THE ROLE OF CHILDREN'S TEMPERAMENT IN THE RELATION BETWEEN INCOME RELATED RISK AND SOCIAL-EMOTIONAL DEVELOPMENT

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Income Related Risk and Adjustment

- Low Income and Cumulative Risk
  - Low income associated with co-occurring risk factors that have cumulative burden
  - Consistently related to psychopathology, maladjustment, & negative health outcomes
  - Negative effects on concurrent & subsequent adjustment
  - May also shape children's temperament

Flouri, Midouhas, & Joshi, 2014; Lengua & Wachs, 2012; Lengua et al., 2014

Income Related Risk and Temperament

- Risk may shape development of temperament.
  - Temperament may act as mediator, accounting for some of the relation between risk and adjustment.
    - Low income related to lower effortful control.
    - Risk (e.g., malnourishment, maternal stress/depression, home chaos) related to children's higher negative reactivity.

- Temperament may also moderate relations between risk and future adjustment.
  - Certain temperament dimensions may exacerbate risk or confer resiliency in the face of risk.
    - High self-regulation found to be particularly protective for children living in poverty.

Lengua & Wachs, 2012; Li-Grining, 2007

The current study:

① **How does income-related risk relate to children's temperament and adjustment over time?**

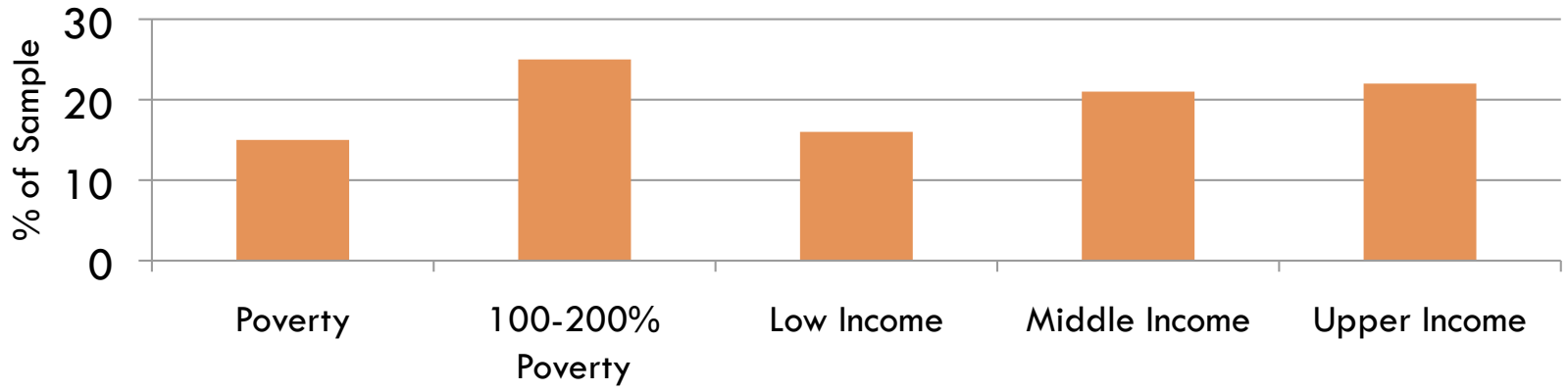
② **Does temperament mediate and/or moderate the relation between risk and children's adjustment?**

Participants:

- Longitudinal study
  - 306 preschoolers & female primary care givers
  - 50% female children
- Recruited from preschools, co-ops, daycares
- 4 assessments conducted in the lab
  - Once every 9 months
  - Age at Time 1: 36-39 mo.

Participants:

Family Income:



Racial/Ethnic Backgrounds:

- African American: 9%
- Asian American: 3%
- European American: 64%
- Latino/Hispanic: 10%
- Native American: 2%
- Mixed Background: 12%

Measures: Income and Risk

- Annual Family Income
- Cumulative Risk
  - Maternal report at Time 1
  - Composite of 8 risk factors:

1. **Adolescent parent**
2. **Single parent**
3. **Negative life events**
4. **Residential instability**
5. **Household density**
6. **Maternal depression**
7. **Maternal low education**
8. **Divorce**

Measures: Reactivity & Regulation

- Fear
  - Observed Behavior to Fear Eliciting Task (Jumping Spider)
- Frustration
  - Observed Behavior to Frustration Eliciting Task (Locked Box)
- Effortful Control
  - Attention Regulation
    - Auditory Attention (NEPSY II), Dimensional Change Card Sort
  - Inhibitory Control
    - Inhibition (NEPSY II), Day/Night, Bear-Dragon, HTKS
- Delay Ability
  - Observed difficulty delaying gratification
    - Reverse coded Gift Delay task

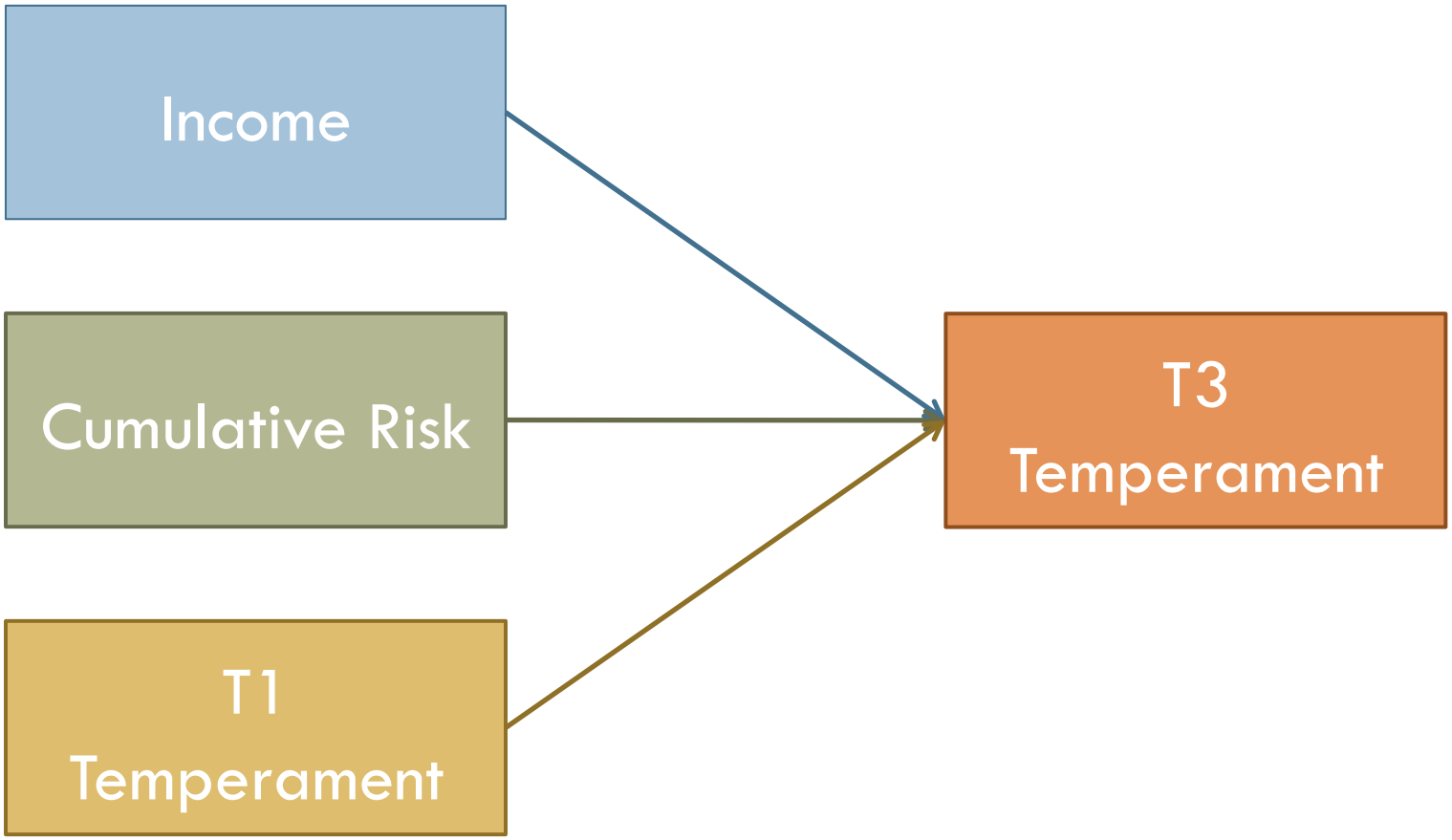
Measures: Adjustment

- Social Skills Rating System:
  - Teacher-reported at all time points
    - Internalizing
      - 6 items
      - Low self-esteem, Anxious, Sad, Lonely
    - Externalizing
      - 7 items
      - Angered easily, Fights, Argues, Disobeys
    - Social Competence
      - 24 items
      - Cooperation, Assertiveness, Self-Control

