothesis 2

High PRF dimensions × Low Empathetic Concern
→ lower level of internalizing and externalizing problems
due to moderation effect of certainty

Hypothesis 3

Low PRF dimensions × High Empathetic Concern
→ lower level of internalizing and externalizing problems
due to moderation effect of empathetic concern

Hypothesis 4

High PRF dimensions × High Empathetic Concern
→ **lowest** level internalizing and externalizing problems

Limitation

1. **Cross-sectional design:** Limits causal inference; directionality between parent and child variables remains unclear.
2. **Sample size:** Adequate for moderation, but underpowered for three-way interactions or subgroup analyses.
3. **Self-report bias:** PRF and empathy were assessed via self-report, which may be influenced by social desirability.
4. **Partial PRF coverage:** Only certainty and pre-mentalising subscales included; interest/curiosity excluded due to non-significance.
5. **Narrow empathy construct:** Used Empathetic Concern only; does not capture cognitive empathy.
6. **Cultural specificity:** Findings may not generalise beyond Hong Kong Chinese mothers.

Conclusion

Certainty is crucial in Hong Kong context

Maternal PRF dimensions (Certainty/Pre-mentalizing) and empathetic concern interact **adaptively** to promote healthy socioemotional development in children

- **Certainty** buffers child internalizing and externalizing problems when mothers exhibit low-to-average empathy.
- **Empathetic Concern** buffers child internalizing and externalizing problems when mothers exhibit low-to-average certainty level.
- **Empathetic Concern** buffers child externalizing problems when mothers exhibit higher level of pre-mentalizing.

Implication

"Good enough" parenting may not require high levels of both PRF and empathy — strength in either domain can buffer child emotional and behavioral problems.

- **Parents with lower cognitive flexibility may benefit more from empathy-based training (e.g., emotional mirroring, emotion coaching)**
- **Parents with difficulty in emotional expression may benefit from mentalization-based interventions (e.g., MBT-Parenting).**
- **Tailored support addressing individual parental strengths and limitations may enhance intervention effectiveness.**

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Thanks!

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