



# The Interrelationships of Parenting and Children's Temperament: Implications for Emotional and Social Problems

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# Parenting Processes

- Families determine children's physical and social environments
  - Influence behaviours, habits and attitudes
- What are the important aspects of parenting?
  - Most study warmth/involvement, rejection/hostility and behavioural control (monitoring, involvement, rules)
  - Measured in LSAC
- Sometimes referred to as “Parent Effects”

# Infant/Child Temperament

- Children's social-emotional, personality and behavioural development are founded in temperamental characteristics
  - Defn: *constitutionally based individual differences in emotional, motor, attentional reactivity and self-regulation (Rothbart & Bates)*
  - Three broad classifications of temperament (Sanson, Hemphill, & Smart)
    - Reactivity-negative emotionality
    - Self-regulation
    - Approach-inhibition
  - Also measured in LSAC

# Child Effects

- Temperament may be modified by parenting (Propper & Moore, 2006).
- Child temperament can influence parenting behaviours.
  - At least since a seminal article by Bell (1968), there has been recognition of both “child effects” and parent effects.
    - Child Effects: Children can shape their parents’ behaviours and their own developmental outcomes (Bell, 1968; Crockenberg & Leerkes, 2003; Lytton, 1990; Scarr, 1992) .
- Parenting of a young child can be an outcome of a child’s temperament as much as a child’s early temperament may change based on the parenting he/she receives.

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*"I understand that by the time we've  
hit our teens we'll have them pretty  
much where we want them."*

# Parenting, Infant Temperament and Child Outcomes

- Parenting and temperament have been associated with children's social-emotional and behavioural outcomes in both cross-sectional and longitudinal studies
  - (e.g., Caspi et al., 1995; Eisenberg et al., 2004; Koschanska, Aksan, & Joy, 2007; McClowry et al., 1994; Rothbart, Posner, & Hershey, 1995; Wertlieb, Weigel, Springer, & Feldstein, 1987).

# Parent Characteristics and Contexts

- Parents' characteristics and "context" also can shape parenting, temperament, and child outcomes (e.g., Cole, 2003; Kendler, Sham, & MacLean, 1997; Maccoby & Martin, 1983).
  - Parent mental health
  - Stress and coping
  - Couple relationship

