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FRESH STARTS: SCHOOL FORM AND STUDENT OUTCOME

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ABSTRACT:

Seemingly endless tinkering and adjustment of the structure of education in the United States over the past century has led to the adoption of different school forms at different times. Currently the middle school is the dominant form of schooling for the middle years of education; however, the middle school is a relatively new form that replaced the junior high school, which itself replaced previous schooling forms. Despite the rhetoric of policymakers and practitioners, little research has considered what school forms work for what kinds of adolescents across what dimensions. In this article, we show that for both academic and non-academic outcomes, how school systems structure the transition from 8th to 9th grade makes almost no difference. Where differences appear, they are small and point to the benefits of school transitions for providing fresh starts to adolescents in socially difficult situations. The policy implications are correspondingly clear: the optimal school structure for any school district is the one that maximizes building space, reduces crowding, and achieves administrative rationality.

Keywords: school transitions, middle school, K-8 schools, school effects.

INTRODUCTION

What school forms work for what kids? This fundamental question has been the subject of policy discussion for more than a century in the United States, resulting in numerous reforms, supposed enhancements, and alterations to the structure and content of schooling. Since its inception, education in the United States has been marked by constant reform efforts to alter schooling forms, reforms intended, at least rhetorically, to better meet the needs of students, teachers, and society at large[1]. Despite generations of reform and innovation, the question of what benefits and consequences school forms have for students remains largely unexamined. Under the broad heading of "school effects" research, a substantial literature has documented a host of characteristics and features of schools and schooling that are related to teacher and students outcomes. Yet remarkably little attention has been paid to how outcomes are shaped by particular educational forms, such as elementary schools, junior high schools, middle schools, K to 8 schools, and other alternate forms.

This gap in research is strange, given persistent dissatisfaction with educational institutions designed to serve the "middle grades" – those grades corresponding to late childhood and early adolescence. To some degree, this dissatisfaction stems from a tension between the perceived benefits of creating a distinct educational institution to meet the specific needs of emerging adolescents on the one hand and the supposed deleterious consequences of school transitions on the other. In the case of the middle school, both transitions associated with this form – moving from elementary school to middle school and moving from middle school to high school – have been shown to negatively influence student outcomes (see Simmons and Blyth 1987; Ruble and Seidman 1996; Roderick and Camburn 1999). Despite this, no one has directly

[1] Even the introduction of age-graded schooling and the subsequent decline of the one-room school in the mid-nineteenth century was presented as reform designed to enhance educational attainment, here eliminating heterogeneity of ability and maturity of students in a single classroom to "better tailor

examined the extent to which these various forms of schooling – and these transitions – influence student outcomes. Moreover, although much has been made about the negative consequences of school transitions, there has been almost no research comparing changes in outcomes for students of the same grades in different schooling forms.

Previous research on the effects of particular institutions for student outcomes and the effects of schooling transitions have remained largely distinct. In this article, we integrate these disparate literatures by focusing on a simple question that has been largely overlooked in both bodies of research: does schooling form make a difference for student outcomes, and if so, which outcomes and for which students? We consider this question with respect to the timing of the transition to high school, explicitly comparing student outcomes for those attending schools that require a change of school in moving from eighth to ninth grade with those who move from eighth to ninth grade within the same school. To anticipate the central findings, we show that school form does not matter much, that some kids benefit from transitions, and that the battles over schooling form are only of rhetorical significance.

PREVIOUS RESEARCH: SCHOOLING FORMS AND TRANSITIONS

The issue of how "best to educate the middle grades" has been particularly vexing for generations of educators. Since the emergence of adolescence as a distinct, socially meaningful phase of the life course in the late nineteenth and early twentieth century, substantial effort and energy have been spent on documenting the kinds of problems that accompany adolescence and striving to develop social institutions to alleviate such problems. In the first decades of the twentieth century, school reformers successfully argued for the reorganization of the twelve years of public education, promoting a six-year school for primary education and splitting the six

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instruction for children's needs and abilities" (Tyack and Cuban 1995). Ironically, mixed age and ability

secondary grades into two three-year components: a junior high school and a senior high school (Cuban 1992). Reformers promoting the junior high stressed the need to provide a tailored education for early adolescents, whose unique needs were believed to necessitate a special school, and to reduce the substantial dropout and retention rates that soared beginning in grades seven and eight (Davis 1924; Lounsbury 1960; Angus, Mirel, and Vinovskis 1988).

