R E V I E W

Building Bridges! Children with Autism Spectrum Disorder and Their Transition from Kindergarten to School – A Scoping Review

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Purpose: The goal of this study was to map the research on the transition from kindergarten to school for children with autism spectrum disorder (ASD). Further, the goal was to identify the elements influencing the transition process as well as the variables that would promote a smooth and positive transition experience for the children in question. The study also aimed to identify knowledge gaps on the subject and the current practice in the field.

Methods: The study is a scoping review that includes peer reviewed articles from the databases ERIC, Google scholar, PsycINFO and Web of Science and the search was restricted to articles in English from 2019 to 2024. The search terms used were autism spectrum disorder, autism, transition, preschool, ECEC, inclusion, education intervention, early childhood, early education and kindergarten. After identifying and screening current articles from the databases, the articles were ascertained for relevance in three stages. In phase one, the title was considered. Phase two consisted of reviewing the abstract, and the final stage was to review the full text. At each stage, articles that did not prove relevant to the goal of the study were excluded. This left us with thirteen articles for inclusion in this article.

Results: In the selected articles the following elements are necessary for children with autism to have a positive transition from kindergarten to school: 1) School readiness skills and school inclusiveness, 2) Comparable educational opportunities and psychological support, 3) Collaboration and professional competence, 4) A balance to ensure a better transition, and 5) Inclusion and support and 6) Children's perspectives.

Conclusion: The research gaps identified were: 1) that few studies take the child's perspective into account and 2) that there is an overemphasis on subjective experiences of effectiveness, and a lack of focus on measurable effects within studies on transition and inclusive education.

Keywords: transition, autism, kindergarten, school, transition strategies

Introduction

At present, advancements in assessment and early detection methods have led to a 0.7% increase in the identification of autism cases in children.[1] Educating and integrating individuals with autism spectrum disorder (ASD) throughout different educational levels necessitates teachers with specialized knowledge in Special Education to address their specific needs, facilitate impactful activities, and collaborate effectively with experts. Transitioning to school is a huge change and can be challenging for all children. However, children at risk can be even more vulnerable,[2,3] and children with ASD are no different in this regard. A successful transition process is not only important for the child's current well-being but will also have a positive influence on later educational outcomes.[2] Providing an adequate pedagogical response to children with ASD can suppose a great challenge for the educational community, which needs to have appropriate resources and strategies to achieve what would be considered the best outcome for the child in question on the one hand, and ensuring a "proper" inclusive education on the other hand. Each child has specific educational needs that must be met

so that he or she can acquire the knowledge, skills, sociability and autonomy necessary to be included into his or her social environment, but also for her or his environment aiming to facilitate and support the child's development and functioning. Children with ASD in addition might have special educational requirements, because of their particular characteristics, that must be understood and considered. Since a significant part of children's lives takes place at school, it is essential that psychoeducational interventions address individual needs, and aim to promote the personal and social development of all children no matter the diagnoses. Moreover, providing the necessary support in their academic learning, as well as encouraging their integration and inclusion into the group of peers, and supporting big milestones and transitions are necessary measures to take into consideration.

Children with ASD are increasingly being integrated into traditional classrooms alongside their typically developing peers to promote inclusive educational environments.[2] Nonetheless, merely being in the same classroom does not guarantee full inclusion, as the children's cognitive, social, and developmental issues remain, inhibiting their participation regardless of physical proximity.

It is well documented that transitioning to school supposes an immense and stressful change for children with ASD. Adapting to a new setting, with new rules, new challenges and demands can be both physically and mentally exhausting for the child in question, his/her family and the school stuff obviously.[4–7]

The main goal is to collectively examine the extant literature and extrapolate those elements that characterize a kindergartener with autism transitioning to school. The current article discusses the research on such transitions, identifying the elements influencing the transition process as well as the variables ensuring positive outcomes for the children in question. At first, we must highlight the base categories with which the literature we examine operates, such as how they conceptualize transition. Further on we find support in laws and regulations according to inclusive education and we describe what ASD is.