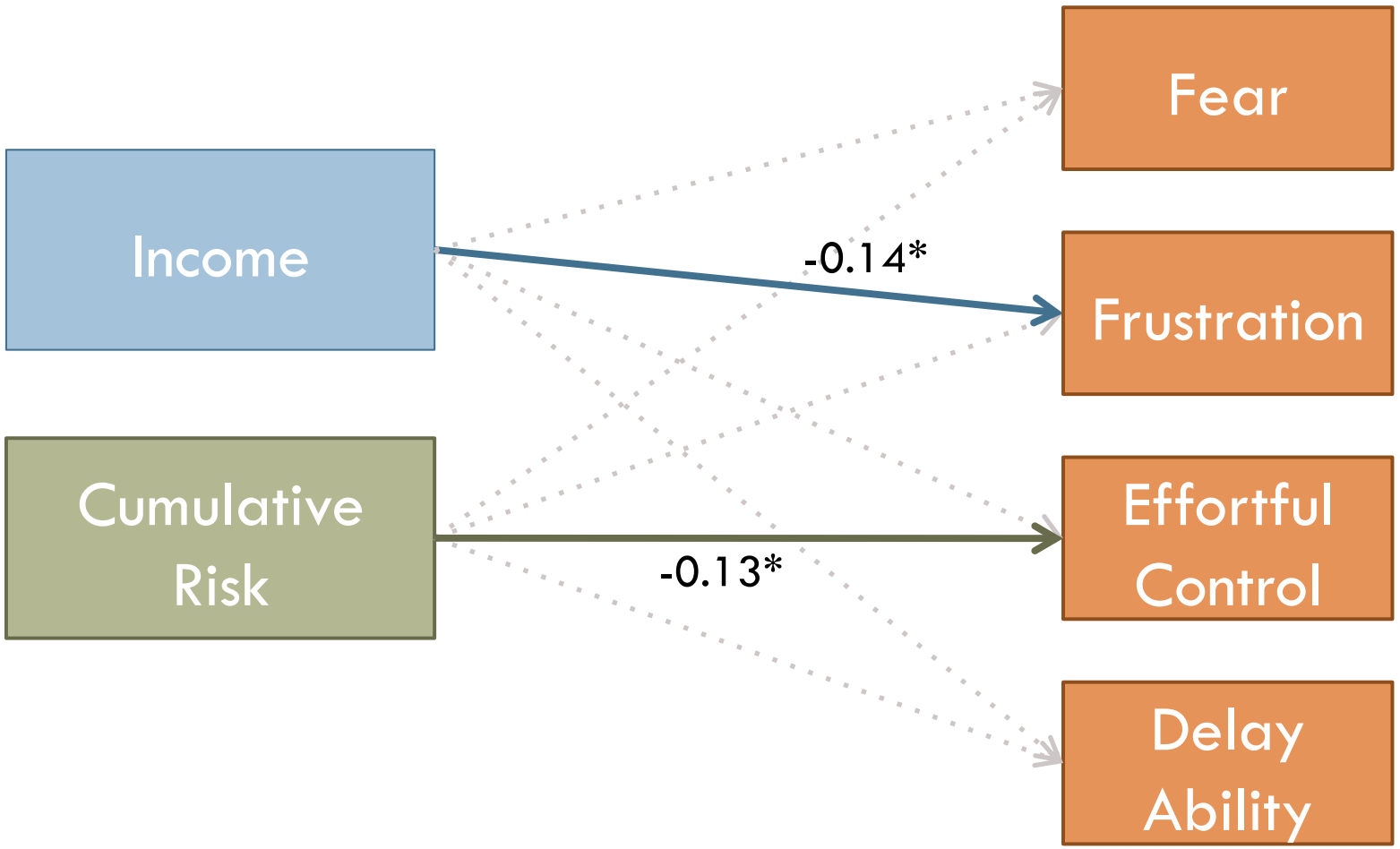
Analytic Plan

- Risk predicting children's temperament and adjustment
- Temperament mediating relation between risk and adjustment
- Temperament moderating relation between risk and adjustment

