

Pathways to Potential Evaluation Report:

Evaluating a school-based social and material needs identification system to improve student attendance and safety

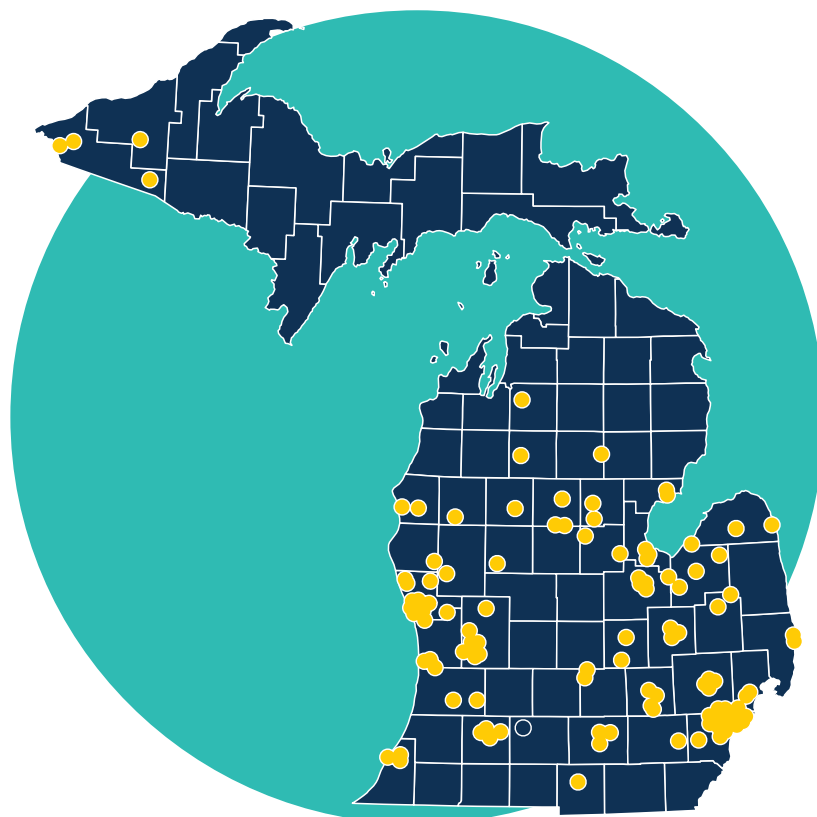


Figure 1: A map of Michigan with the locations of the public K-12 Michigan schools where Pathways to Potential was implemented during the 2023–24 school year.

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Executive Summary

This report summarizes the findings of a study funded by the Centers for Disease Control and Prevention on the effects of Pathways to Potential (P2P), a Michigan Department of Health and Human Services (MDHHS) program. From 2012 to 2025, P2P placed MDHHS caseworkers in public K-12 schools across Michigan to address unmet material needs that were barriers to regularly attending school. P2P started in 20 schools and grew to around 300 schools at its peak, focusing on schools that had high chronic absenteeism rates.

Our team based at the University of Michigan evaluated the program for three student outcomes: 1) chronic absenteeism; 2) child maltreatment investigations, and; 3) violence-related expulsions.

We observed effects across each outcome examined, finding that P2P:

- Reduced chronic absenteeism rates by 8%
- Reduced total child maltreatment investigations by 5%
- Reduced child maltreatment investigations for physical neglect by 12%
- Reduced weapon-related expulsions by 31%
- Reduced firearm-related expulsions by 82%*

The findings of our evaluation suggest that school-based strategies to identify and address students' and their families' material needs may be a feasible and effective strategy for preventing chronic absenteeism, diverting family contact away from the child welfare system, and preventing severe aggression at a critical stage in children's lives.

