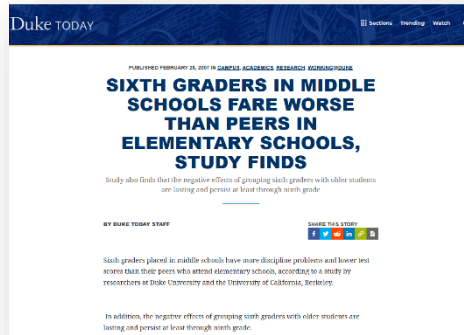


Critical Review: Cook et al. (2008), *The Negative Impacts of Starting Middle School in Sixth Grade*



Overview The image shows a headline from a [Duke Today article](#) (2007) highlighting results from an earlier working paper, *Should Sixth Grade Be in Elementary or Middle School? An Analysis of Grade Configuration and Student Behavior*, which was not published in a peer-reviewed journal. The discussion that follows critiques the later peer-reviewed article that builds on this line of research. This critique does not question the value of the study itself; rather, it argues that some of the causal claims and policy conclusions extend beyond what the observational data can firmly support.

A More Responsible Interpretation The study identifies an association between sixth-grade placement in middle school and higher rates of recorded disciplinary infractions. However, discipline referrals are not direct measures of student behavior and may also reflect differences in reporting

practices, disciplinary structures, staffing models, and institutional norms across school types. Although the paper occasionally acknowledges these limitations, portions of the discussion move beyond the available evidence by attributing outcomes to speculative mechanisms such as “peer contagion,” exposure to older students, and middle school culture without directly measuring those constructs. As a result, some policy conclusions extend beyond what the data can firmly support.

Key Strengths

1. Published in a respected, peer-reviewed journal and conducted by quantitative researchers affiliated with major research institutions.
2. Uses a large statewide administrative dataset and attempts to statistically control for demographic and district differences.
3. Raises important questions about how school transitions and organizational structures may shape student experiences during early adolescence.
4. Acknowledges several methodological limitations, including constraints associated with observational non-experimental data.

Key Considerations & Concerns

Bottom Line: The study raises important questions, but several conclusions extend beyond what the data can firmly support.

1. Discipline referrals are not the same thing as actual student behavior. The study treats discipline referrals as direct measures of student behavior, even though the authors acknowledge that middle schools may use more formal or stringent disciplinary practices while elementary schools often respond more informally. Despite noting these differences, the article largely interprets referral rates as direct indicators of misconduct. In reality, discipline data are shaped by school norms, adult perceptions, and reporting practices, and may reflect stricter enforcement, increased documentation, departmentalized staffing structures, or more adult-student interactions rather than higher levels of student misbehavior.

2. The article repeatedly implies causation from observational data. Examples include: “moving sixth grade out of elementary school appears to have had substantial costs”; “placing sixth grade in middle school increases behavior problems”; “negative influence of middle school”; “exposure to older peers has persistent negative consequences”. The researchers found an association between sixth-grade placement and discipline outcomes, but students were not randomly assigned to schools. Because districts choose their own school configurations, other differences between schools and communities could also help explain the results. Authors themselves acknowledged several other variables they did not measure.

3. The article relies heavily on deficit-oriented assumptions of adolescents without *directly* measuring those qualities as variables in their models. The paper repeatedly frames older adolescents as inherently dangerous influences: “bad influence”; “deviant contagion”; “delinquency”; “appreciative audience for rowdy behavior”. These are speculative mechanisms, not measured variables. Aspects to quantify could have been bullying, peer influence, peer-age exposure, exposure to drugs, gang recruitment, supervision quality, teacher relationships, school climate. Yet these speculative narratives are treated as plausible explanations throughout the discussion. This creates a strong “story” that exceeds what the data can establish.

4. Middle schools differ from elementary schools in many ways besides age grouping. The study cannot separate the effect of older peers from other major differences such as: larger school size; departmentalized schedules; different staffing models; tracking/grouping; instructional practices; transition stress; different discipline systems; leadership quality; parental advocacy; or community expectations. Middle schools may differ from elementary schools in *many ways* simultaneously. The study cannot determine which factor matters most.