Transition to School

Historically, the transition to school has been viewed through the lens of the child's readiness, which in turn has typically been gauged through such academic measures as reading and writing skills. The emphasis on such measures may be burdensome for those children who have less proficiency in such areas but is especially challenging for children with autism, as well as others with special needs. The literature here examined expands upon this conception of transition to encompass other factors than the individual child's academic readiness, such as inclusion, cooperation, and communication.[8–10] Studies have shown the importance of early planning for effective transitions for students with disabilities, even though it is not mandated in most countries.[11]

Inclusive Education: Laws and Regulations

Inclusive education promotes equality and participation, aiming to ensure equal education for all children. It is supported by key international agreements such as the Universal Declaration of Human Rights[12] and the UN Conventions on the Rights of the Child.[13] The Salamanca Statement and Framework for Action on Special Needs Education[14] set out guidelines for education and emphasized the importance of inclusive education in fostering solidarity. Research has shown that inclusive education also benefits children with special needs through increased appreciation for diversity.[15] The Convention on the Rights of Persons with Disabilities[16] stresses the importance of equal opportunities, participation, and support for children with disabilities in mainstream education. Many countries have embraced inclusive education, allowing children to attend local schools. The placement of children with special needs requires careful planning and smooth transitions from kindergarten to primary school.

Autism Spectrum Disorder

Professionals in psychiatry must adhere to diagnostic guidelines such as the DSM and ICD. Children with ASD usually exhibit challenges before the age of three, such as difficulties engaging with others socially, language deficits and restricted and repetitive behaviors. Both ICD-11 and the DSM5, now consider autism as a broad range of conditions, combining them into a single diagnosis (ASD), and presenting as wide spread of a continuum profile of neurodiverse individuals. This approach eliminates the need to categorize individuals based solely on symptoms and function loss.[1,17]

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ASD is a neurodevelopmental disorder, typically beginning in early childhood and presenting with a variety of symptoms, including challenges in communication, cognitive and intellectual functions, limited interests, repetitive behaviors, and physiological symptoms.[18–23] Children diagnosed with ASD show ongoing challenges in social communication, along with varying levels of repetitive behaviors. When attempting to connect with others, their interactions may be inappropriate.

Earlier research emphasizes the distinctiveness of every person's autism spectrum disorder level, behavior, social aptitude, academic skills, and interests, along with the varying mainstream educational settings and personalized teaching methods.[24–26]

Comorbidity and Co-Occurrence

ASD is commonly associated with various comorbid and coexisting conditions like disorders and pathologies, which contribute to the diversity of symptoms in individuals with ASD, making it a complex condition to understand.[27]

Seven out of ten people with autism also have a mental disorder according to the DSM-5. Additionally, 40% have multiple comorbid psychiatric conditions.[17,27] Other studies found in addition that 90.3% of children with ASD have dual-comorbid conditions, such as attention-deficit/hyperactivity disorder (ADHD), language impairment (LI), learning difficulties (LD), and socio-emotional difficulties (SED).[28] Fine psychomotor problems are common and can affect learning and graphic activities. Dyslexia and struggles with abstract subjects like math are also commonly seen. Teachers may overlook or not fully grasp these learning difficulties in some of the children with ASD, especially in those cases where the child has superior cognitive skills in other areas.[29]

Many recommendations stress the crucial need for early identification and intervention in both research and clinical settings, and this is further complicated by the numerous possible combinations of comorbid conditions outlined above. Each child's presentation of autism is different, affecting the needs of the child, and additional diagnoses often carry with them their requirements. Because of this, all individuals with ASD need to receive a diagnosis as early as possible, allowing them to enter school with their social, educational, and behavioral requirements already assessed. This will enable them to receive tailored, group-oriented, and widespread assistance for successful integration into a mainstream school environment inclusively and ethically.[29]

Methodological Approach

The goal of this study was to map the research detailing how children with autism transition from kindergarten to school and identify the elements influencing the transition process as well as the variables ensuring a smooth and positive transition experience for the children in question. Additionally, knowledge gaps on the subject and the current practice in the field were highlighted. To be able to map the research onto the subject, a scoping review was selected as an applicable procedure. A scoping review is the suitable approach for identifying research activity and knowledge gaps on the one hand and mapping the literature on a specific topic on the other hand.[30] In this study, we mostly followed the refined scoping review guidelines by Levac et al.[30] This begins with delineating a central topic of inquiry, locating potential studies which might fit this topic, selecting the most promising of these, before analyzing, summarizing and charting them.[31]

Database Search

The electronic databases PsycINFO, Google Scholar, ERIC and Web of Science were searched for publications made in the last six years, from 2019 to 2024. Our goal was to map the current research, and a time aspect of six years is long enough to be able to trace patterns on the topic. Also, in order to select the research that take into consideration the most recent guidelines relating to the autism spectrum diagnoses, research older than 2019 was not eligible to meet the inclusion criteria, due to the release of ICD-11 in 2018. The search was conducted by the first, second, and third author, with support and guidance from a senior science research head librarian. We only selected peer-reviewed articles to ensure the quality of the selected studies of the current review. The search strategy was not limited by design.