# [ Study Aims ]

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**Child  
Outcomes**



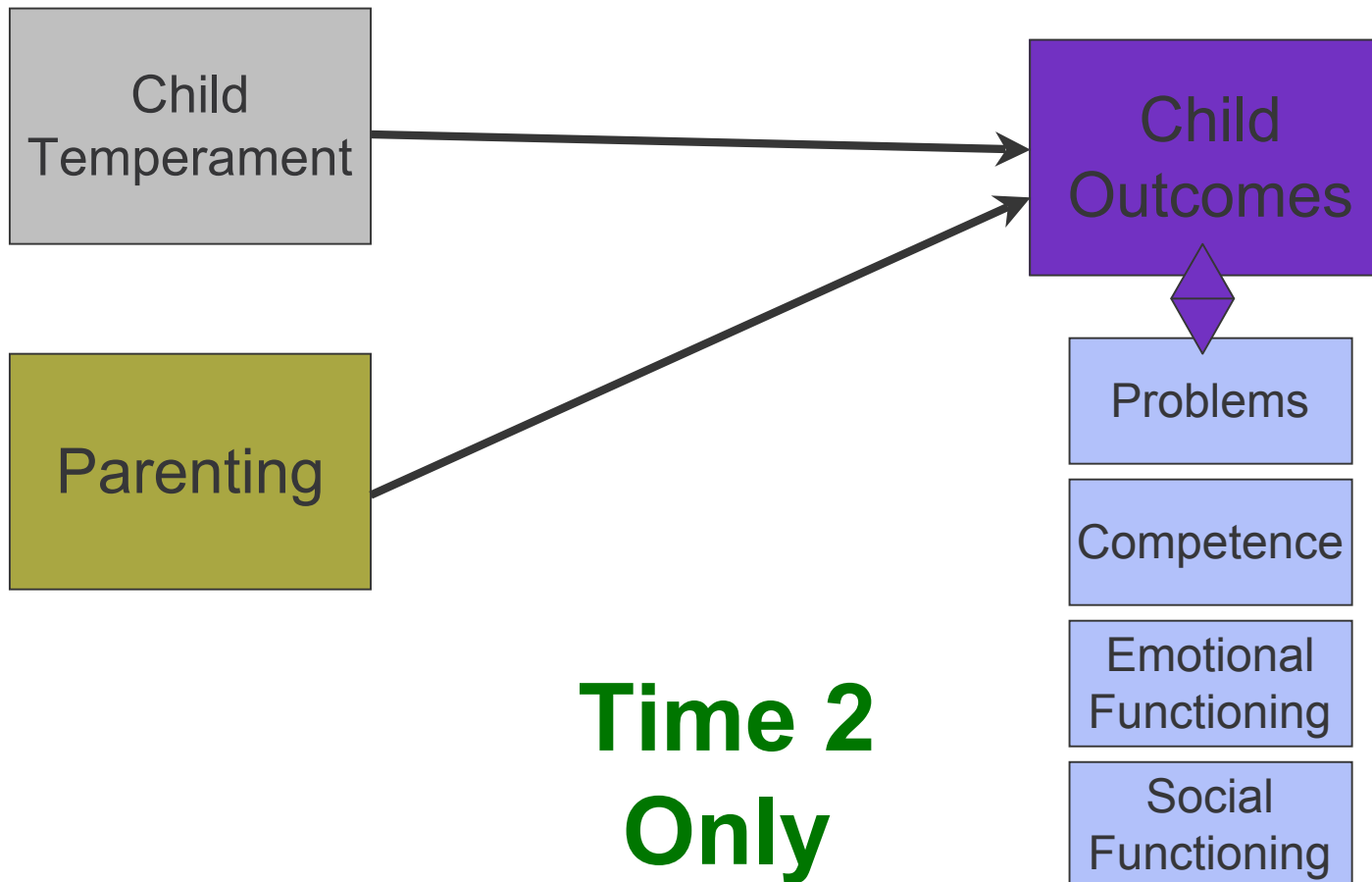
**Parent  
Effects**



**Child  
Effects**

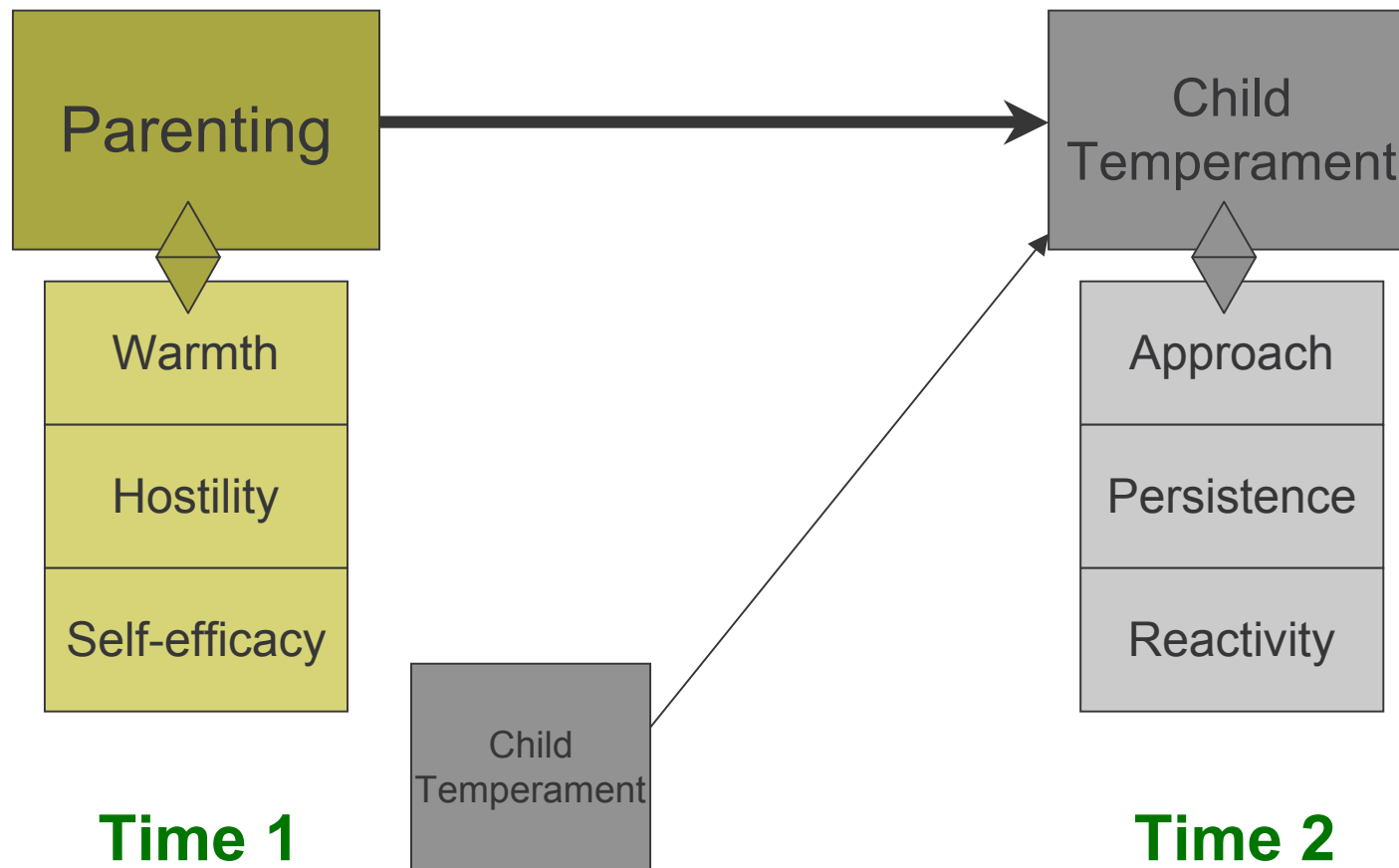
# Study Purpose #1

## Child Outcomes



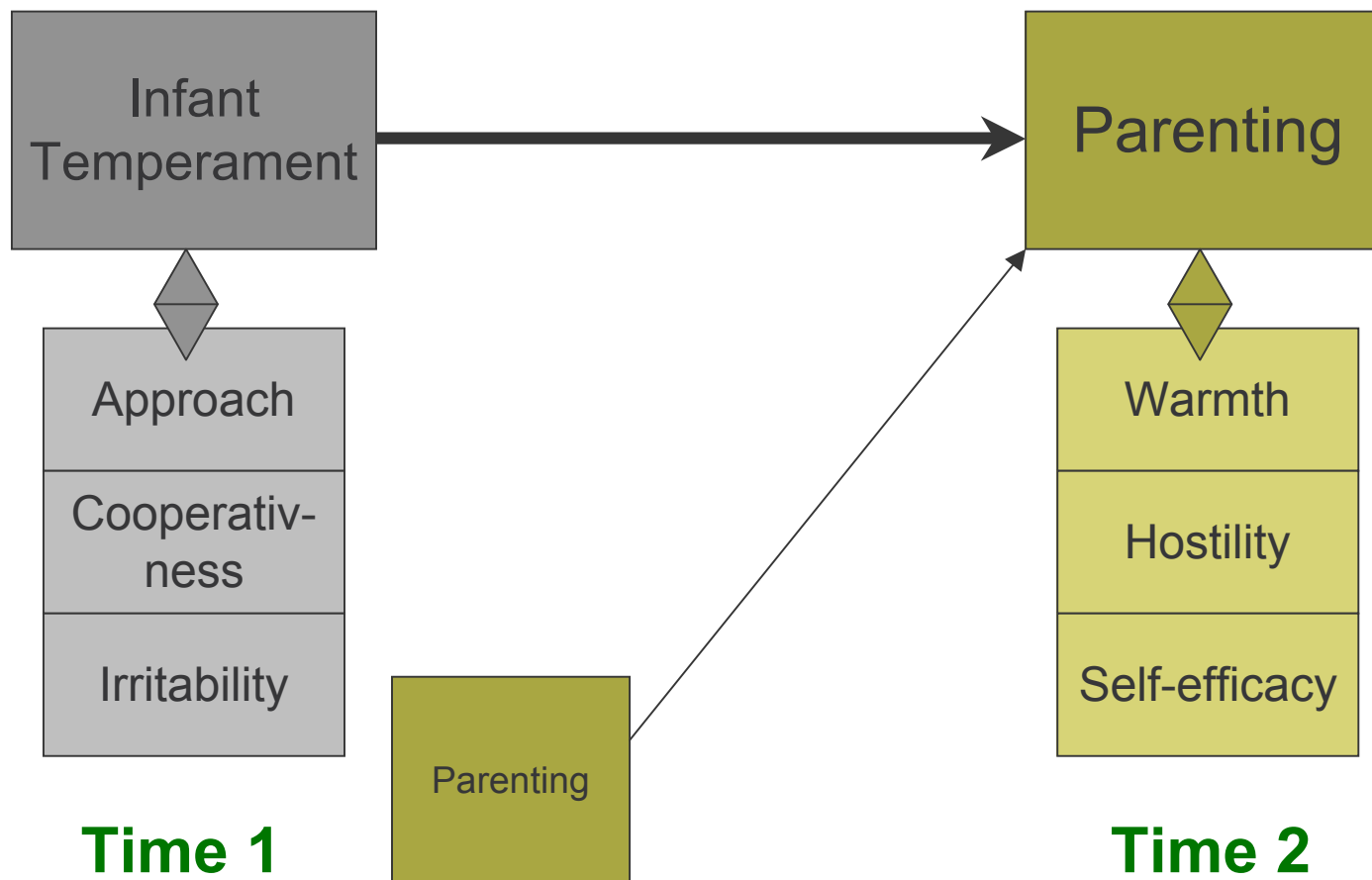
# Study Purpose #2: *Parent Effects*

## The Effect of Parenting on Temperament



# Study Purpose #3: *Child Effects*

## The Effect of Infant Temperament on Parenting



# Method – Baby Cohort

- $N = 3275$  participants (64% of original 5107)
  - Loss to follow-up
    - Loss of  $n = 501 \rightarrow N = 4606$ .
    - Another 1331 missing more than 2 measures.
    - $n = 3126$  missing no measure,  $n = 109$  missing one measure, and  $n = 40$  missing two measures.
- Parent #1 data
  - 3234 (99%) women
  - 3268 reporting on biological child
  - Age 15 to 55,  $M = 31.8$  years ( $SD = 5$  years)
- Infant/child data
  - Time 1: age 3 to 18 months,  $M = 8.8$  months ( $SD = 2.5$ )
  - Time 2: age 27 to 46 months,  $M = 33.8$  months ( $SD = 2.8$ )
- Time lag
  - 19 to 35 months,  $M = 25.0$  months ( $SD = 1.8$ )

# [ Method - Measures ]

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- Parenting
  - Self-efficacy scale; standardised, T1  $\alpha = .82$ , different items at Time 1 and 2
    - Time 1: keep amused, calm, busy, routine
  - Warmth, 6 items, T1  $\alpha = .89$ 
    - Physical affection, hugs, express happiness, warm encounters, enjoy, close when happy/upset
  - Hostility, 5 items, T1  $\alpha = .82$ 
