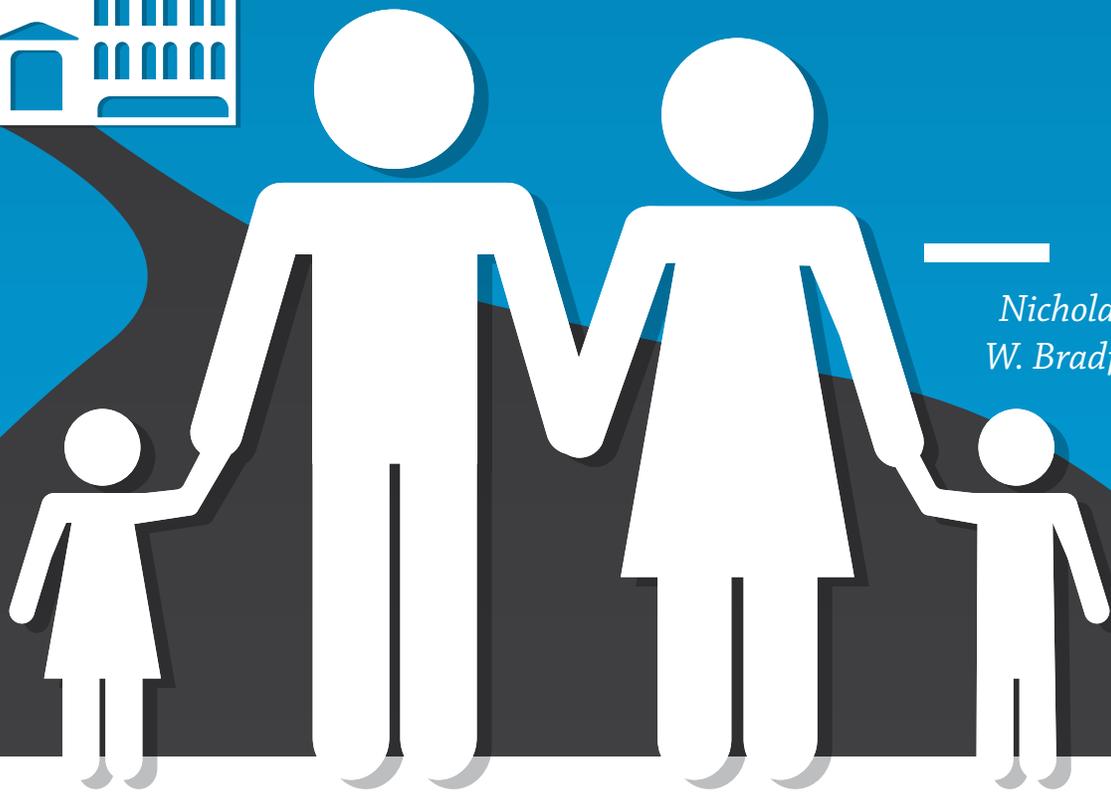
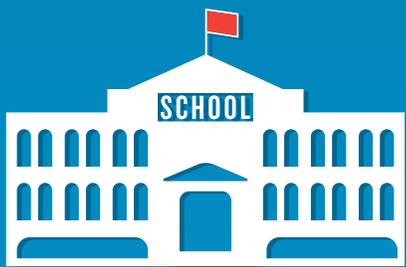


# STRONG FAMILIES, SUCCESSFUL STUDENTS

— *Family Structure and Student Performance in Ohio* —



—  
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## Executive Summary

A substantial body of research indicates that what happens in families—not just in schools—shapes children’s educational performance. *Strong Families, Successful Students* builds on this research to explore how student performance in Ohio is linked to family structure and poverty. Relying on data from 1,340 Ohio children in the National Survey of Children’s Health, and after controlling for a number of socioeconomic factors, this report finds:

1. Students from intact, married-parent families were 46 percent less likely to have their parents contacted by their school at least once for conduct or learning problems in class;
2. Students were 64 percent less likely to be held back in school if they came from a home with intact, married parents;
3. Having stably married parents increased a student’s chances of showing consistent engagement in schoolwork by 43 percent; and,
4. Students from poor families were significantly more likely to have had their parents contacted by their school and to have been held back in school, net of controls for other factors. However, poverty was not associated with children’s engagement in schoolwork.

*Strong Families, Successful Students* indicates that children from intact, married families in Ohio (and the nation at large) are more likely to avoid detours that can derail their educational performance and to be successful students, compared to children from unmarried or non-intact families. Moreover, children from poor families are more likely to struggle in school. Accordingly, efforts to improve student performance in Ohio should not overlook the importance of strengthening the stability and economic welfare of Buckeye families.

# Introduction

The State of Ohio is renowned for its outstanding educational and cultural institutions. These include colleges and universities like Ohio State, Case Western Reserve, and Oberlin; music organizations like the Cleveland Orchestra, Cincinnati Symphony, and Ohio Light Opera; art institutions like the Columbus, Cincinnati, and Cleveland Museums of Art; and medical institutions like the Cleveland Clinic and Wexner Medical Center. Yet public school systems in Ohio have had only middling success in recent years in providing all students with the knowledge and skills they need to function as informed citizens and thrive in a demanding and rapidly changing economy.

