# A DIFFERENT APPROACH TO STUDENT BEHAVIOR: ADDRESSING SCHOOL DISCIPLINE AND SOCIO-EMOTIONAL LEARNING THROUGH POSITIVE BEHAVIOR INTERVENTION SYSTEMS

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## Overview

School and community leaders are increasingly concerned about the rates of student suspension and expulsion, and disparities by race and income. At the same time, they are interested in focusing schools on student outcomes that go beyond test scores, such as socio-emotional learning. Improved behavioral management has the potential to

accomplish both, by reducing negative behaviors and encouraging non-academic behaviors that are important to long-term life success. Positive Behavior Interventions and Supports (PBIS) is one increasingly common approach being used in thousands of schools across the country.

In this study, we provide evidence on the effects of the PBIS software and professional development platform called Kickboard. The software allows teachers to input data on a wide range of student behaviors in real time on portable electronic devices. School administrators can track student behavior by student and classroom. In addition to providing basic training to help all schools set up and use the software, Kickboard allows schools to purchase other services to help practitioners better use the software to change their school cultures.

In this study, we describe Kickboard usage among teachers and administrators and estimate the effect of Kickboard on student outcomes in Louisiana schools during the years 2011-2015. Several key findings emerge:

• Use of the Kickboard software varies widely across teachers, administrators, and schools. Some teachers almost never log in to the software while others log in several times per day.

• In the majority of Kickboard schools, the number of behaviors marked as positive in the system far exceeds the number of negative behaviors, consistent with the intended focus on positive behaviors.

• After the adoption of Kickboard, the average number of suspensions dropped by 0.14-0.38 per student per year (26-72% from baseline) and the average number of suspension days per student per year declined by 0.7-1.5 (at least 52% from baseline).

We designed the analysis to isolate the effect of using Kickboard itself from other factors that may affect student outcomes. Some of the evidence suggests that the use of Kickboard caused the reduction in discipline incidents, but we cannot rule out that the reduction was partly driven by changes in discipline strategies that accompanied Kickboard adoption.

While Kickboard aims to affect mostly non-academic outcomes, one possible concern with a reduction in the number of suspensions and expulsions is that keeping students with behavior issues in the classroom may harm the learning environment and reduce achievement for other students. We see no evidence of a reduction in achievement and some limited signs of increases in standardized test scores.

These positive findings are generally consistent with other rigorous studies of PBIS, which focus more on the PBIS professional development than software use. While there is still more we need to understand about PBIS, including Kickboard, these results are promising. Tracking student behavior in this way, and using the data as part of larger school culture strategy, seems to offer a way for schools to reduce exclusionary discipline and encourage more positive student behavior.

## BACKGROUND

One widely held purpose of schooling, in addition to teaching academic skills, is to develop the whole child, including positive social behaviors. Perseverance, grit, cooperation, and other aspects of social and emotional learning (SEL) can help students as they become adults. In the short term, these dispositions and skills can also help develop school environments that are more conducive to academic learning. Students are unlikely to learn math, reading, and other skills if their schools are not safe and positive learning environments. Teachers often report that managing student behavior in the classroom is one aspect of teaching for which they are least prepared.

School policies, such as student discipline, can also affect student behavior. Over the past two decades, many schools have adopted zero-tolerance policies that punish students with suspensions and expulsions, even for first offenses and seemingly minor infractions. The theory, following on the "broken windows" approach to policing, is that strict discipline on more minor incidents prevents more serious offenses. The large number of security guards and police

officers in schools is emblematic of this focus on reducing negative behaviors.

More recently, however, attention has shifted away from zero-tolerance policies. PBIS programs seek to prevent disruptive and dangerous behavior by providing: (a) a continuum of supports to meet the needs of all students, (b) regular monitoring of implementation and outcomes, and (c) the use of data to guide decisions. More than 25,000 schools nationally, or roughly 25% of all schools, report having adopted some version of PBIS.