Although it was adopted throughout much of the public (and private) education system, even in its early phases there was relatively little satisfaction with the junior high. Almost immediately, critics held that although the junior high may have been based upon solid understandings of adolescents and their needs, it was rarely true to its ideal as implemented. And by the 1950s, there was growing concern that the junior high was a detrimental educational environment (Hansen and Hearn 1971). Stemming from this dissatisfaction, the middle school reform movement emerged in the 1960s. As conceived, middle schools were intended to correct for the most significant shortcomings of the junior high. This new schooling form was specifically designed to improve student performance, and enhance attachment to school, while remaining true to the idea that early adolescents benefit from a distinctive educational environment. However, satisfaction with middle schools has been as limited as that of junior highs. Yet despite increasing criticism, the middle-school movement remains strong. In the past decade, the number of middle schools has increased by 41 percent, with a corresponding decline in the number of junior high schools (U.S. Department of Education 2001).

While middle schools (typically grades 6-8) are currently the modal form of schools for middle grades education in the United States, the variety of alternate forms testifies to a legacy of dissatisfaction, experimentation, and adoption of reform. Moreover, policymakers continue to seek solutions for the perceived shortcomings of middle grades schooling forms. Yet such efforts

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classrooms are the vogue among reformers.

are conducted in the absence of knowledge about the relative costs and benefits of any particular form. Although numerous studies have documented negative student outcomes in the middle grades and argued that such results stem from schooling form, there has been almost no direct comparison of how different forms influence student outcomes. In 1974, Martin introduced the *Report of the National Panel on High Schools and Adolescent Education* by stating, "Surprisingly, we found no research with significant findings to substantiate one organizational pattern over another" (cited in Blyth, Simmons, and Bush 1978). Little, if any, research has addressed this gap in the thirty years since the comment was made. We simply do not know whether particular configurations of grades influence what happens to students in school.

This persistent absence of attention to schooling form is all the more striking in view of the periodic attention in scholarly research and education policy. Writing in the late 1970s, Blyth, Simmons and Bush argued for the benefits of studies comparing different forms, stating that, "few studies have provided comparative data on the effects of making such a transition at different age levels or within different schooling structures" (1978: 150). Blyth and his colleagues (1978) answered their own call in one of the few studies that directly compares different schooling forms. Examining a cohort of sixth graders in K-6 and K-8 schools as they make the transition to seventh grade, they found differences in the social and academic realms. Sixth graders in K-8 schools were more influenced by their peers and oriented toward the older students in the school, while those in K-6 schools were more academically oriented and had a greater sense of responsibility. More recently, Anderman (2002) found that students who attend K-8 or K-12 schools in the middle grades have better psychological and academic outcomes than their peers in middle schools.

Despite this and the findings from other studies, the lack of research comparing school forms has not hindered education reformers' efforts to change schooling forms, particularly to

eliminate middle schools. Presently, a number of the nation's largest districts have undertaken reforms to overhaul or eliminate their middle schools. For example, the School District of Philadelphia began in 2003 to reduce the number of middle schools in the district, converting them to small high schools and K-8 schools (School District of Philadelphia 2003). Similarly, the New York City public schools recently announced plans for a major structural shift in which as many as two-thirds of the city's middle schools may be eliminated (Herszenhorn 2004). Although these reforms are arguably undertaken with the good intentions of helping children, they are undertaken without data or evidence about the effects of such reforms. In the absence of knowledge of how middle schools compare to other schooling forms, such efforts appear unjustified, a policy decision that may benefit children but that is not undertaken for rational reasons.

Why Do School Transitions Matter?

One area of research that indirectly considers the consequences of schooling forms focuses on school transitions, such as the move from elementary to middle school or from middle school to high school. These structurally prescribed moves from one school to another provide a logical site to examine how the change from one schooling form to another influences students. For the most part, research on transitions has found that the move from one school to another is often accompanied by declines in students' well-being or performance in school (e.g., Simmons and Blyth 1987; Eccles, Lord, and Midgley 1991).

With few exceptions, the majority of research on school transitions, either from elementary to middle school or from middle school to high school, has focused on how adolescent outcomes decline following the transition and identifying mechanisms that produce these changes. Following the transition into high school, numerous measures of student

performance plummet. A number of studies have shown that students experience a decline in grades following the transition to high school (Roderick and Camburn 1999; Seidman et al., 1996; Reyes, Gillock, and Kobus 1994; Rumberger, 1987). However, transition effects are not limited to grades alone. Student attendance also drops in the first year of high school, a change that has been linked to changes in the composition of students' peer groups and with the corresponding changes in the normative climate of high school peer groups (Crockett et al., 1989; Felner, Ginter, and Primavera 1982; Reyes, Gillock, and Korbus 1994). Moreover, many students experience a decline in their level of engagement with their schooling, particularly in their relationships with their teachers and with their academic work more generally (Seidman et al. 1996; Reyes, Gillock, and Korbus 1994; Roderick 1993).

