



Ecological Components of School-Based Positive Behavior Support for Responding to Students Problem Behavior in Inclusive Schools: A Literature Review

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Abstract. Students with behavior problems experience personal, social, and learning problems. Their behavior problem can cause disruptions in learning and other activities at school. Positive Behavior Support (PBS) is a framework for responding systematically and procedurally to students' behavior problems in schools. The PBS's processes and procedures have ramifications for the participation of numerous interdependent and mutually supportive parties. The purpose of this literature study is to investigate the components of school ecosystem and their significance in the implementation of the PBS by reviewing and analysing eleven relevant papers from the Scopus and Google Scholar databases. The findings reveal that PBS practices include multiple stakeholders in interdependent interactions to maintain the sustainability, fidelity, and effectiveness of PBS implementation. The components found in the articles are the closest stakeholders that have direct relation to students (the microsystem) (teachers, school leaders, school consultants, school PBS teams, school psychologists, peers, and parents). Interconnections with various activities between microsystem components (mesosystem) are also found in the reviewed articles. The visible ecosystem component of the educational system derives from the interconnections. The role of each school ecosystem component in PBS focuses on student progress, ensuring fidelity, and achievement of positive goals for students and service advancement.

Keywords: Inclusive School · Positive Behavior Support · School Ecology · School Environment · Students Problem Behavior

1 Introduction

Positive Behavior Support (PBS) is a framework for integrating academic and social-emotional intervention practices in schools for all students [1–3]. PBS ensures that services are implemented accurately, sustainably, and in accordance with empirical data [1, 2]. PBS services are intensive, systematized, and an integral component of programs that integrate education and behavior development [4].

The PBS level employs a multi-tiered system of support to accommodate the severity of the students' problems. This multi-tiered system of support is effective for addressing behavior problems because it is systematic and addresses the need for behavior

intervention [5, 6]. The level of behavior problem serves as the foundation for multi-tiered services: promotion (for all students), prevention (for students at risk of displaying disruptive behavior), and intervention (for students with emotional and behavioral disorders). This means that this system provides preventative and curative interventions to address the social, emotional, and behavior problems of all students [7].

The primary objective of implementing positive behavior support in schools is to reduce problem behavior and increase positive behavior, which would benefit students' academic and extracurricular accomplishments. Students are trained to improve their behavior skills and prosocial behavior, as well as to resist the urge to engage in inappropriate behavior [8]. Behavior support programs in schools can transform an environment that is not conducive due to the presence of students with emotional and behavioral disorders into one that allows all students to achieve academic success, maintain healthy social relationships, and enjoy learning activities. The consequence of this positive process is the annual improvement of school behavior support systems [9]. PBS characteristics include a multi-tiered support system [7], behavior assessment, data-based decision making, infrastructure support mechanisms, and implementation monitoring and evaluation [5, 6, 10].

PBS implementation satisfies several components that are tailored to the objectives of preventing and intervening in student behavior problems, and is systematized in stages from assessment to success monitoring [5, 6, 9, 11, 12]. The PBS system consists of a multi-tiered support system, behavior assessment, data-based decision making, infrastructure support mechanisms, and implementation monitoring and evaluation [5–7, 10].

Carrying capacity of school components is an essential element of implementing PBS. The supporting components consist of the school's internal community (students, teachers, and school staff), parents, the community, policymakers, and the presence of a government support system. The PBS's systems and procedures have implications for the participation of numerous interdependent and mutually supportive parties. The Ecological Theory of Bronfenbrenner provides a framework for investigating the social contexts at the microsystem, mesosystem, ecosystem, and macrosystem levels that influence the development and education of children. This ecological model, can bridge the gap between behaviorist theory (as the fundamental theory of behavior intervention/support), which is highly individual and has small settings, and children's real and broader contextual situations [13]. The socio-ecological approach bolsters the role of interdependent groups in the prevention and treatment of student behavior issues [14]. The ecological model illustrates the interconnectedness of teachers, schools, related communities, and society in the context of school-based interventions for student behavior [15]. The application of a multi-layered approach in ecological behavior support has implications for the configuration of all program support components to be applied to each level of behavior support [16]. Bronfenbrenner's ecological approach to behavior support services fosters positive and collaborative relationships between all components and ongoing support for a variety of situations in order to create a positive classroom and school environment [14].

