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Model for Handling Disruptive Behavior in Students with Autism: Systematic Literature Review

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Abstract: Disruptive behavior exhibited by students with autism remains a serious challenge in the context of inclusive education and special schools in Indonesia. This problem not only hinders individual learning processes but also affects classroom dynamics and teacher learning effectiveness. This study aims to identify models for handling disruptive behavior in students with autism through a systematic review of international and national scientific literature. Using a Systematic Literature Review approach based on the PRISMA 2020 guidelines combined with bibliometric analysis (B+SLR), this study examined articles indexed by Scopus for the period 2015–2025 and five national publications by Marlina that are relevant to the context of special education in Indonesia. Data analysis was conducted using the Biblioshiny (RStudio) tool to trace publication trends, dominant keywords, and thematic patterns. The results of the study indicate four main patterns in handling disruptive behavior: (1) self-management-based interventions to strengthen self-regulation; (2) the application of Positive Behavior Support (PBS) and Functional Behavioral Assessment (FBA) as preventive strategies; (3) social support through peer-mediated intervention; and (4) differentiated learning that adapts academic demands to the child's profile. This synthesis confirms that effective behavioral intervention models are ecosystemic—involving teachers, peers, and classroom structures—and need to be integrated into national inclusive education policies. This research provides conceptual contributions to the development of special education teacher training and the formulation of evidence-based policies to create supportive and adaptive learning environments for students with autism.

Keywords: disruptive behavior, autism, positive behavior support, differentiated learning, inclusive education

INTRODUCTION

Disruptive behavior in children with autism spectrum disorder (ASD) is a global phenomenon that continues to be a major concern in special and inclusive education. Children with autism spectrum disorder (ASD) often exhibit challenging behaviors such as aggression, tantrums, or resistance to changes in routine, which impact learning and social interactions at school. This phenomenon has become a global concern due to the increasing prevalence of ASD and its accompanying behavioral challenges in both special and inclusive education contexts (Centers for Disease Control and Prevention, 2022; United Nations Educational, Scientific and Cultural Organization, 2021; World Health Organization, 2023). According to a WHO report, one in 100 children worldwide is estimated to have ASD, and most require long-term educational support based on behavior and the school environment. Data from the Centers for Disease Control and Prevention (2022) shows a significant increase in ASD diagnoses across various countries, underscoring the importance of adaptive learning strategies and positive behavior management. Furthermore, the United Nations Educational, Scientific, and Cultural

Organization (UNESCO) (2021) highlights that an inclusive education approach must include teacher training in behavior management for children with special needs to optimize learning participation.

In the Indonesian context, inclusive education policies continue to be strengthened through the issuance of new regulations, such as Regulation of the Minister of Education, Culture, Research, and Technology No. 48 of 2023 concerning Appropriate Accommodations for Students with Disabilities (Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, 2023). This regulation emphasizes the obligation of educational units, including special schools (SLB) and regular schools providing inclusive education, to provide behavioral support, learning environment adjustments, and learning strategies centered on individual student needs. However, implementation in the field shows that special education teachers still face challenges in addressing disruptive behaviors in students with autism during the learning process, especially when these behaviors directly impact classroom order and peer academic engagement (Marlina, 2018; Marlina et al., 2022, 2025). This situation emphasizes the

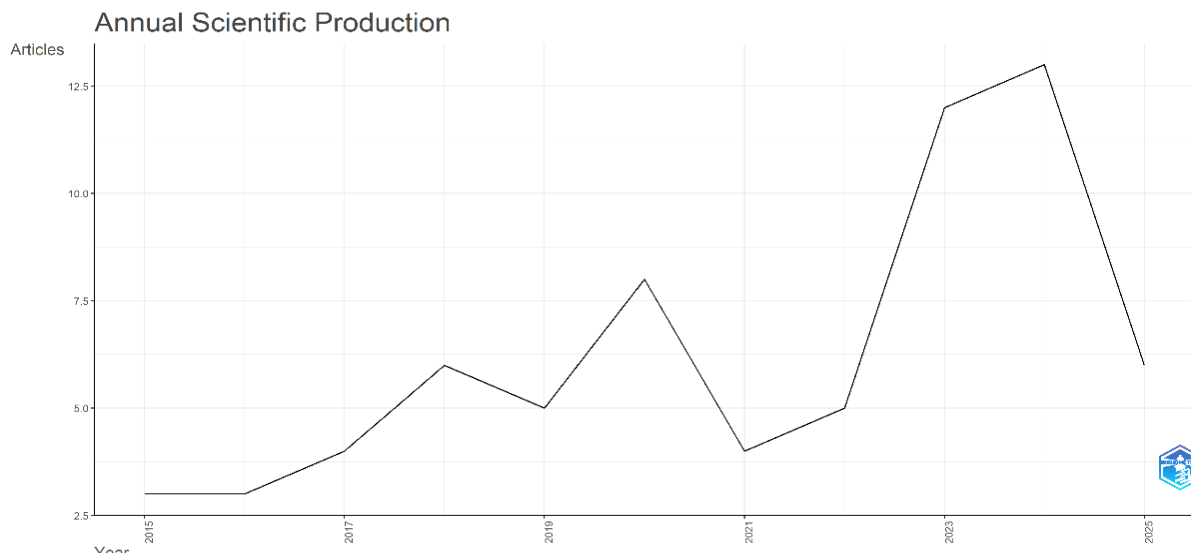


Figure 1. Annual Scientific Production (2015–2025) shows the trend of annual scientific production on the topic of disruptive behavior management of students with autism during the period 2015–2025.

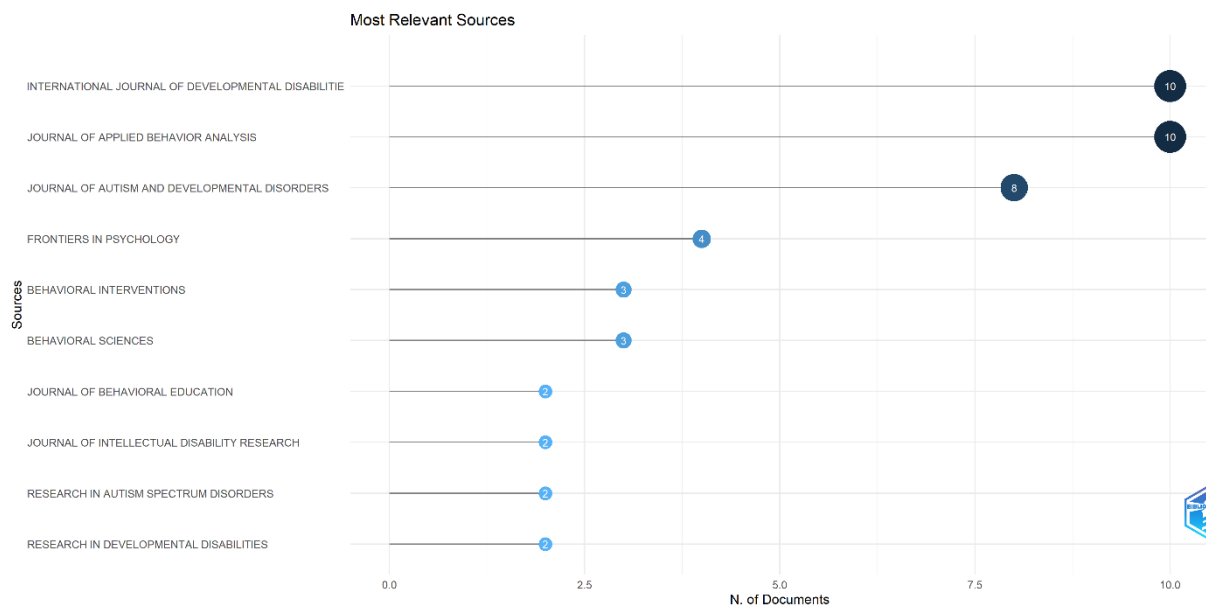


Figure 2. Most Relevant Sources (Biblioshiny)

importance of developing a model for managing disruptive behavior that is not only clinical but also integrated into daily learning practices in schools.

