CONGRUENCE IN SIBLINGS’ PUBERTAL MATURATION AND SIMILARITIES IN ADOLESCENTS’ RISKY BEHAVIORS

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Brothers and sisters often collude and engage in shared activities and behaviors
(Bullock & Dishion, 2002)

Adolescent siblings demonstrate similarities in rates of risky behaviors, especially when they are close-in-age
(Samek & Rueter, 2011)

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Brothers and sisters often collude and engage in shared activities and behaviors (Bullock & Dishion, 2002). Puberty may be a more salient measure of developmental similarities. These patterns of findings are often explained by shared environmental factors, such as increased social connections.
Puberty

Timing is largely genetic

Morphological, physiological, and behavioral changes

Greater risky behavior
PUBERTY AS A CONTEXT FOR SIBLING RELATIONSHIPS

Siblings have similar patterns of pubertal timing (Ge et al., 2007)

Similarities in treatment (Rose et al., 1990)

Greater time with siblings’ peer groups (Tucker, McHale, & Crouter, 2008)
CURRENT STUDY

Greater Similarities
Greater Shared Time
Gender Differences

Puberty
Aim 1: To examine whether congruency in siblings’ pubertal status moderated the associations between siblings’ risky behaviors controlling for chronological age-spacing.
Aim 2: To examine whether associations were moderated by gender composition (i.e., older brother-younger sister, older sister-younger brother, sister-sister, and brother-brother)
Participants

- Participants were drawn from the *Penn State Family Relationships Project* and included parents and two offspring from 393 families, with two annual waves of data.
- At Time 1, older and younger siblings averaged 15.71 (SD = 1.07) and 13.18 (SD = 1.29) years of age, respectively.
- Sibling gender constellations were distributed evenly: older sister-younger sister, $n = 92$; older sister-younger brother, $n = 93$; older brother-younger sister, $n = 94$; older brother-younger brother, $n = 100$.
- 99% of families were White and working to middle class ($M = \$72,807$, $SD = \$41,090$).

Procedure

- Home interviews were conducted annually with mothers, fathers, and first- and second-born offspring.
Eccles and Barber’s (1990) 18-item index. Youth rated the frequency they engaged in risky behaviors on a scale from 0 (never) to 3 (more than 10 times).
Pubertal Development Scale, using a scale from 1 (not begun) to 4 (seems complete), youth rated specific physical changes (Petersen et al., 1988)
RESULTS

Older Brother – Younger Sister

[Graph showing the relationship between Older Siblings’ Risky Behavior Time 1 and Younger Siblings’ Risky Behavior Time 2. The graph includes lines for different conditions:
- Black dotted line: High Incongruency (Younger Sibling More Mature)
- Grey line: Congruent
- Green line: Average Incongruency (Older Sibling More Mature)
- Black line: High Incongruency (Younger Sibling More Mature)

Key values are marked on the graph:
- B = .64 (***
- B = .45 (**
- B = .29 (*
- B = .10

The x-axis represents Older Siblings’ Risky Behavior Time 1, with categories for Low (-1 SD) and High (+1 SD). The y-axis represents Younger Siblings’ Risky Behavior Time 2, with values ranging from 0 to 16.)
RESULTS

Older Sister – Younger Sister

![Graph showing the relationship between older siblings' risky behavior time 1 and younger siblings' risky behavior time 2. The graph includes lines for Congruent, Average Incongruency (Older Sibling More Mature), and High Incongruency (Older Sibling More Mature). The slopes for each category are labeled with B values: B = .87*** for Congruent, B = .41*** for Average Incongruency, and B = -.09 for High Incongruency.]
RESULTS

• For older sister-younger brother dyads, there was no association between their risky behaviors; for brother-brother dyads pubertal status was not impactful.

• In all models, smaller age differences remained significantly associated with younger sibling risky behavior.
DISCUSSION AND LIMITATIONS

- Interactions with gender composition revealed this pattern was stronger for younger sisters.
  - Sharing peers with older siblings (Rowe & Gulley, 1992)
  - Similar treatment by parents and other adults
  - Characteristics associated with sex (McMillian et al., 2018; Giletta et al., 2012; Kretchmer et al., 2018)

- Future studies should seek to replicate these findings in a more diverse sample, especially given differences in pubertal timing as a function of race (e.g., Obeidallah et al., 2000)

The consideration of pubertal congruence as an equally, or even more, salient context than sibling age-difference is novel and has implications for our understanding of the links between siblings’ behaviors and relationships during adolescence.
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