Family Processes and Children’s Self-Regulation

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Prevention Research Center
Broad Research Goal

Family Processes → Children’s Self-Regulation → Children’s Social and Emotional Development
Broad Research Goal

Family Processes
- Marital RQ
- Coparenting
- Parenting
- Siblings
- Whole Family

Children’s Self-Regulation

Children’s Social and Emotional Development
- Behavior Problems
- Prosocial Behavior
Family Systems Perspective

• Dynamic system
• Multiple interacting subsystems
  – Individual, dyadic, triadic, & whole-family
• Whole is greater than the sum of the parts
• Hierarchical organization
• Boundaries that constrain and regulate interaction between subsystems

(Cox & Paley, 1997; Minuchin, 1974)
What is Self-Regulation?

• Conceptualized in multiple ways

• Ability to modulate behavior according to the emotional, cognitive and situational demands of the situation (Derryberry & Reed, 1996; Posner & Rothbart, 2000)

• Self-regulatory system promotes adaptive control observed at interrelated levels (Calkins & Fox, 2002)
Self-Regulation

Conceptualized & measured across multiple levels

- Biological
- Attentional
- Emotional
- Behavioral
- Cognitive

Age

Calkins & Fox (2002)
Self-Regulation

Conceptualized & measured across multiple levels

- Biological
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Age

Calkins & Fox (2002)
Why Does Self-Regulation Matter?

• Deficits in self-regulation
  – Greater levels of behavior problems (Calkins, Gill, Johnson, & Smith, 1999; Eisenberg et al., 2001)
  – Difficulties with peers (Calkins, Gill, Johnson, & Smith, 1999)
  – Greater risk for later psychopathology (Keenan, 2000; Shipman, Schneider, & Brown, 2004)
Factors that Influence Children’s Emotion Reactivity & Regulation

• Child Factors
  – Physiological regulation (baseline RSA, RSA suppression)

• Parental Characteristics
  – Caregivers are critical external factor in emotion regulation because they help children regulate their arousal and emotional states
    • Maternal depressive symptoms
    • Maternal parenting behavior
Emotion Regulation Processes

- Emotion regulation conceptualized as a process (Gross & Thompson, 2007; Calkins & Hill, 2007)
- Encompasses reactive and regulatory dimensions of emotional expressions
RIGHT Track Research Project

• 3 lagged cohorts selected at age 2 (N = 447)
  – Recruited from child care centers and county health departments
  – Racially and economically diverse
  – Approximately equal males and females
  – Overselected for behavior problems (37%)

• Assessed multiple times
  – 2, 4, 5, 7, and 10 years
  – Laboratory, home, and school assessments
Data Analytic Strategy

• Linear Growth Curves using HLM

• Age was centered at 90 months (7.5 years)
  – intercept represents end of growth period

• Coefficients = change in 1-year increments (1st study) change in 1-month increments (2nd study)

• Significant Interactions were plotted at +/- 1 SD from the mean

• Simple slopes were calculated for all interactions

• Imputed missing level-2 data
Research Aims

• Examine trajectories of negative affectivity and surgency from 4 – 7 years of age

• Explore children’s physiological regulation and maternal parenting behavior as level-2 predictors of these trajectories

Measures

• Child Behavior Questionnaire (Putnam & Rothbart, 2006)
  • Negative affectivity and Surgency broad dimensions
• Maternal Parenting Behavior (Winslow, Shaw, Burns, & Kiebler, 1995)
  • Global coding of positive (warmth/responsiveness) and negativity (hostility/strictness/punitiveness)
• Baseline RSA
  • Assessed during a 5-minute video of “Spot” the dog while child sitting quietly
• RSA Suppression
  • RSA Baseline Task – RSA Challenge Tasks = RSA Suppression
  • Positive change scores = vagal regulation

Children’s Trajectories of Negative Affectivity

• Negative Affectivity decreased from 4 to 7 years ($\beta = -.07$, $t = -8.21^{***}$)

• Greater maternal negativity at age 4 associated with higher levels of child negative affectivity at age 7

• Children’s RSA, RSA suppression, Maternal negativity and positivity (warmth and responsiveness) were not associated with changes in negative affectivity over time

Children’s Trajectories of Surgency

• Surgency decreased from 4 to 7 years ($\beta = -0.07$, $t = -7.96^{***}$)

• Higher levels of children’s Baseline RSA at age 4 is associated with higher levels of Surgency at age 7

• Children’s RSA, RSA suppression, Maternal negativity and positivity (warmth and responsiveness) were not associated with changes in surgency over time

Research Aims

• Explore developmental trajectory of emotion regulation from 4 – 7 years

• Do maternal depressive symptomatology and children’s RSA account for individual differences in children’s trajectories of ER

• To examine whether physiological regulation moderates the effect of maternal depressive symptomatology on children’s emotion regulation

Measures

• Emotion Regulation Checklist (Shields & Cicchetti, 1997)
  • Regulation (8 items)
  • 1 = almost always to 4 = never, recoded higher scores better emotion regulation
• The Symptom Checklist -90-Revised (SCL-90-R; Derogatis, 1986)
  • Maternal Depression subscale (13 items); T score to adult nonpatients
  • 68 mothers had T scores above 60 (clinically sig.)
• Assessed at 4 year assessment
• Baseline RSA
  • Assessed during a 5-minute video of “Spot” the dog while child sitting quietly
• RSA Suppression
  • RSA Baseline Task – RSA Sustained Attention Task = RSA Suppression
  • Positive change scores = vagal regulation

Greater maternal depressive symptomatology associated with stable trajectories of emotion regulation (red line)

Coefficient = -.0002, \(se = .00, t = -2.85, p < .01\)

