

# How Life Outside of School Affects Student Performance in School

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## Executive Summary

This report presents findings from a unique partnership between the University of Michigan and the State that allowed us to match the universe of child maltreatment records in Michigan with educational data on all public school children in the state. We find that roughly 18 percent of third-grade students have been subject to at least one formal investigation for child maltreatment. In some schools, more than fifty percent of third graders have experienced an investigation for maltreatment. These estimates indicate that child abuse and neglect cannot simply be treated like a secondary issue, but must be a central concern of school personnel.

## ***Introduction***

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In recent years, policymakers have paid increasing attention to the many ways in which factors beyond school influence a child's educational outcomes. Indeed, recent research finds that the "poverty" achievement gap – that is, the difference in academic achievement between poor and non-poor children – has grown faster than the racial achievement gap.<sup>1</sup> But there is less widespread recognition of the severe traumas that children can face, including homelessness, domestic violence, parental drug abuse, neglect and physical or sexual abuse.

Such trauma is consistently linked to a broad variety of negative life circumstances including poverty, juvenile delinquency, adult crime, low academic achievement, substance abuse, mental disorders and poor health.<sup>2 3 4</sup> The consequences of early childhood trauma have serious implications for not only the victims, but also families, schools and communities.

The academic struggles of youth in the foster care system have received growing attention.<sup>5</sup> And recent work highlights the needs of another group of young people who experience trauma – those who are homeless.<sup>6</sup> However, only 4% of children with reports of abuse or neglect end up in foster care.<sup>7</sup>

Here we report findings from a unique partnership between the University of Michigan and the State that allowed us to match the universe of child

maltreatment records in Michigan with educational data on all public school children in the state.<sup>8</sup> Our work focused on answering the following questions:

1. What is the prevalence of child maltreatment investigations (for abuse or neglect) in the public school population by the time students reach third grade?
2. Does the risk of maltreatment differ by student race, gender, socioeconomic status or geographic location?
3. What is the association between maltreatment and academic performance?

Our findings have important implications for education and social welfare policy in Michigan and beyond. Most importantly, we document that maltreatment is not a problem limited to a small set of children. On average, approximately 18% of third grade students has been subject to at least one formal investigation for child maltreatment. In some schools, more than fifty percent of third graders have experienced an investigation for maltreatment. These estimates indicate that child abuse and neglect cannot simply be treated like a secondary issue, but must be a central concern of school personnel.

## ***Data and Methods***

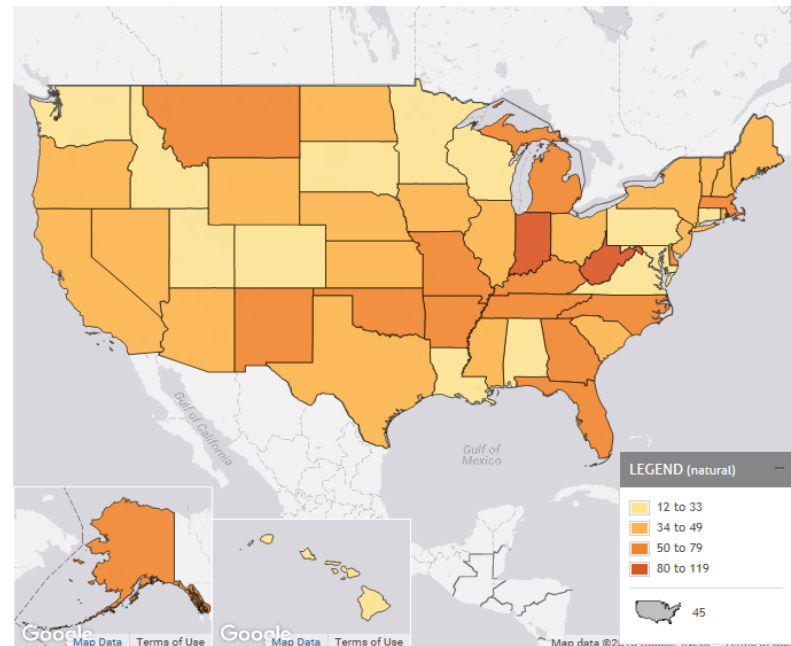
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To create the sample used in this analysis, we matched school records

from the Michigan Department of Education to child maltreatment information collected by the Michigan Department of Health and Human Services. Our sample consists of 732,828 Michigan public school students who were born between 2000 and 2006.<sup>9</sup>

It is worth noting that Michigan ranks pretty highly in terms of the fraction of children who were investigated (see Figure 1). According to the Annie E. Casey Foundation, roughly 66 out of 1,000 children were subject to an investigation in 2015, placing Michigan 6<sup>th</sup> among states. (This rate of 6.6% differs from the 18% that we report because the Casey statistic is based on a single year, and the figure we report is based on a child's cumulative expose from birth to age 9.)