Although research on behavioral interventions for children with autism has been conducted extensively globally (Thomas & Lafasakis, 2019; Wu et al., 2019), most studies still focus on clinical contexts and individual therapies that emphasize direct behavioral control through applied behavior analysis (ABA) and functional behavior assessment (FBA). Empirical findings indicate that both approaches are effective in reducing aggression and improving social skills in children with ASD (Lei et al., 2017; Wu et al., 2019). However, most of this research was conducted in laboratory or controlled therapy settings, so its application in formal educational contexts is still limited. Several school-based studies have

subsequently emphasized the importance of teacher-mediated interventions and peer support as forms of ecological implementation in the learning environment. (Elliott & Dillenburger, 2016; Thomas & Lafasakis, 2019; Wu et al., 2019).

In the national context, (Marlina, 2014, 2018; Marlina et al., 2022, 2023, 2025) consistently emphasizes the urgency of developing school-based learning models for children with autism and other special needs that integrate positive behavior management strategies, differentiated learning, and social support from the learning environment. Initial research (Marlina, 2014, 2018) demonstrated the effectiveness of peer-mediated intervention and self-management strategies in improving social skills and reducing maladaptive behaviors of children with autism in inclusive classrooms. Subsequent studies (Marlina et

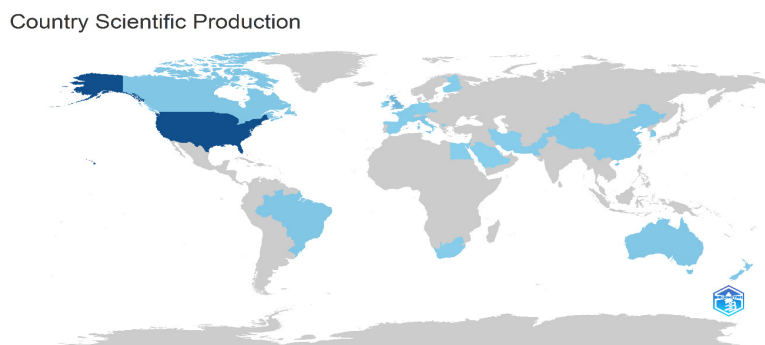


Figure 3. Country and Author Scientific Production (Biblioshiny, 2025).

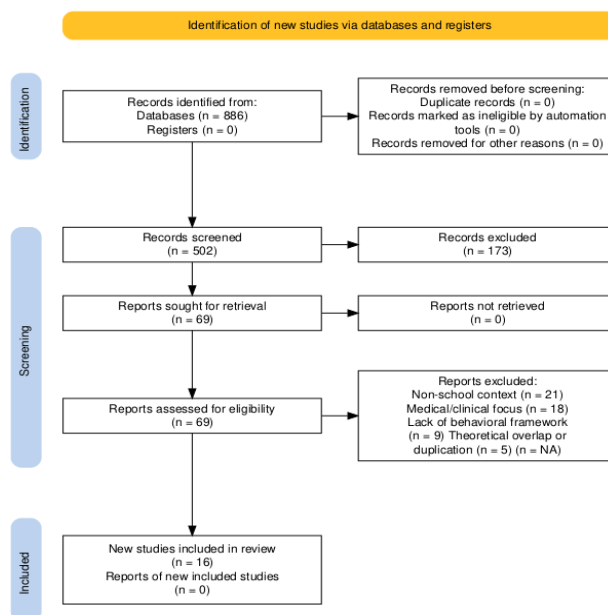


Figure 4. Country and Author Scientific Production (Biblioshiny, 2025)

al., 2022, 2023) expanded the focus on the application of differentiated learning and assessment models as a means to increase the participation and engagement of students with special needs through the station rotation and assessment for inclusion approaches. Meanwhile, her latest research (Marlina et al., 2025) emphasizes the importance of teacher mentoring and strengthening disability-friendly schools as components of the sustainable implementation of differentiated and responsive learning models for children’s behavioral needs in special needs and inclusive schools. Overall, Marlina’s research demonstrates a logical continuity between positive behavioral interventions, instructional differentiation, and school community empowerment, which serve as the foundation for developing a contextual, preventative, and participatory model for managing disruptive behavior in students with autism within Indonesia’s inclusive education system.

The limitations of previous research are also evident in the lack of integration between behavioral, social, and pedagogical aspects in managing disruptive behavior. Most research focuses solely on modifying children’s behavior without considering the learning environment, the role of teachers, or social interactions

between students. Disruptive behavior is often an indirect form of communication of unmet needs or stress resulting from inappropriate academic demands (Graucher et al., 2022; Marlina et al., 2022, 2023, 2025; Wu et al., 2019). These findings emphasize the central role of teachers in creating adaptive learning environments through differentiated instruction, responsive assessment, and structured social support in the classroom. Therefore, research that integrates global findings with local practices will make an important contribution to developing behavioral management models that are not only empirically effective but also contextually relevant and sustainable within the Indonesian education system.

Based on this context, this study aims to identify and describe models for managing disruptive behavior in students with autism in schools, both in global and national contexts. This study integrates behavioral, environmental, and instructional approaches within a single conceptual framework, resulting in a comprehensive understanding of how disruptive behavior can be managed through positive classroom-based interventions (Marlina et al., 2025; Thomas & Lafasakis, 2019; Wu et al., 2019). This study also

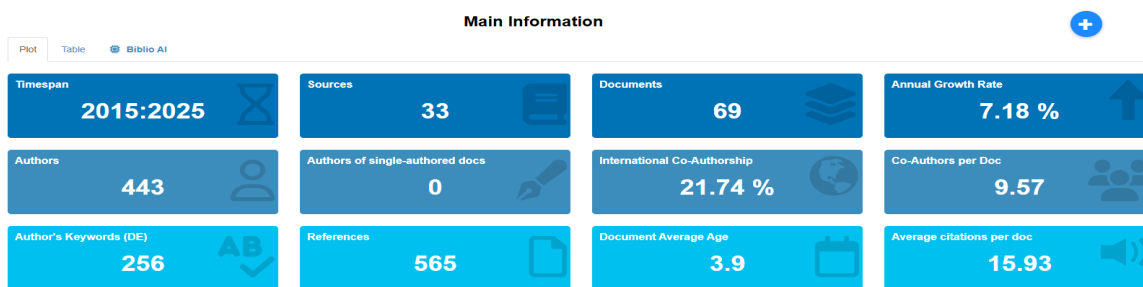


Figure 5 : Main Information (Biblioshiny Overview)

