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# THE INTERSECTION OF MOTOR-SPORTS SCIENCES AND SPECIFIC LEARNING DISORDERS: A SOCIO-PEDAGOGICAL REVIEW

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**Abstract:** Specific Learning Disorders (SLD) represent a complex phenomenon that manifests itself in rather peculiar and typical areas. Generally, this type of problem requires the use of a series of elements and tools that allow the subject to acquire notions, skills and abilities. DSAs are mainly recognized due to their difficulty in automating learning practices, however, in parallel, there are consequences that are also reflected in the psychological and social sphere. In fact, it is found that this type of disorder is associated with emotional and relational problems. In this sense, sport can cover various and important functions for people with Specific Learning Disorders since, given its characteristics, it can represent a valid support tool. Physical activity and sport are in fact a valuable resource of behavioral, psychological, emotional and relational support.

**Keywords:** Sport, Physical Activity, SLD, Communication, Emotions, Personal Effectiveness.

## Introduction

Sport and physical activity have always been elements that have factors of enormous importance for the individual, since they exert a strong impact and a great influence towards a series of aspects, such as the management of stress and anxiety, the reduction of depressive states, the regulation of interpersonal skills and the development of self-esteem (Bandura, 2000). These aspects related to sport allow us to understand that it does not represent exclusively an instrument of physical well-being, but above all, a means through which to achieve objectives of balance and psychological and relational stability. The reduction or redefinition of elements that can represent a problem, an obstacle or a difficulty, through movement, represent a particularly sensitive and significant fact, since it describes and expresses a far-reaching effect that affects the individual in its complexity, and which supports and completes a theoretical framework that gives physical exercise and sport greater value. For Specific Learning Disorders, physical activity and sport can be an important opportunity to support, integrate and increase psychological, relational and emotional aspects and abilities (Isidori, 2009). In fact, sport and physical activity possess the natural gift of being and existing as a precious resource, thus strongly and decisively representing the idea of a tool that designs around the individual, enhancing the potential of the same, redefining

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an image very often predetermined and established (Watzlavick, Jackson, Beavin, 1967). The magic that sport shows us is represented by the ability to enhance and rediscover new parts of oneself, recognizing and rediscovering a new identity. An interesting aspect that sport shows and transmits is precisely that of knowing how to face and cope with difficulties, problems and obstacles, building increasingly important and distant goals day by day, tracking down unexpected resources and peculiarities.

### **1. Specific Learning Disorders: analysis of the main characteristics and manifestations**

Specific Learning Disorders can be defined as a difficulty in acquiring some particular skills that do not allow for complete autonomy in learning, with specific difficulties in the use of reading, writing and calculation. These problems are known respectively as Dyslexia, Dysgraphia, Dysorthography and Dyscalculia (Molisso, Bonfiglio, 2018). Dyslexia is a specific learning difficulty of neurobiological origin linked to a problematic reading that is expressed through inaccuracies and poor fluidity. This feature, which commonly derives from a deficit in the phonological component of language, is often unexpected in relation to other cognitive abilities and the guarantee of adequate school education. Some consequences may include difficulties in reading comprehension and practice which can hinder and slow the growth of general knowledge and vocabulary. The typical symptom of Dyslexia is the difficulty in decoding words, that is, in the ability to associate letters with sounds, so the dyslexic subject can read and write, but cannot do it spontaneously and autonomously as on the contrary it happens in subjects who they do not present this type of problem. A typical trait of Dyslexia is represented by a difficulty in interpreting the contents of the text, however the subject reaches a complete understanding when the same reading is carried out by third parties, this highlights how this symptomatology has no effect and impact on intelligence, on the subject's ability to elaborate and understand (Shaffer, 2005). The dyslexic person often makes characteristic errors in reading and writing, such as the inversion of letters and numbers or their replacement, presents disorganization in spatial and temporal relationships, as well as difficulties in the oral presentation of complex contents. Dyslexia can present various levels of severity and overlapping elements, as it can accompany problems associated with writing, calculation and memory skills. Each subject has its own peculiarities and characteristics, in fact the difficulties do not usually occur in a univocal and uniform way or in the same combination. Dyslexia accompanies the subject throughout the course of his development and is the most common learning disorder. Dysgraphia is a specific learning disorder linked to a difficulty in writing and reproducing alphabetic and numerical signs. In particular, Dysgraphia can be defined as a disorder of the peripheral components, that is, executive - motor, regardless of linguistic variables such as lexicon or spelling. Writing is tiring and uncomfortable (deformed, irregular, flickering, slow) due to a disorder affecting coordination of fine skills or visual-motor coordination. For many people with dysgraphia, holding the pen or organizing the letters correctly is rather complex, with consequences of reduced transcription capacity and disorder associated with restricted manual skills. The main and characteristic elements of dysgraphia, which represent its essence and nature, can mainly be traced back to both ways of coordinating the movements necessary to be able to write the individual graphemes correctly, and to progression movements that allow the writing instrument to slide along the horizontal line of the sheet (Anolli, Legrenzi, 2001). The coordination of these two elements is fundamental since, for the writing movements it is sufficient to activate the motor skills of the fingers of the hand, for those of progression, the coordination of the wrist, elbow and shoulders is necessary. An equally important principle is the orientation in the graphic space in reference to the ability to distinguish and recognize the spatial coordinates necessary for