The mechanisms used to account for these changes are varied. One line of argument focuses on the loss of positive social connections to teachers and staff that are typically broken in moving to a new school. Moreover, in many school districts, not all students transition into the same school. Attendance patterns may split friendships and ties to other students. From this perspective, the negative impact of the transition arises from the broken ties to teachers and other students that typically accompany a change of school.

The transition to a new school also typically brings changes in the social and academic environment. Tougher teacher standards for academic work, reduced levels of engagement with teachers and course work, and heightened attention to the consequences of performance all accompany the move to high school (Seidman et al. 1994; Eccles, Lord and Midgley 1991). Changes in the organization of instruction often yield difficulties for students, particularly with respect to the introduction of the period-based schedule of the school day, with different teachers for different subjects (Felner and Primavera 1982). These differences in instructional organization have been linked to lower levels of trust, greater emphasis on discipline on the part of teachers

(Midgley, Feldlaufer, and Eccles 1988) and lower levels of connection and engagement for students (Eccles, Lord, and Midgley 1991).

Likewise, the size of instructional unit, whether classroom or school, has been shown to influence student learning and experience (e.g., Lee and Smith 1995; Bryk, Lee and Holland 1993). The findings from Tennessee's Project STAR experiment, show significant benefits of smaller class sizes for student achievement (Finn and Achilles 1999). Similarly, the past decade has seen a number of secondary school reforms that divide comprehensive high schools into smaller academies or schools-within-schools. These reforms are designed to alleviate the negative consequences that stem from the organization of such schools, particularly the high degree of student anomie and disengagement (Fine 1994).

Some research has also argued that he decline in performance and rise in trouble that follows the transition to high school is due to changes in the normative environment of the school. This feature of school climate has been linked to broad set of academic outcomes, such as student grades and the odds of dropping out of school before graduating (Bryk and Thum 1989; Lee and Bryk 1989). Among non-academic outcomes linked to school environment are fighting (Felson et al. 1994), use of alcohol and tobacco (Maes and Lievens 2003), delinquency (Rutter et al. 1979), sexual activity (Teitler and Weiss 2000), and carrying a weapon to school (Wilcox and Clayton 2001). Socially, school transitions necessarily entail moving from membership in the oldest and dominant group in the school's social system to the youngest and lowest-status group[2].

Although the most research on school transitions has focused on the negative consequences of transferring between schooling forms, there are a handful of exceptions. For

[2] The broadest line of argumentation is that transitions are difficult for adolescents. Simmons and Blyth (1987) suggest that the transition to junior high or middle school is particularly difficult because it occurs during puberty. Eccles and her colleagues (e.g., Eccles, Lord, and Midgley 1991) argue that transitions are difficult because students are required to enter a social environment for which they are developmentally unprepared. Consequently, outcomes from such transitions tend to be negative.

example, Schiller (1999) found that students who struggled academically in eighth grade benefited from attending a high school in which the majority of students did not come from their eighth grade school. Kinney (1993) showed that the high school transition is beneficial to many students, especially those who were unpopular in middle school. Similarly, Seidman et al. (1996) found that the transition to high school was marked by increased engagement with peers, although the degree of benefit is contingent on the orientation and norms of the peer group.

Previous research on school transitions has focused largely on school-related outcomes, with some additional work on aspects of students' psychological dispositions. However, the same factors that have been held to negatively influence school outcomes might also influence non-school outcomes. Yet, with few exceptions (e.g., Moffitt 1993) the effects of the transition on non-school outcomes, such as delinquency and substance abuse, have not been explored. In contrast, the public policy debate over school form considers such non-academic outcomes as critical. In fact much of the debate centers on the appropriate form for reducing the incidence of non-normative adolescent behaviors. Consequently, in this article, we consider the effect of school form on both academic and non-academic outcomes.