A key goal of PBIS is for educators to focus less on punishing bad behavior and focus more on teaching, recognizing, and reinforcing positive behaviors. By reducing exclusionary discipline—suspensions and expulsions—students will spend more time in the classroom and get the professional help they may need, especially where their behaviors are manifestations of learning disabilities, trauma, mental health challenges, or other factors that school services may be able to help address. When students are removed from the classroom for discipline purposes, they may be left further behind academically and more likely to act out when they return, and the practice may place some students in unsupervised environments in their homes and communities. Being suspended or expelled also seems to have negative effects on academic outcomes and is associated with an increased likelihood that a child will have contact with the justice system in later years. The fact that suspension and expulsion rates are 2 to 3 times larger among students of color, low-income students, and those with disabilities reinforces these concerns.

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There are also some concerns about PBIS. First, this approach focuses on extrinsic rewards—incentives created by schools—and these may fail to develop students' intrinsic motivation for positive

behavior. If this approach does not increase students' personal drive toward positive behaviors, then even short-term improvements may be temporary and not last into adulthood. A second concern is that, if PBIS has the effect of reducing suspensions and expulsions, then this may harm the learning environment for everyone else, keeping disruptive students in the classroom and reducing average academic learning.

Prior research suggests that PBIS reduces the number of referrals to the principal's office and the number of suspensions, while in some cases increasing academic achievement. Moreover, there is evidence that additional PBIS training for teachers and administrators improves various measures of school climate; however, few studies have been designed to estimate the causal effects of such approaches.

Below, we address three main questions about Kickboard:

1.  How was Kickboard implemented in schools?

2.  What effect did the use of Kickboard have on suspensions and days suspended?

3.  What effect did the use of Kickboard have on other outcomes and specific subgroups of students?

## KICKBOARD AND PBIS

We study the effectiveness of a customizable PBIS data collection and professional development platform called Kickboard. Like other PBIS tools, Kickboard focuses on collecting data about student behavior and teacher responses to behavior, tracking outcomes over time, and building a positive school culture and climate.

The software provides a menu of pre-programmed behavioral categories, accompanied by varying levels of training with teachers and administrators. Teachers can input behavior data in real time using cell phones and tablet computers. The data are then summarized in dashboards that allow teachers to see data patterns for individual students and whole classes, including trends over time. The data are also meant to shape student-teacher interactions, e.g., through rewards given to students who attain a certain number of positive behavior "points." School administrators can track behavioral outcomes at the school level, and by classroom and teacher. Kickboard sells the software and PBIS/SEL-focused professional development for profit to schools on a per-student basis.

Schools that purchase the Kickboard platform receive two short sessions of virtual assistance for setting up the software, providing basic information about how the software works, and customizing the behavior categories that schools use. The initial configuration of the software includes behaviors that have been typically measured by teachers and included on report cards under what is sometimes called "citizenship." PBIS, however, emphasizes the importance of measuring and rewarding specific positive behaviors. The pull-out box below lists all behaviors that Kickboard, based on their prior research, pre-programs into the software.

### Pre-Programmed Behaviors in Kickboard

- Showing pride in school
- Collaboration
- Kindness
- Takes pride in one's work
- Leadership
- Helps others
- Uses time wisely
- Being prepared
- Love of learning
- Makes good choices
- Active listening/engaged
- Cooperation
- Uses appropriate communication
- Caring
- Self-reliant
- Perseverance/resilience,
- Making an insightful comment
- Organization
- Above and beyond

Schools can and do add their own behavior codes, beyond those that are pre-programmed. In the schools we studied, there were more than 400,000 different behavior codes used. While these were often only slight variations of the same behaviors (e.g., the word "responsibility" shows up in many different codes), the large number of codes suggests that schools seek to customize the software to their specific needs and goals.

Roughly 20% of schools also purchase up to four additional six-hour, in-person workshops from Kickboard when they are first starting to use the software. Schools can also purchase follow-up sessions roughly six months after the initial implementation that focus on sustaining and embedding the software and PBIS in the ongoing work of educators. While we are not able to distinguish between schools that receive the additional services and follows-ups and those that do not, the analysis that follows does describe various aspects of teacher and administrator implementation and analyze effects by intensity of implementation.

Kickboard is not the only software available for keeping track of student behavior. For example, Class Dojo is another software package that includes some of the same features.

## HOW DID WE STUDY KICKBOARD?

We study the use of Kickboard in 70 Louisiana schools—almost entirely elementary and middle schools—that started using Kickboard between 2009 and 2015 and had sufficient data for our analysis. Kickboard provided us with detailed data that show each behavior mark (positive and negative) made by each teacher for each individual student. Kickboard did not provide any personally identifiable information, such as student names, so we summed up the student behavior marks for each school by year.