The search terms used were autism spectrum disorder, autism, transition, preschool, ECEC, inclusion, education intervention, early childhood, early education and kindergarten. Different combinations of the search terms were used in each search. The search was restricted to articles published in English.

Eligibility Criteria

The authors defined inclusion criteria in the initial process of the search. The inclusion criteria were: (1) the participants were individuals with ASD or stakeholders, (2) the theme of the study was the transition between kindergarten and primary school for children with ASD (3) the study was peer-reviewed, and (4) published in English. Exclusion criteria were: (1) the theme of the study was transition from preschool to kindergarten, primary to secondary school, or school to work life for adolescents, (2) published in a non-English language, (3) focused on transition planning or daily transitions, or (4) focused on children with complex comorbid diagnoses or other neurodiverse profiles and their transitions from kindergarten to primary school.

Reviewing Process

The search identified 323 articles to be screened for inclusion. Three reviewing phases were then carried out: first the title, then the abstract, and lastly the full text. All steps of the reviewing process were carried out by at least two of the authors of the current study. After phases (1) and (2), 281 articles were excluded for not meeting the inclusion criteria. Initially, 1 article was excluded on the basis of showing up in two different searches. In phase (3) 41 selected articles were randomly distributed to all five authors for further reviewing. In phase (3) two or more authors had to conclude the relevance of the article in order with the inclusion criteria set in the initial stage of the study, to be retained in the study.

The 41 articles were carefully read and analyzed, and additionally, 28 articles were excluded in this phase for not fitting the approach and the scope of the current study.

Synthesizing Literature

Phase (3) of the search contributed to nine themes emerging through thematic analysis of the included articles, which were reported in a patterning chart (see Appendix). In an initial evaluation of the remaining thirteen articles, there was one qualitative, phenomenological-interpretive study,[32] four studies based on questionnaires,[33–36] four interview studies,[2,37–39] two focus group studies[40,41] and two mixed-methods study.[42,43]

The participants in the studies were distributed in a ratio of 23.1%: 76.9% which implies that three of the studies had the child with ASDs' perspective, and ten of the studies had perspectives of stakeholders such as parents, teachers, therapists, or employees at the relevant institutions.

Results

The analysis identified the following factors as instrumental for positive transition outcomes.

School Readiness Skills and School's Inclusiveness

Larcombe et al[42] conducted a study using a mixed methods design exploring the views of both parent and therapist on what skills children with ASD would need for their transition to school. The investigation consisted of two phases, where phase one involved a questionnaire, and phase two consisted of focus group interviews and single-participant interviews. The participants consisted of parents of children with ASD and occupational and speech therapy staff members in Western Australia. Most participants agreed that the most important element in having a good school experience was being prepared for the transition, and that multiple factors affected this readiness. Further, the school being prepared for the child and aware of their needs was also important for a smooth transition. This ability was dependent on the school's inclusiveness to accommodate the needs of all children. This also included staff training for teachers to build their competencies in working with children with ASD. A major determinant for school readiness was identified by the participants as the development of social and communication skills for the child with ASD, because of the skills importance for participation, interaction, and understanding expectations in the school environment. Fine motor, gross motor, and pre-academic skills came second to social and communication development. However, it was expressed that if the child with ASD had more developed fine and gross motor skills, this might leave them free to focus on the social

aspect of being in school. Being toilet trained was also reported as being of importance, as assistance often was limited, and being seen to be receiving such assistance could have social implications, including exclusion from peers. Larcombe et al concluded that there is a need for more education about ASD to better develop peer understanding to better promote acceptance of diversity.[42]

The interventions that are implemented to enhance children's school readiness have typically been carried out in line with dominant understandings. Thus, they have focused on developing academic skills to the expected levels. However, as has been argued, the view of transition as wholly skills-based is limited, and this carries over to the interventions that grow out of this philosophy. In this way, such interventions are far less effective for neurodiverse children, making them ill-suited for the children who need them the most. Instead, recent studies have suggested that neurodiverse children might be better served by a wider range of transition practices, such as meetings and school visits. Fontil et al[33] found through a survey of 164 Canadian service providers that these have been shown to help the school maintain a stable environment for the child, which positively impacts both their academic achievements, as well as their social and emotional functioning. The research emphasizes the importance of personalized routines coordinating both children with ASD, their families and school staff. This serves to improve the children's outcomes in line with what is in the best interest of the child.

