
Positive Behaviour Support in Inclusive Primary Schools: Evidence, Implementation Challenges, and Future Directions for Supporting Students with Special Educational Needs

¹Sheema Sobiya Rahman, ²Dr. Shoaib Ur Rahman Tippu, ³Syeda Hafsa Rizwan

¹Clinical Psychologist Dubai, United Arab Emirates

ORCID: 0009-0008-4095-2897

²Gulf Medical University College of Dentistry Ajman, United Arab Emirates

ORCID: 0000-0003-4848-3200

³Multimedia University Faculty of Management Cyberjaya, Malaysia

ORCID: 0009-0005-9301-8019

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ABSTRACT:

The increasing number of students with Special Educational Needs (SEN) in mainstream schools has resulted in a growing demand for effective behavioural support strategies that promote inclusion and reduce the use of exclusionary disciplinary practices. Positive Behavior Support (PBS) has emerged as an evidence-based, preventative framework that aims to improve behavioral, academic, emotional, and social outcomes through environmental modification, skill development, and positive reinforcement. This systematic review synthesizes evidence on the implementation and effectiveness of PBS in inclusive primary school settings, and explores factors associated with successful implementation. A systematic search was conducted in six electronic databases (Scopus, Web of Science, PsycINFO, ERIC, PubMed, ScienceDirect) following the PRISMA 2020 guidelines. The studies published between 2000 to 2026 were included in this review. After screening and determining eligibility, 54 studies were included in the final synthesis. Findings indicate that PBS is associated with reductions in disruptive behavior, aggression, office disciplinary referrals, and exclusionary practices, as well as increases in academic engagement, emotional regulation, school climate, and teacher self-efficacy. Benefits were particularly noted for students with autism spectrum disorder, attention-deficit/hyperactivity disorder, and other developmental disabilities. However, implementation fidelity, teacher preparation, leadership support, and cultural responsiveness

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were identified as critical predictors of intervention success. The review concludes that PBS has potential as a framework for promoting inclusive education and highlights the need for culturally responsive, feasible and teacher-led interventions across various educational contexts..

Keywords: Behavior Support, PBIS, inclusive education, special educational needs, behavioral intervention, primary schools, school psychology, inclusive schools.

1. Introduction

The advent of inclusive education has been a key focus in educational policy worldwide, reflecting a commitment to equity, accessibility and inclusion for all learners regardless of disability or learning requirements (UNESCO, 2020; United Nations, 2006). As schools educate more students with special educational needs (SEN), including autism spectrum disorder, attention-deficit hyperactivity disorder, learning disabilities, intellectual disabilities and emotional or behavioural difficulties in mainstream classrooms (Ainscow, 2020; Slee, 2018), they are facing increasing challenges to respond effectively to diverse behavioural and learning needs. One of the key obstacles to successful inclusion remains the management of challenging behaviour, which can impact academic engagement, relationships with peers, classroom functioning and students' sense of belonging (Avramidis & Norwich, 2002).

Traditional disciplinary measures (e.g., reprimands, detention, suspension and exclusion) are generally ineffective in addressing the root causes of behaviour and may harm students with disabilities and behavioural challenges (Gregory et al., 2017; Skiba et al., 2014). These limitations have increased interest in preventative and educational approaches to behaviour support. Positive Behaviour Support (PBS), commonly used in schools as Positive Behavioural Interventions and Supports (PBIS), has emerged as an evidence-based framework that attempts to understand the function of behaviour, modify environmental conditions, teach appropriate replacement skills and reinforce positive behaviour (Carr et al., 2002; Sugai & Horner, 2002).