DATA AND ANALYTIC STRATEGY

In this article, we consider the relationship between school form and a range of academic and non-academic outcomes. In order to do this, we analyze data from The National Longitudinal Study of Adolescent Health (hereafter, *Add Health*). *Add Health* is an ongoing nationally representative school-based study of adolescents in grades 7-12 initiated in 1994. The sample was created using a stratified design, with the primary sampling frame derived from the Quality Education Database, a listing of all high schools in the United States. From the QED, *Add Health* selected a sample of 80 high schools with probability proportional to size, stratified by region,

urbanicity, school type (public, private, parochial), and ethnic mix. For each high school selected, *Add Health* recruited one of its feeder schools with probability proportional to its student contribution to the high school, yielding a school pair. Schools varied in size from less than 100 students to more than 3,000 students. The *Add Health* sample includes private, religious, and public schools from communities located in urban, suburban and rural areas of the country. The schools, and the students in them, are nationally representative samples. Almost 80% of the schools that were contacted by *Add Health* agreed to participate in the study. This multistage sampling design resulted in a final sample of 132 schools in 80 communities.

From September 1994 until April 1995, in-school questionnaires were administered to all students in each school, resulting in data on more than 90,000 students. Each school administration occurred on a single day within one class period. Over 80% of all students completed the questionnaire that provided measurement on the social and demographic characteristics of respondents. Students were asked about the educational and occupational background of parents, their household structure, risk-behaviors, visions of the future, self-esteem, and health status. Students were also asked to nominate their five best male and female friends. School administrators also completed a self-administered questionnaire in the first and third years of the study.

For the second stage of data collection (the Wave I in-home survey), *Add Health* obtained rosters of all enrolled students in each school. From the union of students on school rosters and students not on a roster who completed an in-school questionnaire, *Add Health* randomly selected a sample for the in-home interview. Students who did not participate in the in-school survey were eligible to be selected for participation in the in-home main sample. Consequently, the Wave 1 sample includes students who did not participate in the in-school survey as well as students who had dropped out of school. *Add Health* completed 20,745 Wave 1 in–home interviews, with an

80% response rate. Data collected during the in-home phase of *Add Health* provide measurement on more sensitive health risk behaviors, such as drug and alcohol use, sexual behavior, and criminal activities in addition to detailed measurement of health status, family dynamics, aspirations and attitudes. Follow-up, Wave 2, interviews with adolescents who participated in the first wave of the in-home survey were conducted between April and September 1996. Interviews were not attempted with Wave 1 seniors in *Wave 2*. Over 85% of all eligible Wave I respondents participated in Wave 2, resulting in 14,787 interviews. (For more detail on the study design, see Bearman, Jones, and Udry 1997).

Our study draws upon data collected from those cases interviewed in both the Wave 1 and Wave 2 In-Home interviews. We restrict our analysis to those students who were in 8th grade at the time of the Wave 1 in-home Interview and in 9th grade at the Wave 2 interview. Eliminated from our sample are the handful of cases who were retained in eighth grade. With this restriction, the number of cases for analysis is 1,680. The majority of outcome and control variables are drawn from the wave 1 and wave 2 interviews, though social network data is taken from the in-school instrument and school characteristics are drawn from the school administrator survey.

While all respondents were in the eighth grade at Wave 1 and ninth grade at Wave 2, they attended school in a wide array of educational forms. The modal setting was a middle school comprised of grades six, seven, and eight; however, only 44 percent of our sample attended this form of school in eighth grade. The next-most-common form was a middle school consisting of only grades seven and eight, followed closely by schools containing grades seven through twelve. In all, students in our sample attended eighth grade in one of ten different educational settings, with four of these settings involving a change of schools between eighth and ninth grade.[3] We

[3] Attesting to the diversity of schooling forms in the American public education system, particularly in the middle grades, eighth graders in Add Health attended school in an institution with one of the following grade spans: K-12, K-8, 5-8, 6-12, 6-8, 6-9, 7-8, 7-9, 7-12, and 8-12.

group three of these forms under the heading of middle schools: those containing grades 5-8, 6-8, and 7-8.[4] At the individual level, 70 percent of our sample changed schools in moving from eighth to ninth grade.

In our multivariate analysis, we use weighted OLS and logistic regression procedures, including controls for *Add Health's* stratified sampling design and for the probability of selection for individuals. In these models, we use a common set of predictor variables consisting of respondents' socio-demographic characteristics, experience in school and scholastic ability, and their social ties in the school.