Comparable Educational Opportunities and Psychological Support

Transition is an individual and complicated process that necessitates several interdisciplinary collaborations and adaptations to ensure the best outcome for the child - no matter the background or the potential diagnosis.

Promoting inclusive education and impeding exclusion are necessary to ensure a positive transition process. Children with ASD are usually more likely to experience exclusion due to their social difficulties stated already in the autism diagnostic criteria mentioned earlier. Echeita et al[32] identified the barriers and facilitating elements experienced by Spanish families with children with ASD when transitioning to school. The study uses phenomenological-interpretive and cross-sectional designs. The authors analyzed the life histories of 6 students with ASD. Of particular interest was their social functioning. The thematic analyses carried out show positive and negative aspects of this first transition, which the study labels "lights" and "shadows" and utilizes these to explore how to improve the educational program in terms of quality and inclusiveness.[32] The authors' findings highlight the vital need for a system that fully guarantees that the first steps in the schooling process of children with ASD are comparable educational opportunities and measures that support these children on a psycho-pedagogical level. This will consequently facilitate a more effective inclusion process, which is after all the right of every child with or without a diagnosis. In addition, Echeita et al[32] also state that the fact that social participation is still considered positive by families and educators, it is a very important support for these children overcoming their social difficulties.

Yan et al[34] examined how the family's capital influences the psychological adjustment of children with ASD during the transition from kindergarten to primary school in China. It is a common practice in China that school readiness is evaluated to determine whether the child would be incorporated into a special school or a regular one. The assessment is based, among other things, on the child's general level of psychological adjustment. Here, psychological adjustment refers to the capacity to adapt to the environment to achieve objectives and respond adequately to environmental demands,[44] 221 parents of children with ASD participated and a questionnaire was used for data collection. The results of Yan et al[34] study highlights the importance of the family capital – the resources held by the family, including social, cultural, and financial capital in the transition from kindergarten to primary school.[44] Especially these factors were important for prosocial behaviors: positive peer relationships, less hyperactivity/inattention, and reducing emotional and behavioral problems for children with ASD. Household income affected these issues in the children, and subsequently also affected prosocial behavior during their transition process. When it comes to cultural capital, the educational expectations of the parents were determined to affect the child's psychological adjustment during the transition, and high expectations improved the child's psychological well-being and promoted positive behavior. This was also the case for parental involvement within the category of social capital, and for social networks.

Hou et al[35] investigated how parental involvement affects the psychological well-being of children with ASD in the transition process. Surveying 237 Chinese parents of children with ASD, their research found that parental involvement

partly boosted the children's psychological adjustment, especially by increasing prosocial behavior. However, it did not have a direct impact on emotional or behavioral problems. The study also highlighted the mediating role stress played in affecting parental involvement and the psychological adjustment of children with ASD in the transition.

Collaboration and Professional Competence

Establishing effective communication and cooperation between the sending and receiving institutions has proven to have a positive impact on both academic achievement and socio-emotional functioning in children.[45,46] According to Ahtola et al,[45] implementing a wider variety of transition practices leads to greater development of academic skills in children during their first year of school. Key factors in predicting increased skill development include preschool teachers sharing information about children's educational plans with elementary school teachers and adjusting student curricula based on individual needs.[33,45]

The qualitative study by Ishikawa et al[40] evaluated how effective Japanese parents found their school transition programs. The study utilized a focus group interview with seven parents, which focused on the children's experience of the transition, as well as how the communication with the teachers has been and how much support they have received from the school. This study focuses on themes such as how the children acquired necessary skills, how the school adjusts to meet the needs of children with ASD, and communication between the various actors and institutions involved. The result suggests that special education experts are essential to establish and facilitate good lines of communication between home and school. A successful transition depends primarily on the children being informed in advance about what will be expected of them. This collaboration should start early and should involve both the child, the parents, school staff and local municipalities. Once the child has started school, special needs educators should be assigned to provide support within the classroom.

A study by Josilowski and Morris[37] was conducted to explore how collaboration between home and school impacts this transition for American children in the United States. Data from 16 teachers revealed improved academic performance, smoother transitions, and better social adjustment when parents and educators work together. Collaboration also allows for curriculum adjustments, increased student motivation, and reinforcement of skills at home.