*Figure 1 – Children who are subject to an investigation in 2015 (rate per 1,000)*



Source: *The Annie E. Casey Foundation, KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)*

We focus our analyses on students in the third grade, the first year in which the state administers standardized assessments to all children. The measure of child maltreatment incorporates formal investigations relating to potential child neglect as well as abuse (sexual or physical) that occur prior to grade 3. We focus on this time period because young children have significantly higher rates of exposure to maltreatment compared with older children and early maltreatment is thought to have particularly harmful effects on a child's development.

Formal investigations of child abuse and neglect generally start with a call to the State hotline. Anyone, even a

child, can anonymously report a suspected case of maltreatment. These reports are investigated, rejected or transferred to another agency for investigation (e.g. law enforcement). For the investigation to commence, the following criteria must be met: (1) the alleged victim is under 18 years of age, (2) the alleged perpetrator is a parent, legal guardian or other person responsible for the child's well-being, and (3) the allegations minimally satisfy the child abuse and neglect definitions in the Child Protection Law.<sup>10</sup>

Approximately 25% of formal investigations result in a substantiated complaint. We examine all investigations under the assumption that the existence of a complaint itself may point to some type of trauma even if a formal investigation does not find sufficient evidence for the case to proceed further. We recognize that debate exists about the factors that are associated with reported maltreatment, and how this corresponds with actual maltreatment.<sup>11 12</sup> For this reason, we replicated all of the analyses reported below using substantiated complaints instead of reported complaints, and found the same pattern of results. Hence, in the current brief we do not differentiate between unsubstantiated and substantiated allegations of maltreatment.

The primary educational outcomes for this study were standardized math and reading scores and grade repetition. In

order to assess basic knowledge and skills, we look at whether the child's performance on standardized math and reading tests meet or exceed the state-defined proficiency level.<sup>13</sup> In order to assess social and academic development more broadly, we examine whether the child was ever held back prior to third grade.

In order to disentangle and isolate the effect of maltreatment from factors that are often associated with maltreatment, such as family and neighborhood poverty, we compare students with a history of maltreatment to a group of demographically-matched peers. Specifically, we compared children with complaints for maltreatment to peers who (a) were the same race, gender and birth year, (b) had the same income level as measured by eligibility for subsidized meals, (c) lived in the same neighborhood, and (d) attended the same elementary school.

While this approach allows us to control for many of the circumstances that are associated with both maltreatment and educational outcomes, it cannot account for harder-to-observe factors that could nonetheless play a significant role in a child's academic progress. The mental health status of adults in a household is an example of one potentially important omitted variable. If, for example, adults struggling with depression, anxiety or other mental health issues are more likely to abuse

or neglect their children, the negative effects we report might be overstated. Nonetheless, we believe that the associations shown below provide a useful starting point for understanding the educational consequences of child maltreatment.

## Findings

Our analyses reveal five key findings that we believe should inform public policy.

### Finding #1

Approximately 18 percent of Michigan third graders have been formally investigated by Child Protective Services (CPS) for possible exposure to maltreatment.

### Finding #2

African American students, students who qualify for free/reduced lunch (i.e. poor students), students living in relatively high-poverty areas, and students attending urban schools are all more likely to be investigated by Child Protective Services for suspected child maltreatment.