Our models also take advantage of the panel design of the *Add Health* study by controlling for respondents' status on our outcome measures in eighth grade in predicting their ninth grade outcomes. That is, our models predict individuals' status in the ninth grade, controlling for their status on these measures in eighth grade. This control not only allows us to specify more precisely transition effects, but also provides a control for any effects that might have resulted from previous school transitions.

Measures

We examine two sets of outcome measures, one for non-academic outcomes and another comprised of academic outcomes. The four non-academic outcomes are physical fights; use of drugs, alcohol, or tobacco; delinquency; and carrying a weapon to school. The four school-related outcomes we consider are grades in school; school attachment; trouble in school; and college aspirations. The specific survey items we used to create these measures are described more fully in Table 1.

Table 1 about here
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[4] Eliminated from our sample are the 132 students attending six K to 8 schools. These schools were different enough from other schools with a transition from eighth to ninth grade to merit exclusion.

The predictor variables we use in our models are also described in Table 1. The majority of the predictors are dichotomous and based on students' or parents' self-reports. Four of these variables merit additional description. First, the inclusion of the measure for previous grade retention precludes the inclusion of a predictor for age, given the high correlation between the two[5]. Second, our measure of IQ is taken from adolescents' performance on the Peabody Picture Vocabulary Test (PPVT), whose scoring system accounts for the age of the test-taker. Finally, the variables "indegree" and "isolated" are derived from the *Add Health* friendship nomination rosters. Indegree is a measure of the number of students in the school who nominated a particular student as a friend. "Isolated" is a dichotomous variable coded one if the student received no nominations in his/her school and zero otherwise.

RESULTS

Results from these analyses are presented in three sections. The first compares levels of unadjusted outcomes for adolescents who attend eighth grade in a middle school and those who attend eighth grade in another school form. These results document the degree of changes that students in these two forms of schooling experience as they move from eighth to ninth grade. We then examine the effect of the school transition in a multivariate framework, using OLS and logistic regression to gauge differences between these two groups of adolescents. Finally, we examine a series of models with numerous interaction terms to determine whether various individual-level factors exacerbate or dampen the effects of schooling form.

[5] Because our sample is restricted to students in one particular grade at a particular point in time, most of the variation in age is captured by the measure of previous grade retention, in any case.

Bivariate Analysis

We start our analysis of transition effects by examining students' levels of all eight outcomes in both eighth and ninth grade. Negative consequences of the transition should be evident from comparisons of how students fared in eighth and ninth grade, with those making the transition between schools suffering a decline (or greater decline) between those years. The figures presented in Table 2 compare both eighth and ninth grade outcomes

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Table 2 about here

Comparisons of eighth grade levels of non-academic outcomes, presented in the top panel of the table, show that students who attended a middle school in eighth grade had somewhat higher levels of these negative behaviors, relative to their peers in other forms of schooling. A significantly higher percentage of middle school-based eighth graders were involved in a fight in eighth grade, compared with their peers in other schooling forms (37 percent to 29 percent). Similarly, a significantly greater percentage of middle school eighth graders used alcohol, drugs, or tobacco than did eighth graders in other school forms. Interestingly, however, for both of these outcomes the differences for these same students in ninth grade are smaller and not statistically significant. That is, for both fighting and substance usage, the differences between transition and non-transition students is smaller after the move to high school. The only outcome that exhibits the expected pattern with negative transition effects is carrying a weapon to school. A significantly greater percentage of students who changed schools in moving from eighth to ninth grade carried a gun to school in ninth grade, as compared with their peers in other schooling forms.

The lower panel of table 2 shows differences between transition and non-transition students in their academic outcomes for eighth and ninth grade. Unlike the non-academic

behaviors we examine, these two groups of students are nearly identical across these four measures. Students' grade point averages, level of integration with the school, trouble index, and aspirations for higher education vary only by a tiny amount, if at all. Comparing the changes in outcomes between eighth and ninth grades for these two groups also shows little negative effect of the high school transition. Students who move from middle school to high school between eighth and ninth grade experience a decline of .12 grade points, a value only slightly larger than the .10 grade point decline experienced by those who do not make a transition. With the measures of school integration and trouble, although the changes between eighth and ninth grade are small, they are in the opposite direction than theory and previous research would predict. Students who make no transition in moving from eighth to ninth grade experience a greater (albeit not very large) decline in attachment to school, relative to those who change schools in moving from eighth to ninth grade. While the level of trouble increases slightly for those who remain in the same school, there is a small decline for those who make the transition. Lastly, while aspirations for higher education decline modestly for both groups, the amount of decline is greater for those who remain in the same school than for those who experience a transition.