To illustrate, the on-time high school graduation rate in Ohio for the 2014-2015 academic year was 80.7 percent, below the average rate for the nation as a whole of 83.2 percent. For Ohio students from economically disadvantaged families, the graduation rate was only 68.7 percent. This was substantially lower than the average rate for disadvantaged students across the U.S., which was 75.9 percent.<sup>1</sup>

The tested achievement of Ohio students on the National Assessment of Educational Progress has also been mediocre. In 2013, for example, 79 percent of Ohio eighth graders had basic or better reading skills, which is about the same as the national average of 78 percent. Furthermore, average reading test scores of Ohio students have remained basically unchanged since 2003.<sup>2</sup>

The lack of progress in boosting achievement has not been for lack of investment in education. In FY 2014, spending on education in Ohio stood at \$11,434 per pupil. This was close to the average per-pupil amount for all states of \$11,066.<sup>3</sup> While nationwide spending per pupil on pre-K through grade 12 schools has been relatively flat in recent years, it rose by almost 40 percent between 1990 and 2011 after adjusting for inflation. Like other states, Ohio has tried to funnel more of the money spent on education to schools that serve children from needy families.<sup>4</sup> But increased spending has not reduced the gap in achievement between children of more educated and affluent parents and children whose parents have less education and low incomes.<sup>5</sup>

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<sup>1</sup> "Public High School 4-year Adjusted Cohort Graduation Rate (ACGR), By Race/Ethnicity and Selected Demographics for the United States, the 50 States, and the District of Columbia: School Year 2013-14," EdFacts Data Groups 695 and 696, School Year 2014-15 (Washington, DC: National Center for Education Statistics, September 15, 2016); Joel McFarland, Patrick Stark, and Jiashan Cui, *Trends in High School Dropout and Completion Rates in the United States: 2013* (Washington, DC: National Center for Education Statistics, October 2016).

<sup>2</sup> National Center for Education Statistics, *2013 Reading Assessment Report Card: Summary Data Tables with Additional Detail for Average Scores and Achievement Levels for States and Jurisdictions*, [https://www.nationsreportcard.gov/reading\\_math\\_2013/files/Results\\_Appendix\\_Reading.pdf](https://www.nationsreportcard.gov/reading_math_2013/files/Results_Appendix_Reading.pdf)

<sup>3</sup> Stephen Q. Cornman and Lei Zhou, *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2013-14/ Fiscal Year 2014* (Washington, DC: National Center for Education Statistics, October 2016).

<sup>4</sup> Julien Lafortune, Jesse Rothstein, & Diane Whitmore Schanzenbach, *School Finance Reform and the Distribution of Student Achievement*, (University of California, Berkeley & National Bureau of Economic Research, 2016). <http://www.nber.org/papers/w22011>.

In order to bolster achievement further, education policy makers in Ohio would do well to focus not only on the schools to which students go, but also on the families from which they come. A long line of studies, starting with the 1966 Coleman Report, have shown that educational outcomes have a great deal to do with the characteristics of students' families.<sup>6</sup> Better-educated parents are more likely to read to their children, spend quality time with them, and participate in youth-related organizations, including clubs, teams, and parent-teacher organizations. By contrast, poor families have less money to devote to their sons' and daughters' education and face more stresses, which can affect children's schooling.<sup>7</sup> Finally, two-parent families are typically able to devote more time, attention, financial support, and consistent discipline to their children, all of which redound to the educational benefit of their children.<sup>8</sup>

In this report, we focus on the relationships between family structure and three important indicators of academic progress and school adjustment in Ohio. These indicators are: having the school contact parents because of student problems; repeating a grade; and, on the positive side, being consistently engaged in schoolwork. Each of these indicators is predictive of longer-term educational outcomes like graduating high school on time, enrolling in college, not needing remedial instruction, and completing college. Each is also predictive of negative outcomes like being suspended or expelled, dropping out of high school, becoming unemployed or underemployed, becoming an unmarried parent, and engaging in criminal behavior in adolescence or young adulthood.

We also investigate how the three indicators relate to parent education, child poverty, and family income, and the extent to which socioeconomic disparities between married- and unmarried-parent families help account for differences in student achievement. Our work controls for student race and ethnicity as well as student age and gender. We find that Ohio students from married two-parent families do better on each of the three educational progress indicators, even after controlling for socioeconomic and demographic correlates of family structure.

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<sup>5</sup> Erick A. Hanushek, "The Failure of Input-Based Schooling Policies," *The Economic Journal*, 113 (2003): F64-F98; Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being, 2015*, (Washington, DC: U.S. Government Printing Office, 2015): 50-51 and 157-169 (Tables ED2.A/B and ED2.C). Also see: Federal Interagency Forum on Child and Family Statistics, *America's Children in Brief: National Indicators of Well-Being, 2016* (Washington, DC: U.S. Government Printing Office, 2016): 34-35.

<sup>6</sup> James Coleman, et al., *Equality of Educational Opportunity* (Washington, DC: U.S. Government Printing Office, 1966); Anna J. Egalite, "How Family Background Influences Student Achievement," *EducationNext* 16, no. 2 (2016): 71-78.

<sup>7</sup> Ariel Kalil, Rebecca Ryan, and Michael Corey, "Diverging Destinies: Maternal Education and the Developmental Gradient in Time With Children," *Demography* 49, no. 4 (2012): 1361-1383; Barbara Schneider and James Coleman (eds.), *Parents, Their Children, and Schools* (Boulder, CO: Westview, 1996).

<sup>8</sup> Paul Amato, "The Impact of Family Formation Change on the Cognitive, Social, and Emotional Well-Being of the Next Generation," *Future of Children* 15, no. 2 (2005): 75-96; Sara McLanahan and Gary Sandefur, *Growing Up With a Single Parent: What Hurts, What Helps* (Cambridge, MA: Harvard, 1994); Nicholas Zill, "Family Change and Student Achievement: What We Have Learned, What It Means for Schools," in *Family-School Links: How Do They Affect Educational Outcomes?*, ed. Alan Booth and Judith F. Dunn (Mahwah, NJ: Erlbaum, 1996).