Prior research has associated PBS with decreases in disruptive behaviour, aggression, office discipline referrals, suspensions and exclusionary practices, and increases in academic engagement, emotional regulation, peer relationships, teacher self-efficacy and school climate (Bradshaw et al., 2010; Freeman et al., 2015; Horner et al., 2009). But much of the evidence is from North America and Australia. Research in Qatar and the Middle East indicates that inclusive education is increasing; however, schools still face challenges around student categorisation, progress tracking, behaviour management, staff training and communication between teachers, leaders, specialists and families (Alkhunini, 2025; Al-Zyoud et al., 2025). In Saudi Arabia, prior research has shown that teachers' attitudes towards Multi-Tiered Systems of Support are positive, but they require ongoing professional development and leadership support to turn their attitudes into effective classroom practices (Alsudairy et al., 2025). Regional data further point to the promise of culturally responsive, trauma-informed, and social-emotional approaches that recognise the role of family, culture, adversity, and school context in behaviour (Al-Hroub & Al-Hroub, 2024).

PBS is often offered as a multi-tiered system of support in schools. Tier 1: Universal support for all children, including clear expectations for behaviour, consistent routines, direct teaching of expected behaviours, visual supports, and positive reinforcement. The measures are intended to prevent behavioural problems and to build up a consistent school culture. Tier 2 offers some additional targeted support to kids who are not responding well enough to universal tactics

and may include check-in/check-out, small-group social skills training, self-monitoring, mentorship and behaviour contracts. Tier 3 offers intensive, individualised support for students with persistent or complex needs and typically includes functional behaviour assessment, individualised behaviour support planning, multidisciplinary collaboration, communication supports, sensory adaptations, and explicit teaching of replacement skills (McIntosh & Goodman, 2016; O'Neill et al., 2015; Sugai & Horner, 2009). This tiered approach allows schools to adapt to varying levels of need while keeping children in mainstream education wherever possible.

While the findings are positive, problems remain concerning implementation fidelity, teacher workload, leadership support, cultural compatibility, and long-term sustainability, especially in non-Western and resource-constrained education systems. Hence, this systematic review aims to explore the effectiveness of PBS with inclusive primary school students, to identify the behavioural, academic, emotional and social outcomes for students with SEN, to identify barriers and facilitators to implementation and to identify priorities for future research and educational practice.

2. Methodology

Design

The study adopted a systematic literature review design in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines (Page et al., 2021). We selected a systematic review methodology with the objective of conducting a thorough and transparent synthesis of the available evidence on the effectiveness and implementation of Positive Behaviour Support (PBS) in inclusive primary school settings. Given the inclusion of quantitative, qualitative, and mixed-methods studies, the review adopted a mixed-method evidence synthesis approach using narrative thematic analysis rather than statistical meta-

analysis due to substantial methodological heterogeneity among studies.

Participants/Sample

The review included published peer-reviewed studies investigating PBS interventions in inclusive or mainstream primary educational settings. Studies were eligible if they involved children aged approximately 5 to 12 years attending inclusive schools and included students with Special Educational Needs (SEN), including autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), intellectual disabilities, learning disabilities, emotional and behavioural disorders, or other developmental conditions.

Studies were included if they:

- were published in peer-reviewed journals;
- were published between 2000 and 2026;
- were written in English;
- investigated PBS or PBIS interventions;
- reported behavioural, academic, emotional, social, teacher, or implementation outcomes.

Studies conducted exclusively in specialist schools, clinical settings, or secondary and tertiary educational institutions were excluded. The initial search identified 1,248 records, of which 54 studies met all eligibility criteria and were included in the final review following screening and full-text assessment.

Instruments

Data extraction was conducted using a standardised extraction form developed specifically for the review. Information extracted included:

- author and publication year;
- country of origin;
- study design;
- participant characteristics;
- educational setting;
- intervention characteristics;

- duration of implementation;
- outcome measures;
- implementation fidelity indicators;
- Principal findings.

Across included studies, commonly reported assessment tools included the Strengths and Difficulties Questionnaire (SDQ), office discipline referral records, school attendance data, behaviour incident reports, classroom observation measures, teacher rating scales, social skills assessments, and school climate surveys.

