CENTER ON PBIS Positive Behavioral Interventions & Supports

IS POSITIVE BEHAVIORAL INTERVENTIONS AND SUPPORTS (PBIS) AN EVIDENCE-BASED PRACTICE?

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Purpose

Positive Behavioral Interventions and Supports (PBIS) is a widely implemented framework for promoting positive school systems and fostering students' social, emotional, behavioral, and mental health. Numerous studies indicate that PBIS implementation improves student outcomes, educator practices, and school systems. This brief presents the findings of a systematic literature review exploring how Tier 1 PBIS implementation affects valued educational outcomes. Findings demonstrate that PBIS can be designated an evidence-based practice for reducing exclusionary discipline and improving social, emotional, and behavioral outcomes.

Is Positive Behavioral Interventions and Supports (PBIS) an Evidence-Based Practice?

Policymakers, practitioners, students, and families have an interest in implementing and supporting practices that are most likely to improve valued outcomes for each and every student. To do so, it is important to examine the evidence to make informed choices about where to invest time and resources to maximize educational effectiveness. Since the initial development of Positive Behavioral Interventions and Supports (PBIS), many researchers and educators have implemented this approach and examined its outcomes across schools in the United States and internationally (e.g., Australia, Canada, France, Germany, Japan, Norway, Taiwan). As a result, ample research now exists regarding its effectiveness and identification as an evidence-based practice.

The purpose of this document is to present a summary of evidence from a recent literature review assessing the effects of implementing PBIS. This brief summarizes evidence from a systematic literature review inclusive of studies meeting the following criteria: (a) implemented PBIS across a continuum of Tier 1, 2, and 3 supports; (b) measured intervention effects on students, educators, and institutional outcomes; (c) conducted in educational settings (i.e., schools, residential or alternative setting, juvenile justice programs); (d) compared business as usual control schools with PBIS implementation schools OR school or district outcomes during baseline years with outcomes during or after PBIS implementation; and (e) studies designed as randomized controlled trials, quasi-experimental research studies, descriptive or correlational, single-case studies, case studies, and meta-analyses. The evidence presented below is a summary and not a comprehensive report of all PBIS research findings. An exhaustive list of research studies examining PBIS can be found in the *References for the Evidence Base of PBIS* spreadsheet on the Center for PBIS website. Although criteria for identifying evidence-based practice vary, the research base is sufficient to support a number of conclusions regarding PBIS, as described in this brief.

Key Takeaways

Numerous studies, conducted by multiple teams, consistently show that PBIS:

- Reduces the use of and inequities in exclusionary discipline
- Improves social, emotional, and behavioral competencies
- Reduces disruptive behavior
- Can improve student academic outcomes
- Can positively influence attendance
- Improves school climate, school safety, and organizational health
- Enhances teacher use of classroom management practices and efficacy
- Can reduce student referrals for support

PBIS Reduces the Use of and Inequities in the Use of Exclusionary Discipline

PBIS implementation has been consistently shown to reduce the use of exclusionary discipline practices across numerous studies, including randomized controlled trials. Many studies in elementary schools show that PBIS implementation reduced overall rates of discipline referrals (Algozzine et al., 2012; Bohanon et al., 2006; Bradshaw, Mitchell, O'Brennan, et al., 2010; Bradshaw et al., 2012; Collins & Ryan, 2016; Curtis et al., 2010; Horner et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McCrary et al., 2012; McDaniel & Bloomfield, 2020; Nelson et al., 1998; Nelson et al., 2002; Otsui et al., 2022; Scott & Barrett, 2004; Sherrod et al., 2009; Sprague et al., 2001; Ward & Gersten, 2013), and reduced inequities in exclusionary discipline for Black students (Payno-Simmons, 2021) and students with disabilities (Bradshaw et al., 2015). Similarly, PBIS has been found to reduce discipline referral rates in middle and high schools (Caldarella et al., 2011; Flannery et al., 2014; Freeman et al., 2016; Gage et al., 2018; Malloy et al., 2018; McCrary et al., 2012; McDaniel & Bloomfield, 2020; Morrissey et al., 2010; Otsui et al., 2022; Sprague et al., 2001), as well as for students with disabilities in alternative settings implementing PBIS (Farkas et al., 2012; Johnson et al., 2013; Kalke et al., 2007; Simonsen et al., 2010).

Studies have also shown that overall suspension rates (both in and out of school suspensions) and the number of school days missed due to suspension decrease after PBIS implementation for elementary, middle, and high school students (Bradshaw, Mitchell, & Leaf, 2010; Curtis et al., 2010; Gage et al., 2020; Gage et al., 2018; Grasley-Boy et al., 2019; Lassen et al., 2006; Lee et al., 2021; Luiselli et al., 2005; McCrary et al., 2012; McDaniel & Bloomfield, 2020; Nelson et al., 2002; Pas et al., 2019; Scott & Barrett, 2004; Smolkowski et al., 2016), as well as for male students (Lee et al., 2021), Black students (Grasley-Boy et al., 2019; Lee et al., 2021), and students with disabilities (Lee et al., 2021; Simonsen et al., 2022). A study also indicated a reduction in the number of students expelled, referred to alternative settings or law enforcement, and arrested as a result of school-related behaviors (Lee et al., 2021). Gage and colleagues (2018) also found a reduction in expulsion rates for elementary students with disabilities after PBIS implementation.