Additional school-level and anonymized student-level data come from the Louisiana Department of Education (LDOE) and include student enrollments, demographics, test scores, and disciplinary records. Given the focus on (non-academic) behavior, perhaps the most important outcomes are disciplinary infractions. As in most school data systems, we observe the number of suspensions, the number of days suspended, and the type of infraction that led to the suspension.

Forty of the 70 schools using Kickboard in our sample are located in New Orleans. The city provides a unique context in which to study the effects of Kickboard because of the intense test- and market-based accountability put in place after Hurricane Katrina. New Orleans schools, run almost entirely by non-profit charter school operators, can be closed for poor performance with new schools opening in their places. More than three dozen schools have been taken over in New Orleans since 2005, so the set of open schools has been in flux.

We study the effects of adopting Kickboard using a difference-in-differences approach, in which we first compare treatment schools before and after they adopted Kickboard (the first difference) and then subtract this difference from the change in a matched comparison group (the second difference), while also controlling for student and school characteristics.

Students attending a Kickboard school, on average, score lower on standardized tests and are more likely to be suspended and serve more total days of suspension than the average student attending other schools. Kickboard schools also disproportionally serve students of color (92%) and students eligible for FRPL (86%). Accordingly, we conduct a matching process to create a comparison group of students that resembles the group of students attending a Kickboard school.

One general challenge with studying school discipline data is that schools only record and report behavior incidents that result in suspension (or expulsion). This means it is difficult to separate actual changes in student behavior from how consistently schools report incidents. Therefore, any apparent effects could be due either to the adoption of Kickboard or to changes in discipline policies that may have occurred at the same time, as part of a broader shift in school strategy and practice. We carry out two types of additional tests to address this possibility. One of these tests restricts the analysis to suspensions due to violent behavior. The other focuses on schools that did not use Kickboard intensively.

## HOW WAS KICKBOARD IMPLEMENTED IN SCHOOLS?

Figure 1 shows the average number of Kickboard behavior marks per student in schools' first year of Kickboard adoption. While it is most common that schools report student behaviors very infrequently (see the tall bar to the left in the figure), there is a wide range. In a small percentage of Kickboard schools, indicated to the far right of Figure 1, the average student had almost 400 marks per year (or roughly two per day per student).

### Figure 1. Intensity of first-year Kickboard usage varies widely across schools
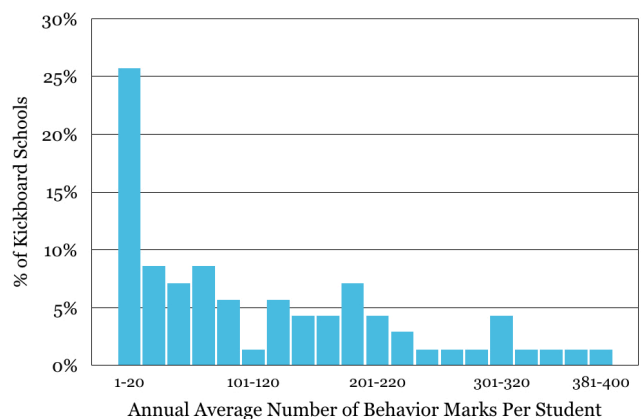
We are interested not just in the number of behavior marks, but also in the types of behaviors schools are capturing. Kickboard recommends that schools have a 3:1 ratio of positive-to-negative behaviors. Figure 2 shows the percentage of schools within each range of positive-to-negative behaviors in each school's first year of Kickboard adoption.

## Figure 2. Two-thirds of Kickboard schools have more positive than negative marks
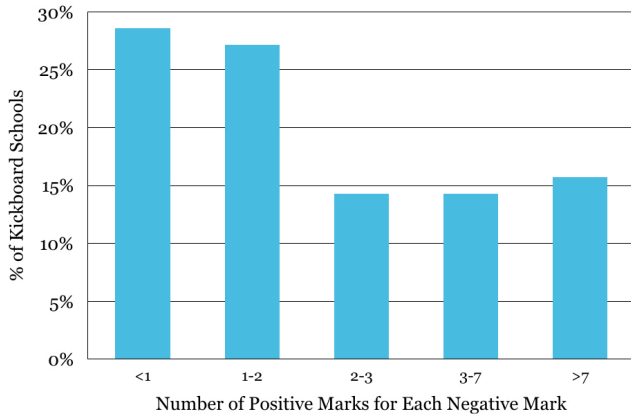


In the vast majority of schools, the number of positive behavior marks exceeds the number of negative behavior marks. This is partly a function of the software design, which pre-programs only positive behaviors (see above).