**Interpret with caution given rarity of expelling students for bringing firearms to schools*

Introduction

School-based interventions, such as Pathways to Potential (P2P), that address students' unmet material needs may address foundational vulnerabilities to student learning and safety. Across childhood and adolescence, material resources—including but not limited to nutritious food, adequate clothing, reliable transportation, and stable housing—promote youth development and wellbeing.¹⁻³ However, the prevalence of unmet material needs among school-aged children is high in the United States.⁴ During the 2022-23 school year, over one million pre-K-12 students experienced housing instability.⁵ Additionally, during the 2024 calendar year, over 18% of households with children experienced food insecurity.⁶

Unmet material needs can adversely affect student learning and behavior, with negative consequences extending into adulthood. These material needs have direct implications for student success and school climate, as they may interfere with students' learning,⁷ create barriers to regular attendance,^{8,9} and increase the chances that a student experiences or engages in bullying.^{10,11} Additionally, unmet material needs disproportionately burden students who already experience educational disadvantages rooted in racism and classism. The harmful effect of these unmet needs on student learning creates a cycle in which existing racial and socioeconomic disparities in academic achievement, graduation rates, and eventually health and income, reproduce themselves.¹²⁻¹⁶

Despite research establishing that needs rooted in socioeconomic disadvantages prevent students from attending school, interventions to address such barriers lack a strong evidence base. A 2022 meta-analysis grouped results from 22 studies to examine the effects of school-based programs on student attendance in pre-K–12 public schools.¹⁷ It found that most practices to improve student attendance are either understudied, lead to small effects, or both. None of these interventions, however, directly addressed unmet material needs that could prevent students from attending school, and instead focused on behavioral interventions, family–school partnerships, and academic interventions.¹⁷

Promisingly, the research literature is growing in its attention to how addressing unmet material needs can improve student attendance, grades, test scores, and graduation rates.¹⁸ Although the field has not observed the same progress in attending to unmet material needs as root causes of school violence,¹⁸ we considered this worth exploring.

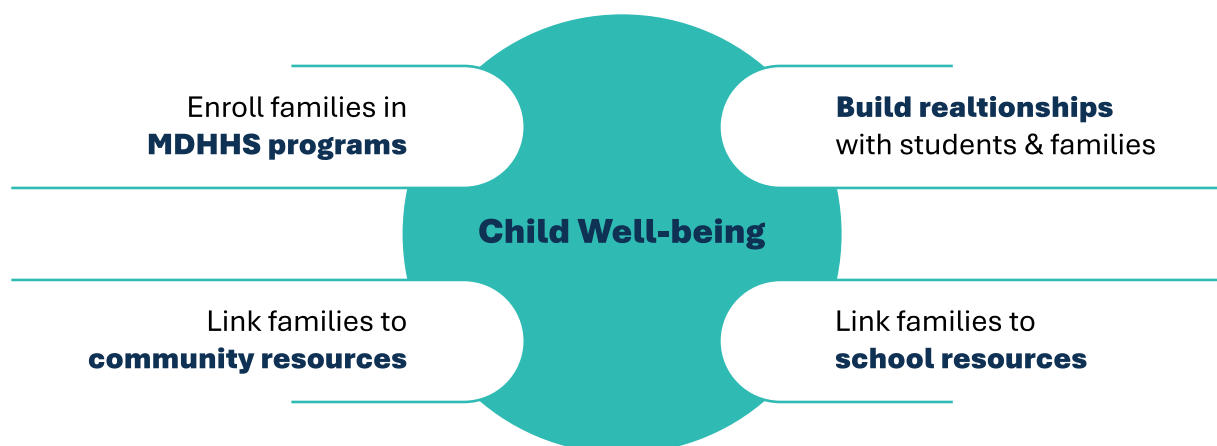
Our team undertook the evaluation study presented here to determine the effectiveness of a school-based material needs intervention, P2P, on proximal (chronic absenteeism) and distal (child maltreatment, violence-related expulsions) student outcomes. Our team used a quasi-experimental design with state administrative data to examine whether P2P is a promising model to prevent various adverse student outcomes.

Program Description

From 2012 to 2025, MDHHS implemented P2P as a new approach to delivering human services. Select public K-12 schools throughout Michigan received this school-based intervention to identify and address students' basic needs. As part of the intervention, MDHHS placed caseworkers, named "success coaches," in schools with high rates of chronically absent students (defined as missing at least 10% of school days). MDHHS enrolled schools on a rolling basis from 2012–2025, with MDHHS initially prioritizing schools that were struggling with attendance and located in communities with high crime rates. MDHHS adapted these priorities as the program expanded. P2P began with 20 schools at the beginning of 2012-13, and peaked at over 300 schools during the 2017-18, 2018-19, and 2019-20 school years.