Relatedly, partner groups may be interested in the effects of PBIS on the use of restraint and seclusion. Case studies in alternative settings indicate decreased use and duration of restraint (Gelbar et al., 2015; Kalke et al., 2007; Simonsen et al., 2010) and seclusion (Gelbar et al., 2015) for students with emotional and behavioral disorders following the implementation of PBIS.

PBIS Improves Social, Emotional, and Behavioral Competencies

According to several studies, PBIS implementation leads to improved social, emotional, behavioral, and mental health outcomes for students. For instance, after PBIS implementation, early childhood teachers reported enhanced adaptive skills in preschoolers (Feil et al., 2009). Further, fidelity of implementation was associated with teacher-reported improvements in preschoolers' social skills (Hemmeter et al., 2016). Additional studies have shown that elementary school students are more likely to demonstrate prosocial skills and emotional regulation after PBIS implementation (Bradshaw et al., 2012; Ohkubo et al., 2022). Further, PBIS implementation has been associated with improved on-task behavior among elementary students (Algozzine & Algozzine, 2007; Caldarella et al., 2017; Wu et al., 2019). Finally, elementary school teachers also reported improvement in student behavior and social skills (e.g., assertiveness, communication, cooperation, empathy, engagement, peer relations; Caldarella et al., 2018; Nelson et al., 2002; Smolkowski et al., 2016).

Compared to the research in elementary schools, there have been fewer studies in secondary schools, but there is still substantial evidence of effectiveness. Following the implementation of PBIS in secondary settings, teachers reported an increase in academic engagement when Tier 2 PBIS efforts were incorporated into a solid Tier 1 foundation (Van Camp et al., 2021).

PBIS Reduces Disruptive Behavior

PBIS implementation also leads to the reduction of disruptive behavior in early childhood settings. After PBIS implementation, early childhood teachers reported a reduction in aggressive behaviors and contextually inappropriate behaviors in preschoolers (Feil et al., 2009; Hemmeter et al., 2016). Implementing PBIS has also been linked to reductions in off-task behavior, behavior incidents, aggressive behavior, and disruptive behavior among elementary students (Algozzine & Algozzine, 2007; Bradshaw et al., 2012; Lewis et al., 2002; Solomon et al., 2012; Ward & Gersten, 2013; Wu et al., 2019), especially among students who struggle with behavioral issues (Condliffe et al., 2022). Additionally, teachers reported less bullying behavior and lower levels of rejection over time in schools randomly assigned to implement PBIS (Waasdorp et al., 2012). Lastly, elementary schools that combined PBIS and social-emotional learning (SEL) implementation showed the greatest improvements in mental health, with the biggest reduction in externalizing behavior challenges (Cook et al., 2015). Following the implementation of PBIS in secondary settings, there have been documented reductions in observed inappropriate behavior incidents, as well as reported by teachers (Flannery et al., 2014; Oswald et al., 2005; Solomon et al., 2012). Further, teachers in secondary schools reported a decrease in disruptive behavior when Tier 2 PBIS efforts were incorporated into a solid Tier 1 foundation (Van Camp et al., 2021).

PBIS Can Improve Student Academic Outcomes

Research also shows that implementing PBIS in elementary and secondary schools can improve student academic outcomes, but these effects are not as consistently strong as those on social, emotional, and behavioral outcomes. For instance, in schools implementing PBIS, first-grade students were more likely to exceed early literacy benchmarks and less likely to require strategic or intensive reading intervention (Chaparro et al., 2012). Additionally, more students in third, fourth, and fifth grade in these schools scored as proficient from pre- to post-test on the state achievement assessment (Chaparro et al., 2012). Several studies have also indicated that students in PBIS schools achieve higher proficiency levels in reading and math (Algozzine et al., 2012; Bradshaw, Mitchell, & Leaf, 2010; Gage et al., 2017; Horner et al., 2009; Houchens et al., 2017; Lassen et al., 2006; Luiselli et al., 2005; Nelson et al., 2002; Pas et al., 2019). Further, according to Madigan and colleagues (2016), elementary students in PBIS-implementing schools also performed better in science, social studies, arts and humanities, vocational studies, and writing. However, several studies have found that overall reading and math proficiency scores did not differ significantly (Bradshaw, Mitchell, & Leaf, 2010; Condliffe et al., 2022; Lassen et al., 2006; Ryoo et al., 2018) but there is evidence of significantly improved academic performance for students requiring additional behavior support (Condliffe et al., 2022).

In addition to improving academic outcomes, PBIS implementation has been linked to positive elementary students' feelings about their academic performance. One study found that students reported an improved academic self-concept, improved planning of study time, and improved completion of schoolwork (Yeung et al., 2009). Bradshaw and colleagues (2015) also found that when PBIS was implemented with fidelity, fewer students were retained or required to repeat a grade than their peers in control schools.