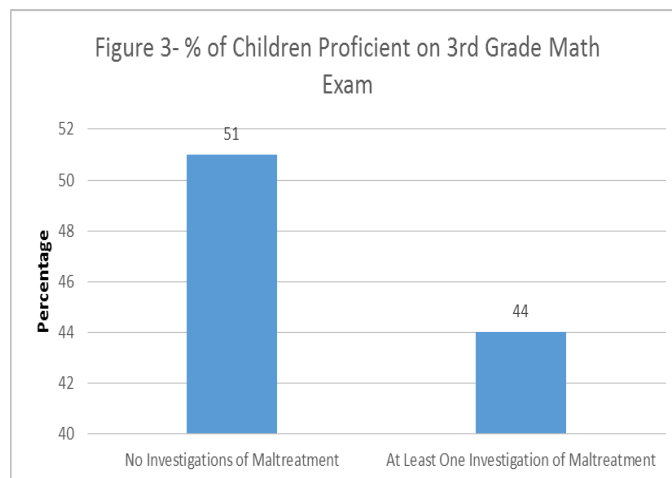
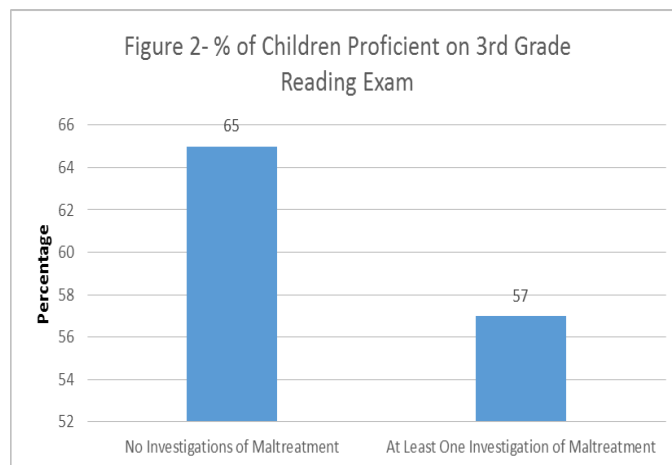
### Finding #3

Early childhood maltreatment is associated with significantly lower academic outcomes, even after we control for school, neighborhood, race and other key demographics.

Because children with an experience of early childhood maltreatment come from more disadvantaged families and neighborhoods, one might expect their

academic performance to lag behind that of other children. In order to disentangle the influences of poverty from childhood maltreatment, we conducted statistical analyses to control for student demographics as well as school and neighborhood factors.

We find that children who have been investigated for maltreatment perform worse in school than their peers who have not been referred. Moreover, the performance gaps are extremely large. Figures 2 and 3 show how the groups compare in terms of reading and math achievement.



We see that only 57 percent of third graders with a prior CPS investigation achieve basic proficiency levels on the statewide reading exam compared with 65 percent of third graders with no prior CPS investigation. The gap in terms of math proficiency is just as large, with only 44 percent of students with a prior CPS investigation passing the threshold compared with 51 percent among other third graders. These gaps are roughly equivalent in size to the Black-White achievement gap that one finds after controlling for a similar set of neighborhood and school factors.

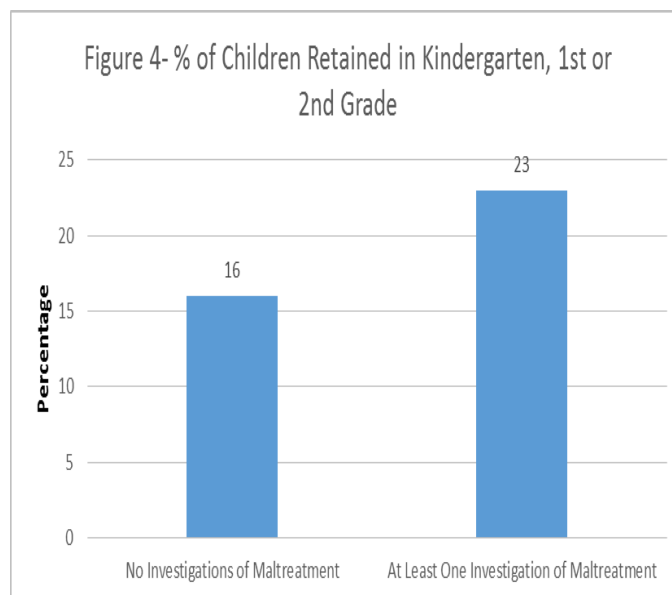


Figure 4 illustrates that children with a history of CPS investigations are more likely to have been retained than their peers. Sixteen percent of third graders who have no involvement with CPS were held back in kindergarten, first or second grade. In contrast, 23 percent of third graders with a maltreatment investigation were retained – a relative difference of almost 50 percent.