## One in Three Ohio Schoolchildren Does Not Live with Married Parents

As of 2015, there were some 2 million students enrolled in Ohio prekindergarten, elementary, and secondary schools. Only 65 percent of these students were living in households with two married parents.<sup>9</sup> This figure includes children living with a birth parent and step-parent, two grandparents or other relatives, or unrelated foster parents. Because of divorce or birth outside of marriage, less than half of Ohio teenagers, about 45 percent, will have spent their entire childhood and adolescence living with two married biological parents.<sup>10</sup>

Data from the Census Bureau's American Community Survey show that Ohio children who lived with two married parents in 2015 benefited from median family incomes that were four times higher than those of children who lived with single mothers: \$88,000 versus \$22,000. Their family incomes were also twice as high as those of children who lived with single fathers (\$38,300). Ohio children in mother-only families were five-and-a-half times more likely to be living below the official poverty line as children living with two married parents: 49 percent versus 9 percent. Those living in father-only families were nearly three times as likely to be poor (25 percent). A 58-percent majority of Ohio children in mother-only families were in households receiving food stamps or other public assistance, as were 35 percent of children in father-only families. The comparable figure for children in married-couple families was 15 percent.

A 79 percent majority of children with two married parents lived in homes owned by their parents, whereas a 69 percent majority of children living with mothers only resided in rented apartments or houses. Children living with mothers only were twice as likely as those with two married parents to be living in a home owned or rented by a grandparent or other relative, or by an unrelated adult: 16 percent versus 7 percent. Children living with fathers only were two-and-a-half times as likely to be living in such a home (17 percent).

FAMILY CHARACTERISTIC	MARRIED COUPLE FAMILY	MOTHERS WITHOUT HUSBANDS	FATHERS WITHOUT WIVES
<b>Median Income</b>	\$88,011	\$21,951	\$38,308
<b>Below Poverty Line</b>	8.9%	49.3%	25.4%
<b>Get Government Benefits</b>	14.9%	58.3%	34.9%
<b>Parent Owns Home</b>	78.8%	30.1%	50.6%
<b>In Grandparents or Other Relative's Home</b>	6.8%	15.7%	17.1%
<b>Number of Ohio Students in Each</b>	1,289,453	533,631	152,378
<b>% of All Students</b>	64.7%	26.8%	7.6%

Table 1. Median family income or percent of Ohio schoolchildren who lived in married-couple, mother-only, or father-only families who had each family characteristic, 2015. Source: U.S. Bureau of the Census American Community Survey, Table S0901 for Ohio in 2015.

<sup>9</sup> U.S. Census Bureau, *American Community Survey*, Table S0901 for Ohio in 2015.

<sup>10</sup> Patrick Fagan and Nicholas Zill, *The Second Annual Index of Family Belonging and Rejection*, (Washington, DC: Marriage and Religion Research Institute, 2011).

## Relating Family Living Conditions to Student Performance

We were able to study how the family living conditions of Ohio schoolchildren relate to their school performance by using data from the National Survey of Children's Health, conducted by the U.S. Department of Health and Human Services in the years 2011 and 2012.<sup>11</sup> This national telephone survey of households with children between the ages of birth through 17 years of age included a sufficiently large and representative subsample in Ohio to permit reliable estimates of the attributes of children and families in the state.

The Ohio subsample of the NSCH 2011-2012 contained 1,340 children of ages 6 through 17 years. Eighty-one percent of these children lived in Ohio's major metropolitan areas and 19 percent lived in more rural areas of the state. Fifty-three percent of the children were living with two married biological parents and 47 percent were living in a variety of single-parent, step-, cohabiting-, or foster-parent families. A detailed breakdown of their family living arrangements is shown in Appendix Table A1.

Forty-two percent of the Ohio schoolchildren in our sample had a parent or parents whose educational attainment went beyond high school; i.e., they had received at least some college education or had completed college. Forty-four percent had parents who had finished high school but gone no farther, while 13 percent had parents who had not completed high school.

Thirty-one percent of the Ohio schoolchildren were living in families whose annual incomes were in a range we labeled as "moderate;" i.e., they were between 201 percent and 400 percent of the federal poverty level. Twenty-six percent were in families whose incomes were in a range that we dubbed "financially secure;" i.e., above 400 percent of the poverty level. Twenty-one percent of the schoolchildren were in families at or below the official poverty level, while 22 percent were "near poverty;" i.e., between 101 percent and 200 percent of the poverty level.

Seventy-four percent of the Ohio schoolchildren in the NSCH sample were white and not of Hispanic origin. Sixteen percent were black, while 4 percent were of Hispanic ethnicity. The remaining 6 percent were from multiple races or ethnicities, or from racial groups such as Asian whose numbers in the Ohio subsample were too small to allow separate estimates. Fifty-one percent of the Ohio schoolchildren in the sample were male and 49 percent were female. The age breakdown of the schoolchildren is shown in Appendix Table A1.