Success coaches collaborated with school staff to identify students who were struggling to regularly attend school or had unmet material needs, such as not having a backpack or enough food. As illustrated in Figure 2, success coaches then addressed students' and families' basic needs by connecting them to a network of services. Specifically, success coaches connected students and families to school resources (e.g., after school activities) and community organizations (e.g., food banks). Success coaches could also enroll individuals and families in MDHHS public benefits (e.g., Supplemental Nutrition Assistance Program). Overall, success coaches were trusted sources of information and actively connected students and their families to programs and resources.

Figure 2: Success coaches sought to improve child-well being through four interrelated approaches to connecting students and families with material support.



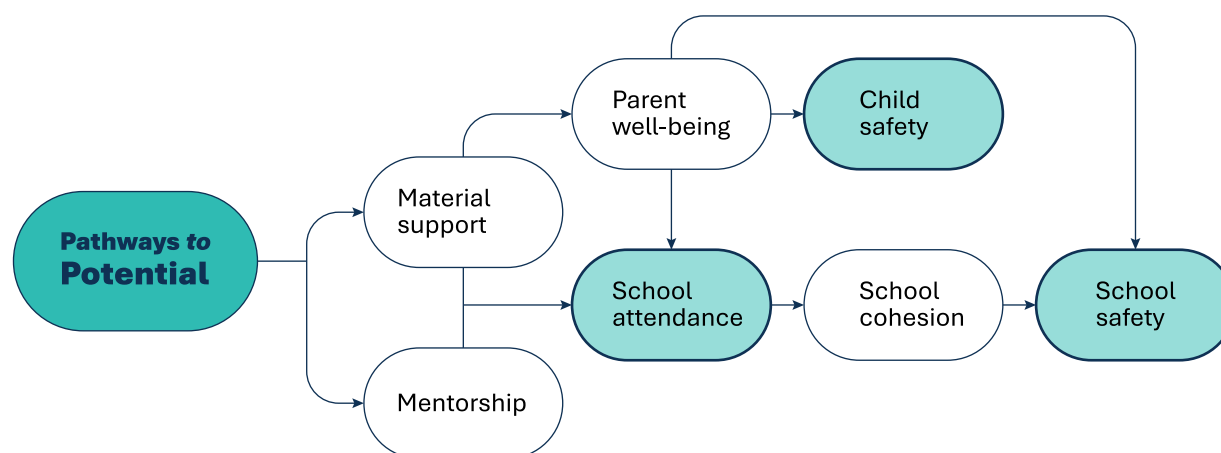
Evaluation Questions

Our evaluation of P2P in Michigan K-12 public schools focused on examining the effect on:

1. chronic absenteeism,
2. child maltreatment investigation rates, and
3. violence-related expulsions.

As shown in Figure 3, our team posited that P2P would act on social and material barriers that affect student outcomes. By addressing unmet material needs and providing mentorship, success coaches sought to improve parent wellbeing and school attendance which, in turn, could lead to improvements in school and child safety.

Figure 3: Our theory of change for P2P is that it acted on upstream factors—largely material needs and hardships—that are determinants of many different youth outcomes.



Methodology

Data Sources

Data for these analyses included P2P program data from MDHHS, administrative student educational records from the Michigan Education Research Institute-Michigan Education Data Center (MERI-MEDC), and child welfare data from MDHHS. The administrative student educational and child maltreatment investigation records included child-level data for children in Michigan. We grouped these data by school year to obtain the number and characteristics of students at each school prior to conducting the analyses.

Measures

Exposure – P2P Intervention: We identified schools that implemented P2P and school years the program was active.

Outcome – Chronic Absenteeism: Chronic absenteeism was the count of students in a school who were absent $\geq 10\%$ of possible school days in a school year.

Outcome – Child Maltreatment Investigations: Child maltreatment investigations included (1) the number of child maltreatment investigations in a school in a given school year (regardless of alleged maltreatment type), and (2) the number of child maltreatment investigations specific to child physical neglect in a school in a given school year. Physical neglect is a maltreatment subtype in Michigan attributed to not meeting a child's basic needs for food, nutrition, housing, or supervision.

Outcome – Violence-related Expulsion: For each school and outcome, we calculated the number of expulsions per 1,000 student-years. Overall violence-related expulsions included firearm possession, other weapon possession, physical violence with injury, and/or physical violence without injury. Weapon-related expulsions included only the incident types of firearm possession and/or other weapon possession. Finally, firearm-related expulsions included the incident type of firearm possession.

