**Background**

- Parent-child conflict is a hallmark of the adolescent period and serves as an important context for parental socialization and navigating conflict discussions is a challenge for parents during the transition to adolescence (Martin et al., 2017).
- Under conditions of environmental stress, RSA suppression (reflective of PNS withdrawal) facilitates adaptive responding to environmental demands (Porges, 2001).
- RSA suppression (vagal withdrawal) is associated with sensitive parenting behaviors (Mills-Koonce et al., 2009; Moore et al., 2009).
- Set-shifting supports the ability of individuals to take multiple perspectives and consider alternative approaches, actions, or directions while actively maintaining the task goal (Diamond, 2001).
- This component of EF may serve to reduce rigid response contingencies and allow for greater plasticity in the service of socialization goals.
- Parental attributions characterized by the belief that the child’s misbehavior is intentional have been referred to as 'dysfunctional child-oriented attributions' and are associated with greater use of punitive and overreactive parenting behaviors (Dix et al., 1986).

**Aims:**

- **Hypothesis 1:** Parental difficulties in vagal regulation during conflict would be associated with use of more hostile and insensitive conflict behaviors over time.
- **Hypothesis 2:** Parental set-shifting capacity would moderate these associations such that parental vagal dysregulation and difficulties would be more pronounced for those parents with lower set-shifting capacity.
- **Hypothesis 3:** Dysfunctional child-oriented attributions would mediate this moderating effect.

**Results & Discussion**

- **Fathers and mothers** with dampened HRV suppression demonstrated increases in hostile conflict behavior over time ($\beta = .16, p < .02$ and $\beta = .16, p < .05$ respectively).
- The interaction between HRV reactivity and set-shifting capacity was significant for fathers, but not mother’s hostile conflict behavior over time.
- Simple slope analyses for fathers revealed that the simple slope for poorer set-shifting capacity (+1 SD) was significantly different from zero ($B = 1.71, p < .001$) (Figure 2).
- For fathers with poorer set-shifting capacity, dampened HRV suppression significantly predicted father’s dysfunctional child-oriented attributions at wave 2 ($B = 0.24, p = .02$) (Figure 3).
- A bootstrapping test indicated that mediated moderation was taking place → the combination of dampened HRV suppression and poorer set-shifting capacity predicted more dysfunctional child-responsible attributions and thereby, increases in hostile conflict behavior by fathers between the two waves.

**Discussion**

- Parental difficulties in HRV suppression in the context of parent-adolescent conflict discussions were associated with increases in hostile and insensitive conflict behavior with their adolescent children.
- Set-shifting capacity may operate as a potential individual difference variable with respect to the association between RSA reactivity and fathers’ increased hostile conflict behavior.
- Results supported the role that fathers’ dysfunctional child-oriented attributions regarding the locus of adolescent behavior may play an explanatory role in this moderating effect.
- Consistent with the father vulnerability hypothesis (Cummings et al., 2010).

**Methods**

- **Participants:** 193 families: mothers and their 12-14 year old children (50% female).
  - Median family income ranged from $55,000-74,999.
  - European American (73%)
  - African American (13.5%)
  - Latino (12%)

- **Procedure:** Families visited the laboratory at University of Rochester for two waves of data collection spaced one year apart.

- **Constructs**

<table>
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<tr>
<th>Construct</th>
<th>Method</th>
<th>Measure</th>
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<tr>
<td>Parental Hostile Conflict Behavior</td>
<td>Questionnaire completed by adolescents at Wave 1 and Wave 2</td>
<td>Conflict Behavior Questionnaire (CBQ; Prinz et al., 1979)</td>
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<tr>
<td>Dysfunctional Child-Oriented Attributions</td>
<td>Questionnaire completed by mothers and fathers at Wave 2</td>
<td>Parent Cognition Scale (PCS: Snarr et al., 2009)</td>
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<tr>
<td>Set-Shifting Capacity</td>
<td>Trail Making Task (Strauss et al., 2006) administered at Wave 1</td>
<td>Total time in seconds to complete Part B</td>
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- **RSA Reactivity**
  - Recorded during a 6 minute conflict discussion with parents and their adolescent at Wave 1.
  - Indicated by HRV, calculated using CardioPro Infiniti’s HRV Analysis Module.
  - Created a residualized change score in which RMSSD in the final minute of the task was regressed over RMSSD in the beginning of the task.

**Figure 1. Conceptual Model**

**Figure 2.** HRV Reactivity-X. Set-Shifting Capacity Interaction on Changes of Father Hostile Conflict Behavior. Dashed line represents non-significant slope. High and low HRV reactivity were calculated at +1/−1 standard deviation from the mean. Low HRV reactivity referred to dampened HRV suppression during parent-adolescent conflict discussion.

**Figure 3.** HRV Reactivity-X. Set-Shifting Capacity Interaction on Wave 2 Dysfunctional Child-Oriented Attributions for Fathers. Dashed line represents non-significant slope. High and low HRV reactivity were calculated at +1 standard deviation from the mean. Low HRV reactivity referred to dampened HRV suppression during parent-adolescent conflict discussion.