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writing, such as above / below and right / left, which allow to correctly identify and trace the graphemes and to proceed from the left. right and / or top to bottom. The pressure on the sheet, the rhythm and the fluidity, finally allow to bring respectively the right amount of energy from the hand to the sheet, through the pen, and to give continuity to the gesture avoiding writing shots without harmony and unnecessary interruptions. Dysgraphia is evident in children when writing begins its personalization phase, roughly around the third grade, and is usually identified by teachers, as it manifests itself with poor readability, slowness, rigidity and disorganization in the forms and graphic spaces. If not identified, Dysgraphia tends to worsen over time, negatively affecting academic performance, thus causing distrust, demotivation and emotional distress (Associazione Italiana Dislessia, 2018). Dysgraphia is sometimes associated with Dysorthography which is a specific disorder of writing that corresponds to the difficulty of transforming spoken language into written language, characterized by the presence of inexact graphemes, additions, omissions or inversions of letters and grammatical errors. It is a coding disorder of the written text that is traced back to a deficit in the functioning of central components of the writing process responsible for the transcoding of oral language into written language. Spelling is, in fact, a way through which it is possible to make writing correspond to the grammatical norm, an ability to respect the rules and conventions of our language, allowing you to transform the word thought or heard into a written word (Ianes, 2005). The coexistence of Dysgraphia and Disortography interferes more deeply in the organization of writing, even at the level of its contents. All this causes difficulties in learning compared to the peer group, with possible repercussions on a psychological level, on social integration and personal growth. Finally, Dyscalculia can be defined as a disorder of numerical and arithmetic skills, which develops in children without cognitive or neurological deficits. It manifests itself in the recognition and naming of numeric symbols, in writing, in the association of the symbol to the corresponding quantity and in the numbering in ascending and descending order. These difficulties have important repercussions in more complex tasks such as expressions and mathematical problems, where the simultaneous functionality of multiple skills is required, which interfere with performance and the lack of precision and speed (Bruni, & Tafuri, 2023). Dyscalculia differs from the simple calculation difficulty which, although sometimes presenting a severe profile at a first evaluation, can over time show a complete and exhaustive evolution and improvement. The disorder related to Dyscalculia, on the other hand, does not show significant or not totally exhaustive improvements. The different characteristics and peculiarities of subjects with Specific Learning Disorders cannot in any case be limited to a knowledge of structural difficulties. Often this condition is accompanied and affiliated with problems of an emotional, social and relational nature which, in some cases, produce a state of discomfort that can worsen and increase this disorder over time, promoting a vicious circle between individual difficulties and general problems of nature constitutive (Cornoldi, 1995). A punctual and accurate intervention should allow the construction of a path that can point on the one hand to the knowledge and management of the specific difficulty and, on the other, to the maturation of the ability to organize one's emotional and relational skills in such a way as to be able to reach levels optimal self-efficacy.