Taken together, Table 2 shows little evidence that students are harmed by making a transition between schools as they move from eighth to ninth grade. Although levels of these activities change as students move from eighth to ninth grade, the magnitude of change is roughly the same for transition and non-transition students. Where statistically significant differences appear between the two groups, they appear before the transition. After moving to ninth grade, these differences are largely diminished. In two of the four non-academic outcomes examined here, statistically significant differences in eighth grade are reduced and become non-significant in ninth. Only for the measure of carrying a weapon to school is there evidence of a negative transition effect. For the four academic measures, only GPA shows evidence of an expected

decline, with students moving from middle school to high school experiencing a steeper decline in grades than those who remain in the same school. But the impact is minimal, and for the other academic outcomes, the transition effect (while minimal) appears positive.

Multiple Regression Analysis

We now examine these differences in a multivariate context, using logistic and OLS regression to investigate whether a greater transition effect is revealed when controlling for potentially confounding individual-level differences of transition and non-transition populations. These models contain a set of predictors that previous research has shown to be influential for the outcomes we examine here. Each model also contains a measure of the eighth grade status of the outcome variable being predicted. Results of this analysis are presented in Table 3.

Table 3 about here

There are a number of features of this table that are worthy of note; however, the most significant finding is in the last row. Here, the coefficients for the presence of a school transition reveal that the transition has a significant impact for only one of the eight outcomes we examine. Only for the measure of whether a student brought a weapon to school in ninth grade is transition a significant predictor. Students who attended a middle school in eighth grade are nearly twice as likely to bring a weapon to school ($e^{.617}$) than their grade counterparts who attended another form of school.

For all other outcomes – including all four of the academic outcomes we examine – the transition has no significant impact. Students who change schools as they go from eighth to ninth grade have a ninth grade GPA that is not significantly different from those who move from eighth to ninth grade in the same school. The same can be said for level of school integration, the

amount of trouble they get in, and their aspirations for future education. These models show that there are a number of factors that are related to ninth grade status on these outcomes. None of these are very surprising. Females are significantly less likely than males to be in a physical fight or to carry a weapon to school. Students with higher measures of IQ have higher grade averages, while those who have been retained have lower grades. However, whether a student changes schools in moving from eighth to ninth grade has little impact on this set of outcomes. So far, we find no evidence to support selecting one school form over another.

Interaction Analysis

In the final stage of analysis, we estimate a series of regression models containing a set of interaction terms, one for each of the predictors included in the models of Table 3. It could be that the effects of school transitions are masked by the models of the previous section. Perhaps it is the case that transition effects are expressed most clearly in specific portions of the school population. Roderick (1993), for example, argues this is the case, suggesting that the transition to high school is difficult for many students but particularly devastating to a small group of students.

To examine whether this is the case, Table 4 contains a full set of interaction terms, equal to the predictor term by whether the student changed schools in moving from eighth to ninth grade, to determine whether certain students benefit or suffer more from the transition. Through this method, we examine not only the extent to which the school transition yields changes in outcomes, but also whether these differences are muted or exacerbated by characteristics of individuals who make the transition.

Table 4 about here

The models estimating effects on non-academic outcomes show remarkably few statistically significant relationships. The independent effect of having changed schools, shown in the bottom row of the table, is not significantly related to any of the four non-academic outcomes. Moreover, inclusion of the interaction terms reveals only one significant relationship. Whites are significantly less likely to score highly on the delinquency measure, compared to adolescents of other races; however, whites who change schools in moving from eighth to ninth grade are significantly more likely to be delinquent than those who stay in the same school. Apart from this effect, these figures suggest that not only does the transition itself not prove significantly detrimental to students, but that a change of schools does not exacerbate or reinforce the effects of other factors related to these non-academic outcomes.

The right panel of Table 4 shows evidence of differences related to making a transition between eighth and ninth grade; however, contrary to expectations and the findings of previous transition research, these differences show a benefit to students who change schools. The significant effects of the transition cluster around two sets of factors: the social world of peers and previous grade retention.

The measures related to the social world of peers show a benefit to changing schools. The model for grades, for example, shows that students who have strong ties to their peers (a high value on the variable indegree) and make a transition have significantly better grades than those who remain in the same school. Similarly, these same students also have higher levels of school integration, as compared with their popular peers who remain in the same school. Transitions also appear to benefit students who had few or no social ties in eighth grade. Isolated students who make a school transition were significantly more connected to their school in ninth grade than those isolates who did not change schools. Similarly, although students who were isolated in eighth grade are significantly more likely than non-isolates to have high scores on the measure of

trouble, isolates who changed schools were significantly *less* likely to have trouble than those who remained in the same school.