Statistical Analyses

Analyzing Effects of P2P on Absenteeism and Maltreatment Investigations

Chronic absenteeism and child maltreatment investigations are closely tied to the material hardships P2P was designed to address. To measure P2P's effect on each, we took advantage of the program's implementation over time. Because schools joined P2P in different years, we could compare each school's outcomes before and after the program arrived, then combine the results across all schools. To ensure fair comparisons, we only included schools that operated continuously across the full study period, had valid attendance and enrollment data, and had at least three years of data both before and after starting P2P.

Our analyses covered school years 2008–09 through 2018–19 and included 160 schools that adopted P2P during that window, giving us 894 school-school years of data before P2P and 866 school-school years during P2P. For each school, we used its data before P2P to establish its trend, then measured how outcomes changed once the program arrived. This gave us an effect estimate for every school, which we then pooled across all 160 schools. Pooling the results reflects the program's typical effect rather than the experience of any single school during specific years of P2P. Readers interested in the technical details of these analyses can consult the peer-reviewed articles listed under Additional Resources.

What this analysis can and cannot tell us. Because we compared schools to their own past trends rather than randomly assigning schools to the program, we cannot fully rule out that

other events occurring at the same time contributed to the changes we observed. However, the fact that schools started P2P in different years strengthens our confidence in the results, since an outside event would have needed to coincide with each school's individual start date. We also cannot determine how P2P performed during or after the COVID-19 pandemic because the pandemic dramatically changed how attendance and maltreatment were recorded, and so our study period ended with the 2018-19 school year. Finally, our analyses were conducted at the school level, not the student level. We can conclude that P2P benefited schools, but not which students within those schools benefited most.

Evaluating Violence-related Expulsions

Violence-related expulsions required a different approach. Expulsions are rare events, and most schools had none in any given year, so there was not enough history within each school to establish a trend the way we did for absenteeism and maltreatment. Instead, we compared schools that received P2P to similar Michigan schools that did not by using a statistical method designed specifically to produce reliable estimates for rare outcomes (i.e., targeted minimum loss-based estimation). The method adjusts for measured differences between P2P and comparison schools, so that the comparison schools are as similar to the treated schools as the data allow.

These analyses covered school years 2011–12 through 2016–17. We ended the study window there because Michigan changed its expulsion laws beginning in 2017–18, requiring schools to weigh factors like a student's age and disciplinary history before expelling them.²⁰ Including years after that change would have made it impossible to tell P2P's effects apart from the effects of the new law. We examined three violence-related expulsion categories separately: expulsions for any violence; expulsions involving any weapons, including firearms; and expulsions involving only firearms. The technical details are in the articles listed under Additional Resources.

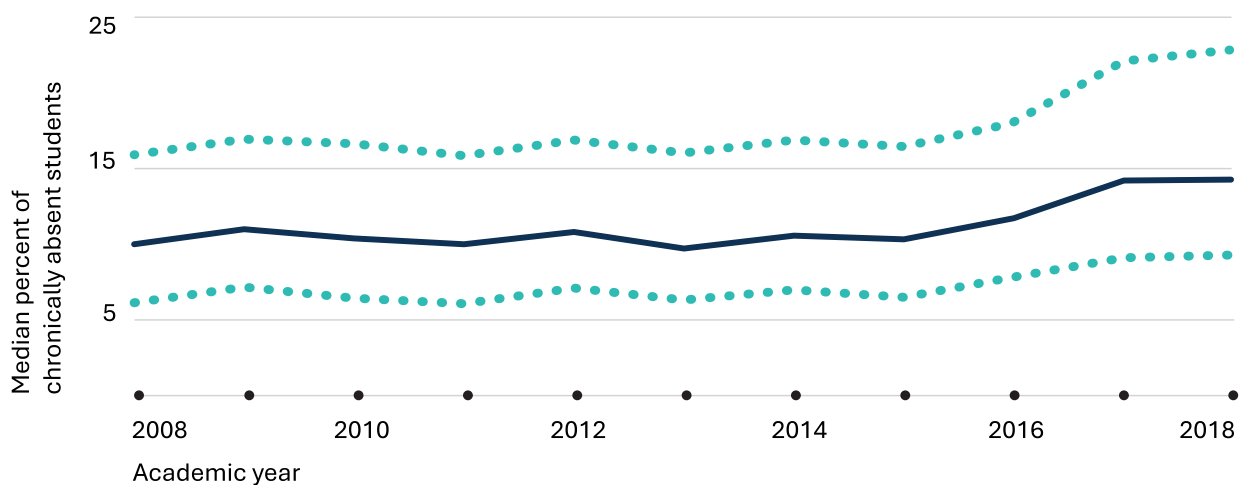
What this analysis can and cannot tell us. The main challenge is that P2P schools were not identical to comparison schools. MDHHS intentionally placed P2P in schools with higher chronic absenteeism and more economically disadvantaged students, which is what the program was designed to address, but it means that comparison schools started from a different baseline. Our method adjusted for these measured differences, but we cannot rule out that unmeasured differences between the P2P schools and comparison schools influenced the results. In addition, because the study window ends in 2016–17 and the COVID-19 pandemic later changed how and how often schools expelled students, it is unclear how well these findings apply to more recent years.