Table 1. Metadata Quality of the Biblioshiny Dataset (2015–2025)

Field	Missing Count	Missing %	Status
AB (Abstract)	0	0.00	Excellent
AU (Authors)	0	0.00	Excellent
CR (Cited References)	0	0.00	Excellent
DE (Author Keywords)	2	2.90	Good
ID (Keywords Plus)	25	36.23	Poor
RP (Reprint Author)	69	100.00	Completely Missing
SO (Source Title)	0	0.00	Excellent
TC (Times Cited)	0	0.00	Excellent
Z9 (Total Cited References)	0	0.00	Excellent
WC (Research Category)	12	17.39	Fair

emphasizes mapping scientific trends using bibliometric analysis, thus depicting the development of research related to this topic over the past decade (Graucher et al., 2022; Lei et al., 2017; Rajaraman et al., 2024; Rattaz et al., 2025). Using a Systematic Literature Review approach based on PRISMA 2020 combined with bibliometric analysis through Biblioshiny in RStudio, this study not only summarizes empirical findings but also identifies research gaps and directions for future intervention development in the education of children with autism (Aria & Cuccurullo, 2017; Page et al., 2021). Therefore, this study is directed to answer the following research questions; 1) What are the forms and types of disruptive behaviors shown by students with autism in the school environment; 2) What internal and external factors contribute to the emergence of these disruptive behaviors; 3) What strategies or models have proven effective in managing the disruptive behaviors of students with autism in the school context; 4) How do global and national research trends describe the development of behavioral intervention approaches for children with autism in the last decade.

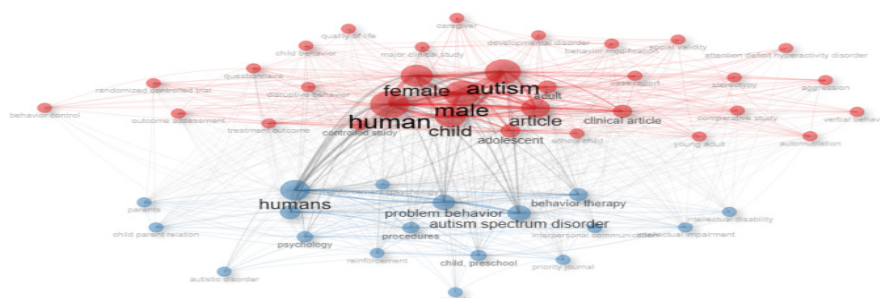
Based on the bibliometric visualization in Figure 1, it can be observed that research on behaviour management in students with autism experienced a significant increase between 2018 and 2023. This increase indicates a growing focus on the need for positive behavioural interventions in both special and inclusive education settings. The Keyword Thematic Map shows that topics such as autism spectrum

disorder, challenging behaviour, applied behaviour analysis, self-management, and positive behaviour support are at the centre of interrelated studies. These clusters indicate a shift in focus from a clinical approach to the implementation of educational models that emphasize behaviour modification and contextual support in schools.

This visualization displays the most productive scientific journals publishing research on disruptive behaviour management in children with autism (2015–2025). The top three sources are the International Journal of Developmental Disabilities and the Journal of Applied Behaviour Analysis, followed by the Journal of Autism and Developmental Disorders. These journals serve as primary hubs for disseminating knowledge in the field of behavioural intervention and special education, underscoring the dominance of behavioural analysis-based approaches that are transforming toward educational and inclusive contexts. This visualization shows that the majority of publications originate from the United States, the United Kingdom, and Indonesia, with Marlina being one of the most active contributors in the Southeast Asia region (Marlina et al., 2022, 2025). These results indicate that the topic of managing disruptive behavior in students with autism has attracted the attention of the global scientific community, with significant contributions from various countries and special education institutions (Rajaraman et al., 2024; Rattaz et al., 2025). This trend underscores the importance of research examining how disruptive behavior management models can

Table 2. Final Analysis Dataset Summary

No	Year	Source	Number of Articles	Short Description Context
1.	2015-2025	Internasional (Scopus, 2015-2025)	16 Articles	classroom-based behavioral intervention, teacher support, emotion regulation of students with autism.
2.	2014-2025	Nasional (Marlina 2014-2025)	5 Articles	differentiated learning, self-management strategies, peer-based interventions, special needs teacher mentoring

**Figure 6. Keyword Co-occurrence Network (Biblioshiny)**

be adapted and implemented effectively in special education schools (SLB) in Indonesia (Marlina et al., 2023, 2025). Therefore, this study was conducted to identify, synthesize, and analyze various models for managing disruptive behavior in students with autism based on relevant international research findings from 2015–2025. To answer these questions, the next section explains in detail the methods used in the process of systematic identification, selection, and analysis of this research data (Aria & Cuccurullo, 2017; Page et al., 2021).

METHOD

This study used a Systematic Literature Review (SLR) approach to systematically analyze patterns and models of disruptive behavior management in students with autism spectrum disorder (ASD). The research design followed the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, as recommended by Page et al., 2021, to ensure transparency, accountability, and replicability of the scientific literature review process. The SLR approach was chosen because it aligned with the research objective, which was to map and synthesize empirical research findings addressing disruptive behavior intervention models in special education contexts, from both global and national perspectives. By combining bibliometric and thematic synthesis (B+SLR) methods, this study not only explored theoretical trends but also visualized publication trends, keywords, and conceptual connections between relevant variables (Aria & Cuccurullo, 2017; Page et al., 2021). The data in this study were obtained from internationally reputable scientific databases, with a primary focus on Scopus as

the primary source of reputable international articles, as well as an integration of relevant national articles (Marlina, 2014, 2018; Marlina et al., 2022, 2023, 2025) to represent the Indonesian context in special education. The search was conducted using a combination of keywords in English: “autism,” “disruptive behavior,” “behavior management,” “positive behavior support,” and “special education.” The selection of these terms was based on their relevance to the terminology used in global and national literature on the education of children with special needs, including research on teacher interventions in the classroom, positive reinforcement-based behavior management, and peer support (Lei et al., 2017; Marlina, 2018; Marlina et al., 2022; Thomas & Lafasakis, 2019; Wu et al., 2019). The publication period was set between 2015 and 2025, to capture the latest developments in behavioral research on children with autism over the past decade. Only peer-reviewed journal articles, available in full text, and written in English or Indonesian were included in the analysis. Non-journal articles such as proceedings, books, and institutional reports were excluded to maintain the scientific rigor of the data sources (Page et al., 2021).

