



REVIEW ARTICLE

Psychomotricity as a tool for integral development in students with autism spectrum disorder

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ABSTRACT

Introduction: psychomotricity is a discipline that integrates body movement with the psychological, emotional, and social development of the individual. In the case of students with autism spectrum disorder (ASD), its application acquires special relevance to compensate for motor, communicative, and social alterations characteristic of this condition.

Objective: to describe the development of psychomotricity in students with ASD.

Methods: 35 scientific articles and specialized texts were consulted, obtained from databases such as SciELO, Redalyc, Google Scholar, and university repositories. 27 bibliographic references were used, with a predominance of publications from the last five years.

Development: psychomotricity addresses the relationship between body, mind, and emotion, facilitating motor, cognitive, and socio-affective development. In students with ASD, alterations in gross and fine motor skills, coordination, balance, and imitation are commonly observed. Psychomotor intervention, through playful and adapted strategies, promotes communication, social interaction, and self-regulation.

Conclusions: psychomotricity constitutes a valid and timely tool for the integral development of students with ASD, especially when integrated into an inclusive, preventive, and therapeutic educational approach.

Keywords: Psychomotor Performance; Autism Spectrum Disorder; Motor Skills; Movement; Special Education.

INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by impairments in communication, social interaction, and the presence of restricted and repetitive behaviors and interests.⁽¹⁾ Its impact is global, affecting approximately 61.8 million people worldwide, representing a prevalence of 1 in 127 individuals with significant variations between regions. In Cuba, figures reported in recent years show a prevalence of 0.36 per thousand inhabitants, placing it below international averages.⁽²⁾

Along with the core manifestations of the disorder, significant difficulties in motor development are frequently observed, ranging from alterations in coordination, balance and muscle tone, to limitations in fine and gross motor skills, which directly affects the autonomy, social participation and academic performance of the students.^(1,3)

In this context, psychomotor skills emerge as a fundamental discipline that, from an integrative perspective, addresses the dynamic relationship between body, mind, and emotions. Beyond a purely corrective or rehabilitative vision, contemporary psychomotor skills are conceived as an educational, preventive, and therapeutic practice that, through movement, play, and body expression, fosters the individual's overall development. Its application in the field of inclusive education is especially relevant for students with ASD, as it offers an adaptable and playful methodological framework for simultaneously working on motor, cognitive, communicative, and socio-affective dimensions.⁽³⁾

In Cuba, where the education system is based on principles of inclusion and equity, it is imperative to promote pedagogical strategies that respond to the particular needs of all students.^(4,5) Within this framework, attention to students with ASD acquires special relevance, where psychomotor skills emerge as an effective way to enhance their abilities and facilitate their social integration. Based on the elements described above, this paper aims to describe the psychomotor development of students with ASD.

METHODS

For this study, a review of the scientific literature was conducted to gather information on the psychomotor development of students with ASD. This involved searching the SciELO, Redalyc, and Google Scholar databases.

To conduct the information search, structured search formulas were used, combining the terms "autism spectrum disorder," "psychomotor skills," "education," and their English translations. The search was performed following the specific syntax of each database. The selection criteria were publication in Spanish, English, or Portuguese, between 2021 and 2025.

DEVELOPMENT

Psychomotor skills are a discipline that integrates body movement with the individual's psychological, emotional, and social development, understanding the body not only as an instrument of action, but as a means of expression, communication, and relationship with the environment.⁽⁶⁾ Historically, its evolution has progressed from a vision focused on correcting motor

disorders to a holistic approach that considers the individual in their entirety, encompassing biological, psychological, and social dimensions.

Initially, psychomotor skills were associated with corrective exercises for motor disabilities, but from the second half of the 20th century, researchers such as Da Fonseca and Lapierre began to highlight their role in cognitive and emotional development. Le Boulch defined psychomotor skills as the link between the psychic and the motor, where movement facilitates the development of intelligence, affectivity, communication, and socialization.⁽⁷⁾

Psychomotor skills have evolved from a vision focused on correcting motor disorders to a comprehensive approach that considers the individual in their entirety: body, mind and emotion.^(6,8) They highlight its preventive and educational character, aimed at promoting psychomotor maturation through play and body expression.

Psychomotor skills develop on three interdependent levels: a motor level (related to body movement, coordination, balance, and muscle tone), a cognitive level (related to attention, memory, concentration, and symbolic thought), and a socio-affective level (linked to emotions, self-esteem, social interaction, and communication). They are further classified into two types: gross motor skills and fine motor skills. Gross motor skills relate to large movements involving major muscle groups (walking, running, jumping, and maintaining balance), and their development is fundamental for autonomy and exploring the environment. Fine motor skills, on the other hand, involve precise and coordinated movements of small muscle groups (hands, fingers, eyes, and mouth); they are essential for activities such as writing, drawing, eating, and dressing.⁽⁹⁾

Some authors suggest that three key elements can be identified within psychomotor skills: biological, psychological, and social. Biological aspects are deeply related to the development of the nervous system; neural connections influence motor coordination and the individual's learning capacity.⁽⁶⁾ The literature acknowledges that the COVID-19 pandemic resulted in graphomotor behavioral disorders, expressed in behaviors such as: gripping the pencil tightly while writing or drawing, tearing the paper while drawing or making marks; sometimes rejecting the proposed activity.⁽¹⁰⁾ Motor development affects the ability to perform daily activities (eating, dressing, walking, combing hair, brushing teeth, bathing, washing hands, sweeping, cleaning, etc.) and to interact with the environment. Psychological elements include self-awareness; that is, the first object a child perceives is their own body, which lives, grows, and develops within an external world.