There is also a significant difference in the level of school integration among those ever retained between those who changed schools and those who did not. Those who have ever been held back a grade are less connected with their teachers and peers than those who have not. Yet the previously retained who switch schools between eighth and ninth grade show significantly higher levels of school integration than those who stayed in the same school. Similarly, although students who have been previously retained are significantly less likely to aspire to post-secondary education, those who change schools between eighth and ninth grade are significantly more likely to hope to go to college than those who make no transition.

Taken together, these findings paint a fairly consistent picture of the effects of the transition to high school. Rather than serving as an additional detriment in the often-difficult phase of adolescence, our results suggest that the transition to high school can serve as a fresh start for some adolescents.

DISCUSSION

Against this background, what can be said about school form? The most straightforward message is that despite a long history of reform, counter-reform, tinkering, and structural change, student outcomes, whether academic or non-academic, are basically insensitive to school structure. Where we do see sensitivity, it is where it is least expected. Specifically, there seem to be benefits for some kids to fresh starts, especially those who have troubled histories with respect to peer integration, attachment to school, and prior history of grade retention.

Our findings invite re-examination of the consequences of school transitions. Consistent with previous studies of the high school transition, we find that student outcomes change as they

move from eighth to ninth grade; however, our findings suggest that these changes are driven by factors other than changing schools. Although we see important changes in the levels of both school-related and non-academic outcomes we examine, the magnitude of changes is remarkably similar across schooling forms. Moving from eighth to ninth grade results in changes in outcomes for all students, regardless of whether the move is accompanied by a change of schools.

These results also suggest the need for a more expansive view of how transitions shape outcomes for particular groups of students. The benefits shown in Table 4 to those who were socially isolated or stigmatized in eighth grade speak to the improvements that may come with a new environment. Future research should explore the mechanisms through which these processes operate, although most likely, adolescents who were marginalized in eighth grade are able to craft new identities for themselves in the more diverse social worlds of high school. Understanding these mechanisms will greatly advance our understanding of how schools and adolescent peer groups operate.

The social policy implication is correspondingly clear. There is no magic school form bullet. Districts contemplating transition from one form to another need not worry excessively about negative outcomes that might arise from adding a new transition; since those students in good shape will not suffer, and those with more checkered social, academic and behavioral pasts will likely benefit. Nor should they have need to join the long line of education reformers with grand rhetorical statements in defense of one form or another. While a constant feature of the educational policy landscape, such rhetorical claims are largely irrelevant. The results presented in this article suggest that the optimal school form for any school district is the one that maximizes building space, reduces crowding, and achieves administrative rationality.

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Table 1: Description of Variables

Outcome Measures *Non-Academic* Fighting	Dichotomous variable equal to one if the respondent reports that he/she had been in a serious physical fight in the past 12 months.
Drug/Alcohol/Tobacco Index	Dichotomous measure equal to one if the respondent reports that he/she has drank alcohol in the past 12 months, used tobacco in the past 30 days, or used drugs in the past 30 days.
Delinquency	Dichotomous variable equal to one if respondent reports that he/she engaged in one of the following delinquent activities in the previous 12 months: - painted graffiti on someone else's property or in a public place - deliberately damaged property that didn't belong to them - took something without paying for it - stolen something worth more than $50 - went into a house or building to steal something - stolen something worth less than $50
Weapon to School	Dichotomous variable equal to one if respondent reports that he/she has brought a weapon to school in the past 30 days.
Academic Grades (GPA)	Continuous measure equal to the mean of the respondent's self reports of grades in four subject areas (math, English, science, social studies/history)
School Integration	Continuous variable equal to the mean of the respondent's reports of how close they feel to people at their school, they felt like they were part of their school, and how happy they felt to be at their school.
Trouble	Continuous variable equal to the mean of the respondent's reports of how often he/she had trouble: - getting along with teachers - paying attention in schools - getting homework done - getting along with other students
Aspirations for College	Continuous variable based on respondent's self-assessed desire to go to college (measured on a scale of 1 (lowest) to 5 (highest))
Predictors Poor	Dichotomous measure, equal to 1 if at least one of the following conditions is met: - Parent reports receiving (current) public assistance - Parent reports receipt of AFDC last month - Parent reports receipt of food stamps last month Adolescent reports that resident mother receives public assistance - Adolescent reports that resident father receives public assistance
Held Back	Dichotomous measure, based on student self-reports, equal to one if the respondent reports he/she had been held back a grade in school at least once.
Indegree	Continuous measure, based on the number of times the respondent was nominated by other students in the study's friendship nomination rosters.
Isolated	Dichotomous measure equal to 1 if respondent is nominated by no other students in the school in the study's friendship nomination roster.