Inclusion criteria for this study included journal articles that explicitly discussed interventions, strategies, or models for managing disruptive behavior in students with autism in school settings, both in special education settings (SLB/special schools) and inclusive settings. Articles that solely described maladaptive behavior without discussing treatment approaches, or that focused purely on pharmacological/medical approaches without an educational component, were excluded. Furthermore, publications that were not fully available (no full-text access), not in English or Indonesian, or not relevant to the school context

were excluded from the analysis. These exclusion criteria were established to ensure the scientific rigor and validity of the data sources used, in line with the 2020 PRISMA guidelines, which emphasize clear justification for inclusion and exclusion (Page et al., 2021).

The data collection and selection process was carried out through four systematic stages according to the PRISMA model: identification, screening, eligibility, and inclusion (Page et al., 2021). The identification stage yielded a total of 886 articles from the initial Scopus search. After filtering based on publication year (2015–2025), related discipline (psychology, special education, behavioral interventions), document type (journal article), and publication language, the number of articles was reduced to 502. Further filtering based on title and abstract relevance resulted in 69 articles for full-text assessment. In the eligibility stage, articles were fully analyzed to ensure their relevance to formal education contexts and classroom-based behavioral interventions. Fifty-three articles were excluded because they focused on purely clinical contexts, pharmacological interventions, or did not include behavioral management strategies in school settings. The inclusion stage resulted in 16 international articles that met all criteria and were included in the main synthesis (e.g. (Graucher et al., 2022; Lei et al., 2017; Rajaraman et al., 2024; Rattaz et al., 2025; Thomas & Lafasakis, 2019; Wu et al., 2019). To strengthen the local relevance and implications of Indonesian education policy, five national articles by (Marlina, 2014, 2018; Marlina et al., 2022, 2023, 2025) were added as a component of the contextual analysis. Thus, the total literature analyzed in this study was 21 articles (16 international + 5 national).

Data analysis was conducted using two approaches: bibliometric analysis and thematic synthesis. The bibliometric analysis was conducted using RStudio software with the Bibliometrix package and the Biblioshiny interface (Aria & Cuccurullo, 2017). This stage included identifying author and institutional productivity, mapping dominant keywords, and co-occurrence analysis to determine the most frequently appearing research themes in behavioral intervention studies for children with autism in schools (Graucher et al., 2022; Lei et al., 2017; Rattaz et al., 2025; Wu et al., 2019). The results will be visualized through Annual Scientific Production (annual publication trends), Most Relevant Sources (the most productive journal sources), and a thematic keyword map (Thematic Map) that illustrates the conceptual evolution of research on disruptive behavior and its intervention models over the years. Thematic analysis was then conducted using an inductive approach through data coding, categorization, and thematic synthesis to identify causal patterns, forms of behavioral manifestation, management strategies, and the effectiveness of intervention models used in the school environment

(Marlina et al., 2022, 2025; Thomas & Lafasakis, 2019; Wu et al., 2019). The synthesis results were then interpreted narratively to generate broad themes that illustrate the relationship between behavioral factors, environmental context, and learning approaches.

A summary of the characteristics of the data corpus (2015–2025) based on Biblioshiny analysis includes the number of articles, journal sources, level of author collaboration, and average citations per document.

To ensure the validity and reliability of the analysis, the entire data extraction and coding process was conducted independently by two reviewers. Any differences in perception were resolved through discussion until consensus was reached (inter-rater reliability). Content validity was maintained through cross-checking of publication metadata (title, DOI, year, author names, intervention context), while process reliability was ensured through complete documentation of each stage of the search and analysis. This procedure adhered to the principles of transparency and repeatability as recommended in SLR-based research (Donthu et al., 2021; Page et al., 2021) and systematic reviews of behavioral interventions in special education settings (Marlina et al., 2025; Page et al., 2021; Thomas & Lafasakis, 2019). Thus, the analysis results can be replicated by other researchers using similar datasets and approaches. Additionally, to ensure the quality of the dataset used in the bibliometric analysis, a metadata completeness check was performed using the Biblioshiny Data Completeness Check. The results of this check are shown in Table 1.

Table 1 displays the completeness of metadata in the 2015–2025 Scopus export dataset. Most of the main fields (title, author, abstract, DOI, and citation) have an Excellent rating, indicating high reliability for bibliometric analysis. Several additional fields, such as Keywords Plus and Reprint Author, have a low level of completeness, but do not affect the integrity of the analysis because they are not primary variables in the thematic synthesis.

These review results reinforce the belief that the dataset used meets the standards for metadata completeness for bibliometric analysis and is scientifically sound.

This study used secondary data sourced from accessible full-text scientific publications, and therefore did not involve direct human participants. Therefore, this study did not require separate ethics approval. However, this study acknowledges several methodological limitations, including the possibility of publication bias, the limited coverage of international databases with respect to non-indexed national journals, and the language limitations of articles not published in English or Indonesian. To mitigate these limitations, five national articles by (Marlina, 2014, 2018; Marlina et al., 2022, 2023, 2025) were intentionally integrated in

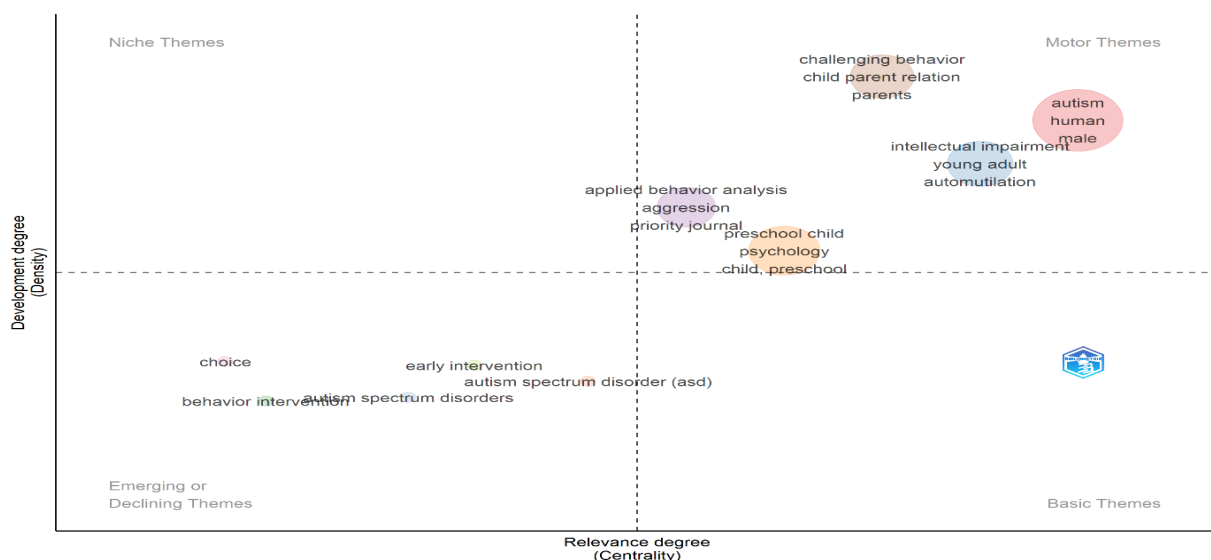


Figure 7. Thematic Map (Quadrant – Biblioshiny)