Numerous studies have examined the application of PBS for students with behavioral issues in school settings. According to meta-analysis studies, PBS at the universal

level (for all students) is effective at reducing common behavioral issues [17]. Long-term research demonstrates that the 15-year implementation of PBS has significantly reduced the use of positive discipline in schools [18]. PBS, which was implemented in the United States and Europe, was discovered to be highly effective in reducing school discipline violations and boosting academic achievement [19]. In a different context, PBS was deemed successful in increasing students' school affiliation as a result of an increase in positive interactions between students and students and school staff [20]. Four years in a row, the implementation of PBS that meets fidelity, consistency, and inclusiveness has been found to have improved students' academic performance [21]. The substantial improvements in academic outcomes were associated with a more positive school climate so that students feel more comfortable, are less intimidated, and better understand learning expectations, as well as due to positive changes in staff perceptions and/or student behavior [7]. Ecologically applied PBS with the fidelity principle was found to be successful in realizing school services that are more structured, have clear functions, goals, and evaluations, and there are visible efforts to increase their efficacy [16], thereby benefiting all students, including those with emotional and mental problems. A student's behavior can correspond to expected academic and behavioral outcomes [5]. Several additional studies discovered that some PBS implementation practices were subpar. PBS was found to have problems when service design was inappropriate due to inaccurate identification and classification of students [22], as well as potential imbalances in the provision of academic and behavioral learning [23]. As for the ecological potential of schools, the implementation of behavior services is frequently hampered by teacher disagreements with other service teams regarding student problems and their approach, as well as the absence of a support system in schools [7].

Several studies published in various scientific journals demonstrate the process and outcomes of implementing PBS, which are both directly and indirectly connected to the ecological potential of schools. However, no research has been found that analyzes the supporting components of school ecology in greater depth. Accordingly, the purpose of this review is to fill a gap in the literature regarding school ecology and the implementation of PBS for students with behavior problems in inclusive schools.

2 Methods

The purpose of this article is to provide an overview of school ecology as it relates to the implementation of PBS for students with behavior problems in inclusive schools. The questions therefore are: 1) What aspects of the school's environment influence the use of PBS with students with behavior problems? 2) What role does each ecological component play in the implementation of PBS programs?

This study is a content analysis of scientific articles about the ecological school components that perform a role in the implementation of PBS. Content analysis is a research method that examines written text, verbal data, and visual data objectively and systematically to draw valid conclusions about the discussed phenomenon [24]. Several steps are required for content analysis [25]: 1) Identify the material to be analysed based on theoretical studies and research questions; 2) identify the literature in the form of journal articles; and 3) analyse the main topic and its relationship to the material's focal point.

As scientific resources, Scopus and Google Scholar are used to obtain literature. “Positive behavior support”, “school ecology”, “school environment”, “Brofenbrenner”, and “students’ problem behaviors” were the search terms. The search is limited to scholarly articles published between 2008 - 2020.

The articles that appeared in the search results were then selected based on inclusion and exclusion criteria [26]. The criteria for inclusion included the following: 1) containing the terms “PBS” or “PBIS” or “SWPBS” or “SBPBS” as well as “school environment” or “school ecology” or “school climate”. 2) empirical investigation or systematic/literature review for empirical investigation. 3) Conduct research in special or general education settings. 1) Articles that do not contain the terms “PBS,” “PBIS,” “SWPBS,” or “SBPBS,” along with “school environment,” “school ecology,” or “school climate.” 2) a dissertation or thesis report or guidebook 3) The study area is a special education school or an individual services. Based on these criteria, 11 literary works were chosen.

3 Results and Discussion

1) Result

The selected articles were analyzed in accordance with the specified emphasis. The analysis focuses on the school’s ecological components and their respective roles in the implementation of PBS for students with behavioral issues in inclusive schools. Two of the eleven chosen articles were systematic/literature reviews, while eight were empirical studies. There are eight empirical studies: six from the United States and two from Europe (Sweden and Norway). The majority of empirical studies target both teachers and students [27–29]. Table 1 contains a listing of the chosen articles.