We relied on three measures to gauge the academic performance and classroom adjustment of children in the survey sample. These were:

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<sup>11</sup> 2011/12 *National Survey of Children's Health*, Child and Adolescent Health Measurement Initiative (CAHMI), "Child Health Indicator and Subgroups SAS Codebook, Version 1.0," 2013, Data Resource Center for Child and Adolescent Health, sponsored by the Maternal and Child Health Bureau, [www.childhealthdata.org](http://www.childhealthdata.org); National Center for Health Statistics, "Design and operation of the National Survey of Children's Health, 2011-2012," [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/slaits/nsch\\_2011\\_2012/01\\_Frequently\\_asked\\_questions/NSCH\\_2011\\_2012\\_FAQs.pdf](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch_2011_2012/01_Frequently_asked_questions/NSCH_2011_2012_FAQs.pdf)

- whether the parent had been contacted by the child’s school due to learning or behavior problems the child was experiencing at school;
- whether the child had repeated one or more grades; and,
- whether the child seemed positively engaged in his or her schoolwork by “caring about doing well in school” and “doing all required homework” “always” (as opposed to “usually,” “sometimes,” “rarely,” or “never”).<sup>12</sup>

We analyzed the extent to which each of these school performance indicators was associated with the type of family in which the child lived, dividing the family types into two broad groups: two married biological parents versus all other types of families. We also examined how the school performance indicators were associated with the:

- education level of the child’s parents;
- family income and poverty status;
- child’s race and ethnicity;
- child’s age in years; and,
- child’s sex.

We carried out multiple logistic regression analyses to adjust the relationship between each of the independent variables and the dependent variable for its association with the other predictors. We repeated these several analyses not only with the Ohio subsample, but also with the overall national sample.




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<sup>12</sup> National Survey of Children’s Health, 2011-2012: Questionnaire (CDC/National Center for Health Statistics, 2014), <http://www.cdc.gov/nchs/slait/nsch.htm>.

# Ohio Children Who Live With Married Parents Do Better in School

Our analyses showed that Ohio schoolchildren who live with both married parents do better on each of the three educational progress indicators. Family income is significantly associated with student performance as well, but children from married-couple families do better even after controlling for socioeconomic and demographic correlates of family structure. Our findings for each of the indicators in turn are presented in the following pages.

### *Parents contacted by school*

More than a third of Ohio parents of students aged 6-17 reported that they had been contacted by the child’s school at least once due to conduct or learning problems that their child was exhibiting in class. School contact is an indicator of student maladjustment and often foreshadows more serious disciplinary issues or learning failures to come. It may also be an indication that the student’s behavior is interfering with an orderly classroom environment, thus reducing other students’ opportunities to learn.

Students from married two-parent families were only about half as likely to have had their parents contacted by their school as those from single-parent, step, or foster families: 24.6 percent versus 45.4 percent (see Appendix Table A2). After taking demographic and socioeconomic disparities into account, the difference in school contact rates was reduced but remained substantial: 27.1 percent versus 40.8 percent (see Figure 1).

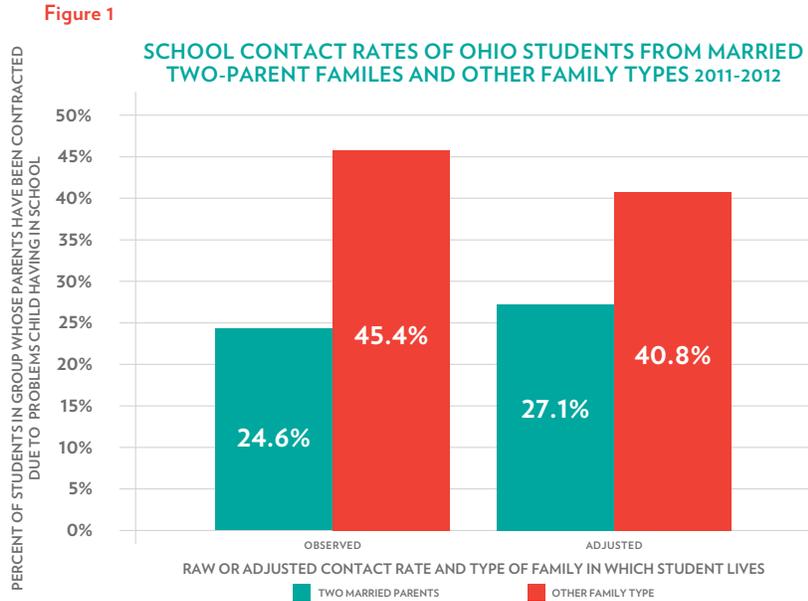


Figure 1. Percent of Ohio students aged 6-17 whose parents have been contacted by their school due to problems the child is having in school by type of family in which the student lives, 2011-2012. Adjusted percentages controlled for child’s age, sex, race and ethnicity, parent education level, and family income and poverty status. Source: Authors’ analysis of data from 2011-2012 National Survey of Children’s Health, National Center for Health Statistics, U.S. Department of Health and Human Services.

Our multiple logistic regression analysis showed that Ohio students from married two-parent families were just over half as likely to have had their parents contacted (odds ratio = .54,  $p = .007$ ) as were students from never-married or formerly-married parent families. Students from families whose incomes were below the poverty level were more than twice as likely to have had their parents contacted (odds ratio = 2.39,  $p = .005$ ) as students from moderate-income families. Students from families whose incomes were near the poverty line were nearly twice as likely to have had parents contacted (odds ratio = 1.87,  $p = .028$ ). In addition, black students were more likely to have had parents contacted (odds ratio = 1.66,  $p = .077$ ), although this difference was only marginally significant (see Appendix Tables B1 and B5).

### Grade repetition

Being held back a grade in school is not only an indicator of current learning difficulties, it is also an early warning sign for later non-achievement and for dropping out of school. Among all Ohio elementary and secondary school pupils, nearly 11 percent had to repeat one or more grades in school. Not surprisingly, students who had been held back were more likely to have had the school contact their parents due to problems with their classroom conduct or academic performance: 50 percent versus 32 percent ( $p = .01$ ).