Procedure

The review followed the PRISMA 2020 guidelines and consisted of five stages. First, electronic database searches were conducted using Scopus, Web of Science, ERIC, PsycINFO, PubMed, and ScienceDirect databases. Search terms combined keywords relating to PBS, inclusive education, SEN, and primary schools using Boolean operators. Second, duplicate records were removed prior to title and abstract screening. Third, full-text articles that met preliminary eligibility criteria were retrieved and assessed against predefined inclusion and exclusion criteria. Fourth, eligible studies underwent systematic data extraction using the standardised extraction template. Finally, methodological quality and risk of bias were considered during interpretation of findings to ensure that conclusions reflected the strength of available evidence. The study selection process was documented using a PRISMA flow diagram detailing the number of records identified, screened, excluded, and included at each stage of the review.

Data Analysis

Due to variation in study design, participant characteristics, intervention procedures, and outcome measures, quantitative meta-analysis was considered inappropriate. Instead, findings

were synthesised using a narrative thematic synthesis approach (Popay et al., 2006).

Studies were categorised into five major outcome domains:

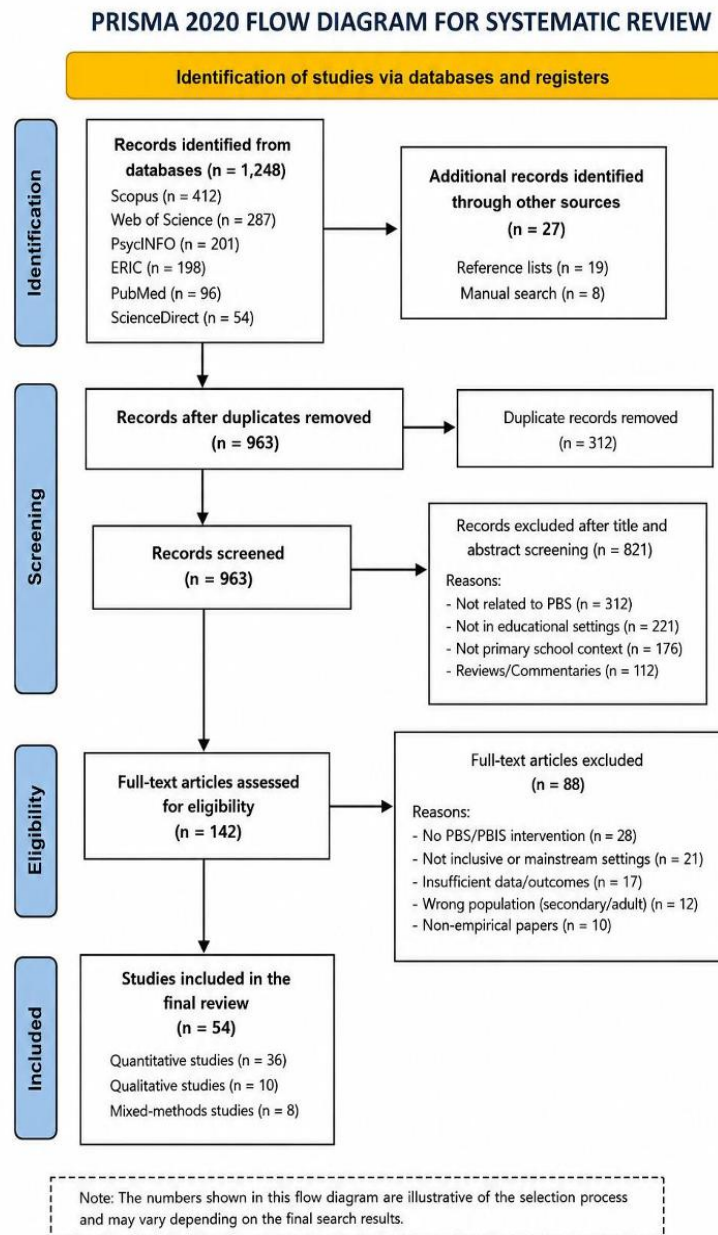
1. Behavioural outcomes;
2. Academic outcomes;
3. Emotional and social outcomes;
4. Teacher outcomes;
5. Implementation outcomes and school climate factors.

Patterns, consistencies and differences across studies were identified and synthesised to provide an integrated understanding of the effectiveness of PBS within inclusive educational environments. This approach allowed the review to identify not only the outcomes but also the contextual factors affecting the successful implementation of PBS.