Results: Risk Predicting Temperament

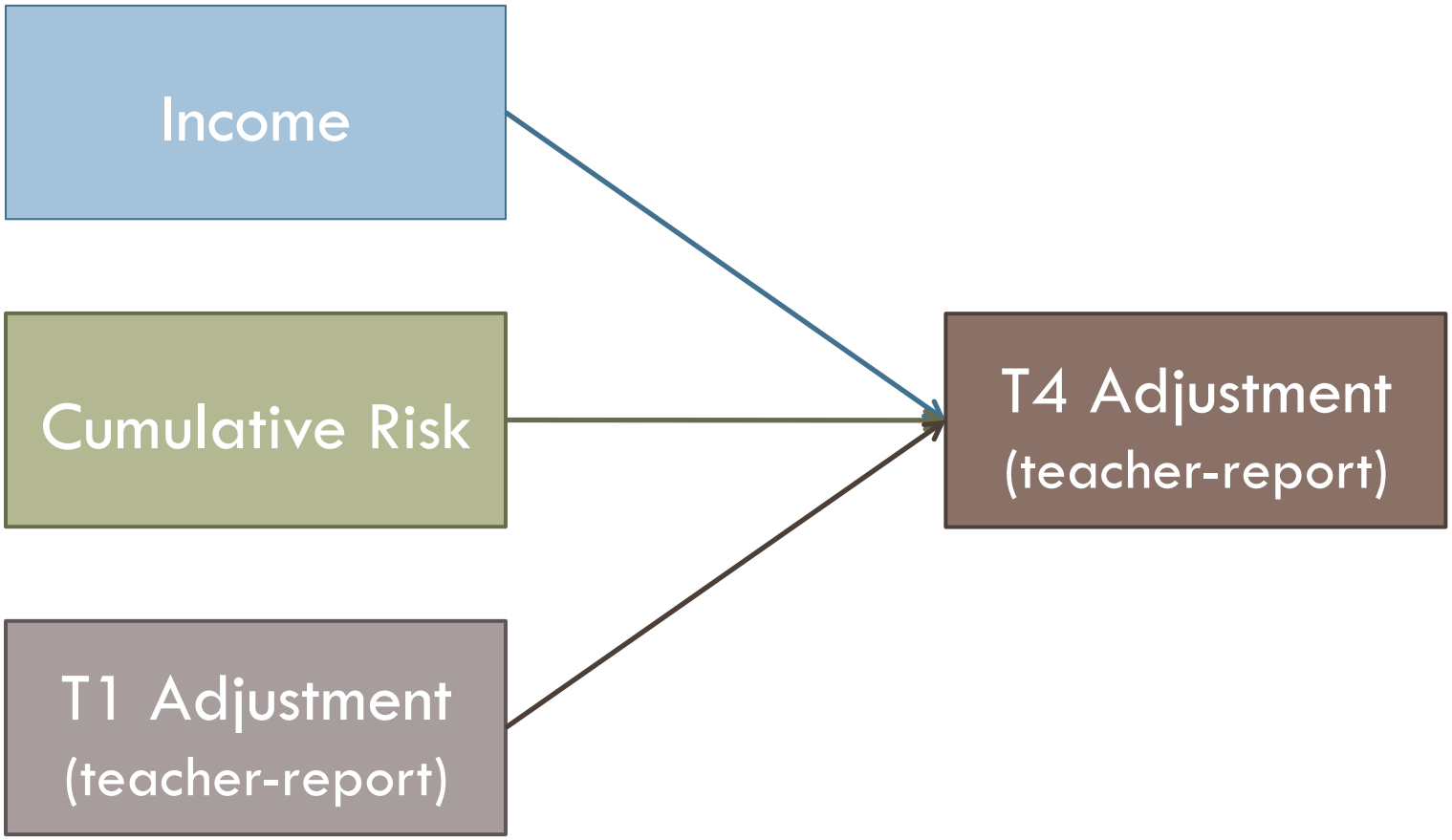


Results: Risk Predicting Temperament

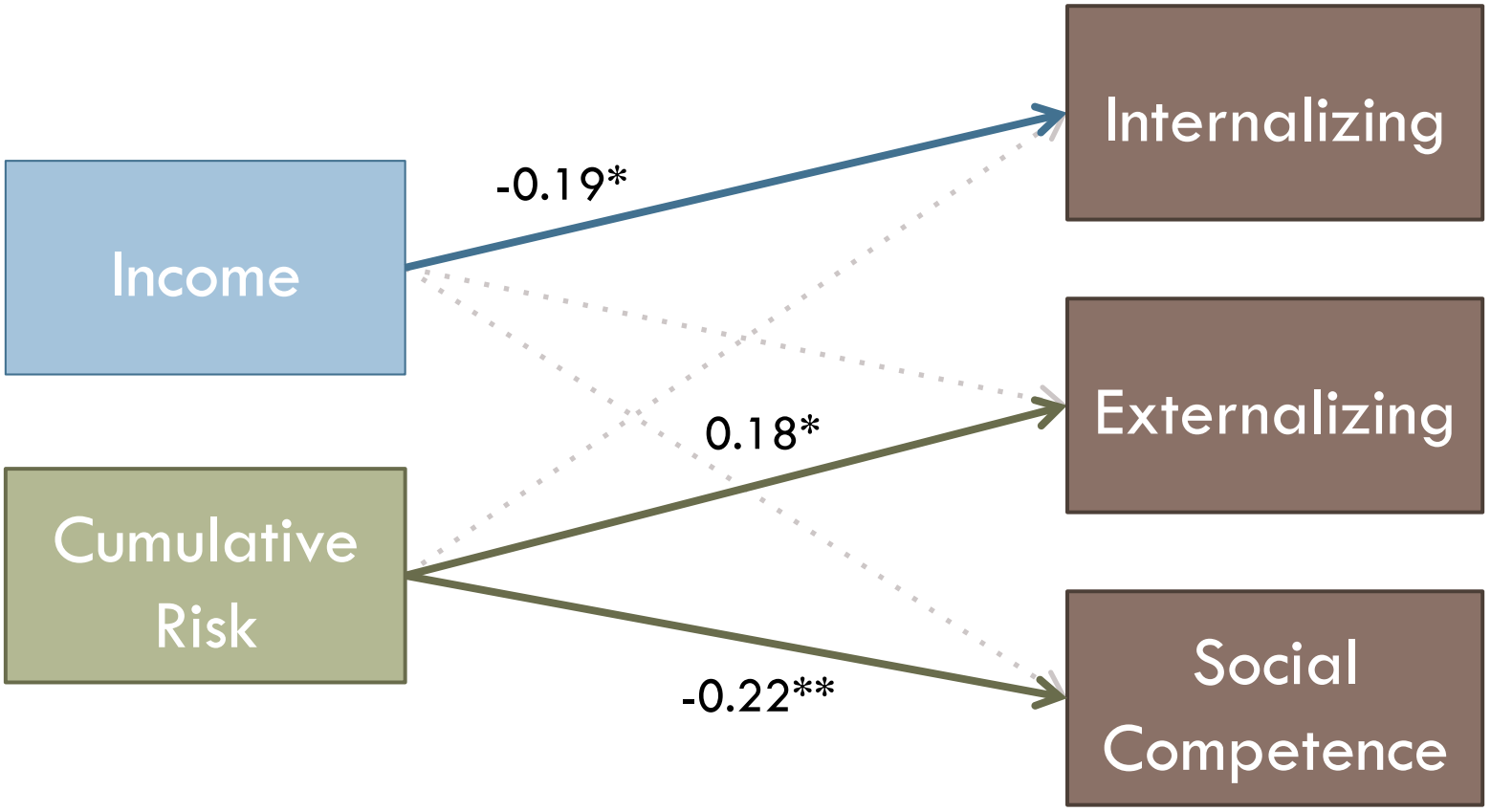


* $p \leq .05$

Results: Risk Predicting Adjustment



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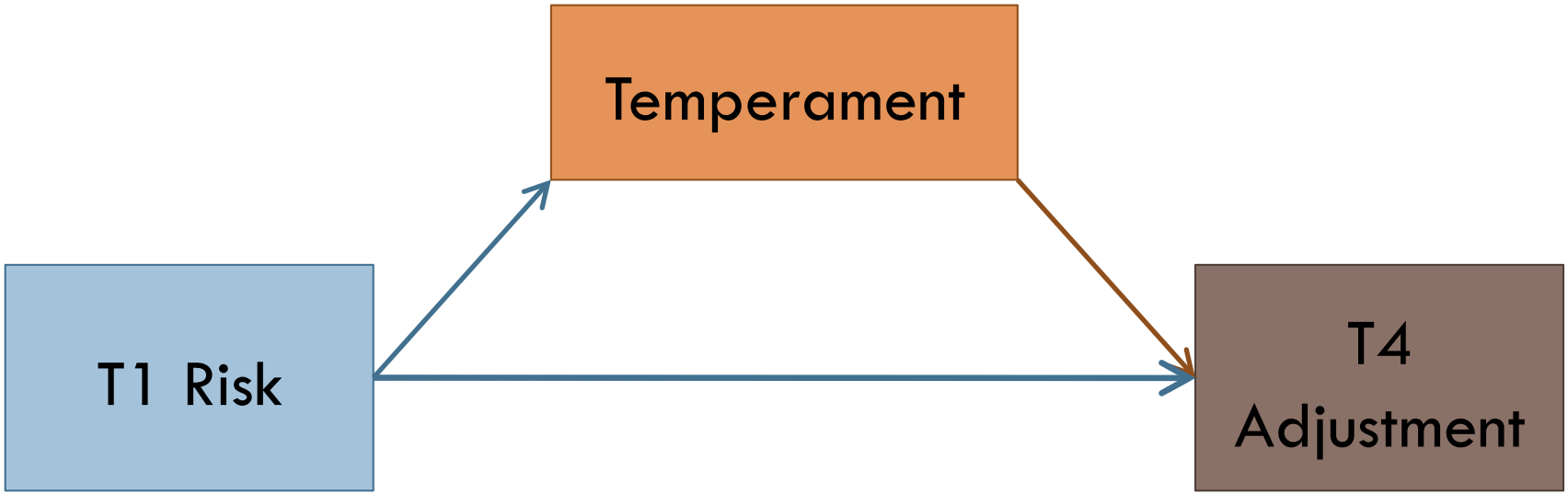
* p ≤ .05; ** p ≤ .01