The proportion of Ohio students who had repeated a grade was nearly five times higher among students from never-married or formerly-married families as among those growing up in intact, married two-parent families: 18.6 percent versus 4 percent ( $p < .0001$ ). (See Appendix Table A3). The grade repetition difference was reduced somewhat when the figures were adjusted for demographic and socioeconomic disparities across family types. However, students from single-, step-, and foster-parent families were still more than twice as likely to have repeated a grade as students from married-parent families: 9.7 percent versus 3.7 percent (see Figure 2).

Figure 2

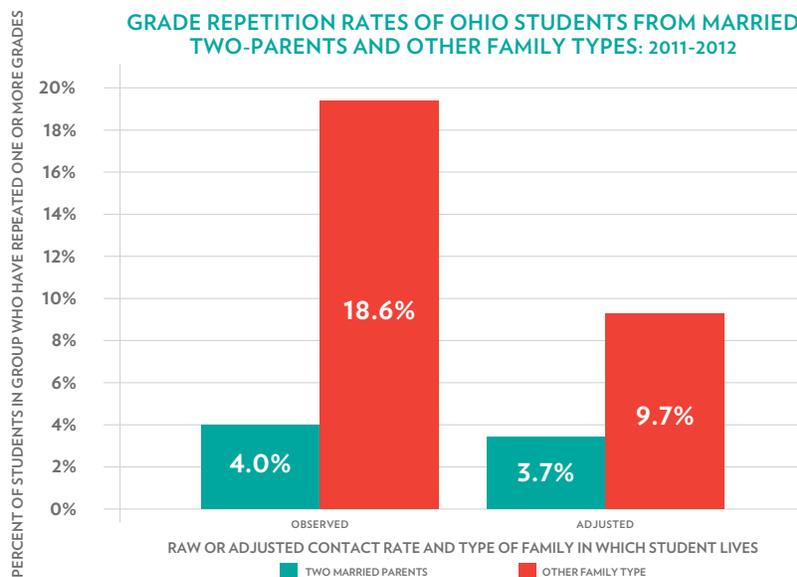


Figure 2. Percent of Ohio students aged 6-17 who have repeated one or more grades in school by type of family in which the student lives, 2011-2012. Adjusted percentages controlled for child's age, sex, race and ethnicity, parent education level, and family income and poverty status. Source: Authors' analysis of data from 2011-2012 National Survey of Children's Health, National Center for Health Statistics, U.S. Department of Health and Human Services.

Our multiple logistic regression analysis for Ohio students found that having two married parents significantly decreased a student's chances of being held back (odds ratio = .36,  $p = .004$ ). Coming from a family whose income was below the official poverty line markedly increased the chances of repeating a grade (odds ratio = 8.5,  $p < .001$ ), as did coming from a family whose income was near the poverty level (odds ratio = 3.7,  $p = .003$ ). Demographic characteristics of age, sex, and race of the student did not show statistically significant relationships with grade repetition in the Ohio data, although they did in the national survey data. Parent education level was also not significant in the Ohio data, though it was in the national sample (see Appendix Tables B2 and B6).

### *Consistent engagement in schoolwork*

One of the key indications that a student is on a path to success in school is showing interest and engagement in schoolwork. Based on their analysis of several longitudinal studies, economist Greg Duncan and his colleagues found that a positive approach to learning activities in the early grades was one of the best predictors of future academic achievement as well as of later occupational advancement and earnings.<sup>13</sup> However, the Duncan study made use of teacher reports on students' approach to learning activities, whereas our study relied on parent reports, which may be more skewed and less reliable.

School engagement was measured in the National Survey of Children's Health by asking parents how often in the past month the student "cares about doing well in school" and how often he or she "does all required homework," "never, rarely, sometimes, usually, or always." Most Ohio school children "usually" showed engagement in their schoolwork, according to parent responses to these two questions. But less than half—47 percent— "always" both cared about doing well in school and did all required homework. A majority of female students—57 percent—were consistently interested and involved in their schoolwork. But only a minority of male students—37 percent—were similarly engaged. Students who showed consistent engagement in schoolwork were less than half as likely to have had their parents contacted by the school because of conduct or learning problems: 20 percent versus 47 percent ( $p < .0001$ ).

Among Ohio students living with both married parents, a 53-percent majority displayed consistent engagement in schoolwork. Among those living in single-parent, step, or foster families, only a 40-percent minority showed similar engagement with their studies ( $p = .002$ ). (See Appendix Table A4.) After adjusting for demographic and socioeconomic differences across family types, students from married two-parent families continued to show more engagement than students from never-married or formerly-married families: 51 percent to 42 percent (see Figure 3).

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<sup>13</sup>Greg Duncan, et al., "School Readiness and Later Achievement," *Developmental Psychology*, 43 (2007): 1428–1446.