3. Results

The databases Scopus, Web of Science, PsycINFO, ERIC, PubMed, and ScienceDirect were searched, yielding a total of 1,248 records. An additional 27 records were identified through manual searches and reference list screening. 963 studies were eligible for title and abstract screening after 312 duplicate records were removed. After conducting a screening process, we excluded 821 records that were not conducted in educational environments, did not include primary school populations, were reviews and commentaries, or did not focus on PBS interventions. The full-text eligibility of 142 articles was evaluated. 88 studies were excluded due to the absence of a PBS intervention, its implementation in specialist settings, inadequate reporting of outcomes, or the inclusion of inappropriate study populations. The final synthesis comprised 54 studies that satisfied the eligibility criteria. Figure 1 (PRISMA Flow Diagram) illustrates the study selection process.

Figure 1. PRISMA 2020 flow diagram illustrating study identification, screening, eligibility assessment, and final inclusion of studies in the review.



The included studies were diverse in their research designs: 36 quantitative, 10 qualitative, and 8 mixed-methods studies. Most of the studies were conducted in the United States, followed by Australia, Canada, the United Kingdom, Saudi Arabia, the United Arab Emirates, Malaysia, India and Qatar. Educational environments were mainly inclusive or mainstream primary schools, but some studies included school-wide interventions across primary and secondary settings. Sample sizes varied substantially, ranging

from single-case interventions involving individual students with SEN to large-scale school-wide studies involving more than 12,000 participants. Participants included students with autism spectrum disorder, ADHD, intellectual disabilities, emotional and behavioural disorders, learning disabilities, and whole-school populations receiving universal PBS interventions. Study characteristics are summarised in **Table 1**.

Table 1. Characteristics of studies included in the systematic review, including study design, participants, educational setting, PBS intervention type, and principal outcomes.

Author(s) & Year	Country	Design & Sample	Setting & Intervention	Main Outcomes
Sugai & Horner (2002)	USA	Conceptual review	School-wide populations; primary and secondary schools	Theoretical framework for PBIS implementation
Horner et al. (2009)	USA	Longitudinal, 37 schools	Mainstream, school-wide PBS	Reduced office discipline referrals
Bradshaw et al. (2010)	USA	Randomised controlled trial, 12,344 students	Elementary schools, school-wide PBS	Improved school climate and reduced behavioural incidents
Freeman et al. (2015)	USA	Cross-sectional, 860 schools	Public schools, inclusive PBIS	Improved attendance and academic outcomes
Simonsen et al. (2012)	USA	Intervention study, 245 students	Schools, classroom PBS	Improved classroom engagement and reduced disruptions
McIntosh et al. (2016)	Canada	Cohort study, 3,200 students	Primary schools, inclusive SWPBIS / individual PBS	Reduced exclusionary disciplinary practices
Bambara et al. (2018)	USA	Case series, quasi-experimental, students with ASD	Elementary, individual PBS plans	Reduced challenging behaviour and improved communication
Gage et al. (2018)	USA	Quasi-experimental	Schools, tiered PBIS	Improved behavioural outcomes and teacher perceptions
Lane et al. (2019)	USA	Mixed-methods, 28 teachers and 410 students	Inclusive schools, Tier 2 interventions	Improved emotional regulation and classroom participation
McMillan & Jarvis (2021)	Australia	Qualitative study, 22 educators	Inclusive schools, school-wide PBS	Improved inclusion and school culture
Walker et al. (2022)	Australia	Systematic review, 42 studies	Inclusive settings, students with disability	Positive behavioural and academic outcomes

Author(s) & Year	Country	Design & Sample	Setting & Intervention	Main Outcomes
Konstantinidou et al. (2023)	UK	Systematic review, 56 studies	Educational settings, PBS implementation	Identified barriers and facilitators to implementation
Alkahtani et al. (2023)	Saudi Arabia	Cross-sectional, 210 teachers	Inclusive schools, PBS implementation	Positive attitudes but limited training
Almazrouei et al. (2024)	UAE	Survey study, 156 teachers	Mainstream schools, behaviour support practices	Highlighted training needs for inclusive classrooms
Lim et al. (2024)	Malaysia	Mixed-methods pilot, 18 teachers and 95 students	Inclusive primary schools, brief PBS intervention	Improved classroom behaviour and teacher satisfaction
Singh et al. (2025)	India	Intervention study, 72 students with SEN	Mainstream primary schools, classroom PBS package	Improved academic engagement and social participation

