



Research Article

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The Rate of Developmental Coordination Disorder (DCD) in Albanian Children Aged 5-10 and the Prevailing Learning Difficulties Encountered by Children Suspected of DCD and Typically Developing Children of this Age Group

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Abstract

Developmental Coordination Disorder (DCD) is generally defined as a condition that affects movement and coordination. In children aged 5-10 years, DCD can significantly impact various aspects of their lives, including academic performance and learning. DCD may be accompanied and connected with difficulties in cognitive skills, resulting in learning challenges, particularly evident in school subjects such as arithmetic, language, or overall literacy, in this way affecting and reducing academic performance and learning outcomes. The instrument used to collect the data of the study was a questionnaire addressed to parents in order to: identify the rate of children with suspect DCD within the age group of 5-10 and see where our country stands in comparison to other studies carried out in other countries; identify the learning difficulties of typically developing children and children with an indication of suspect DCD; see any significant differences between typical children and DCD suspect children as related to school settings and learning difficulties. After the statistical processing of the collected and filtered data it is identified that the total percentage of suspect DCD children is 9.3%, ranging from 2.3% - 21.1% at 12 different cities in Albania, and it is slightly higher in boys, 10% in boys vs. 8.6% in girls. Moreover, the results show that 'suspect DCD' children encounter most of the learning difficulties. Whereas, regarding the total number of our subjects we identified that children of this age group tend to take slightly more time to complete school tasks; they do not seem to like changes in daily routine/ environment; they also have difficulty understanding reading passages and tend to respond by repeating questions.

Keywords: Developmental Coordination Disorder, learning difficulties, school tasks, Albanian children

1. Introduction

Developmental Coordination Disorder (DCD) is generally defined as a condition that affects movement and coordination. In children aged 5-10 years, DCD can significantly impact various

aspects of their lives, including academic performance and learning. Children with DCD often struggle with tasks that involve fine and gross motor skills, such as writing, drawing, and sports activities. Difficulties in these areas may contribute to challenges in meeting academic expectations, affecting both literacy and numeracy skills. Handwriting is a key academic skill that can be inspected as it is a way to detect coordination problems as it comprises both gross and fine motor skills thus handwriting is the most impaired skill in children with DCD.

DCD is listed within the classification section of Neuro-developmental Disorders and it is the first condition identified and listed under a subsection called Motor Disorders (Blank et al., 2019). Children with DCD have trouble with coordination and motor skills, such as fine and gross motor skills, and motor planning (the ability to plan and carry out movements and tasks in the right order).

American Psychiatric Association (2013) define DCD and children affected by it by the following four criteria:

- *the acquisition and execution of coordinated motor skills is far below the expected level for age, given the opportunity for skill learning;*
- *motor skill difficulties significantly interfere with ADL and impact academic/school productivity, leisure, and play;*
- *it begins in the early developmental period;*
- *the motor skills difficulties are not explained by intellectual delay, visual impairment, or other neurological conditions that affect movement. (p. 39)*

The prevalence of DCD is estimated at a range from 2% to 20% of children, with 5% to 6% being the most frequently quoted percentage in the respective literature (Association, 2013; Blank et al., 2011). It is recognized by various researchers that children with DCD encounter difficulties specifically with motor skills which that are substantial enough to impact even their social and academic functioning (Kadesjö & Gillberg, 1998). Fine motor skills, including activities such as cutting, coloring, and manipulating objects, are often affected, further influencing academic engagement. Research suggests a high prevalence of handwriting difficulties in this population which can influence academic achievement and should therefore be assessed (Blank et al., 2011, p.19). Some studies highlight a specific association between DCD and mathematical difficulties. Tasks requiring precise hand-eye coordination, such as solving math problems or using mathematical tools, may be particularly challenging for these children. It is also observed that DCD is interrelated with difficulties in visual memorization and deficits in language processing (Blank et al., 2011, p. 22).

Respective literature and evidence suggest that DCD is a unique and separate neurodevelopmental disorder that can, and often does, co-occur with one or more other neurodevelopmental and neurobehavioral disorders such as attention-deficit/hyperactivity disorder (ADHD), specific language impairment, learning disorders, autism spectrum disorder (ASD), and developmental dyslexia or reading disorder (WHO, 2007).

Developmental Coordination Disorder is characterized by difficulties in cognitive skills, and in learning which are mostly manifest in subjects such as math, language, or overall literacy, in this sense affecting general academic performance and learning outcomes. DCD, besides academic achievement and learning, affects children's every day and social life as it affects the performance of activities that require both gross and fine motor skills.

It has been reported that one of the most common disorders that co-occurs with DCD is ADHD. Several studies, mostly examining clinical samples, suggest a rate of 50% or higher (Green et al., 2006). While, the co-occurrence of DCD and specific language impairment has been shown in up to 70% of the children with language problems, moreover, children with severe motor difficulties demonstrate a higher risk of difficulties in ADL, handwriting, attention, reading, and social cognition than those with moderate motor difficulties (Blank et al., 2019).