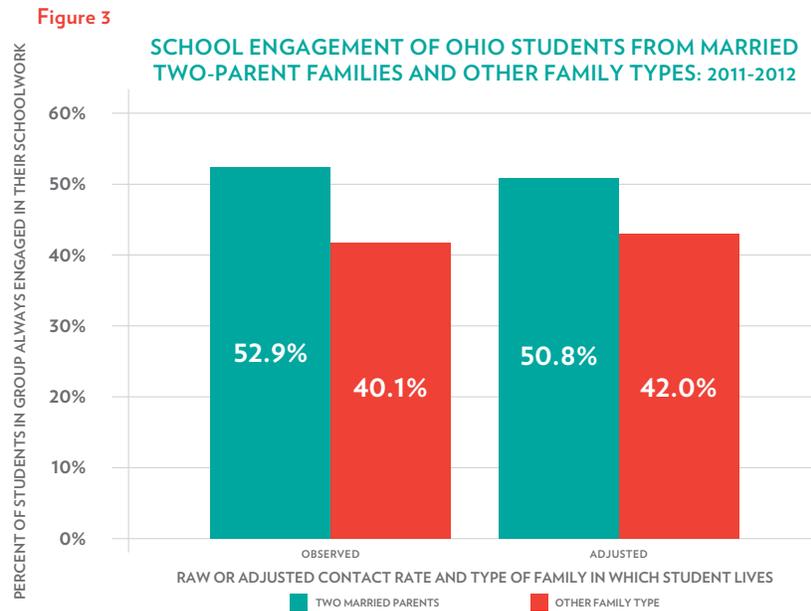


Figure 3. Percent of Ohio students aged 6-17 showing consistent engagement in their schoolwork by type of family in which the student lives, 2011-2012. Adjusted percentages controlled for child's age, sex, race and ethnicity, parent education level, and family income and poverty status. Source: Authors' analysis of data from 2011-2012 National Survey of Children's Health, National Center for Health Statistics, U.S. Department of Health and Human Services.

Our multiple logistic regression analysis revealed that having two married parents increased a student's chances of showing consistent engagement in schoolwork (odds ratio = 1.43), although the increase was only marginally significant ( $p = .082$ ). Being raised in a married two-parent family was a statistically significant predictor of school engagement in the parallel multivariate analysis of data from the full national survey sample, however. Demographic characteristics that decreased the chances of consistent engagement were being male (odds ratio = .45,  $p < .001$ ), and being older (odds ratio = .895 for each year of age,  $p < .001$ ). Parent education and family income and poverty status did not show a strong or consistent pattern of relationships with student engagement—nor did student race and ethnicity (see Appendix Table B3 and B6).



## U.S. Children Who Live With Married Parents Do Better In School As Well

Our finding that Ohio schoolchildren who live with two married parents do better on indicators of school performance and adjustment, even after taking family income and parent education into account, was reaffirmed when we conducted parallel analyses with the full national sample from the 2011-2012 NSCH. U.S. schoolchildren from married two-parent families were only about 60 percent as likely to have had their parents contacted by the school as those from other family types (odds ratio = .59,  $p < .001$ ). They were only about half as likely to have repeated a grade (odds ratio = .54,  $p < .001$ ). And they were about 45 percent more likely to show consistent engagement in schoolwork (odds ratio = 1.44,  $p < .001$ ). (See Appendix Tables B4, B5, and B6.)

Family poverty and income were also associated with student performance and adjustment in the nationwide data analyses. Schoolchildren from poverty-level families were about 25 percent *more* likely to have had their parents contacted by the school than were children from non-poor families (odds ratio = 1.22,  $p = .003$ ). They were two-and-a-half times more likely to have repeated a grade (odds ratio = 2.52,  $p < .001$ ). Family poverty was not significantly associated with consistent engagement in schoolwork, however.

At the other end of the income scale, schoolchildren from financially-secure families were significantly *less* likely than those from lower-income families to have had academic or adjustment problems. They were only about three-quarters as likely to have had parents contacted by the school (odds ratio = .79,  $p < .001$ ). They were only two-thirds as likely to have repeated a grade (odds ratio = .67,  $p < .001$ ). And they were somewhat more likely to display consistent engagement in schoolwork (odds ratio = 1.14,  $p = .004$ ).

Parent education level was also associated with some educational progress indicators in the national data. Students whose parents had more than high school education were less likely to have repeated a grade, for example (odds ratio = .75,  $p < .001$ ). Student race and ethnicity were associated with significant differences in academic performance and school adjustment in the national data, even after controls for family income and poverty, parent education, and family structure. Black students were more likely to have their parents contacted by the school (odds ratio = 1.39,  $p < .001$ ) and to have repeated a grade (odds ratio = 1.45,  $p < .001$ ). On the other hand, they were more likely to display consistent engagement in schoolwork (odds ratio = 1.29,  $p < .001$ ), according to their parents.

## Conclusion

Student success is predicated on staying out of trouble in school and on remaining meaningfully engaged in class and with homework. *Strong Families, Successful Students* indicates that children from intact, married families in Ohio and the nation at large are more likely to avoid detours that can derail their educational performance and to be successful students, compared to children from unmarried or non-intact families. Specifically, children from married families in the Buckeye States are about half as likely to have their parents contacted by their school for problem behavior, about 60 percent less likely to be held back in school, and approximately 40 percent more likely to be engaged in class and with their homework, compared to children from never-married or non-intact families, even after controlling for a range of sociodemographic factors. We also find that poverty is associated with higher rates of schools contacting families and with a student being held back in school. Taken together, our results indicate that student outcomes in Ohio are strongly associated with two important family factors: family poverty and family structure.

In general, then, this report suggests that student performance in Ohio cannot be understood apart from what's happening in Ohio families. Families struggling with material want or instability appear to be less likely to give children the resources, consistent attention and affection, and stability they need to avoid trouble and thrive in school. Indeed, Ohio's mediocre educational performance may be related to the fact that it ranks 34th in family stability, and 33rd in child poverty.<sup>14</sup> Thus, as policymakers, educators, business executives, and philanthropic leaders seek to improve the educational fortunes of children across the Buckeye State, they must not lose sight of the ways in which strong families are seedbeds of educational success. If they wish to improve education in Ohio, they will also need to improve the material and marital fortunes of families across the state. Policymakers and civic leaders should consider measures—from a refundable child tax credit to a social marketing campaign on behalf of marriage—to strengthen and stabilize Ohio families.