#### *Finding #4*

Referral rates vary dramatically across districts, and even across schools within the same district. It is not unusual for one-third of students in high-poverty schools to have been investigated for abuse or neglect.

Figure 5 shows referral rates across 25 large districts in Michigan. We have purposely chosen these districts to include a mix of low-, medium- and high-poverty areas. Districts are shown in descending order of poverty, so that district A (with 90% of students eligible



for subsidized meals) is at the top and district T (with only 4% of students eligible for subsidized meals) is at the bottom.

The darker squares represent the percent of third graders in the district who are referred for a maltreatment investigation before third grade. We can see, for example, that 31 percent of students in district A have been subject to such investigations. (See Figure 5)

The relationship between student poverty and maltreatment is apparent in the pattern of the squares. In general, districts with higher poverty rates have higher rates of maltreatment investigations. In addition to the variation across districts, there is substantial variation across schools within each district. Each of the lighter circles represents a school within a district.<sup>14</sup> For district B, the dark square tells us that on average 32 percent of students are investigated for maltreatment before the third grade. The lighter dots on either side give us information about each school in district B. There are a handful of schools in which the average is less than 32 percent (and as low as 14%) and many schools where the average is higher than 32 percent (and as high as 60%).

Figure 6 shows the relationship between district poverty rate and maltreatment rate for each of the 542 districts in our sample. The size of the

circle reflects the district enrollment. The cluster of dots sloping upward illustrates the association between poverty and maltreatment investigations. It is important to note that these are differences in the number of *reported* complaints, and not differences in the number (or fraction) of reported complaints that are substantiated. Hence, it is unlikely that the differences shown in Figure 6 are due to disparities in the resources devoted to local child protective services. Childcare workers, medical professional and teachers are all required to report any suspected instances of child abuse or neglect. (See Figure 6)

However, there are important exceptions. For example, in district W, only 6% of third graders had experienced a maltreatment investigation despite the fact that over 75% of children in the district are eligible for subsidized meals. On the other hand, in district Z, roughly 28% of third graders had been the subject of a maltreatment investigation despite the more moderate 40% poverty rate in the district.

## ***Policy Implications***

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Our analysis clearly indicates that early childhood maltreatment is much more common than many lay people suspect. Indeed, the estimates generated in the current study indicate that formal maltreatment investigations are more prevalent than child asthma

(8.4%), child food allergies (7.6%), child disabilities (5.2%) and even the combined rate of child and adolescent obesity (17%).<sup>15</sup>

Moreover, the prevalence of child maltreatment is extraordinarily high in some schools. In many Michigan elementary schools, more than one-third of students (and in some cases over half of students) have been the subject of an investigation. Finally, as one would expect, early child maltreatment is a powerful predictor of academic difficulties.

Despite its prevalence and salience for a child's educational progress, teachers and administrators typically have little formal or confirmed information about child maltreatment – either for an individual child or at the school level. In special circumstances, school personnel may be able to obtain more information about specific children. But in the vast majority of school districts, the data on child maltreatment and foster care is not linked to a child's educational records.

These findings suggest several important avenues for policy, including the following specific recommendations:

1. State officials should design and implement systems to allow for easier and timelier sharing of data between the education system and the child welfare system.

In several instances, researchers have been able to link data systems for the purpose of analyses like the current study.<sup>16</sup> And, in the case of foster care, some states have now linked data so that school records have some indication of whether a student is currently in foster care. But to the best of our knowledge, no state has established linkages whereby school personnel can easily and systematically determine whether an individual child has been the subject of a maltreatment investigation, or even the prevalence of such investigations within a school.

2. School personnel should utilize data on child maltreatment and/or foster care placement to identify students at risk of academic difficulties and provide support for these children.
3. Schools or districts with especially high rates of child maltreatment should implement programs specifically aimed at addressing this problem.

A high concentration of children who have been exposed to trauma imposes a substantial burden on teachers and administrators. While there are examples of programs designed to serve foster care youth, we do not know of any such programs designed to serve the broader population of youth who have experienced some form of maltreatment.<sup>17</sup>



Given the importance of early academic performance, it is critical for school systems to develop ways to support children who have experienced maltreatment. This will require collaboration across education and social service entities to an extent that is rarely seen today.