The focus of each of these articles was the results and a few relevant discussions. The next step is to analyze the results and related discussions to determine the main topics and then narrow it down to the category of ecological components of PBS based on Brofenbrenner’s social ecology theory [14]. Table 2 displays the results of the analysis of all articles.

a) **School Ecological Components in PBS Program for Students with Behavior Problems**

In each article’s results and discussion, the ecological aspects of PBS implementation in schools were described. The ecological component that is discussed the most frequently is the teacher, who is the subject of seven discussions. Five school leaders and three school PBS consultants focus on discussions; one of them is a senior or retired teacher. Students, school psychologists, and the school PBS staff are divided into two groups each. A study focused on the parent-mentioned talk, and another on the peer-mentioned discussion.

The interrelationships between the school’s ecological components were also discussed in the primary theme articles. Teachers were found to have the following connections: with other teachers, school officials, PBS consultants, the PBS team, school psychologists, classmates, PBS target students, and parents. It is discovered that school

Table 1. List of Selected Articles (Author(s), Year, Aims, Methods)

No of article	Author(s), year	Aims, Methods
1	Bodin, M. C., South, S. H., & Ingemarson, M. (2016).	This study examines how the Prevention in School (PS) program and PBS framework effect projected results (better learning environment and less bad behavior by students). 23 Stockholm public schools were sampled.
2	Briere, D. E., Simonsen, B., Sugai, G., & Myers, D. (2015).	This study examines how consulting on student behavior interventions with senior teacher mentors or retired teachers affects new teachers' self-management, regular meetings, and praise technique feedback in New England.
3	Collins, T. A., Drevon, D. D., Brown, A. M., Villarreal, J. N., Newman, C. L., & Endres, B. (2020).	This meta-analysis of 21 case study articles examines how peer reporting intervention in school PBS affects student behavior.
4	Hayward, B. A., Poed, S., McKay-Brown, L., & McVilly, K. R. (2021)	The study examined how special needs students use PBS to feel like they're progressing. Method: systematic review of 26 literatures on conceptualizing PBS adaptation for special education.
5	Kelm, J. L., McIntosh, K., & Cooley, S. (2014)	This case study research is to explore the relationship between the implementation of PBS with academic outcomes and student behavior and students' perceptions of the school environment. Research setting in 49 primary schools in British Columbia.
6	Larson, K. E., Bottiani, J. H., Pas, E. T., Kush, J. M., & Bradshaw, C. P. (2019)	This study examines how PBS affects race-related academic engagement and school discipline. This research is a survey and correlation study of 17,115 students in 310 classrooms and 53 high schools in 12 Maryland districts.

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Table 1. (continued)

No of article	Author(s), year	Aims, Methods
7	McCurdy, B. L., Thomas, L., Truckenmiller, A., Rich, S. H., Hillis-Clark, P., & Lopez, J. C. (2016)	School psychology consultants and educators designed and evaluated school-wide positive behavioral interventions and supports in a self-contained school for 64 students with emotional and behavioral disorders at several Pennsylvania public elementary schools in this participatory action research study.
8	Meyer, K. L., Floress, M. T., & Zoder-Martell, K. (2019).	This study examines whether raffles help teachers give students written praise for good behavior. Praise Noted is a valid social reinforcement method. 93 Central Illinois elementary school teachers and 755 students participated in the study. Staff and teachers are trained on the importance of using praise for student behavioral outcomes, recording and measuring praise notes weekly by type, commendation staff, and students.
9	O'Brennan, L. M., Bradshaw, C. P., & Furlong, M. J. (2014).	This study examines student behavior problems and ecological factors, including student characteristics (gender, ethnicity, prosocial behavior), class conditions (class size, average class behavior), and school conditions (location, school climate). Teacher-perceived data. 37 Maryland elementary schools, 467 classes, and 8750 students were studied.
10	Rusby, C. J., & Crowley, R. (2011).	This study observes staff use of PBS, school environment, and student behavior. 18 Oregon PBS middle schools provided data. The goal is to describe the school's observation system, test its sensitivity to behavior management practices and student behavior, and examine how staff practices affect student behavior.