    - Angry, shout, get on nerves, lose temper, leave alone when upset

# [ Method – Measures, cont. ]

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- Temperament
  - Infant, Time 1
    - Approach
    - Cooperativeness
    - Irritability
  - Child, Time 2
    - Approach
    - Persistence
    - Reactivity

# [ Method – Measures, cont. ]

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- Child Outcomes (Time 2)
  - Brief Infant-Toddler Social and Emotional Assessment
    - Problems
    - Competence
  - Pediatric Quality of Life Inventory
    - Emotional
    - Social

# [ Method – Measures, cont. ]

- P1 mental health, stress and relationships
  - P1 anxiety, 2 items, T1  $\alpha = .60$  (r)
    - Felt nervous, felt restless/fidgety
  - P1 depressive symptoms, 4 items, T1  $\alpha = .82$  (r)
    - Hopeless, everything an effort, sad worthless
      - Anxiety, depressive symptoms:  $r = .59$
  - Difficulty of life at the present, 1 item
  - Level of coping, 1 item
  - Argumentative relationship scale,  $n = 3056$ , T1  $\alpha = 1.00$ 
    - Arguments, aggression
  - T1 Hendrick relationship satisfaction scale,  $n = 3060$ , T1  $\alpha = .99$
  - T2 Happiness with relationship,  $n = 3002$

# [ Method – Measures, cont. ]

- Covariates (Time 1)
  - Number of people in home
    - $M = 4$  ( $SD = 1.1$ ), range 2 to 13
  - P1 average daily alcohol use
    - $M = .38$  ( $SD = .58$ ), range 0 to 5.5
  - LBW, < 2500 grams
    - 4.9%
  - Child sex and age

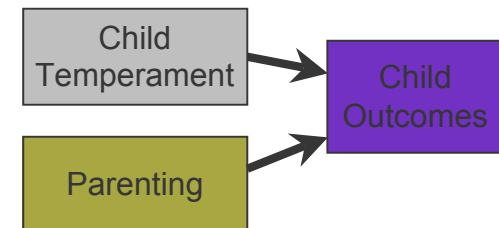
# [Analyses]