## **2. The socio-pedagogical dimension of motor and sports sciences**

The power and strength that the characteristics of sport spread not only in the field of balance and physical well-being, but also in the psychological and social sphere, represent a support and support tool for the growth of aspects related to communication, regulation of emotions, learning and the ability to perceive oneself as an effective person (Ceï, 1998). In sport, communication is in fact a means of great importance, since it regulates

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and establishes the relationships within it, which are indispensable in order to achieve common goals. The purpose of communication in sport therefore appears manifold: it communicates in order to decide, inform, direct and share, and it is precisely in this multiplicity that the importance that this element transmits to those who practice it is revealed. The interpersonal and interaction skills that sporting activity transfers to the individual allow for usability that can be used in different circumstances and situations, which strengthen and consolidate a personal image of effectiveness, adequacy and validity in the management and control of one's communication skills (Di Palma, & Saraiello, 2023). The constructive aspects of sports practice are not limited to communication skills, but from these they develop, evolve and expand towards elements of personal awareness and effectiveness. In the world of sport, personal effectiveness, or self-efficacy, is expressed through the ability to provide maximum commitment in a given task or in a given situation, in achieving any goal, perceiving oneself as a valid person. and effective. In this sense, the characteristics that structure and define sport and physical activity generate in the subject the propensity to increase this aspect, since completing a task, reaching a goal, facing a problem with flexibility and resisting fatigue, strengthens the convictions (Isidori, Fraile, 2008). personal to be able to achieve the desired result with only their own strength, nourishing and increasing the confidence in their abilities. The level of consistency and solidity that personal self-efficacy reaches, in turn, supports and supports the subject in wanting to experiment with new and unprecedented tasks and actions, thus defining a virtuous circle of strength and persistence in tasks and relationships. Inducing all these aspects in individuals means positively modifying their psychological structure, achieving a more appropriate social insertion and stimulating an important alignment on an emotional and / or emotional level (Liperini, Testi, 2017). The emotional aspect represent in this sense a fundamental element of sport, in fact, the range of feelings and emotions that sport can arouse is absolutely wide, and can range from joy and enthusiasm, to discouragement and disappointment. All these emotions can be experienced in various ways, intertwining and following each other on a deeply passionate background, underlying the world of sport. Self-control, effective management of stress and emotions and the right degree of combativeness are basic ingredients of the attitude to be observed on the sports field (Molisso, Di Palma, Ascione, 2019). The emotions experienced through the activities make sporting a privileged place where one learns to listen, recognize and manage one's emotions. For the sports practitioner it is very important to learn to live emotions in a functional way, since the emotional element is closely intersected with the sporting life itself. In this sense, emotions cannot be considered as simple reactions, but rather as a key component that motivates people to implement certain behaviors, and in essence, to learn to listen and to know each other more deeply. In this perspective it can be said that emotions also contribute to the learning process because they have the role of tracing the path along which ideas and strategies are formulated, how an action is implemented or a behavior is established. On the other hand, we must not forget that the human being is a set of rationality and emotionality. Sports practice, through its practice, leads to this synthesis between the why (cognitive motivation) and the how (emotional drive), which is then expressed with the physical gesture, the corporeality that is consciously experienced, and which, as such, it becomes personal heritage. Learning in the motor and sports field therefore induces a behavioral modification induced by experiences that emerge from the need to recalibrate responses and strategies to new stimuli, which can also be represented by particular game circumstances, but which are then incorporated and processed to become " learning" (Molisso, Tafuri, 2020). In light of what has been said about

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sport, its peculiarities, its attributes and distinctive elements, which define its nature and its integral structure, it emerges that it represents an operational platform to draw upon and refer to.