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<sup>14</sup> U.S. Census Bureau, *2015 American Community Survey: 1-Year Estimates*, Table C17006: "Poverty status in the past 12 months of related children under 18 years by family type," <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Note: Family stability was indexed by the percentage of related children under 18 years of age in each state who lived with two married parents, ranked from highest to lowest. The percentage of related children under 18 in each state who lived in a family whose income was below the poverty level was ranked from lowest to highest.

## Appendix Tables

METROPOLITAN RESIDENCE	WEIGHTED %	OBSERVATIONS
Child Lives in Metropolitan Area	88.5%	1082
Child Lives Outside Metro Area	<u>18.5%</u>	<u>243</u>
	<b>100.0%</b>	<b>1325</b>

CHILD'S AGE IN YEARS	WEIGHTED %	OBSERVATIONS
6 - 8	24.7%	302
9 - 11	22.3%	304
12 - 14	26.5%	344
15 - 17	<u>26.5%</u>	<u>390</u>
	<b>100.0%</b>	<b>1340</b>

CHILD'S SEX	WEIGHTED %	OBSERVATIONS
Female	49.1%	630
Male	<u>50.9%</u>	<u>709</u>
	<b>100.0%</b>	<b>1339</b>

CHILD'S RACE / ETHNICITY	WEIGHTED %	OBSERVATIONS
White	74.1%	1008
Black	15.8%	140
Hispanic	3.9%	63
Multiracial, Other	<u>6.2%</u>	<u>102</u>
	<b>100.0%</b>	<b>1313</b>

CHILD'S RACE / ETHNICITY	WEIGHTED %	OBSERVATIONS
Married Mom & Dad	52.6%	829
Cohabiting Mom & Dad	1.7%	20
Mom & Step Dad	11.7%	91
Dad & Step Mom	3.9%	34
Mom Separated, Divorced	12.3%	158
Mom Never Married	9.7%	93
Dad Separated, Divorced	3.2%	35
Dad Never Married	1.9%	14
Foster Parent, Relative	<u>3.0%</u>	<u>53</u>
	<b>100.0%</b>	<b>1327</b>

PARENT EDUCATION	WEIGHTED %	OBSERVATIONS
Less Than High School Graduate	13.4%	154
High School Graduate Only	44.3%	562
More Than High School Education	<u>42.3%</u>	<u>557</u>
	<b>100.0%</b>	<b>1273</b>

FAMILY INCOME	WEIGHTED %	OBSERVATIONS
At or Below Poverty Line	20.7%	207
101% - 200% of Poverty Line	22.5%	220
201% - 400% of Poverty Line	30.9%	420
Above 400% of Poverty Line	<u>25.9%</u>	<u>493</u>
	<b>100.0%</b>	<b>1340</b>

Table A1. Demographic and family characteristics of Ohio schoolchildren aged 6-17 years in 2011-2012 National Survey of Children's Health.

#### WHETHER PARENTS CONTACTED BY SCHOOL

FAMILY TYPE	CONTACTED	NOT CONTACTED	TOTAL
Married Two - Parent	24.6%	75.4%	100%
Other Type	<u>45.4%</u>	<u>54.6%</u>	<u>100%</u>
<b>TOTAL</b>	<b>34.3%</b>	<b>65.7%</b>	<b>100%</b>

Chi-Square = 61.8 F (1, 1286) = 25.9 p < .0001 N = 1,288

Table A2. Percent of Ohio Schoolchildren in Married Two-Parent Families and Other Family Types Whose Parents Have Been Contacted By School Due To Problems Child Has Been Having In School, 2011-2012.

#### WHETHER CHILD REPEATED GRADE IN SCHOOL

FAMILY TYPE	REPEATED	NOT REPEATED	TOTAL
Married Two - Parent	4.0%	96.0%	100%
Other Type	<u>18.6%</u>	<u>81.4%</u>	<u>100%</u>
<b>TOTAL</b>	<b>10.9%</b>	<b>89.1%</b>	<b>100%</b>

Chi-Square = 72.7 F (1, 1322) = 34.7 p < .0001 N = 1,324

Table A3. Percent of Ohio Schoolchildren in Married Two-Parent Families and Other Family Types Who Have Repeated One or More Grades In School, 2011-2012.

#### WHETHER CHILD SHOWS ENGAGEMENT IN SCHOOL WORK

FAMILY TYPE	ENGAGED	NOT ENGAGED	TOTAL
Married Two - Parent	52.9%	47.1%	100%
Other Type	<u>40.1%</u>	<u>59.9%</u>	<u>100%</u>
<b>TOTAL</b>	<b>46.9%</b>	<b>53.1%</b>	<b>100%</b>

Chi-Square = 21.8 F (1, 1324) = 9.6 p = .002 N = 1,326

Table A4. Percent of Ohio Schoolchildren in Married Two-Parent Families and Other Family Types Who Show Consistent Engagement In Their Schoolwork, 2011-2012.