An et al[41] conducted a study of kindergarten to school transitions in Kazakhstan. This focused on the ways in which the parents having a child with ASD has affected their experiences of the schools and the social support services during their children's transitions. The study utilized focus group interviews with a total of 17 participants. The study focused on the various difficulties associated with raising a child with ASD in Kazakhstan, such as receiving a diagnosis, accessing health care, and accessing special education support. The study pointed out that there was little public support for these parents, as well as few inclusive education programs available. In addition, there was little public awareness of autism, which impacted the parents' experiences.

From the findings, several recommendations were made to policymakers and service providers to improve the situation of children with ASD. This included the implementation of formal diagnostic criteria for ASD, as the lack of such makes it highly difficult to access sufficient social and medical services, as well as support in the schools. It was hoped that formal diagnostic criteria would make it easier to detect ASD early, and to initiate appropriate interventions. This would need to occur in tandem with a general improvement in the knowledge relevant workers had with ASD. This would facilitate interdisciplinary teams working with these children. It was also recommended that there should be a coordination of professional teams led by one of the members such as a social worker. The study supports the Family-Centered Care (FCC) philosophy, which focuses not only on the child, but on the family. Equally important was the strong financial, social, psychological, and information support for parents of these children, both from their local networks, and from service providers. Lastly, there was a need to increase the knowledge and awareness of autism in the general public, and to counter the stigma faced by people with mental health issues in general.

A Balance to Ensure a Better Transition

As stated in the previous section, parents can play a key role in helping their children adjust to inclusive classrooms and ensuring their children receive the best education possible. Parents can provide support to teachers, help create a welcoming environment at school, and connect their children with their classmates outside of school.

While parents' perspectives are extremely important, teacher's insights are also to be considered. In this line, Jellinek et al[36] examined the pre-service teachers' knowledge of the preschool to kindergarten transition for children with autism and their knowledge about autism. Seventy-one preservice teacher students across the US participated in the survey. They were all in their final year of their teaching or education majors. The survey showed that most of the participants viewed the practices while transitioning as important, but most of them held misconceptions about what makes it an effective transition. Most of the participants were also unsure about who is responsible for facilitating the transition. Most of the participants held misconceptions about ASD and over half were unsure about the core symptoms of ASD. The study highlights the opportunity to train teachers to address children with ASD's needs during the transition from preschool to kindergarten.

Thissera[38] carried out a study among preschool teachers in Sri Lanka and investigated their challenges with preschool based early intervention strategies for children with ASD and the strategies they use to overcome the challenges that these children might face in their transition process.

The study used semi-structured interviews. Through thematic analysis, four major themes were identified: 1) institutional challenges, 2) challenges to professionalism, 3) parental challenges and 4) inclusive practices for identified challenges.

Although the study gives valuable insight into challenges and strategies in implementing early intervention strategies for children with ASD in Sri Lanka's preschools, the following limitations should be taken into consideration; 1) small sample of participants that do not represent the diversity in preschool teachers across Sri Lanka, 2) one interview was conducted in the authors second language, 3) the study focused on challenges the teachers were confronted with and therefore left out other professionals related to preschools and the parents.

Moreover, as mentioned before, an inclusive transition process includes several big aspects such as eliminating barriers to access, learning, participation for all children with or without a potential diagnosis. Therefore, initial and ongoing teacher training is necessary to create an inclusive educational community.

Inclusion and Support

What "inclusion" means in education goes beyond students with disabilities simply being present in class with their peers. It entails creating strategies that ensure equal opportunity for all students in inclusive schools, giving everyone equal access to the curriculum and learning activities.[14]

Educational measures are about finding suitable support that can help the individual with the challenges and difficulties he or she has. With knowledge of what autism spectrum disorders implies, the school's task is to promote and support the children in their learning and development processes. In this work, it is important to remember that inclusion and adapted education are fundamental principles and values for the school's operations.[12–14,16] Although the concept of inclusion can be understood theoretically and ideologically, there is also research linked to practice. In that context, reference can be made to other studies who found that inclusion – in terms of the conventional classroom – can contribute positively both in terms of social development and communication skills.[47,48]

Different measures and practices can promote a smoother transition process for children with ASD.

Sulek et al[2] interviewed 21 stakeholders in Australia to explore the potential social relevance, possible significance, and appropriateness in actual settings of a new online tool meant to assist children with autism in transitioning to primary school. In this research, the writers implemented the variables of linkages among environments, availability of resources, and peer networks in a prototype online platform using Blackboard Learn software.