Analytic Plan

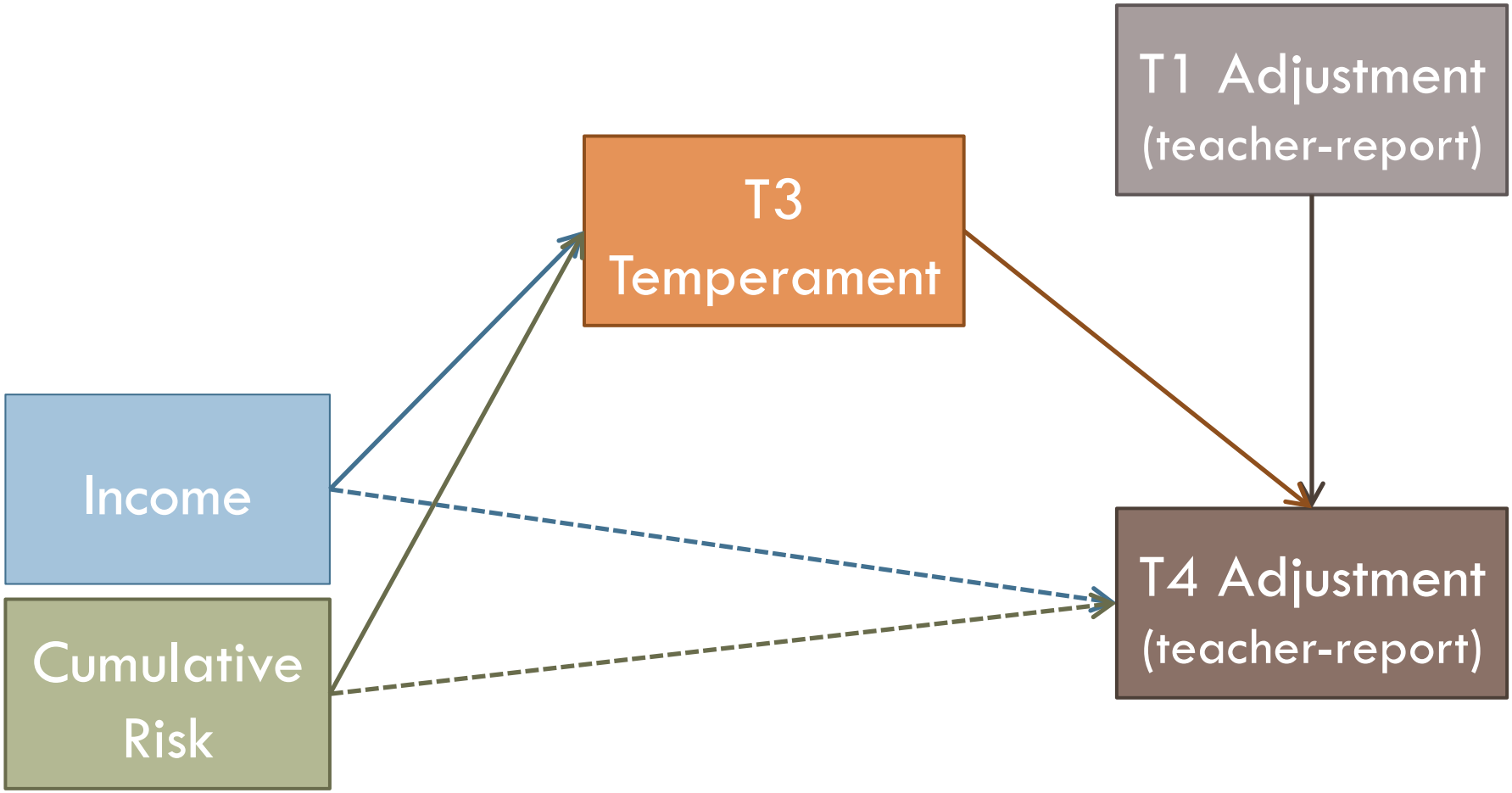
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- Temperament moderating relation between risk and adjustment

Results: Mediation by Temperament

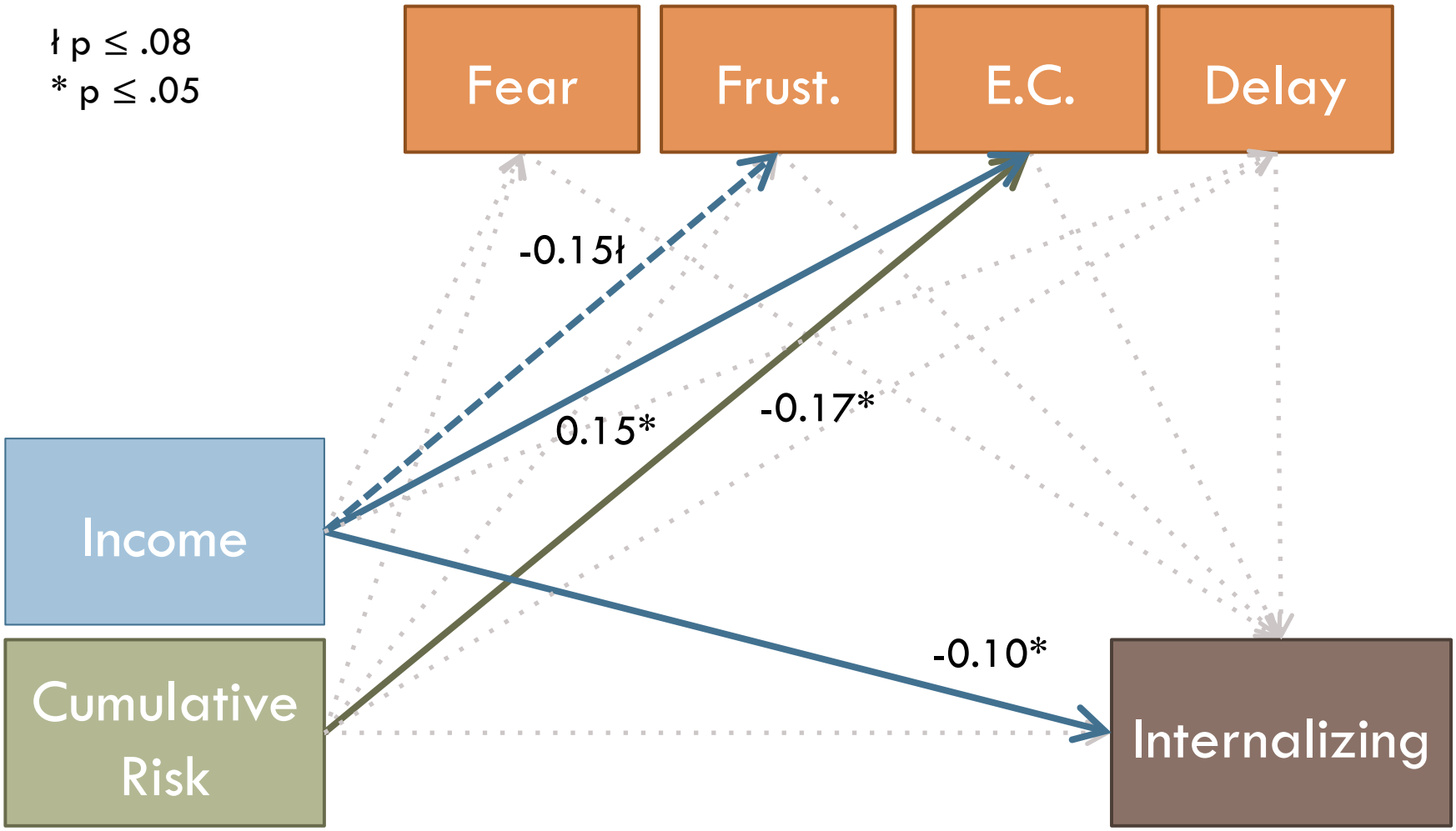
- Significant mediation suggests the impact of income-related risk on children's adjustment is, in part, accounted for by it's impact on temperament.