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Table 1. (continued)

No of article	Author(s), year	Aims, Methods
11	Sørlic, M. A., Ogden, T., & Olseth, A. R. (2016).	The study examined how well the Norwegian SWPBS managed student behavior and how teachers felt about themselves individually and collectively. 28 intervention and 20 comparison school teachers participated.

Table 2. Main Topics Analysis

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
1	No significant effect was found on the learning climate or the students' negative behavior after the application of PS. Research implications: The dynamics of teacher needs in implementing PS, the agreement between teacher teams regarding the focus of behavior related to school rules, the existence of program consultants in schools to help teachers interpret how program implementation relates to student behavior, and the documentation of problematic behavior must be considered. Teachers need peer coaching. Program leadership requires school leaders.	The teacher's role: make an agreement on the focus of PBS, peer coaching. The role of PBS consultants is to help teachers interpret the results of PBS. The role of school leaders: ensure the leadership function in the implementation of PBS.	Teacher Consultant School leader

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
2	All new teachers in the school consultation gave more special praise. This study supports school consulting's benefits on teachers' classroom management.	The role of the teacher: applying intervention techniques in PBS PBS consultants/senior teachers' role: provide psychological support, implementation practice support, and consulting services to teachers.	Teacher Consultant
3	Multiple peer reporting interventions improve students' positive behavior. PBS peer involvement fosters positive student behavior in the classroom and school. This study shows peer role support in PBS as a peer-mediated intervention/reinforcement that promotes positive intervention behavior and reduces unexpected behavior. Peer report training is done by teachers and the PBS team. They model, teach, give feedback, etc.	Peer mediation creates a supportive classroom and school environment for positive student behavior, promotes positive behavior, and reduces bad behavior. Teachers and school PBS teams are responsible for teaching peers how to report on each other and basic methods for dealing with inappropriate conduct.	Peer Teacher
4	A systematic review found several variables in the adaptation of PBS for students with special needs, including adjusting the concept of PBS to real situations, paying attention to the initial conditions of the program, selecting and training staff, coaching, and providing administrative support in increasing staff knowledge, evaluating staff, providing program evaluations, and systematic interventions.	School leaders: adjusting PBS implementation for school conditions, starting points and implementation systems, team selection and training, coaching, administrative support, staff performance evaluation, and program evaluation.	School Leader

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
5	<p>PBS’s fidelity can improve academic performance, student behavior, school safety, student understanding of expectations, and bullying perceptions.</p> <p>All school staff must ensure PBS implementation meets level needs to maintain PBS fidelity (primary, secondary, tertiary).</p> <p>To ensure staff, parents, and students understand and accept PBS implementation and results, regular meetings are needed.</p>	<p>The role of school leaders, PBS teams, teachers/educators: ensure PBS fidelity for each level, communicate with students and parents to ensure understanding and acceptance of the methods used, and design regular meetings.</p> <p>The role of students and parents: communicating and being involved in regular meetings with the PBS team, school leaders, and teachers</p>	<p>School leader Teacher PBS Team Student Parent</p>
6	<p>Risk ratios make students of different races think the school’s discipline environment is less pleasant and well-balanced.</p> <p>This study suggests that school discipline is not racially biased, sensitive to cultural differences, based on evidence-based behavior support, provides opportunities for students to participate in academic and social activities, and uses various school-based strategies. All teachers receive training for this.</p> <p>Participants: School psychologists should teach students and prevent and treat their issues. They should also determine what level of service each student needs for academic and social issues. All students need behavior support from teachers who consider student culture and use proactive behavior management..</p>	<p>Student role: involved in academic and social activities in PBS program.</p> <p>The role of psychologists: promote learning, address student behavior issues, and set service levels.</p> <p>The teacher’s role: implements PBS by considering learning management, classroom management, proactive behavior management, and student culture.</p>	<p>Student School psychologist Teacher</p>