The tool was made accessible to a diverse group of stakeholders, including parents, teachers from previous and current settings, and support staff, as needed. Participants reported that the prototype tool had the potential to make valuable contributions to existing systems, processes, and knowledge. The findings suggest that ensuring engagement with the tool was critical to its success, with stakeholders emphasizing the importance of secure data storage and access granted only to authorized users. Additionally, the results indicate that a universal online tool is more likely to be successful if it can be tailored to local school contexts and integrated with existing systems.

Children's Perspectives

Early childhood educators often must find a middle ground between obeying children's requests and sticking to the classroom timetable Teachers have the responsibility to evaluate children's development, determine their level of skill mastery, and then create plans to help them advance. When teachers carry out a certain activity they have designed, it can be disconcerting if the child strays from the carefully crafted plans. Finding a balance is usually challenging and this affects both typically developing children and children with a potential neurodevelopmental disorder or autism.

ASD is a neurodevelopmental disorder that is highly comorbid with language difficulties, therefore having children's perspectives at such a young age is not always possible. Gray et al[39] conducted a study aiming to examine proximal (child, parent, family, school) and distal (community and society) barriers in relation to pupils with ASD's exclusion experiences and non-attendance in school. Their project included children's voices of 10 boys and 2 girls between the age of 13 and 16 years from the East of England who participated in the study through semi-structured interviews where they shared their personal ongoing as well as retroactive experiences through their transition processes. The pupils had either experienced managed move, permanent exclusion, self-exclusion or removed from school by parent as type of exclusion. In addition to the pupils themselves, their parents, teachers and local authority professionals were interviewed, to ensure identifying both proximal and distal factors influencing the children's non-attendance. Thirty-nine interviews were carried out and analysed by thematic analysis. The study identified a range of factors the participants felt ultimately led to the pupils with ASD non-attendance. Proximal factors were among others sensory and social overwhelm, the school staffs lack of understanding of autism, poor home–school interactions, school's lack of flexibility with school rules and challenges with unstructured times. The distal factors for the pupils' non-attendance identified by the study were a system too complex for parents to comprehend, fragmented educational experiences, and limited professional involvement. Long periods of time spent out of education also represented issues for the pupils, alongside with the relatively low level of government funding for pupils with special educational needs.

The study also showed successful re-integration into education. Factors for the pupils with ASD engagement and enjoyment in school were smaller class sizes and positive relationships between the pupils and their alternative-provision teachers and the pupils parents and these teachers. The participants described these relationships as respecting, supporting and caring.

As an alternative strategy to support children with ASD, Parsons et al[43] suggest the use of digital storytelling methodology to explore children's perspectives and lift their voices. Five children with autism were included in this study to investigate their transition process from nursery to primary school in England. Cameras throughout the nursery as well as wearcams (cameras attached to wests worn by the children themselves) were used to film the children's everyday activities. Staff and parents were also interviewed about their experiences, fears and hopes for the transition between the nursery and primary school. The study provided in total 21 digital stories. The stories provided valuable insight from the different children's perspectives in everyday life in the nursery. The stories emphasized who the children were, and create a space to get to know them, rather than explaining what they can and cannot do. The authors highlight the importance of such information in preparing the transition from nursery to primary school. Having the opportunity of accessing this type of information would provide the primary school staff with a better insight how to address the child's needs in the most efficient way and insure a smooth transition process.

Summary and Discussion

This current study – as stated earlier – is a scoping review aimed to identify the available research on kindergarten-to-school transitions for children with ASD. The primary goal is to identify the elements influencing the transition process, as well as the variables that would ensure a smooth and positive transition experience for the children in question. Furthermore, recollecting the knowledge gaps on the subject, the current practice and policymaking within the field is crucial to point out directions for the need for further research.

General Overview of the Studies

Before we draw out the core implications of the analyzed included projects in the current article, it is important to comment on their central variables, ie, their conception of autism itself. The studies generally assumed relatively

monolithic autism and did not sufficiently account for the highly protean and heterogeneous forms it might take. ICD-11 outlines ASD with numerous optional features, some of which may not be observable directly, without specifying the required number of symptoms for diagnosis. However, even the framing of autism as a pathology has been problematized. The ICD-11's understanding of ASD shifts from a medical model focused on observable behavior and neurodevelopmental traits to a social model centered on "identity". This perspective includes subjective concepts like "compensation" and symptoms that may only be noticed in hindsight, making objective measurement challenging and leading to diagnoses that are non-falsifiable. This approach undermines the importance of observable behavioral characteristics in assessing ASD.

