Understanding a Vicious Cycle: Assessing the Effect of Discipline on Student Outcomes in a World of Potential Reverse Causality

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There is much discussion in the United States media about high rates of exclusionary discipline (suspensions and expulsions), particularly for students of color, and the school to prison pipeline. As a result, many large urban school districts have made or contemplated changes to exclusionary discipline policies. Zero-tolerance policies and exclusionary discipline practices, such as expulsions and suspensions, are associated with lower academic achievement, school dropout, and involvement in the juvenile justice system. In some cases, school suspension predicts higher rates of misbehavior and suspensions in the future.

Since most of the previous research is correlational and descriptive, we need more rigorous, causal research on the effect of exclusionary discipline on student outcomes in order to make government and school policies more effective. This is no easy task, however, because of the great potential for reverse causality. It is unclear whether disciplinary issues precede and “cause” poor student achievement, or a student whose academic effort is declining, starts becoming a disciplinary issue as a result. It is possible, as well, that another factor in a child’s life causes both a disciplinary issue and an academic issue simultaneously.

This paper has two primary goals:

1. First, we describe the relationship (not necessarily causal) between exclusionary discipline and student achievement using seven years of student-level data on all Arkansas public school students, including demographics, literacy and math test scores, and detailed disciplinary infractions and consequence records.
2. Second, because we have individual data for such a long time period, we then compare various methods (described below) used to understand this complicated relationship. While we do not claim to measure the causal effect of exclusionary discipline on student achievement, we compare the results of various methods to test their usefulness or reliability overall.

This paper covers three main types of descriptive analyses. First, we utilize student fixed effects to assess the impact that receiving exclusionary discipline has on a student’s achievement test score trajectory. Student fixed effects essentially control for student time-invariant unobservable characteristics, but is still limited by the fact that time-varying student level unobservables may be correlated with the use of exclusionary discipline as well as with student achievement. Second, we utilize a matching strategy to compare academic outcomes for students who received exclusionary discipline and students who did not receive exclusionary discipline in a given year with the same or similar observable characteristics (race, free-and reduced-price lunch eligibility, gender, special education status, English language learner status, and grade level). Ideally, this strategy can match students to similar students in the same or similar schools, with
similar disciplinary history. Third, we utilize a pooled ordinary least squares model to describe the correlation between exclusionary discipline and academic outcomes, with robust standard errors, clustered at the student level.

Comparing the results of this method, we discuss the benefits and limitations of each approach, assess what the results from all three methods tell us, and attempt to make recommendations for how research can be used to make government and school policies more effective.