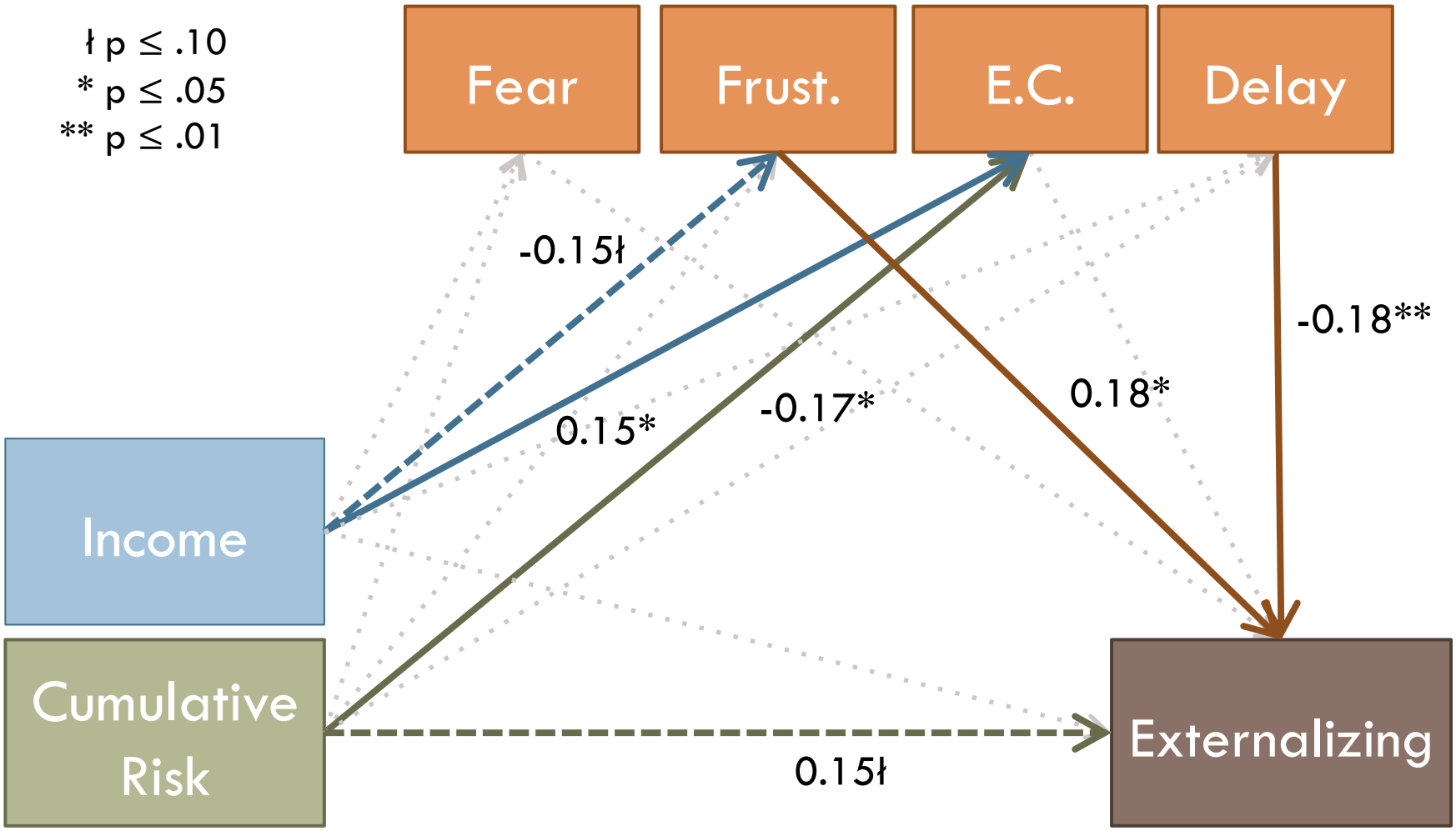
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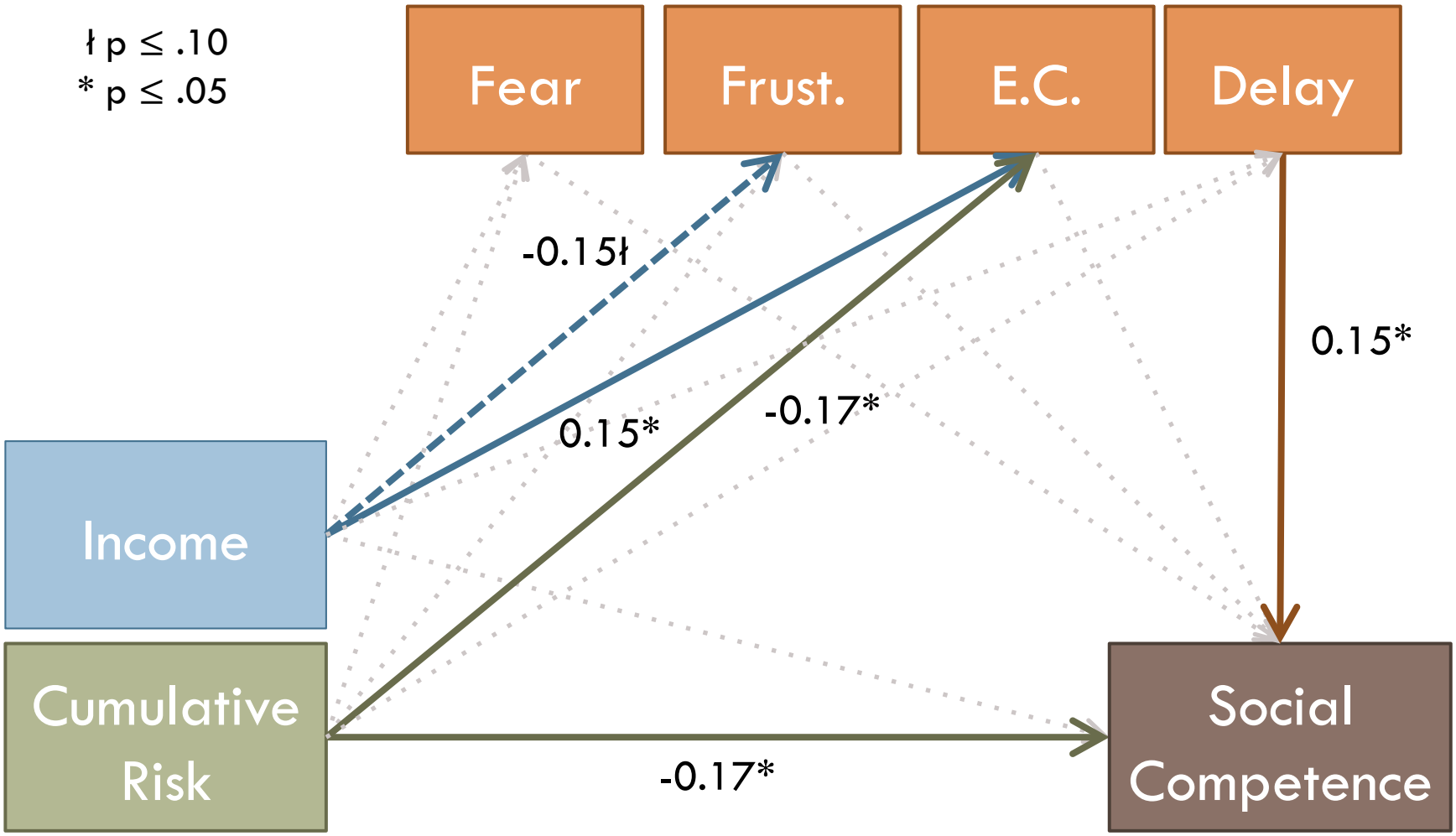
Mediation Results: Internalizing



Mediation Results: Externalizing



Mediation Results: Social Competence



Results: Mediation by Temperament

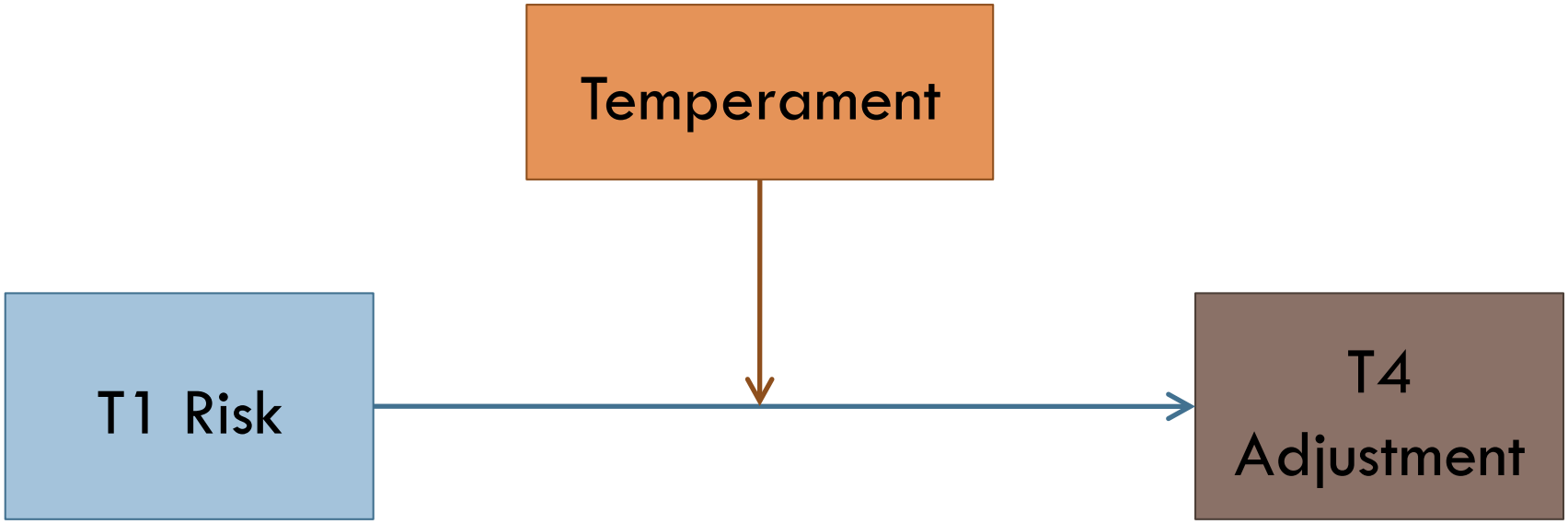
	Direct Effects	Indirect Effects
Internalizing	Income	None
	No Temperament	
Externalizing	Cumulative Risk	Frustration mediates Income
	Frustration & Delay	
Social Competence	Cumulative Risk	None
	Delay	