The current study included thirteen articles on the transition process from kindergarten to primary school for children with ASD. Three of the articles focused on the child with ASDs' perspective, while ten of the articles focused on the stakeholders' perspective on the transition process. Synthesizing these articles shows three areas that emerge as important for the transition from kindergarten to school for children with ASD. These are 1) the school's prerequisites and knowledge, 2) the parents' prerequisites and cooperation with the school, and 3) the child's prerequisites, perspectives, and experiences.

School's Prerequisites and Knowledge

How the school has prepared in terms of attitudes towards inclusive practices and teachers' competence about ASD is central.[38,42] It is important that teachers have knowledge about how to meet children with ASD and what needs the individual children have.[36] This also includes the importance of sending and receiving institutions sharing educational plans and collaboration in this process.[45,46] Larcombe et al[42] highlighted the schools' ability to collaborate by meeting the child's individual needs and need for professional development in ASD competence as important factors in the transition process. Last but not least, the school's resources and involved employees can be a necessary piece of the puzzle needed to ensure the best outcome for the children. Different teachers feel unprepared or lack of the knowledge and competence to address the child's needs.[7] Other teachers have also reported that the transition process is a bit sudden, and they find themselves with a new child with difficulties in the classroom and do not have any background information to be able to map his or her profile and elaborate the best possible intervention plan or adhere to the best intervention strategies.

The current article is also in many ways in line with Fontil et al[49] who conducted a systematic literature review on transition support practice from preschool to kindergarten for children with ASD and other developmental disorders. Their study included qualitative, quantitative and mixed-methods research, and aimed to determine what transition support practices were presently in use, understanding the facilitators and barriers to transition to kindergarten for the group, and compare transition to kindergarten experiences of children with ASD and other developmental disorders to help isolate the specific needs of children with ASD.

The study used textual narrative syntheses (TNS) and emphasized the invaluable importance of collaborative practices, being 85% of the used articles in their systematical review focus on the need for collaborative transition support practices, for example transition workshops, multidisciplinary transition meetings, parent support groups, parent and children visiting kindergarten prior to entry, exchange of information across stakeholders, and regular parent contact. Despite its importance, collaboration was often absent or insufficient.

Parents' Prerequisites and Cooperation with School

Josilowski and Morris[37] concluded that collaboration between home and school improved academic performance, thereby giving more comparable educational opportunities, while Ishikawa et al[40] emphasized the collaboration between parents, children, and school professionals, as well as the support given to children and their parents during transition, seeing these factors as important for the transitions to be successful. Good communication lines between home and school are central in this transition,[37,40] and here special education experts are central actors. Online platforms can be helpful in the collaboration if they can be adapted to local conditions and integrated into already existing systems.[2] An et al[41] explored Kazakh parents' experiences of raising a child with ASD. This focused on the difficulties created by unclear criteria and low societal understanding of the condition, and the resulting issues in accessing the support the parents and their child needed when transitioning from kindergarten to primary school. On the other hand, most parents want the best for their children and seeing them struggling can be very hard and heartbreaking or even depressing.

It is important that the families' experience support in the transition process. Echeita et al,[32] Sulek et al,[2] Yan et al,[34] and Hou et al[35] pointed out the influence of parental support and family capital on the transition process by supporting the child with ASD on a psychological level. At the same time, the family's capital and income are factors that affect the process. Financial, social, and psychological information and support for these parents are important to ensure a good transition. Parents' involvement and educational expectations for the child impact the child's development in the transition to school.[32]

Children's Prerequisites, Perspectives and Experiences

Regarding the child's experiences, perspectives, and prerequisites, we see that it is important for the children to have several visits to the school before the actual transition, and that meetings between the school and kindergarten take place in this process.[33] It is also crucial that children are informed about what will happen and what expectations exist.[40] Retrospectively, children report that smaller classes and experience with positive relationships have made the transition to school better.[39] To gain insight into the children's background experiences, Parsons et al[43] show that digital storytelling can function as a method to explore the children's perspectives and to understand their experiences during transitions between institutions. The child with ASD's individual school readiness emerged as a theme that influenced the transition process. Sulek et al,[2] Larcombe et al,[42] Josilowski and Morris[37] and Ishikawa et al[40] argued that school readiness was an influencing variable for a positive transition experience for the child with ASD. By analyzing the life stories of six students with ASD, Echeita et al[32] found that barriers to a positive transition process were the lack of comparable educational opportunities and measures that support children on a psycho-pedagogical level. To summarize: From the children's perspective on the one hand, the novelty of the situation as well as the need for adjustment to a new social and pedagogical settings can be extremely draining and might cause pressure, fear and anxiety making them vulnerable and easy targets to be bullied and excluded, and consequently reject school and anything having to do with it.[7]