In secondary settings, implementation of PBIS was associated with higher reading and math proficiency scores (Pas et al., 2019), along with higher academic scores (including math, reading, science, social studies, arts and humanities, vocational studies, and writing) both in middle and high school (Madigan et al., 2016). Additional studies, however, have not found that reading and math proficiency scores in middle and high school differed significantly (Freeman et al., 2015; Freeman et al., 2016; Ryoo et al., 2018; Scherer & Ingle, 2020), nor did student grade point averages (Caldarella et al., 2011). According to Johnson and colleagues (2013), descriptive increases in both academic achievement and certifications earned were seen for secondary students in alternative settings implementing PBIS.

PBIS Can Positively Influence Attendance

Following the implementation of PBIS, research conducted over the past decade has revealed varying outcomes for student attendance. For the most part, research shows elementary school students' tardiness was reduced after PBIS implementation (McDaniel & Bloomfield, 2020; Smolkowski et al., 2016). However, some research did not show improvements in elementary students' truancy (Pas et al., 2019) or absences (McDaniel & Bloomfield, 2020). Similarly, in middle and high schools, as well as alternative settings, PBIS improved student attendance rates or reduced students' tardiness, unexcused absences, and truancy rates (Caldarella et al., 2011; Freeman et al., 2015; Freeman et al., 2016; Johnson et al., 2013; Pas et al., 2019; Smolkowski et al., 2016). Likewise, some research in middle schools and high schools has found tardiness rising after implementation (McDaniel & Bloomfield, 2020). In addition to school attendance, PBIS implementation research indicated descriptive reductions in student dropout rates (Freeman et al., 2015; Malloy et al., 2018).

PBIS Improves School Climate, School Safety, and Organizational Health

Research also shows that PBIS can significantly improve perceptions of the school context. Elementary and secondary school students, teachers, and staff in PBIS-implementing schools reported more positive attitudes toward school. It has been found that students enjoy attending school more (Ohkubo et al., 2022; Yeung et al., 2009), school climate perceptions become more positive (Algozzine et al., 2012; Kubiszewski et al., 2023), and personnel perceive

schools to be safer (Horner et al., 2009). Students in PBIS schools reported improved relationships with teachers, sense of safety, and educational support from educators (Kubiszewski et al., 2023). Teaching conditions improved in elementary schools that adopted PBIS (Houchens et al., 2017). Additionally, staff in schools implementing PBIS reported improved student-teacher relationships (Condliffe et al., 2022), more positive staff affiliation (e.g., warmer or friendlier interactions among colleagues, more commitment to students, a higher sense of accomplishment; Bradshaw et al., 2009; Bradshaw et al., 2008; Condliffe et al., 2022), greater focus on academics (e.g., higher students' cooperation in the classroom, their respect for peers, and drive to improve; Bradshaw et al., 2009; Bradshaw et al., 2008; Condliffe et al., 2022), and increased resource allotment (e.g., the ability of the administrator to lobby and allocate resources for school initiatives; Bradshaw et al., 2009; Bradshaw

et al., 2008). The most improvement was reported by staff in schools with the lowest ratings of climate before PBIS implementation (Bradshaw et al., 2009; Bradshaw et al., 2008).

PBIS Enhances Teacher Use of Classroom Management Practices and Efficacy

PBIS implementation enhances teacher efficacy and proactive behavior supports. After the implementation of PBIS in early childhood settings, teachers reported improved use of behavior management practices and emotional support provided to preschoolers (Cunningham et al., 2020; Hemmeter et al., 2016). Similarly, teachers have been found to improve proactive behavior management skills after PBIS implementation in elementary (Condliffe et al., 2022; Sørlie et al., 2016) and secondary schools (Sørlie et al., 2016). Lastly, two studies examining elementary collective efficacy and/or self-efficacy showed teachers reported improvement in these areas after PBIS implementation (Kelm & McIntosh, 2012; Sørlie et al., 2016).

PBIS Can Reduce Student Referrals for Support

In schools where PBIS was implemented with fidelity, referrals to intensive support for students may be reduced. In one study, the proportion of students requiring targeted (Tier 2) and intensive (Tier 3) support decreased (Bohanon et al., 2006). Bradshaw and colleagues (2015) also found that schools randomly assigned to implement PBIS had a lower percentage of students referred for counseling support or special education evaluations after implementation.

Summary

It is important for educators to invest in the systems and practices that are proven to work in school. Researchers from multiple universities (including those not involved in the development of PBIS) have shown that Tier 1 PBIS implemented with fidelity improves valued outcomes like student social, emotional, behavioral, and mental health, academic achievement, and attendance. It also improves classroom behavior support practices and efficacy reported by teachers, as well as school climate, safety, and organizational health. The evidence also shows reduced rates of exclusionary discipline practices and contextually inappropriate behavior, with some research indicating reduced inequities in the use of exclusionary discipline practices. As PBIS continues to be implemented, its research base continues to grow, and valued outcomes continue to be improved across educational settings.

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