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- Correlations, hierarchical regression modeling, structural equation modeling

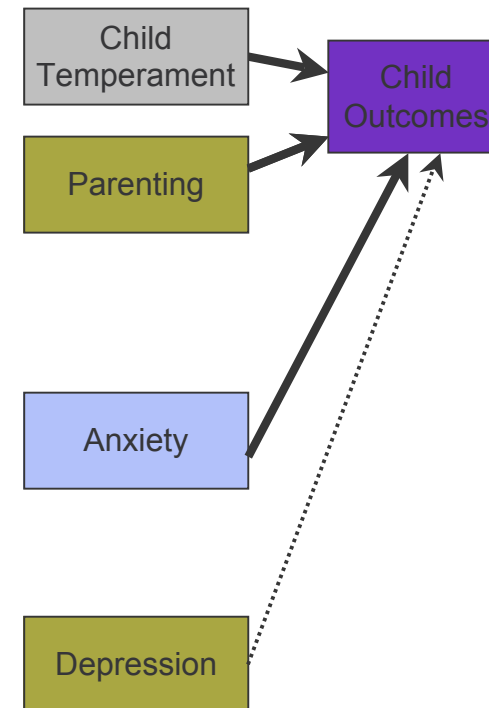
# Results – Child Outcomes

- After accounting for child temperament
  - Child outcomes were associated with parenting, P1 mental health (esp. anxiety), P1 stress and coping, and an argumentative couple relationship.



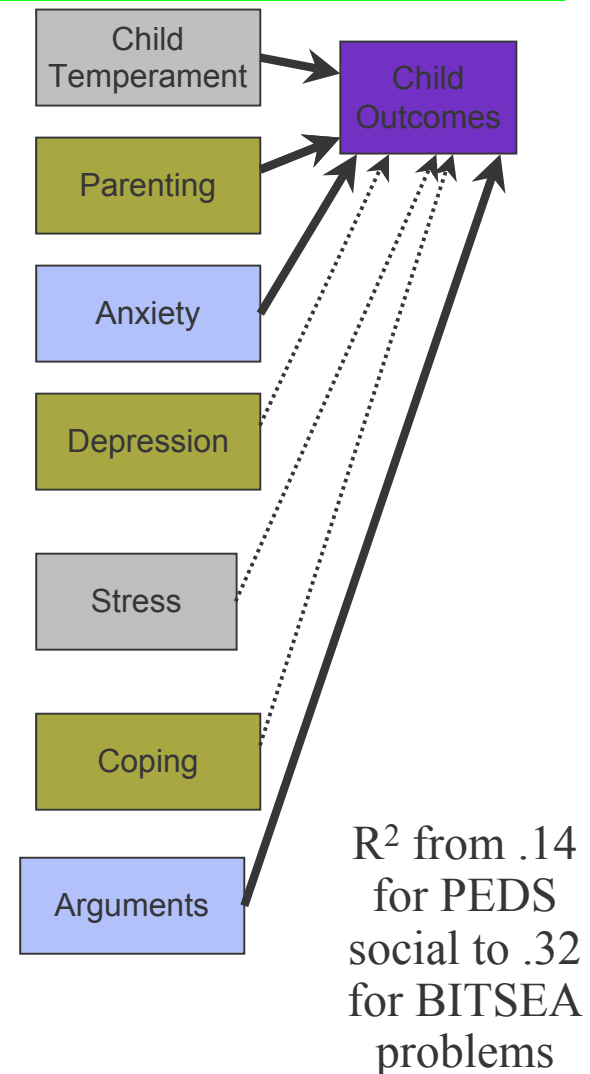
# Results – Child Outcomes

- **Step 1:** Each child outcome was associated with each of the three Temperamental factors
  - $r$ 's from .08 to .40 (absolute value)
- **Step 2:** Significant unique variance in each child outcome was accounted for by P1 Warmth and Hostility, 1.8% to 4.0%
  - Warmth:  $r$ 's from .07 to .20 (abs. value)
  - Hostility:  $r$ 's from .04 to .18 (abs. value)
- **Step 3:** Even more unique variance in each child outcome (except competence) was accounted for by P1 Anxiety
  - $r$ 's from .14 to .15 (abs. value)
- **Step 3:** Additional unique variance in 1 child outcome (problems) was accounted for by P1 Depression,  $r = .11$



# Results – Child Outcomes

- **Step 4:** More unique variance in 2 child outcomes (competence and emotional functioning) was accounted for by P1 Difficulty in life
  - $r = .08$  and  $-.06$
- **Step 4:** Additional unique variance in 1 child outcome (competence) was accounted for by P1 Coping
  - $r = .06$
- **Step 4:** Additional unique variance in each child outcome was associated with P1 Argumentative couple relationship
  - $r^2$ s =  $.04$  to  $.09$  (absolute value)
- **Step 4:** No child outcome was associated with P1 Couple relationship happiness



# [ Results – Change over Time ]

- Parenting
  - Warmth and hostility increased over time
    - Paired  $t(1,3273) = 9.4$  and  $46.4$ , both  $p < .001$
    - Time 1 to 2,  $r = .46$  and  $.32$
  - Self-efficacy – some stability over time
    - Time 1 to 2,  $r = .27$
- Infant/Child temperament
  - Approach decreased over time
    - Paired  $t(1,3273) = -42.3$ ,  $p < .001$
    - Time 1 to 2,  $r = .30$