Limitations and Suggestions for Further Studies

The current articles present some transition element that have been reported to be positive for children with ASD. However, some of these may not meet all the needs of students with ASD due to the complexity and individuality of each profile. Challenges with social interaction, friendships with peers, and reluctance to accept change are only few examples of what these children face in their daily routines.[7,50] According to Boulter et al,[51] a lack of tolerance for uncertainty could cause additional anxiety during the process of transitioning to a new school. Additional worries for this group involve heightened sensitivity to sensory stimuli eg Intense responses to lights and sounds,[52] feelings of worry,[53] and difficulties with sleep,[54] all increase during changes in schools.[5,6]

From a research perspective, the current study has identified potential methodological challenges regarding both the selection of the samples and their size, and the need for improved research designs included in the different studies as well as using different approaches and potentially using mixed methods to collect the data. It should be acknowledged that both research and intervention go hand in hand and inform each other and take us further when it comes to understanding ASD in its complexity and provide good transition opportunities for the targeted children in a correct pedagogical and inclusive manner.

The current study focused on four different data bases, which objectively speaking can be a potential limitation. Further articles could benefit from a broader scope both in terms of used resources and time frame.

Transition is a very important and demanding phase for all children in general and children with ASD in particular. This process has certainly a long-term impact on children, and undeniably being argued in most of the used references in the current article. More focus on longitudinal studies (both group studies and case studies) could provide us with information about the potential follow-up intervention programs that could be efficient for children with ASD.

One final suggestion for future directions involves the need for studies taking the child's perspective into account. Only three out of thirteen articles in this study looked at the transition process from the child with ASDs' perspective. This is highly problematic, not only for the methodological gap created by omitting such an important perspective as that of the users themselves, but the exclusion of the children's voices goes against one of the four pillars of the UN Convention of the Rights of the child (CRC),[13] the right to be heard.

Conclusion

The current study highlights different perspectives on both a perceptive level and an interventional level. One of the biggest challenges within ASD research field is the fact that as the word spectrum implies per se, an immense variation in profiles including different degrees of intelligence, language abilities, or functioning in general, as well as the potential comorbidities that are usually present, as explained earlier. These challenges might be an actual obstacle for the pedagogical work and might or might not give positive results for the child in question, but also is difficult from a research perspective due to the heterogeneity of the spectrum itself.

Without a doubt, ASD within the ordinary classroom represents a challenge for all individuals represented, both the teacher and the typically developing peers, but most of all for the child with ASD. However, we must not forget that the presence of a child with ASD also contributes to the social, personal, and emotional enrichment of the educational community. Knowing how to meet this disorder and incorporate activities that allow the educational and social inclusion of children with ASD require specific training and skills to respond effectively to the demands posed by students with a special educational need. Furthermore, barriers included lack of time, divergent beliefs or expectations regarding the transition to school process and/or children's abilities and the late generation of class lists. More general barriers were dissatisfaction with the available school services, less frequent contact with the school staff compared to preschool staff, and a "wait and see" approach which resulted in for example service provision delays.

The current study is in line with Thissera[38] who considers the following elements to be important to ensure a smooth transition for children with ASD: 1) examining the effectiveness of the adapted strategies in a larger group of informants using mixed methods approaches, 2) taking into consideration societal changes and access to resources, 3) teachers' both personal and professional profiles, 4) comorbidity within the spectrum and resilience support and 5) interdisciplinary collaboration between all involved partners and actors.

Recommendations for positive transition outcomes emphasize enhanced communication and collaboration between school, kindergarten and home, starting at an early stage. This allows services to be properly mobilized and coordinated. Successful transitions lead to a sense of belonging in children, where their culture is respected, positive relationships are formed, and they feel engaged and appropriately challenged in learning. Teachers with high expectations and support for continuity -avoiding an abrupt transition process-play a crucial in achieving these positive outcomes. The educators and special pedagogues, therefore, need to know and identify the degree of autism, type of profile, and needs that their student has, in order to determine what type of support the school should offer and focus their pedagogical work on meeting the child's and parents' needs.

Disclosure

The authors report no conflicts of interest in this work.

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