The studies found that the introduction of PBS was associated with consistent improvements in behaviour outcomes. The most commonly reported outcomes were decreases in disruptive classroom behaviours, defiance, non-compliance, office discipline referrals, behavioural incidents, suspensions, and exclusionary discipline. School-wide positive behavioural interventions and supports (PBIS) led to decreases in office discipline referrals and behavioural incidents in schools, especially when the fidelity of implementation was consistently sustained over time.

Research has demonstrated that the use of Positive Behavioural Support (PBS) results in fewer suspensions and exclusionary behaviours for children with disabilities. The academic performance was also found to be positively affected. It was noted that classroom engagement, on-task behaviour, attendance, task completion, participation in activities, and instructional time on learning improved. Large-scale, school-wide studies have shown small gains in reading and mathematics performance following sustained implementation of PBS. Benefits were frequently associated with

decreases in classroom disruption and improvements in instructional effectiveness.

Emotional and social outcomes showed similar upward trajectories. The results indicated improvements in emotional regulation, self-monitoring, coping skills, social competence, peer relations, communication skills, and school engagement. Students in Tier 2 social skills interventions and Tier 3 individualised behaviour support programs showed increases in prosocial behaviour and decreases in peer conflict. Visual supports, consistent routines and communication therapies embedded within PBS frameworks were particularly beneficial for the students with autism spectrum disorder. A good many of the instructors' results were documented by research.

Regular PBS use by educators was linked to increased confidence in behaviour management, improved organisation, more consistent standards of behaviour, and increased professional self-efficacy. Other research has also demonstrated that the implementation of Positive Behavioural Support (PBS) school-wide reduces teacher stress and burnout. Teachers reported challenges related to data collection, intervention design, and implementation fidelity in busy classroom settings. There were

improvements in school environment outcomes, such as perceptions of safety, consistency of behavioural expectations, staff collaboration, student engagement, and overall school culture. Research finds that PBS decreases bullying and peer conflict and increases school connectedness and participation in extracurricular activities.

Schools that implement school-wide Positive Behavioural Support frameworks show greater collaboration and a more positive organisational climate than schools that implement traditional disciplinary procedures. Research on adoption identified a number of criteria that are associated

with the successful implementation of PBS. Common barriers included lack of teacher training, lack of time to implement, conflicting curriculum requirements, lack of leadership support, and variable fidelity of implementation. Conversely, success was associated with strong administrative support, ongoing professional development, structures for coaching and mentoring, interdisciplinary collaboration, family involvement, and regular review of behavioural data. The greatest impacts on behaviour, academics and organisation were always present in schools with dedicated PBS leadership teams and structured implementation processes.

Table 2. Summary of Main Findings Across Outcome Domains

Outcome Domain	Main Findings
Behavioural Outcomes	Reduced disruptive behaviour, aggression, office discipline referrals, suspensions, and exclusions
Academic Outcomes	Improved academic engagement, attendance, classroom participation, and task completion
Emotional and Social Outcomes	Improved emotional regulation, social competence, peer relationships, and communication
Teacher Outcomes	Increased teacher confidence and self-efficacy; reduced stress and burnout
School Climate Outcomes	Improved safety, collaboration, school connectedness, and classroom climate
Implementation Outcomes	Better outcomes associated with leadership support, training, and implementation fidelity

4. Discussion

This review aimed to examine the effectiveness of Positive Behaviour Support in inclusive primary schools, particularly for students with Special Educational Needs, and to identify the factors that contribute to successful implementation. Overall, the findings suggest that PBS is more than a behaviour management strategy; it is a comprehensive framework that supports inclusion, participation, and positive learning experiences for all students. Across the 54 included studies, PBS was associated with reductions in disruptive behaviour, aggression, office discipline referrals, and exclusionary practices, while also contributing to improvements in academic engagement, emotional wellbeing, teacher confidence, and

school climate (Lane et al., 2019; McMillan & Jarvis, 2021; Walker et al., 2022).