Findings

Chronic Absenteeism

Over the study period, 2008–09 through 2018–19, 160 schools included in the analyses implemented P2P. Chronic absenteeism increased across all Michigan K-12 schools during this time, including P2P schools (Figure 1). For P2P schools specifically, chronic absenteeism rose from an average of 32.5% of all students at a school being chronically absent before the program to 37.2% during it (Appendix Table 1).

Figure 4. Chronic absenteeism in Michigan public K-12 schools from 2008-09 through 2018-19.



Notes: Solid blue line represents median percent of chronically absent students in Michigan public K-12 schools each year. Dashed green lines represent the interquartile range.

Absenteeism still rose in P2P schools, but far less than the schools' own trends predicted. Once P2P began, a school's chronic absenteeism rate was, on average, 7.9% lower than its pre-program trend, an effect that appeared immediately and held over time (Appendix Table 1). In practical terms, this prevented approximately 21 students per school per year from being chronically absent, which extrapolates to an estimated 18,394 chronic absenteeism cases prevented during P2P (between 2012–13 and 2018–19).

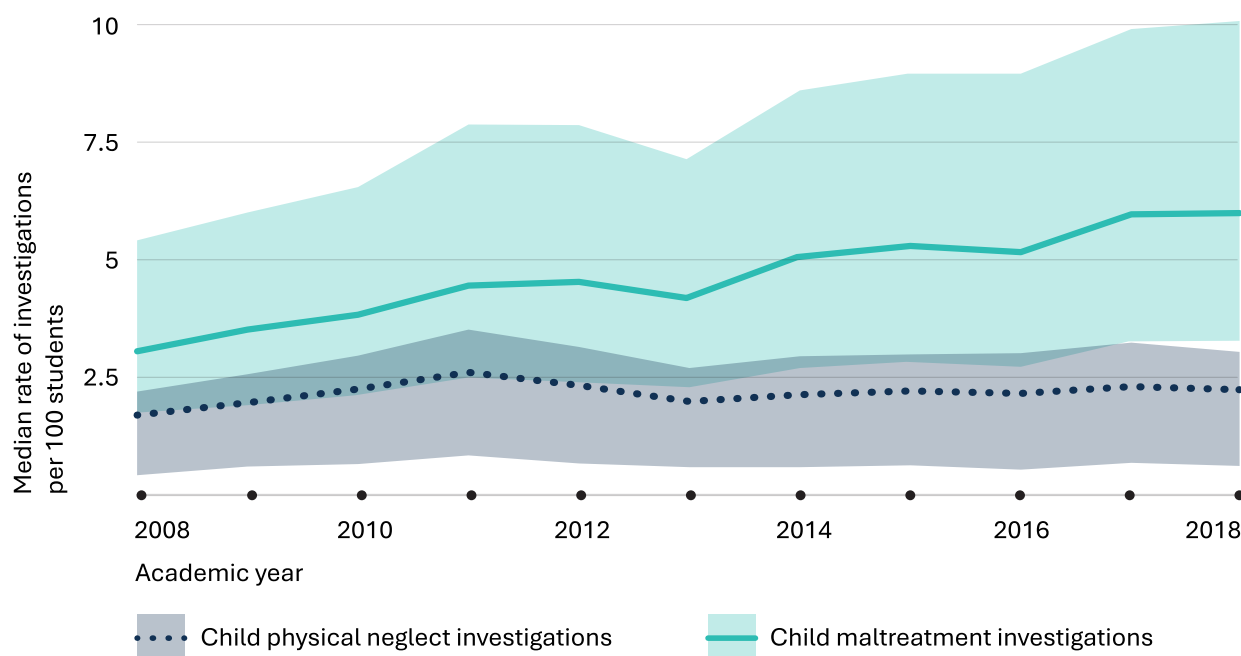
Prevented **21 students**
per school per year from being
chronically absent