5. Baseline differences and overstated persistence of effects. The students compared in the study were already different before sixth grade, with the middle school group starting out higher-achieving and from more advantaged family backgrounds. Higher starting socio-economic status doesn’t fix selection bias, it just shows the groups were different to begin with, not that the school structure caused the outcomes. In fact, the authors point to this baseline advantage as a reason to expect *better* outcomes for the middle school group, which would make any later decline appear even more concerning. However, this still doesn’t rule out other explanations, since pre-existing differences and unmeasured factors can continue to shape outcomes over time.

6. The policy conclusions generalize beyond what the evidence supports. The study is based on one state (North Carolina) using discipline data from the 2000–2001 school year and does not include contexts such as large urban school districts. The sample also appears to include comparatively fewer high-poverty urban settings than would be represented nationally, limiting generalizability. While the pseudo-longitudinal analysis uses statistical trimming to improve comparability, this approach can only adjust for measured characteristics and cannot fully account for differences in local contexts (peer composition, school culture, or community) that shape student experiences and discipline practices. As a result, even statistically matched schools may still reflect meaningfully different educational environments, limiting how confidently the findings can be interpreted as causal effects of grade configuration. This does not mean the study is without value — only that its conclusions should be interpreted carefully and alongside other research and local context.

Illustrative Examples from Discussion

Is the “infraction rate” (referral) measure truly capturing what we think it is? Measurement of discipline is notoriously hard to do.

These are **fundamental** limitations that critically weaken any causal claims or conclusions. Anything beyond the data can be deemed a “reach” or mere speculation.

These factors (freedom and student-teacher relationships) were not components of this study.

Conjectures, not based on evidence.

We cannot confidently say that the predicted effects between the two groups across all time points were statistically different. They could be due to chance. These were also based on pseudo-longitudinal analyses from one single academic year of discipline data (2000-2001).

DISCUSSION

Taken at face value, our results suggest that the odds of sixth graders incurring at least one infraction are 2.1 times as large if they are in middle school rather than in elementary school. At the sample mean, that is equivalent to an increase of nearly 80 percent in the probability of an infraction (from 16 to 29 percent). To the extent that the infraction rate is a good indicator of the general level of misbehavior and disruption in a school, this effect appears large enough to be worth taking seriously. That conclusion is reinforced by the evidence on EOG scores.

The causal mechanisms that account for the inter-grade patterns of infractions and EOG scores cannot be identified directly from our data. Several differences between elementary and middle school may be relevant. In comparison with elementary school, middle school provides students more freedom and lacks the continuity and close connection provided by having one primary teacher. Most obviously, middle school brings sixth graders into routine contact with older adolescents who are likely to be a bad influence: Older adolescents as a group are more rebellious and more involved in delinquency, sex, illicit drugs, and other activities that violate school rules. Of greatest concern is that the negative influence of middle school on sixth graders appears to linger through ninth grade.

Our results complement the recent finding that school systems that move sixth grade from elementary to middle school experience a 1–3 percent decline in on-time graduation rates (Bedard & Do, 2005). We conclude that placing sixth grade in middle school increases behavior problems and reduces academic performance, both in sixth grade and subsequently. It is entirely plausible that these effects could have the effect for some students of leading to retention in grade or dropout. Together these findings cast serious doubt on the wisdom of the historic nationwide shift to the middle school format.

Of course, the results reported here are not based on random assignment, which leaves open the possibility that the true causal process has not been adequately identified. (The consistency and strength of the findings suggests otherwise.) It also should be noted that the analysis is based on data that are limited in time and place, and in particular do not include any large cities.

Critique of Cook et al. (2008), The Negative Impacts of Starting Middle School in Sixth Grade

The diagrammed excerpt is drawn from the peer-reviewed journal article published by the same policy researchers who authored the earlier non-peer-reviewed Working Paper cited in *Duke Today*: Cook et al. (2006), *Should Sixth Grade be in Elementary or Middle School? An Analysis of Grade Configuration and Student Behavior*.