Greater RSA suppression associated with steeper emotion regulation trajectories (red line)

Simple slope = .004, p < .001

Simple Slope = .001, ns

Coefficient = -.003, se = .001, t = 1.97, p < .05

High maternal depressive symptoms & High baseline RSA = decreasing trajectory

Coefficient = -.0001, se = .001, t = 2.66, p < .01

High maternal depressive symptoms & Low baseline RSA = Stable trajectory

Coefficient = -.0001, se = .001, t = 2.66, p < .01

Blandon, Calkins, Keane, & O’Brien (2008) *Developmental Psychology*
Implications

• Maternal psychological functioning important for children’s emotion regulation

• Physiological regulation (indexed by RSA suppression) important for development of emotion regulation

• Children’s low baseline RSA appears to buffer children from some of the negative effects of maternal depressive symptomatology
Factors that Influence Children’s Behavioral Regulation

- Child Factors
  - Age

- Parenting Behavior
  - Mothers’ and Fathers’ Gentle Guidance
Research Aims

• Explore within-family differences in parenting and children’s committed compliance

• Explore whether maternal and paternal gentle guidance predict children’s committed compliance

• Explore whether the interaction between maternal and paternal gentle guidance predict children’s committed compliance

Blandon & Volling (2008) *Journal of Family Psychology*
Marriage & Child Development Study

• 58 Families
  – 2 year old toddlers, mother, father, & older sibling
  – Younger Sibling (YS) age: 2 years ($M = 27$ months)
  – Older Sibling (OS) age: 5 years ($M = 58$ months)
  – Dyad Gender Composition:
    – 16 girl/girl; 14 boy/boy; 11 boy (older)/girl; 17 girl (older)/boy

• 2 lab visits
  – Marital Observation
  – Family Observation (current study)
Within-Family Approach

• Include both parents and multiple siblings from each family

• Assumptions of Between-Family Designs:
  • Family influences same for each child
  • Mothering and Fathering are similar
  • Sibling’s behavior is similar

• Within-Family Designs:
  • Parent’s parent children differently
  • Sibling’s differ in their response
Observational Coding

• **Parental Gentle Guidance**
  – Control the child’s behavior in a positive rather than a power assertive manner

• **Children’s Committed Compliance**
  – Child was fully engaged in the task directed by the parent and did not need parental intervention to stay on task

• 15-sec intervals for each parent/child dyad
  – (e.g., mother/older sibling, mother/younger sibling)
• Scores = Proportion of intervals behavior occurred
Results: Research Aim 1

Gentle Guidance

- Mothers: 0.43
- Fathers: 0.35

\[ F(1, 54) = 10.92, p < .01 \]

Committed Compliance

- Older: 0.29
- Younger: 0.22

\[ F(1, 54) = 6.93, p < .05 \]
# Results: Research Aim 2

## Older Sibling’s Committed Compliance

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Results: Research Aim 2

Younger Sibling’s Committed Compliance

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Results: Research Aim 3

Younger Sibling’s CC to Father

YS Committed Compliance with the Father

-1 SD, +1 SD

High
Low

Paternal Gentle Guidance

-1 SD Maternal Gentle Guidance
+1 SD Maternal Gentle Guidance

(b = .37, p < .001)
(b = .10, ns)
Implications

• Family factors associated with children’s use of committed compliance differ for older and younger siblings

• How parents work together to parent their children important for understanding differences in the development of children’s behavioral regulation
Factors That Influence Children’s Prosocial Behavior

- Child Factors
  - Difficult Temperament

- Maternal Parenting Behavior
  - Sensitivity

- Marital Relationship Quality
  - Positive marital relationship model prosocial behavior and creates a sense of security for children in their family relationships

Blandon & Scrimgeour (in preparation)
NICHD-SECC Data

• Phase 1 Data (1, 6, 15, 36 month assessments)

• 567 Children (50.3% female)

• 1 month – 36 months

• Families that included both parents living together with the child throughout the study
Measures

• Children’s Prosocial Behavior
  • Cooperation and Concern
  • Coded during peer play session at 36 months

• Maternal Sensitivity
  • Coded during mother-child interaction at 15 months
  • Sensitivity/responsiveness, positive regard for child

• Positive Marital Relationship Quality
  • Love and maintenance scale of the Intimate Relations Questionnaire (Braiker & Kelly, 1979)
Factors that Influence Children’s Cooperation

Positive MRQ (1 mo) → Maternal Sensitivity (15 mo) → Child Temperament (6 mo) → Cooperation (36 mo)

- Positive MRQ (1 mo) to Maternal Sensitivity (15 mo): $r = .300^{***}$
- Maternal Sensitivity (15 mo) to Child Temperament (6 mo): $r = .045^*$
- Child Temperament (6 mo) to Cooperation (36 mo): $r = .012$

Blandon & Scrimgeour (in preparation)
Factors that Influence Children’s Concern

Positive MRQ (1 mo) → .300*** → Maternal Sensitivity (15 mo) → .012 → Child Temperament (6 mo) → .012 → Concern (36 mo)

Blandon & Scrimgeour (in preparation)
Implications

• Differing predictors for different types of prosocial behavior

• Evidence of the early family context indirectly influencing later some types of prosocial behavior
Individual & Situational Characteristics

- Family Processes
- Children’s Self-Regulation
- Children’s Social and Emotional Development

- Individual Characteristics
- Situational Characteristics
Current Research

- Within-Family Approach
  - Mom, dad, 2 siblings (2 – 5 years)
  - Cardiac physiology from all members of the family

- Examining differences in mothers and fathers coparenting behaviors across different contexts

- Examining children’s self-regulation across different contexts
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