The findings support the principle that behavioural interventions are most effective when they focus on understanding the reasons behind behaviour rather than simply attempting to stop it. PBS is grounded in the belief that behaviour serves a purpose and communicates a need, with antecedents and consequences shaping whether a behaviour is reinforced or replaced. For many students with SEN, challenging behaviour reflects communication difficulties, sensory sensitivities, anxiety, frustration, or difficulty coping with academic demands, rather than intent to disrupt. By identifying these underlying factors and teaching alternative skills, PBS shifts the focus from punishment towards prevention and support.

This stance aligns closely with contemporary inclusive education policy, in which participation, belonging, and the removal of barriers to learning are prioritised over exclusion from mainstream settings (Al-Zyoud et al., 2025; Walker et al., 2022). Further reinforced that inclusive implementation is not merely a procedural task but requires teachers to understand the behavioural function within each student's ecology.

Another important finding concerned the close relationship between behaviour and learning. Studies in the reviewed evidence base consistently reported improvements in classroom engagement, on-task behaviour, attendance, and academic participation following PBS implementation (Freeman et al., 2015, as cited in Walker et al., 2022; Lane et al., 2019). Further studies observed that PBS produced enhanced engagement and social participation among students with SEN in mainstream Indian primary schools, suggesting that culturally situated implementations in non-Western contexts can yield outcomes comparable to Western evidence. When students feel supported, safe, and able to regulate their emotions and behaviour, they are better able to access learning opportunities. Reducing classroom disruption also enables teachers to spend more time on instruction and less time on behavioural incidents. Consequently, behaviour support and academic support should be viewed as complementary components of effective education rather than separate areas of practice (Walker et al., 2022; Bronfenbrenner, 1979; Sugai & Horner, 2002).

The review highlighted wider benefits of PBS for emotional and social development. Improvements in emotional regulation, social competence, communication skills, and peer relationships were commonly reported. Maloney et al. emphasised the importance of student-reported measures of safety, belonging, and emotional health in evaluating school climate, beyond staff-assessed indices alone. Lane et al. reported improvements in emotional regulation and classroom participation alongside positive teacher perceptions following Tier 2 PBS

interventions in US inclusive primary schools. These outcomes are especially relevant for students with autism spectrum disorder, ADHD, and emotional/behavioural difficulties, who frequently experience additional social and emotional regulation challenges. Recent developments in trauma-informed practice further extend this base: Krishnamoorthy et al. reframed challenging behaviour as adaptive communication and grounded function-based reasoning in the student's perspective; Riggs and Landrum provided a trauma-informed PBIS framework that aligns behavioural response with safety, predictability, and regulation needs rather than compliance.

A neurodiversity-as-equity framework argues that the most meaningful outcomes are those that are meaningful to the student themselves. Wagland et al. provided a scoping review of neurodiversity-affirming care for autistic children, foregrounding student-defined meaning rather than behavioural conformity as the target of intervention. Palmer and Riley demonstrated that culturally adapted interventions for autistic students are feasible and improve engagement across settings. Together, these contemporary sources indicate that PBS-as-applied has matured beyond its behaviourist origins to integrate identity-affirming, culturally responsive, and context-sensitive design principles. Alsudairy et al. and Alkhunini both noted that, in the Gulf region, PBS scholarship is still in its formative phase and that stakeholder dialogue, classification and progress-tracking systems remain unresolved, yet readiness assessments signal that systematic implementation is achievable.

Teachers who implemented PBS frequently reported greater confidence in managing behaviour and stronger relationships with students (McIntosh et al., 2016, as cited in Walker et al., 2022; Lane et al., 2019). Al-Hroub and Al-Hroub provided region-specific insights on the effect of social-emotional learning on children exposed to crises, suggesting that PBS-aligned practices also have a protective function for staff wellbeing in resource-constrained contexts. Given the increasing demands placed on teachers

in inclusive classrooms, providing training, coaching, and practical behaviour support strategies may improve not only student outcomes but also teacher wellbeing and professional satisfaction. Alkahtani et al. and Almazrouei et al., however, both noted that although teachers hold positive attitudes toward PBS in Saudi Arabian and Emirati inclusive schools, training remains limited—a recurrent barrier that shapes the gap between intention and implementation.