Results

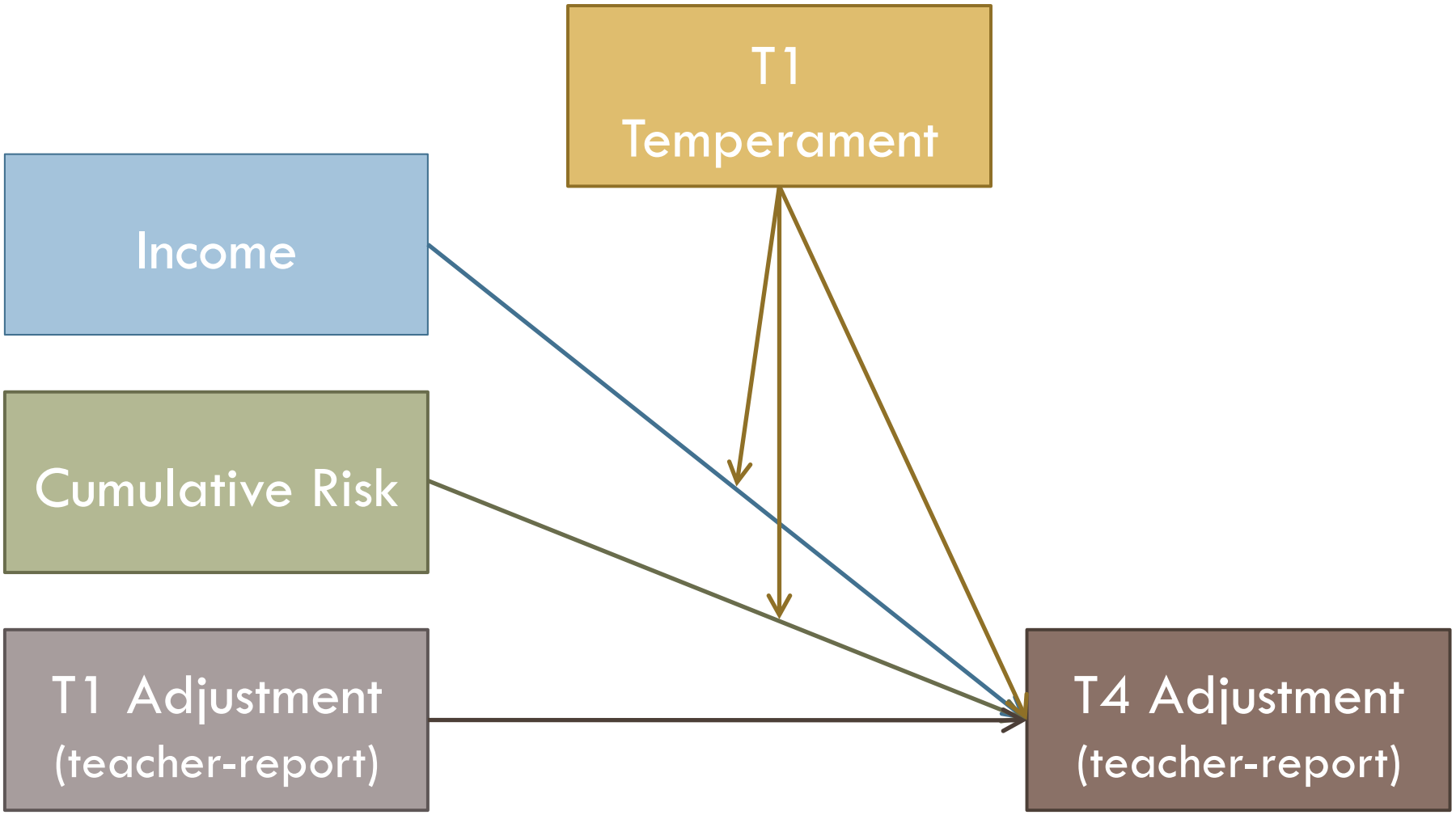
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Results: Moderation by Temperament

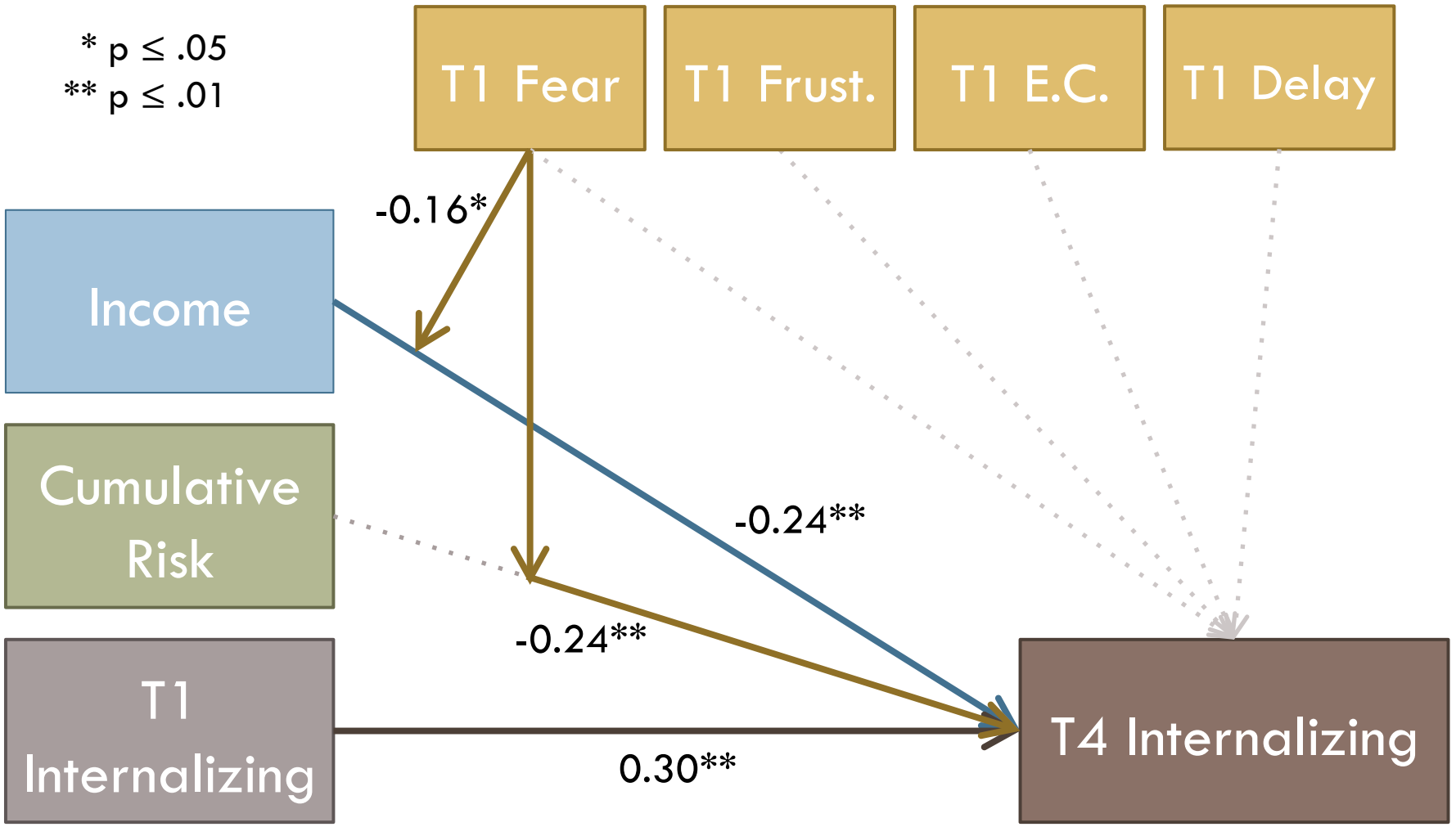
- Significant moderation suggest the influence of income-related risk on children's adjustment depends on the relative strength of temperament dimensions.