Table 2: Bivariate Relationships, Forms of School and Outcomes in Eighth and Ninth Grades

	Middle School		Other Forms	
	8th	9th	8th	9th
Non-Academic Outcomes				
Fighting	37.1% *	22.4%	28.7% *	18.5%
Alcohol, Tobacco or Drug Use	41.9% *	52.6%	33.8% *	47.9%
Delinquency	38.9%	35.1%	34.9%	29.5%
Weapon to School	6.2%	8.3% *	4.6%	4.7% *
Academic Outcomes				
GPA	2.88	2.76	2.90	2.80
School Integration	2.86	2.82	2.84	2.75
Trouble	1.01	.98	1.07	1.09
College Aspirations	4.57	4.47	4.57	4.42

* p<=.05, ** p<=.01, *** p<=.001

Table 3: Logistic and OLS Regression Analysis of Ninth Grade Outcomes

	Fight	Alcohol, Tobacco or Drug Use	Delinq.	Weapon to School	GPA	School Integration	Trouble	College Aspirations
Wave 1	1.56 ***	2.32 ***	1.91 ***	2.47 ***	.593 ***	.501 ***	.497 ***	.572 ***
Female	-.671 ***	.127	-.220	-1.39 ***	.122	-.097	-.015	.083
White	.041	.550 ***	-.148	-.598 *	.053	.116	.037	-.208 **
Poor	.399	.003	-.282	-.367	-.044	-.004	-.020	-.057
Held Back	-.121	-.073	-.231	.109	-.128 **	-.117	.023	-.104
IQ	.004	.005	.005	.004	.006 ***	-.004	-.000	.004 *
Indegree	-.032	.034	.031	-.059	.008	.000	-.006	.009
Indeg Missing	-.227	.347 **	.255	.312	-.091 *	-.040	.091 *	.010
Isolate	-.450	.392	.447	---	.007	.089	-.012	-.063
Transition Betw. Schools	.140	.082	.252	.617 *	-.018	.077	-.067	.040

* p<=.05, ** p<=.01, *** p<=.001

Table 4: Interactions and Wave 1 Status Control

	Fight	Alcohol, Tobacco or Drug Use	Delinq.	Weapon to School	GPA	School Integration	Trouble	College Aspirations
Wave 1	1.72 ***	2.38 ***	2.29 ***	2.17 **	.632 ***	.599 ***	.548 ***	.520 ***
Int W1	-.185	-.058	-.450	.324	-.047	-.123	-.061	.067
Female	-.397	-.078	-.062	-.880	.064	-.105	.086	.088
Int Fem	-.339	.252	-.198	-.594	.070	.018	-.132	.003
White	-.110	.259	-.685 **	-.621	.077	.047	.159	-.162
Int Wht	.185	.353	.630 *	.011	-.032	.081	-.148	-.048
Poor	.203	-.102	-.796	.009	-.130	.012	-.075	.044
Int Poor	.220	.130	.590	-.444	.104	-.009	.062	-.114
Held Back	-.039	-.106	.028	.752	-.201	-.366 **	.104	-.557 **
Int Held	-.094	.042	-.301	-.748	.094	.305 *	-.107	.565 **
IQ	-.001	.002	.003	.005	.005 *	-.002	.000	.007 **
Int IQ	.005	.004	.002	-.002	.001	-.003	-.000	-.003
Indegree	-.034	.038	.003	-.125	-.012	-.028 **	.005	.007
Int Ind	.001	-.006	.031	.069	.024 **	.036 **	-.013	.004
Indeg Missing	.155	.291	-.247	.471	-.028	-.098	.072	-.070
Int IM	-.461	.071	.583	-.151	-.075	.073	.020	.092
Isolate	.209	.369	.800	---	.101	-.245	.551 *	-.489
Int Isol	-.835	.042	-.503	---	-.125	.440 *	-.743 **	.573
Transition Betw. Schools	-.155	-.684	-.385	.887	-.204	.358	.316	-.145

* p<=.05, ** p<=.01, *** p<=.001

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