Child-Reported Temperament Predicts Observed Positive Sibling Relationships

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Background

Studies have shown that sibling relationships are affected by the differences in the siblings' temperament, specifically demonstrating that sibling differences in temperament correlate with increased sibling conflict (McHale et al., 2012; Munn & Dunn, 1989; Stoneman & Brody, 1993). There is little research, however, examining sibling positivity and the impact of temperament on sibling positivity.

Hypotheses

We hypothesized that children lower in activity level and higher in inhibitory control would have a more positive, less conflictual relationship, and that differences in sibling temperament would increase sibling conflict, but not sibling positivity.

Method

Participants and Procedure

Participants were 145 parents and sibling pairs who were part of the ongoing D.U.C.K (Developing an Understanding of Childhood Knowledge) study at Illinois College. All children were between the ages of 4 and 12 years old (49% female). Data was collected in 60–90-minute visits to the laboratory at Illinois College.

Measures

Inhibitory Control was measured by the School-Age Temperament Questionnaire (SATQ; McClowry et al., 2003), taken by the primary caregiver for each sibling. Children also reported on their own inhibitory control on the self-control subscale of the Individual Protective Factors Index (Phillips & Springer, 1992).

Child Surgency was measured using the child's vigor of enthusiasm during a game of balloon volleyball (Goldsmith et al., 2001). This was summed across 10-second epochs for the four-minute task.

Sibling Positivity was measured using a Snack Share task (Goldsmith et al., 2001) in which the children were asked to select one cookie and one juice only, and then left to eat them without any guidance from the experimenter. Positivity in the sibling relationship was measured through duration and intensity of positive emotions along with positively worded commands and cooperation/prosocial behaviors.

Sibling Negativity was measured in the same task by count of negative physical interactions, physical takeovers, negatively worded commands, and verbal conflict. Sibling negativity was also coded during a Toy Share Task (Brody et al., 1992) by counting when the child initiated a negative interaction with the sibling or attempted a physical takeover of the toy.

Results

Controlling for socioeconomic status (family income, primary and secondary caregiver education level), parent depression, and child age and sex; neither sibling differences in parent-report or self-report inhibitory control nor activity level predicted conflict or positivity in the sibling relationship. Additionally, using multilevel modeling to account for clustering, individual child report of inhibitory control and activity level did not predict increased conflict in the sibling relationship.

However, when children had higher individual levels of self-reported inhibitory control, we did observe greater levels of positivity in their relationship; $t(170) = 2.21$, $p = .03$.

Figure 1. Child Surgency

Vigor of enthusiasm was coded as the peak intensity on a 0-2 scale in each 10-second epoch. The variable was normally distributed and ranged from 3-86.

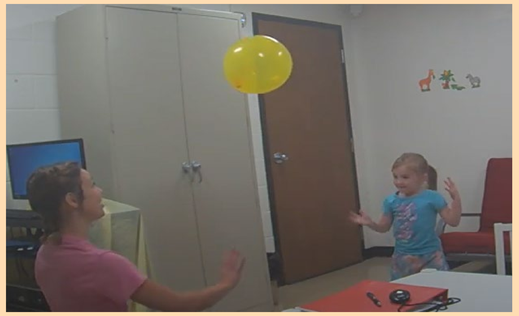

Figure 2. Observed Positivity

Sibling differences did not predict positive relationships; however, when children had higher individual levels of self-reported inhibitory control, we did observe greater levels of positivity in their relationship; $t(170) = 2.21$, $p = .03$.

Figure 3. Observed Negativity

Sibling differences did not predict conflictual relationships; however, when the older sibling had more parent-reported self-control, there were marginally ($p = .06$) more negative behaviors, and when the younger sibling had more parent-reported self control, there were significantly ($p = .04$) more negative behaviors.

Conclusion

Counter to our hypotheses that differences in sibling temperament would increase sibling conflict, sibling differences in temperament were not significant predictors of the sibling relationship. Individual child temperament was significant, with parent-report of child self-control relating significantly to observed sibling negativity. Additionally, child-report of child inhibitory control related to observed sibling positivity.

Additionally, only aspects of inhibitory control predicted the sibling relationship; child surgency did not. This fits with previous research emphasizing the importance of child inhibitory control (Ivanov et al., 2008; Mirabella, 2021).

Interestingly, temperamental differences in siblings did not increase sibling conflict. This finding might make sense regarding non-shared environmental factors within families, which result in siblings often being very different from one another (Plomin, 2011). These results highlight the importance of self-control in sibling relationships. Interestingly, differences in siblings did not increase sibling conflict. More research on the causes and consequences of sibling conflict and positivity is needed.

Strengths and Limitations

A considerable strength of this research design is that it utilizes laboratory observations in addition to parent and child-report of constructs.

A limitation is that the measurement of child surgency was indexed by one code (vigor of enthusiasm). Further research is done with a more nuanced measure of child surgency.

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