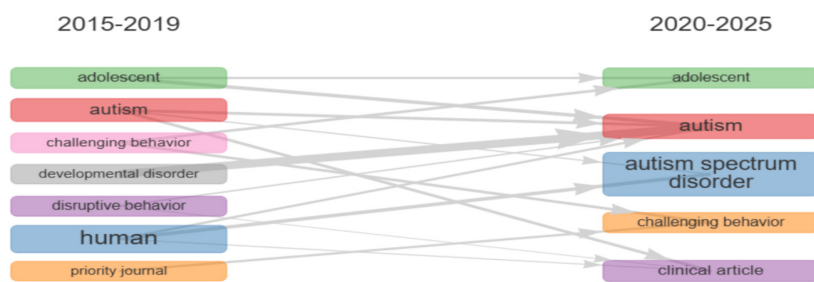


Figure 8 “Thematic Evolution Map (Biblioshiny)”

the final analysis to strengthen local relevance, ensure connectivity with educational practices in special schools (SLB) and inclusive education in Indonesia, and increase the external validity of the findings.

By following these methodological procedures, this research ensures transparency, accuracy, and repeatability of the literature analysis process. The following section presents the results and discussion derived from the synthesis of empirical findings and the data visualization generated through this process.

A systematic analysis of 21 articles, comprising 16 Scopus-indexed international publications and 5 national publications (Marlina, 2014, 2018; Marlina et al., 2022, 2023, 2025), reveals a consistent pattern of disruptive behavior in students with autism spectrum disorder (ASD). This study identified that the most frequent forms of disruptive behavior include physical aggression (hitting, kicking, throwing objects), self-injury, resistance to instruction, and repetitive behaviors that disrupt classroom activities. A bibliometric analysis of publication trends from 2015–2025 shows a significant increase in the number of studies related to disruptive behavior and positive behavioral interventions in formal education settings. These findings align with thematic trends in

the international corpus of articles, which indicate a shift in focus from clinical interventions to teacher-mediated, school-based support models tailored to the learning environment (Graucher et al., 2022; Marlina et al., 2023; Thomas & Lafasakis, 2019; Wu et al., 2019). Data visualizations from the Annual Scientific Production show a growth in research from 2018 with a peak in publications in the most recent years (2023–2025), indicating that the issue of adaptive behavior in children with autism is a growing global concern in both inclusive and special education contexts.

The research findings can be categorized into three main themes: (1) types and forms of disruptive behavior that emerge in the school environment, (2) causes and triggers of behavior, and (3) strategies or models for managing disruptive behavior that have proven effective. In-depth thematic analysis revealed that the most prominent forms of behavior in the classroom context are aggression toward teachers or peers and non-compliance with learning routines. Classroom-based intervention studies show that aggressive behavior, tantrums, and resistance to instruction often emerge when academic demands exceed a child’s emotional regulation and communication capacity, or when changes in routine are not anticipated visually

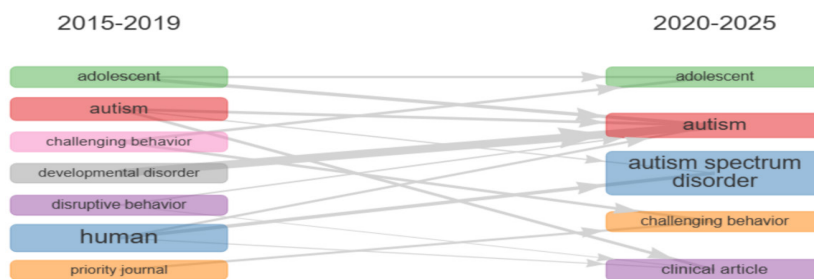


Figure 9. Conceptual Trend Map of Behavioral Interventions (2015–2025) This figure shows the direction of research evolution from “clinical behavior therapy” to “teacher-mediated inclusive behavioral support” based on bibliometric data for the period 2015–2025.

Table 3: Implementation of Multi-Level Support in Schools

Support Level	Main Focus	Executor	Core Strategy
Level 1 (Universal):	All students	Classroom teacher	Positive reinforcement & class structure
Level 2 (Targeted):	Students with challenging behavior	Behavior team	FBA & social support
Level 3 (Intensive):	Serious cases	Psychologists, parents, teachers	Individual intervention

or verbally (Rajaraman et al., 2024; Thomas & Lafasakis, 2019; Wu et al., 2019). In the Indonesian context, (Marlina, 2018; Marlina et al., 2022) found that disruptive behavior tends to increase when teachers have not provided structural support in the form of visual explanations, breaking down tasks into small steps, and consistent positive reinforcement in inclusive classes or in special needs schools. Thus, disruptive behavior is not solely understood as an individual behavioral problem, but also as a result of an imbalance in the interaction between the child’s internal factors and external factors of the learning environment (Graucher et al., 2022; Marlina et al., 2023). These findings are consistent with reports in several articles in international datasets that examine the relationship between the expression of challenging behavior and the emotional and contextual conditions of children with autism. For example, Lei et al., 2017, emphasized that aggressive behavior and tantrums often emerge in response to communication frustration and the child’s inability to adaptively negotiate social demands. Other applied clinical studies have shown that increased non-compliant behavior in the classroom is an indicator of emotional dysregulation that is not promptly addressed supportively by the adults around the child (Rajaraman et al., 2024; Wu et al., 2019). This pattern is reinforced by findings (Marlina et al., 2022, 2025), which emphasize that challenging behavior in the classroom often functions as a form of non-verbal communication, not simply a rule violation. In other words, disruptive behavior serves as a signal that the learning environment is not adequately supported by the child’s needs.

A second theme that emerged from the synthesis is the multidimensional nature of the factors

causing disruptive behavior. Internal factors include impaired emotional regulation, limited functional communication, and high sensory overload. External factors include unstructured learning environments, sudden changes in routines, and inconsistent instruction between teachers. Research by (Graucher et al., 2022) indicates that children with ASD are more prone to exhibiting challenging behavior when the classroom environment lacks clear structure, predictable routines, and teachers do not provide concrete visual supports. Conversely, (Marlina et al., 2023) emphasize the importance of environmental and social-based interventions, including purposeful learning space design, the use of visual cues, and the involvement of peers as social support partners. This synthetic analysis indicates that disruptive behavior emerges as a form of non-verbal communication of self-regulation needs, assistance with activity transitions, or sensory overload reduction (Marlina et al., 2022, 2023; Wu et al., 2019).