Prevented **18,394** chronic
absenteeism cases during program
implementation

Child Maltreatment

Across all Michigan public K-12 schools, the rate of students involved in child maltreatment investigations increased over time (Figure 5). For P2P schools specifically, investigation rates rose from an average of 9.9 per 100 students before the program to 13.1 per 100 students during it. Physical neglect investigation rates rose more slowly, from an average of 5.0 per 100 students before the program to 5.6 during it (Appendix Table 2).

Figure 5. Annual rates of Michigan K-12 students involved in child maltreatment investigations from 2008-09 through 2018-19.



Notes. Solid green line represents median rate of child maltreatment investigations (per 100 students) in Michigan public K-12 schools each year, with shading representing the interquartile range. Dotted blue line represents median rate of child physical neglect investigations (per 100 students) in Michigan public K-12 schools each year, with shading representing the interquartile range.

Total Child Maltreatment Investigations

Investigation rates still rose in P2P schools, but less than those schools' own trends predicted. Once P2P began, a school's yearly investigation rate was, on average, 5% lower than its pre-program trend predicted, an effect that appeared immediately and held over time (Appendix Table 2). This equated to preventing a little over 4 child maltreatment investigations per school per year, which extrapolates to an estimated 3,615 child maltreatment investigations prevented during P2P (between 2012–13 and 2018–19).

3,615 child maltreatment
investigations prevented

3,215 physical neglect
investigations prevented

Child Physical Neglect Investigations

P2P also buffered against the increase in child physical neglect investigation rates, with an immediate and sustained reduction across P2P schools. P2P was associated with an average reduction in child physical neglect investigation rates of 12% (Appendix Table 2). This equated to preventing almost 4 child maltreatment investigations per school per year, which extrapolates to an estimated 3,215 physical neglect investigations prevented during P2P (between 2012–13 and 2018–19).

Violence-related Expulsions

Violence-related expulsions were rare events. Most schools had none during the study period, with P2P and comparison schools looking similar on these outcomes before the program began (Appendix Table 3).

31% lower
weapon-related expulsion rate

82% lower
firearm-related expulsion rate

Schools that received P2P had weapon-related expulsion rates about 31% lower, and firearm-related expulsion rates about 82% lower than comparable schools that did not receive the program (Appendix Table 4). However, firearm expulsions were so rare, with just 12 across the entire study period, that this estimate should be read cautiously. P2P made no detectable difference in expulsions for overall violence-related expulsions.

Conclusions

This evaluation found that a school-based program that targeted unmet material needs, Pathways to Potential, likely offered a feasible and effective strategy for reducing chronic absenteeism, diverting family contact away from the child welfare system, and preventing severe aggression at a critical stage in children’s lives. The findings presented here offer evidence for states, districts, and schools that school-based programs to identify and address students’ and their caregivers’ material needs may be a promising strategy for improving student behavioral and safety outcomes.

Chronic Absenteeism

Even during program implementation, chronic absenteeism rates continued to increase. P2P worked against this increasing trend and likely prevented an even steeper increase in chronic absenteeism that would have occurred if P2P had not taken place. Just as chronic absenteeism has no single cause, it has no single solution. Efforts to reduce and prevent chronic absenteeism likely require multiple, simultaneous strategies that make attending school possible and easy for students and their families. This evaluation suggests that tackling socioeconomic barriers to attending school may be a critical piece of this solution.

Child Maltreatment

P2P success coaches may have identified, addressed, and provided for students' and families' material needs before the needs substantially harmed children and led to interaction with the child welfare system. Connecting families to resources can alleviate financial and emotional burdens, reducing stressors that may lead to family conflict and economic pressure before it disrupts parenting.