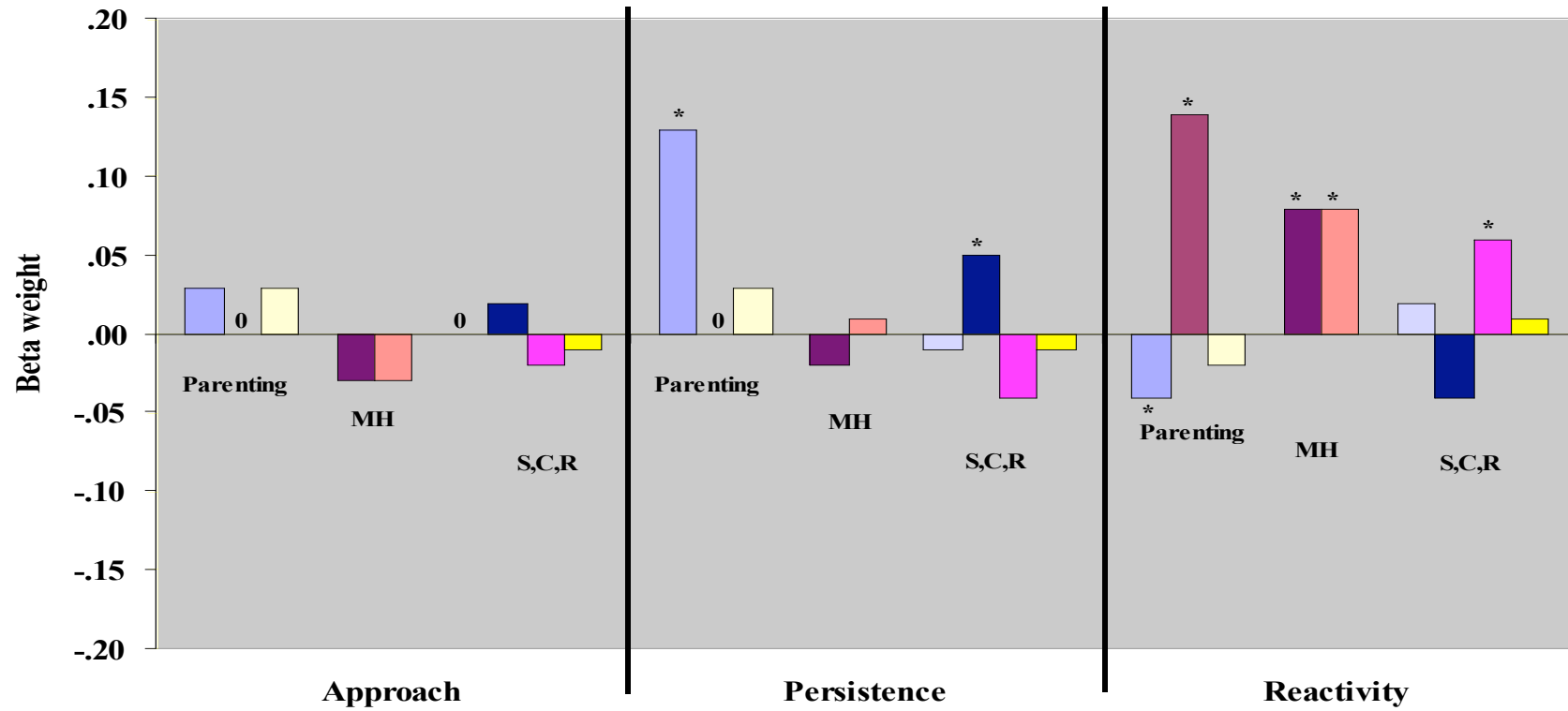
# Results – Change over Time

- P1 mental health
  - Anxiety and depressive symptoms decreased
    - Paired  $t(1,3273) = -7.5$  and  $-9.2$ , both  $p < .001$
    - Time 1 to 2,  $r = .43$  and  $.40$
- P1 stress did not change
  - Time 1 to 2,  $r = .42$
- P1 coping increased
  - Paired  $t(1,3273) = 10.5$ ,  $p < .001$
  - Time 1 to 2,  $r = .41$
- P1 argumentative relationship score decreased
  - Paired  $t(1,3273) = -9.1$ ,  $p < .001$
  - Time 1 to 2,  $r = .61$

# Results – Regression (6 models)

- Hierarchical linear regression models with **FOUR** steps each
  - Dependent variables (DVs)
    - 6 of them: Parenting (3), Temperament (3)
  - Independent variables
    - Step 1, Controls
      - Sex, LBW, child age, # people in home, alcohol use, lag between waves, T1 dependent variable
    - Step 2
      - Parenting in the Parent Effects models (temperament as DV)
      - Temperament in the Child Effects models (parenting as DV)
    - Step 3, P1 anxiety and depressive symptoms
    - Step 4, P1 stress (life difficulty), coping and relationship quality (argumentative and satisfaction)