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
7	<p>After universal SWPBIS implementation, discipline referrals and emergency interventions decreased.</p> <p>Recommendation: School psychologists should provide more individualized consultation and intervention, especially for high-risk students.</p> <p>Each PBS tier's school psychologist does:</p> <p>Tier 1 SWPBIS: initial training and assistance to the SWPBIS team, universal student screening, fidelity assessment, and monitoring implementation.</p> <p>Tier 2 SWPBIS: Train the SWPBIS team in the required interventions, provide consultation services, identify students who require individual support, and, if necessary, assist with the functional behavior assessment (FBA) process.</p> <p>Tier 3 SWPBIS: school psychologists must be trained in FBA, supporting students with severe behavioral issues, and leading teams to provide comprehensive interventions.</p>	<p>The role of the school psychologist: to provide consultation and intervention services according to the needs of each level of PBS.</p>	<p>School psychologist</p>

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
8	<p>The results indicate that the application of incentives that are drawn weekly for teachers can improve the application of particular praise recognized behavior for students and reduce punishments for disciplinary infractions for students with and without a risk of behavior problems. Implications: Schools should strengthen the system for implementing praise highlighted so that its implementation is more comprehensive and give instructors with training on its implementation. Schools must consider the rewards that can be given to teachers for implementing PBS strategies with a high degree of social validity. School consultants help the students improve their behavior and do it well.</p>	<p>The role of the school leader: regulates policies for providing support and rewards for teachers or the PBS implementation team The role of school consultants: provide training and mentoring to teachers and the entire staff team on the application of PBS and behavior management techniques</p>	<p>School leader School consultant</p>

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
9	<p>The results showed that class average social behavior significantly mediated problem behavior in students of different races. Teacher and student perceptions of class and school climate were significantly related. This study suggests that teachers view students favorably when many in the same class behave well. High-prosocial classes have smaller racial disparities. In difficult classrooms, teachers view student behavior negatively. Schools promote trust, cooperation, and openness among teachers, staff, students, and administrators during PBS implementation. Teachers use social skills programs and individual interventions to reduce students' problematic behavior.</p>	<p>The role of school leaders: establish policies that support a positive school climate.</p> <p>The role of the teacher: implementing PBS according to the focus of the intervention</p>	<p>School leader Teacher</p>
10	<p>Ineffective behavior management, critical school staff, graffiti, and low-income students are linked to student behavior problems. PBS and schoolwide efforts are needed to improve student behavior. The school PBS team should consider how likely students are to misbehave when determining staffing levels. PBS staff promote good behavior and enforce PBS rules in each area.</p>	<p>The role of the school PBS team: establish a work system taking into account the ratio of staff to implementation needs in each area of the school, ensuring effective implementation.</p>	<p>School PBS Team</p>

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Table 2. (continued)

No	Result and Key Discussion	Main Topic	Ecological Components of PBS
11	After three years, SWPBS-implemented schools have a total implementation score of 72% to 90%, depending on school involvement, staff, and student characteristics. SWPBS increases teacher self-efficacy, which is a sense of empowerment, motivation, and ability to teach and handle student behavior issues. Following the SWPBS implementation procedure increases teacher collective efficacy, indicating that all teachers who apply SWPBS play a role in assessing behavior management practices to themselves and fellow teachers, increasing positive feedback and decreasing negative feedback to students.	The teacher’s role: conduct self-assessment and peer assessment regarding PBS practices that have been implemented, increase positive support and reduce negative consequences for students	Teacher

leaders have direct connections with teachers, the full PBS work team, targeted students, and parents. There is evidence that school PBS consultants have direct ties with teachers, school PBS teams, and school administrators. The school PBS team has relationships with school administrators, teachers, students, and parents. If teachers and students require specialized services, school psychologists appear to have a direct relationship with them. Students appear to have direct relationships with instructors, school administrators, and other educators. Parents have direct access to kids, teachers, school administration, and the school’s PBS team. In addition, PBS target students’ peers connect directly with students, teachers, and the school’s PBS team.