Besides physical characteristics that are common in children with DCD, there are some emotional/behavioral characteristics that have been identified and summarized, as follows: lack of interest in activities that require a physical response and avoidance of motor tasks; decreased self-esteem and a lack of motivation and difficulties coping with daily-life activities; the child may seem

dissatisfied with his/her performance of daily activities and even dislikes changes in his/her routine and environment and surroundings (Missiuna et al., 2011).

Other common characteristics of children with DCD according to the authors Missiuna et al. (2011) are as follows:

1. The child may have difficulty balancing the need for speed with the need for accuracy, e.g. handwriting may be very neat but extremely slow;
2. The child may have difficulty with academic subjects such as mathematics, spelling, or written language which require handwriting to be accurate and organized on the page;
3. The child may have difficulty completing work within an expected timeframe, since tasks require much more effort, he/she may be more willing to be distracted and become frustrated with a task that should be straightforward. (p. 4)

According to Blank et al. (2011) daily living activities can influence cultural differences, and establishing a direct link between poor motor coordination and academic achievement is complex. Some children with DCD show poorer academic outcomes, especially in arithmetic, due to visuo-spatial difficulties; handwriting skills are usually affected and should be assessed (Blank et al., 2011, p. 66). Moreover, a study (Guillamón et al., 2021) conducted on children aged 6-9 years found a direct relationship between motor coordination and academic performance. The results of this study showed that students with better motor coordination had higher grades in language, mathematics, natural science, and English. Other researchers (Chagas et al., 2016) even though they found significant differences between genders in gross motor coordination and physical activity levels, the authors did not confirm association between motor coordination scores and academic achievement.

2. Methodology

The instrument used to collect the information was a paper-based questionnaire addressed to parents and educators of children of 5-10 age group distributed in urban and rural schools and pre-schools in 13 Albanian cities and towns. Upon drafting and finalizing the questionnaire, we submitted requests for approval at the Regional Directorates of Education of the respective cities and towns. The request included a copy of the questionnaire as well as the project proposal containing our objectives and expected results. The respective directorates sent a list of the educational institutions, schools, and kindergartens, where we could carry out the study. Moreover, we contacted the school principals and set a date to inform the staff and the parents about the study methodology, ethical principles, and anonymity of the given personal details, as well as they were explained and instructed on how to evaluate their child and how to fill in the questionnaire.

This questionnaire contained two parts; the first part contained 15 questions, i.e. DCD '07 (Wilson et al., 2007) standardized questionnaire which identified the typically developing children and children suspected of DCD. It is worth mentioning that the authors of this instrument consider that the internal consistency of the DCDQ is high and the results from discriminant function analyses were appropriately strong for a screening tool (Wilson et al., 2007). However, in order to have a more precise diagnosis the authors of DCD '07 strongly recommend using other instruments and expert observations as the diagnosis of DCD must be made based on the results of several reports and tests (Wilson et al., 2007). The second part contained a group of questions focused on learning, school tasks and social skills, which was compiled by our research group based on the common characteristics of children with DCD identified and listed by the researchers Missiuna et al. (2011).

The respondents, mainly parents and a few teachers, of this study were previously instructed how to evaluate and compare their child to his/her peers by choosing for every statement one of the five Likert scales, i.e.: 1- Not at all like my child; 2- a bit like my child; 3- moderately like my child; 4- quite like my child; 5- extremely like my child.

The filled-in and returned questionnaires were 1336 in total but, after filtering out the ones with missing answers, only 1057 were considered in the statistical processing. Personal information such as name and surname, school name, child's age, and location were used only for data processing

purposes respecting ethical principles mainly those of anonymity.

Table 1: Reliability statistic of instrument

Reliability Statistics	
Cronbach's Alpha	N of Items
.923	14

Cronbach's Alpha value of the 14 items of the used questionnaire to measure the aspects is > 0.923 , as shown in Table 1, indicating a high internal consistency and a reliable measurement tool.

The main objectives of this study were: firstly, to identify the percentage of children suspect of DCD and then to compare the different learning difficulties between typically developing (otherwise identified as 'probably not DCD') children and those that are 'suspect DCD' in different regions both rural and urban areas of Albania.

Apart from the differentiation in percentage between typical children and those suspected of DCD, the study aimed to identify learning difficulties in school tasks and upon the received results to compare the two groups of children such as difficulty in subjects such as math or language comprehension, remembering or finding the right words or numbers, difficulties in spelling or pronunciation, paying attention for a long time, creating a mental picture of reading or listening materials, responding to questions, the time required to complete school tasks, ability to write within spaces, etc. Children at this age might be experiencing learning difficulties which are more evident in the suspect DCD group. Thus, the study firstly identifies the percentage of suspect DCD children and identifies difficulties in learning skills and academic tasks in this age group and compares these difficulties in both categories of children.