Still, the vast majority of schools are not close to the recommended 3:1 ratio either. Many schools are "too negative" by this standard, and others are "too positive."

## WHAT EFFECT DID THE USE OF KICKBOARD HAVE ON SUSPENSIONS?

Figure 3 provides a before-and-after comparison of suspensions in Kickboard and non-Kickboard schools. Note that the Kickboard schools had slightly more suspensions than the comparison group before they started using Kickboard, but that, after they started using the data platform, the numbers dropped to almost exactly match the comparison group. The figure implies that students in Kickboard schools experienced a decline in suspensions in the first year of Kickboard implementation. Our estimates of this effect range from 0.14-0.38, or a 26-72% decline from the baseline numbers. These changes, and others discussed below, are statistically significant (unless otherwise stated).

## Figure 3. The number of suspensions in Kickboard schools dropped in the year that schools adopted the software, compared with the matched comparison group
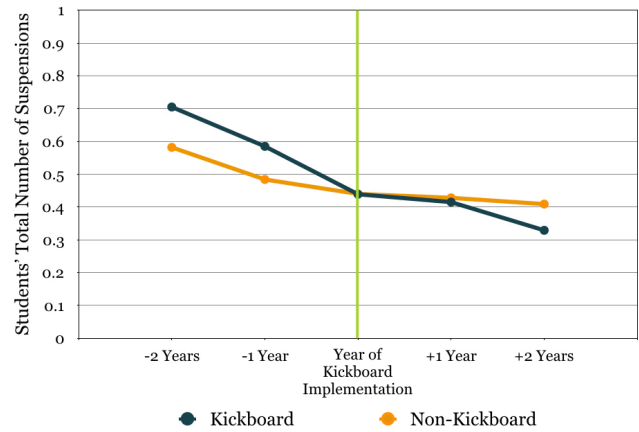


Since one of the main concerns with exclusionary discipline is that students miss school, we also examined the effects on the number of reported suspension days. Figure 4 looks similar to Figure 3. In schools using Kickboard, our estimates suggest, the average number of suspension days per student declined by 0.7-1.5 (at least 52% from baseline).

## Figure 4. The number of suspension days in Kickboard schools dropped in the year they adopted the software, compared with the matched comparison group
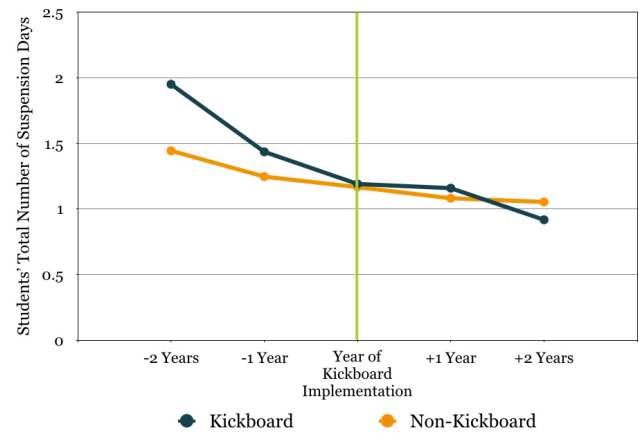


In the above figures, the Kickboard and comparison schools followed a parallel path before Kickboard was adopted, which is a good sign that Kickboard caused the change. However, it could still be that schools adopted Kickboard as part of a broader strategy that may have included becoming less strict in suspending students.

To test this, we carried out two additional types of analysis. First, we limited the analysis to violent behaviors, such as fighting and bringing weapons to school. The assumption in this additional analysis is that discipline decisions regarding violent behavior will be similar over time, compared with non-violent behavior, which may be affected more by changes in school policy.

The results follow a somewhat similar pattern to Figures 3 and 4, but the effects are no longer statistically significant (see technical report). This is at least partly because violent behaviors are extremely rare, making it harder to observe convincing changes even when they have occurred. Overall, we view this as partly supporting the idea that Kickboard contributed to improved student behavior.