PARENTS CONTACTED BY SCHOOL	OHIO SCHOOLCHILDREN
Number of Observations	1,228
Population Represented	1,644,175
F ( 11, 1,216 ) =	3.72
Probability =	< .0001

PARENTS CONTACTED	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	-.62**	.23	.54**
Income Below Poverty	.87**	.31	2.39**
Income Near Poverty	.63*	.28	1.87*
Financially Secure	.07ns	.26	1.07ns
Parent Education < High School	-.22ns	.35	.80ns
Parent Education > High School	.23ns	.21	1.25ns
Male Child	.11ns	.20	1.12ns
Child Age in Years	-.03ns	.03	.97ns
Black Child	.51+	.29	1.66+
Hispanic Child	-.22ns	.44	.80ns
Multiracial Child	-.01ns	.36	.99ns
Constant	-.48ns	.44	.62ns

Appendix Table B1. Multiple Logistic Regression Analysis with Parents Contacted By School Due To Child Learning or Behavior Problem as Dependent Variable. Ohio Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

GRADE REPETITION	OHIO SCHOOLCHILDREN
Number of Observations	1,263
Population Represented	1,714,811
F ( 11, 1,251 ) =	6.46
Probability =	< .0001

GRADE REPETITION	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	-1.02***	.36	.36**
Income Below Poverty	2.15***	.45	8.55***
Income Near Poverty	1.32**	.43	3.74**
Financially Secure	.27ns	.46	1.32ns
Parent Education < High School	.016ns	.47	1.02ns
Parent Education > High School	-.078ns	.36	.93ns
Male Child	.45ns	.32	1.58ns
Child Age in Years	.06ns	.05	1.07ns
Black Child	-.81+	.46	.45+
Hispanic Child	.59ns	.64	1.78ns
Multiracial Child	-1.14ns	.73	.32ns
Constant	-3.78***	.73	.02***

Appendix Table B2. Multiple Logistic Regression Analysis with Child Repeated One or More Grades In School as Dependent Variable. Ohio Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

CHILD SHOWS SCHOOLWORK ENGAGEMENT	OHIO SCHOOLCHILDREN
Number of Observations	1,265
Population Represented	1,715,374
F ( 11, 1,253 ) =	6.07
Probability =	< .0001

SCHOOLWORK ENGAGING	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	.356+	.20	1.43+
Income Below Poverty	-.08ns	.30	.92ns
Income Near Poverty	-.48+	.26	.62+
Financially Secure	.20ns	.20	1.22ns
Parent Education < High School	-.32ns	.29	.72ns
Parent Education > High School	-.41*	.19	.66*
Male Child	-.81***	.17	.45***
Child Age in Years	-.11***	.025	.895***
Black Child	.11ns	.28	1.12ns
Hispanic Child	.87+	.48	2.385+
Multiracial Child	-.61ns	.38	1.83ns
Constant	1.57***	.40	4.79***

Appendix Table B3. Multiple Logistic Regression Analysis with Child Always Finds Schoolwork Engaging as Dependent Variable. Ohio Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

PARENTS CONTACTED BY SCHOOL	U.S. SCHOOLCHILDREN
Number of Observations	59,338
Population Represented	43,898,120
F ( 11, 59,226 ) =	49.6
Probability =	< .0001

PARENTS CONTACTED	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	-.53***	.05	.59***
Income Below Poverty	.20**	.07	1.22***
Income Near Poverty	.16*	.06	1.17*
Financially Secure	-.24***	.05	.79***
Parent Education < High School	-.04ns	.07	.96ns
Parent Education > High School	.03ns	.05	1.03ns
Male Child	.55***	.04	1.73***
Child Age in Years	-.01*	.006	.99**
Black Child	.33***	.06	1.39***
Hispanic Child	.09ns	.07	1.10ns
Multiracial Child	.16*	.07	1.17*
Constant	-.70***	.10	.495***

Appendix Table B4. Multiple Logistic Regression Analysis with Parents Contacted By School Due To Child Learning or Behavior Problem as Dependent Variable. U.S. Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

GRADE REPETITION	U.S. SCHOOLCHILDREN
Number of Observations	61,078
Population Represented	45,111,871
F ( 11, 60,966 ) =	50.83
Probability =	< .0001

GRADE REPETITION	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	-.62***	.08	.54***
Income Below Poverty	.92***	.11	2.52***
Income Near Poverty	.46***	.10	1.58***
Financially Secure	-.41***	.11	.67***
Parent Education < High School	.125ns	.10	1.13ns
Parent Education > High School	-.29***	.08	.75***
Male Chile	.495***	.07	1.64***
Child Age in Years	.11***	.011	1.12***
Black Child	.37***	.09	1.45***
Hispanic Child	-.03ns	.12	.97ns
Multiracial Child	-.08ns	.12	.92ns
Constant	-3.95***	.18	.019***

Appendix Table B5. Multiple Logistic Regression Analysis with Child Repeated One or More Grades In School as Dependent Variable. U.S. Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

CHILD SHOWS SCHOOLWORK ENGAGEMENT	U.S. SCHOOLCHILDREN
Number of Observations	61,151
Population Represented	45,185,898
F ( 11, 61,039 ) =	67.98
Probability =	< .0001

SCHOOLWORK ENGAGING	COEFFICIENT	STD. ERROR	ODDS RATIO
Married Two - Parent Family	.37***	.04	1.44***
Income Below Poverty	.11+	.06	1.12+
Income Near Poverty	.026ns	.06	1.03ns
Financially Secure	.13**	.05	1.14**
Parent Education < High School	.28***	.06	1.32***
Parent Education > High School	-.07+	.04	.93+
Male Chile	-.75***	.04	.47***
Child Age in Years	-.08***	.006	.92***
Black Child	.255***	.058	1.29***
Hispanic Child	.38***	.065	1.47***
Multiracial Child	.20**	.064	1.22**
Constant	.94***	.09	2.55***

Appendix Table B6. Multiple Logistic Regression Analysis with Child Always Finds Schoolwork Engaging as Dependent Variable. U.S. Schoolchildren Aged 6-17 Years, 2011-2012. National Survey of Children's Health Public Use File, National Center for Health Statistics, U.S. Department of Health and Human Services.

\* p < .05; \*\* p < .01; \*\*\* p < .001; + p > .05 < .10; ns p > .10

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