**Table 1 – Prevalence of reported maltreatment**

	Reported Maltreatment by Grade 3		
	% of group with any report	% of group with unsubstantiated report	% of group with substantiated report
All students	17.7%	11.3%	6.4%
Gender			
Female	17.5%	11.2%	6.3%
Male	17.8%	11.3%	6.5%
Race			
White (non-Hispanic)	15.0%	9.7%	5.3%
Black (non-Hispanic)	28.9%	18.1%	10.7%
Hispanic	17.4%	11.2%	6.2%
Asian	4.1%	3.1%	1.0%
Free-lunch status			
Poor	29.6%	18.6%	11.0%
Non-poor	4.9%	3.5%	1.4%
School Characteristics			
Urban	25.0%	15.3%	9.6%
Suburban	13.7%	9.3%	4.4%
Town/Rural	17.7%	11.1%	6.6%
Neighborhood Characteristics			
Poorer neighborhood	25.1%	15.8%	9.3%
Medium neighborhood	15.1%	9.8%	5.3%
Wealthier neighborhood	10.0%	6.6%	3.4%
<p>Notes: The sample is a cross section of third grade students in Michigan public schools born between 2000-2006. Unsubstantiated and substantiated are mutually exclusive categories. Numbers in column 1 may differ from those in columns 2 and 3 due to rounding. Poor is defined by free/reduced price lunch eligibility. Neighborhoods are defined by census block groups. Poorer neighborhoods are defined as having more than 10% of families below the poverty line. Medium neighborhoods have between 5 and 10% of families below the poverty line and wealthier neighborhoods have less than 5% below the poverty line.</p>			

Figure 5- Percent of Students with an Investigation of Abuse or Neglect by 3rd Grade