The third theme relates to treatment models and intervention strategies for disruptive behavior. Based on the synthesis results, the most commonly identified approaches in the literature are Applied Behavior Analysis (ABA), Positive Behavior Support (PBS), Functional Behavior Assessment (FBA), self-management strategies, peer-mediated support, and differentiated classroom instruction. FBA- and ABA-based interventions have been reported to be effective in reducing aggressive behavior and improving self-regulation in students with ASD when behavioral function analysis is conducted systematically and interventions are delivered consistently throughout the learning process (Rajaraman et al., 2024; Thomas & Lafasakis, 2019; Wu et al., 2019). These approaches emphasize identifying behavioral functions, positive

Table 4 : Conceptual Synthesis of Disruptive Behavior Management Model in Students with Autism

Primary Domain	Key Components	Supporting Sources	Conceptual Meaning
Behavioral Domain	Functional Behavioral Assessment (FBA)- Positive Behavior Support (PBS) Applied Behavior Analysis (ABA)	Thomas & Lafasakis, 2019; Wu et al., 2019; Graucher et al., 2022; Marlina et al., 2022	Identifying the function of behavior and applying positive reinforcement to decrease aggressive behavior.
Environmental Domain	Structured Teaching Visual Supports Peer-Mediated Intervention	Marlina, 2018; Marlina et al., 2022, 2023, 2025; Wu et al., 2019	Creating a structured learning environment that supports adaptive social interactions.
Instructional Domain	Differentiated Learning -Teacher Reflection- Collaborative Support Team	Marlina, 2018; Marlina et al., 2023, 2025	Tailoring academic instruction and support to the child's needs and profile.
Mediator (Teacher)	Inter-domain integrators and reflectors	Marlina et al., 2022, 2025; Thomas & Lafasakis, 2019	Linking behavioral, environmental, and instructional strategies in a reflective cycle of learning.

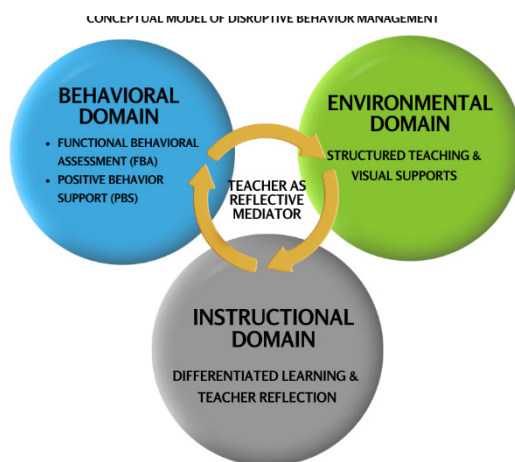


Figure 10. Conceptual Model of Disruptive Behavior Management in Students with Autism

reinforcement of adaptive alternative responses, and behavioral prevention through antecedent modification (e.g., visual schedules and transition scheduling). In the Indonesian context, (Marlina, 2018; Marlina et al., 2022) developed and implemented differentiated learning strategies and structured instruction that incorporate positive reinforcement, taskload adjustments, and student self-monitoring (self-management) as part of classroom practice. This model has been proven to reduce tantrums, reduce behavior that refuses instructions, and increase the learning focus of students with autism in inclusive classes and in special needs schools (Marlina et al., 2022, 2025).

These results align with findings from classroom interventions that position teachers as the primary mediators of behavior regulation. Research (Thomas & Lafasakis, 2019) shows that behavioral support provided directly by teachers in the classroom, including immediate positive reinforcement and alternative behavior practice scenarios, contributes to a decrease in the frequency of aggressive behavior. (Rajaraman et al., 2024) added that addressing dangerous behavior in children with autism and developmental disabilities can be done through structured, distance support, emphasizing that consistency of intervention procedures and adult guidance are critical factors. Furthermore,

(Marlina, 2018; Marlina et al., 2022, 2025) emphasize the importance of peer support strategies and sensory-friendly learning environments as part of school-based classroom interventions. Practically, this demonstrates that behavioral management strategies are not solely child-focused but also require teacher preparedness, learning structures, and the overall classroom culture. This conceptual framework aligns with the principles of behavioral learning, which emphasize the relationship between antecedent, behavior, and consequence, as described in the Applied Behavior Analysis framework (Cooper et al., 2020).

Comparative analysis of international and national research indicates that although disruptive behavior patterns are relatively similar across countries, the context in which interventions are implemented is strongly influenced by school readiness and teacher capacity. Studies in international datasets highlight that successful behavior management relies heavily on consistent strategy implementation, ongoing behavior monitoring, and collaborative support between teachers and families (Rajaraman et al., 2024; Rattaz et al., 2025). This aligns with findings (Marlina et al., 2022, 2025), which indicate that special education teachers in Indonesia work within resource constraints, making collaboration with parents and peer engagement key

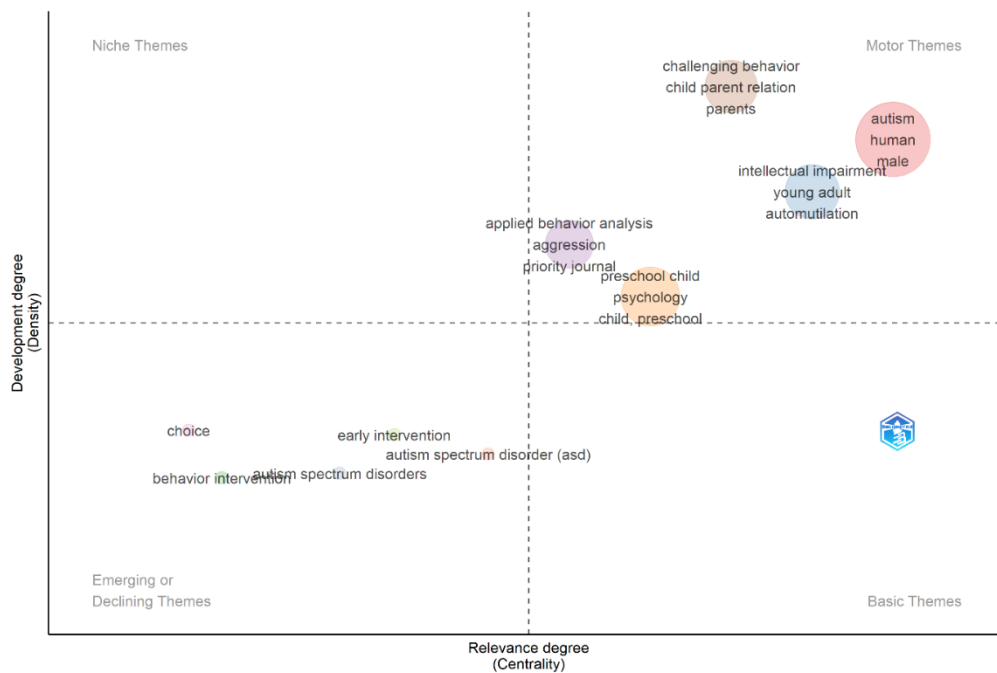


Figure 11. Conceptual Integration Map – Behavioral, Environmental, and Instructional Components

components for sustaining behavioral interventions within classroom routines. Thus, although behavioral theories such as behavioral learning theory place positive reinforcement as a core mechanism for behavior change (Cooper et al., 2020), its effectiveness in practice is largely determined by the school’s socio-cultural context, supportive policies, and teachers’ access to professional training.