Alternatively, the program may have reduced investigations by offering teachers and other education professionals a way to address concerns about students' material needs without involving the child welfare system. Educators are mandated reporters but child protective services does not find evidence of maltreatment for around 87% of educator reports.²¹⁻²³ Material needs support programs may offer a constructive alternative, enabling school personnel to address students' basic needs without initiating unnecessary involvement with the child welfare system.

Violence-related Expulsions

The study found effects on weapon-related expulsions (including firearm-related expulsions), but analyses did not find effects on overall violence-related expulsions. This may be because overall violence-related expulsions can result from a range of personal and interpersonal factors, and so a school-based intervention for addressing material needs might not sufficiently influence the entire range.

P2P may also not have addressed educator, school, and district biases that influence which students they expel and for which incidents. During the study period, bringing a weapon to school was a zero-tolerance offense and required a student to be expelled. School districts had discretion, however, over whether to expel students for other violent incidents. The subjectivity involved in overall violence-related expulsions was absent from weapon-related expulsions, and it may explain why the protective effective observed for weapon-related expulsions did not generalize to overall violence-related expulsions.

Lessons Learned and Future Directions

Efforts to address students' and their families' unmet material needs may be an efficient strategy to improve a wide range of outcomes, including but not limited to student attendance and youth safety.

Given the relationship of student attendance with academic performance and graduation rates, programs like P2P may carry benefits that extend into adulthood such as increased earnings, upward economic mobility, and lower social service burden. Future cost-benefit analyses can lend insights into the value that P2P and similar programs have for individuals and society.

As this evaluation focused on public K-12 schools in Michigan prior to the COVID-19 pandemic, future work to evaluate similar material need support programs in other states would provide a better understanding of the generalizability of this model to other settings and in the post-pandemic educational and social service landscape.

Improving school attendance may be a mechanism through which addressing material needs can improve youth safety. It may be that improving school-wide attendance improves school cohesion and reduces student alienation, thereby reducing known risk factors for school violence. Alternatively, or in addition, it may be that unmet material needs are common causes of absenteeism, school violence, and child maltreatment, and so programs such as P2P prevent adverse outcomes across all three. Finally, it may also be that improving school-wide attendance increases interaction with the program, thus supporting more students and their families and connecting with them at a greater frequency to address causes of absenteeism, school violence, and child maltreatment. Future work to learn how P2P and similar programs produce their effects could inform school-based strategies to improve various youth outcomes.

Regardless of how P2P influenced school attendance, youth safety, and child maltreatment, the present evaluation suggests the program produced benefits for all three outcomes. P2P, and similar school-based programs that identify and address unmet material needs, may offer an effective early prevention model to support students and their families, thereby avoiding serious behavioral and academic problems before they begin.

Additional Resources

Readers interested in the details of the evaluation can review the following peer-reviewed articles:

- Sokol, R., Degli Esposti, M., Victor, B. G., Kernsmith, P., Medina Del Toro, V., Heinze, J., Portugal, J., Grinnell, R., & Gernaat, E. (2026). [A school-based material needs intervention for chronic absenteeism: a state-wide staggered interrupted time series analysis.](#) *Journal of epidemiology and community health*, 80(3), 174-180.
- Sokol, R., Victor, B. G., Degli Esposti, M., Del Toro, V. M., Kernsmith, P., Stearns, D., Portugal, J., & Heinze, J. (2026). [Evaluating the effect of a school-based material needs intervention on child maltreatment investigations in Michigan: A staggered interrupted time series study.](#) *Child Abuse & Neglect*, 178, 108161.

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Appendices

Appendix Table 1. Chronic absenteeism in Michigan public K-12 schools each year before and during Pathways to Potential implementation (n=160).

	Incidence rate ratio (95% CI)			
	Before P2P implementation	During P2P implementation	Linear trend	Step change following P2P
Percentage of chronically absent students	32.52 (21.73)	37.16 (23.39)	1.04 (1.03, 1.05)	0.92 (0.88–0.96)
Count of chronically absent students	163.94 (139.42)	167.79 (133.24)	—	—
Student count	480.04 (190.88)	442.79 (182.59)	—	—

Notes. We aggregated variables for each school by averaging these values across the years before P2P implementation and the years during P2P implementation. Linear trend and incidence rate ratio from random effects meta-regression of simple ITS quasi-Poisson regressions using data from 2008–09 through 2018–19. Abbreviations: CI (confidence interval); ITS (interrupted time series); P2P (Pathways to Potential); SD (standard deviation)

Appendix Table 2. Child maltreatment in Michigan public K-12 schools each year before and during Pathways to Potential implementation (n=160).