3. Results and Discussions

The first objective of this study is to detect the rate of children suspected of DCD. Concerning this objective, we processed the data gathered through the DCD '07 standardized questionnaire, i.e., the first part of statements numbered 1-15 (Wilson et al., 2007).

The average age of the sample is 7.593 ± 1.3 years, with ages typically ranging within approximately 1.3 years around this mean.

Table 2: Descriptive statistics of age

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	1057	3.4	11.4	7.593	1.2986
Valid N (listwise)	1057				

The provided cross-tabulation analysis illustrates the distribution of gender concerning the indication of Developmental Coordination Disorder (DCD) or suspected DCD among participants. Among the total sample size of 1040 individuals, 519 were boys and 521 were girls. Within the subset of those indicated or suspected of having DCD, there were 97 participants, comprising 52 (5%) boys and 45 (4,3%) girls. Among those categorized as 'probably not DCD,' a larger proportion was observed, accounting for 943 individuals, with 467 boys and 476 girls (see Table 3).

Table 3: Population data given in genders and in total

Category * Gender Crosstabulation					
			Gender		Total
			boys	girls	
Category	indication of DCD/ suspect DCD	Count	52	45	97
		% within Gender	10.0%	8.6%	9.3%
		% of Total	5.0%	4.3%	9.3%
	probably not DCD	Count	467	476	943
		% within Gender	90.0%	91.4%	90.7%
		% of Total	44.9%	45.8%	90.7%
Total	Count	519	521	1040	
	% within Gender	100.0%	100.0%	100.0%	
	% of Total	49.9%	50.1%	100.0%	

The SPSS processing of the data on this aspect, i.e., the overall percentage of suspect DCD children in Albania, as shown in Table 3, indicates that it is 9.3 %, which is higher compared to the average rate of respective literature and studies. Even though the cited percentage of studies in this regard varies between 2 - 20%, the average rate in the majority of them is 5-6% (Gaines et al., 2008; Missiuna et al., 2011). However, we could assert that the overall percentage for this category in Albania considerably exceeds the average one validated by respective studies and researchers.

While analyzing the percentage of suspect DCD children by gender it results to be higher in boys at 10% and in girls a little lower at 8.6% as shown in Table 3. The results of our study confirm that there is a higher percentage of suspect DCD cases in boys at 10% than in girls 8.6%. These findings agree with the findings of other studies that state that DCD is more frequent in boys than girls (Kadesjö & Gillberg, 1998; Missiuna et al., 2011).

Various theories have been proposed to explain the differences in the prevalence of learning disabilities and difficulties between girls and boys. Biological vulnerability plays a significant role in the development of these disabilities and difficulties, and gender differences may be attributed to these vulnerabilities (Ashraf & Najam, 2017). Moreover, referral tendency may lead to these gender differences; i.e. boys are referred more often to special educationists, psychologists, or counselors for academic underachievement or problematic behaviors, whereas girls may be referred to special services less frequently due to lower signs of obvious behaviors (Ashraf & Najam, 2017). Other research findings have (Chagas et al., 2016) found significant differences between genders in gross motor coordination and physical activity levels. Boys had higher gross motor coordination scores and physical activity levels than girls, possibly due to declining physical activity levels and less engagement in physical activity (Chagas et al., 2016). In this respect, our study lacks any further analyses regarding learning difficulties according to gender perspective.

Table 4: Chi-Square Tests between genders

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.587 ^a	1	.444		
Continuity Correction^b	.435	1	.509		
Likelihood Ratio	.588	1	.443		
Fisher's Exact Test				.457	.255
Linear-by-Linear Association	.587	1	.444		
N of Valid Cases	1040				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 48.41.					
b. Computed only for a 2x2 table					

Results delineates a difference in distribution between the genders concerning the indication or suspected of DCD, 5% in boys compared to 4.3% in girls. Pearson Chi-square, with a statistic of .587 and 1 degree of freedom, the p-value is .444, indicating no significant association between the variables. This suggests that there isn't a substantial relationship between the indication of DCD or lack thereof and gender within the sample.

The percentage of the 'suspect DCD' category given by cities varies between 2.3%, being the lowest percentage, to 21.1% as shown in Table 5.

Table 5: Classification of subjects into categories given by cities and total count and percentage.