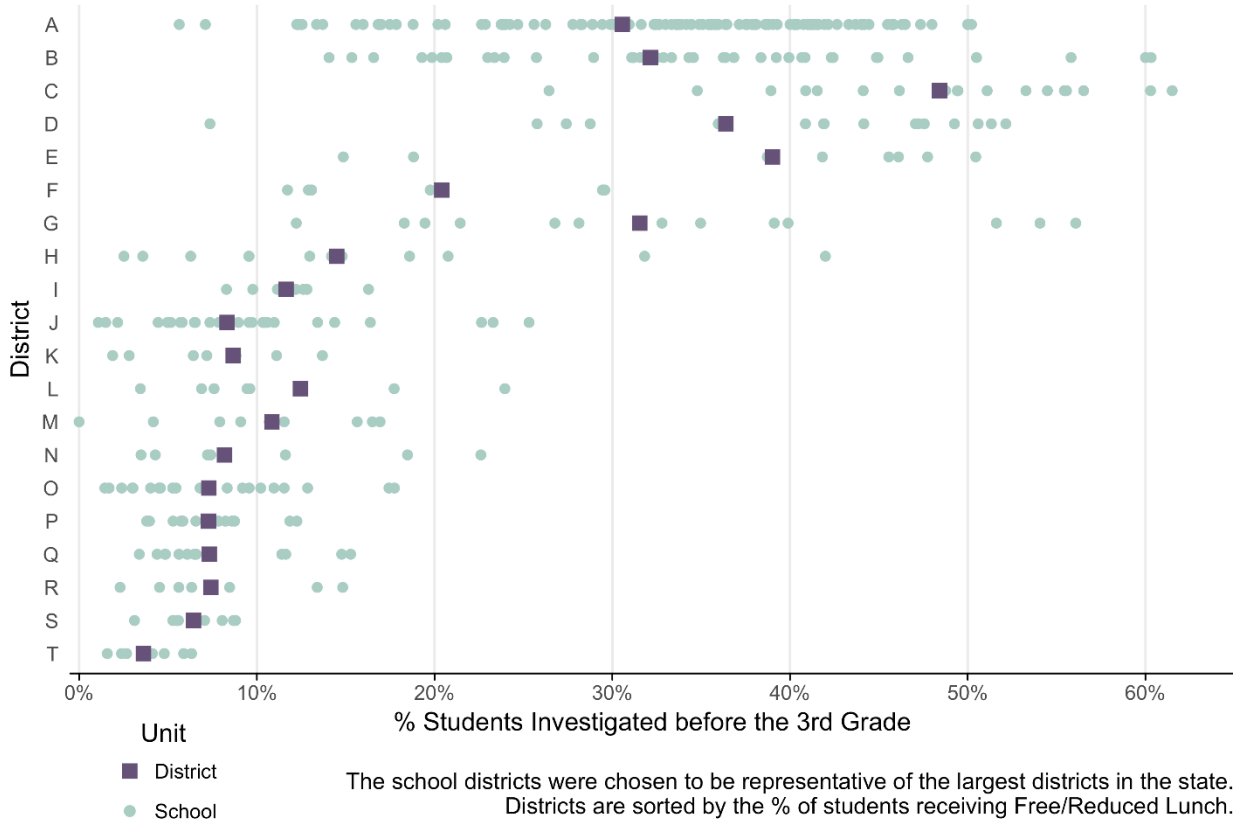
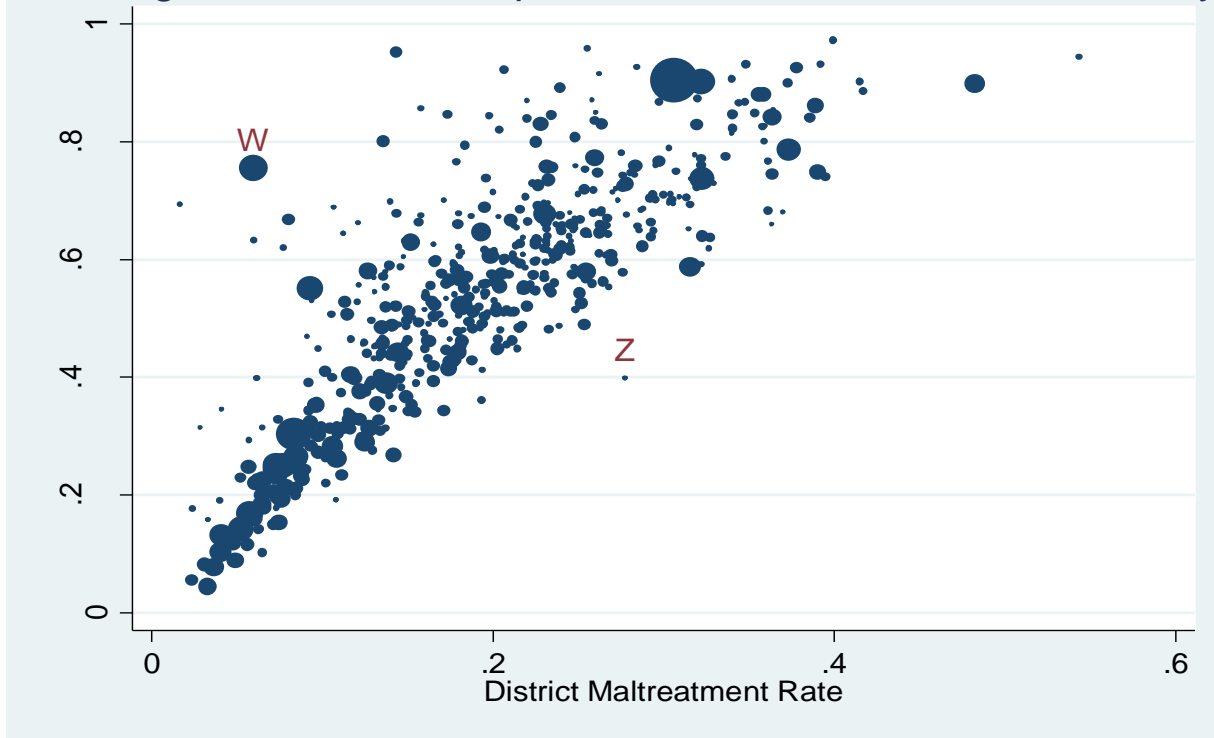


Figure 6- Relationship Between Maltreatment and Poverty



<sup>1</sup> Duncan, G. J. & Murnane, R. J. (Eds.) (2011). *Wither opportunity? Rising inequality, schools and children's life chances*. Russell Sage Foundation.

<sup>2</sup> Widom, C. S. (2017) Long – Term Impact of Childhood Abuse and Neglect on Crime and Violence. *Clinical Psychology, Science and Practice*, 24, 186-202.