**Parent Effects Model**



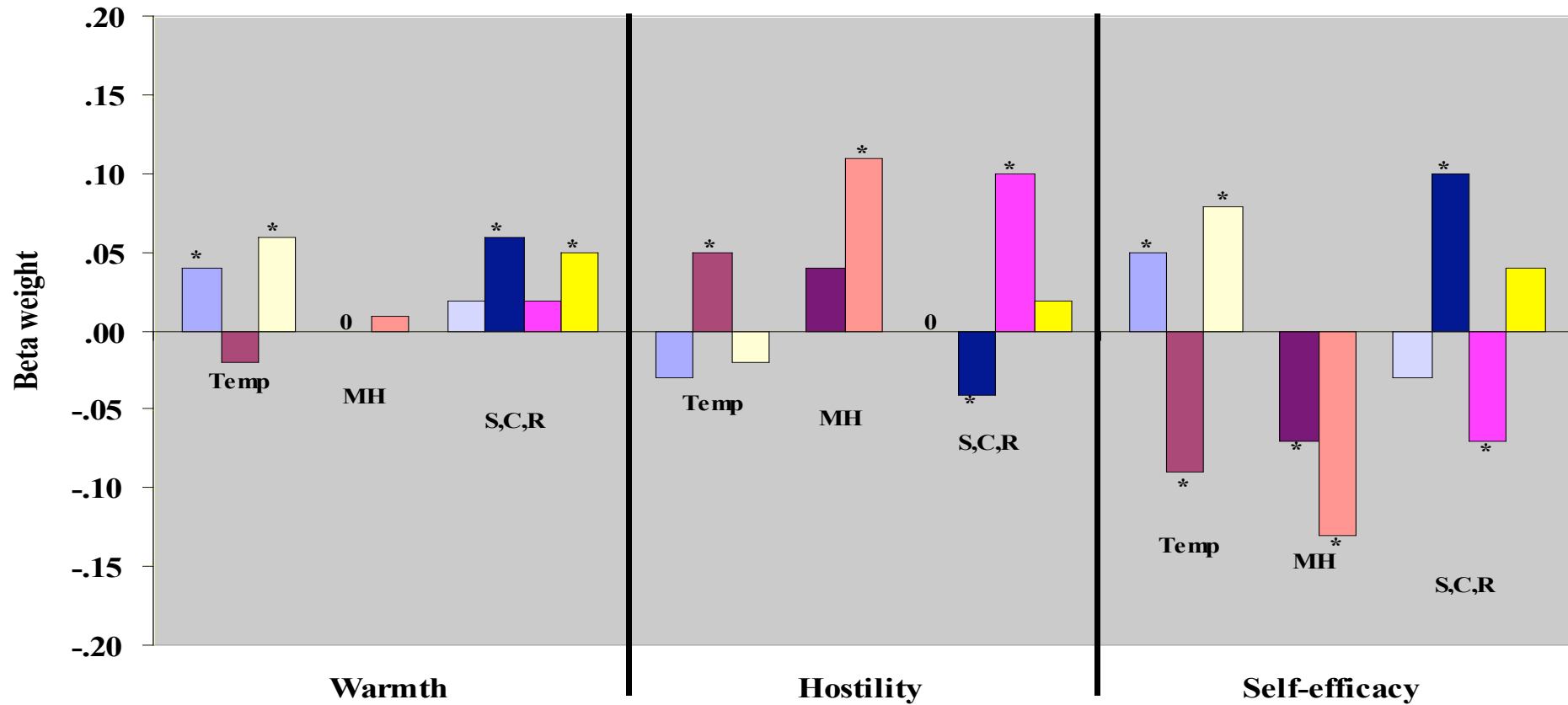
$R^2 = .12$

$R^2 = .09$

$R^2 = .07$

1-2% of variance explained by parenting

### Child Effects Model



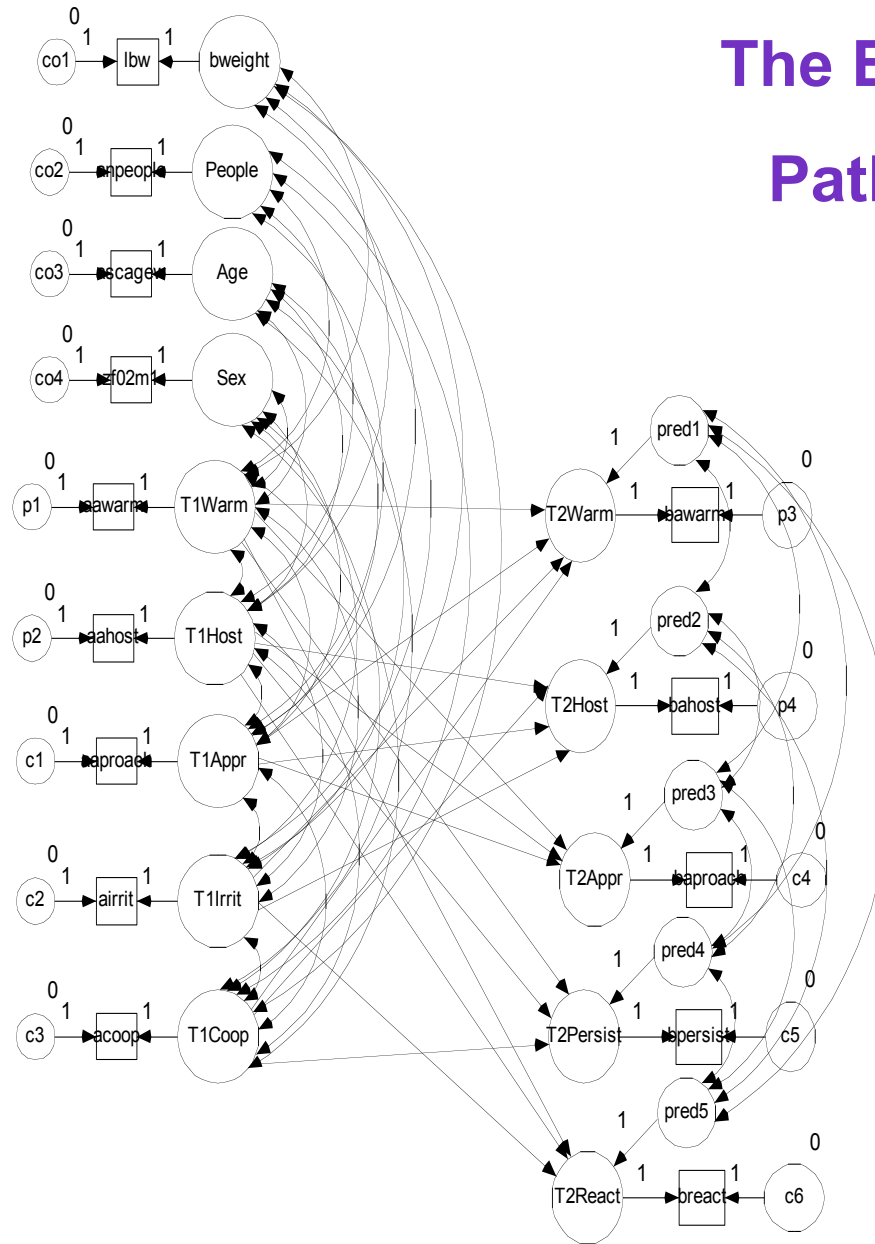
$R^2 = .23$

$R^2 = .14$

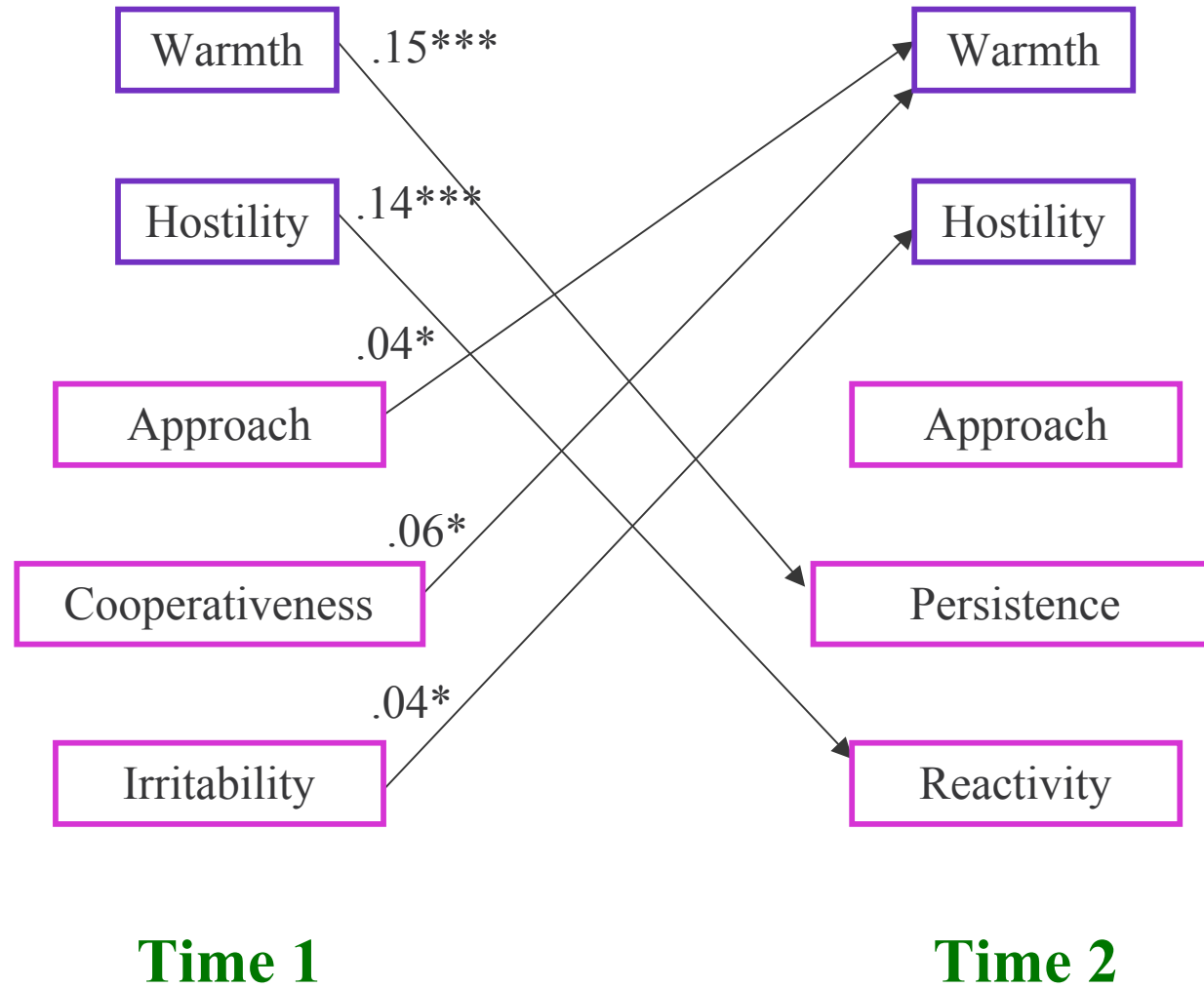
$R^2 = .15$

1-3% of variance explained by child temperament

# The Estimated Path Model



# Key Path Model (SEM) Results



# [ Summary ]

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- Regression results: Earlier temperament has about as much association with later parental warmth/hostility as parenting has on temperament
- SEM results: Parents may have slightly more influence on children than children have on parents
  - But...
    - not all variables in SEM, SEM accounts for within time correlations + bidirectional associations
    - Same items used to assess parenting at time 1 and 2, but different measures for children's temperament

# [ Summary ]

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- Parental warmth and hostility, parent anxiety, parents' stress and coping, and the couple relationship are associated with children's problems and competence
  - Even after adjusting for children's temperament
  - Time 2 data

# [ Limitations/Future Plans ]

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- Interactions between parenting and temperament
  - Threshold – is this what matters?
- Examine other potentially important covariates: e.g., SES, race/ethnicity, parent age, income, education
  - ... findings were similar in some subgroups

# Limitations/Future Plans

## ■ Other parenting dimensions

Table 1

*Six Core Dimensions of Parenting Style and Their Definitions* (adapted from Skinner, Johnson and Snyder, 2005)

Dimension	Definition
Warmth	Expression of love, affection, kindness, enjoyment, and regard. Emotional availability, support, and genuine caring.
Rejection	Expression of active dislike, aversion, hostility, harshness, overreactivity, irritability, and explosiveness. Overt communication of negative feelings for the child including criticism and disapproval.
Structure	Provision of information about pathways to reach desired outcomes and expectations for behaviour. Consistent and appropriate limit setting.
Chaos	Non-contingent, inconsistent, erratic, unpredictable, arbitrary, and/or undependable parenting behaviours. Interferes with or obscures the pathways from means to ends.
Autonomy Support	Allowance of freedom of expression and action. Encouragement of the child to attend to, accept, and value genuine preferences and opinions.
Coercion	A restrictive overcontrolling intrusive autocratic style in which strict obedience is demanded.