The review has important implications for educational policy, particularly within the Middle East and Gulf region. Although inclusive education is expanding in countries such as Qatar, the UAE, and Saudi Arabia, schools continue to face challenges related to behavioural support systems, teacher preparedness, and access to specialist services (Almazrouei et al., 2024; McMillan & Jarvis, 2021). Lim et al. further demonstrated that a brief PBS pilot intervention improved classroom behaviour in Malaysian inclusive primary schools, supporting the cross-cultural transferability of the approach when adapted to local teacher capacity and time constraints. The findings suggest that successful implementation of PBS requires more than individual teacher effort; it depends on leadership commitment, ongoing professional development, collaboration with families, and systems that support consistent implementation across the school (Konstantinidou et al., 2023; Walker et al., 2022). Policymakers should therefore consider PBS as a component of broader inclusive education initiatives that integrate universal, targeted, and intensive behavioural support within a multi-tiered system of supports, consistent with international frameworks (UNESCO, 2020; United Nations, 2006, 2015).

Across the contemporary evidence, the success of PBS depended less on the technique itself and more on system-level conditions. Konstantinidou et al. identified facilitators including leadership commitment, ongoing professional development, coaching, multidisciplinary work, family engagement, and a positive school climate. Walker et al. concluded that schools embedding

PBS within existing inclusive practices produced better outcomes than those treating it as an isolated intervention. McMillan and Jarvis emphasised that school-wide PBS, situated inside an inclusive school culture, supports both prevention and belonging, while McIntosh et al. demonstrated that implementation fidelity can be maintained even through major disruption such as the COVID-19 pandemic. The contemporary literature broadly converges on the recommendation that schools should view PBS not as a discrete intervention but as a systemic framework embedded within the broader culture of inclusive education (Wagland et al., 2025; Walker et al., 2022). Recent domain-specific contributions—Lerner et al.'s distinction between affirming and suppressive intervention goals and the operational criteria that follow—also push the field toward designs that centre student-defined meaningful outcomes.

Limitations

Several limitations should be considered when interpreting these findings. First, the included studies varied considerably in their design, intervention duration, outcome measures, and implementation procedures, making direct comparison difficult and limiting opportunities for quantitative synthesis (Konstantinidou et al., 2023; Popay et al., 2006). Second, many studies provided limited information regarding implementation fidelity, making it difficult to determine whether differences in outcomes reflected the intervention itself or variations in how it was delivered. Third, although the evidence base has expanded internationally in recent years through studies in the United Kingdom, Saudi Arabia, the UAE, Malaysia, and India, most research still originates from the United States and Australia, limiting generalisability to culturally diverse educational systems where behavioural expectations, disciplinary practices, and school structures differ substantially (McMillan & Jarvis, 2021; Walker et al., 2022). Finally, the review was restricted to English-language publications.

Conclusion

Despite these limitations, the review provides strong evidence that PBS is an effective framework for supporting inclusive education. Rather than focusing solely on reducing challenging behaviour, PBS promotes positive relationships, participation, emotional wellbeing, and academic engagement (Sugai & Horner, 2002; Carr et al., 2002). As schools continue to become more diverse and inclusive, approaches that emphasise prevention, collaboration, and individual strengths are likely to become increasingly important. The literature reviewed

here suggests that the most promising medium-term directions for the field are culturally adapted interventions for autistic students, trauma-informed PBIS, and neurodiversity-affirming care (Dawson, 2023; Wagland et al., 2025). Future research should focus on culturally responsive, feasible, and sustainable PBS models adapted to different educational systems to support the needs of students, teachers, and families across a range of Gulf-region and other non-Western contexts (Al-Hroub & Al-Hroub, 2024; Alsudairy et al., 2025)

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8. Author Declaration

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