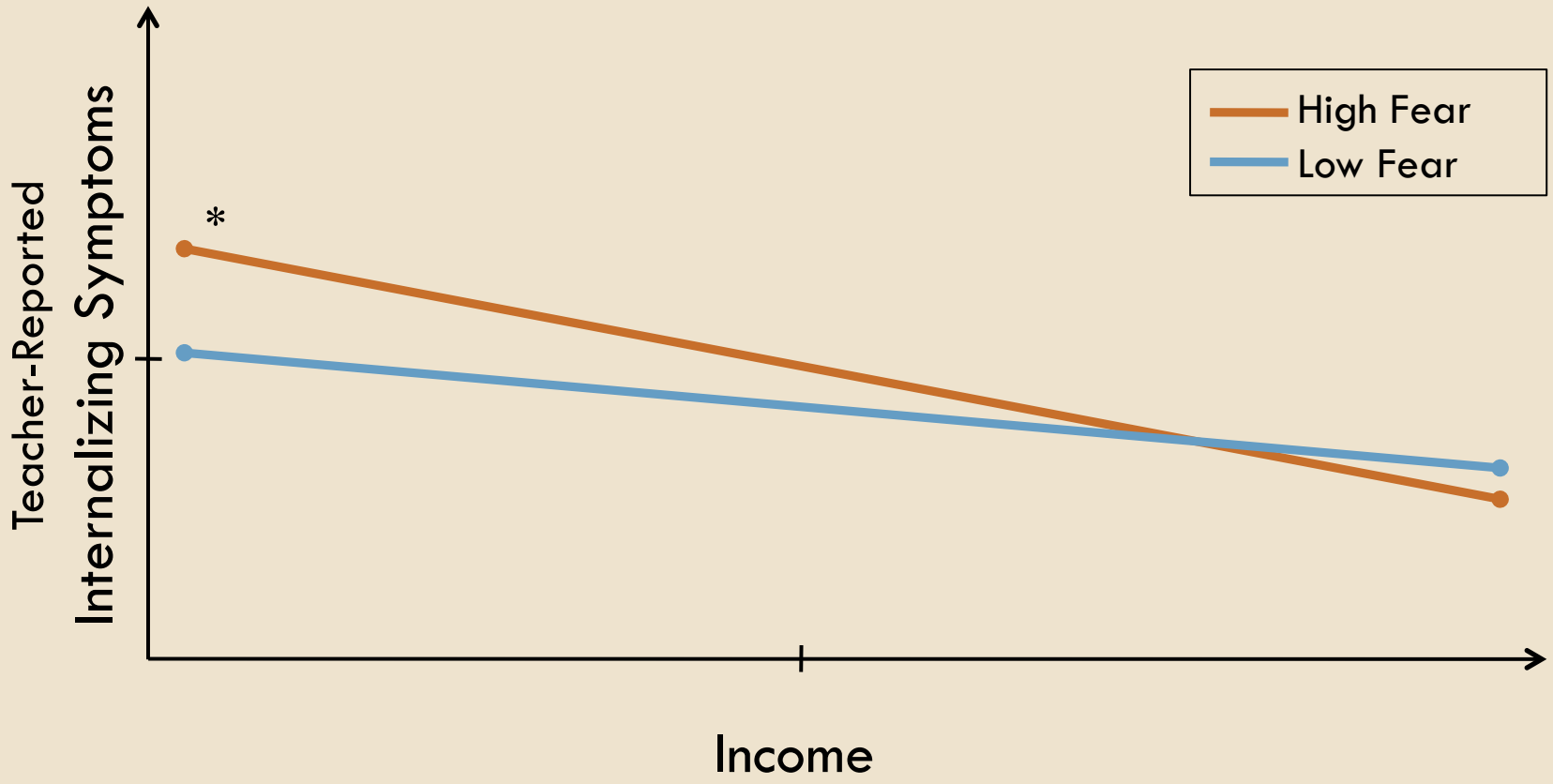
Results: Moderation by Temperament



Moderation Results: Internalizing

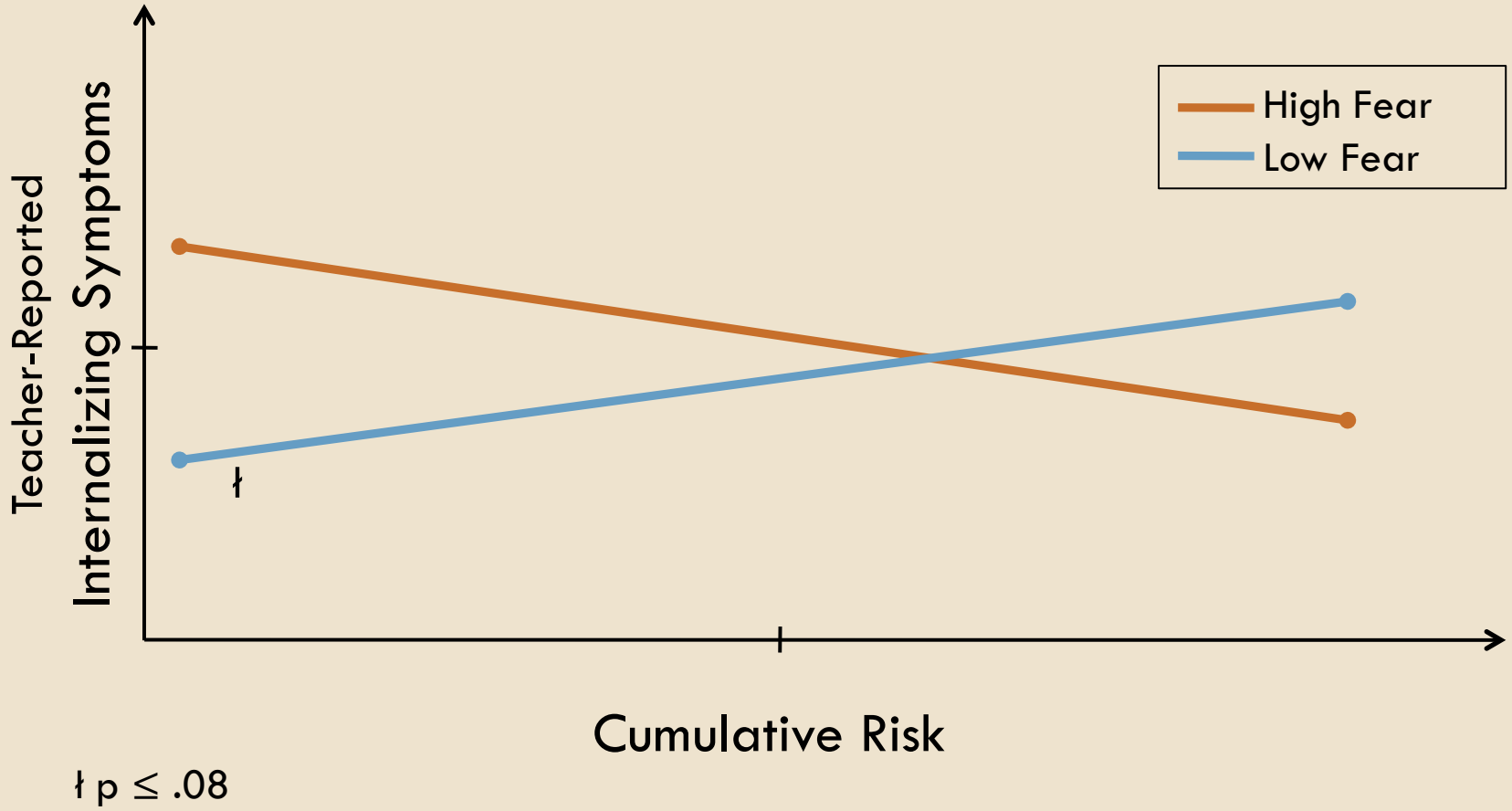


Fear Reactivity Moderates Relation between Income and Internalizing Symptoms

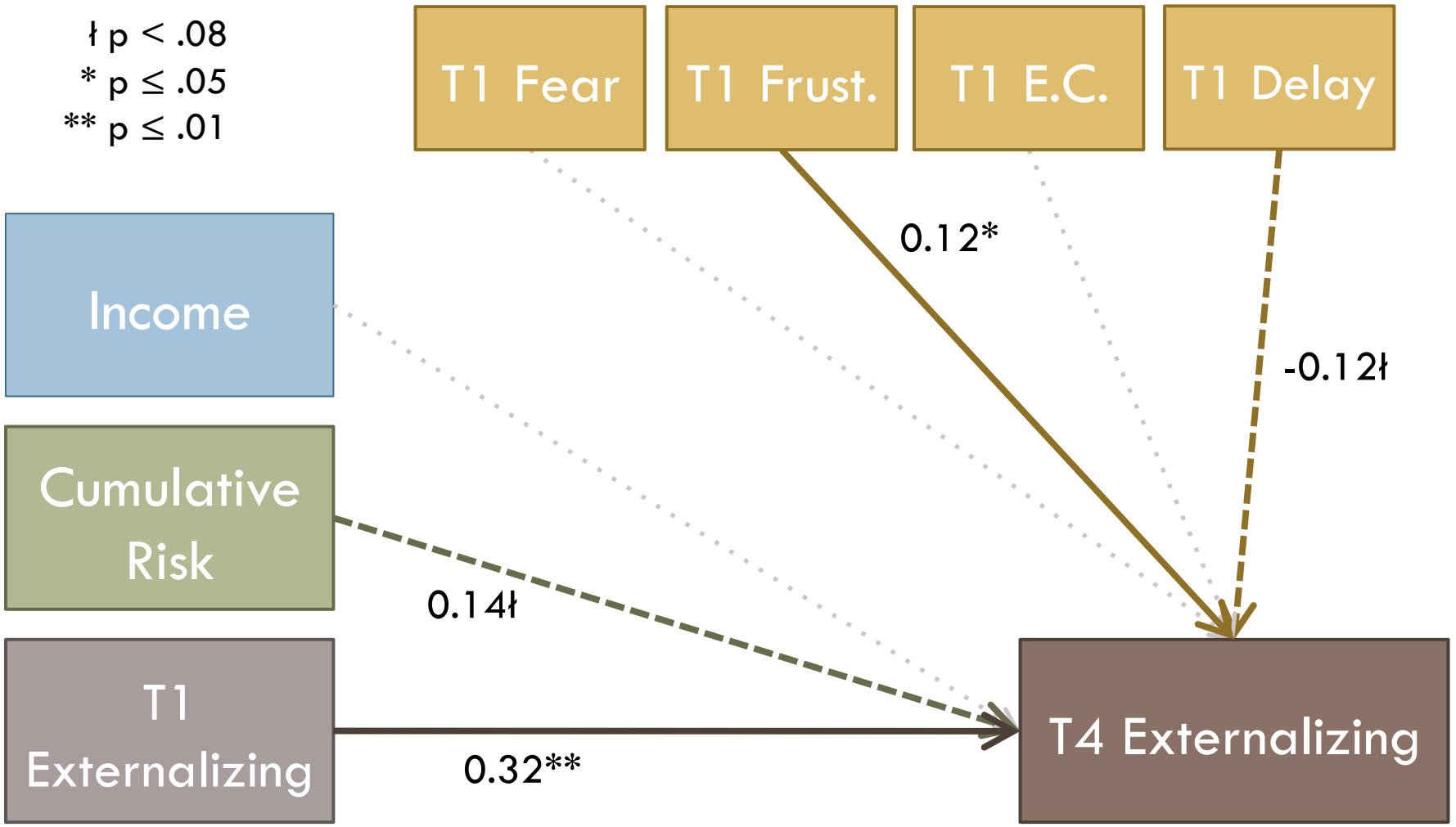


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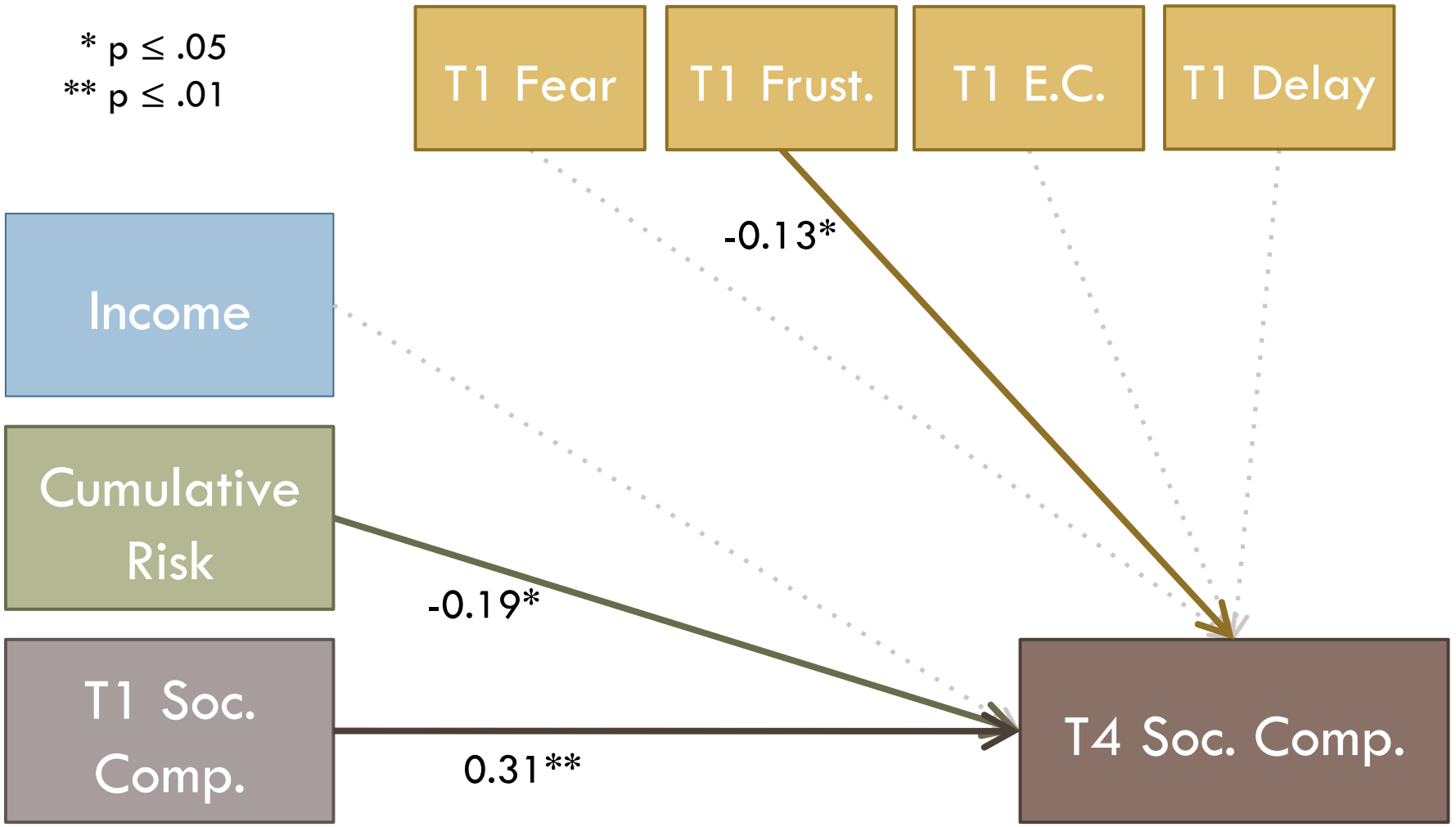
Fear Reactivity Moderates Relation between Cumulative Risk and Internalizing Symptoms



Moderation Results: Externalizing



Moderation Results: Social Competence



Results: Moderation by Temperament

	Direct Effects	Interaction Effects
Internalizing	Income	Fear moderates Income & Risk
	No Temperament	
Externalizing	Cumulative Risk	None
	Frustration & Delay	
Social Competence	Cumulative Risk	None
	Frustration	

Conclusions:

① How does income related risk relate to temperament and adjustment over time?

- Children living in higher risk contexts are more likely to experience high frustration and develop lower levels of effortful control.
  - Risk related to different temperament dimensions in different ways.
- Generally, across all adjustment outcomes, higher risk related to poorer adjustment.

Conclusions:

② Does temperament mediate and/or moderate the relation between risk and children's adjustment?

- Little evidence of temperament acting as either mediator or moderator.
  - High frustration mediates relation between low income and higher externalizing problems.
  - High fear exacerbates the effects of low income.
  - Low fear protective only in low risk contexts.
- Income related risk and temperament more frequently act as independent factors contributing to adjustment.

Implications:

- Income-related risk may contribute to children's temperament, but in relatively specific ways.
- Particular temperament dimensions may be more susceptible to risk, whereas others may be protective.
- Additive effects of income, cumulative risk and temperament appear more salient at this age.
  - Unexpected that effortful control did not emerge as mediator/moderator of risk.
  - Might reflect developmental period?
    - Perhaps temperament effects become more prominent as children grow more independent.

Acknowledgements:

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