The external world comprises the world of objects (which includes space and time) and the world of others (which includes peers and adults). Finally, the social elements of psychomotor development are related to social interaction within the family and school environments. The social context in which a child develops and their social interactions with others can influence the learning of motor skills and the child's emotional regulation. Furthermore, the support and opportunities provided by the family, school, and community are crucial for psychomotor development.

When a child goes to school, they encounter a multitude of external elements that will decisively influence their character, that is, their personality. Children's experiences reveal a great deal of motor activity. Giving children the opportunity to engage in contextualized motor activity, adapted to their real needs, and doing so in a methodical and progressive way, is essential for their overall development; psychomotor education plays an irreplaceable role here.⁽¹¹⁾

The school should foster certain relationships that the child perceives with their whole body, with their whole being. In turn, the child expresses themselves through actions emotionally linked to the outside world. Psychomotor education can facilitate these relationships, enabling the child to move in the world of objects and relate to other people, thus influencing the formation of their personality.^(12,13)

Currently, several authors^(14,15) consider that psychomotor skills in the inclusive educational context are understood as an educational, preventive and therapeutic practice that accompanies the individual throughout their life cycle, with special relevance in early childhood and in populations with special educational needs, such as students with ASD.

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that primarily affects social interaction and communication, as well as the presence of repetitive and stereotyped behaviors. Common difficulties include motor clumsiness and incoordination, hypotonia or hypertonia, balance and spatial orientation problems, difficulties imitating movements, and the presence of motor stereotypies such as hand flapping, rocking, or spinning.^(16,17,18)

These motor limitations not only restrict autonomy in daily activities, but also affect social interaction and the ability to participate in group activities.^(18,19) In general, students with ASD present a low level in motor development, which is manifested in difficulties in manipulating objects, in coordination, balance or muscle strength.

Psychomotor impairments vary from person to person, but they commonly include disorders such as motor weakness, motor instability, motor inhibition, body schema disorders, laterality disorders, apraxia, and dyspraxia. Motor weakness can manifest as clumsiness, hypotonia or hypertonia, paratonia, and even impulsive-compulsive disorders, synkinesia, or stuttering. Motor instability is reflected in adaptation problems, lack of consistency in effort, easy distractibility, restlessness, and hyperactivity. Motor inhibition, on the other hand, is seen in passive and tense children, with a fear of social interaction and disapproval, which limits their motor development by avoiding large movements or drawing attention to themselves.^(20,21)

These factors are influenced by the level of ASD the child has, the amount of physical activity performed, lifestyle, and medication use. Children with ASD often do not meet the World Health Organization's recommendations regarding the number of minutes of physical activity per week, increasing sedentary behavior on holidays when they spend more time watching television or using technological devices. This is a determining factor in the increased prevalence of obesity because they also have problems with food selectivity, which underscores the importance of nutritional assessment to optimize the quality of life of children with ASD.⁽²²⁾

In response to these needs, the progressive acquisition of motor, physical, social, emotional, and cognitive skills in students with ASD can be achieved through play-based activities adapted to their interests, promoting psychomotor development and facilitating the creation of affective bonds with peers and adults. This motor development must be integrated with cognitive and socio-emotional development, allowing for greater independence and adaptation to the social environment, which in turn must respond to their needs to promote their inclusion and holistic development.⁽²³⁾

In this context, psychomotor skills are presented as a fundamental educational and therapeutic intervention. It should be individualized, playful, and based on the child's interests. Strategies such as symbolic play, balance activities, eye-hand coordination, and body expression facilitate the development of body awareness. Other adapted physical activities, such as swimming, dance, soccer, or cycling, have demonstrated significant benefits in motor development, self-esteem, improved verbal and non-verbal communication, reduced disruptive behaviors, and the promotion of socialization and teamwork.^(24,25)

CONCLUSIONS

Characterizing the development of psychomotor skills in students with autism spectrum disorders reveals a complex and multidimensional landscape, where motor impairments are compounded by communicative, social, and emotional difficulties. Psychomotor skills in inclusive educational contexts emerge not as an isolated area of intervention, but as an integrative approach that, through the body and movement, can enhance the student's overall development. Its effectiveness depends on the individualization of strategies, the use of psychomotor techniques, and the ongoing training and professional development of teachers to ensure holistic and high-quality support.

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Conflict of interest

The authors declare that there is no conflict of interest.

Authorship contribution

AMV: conceptualization, research, writing – initial draft, writing - revision and editing.

DLCR: conceptualization, supervision, drafting – initial draft, drafting - revision and editing.

LMR: conceptualization, writing – initial draft, writing - revision and editing.

Statement on the use of artificial intelligence

The authors declare that they did not use generative artificial intelligence technologies or AI-assisted tools during the research or writing of this article.

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