The articles describe a variety of interconnections between the school ecological components discussed. The majority of ecological components are interconnected through agreements, coaching and training, supporting, consulting, and promoting. Service regulations, service standards, and leadership-related policies represent a unique connection between school leaders and the full ecological component of PBS. Typical interactions between teachers, students, consultant teams, school PBS teams, and parents led to the development of classroom and learning management policies.

b) The Role of Ecological Component in School-Based PBS

All the articles reviewed also discussed the function of all the mentioned environmental components of the school. The teacher's role relates to the main topic of PBS implementation: ensuring the fidelity of PBS implementation, serving as a peer-coach for other teachers, training and assisting students in peer-mediated intervention strategies, and conducting self- and peer-assessment on implemented PBS practices. When determining positive support for students, always emphasize performance enhancement. The school leader is responsible for ensuring the leadership function in the implementation of PBS, establishing policies and systems for implementing PBS in accordance with school conditions, determining PBS staff and teams, determining training and coaching for teachers and PBS teams, providing administrative support, evaluating staff performance, and evaluating programs. PBS consultants provide psychological and practical support for PBS implementation, including assisting teachers in interpreting PBS results, providing consulting services, and training and assisting teachers and school teams with the implementation of PBS.

The school PBS team is responsible for ensuring the fidelity of PBS according to the needs of each level, communicating with school leaders and teachers to ensure understanding and acceptance of the approaches and techniques that will be applied, designing work systems that take into account the needs, organizing regular meetings, and ensuring the effectiveness of PBS implementation. The paper discusses the role of the school psychologist, which includes promoting learning and services that are preventive and responsive to student behavior problems; determining the level of service for students, particularly if they require intensive and individualized services; and providing consulting services to school PBS teams, teachers, and parents. Students are expected to participate in all planned PBS activities, communicate expectations and questions to teachers or other PBS teams, and attend regular meetings if invited. One article discusses the role of parents in the implementation of PBS, including communication with teachers, PBS teams, and school administrators, as well as participation in regular PBS meetings. As for the article discussing the role of peers, specifically playing an active role as a peer tutor in peer-mediated intervention, both naturally and voluntarily, his role includes creating a classroom environment that encourages the development of positive behavior in all students, promoting positive behavior, and minimizing the impact of negative behavior among students.

2) Discussion

This literature review explores the ecological components of schools and their role in the implementation of Positive Behavior Support for students with behavior problems. There are a limited number of studies that discuss the ecological components of schools and their role in implementing PBS, according to the articles discovered using the search procedure and excluded and included criteria. The majority of references to ecological components and their functions are found in discussions and ramifications of diverse empirical research results or systematic reviews of empirical research.

The results of the review confirm that the implementation of PBS in schools involves numerous components of students' lives at school that are interrelated and have significance for the academic development and behavioral skills of students at school. Effective

PBS for all students is influenced by the dynamic interaction between the school's ecological components and the students' social and cultural backgrounds, classes, school conditions, and other supportive communities or individuals [30]. The coordinated action of PBS supporting components in schools is a crucial ecological factor for ensuring that PBS services are carried out as a whole and are successful [28]. Bronfenbrenner's Ecological Theory emphasizes the interrelationship between the components of supporting education and the system that connects their respective roles, which will influence the development of the individuals who interact there [12, 15, 31].

The total of each ecological school component that is discussed in 11 articles includes: teachers (7), school leaders (5), school consultants (3), school PBS teams (2), school psychologists (2), students (2), parents (1), and peers (1). They are classified as microsystem components of the school's ecological system because they primarily interact with students in the school environment and have direct effects on students in relation to the implementation of PBS [13, 31–33]. The implementation of PBS to increase positive behavior and decrease behavior problems necessitates the participation of all elements of the school ecosystem in order to create a comfortable, non-threatening, friendly, and supportive environment in order to establish a positive school climate. A positive school climate that is supportive of PBS is essential for providing students with direct experience with prosocial behavior and is rich in reinforcements [34]. The school climate will influence the school connection of students. High levels of problem behavior among students were found to be correlated with low school connectedness and problems in school climate [35].