Bibliometric results show that the most dominant research themes in the last decade revolve around “behavioral intervention,” “self-management,” “inclusive education,” “teacher support,” and “positive behavior support.” Biblioshiny’s Thematic Map visualization shows four main interconnected clusters: (a) challenging behavior and behavior-based interventions; (b) school environmental support and teacher training; (c) individualization and classroom management strategies; and (d) interprofessional collaboration between teachers, therapists, and parents. This trend confirms that research on disruptive behavior has now moved from a clinical approach to a school-based model, which is more relevant to inclusive education practices in developing countries, including Indonesia (Marlina et al., 2023, 2025; Rajaraman et al., 2024; Rattaz et al., 2025).

This visualization shows the interrelationships between key keywords appearing in the literature on disruptive behavior in students with autism (2015–2025). The red cluster reflects a focus on general autism-related terminology, while the blue cluster illustrates strong connections to educational approaches and behavior regulation strategies in the classroom. This visualization is used to map the conceptual structure of the research analyzed in this study. Figure 7 Thematic Map (Quadrant – Biblioshiny) shows four quadrants of

research themes that illustrate the conceptual structure of disruptive behavior research in students with autism.

- The upper right quadrant (Motor Themes) displays dominant topics such as autism spectrum disorder and positive behavior support as the most developed and influential themes.
- The lower right quadrant (Basic Themes) includes basic themes such as behavior management and special education.
- The upper left quadrant (Niche Themes) contains specific themes such as teacher training and inclusive classrooms, which have the potential to become new focuses for school-based interventions.
- The lower left quadrant (Emerging Themes) shows emerging topics such as early intervention, telehealth-supported behavior management, and applied behavior analysis outside of clinical settings (Rajaraman et al., 2024; Marlina, 2025).

This map clarifies the current research landscape in the area of education-based behavioral interventions, emphasizing that global research has shifted from clinical contexts to more applicable school contexts.

Figure 8. The Thematic Evolution Map (Biblioshiny) depicts the development of research topics on disruptive behavior in children with autism from 2015 to 2025. In the initial period (2015–2019), the primary focus of research was on individual behavioral therapy (behavior therapy, reinforcement, intervention). However, in the second period (2020–2025), the theme evolved toward the implementation of school-based intervention models (school-based intervention, teacher mediation, inclusive classroom). This pattern demonstrates a shift from a clinical approach to a more contextual, educational approach

in special and inclusive education (Marlina et al., 2022, 2025; Rajaraman et al., 2024; Thomas & Lafasakis, 2019). The visualizations shown in Figures 7 and 8 provide a comprehensive overview of the dynamics and focus of research related to disruptive behavior in students with autism during the period 2015–2025. In general, the analysis results indicate that research themes are evolving from studies based on individual behavioral therapy to educational approaches that emphasize the implementation of interventions in school settings. The main clusters emerging in the Keyword Co-occurrence Network (Figure 7) demonstrate strong interconnections between keywords such as autism spectrum disorder, challenging behavior, behavior therapy, self-management, and inclusive education. The red cluster reflects a focus on general terminology related to autism, while the blue cluster demonstrates a strong connection to pedagogical strategies and behavior regulation in the learning environment. This pattern of interconnections confirms that disruptive behavior in children with autism is often studied in the context of positive behavioral interventions, consistent reinforcement, and planned modifications to the learning environment (Marlina et al., 2022, 2023; Wu et al., 2019). Meanwhile, the Thematic Evolution Map (Figure 8) illustrates the shift in research direction over time. In the initial period (2015–2019), the primary focus of research was on behavioral therapy and individual behavior modification through reinforcement techniques and adaptive behavior formation. However, in the second period (2020–2025), the theme evolved toward the implementation of school-based intervention models such as school-based intervention, teacher mediation, positive behavior support, and inclusive classrooms. This pattern indicates a shift from a clinical approach to a more contextual, educational approach, with a focus on the teacher's role as a mediator of classroom behavior (Marlina et al., 2022, 2025; Rajaraman et al., 2024; Thomas & Lafasakis, 2019). This shift in direction also demonstrates a scientific response to the needs of education systems in various countries, including Indonesia, which demand the implementation of positive behavior management strategies in schools.

The results of this thematic evolution confirm that the focus of current research is no longer limited to individual behavior analysis but has evolved into a systemic and collaborative approach involving teachers, families, and school support networks. This pattern reinforces the view (Marlina et al., 2022, 2023, 2025) that behavioral change in children with autism can only be achieved through a consistent learning environment, adaptive instructional structures, and planned social support. Conceptually, these findings extend the application of Applied Behavior Analysis principles (Cooper et al., 2020) into the educational context, making the behavioral approach not only a clinical therapy strategy, but also a pedagogical and

managerial instrument in building a learning climate that is inclusive and responsive to children's behavioral needs.

FINDINGS

Bibliometric visualization and analysis indicate a network of related keywords such as autism spectrum disorder, challenging behavior, positive behavior support, teacher training, and inclusive classroom. The thematic evolution map confirms that since 2019, the topics of teacher-mediated behavioral intervention and inclusive behavioral management have experienced a significant increase, replacing the previous clinical and individualistic focus (Lei et al., 2017; Marlina et al., 2022, 2023; Rajaraman et al., 2024; Thomas & Lafasakis, 2019). This shift indicates a new direction in global research that is increasingly oriented towards school-based intervention contexts with the active involvement of teachers, students, and the learning environment in behavior management.

In the context of education policy in Indonesia, the results of this study reinforce the urgency of improving the professional capacity of special needs teachers and inclusive teachers in positive-based behavior management. Training programs should be directed at strengthening teacher competency in conducting Functional Behavioral Assessments (FBA), designing positive reinforcement-based intervention strategies, and integrating them into Individual Learning Plans (ILPs). This approach aligns with the national policy on Reasonable Accommodations for Students with Disabilities (Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, 2023), as well as findings (Marlina et al., 2022, 2023, 2025) that emphasize the importance of structural and systemic support for special education teachers. Furthermore, the formation of behavior support teams at the school level—involving teachers, psychologists, and parents—is considered crucial for addressing severe behavior collaboratively and sustainably. (Marlina et al., 2023, 2025) emphasize that behavioral change in children with autism cannot be achieved through a single intervention, but rather through a multi-level support system in a consistent and participatory educational environment. From a theoretical perspective, the results of this study provide an important contribution to the development of classroom-based behavior management theory by emphasizing the interaction between individual, social, and environmental factors. A synthesis of global findings (Graucher et al., 2022; Rattaz et al., 2025; Thomas & Lafasakis, 2019; Wu et al., 2019) expands the basic principles of Applied Behavior Analysis (ABA) by incorporating the pedagogical context and social relations in the classroom. Conceptually, these findings demonstrate that modern behavioral theory is no longer purely mechanistic but has integrated a social-