Incidence rate ratio (95% CI)				
	Before P2P implementation	During P2P implementation	Linear trend	Step change following P2P
Average child maltreatment investigation rate, per 100 students	9.91 (6.18)	13.10 (6.44)	1.07 (1.06, 1.08)	0.95 (0.90–1.00)
Average count of students investigated for child maltreatment	44.12 (27.3)	56.18 (29.9)	—	—
Average child physical neglect investigation rate, per 100 students	4.96 (3.72)	5.58 (3.49)	1.05 (1.03, 1.06)	0.88 (0.82–0.95)
Average count of students investigated for physical neglect	22.03 (16.2)	24.17 (16.6)	—	—
Average student count	474.3 (202.0)	447.1 (187.1)	—	—

Notes. We aggregated variables for each school by averaging these values across the years before P2P implementation and the years during P2P implementation. Linear trend and incidence rate ratio from random effects meta-regression of simple ITS quasi-Poisson regressions using data from 2008–09 through 2018–19. Abbreviations: CI (confidence interval); ITS (interrupted time series); P2P (Pathways to Potential); SD (standard deviation).

Appendix Table 3. Rates of expelling students for violence in Michigan public schools before and during Pathways to Potential, stratified by Pathways to Potential participation status.

		Total (N=444)	District comparison schools (N=346)	P2P schools (N=98)	Effect size
Overall violence- related expulsions per 1000 students	Before P2P				-0.30
	Mean (SD)	0.85 (2.32)	0.70 (2.20)	1.39 (2.61)	
	During P2P				-0.20
	Mean (SD)	0.47 (1.01)	0.43 (0.89)	0.626 (1.34)	
Weapon-related expulsions per 1000 students	Before P2P				-0.09
	Mean (SD)	0.30 (1.07)	0.28 (1.11)	0.38 (0.95)	
	During P2P				0.16
	Mean (SD)	0.18 (0.45)	0.20 (0.48)	0.13 (0.31)	
Firearm-related expulsions per 1000 students ^a	Before P2P				-0.23
	Mean (SD)	0.04 (0.33)	0.03 (0.30)	0.10 (0.41)	
	During P2P				0.10
	Mean (SD)	0.03 (0.21)	0.03 (0.23)	0.01 (0.13)	
Firearm-related expulsions, n (%) ^a	Before P2P				0.15
	Expulsion	9 (2.0%)	3 (0.9%)	6 (6.1%)	
	During P2P				0.06
	Expulsion	12 (2.7%)	11 (3.2%)	1 (1.0%)	

Notes. Before intervention expulsion rates measured during the 2012-13 school year. During intervention expulsion rates measured during the 2013-14 through 2016-17 school years. District comparison schools did not receive P2P but were in school districts where at least one other school received P2P. Effect sizes presented as Cohen's d for continuous variables and Cramer's V for categorical variables, with bolding indicating large effect sizes (i.e., Cohen's d $\geq$ 0.8; Cramer's V $\geq$ 0.6). Abbreviations: SD (standard deviation)

a. Outcome years for firearm-related expulsions included 2013-14 through 2014-15.

Appendix Table 4. Results from violence-related expulsions models.

Outcome	n (treated)	n retained (treated) ^a	ATE	Percent change
Overall violence-related expulsion	444 (98)	249 (98)	-0.01 (-0.10, 0.08)	-1.78 (-27.9, 24.4)
Weapon-related expulsion	444 (98)	249 (98)	-0.06 (-0.10, -0.02)	-31.4 (-8.0, -48.9)
Firearm-related expulsion	444 (98)	249 (98)	-0.03 (-0.06, -0.01)	-82.9 (-54.1, -93.6)

Note. Pre-treatment covariates measured in the year prior to P2P. Abbreviations: Average treatment effect (ATE)

- a. To improve efficiency,^{24,25} the *tmle* package places bounds on g values (i.e., probability of treatment or propensity score) and retains observations within these bounds when estimating the ATE (lower bound: $5/\sqrt{n}/\log(n)$; upper bound: 1)