The majority of the articles discuss what teachers can do to bring PBS into schools. Teachers in schools are the professionals with the closest relationship to students, whose roles are directly related to students' academic, behavioral, social, and physical development [36], and who also create a classroom ecological system that promotes academic and behavioral growth [37]. In the implementation of PBS, the support that schools can provide, teacher knowledge and skills regarding service models and techniques, teacher stress and anxiety levels, and student behavior problem levels influence teachers' decision-making regarding interventions [38].

Therefore, teachers require assistance from school administrators, PBS consultants, school psychologists, and the PBS team, in addition to other ecological components (parents and peers). Some of the articles mention the interconnection between school leaders and teachers, PBS teams, PBS consultants, school psychologists, parents, and students (mesosystems) [27, 28, 39–41]. The system from the interaction between the components of the mycosystem is called an exosystem [13, 31–33]. The exosystem can aid teachers directly involved with students in the implementation of PBS [38]. The system consists of a leadership function policy, a policy for implementing PBS in accordance with the needs of students and schools, a system that ensures the fidelity of PBS implementation, a regulatory and support system for teachers and staff, a policy system that promotes a positive school climate, and a training system for teachers, PBS teams, and peers. A work system that relies on the interconnection role of multidisciplinary teams in accordance with the school's needs (educators, psychologists, parents, peers) will aid in maximizing student achievement in accordance with the PBS implementation objectives [30].

Other professionals play some of the roles of the ecological components mentioned in the reviewed articles (school psychologists). The role of school psychologists in the implementation of PBS is to make recommendations to teachers regarding the special services required [36]. At the tertiary level of PBS, school psychologists focus on specific aspects according to their areas of expertise, such as assessing psychological problems and student behavior and assisting teachers in identifying patterns of problematic student behavior through Functional Behavior Assessment as a basis for developing behavior support plans [5, 42].

The discussion also includes parents and peers. Parents and families are components of the student microsystem with a strong influence and context on the development of children's emotions, behavior, and social skills that will become lifelong competencies [34]. Therefore, schools must involve parents in all tiers of PBS, especially tiers 2 and 3, where parents play a crucial role in the intensive support of children's behavior development. In a peer-mediated intervention approach (as a model and reinforcement provider) or cooperative learning, the peer as a microsystem component who constantly interacts with students can act as a peer tutor either naturally or intentionally [3].

According to the level of student behavior problems, the three levels of PBS (primary, secondary, and tertiary) were not explained in detail in the reviewed articles. All school ecological components contribute to the formulation of student behavioral expectations as the basis for each level's student behavior rules [43]. Tier 1 (promotion for all students), consisting of general behavioral skills; tier 2 behavioral skills for at-risk students (e.g., dealing with feelings; reciprocal communication; problem solving); and tier 3: positive behavior that is formulated based on the level of student behavior problems [44].

A study of the components of the school ecology and the role they play in the implementation of PBS in schools reveals that all of these components must be organized in order to carry out their responsibilities according to various praxis approaches. Considering the school ecology components and their role, all of these components must be organized in order to carry out their duties using various praxis approaches. School-based organizations consider the ecological approach of the school when providing services to students based on their needs. The stage to be performed includes [28]: 1) the entry stage (beginning by considering the conditions of school ecology and student ecology in general, both physical and non-physical); 2) the problem definition or need assessment stage, which relies on input from all components of the school's ecology to obtain a valid ecological understanding; 3) an agreed-upon intervention agreed upon in advance through discussion; and 4) evaluation, regarding the efficacy, acceptability, and integrity of the intervention.

4 Conclusion

The ecological components of the school play a significant role in the implementation of PBS for students with behavioral problems in inclusive schools. Teachers, school administrators, school consultants, school PBS teams, school psychologists, students, parents, and peers comprise the ecological components. All of the components discussed are the primary ecological components in the microsystem circle of students. In addition, a number of the publications explore the form of linkage between components of the

microsystem in schools as a system (mesosystem and ecosystem) that directs service implementation and ensures its success. Each ecological component of the microsystem focuses on the behavioral and academic development of students, the fidelity of PBS, the attainment of positive student goals, and the development of services. In order to understand the more general and comprehensive elements that influence PBS services in schools, it is necessary to examine the macrosystem and chronosystem of PBS.

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