A second way of testing whether Kickboard caused the drop in suspensions and suspension days is to estimate the effects separately for schools that used the software less intensively. At the extreme end, it is difficult to imagine that the software improved behavior if teachers did not use it.

We placed school into categories based on the average number of teacher and principal log-ins, and the number of student marks (see Figure 1 above). When we compare the schools with less intense use of Kickboard to those with more intense usage, we find little difference in the effects. Following this same logic, we also focused some analyses just on the schools that did not seem to be using the software at all. In these schools that were technically Kickboard schools, but with essentially no implementation, we see no effects on suspensions. This reinforces that the use of Kickboard may have driven the effects.

## WHAT EFFECT DID THE USE OF KICKBOARD HAVE ON OTHER OUTCOMES AND SPECIFIC SUBGROUPS OF STUDENTS?

The purpose of the PBIS approach is to improve student behavior and, for some, to highlight student outcomes other than test scores. Nevertheless, Kickboard could have indirectly reduced scores given that students with behavioral issues were apparently less likely to be suspended and more likely to stay in the classroom. We conduct analyses similar to Figures 3 and 4 for test scores in all academic subjects, but see no clear evidence of effects in either direction. We see somewhat more evidence of positive effects than negative ones, but these are too inconsistent to conclude there was any change. Overall, it does not appear that Kickboard, in reducing suspensions, led to an unintended negative effect on achievement.

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We also see no clear patterns in effects across student subgroups—by race, income, special education, and English Language Learner status. Part of the reason for this is that it is very difficult to identify a viable comparison group.

## CONCLUSION

Student behavior is important in schooling on many levels. It defines school culture, can facilitate academic learning, and is an important outcome in itself. Families do not just want their children to go to school to learn math, but to be broadly prepared for adulthood. Moreover, with growing concern about suspensions and expulsions, and large disparities by race and income, educators are searching for alternative ways to create engaging learning environments without excluding students who misbehave.

Our results suggest that Positive Behavior Interventions and Supports (PBIS) has potential to address these issues. As a particular PBIS tool, we find evidence that Kickboard reduced the number of suspensions and suspension days, and did not alter achievement. This is also consistent with prior rigorous research indicating positive effects of PBIS.

Some uncertainty remains. Despite carrying out many types of analysis, we cannot completely rule out that Kickboard schools were also adopting changes in their discipline policies at the same time and that these changes led to reduced suspensions. Also, there are legitimate concerns about the reliance on extrinsic incentives, which may mean any effects are short-lived.

Nevertheless, if the goal is to improve the learning environment and develop children in a wide variety of ways, PBIS and Kickboard do show promise.

## How is this Research Related to Other ERA–New Orleans Studies?

This study is part of series of work that ERA-New Orleans is pursuing on student discipline:

- In *What are the Sources of School Discipline Disparities by Student Race and Family Income?,* Nathan Barrett, Andrew McEachin, Jonathan Mills, and Jon Valant examined discipline disparities by race and income throughout the state of Louisiana. They found that Black and low-income students are about twice as likely to be suspended. These disparities are evident within schools and across schools. Also, black and low-income students receive longer suspensions than their peers for the same types of infractions, and even for the exact same incidents.

- In ongoing analysis, we are also examining the effects of the New Orleans school reforms—the state takeover and shift to an almost-all-charter district—on the frequency of discipline incidents.

We are also in the early stages with studies on the use of Restorative Justice as another alternative to zero-tolerance policies.

## About the Education Research Alliance for New Orleans

The mission of the Education Research Alliance for New Orleans (ERA-New Orleans) is to produce rigorous, objective, and useful research to understand the post-Katrina school reforms and their long-term effects on all students. Based at Tulane University, ERA-New Orleans is a partnership between university-based researchers and a broad spectrum of local education groups. Our Advisory Board includes (in alphabetical order): the Louisiana Association of Educators, the Louisiana Association of Public Charter Schools, the Louisiana Federation of Teachers, the Louisiana Recovery School District, New Schools for New Orleans, the Orleans Parish School Board, the Orleans Public Education Network, and the Urban League of Greater New Orleans. For more information, please visit the organization's website.

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