### **3. The role of motor and sports sciences in an educational perspective for students and people with SLD**

The world of Specific Learning Disorders is often described and defined through the different elements characterizing each disorder and through the pragmatic difficulties related to training and learning, which often need to be supported through different compensation tools that accompany the educational and didactics of these subjects. Alongside the aforementioned characteristics, there are, however, aspects of a psychological and relational nature that are frequently connected to this type of problem (Afont, 2023). In this sense, specific attributes associated with ASD that characterize subjects with this disorder were detected and highlighted, such as perceptual-motor alterations, emotional difficulties, behavioral problems, attention disorders and difficulties in social and relational skills, often associated with emotional and interpersonal area. These peculiarities show that subjects affected by ASD, apart from the characteristics of the disorder, show a general profile in which elements related to a particular and specific socio-emotional condition are present and involved. The whole question therefore goes beyond all the characteristics related to the typical nature of the disorder, moving and landing towards a personal, emotional and social territory. Considering that, undeniably, in DSA the own characteristics and compensatory tools constitute the distinctive elements of this disorder, we must in any case consider, equally fundamental, the evaluation of the psychological and relational sphere, in order to be able to prepare a global support modality that looks at the subject and its needs (Ascione, Molisso, Montesano, 2017). There is therefore a need to define an operational perspective that can simultaneously include the evaluation of the clinical aspect of the disorder and the related psychological elements. If, on the one hand, the aspects that we can define as clinical of DSA must be identified, which allow us to recognize and define the presence, the typicality and the severity of the disorder, such as for example a Dyslexia or a Dyscalculia, on the other hand other aspects must be recognized, as the emotional difficulties and the problems in social competences, which, even though they involve a different sphere, end up involving the sphere of the subject's global equilibrium. Sport, in addition to being an identifying element of physical well-being, has the important and substantial function of supporting, supporting and reinforcing aspects related to the personal, emotional and relational sphere. These peculiarities are extremely important in the life and evolution of each person and, in particular, given the psychological and relational aspects that can sometimes be found in SLDs, sporting activity can really represent a valuable resource for redefinition and transformation. In the context of Specific Learning Disorders, motor activity and sport therefore constitute an important opportunity for the development of skills and abilities, since they generally support various individual aspects, relational, communication, social interaction and emotionality. Through sporting activities, we can redefine what by definition are described as problematic or complex aspects, guiding and accompanying the subject towards a path that is useful and constructive for his own growth and evolution. Sport leads to considerable support and support from different perspectives and for different aspects, contributing in parallel to the enhancement of residual capacities and to the optimization of strengths (Ianes, Cramerotti, 2015). Carrying out a sporting activity means having the opportunity to be projected into a dimension of autonomy where everyone has value for their own peculiarities and is enriched by the qualities of others. Motor activity is fundamental for the correct development of the individual since, thanks to the discovery and exploration of one's own body, environment and movement, it is possible to learn numerous skills, getting to know oneself and others better, their



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potential and their limits and understanding the social and emotional rules that guide interpersonal relationships (Cornoldi, 2007). Movement and sport can offer a tangible opportunity for early acquisition of the fundamental assumptions of relationships and interactions, thus representing an essential resource for interpreting and giving meaning to social life and attributing value to personal qualities. Through sport it is possible to improve the balance between body and mind by aiming at the maintenance and development of skills and quality (Spinelli, 1997). Sports activity allows you to stimulate and strengthen your resources which, in the long term, can become tools of great strength and adaptation, capable of consolidating one's self-efficacy. The practice of physical activity allows you to acquire skills that can be spent in daily life, effective ways of emotional self-regulation and healthy lifestyles such as, for example, the care of your body, the purposeful use of movement and the management of anxiety and of stress. Physical activity acts on individual abilities, favoring the development of innate abilities and also the acquisition of new and different skills.

## **Conclusions**

Through sport, people with Specific Learning Disorders can get involved and experiment, learn to recognize and control their emotions, understand aspects related to communication and relationships and develop a sense of effectiveness and confidence in their abilities and potential. . Physical activity and sporting activity therefore have an essential value, since the practice allows you to work across different psychological and social levels, thus contributing to the increase of useful and beneficial effects for the subject. If we ask ourselves what other design spaces can be additional to the canonical ones already set up for supporting SLDs, and on the other hand, we look for viable and accessible solutions, the practice of sporting activity offers concrete ideas for personal growth and rebalancing individual deficiencies. If with sport one accesses a dimension of greater awareness of one's own means, and through it, one appropriates a concrete ability to analyze one's intentions and emotions, then it seems entirely justified to develop programs that include subjects with learning problems. in physical activity and sport.

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