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*"Your attitude is sucking all the fulfillment out of motherhood."*

Thank  
you!

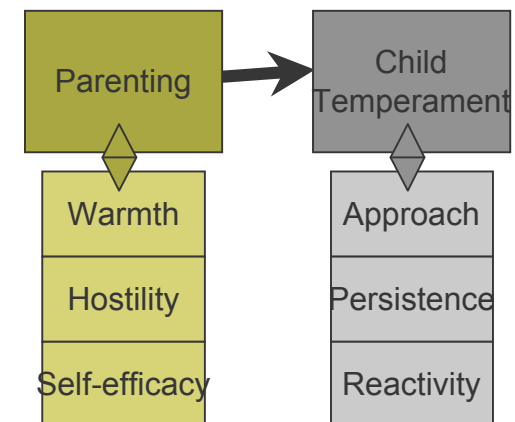
[ Thank you! ]

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- For more information, see [www.sdrs.info](http://www.sdrs.info)

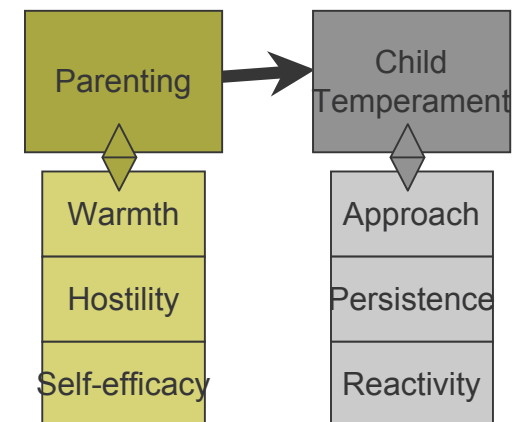
# Results – Parent Effects

- Controls
  - Variance accounted for
    - 11.1% for approach, 7.0% for persistence, 3.0% for reactivity
- Changes in infant **approach** over time
  - After Step 4, accounted for 11.5% of the variance
    - After controlling for approach at time 1 and other control variables, girls had less approach at time 2 than boys, and child age was positively associated with approach at time 2
    - Step 2 - Not associated with parenting
    - Step 3 - Not associated with P1 mental health
    - Step 4 - Not associated with P1 stress, coping or couple relationship quality



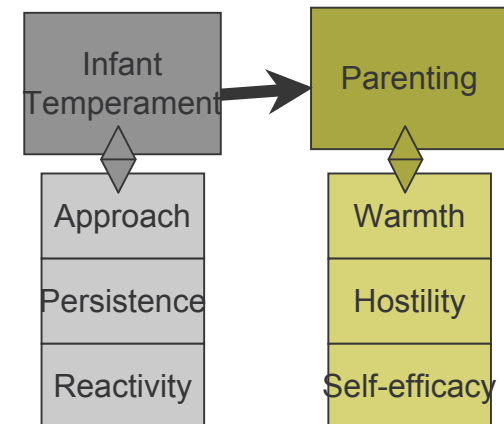
# Results – Parent Effects

- Changes in child **persistence** over time
  - After Step 4, accounted for 9.3% of the variance
    - Warmth associated with increased persistence (.13)
    - Coping associated with increased persistence (.05)
- Changes in child **reactivity** over time
  - After Step 4, accounted for 7.2% of the variance
    - Hostility associated with increased reactivity (.14)
    - Anxiety and depressive symptoms associated with increased reactivity (.08, .08)
    - Argumentative couple relationship associated with increased reactivity (.06)



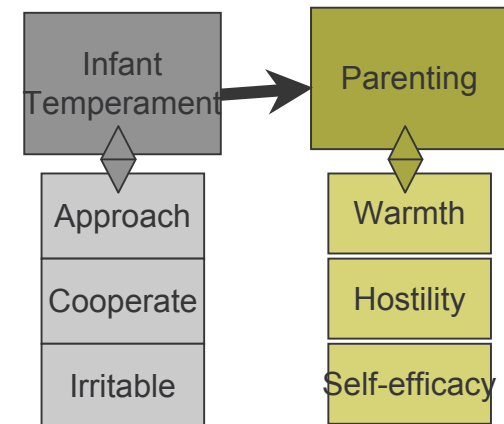
# Results – Child Effects

- Controls
  - Variance accounted for: 21.6% for warmth, 11.1% for hostility, 7.7% for self-efficacy
- Changes in parental **warmth** over time
  - After Step 4, accounted for 22.7% of the variance
    - Infant approach and cooperativeness were associated with increased warmth (.04, .06)
    - Coping and couple relationship satisfaction were associated with increased warmth (.06, .05)



# Results – Child Effects

- Changes in parental **hostility** over time
  - After Step 4, accounted for 14.2% of the variance
    - Infant irritability was associated with increased hostility (.05)
    - Depression was associated with increased hostility (.11)
    - Coping was associated with decreased and argumentative relationship was associated with increased hostility (-.04, .10)



# Results – Child Effects

- Changes in parental **self-efficacy** over time
  - After Step 4, accounted for 14.8% of the variance
    - All temperamental traits were associated with changes in self-efficacy (.05, .08, -.09)
    - Anxiety and depression were associated with decreased self-efficacy (-.07, -.13)
    - Coping was associated with increased and argumentative relationship was associated with decreased self-efficacy (.10, -.07)