constructivist approach into positive reinforcement and self-management practices (Marlina, 2018; Marlina et al., 2022). Practically, the results of this research lead to a conceptual model for disruptive behavior management that integrates three main components; 1) Functional Behavioral Assessment, which is used to identify the causes of behavior and the consequences that maintain it (Marlina et al., 2022; Thomas & Lafasakis, 2019); 2) Environmental Modification, such as classroom layout, visual schedules, and structured routines to reduce sensory stress (Marlina et al., 2023; Wu et al., 2019); and 3) Positive Reinforcement and Social Reflection, which emphasizes emotional learning, cooperation, and appreciation for adaptive behavior (Marlina et al., 2025; Rajaraman et al., 2024). This model provides a comprehensive framework for special education teachers in designing proactive, contextual, and sustainable interventions. The application of the principles of positive reinforcement and interprofessional collaboration has been proven to be more effective than conventional disciplinary approaches that emphasize punishment (Cooper et al., 2020; Marlina et al., 2025). Figure 10 illustrates the conceptual relationship between the three main domains resulting from the literature synthesis: behavioral, environmental, and instructional. These three interact in a reflective cycle mediated by special education teachers. This model emphasizes that managing disruptive behavior emphasizes not only individual behavior modification but also environmental adaptations and instruction that support sustained student participation. Therefore, the results of this study provide a strong empirical foundation for developing special education policies and practices that are more responsive to the needs of students with Autism Spectrum Disorder. This study confirms that disruptive behavior is not a permanent barrier, but rather a form of communication that can be managed through a scientific, collaborative, and humanitarian-based approach (Lei et al., 2017; Marlina et al., 2023, 2025). These findings also strengthen the relevance of Marlina's research and that of international researchers in building a bridge between behavioral theory and real-world learning practices in special and inclusive schools.

CONCLUSION

This study concludes that disruptive behavior in students with autism spectrum disorder (ASD) is a complex phenomenon influenced by a combination of intrinsic and extrinsic factors. The most common forms of disruptive behavior include physical aggression, disruptive repetitive behaviors, resistance to instruction, and self-injurious behavior. These patterns do not occur randomly, but rather in response to communication barriers, sensory overstimulation, changes in routine, and maladaptive teaching

strategies (Graucher et al., 2022; Lei et al., 2017; Wu et al., 2019). A systematic literature review of 21 articles showed that disruptive behavior is more prevalent in less structured learning environments and with inconsistent teacher interventions. Conversely, when teachers implement a positive reinforcement-based approach, clear visual communication, and a predictable learning environment, the intensity of disruptive behavior decreases significantly (Marlina et al., 2022, 2023; Thomas & Lafasakis, 2019). Therefore, disruptive behavior must be understood as a child's communication response to environmental pressures, not merely as a form of non-compliance with school rules (Marlina et al., 2025; Rajaraman et al., 2024).

The findings of this study strengthen the behavioral theory framework, which emphasizes the importance of consistency, positive reinforcement, and structured learning in managing children's behavior in the classroom. Theoretically, this study contributes to a broader understanding of school-based behavioral intervention models by emphasizing the integration of behavioral, social, and instructional approaches. The principles proposed by Applied Behavior Analysis (ABA), Functional Behavioral Assessment (FBA), and Positive Behavior Support (PBS) have been shown to be relevant for facilitating self-regulation in children with autism, reducing the frequency of aggressive behavior, and increasing instructional compliance in formal educational settings (Thomas & Lafasakis, 2019; Wu et al., 2019). In the context of Indonesian special education, behavioral intervention models need to be adapted to take into account school culture and the dynamics of teacher-student relationships. This aligns with findings (Marlina, 2018; Marlina et al., 2022, 2023), which emphasize that behavioral interventions are more effective when combined with differentiated learning strategies, peer social support, and consistent visual communication in the classroom. Thus, this study not only strengthens the empirical foundation of behavioral reinforcement theory but also expands it with pedagogical and contextual dimensions through the role of teachers as primary facilitators of behavior change (Marlina et al., 2025). Practically, the results of this study emphasize the importance of strengthening the capacity of special education and inclusive teachers in behavior management competencies. Ongoing training in functional behavioral assessment, antecedent-based intervention strategies, and positive reinforcement should be an integral part of teacher professional development programs (Marlina et al., 2022, 2025). Schools are expected to integrate individualized behavior support plans—for example, the Individualized Behavior Plan (IBP) or the Individual Learning Plan (RPI)—into routine lesson planning to tailor the approach to each child's specific needs. Furthermore, institutional support from educational units and relevant agencies is essential for the systematic implementation of

evidence-based behavior management approaches in special education and inclusive schools. The implementation of a collaborative model between teachers, psychologists, and parents has also been shown to increase the effectiveness of interventions and strengthen the continuity of behavioral support between home and school (Marlina et al., 2023, 2025; Rattaz et al., 2025). In other words, effective behavior management lies not only in techniques for reducing problematic behavior but also in creating a supportive, consistent, and dignity-oriented learning ecosystem for children. This study also underscores the need to expand the focus of behavior management beyond reducing negative behaviors to strengthening adaptive behaviors such as social communication, self-regulation skills, academic participation, and social-emotional independence in students with autism (Marlina, 2018; Marlina et al., 2022; Wu et al., 2019). This approach aligns with the principles of differentiated learning and peer support, which have been shown to increase the active participation of students with autism in classroom activities and reduce the escalation of challenging behavior (Marlina et al., 2022, 2023). Thus, the results of this study provide a significant contribution to the development of special education and inclusive education models based on a balance between the academic and emotional needs of students. Future research should expand the analysis to a longitudinal dimension to assess the long-term effectiveness of various behavioral intervention models implemented in schools, including the maintenance of impact after the intervention is no longer intensively provided (Rajaraman et al., 2024). In-depth studies on the dynamics of teacher-student interactions and the influence of school culture on intervention success are also needed, particularly in the context of special needs schools and inclusive classrooms in Indonesia (Marlina et al., 2025). Furthermore, parental involvement in behavioral management strategies for children with autism remains an area that requires further exploration to develop a more comprehensive and sustainable intervention framework. A cross-disciplinary approach involving special education, developmental psychology, and disability support services policy is considered essential to broaden our understanding of disruptive behavior in the context of special needs education in Indonesia. Figure 11 shows the conceptual synthesis of the literature review on disruptive behavior management models for students with autism. Three primary domains—behavioral, environmental, and instructional—form an integrative structure that interacts within the context of special and inclusive education. This visualization illustrates the conceptual relationship between the three primary components of the research findings—behavioral intervention, environmental structuring, and instructional adaptation—as part of a comprehensive,

school-based behavior management framework. The behavioral component emphasizes the use of applied behavior analysis and functional behavioral assessment to understand the function of children's behavior in the classroom (Marlina et al., 2022; Thomas & Lafasakis, 2019). The environmental component plays a role in creating a consistent classroom structure, providing teacher social support, and managing sensory overload to prevent escalating behavior (Marlina et al., 2023; Wu et al., 2019). The instructional component focuses on positive reinforcement, differentiated learning, and peer involvement in supporting children's self-regulation (Marlina, 2018; Marlina et al., 2025).

The interaction of these three components produces a conceptual framework that positions disruptive behavior management as a dynamic process involving individual factors, environmental context, and pedagogical practices. This framework can be used as a basis for developing school policies and teacher training programs to improve the effectiveness of school-based behavioral interventions for students with autism.

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