<sup>3</sup> Zimmerman, G.M. & Kushner, M. (2017) Examining the Contemporaneous, Short-Term, and Long-Term Effects of Secondary Exposure to Violence on Adolescent Substance Use. *Journal of Youth and Adolescence*, 46, 1933 - 1952.

<sup>4</sup> Walsh, K., McLaughlin, K., Hamilton, A., & Keyes, K. (2017) Trauma exposure, incident psychiatric disorders, and disorder transitions in a longitudinal population representative sample. *Journal of Psychiatric Research*, 92, 212-218.

<sup>5</sup> See, for example, the <https://youthlaw.org/wp-content/uploads/2015/05/the-invisible-achievement-gap-report.pdf>.

<sup>6</sup> See <http://www.chapinhall.org/voyc>

<sup>7</sup> U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2017). *Child Maltreatment 2015*. <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>.

<sup>8</sup> This research result used data structured and maintained by the Michigan Consortium for Educational Research (MCER). MCER data is modified for analysis purposes using rules governed by MCER and are not identical to those data collected and maintained by the Michigan Department of Education (MDE) and/or Michigan's Center for Educational Performance and Information (CEPI). Results, information and opinions solely represent the analysis, information and opinions of the author and are not endorsed by, or reflect the views or positions of, grantors, MDE and CEPI or any employee thereof.

<sup>9</sup> We exclude roughly 8% of children who were missing basic demographic information, standardized test scores or information about their neighborhood.

<sup>10</sup> See: [http://www.michigan.gov/mdhhs/0,5885,7-339-73971\\_7119\\_50648\\_7193---,00.html](http://www.michigan.gov/mdhhs/0,5885,7-339-73971_7119_50648_7193---,00.html)

<sup>11</sup> Drake, B., Lee, M., & Jonson-Reid, M. (2009) Race and child maltreatment reporting: Are blacks overrepresented? *Children and Youth Services Review*, 31, 309-316.

<sup>12</sup> Drake, B., Jolley, J., Lanier, P., Fluke, J., Barth, R., & Jonson-Reid, M. (2011) Racial Bias in Child Protection? A Comparison of Competing Explanations Using National Data. *Pediatrics*, 127, 1-8.

<sup>13</sup> We find comparable results using student achievement measured in scale scores.

<sup>14</sup> We exclude any schools with fewer than 30 third-graders.

<sup>15</sup> For asthma, see:

CDC report: [https://www.cdc.gov/asthma/most\\_recent\\_data.htm](https://www.cdc.gov/asthma/most_recent_data.htm).

For child obesity, see:

Ogden, C.L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014). "Prevalence of childhood and adult obesity in the United States, 2011-2012." *Journal of the American Medical Association*, 311, 806-814.

Long, M., Ward, Z., Resch, S., Cradock, S., Wang, Y., Giles, C., & Gortmaker, S. (2016). "State-level estimates of childhood obesity prevalence in the United States corrected for report bias." *International Journal of Obesity*, 40, 1523–1528.

For food allergies, see:

Sicherer, S. (2011). "Epidemiology of food allergy." *Journal of Allergy and Clinical Immunology*, 127, 594-602.

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Taylor-Black, S., Mehta, H., Weiderpass, E., Boffetta, P., Sicherer, S., & Wang, J. (2014). “Prevalence of Food Allergy in New York City (NYC) School Children.” *Annals of Allergy, Asthma and Immunology*, 112, 554–556.

For disabilities, see:

Brault, Matthew W. (2011). “School-Aged Children with Disabilities in U.S. Metropolitan Statistical Areas: 2010.” *American Community Survey Briefs*. ACSBR/10-12, U.S. Census Bureau

<sup>16</sup> See, for example, the <https://youthlaw.org/wp-content/uploads/2015/05/the-invisible-achievement-gap-report.pdf>, and the research conducted at <http://www.chapinhall.org/>

<sup>17</sup> For information on the Seattle program, see: <https://www.npr.org/sections/ed/2017/12/27/562341427/why-foster-care-students-in-seattle-are-beating-the-odds>. For information about the activities in Philadelphia, see: [http://www.philly.com/philly/education/20161017\\_A\\_private\\_h\\_s\\_for\\_kids\\_in\\_foster\\_care\\_arises\\_from\\_closed\\_charters.html](http://www.philly.com/philly/education/20161017_A_private_h_s_for_kids_in_foster_care_arises_from_closed_charters.html)