Crosstab			City												Total
			Tirana	Shkoder	Sarande	Lushnje	Diber	Vlore	Kavaje	Lezhe	Fier	Burrel	Permet	Tepelene	
Category	Indication of DCD/ suspect DCD	Count	8	5	3	3	4	17	3	5	5	9	17	20	99
		% within City	13.3%	8.1%	4.9%	2.3%	9.8%	14.0%	6.4%	9.3%	5.4%	8.4%	9.3%	21.1%	9.4%
	probably not DCD	Count	52	57	58	130	37	104	44	49	88	98	166	75	958
		% within City	86.7%	91.9%	95.1%	97.7%	90.2%	86.0%	93.6%	90.7%	94.6%	91.6%	90.7%	78.9%	90.6%
Total		Count	60	62	61	133	41	121	47	54	93	107	183	95	1057
		% within City	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The statistical processing indicates that the percentage is relatively higher in more urbanized cities such as in Tirana, the capital city of Albania, at 13.3% and in Vlora at 14.0%, one of the biggest cities, whereas the highest percentage is in Tepelena at 21.1%, which is not a big or central city. In all the cities, except one that is Lushnja, the percentage of the 'suspect DCD' category is equal to and higher than the average rate cited in the respective literature, i.e., 5-6 % (Table 5). The variance of percentages between cities could be affected by the difference in number of the returned questionnaires.

Table 6: Chi-Square Tests between locations

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.351 ^a	11	.001
Likelihood Ratio	31.062	11	.001
Linear-by-Linear Association	3.133	1	.077
N of Valid Cases	1057		

a. 2 cells (8.3%) have expected count less than 5. The minimum expected count is 3.84.

Pearson Chi-Square and Likelihood Ratio, both statistics (31.351 and 31.062) with 11 degrees of freedom indicate a significant association between geographical locations (main cities) and the presence or absence of DCD ($p = .001$) as shown in Table 6. This suggests that there's likely a relationship between the geographical locations of main cities and the likelihood of having or not having DCD.

Linear-by-Linear Association: This test (3.133) with 1 degree of freedom indicates a weaker association ($p = .077$) between the geographical locations of main cities and the presence or absence of DCD. This might imply a trend or a linear relationship between these locations and the likelihood of having DCD.

In summary, it appears that there's a significant association between the geographical locations of main cities and the presence or absence of DCD, as indicated by both the Pearson Chi-Square and Likelihood Ratio tests. The Linear-by-Linear Association test also suggests a potential trend or linear

relationship between these locations and the likelihood of having DCD.

The main objective of the current study was to compare both groups of children regarding their school and learning tasks and the difficulties they encounter in academic settings.

The case processing summary given in Table 7 indicates that every statement indicated by S16 to S29 is answered by selecting one of the 5 scales of each statement by 100% of the respondents of each category. Respectively, there are 99 processed answers for the category 'indication of DCD/ suspect DCD' and 958 answers for the other category typically developing children, labeled as 'probably not DCD' by DCD '07 standardized questionnaire (see Table 7 below).

In Table 7 below, it is given a summary of all the statements and answer results in percentages for both categories of children.

Table 7: Difficulties faced by children of both categories

Category	Indication of DCD/ Suspect DCD					Probably not DCD					Total		
	N	Mean	Median	Std. Deviation	Std. Error of Mean	N	Mean	Median	Std. Deviation	Std. Error of Mean	N	Mean	Median
S16.Your child has difficulty with subjects such as math, and language and has difficulty in accurate/organized handwriting within lines/ spaces.	99	3.45	3	1.163	0.117	958	1.71	1	0.98	0.032	1057	1.87	1
S17. Your child needs more time, compared to his/her peers, to complete homework/school tasks tests.	99	3.4	3	1.253	0.126	958	1.96	2	1.082	0.035	1057	2.1	2
S18.Your child shows a lack of interest and low self-esteem towards activities that require physical response / action.	99	3.6	3	1.245	0.125	958	1.64	1	0.983	0.032	1057	1.82	1
S19. Your child does not like changes in daily routine, the environment around him/her.	99	3.77	4	1.177	0.118	958	1.87	1	1.094	0.035	1057	2.04	2
S20. Your child has difficulty pronouncing and writing words.	99	3.86	4	1.229	0.124	958	1.57	1	1	0.032	1057	1.78	1
S21. Your child, although able to read sentences and paragraphs, short passages, fails to understand the content and finds it difficult to form an idea/mental picture of it.	99	3.78	4	1.234	0.124	958	1.81	1	1.053	0.034	1057	1.99	2
S22.Your child has difficulty paying attention for a long time, listen & understand when things are spoken to and explained.	99	3.81	4	1.175	0.118	958	1.77	1	1.067	0.034	1057	1.96	1
S23.Your child learns slowly new words and e.g. numbers, alphabet, days of the week, colors, and geometric shapes.	99	3.77	4	1.26	0.127	958	1.61	1	1.055	0.034	1057	1.82	1
S24.Your child has difficulty naming objects, finding the right words, ordering words correctly in sentences, and tends to create/ use shorter sentences than his peers.	99	3.91	4	1.161	0.117	958	1.57	1	0.992	0.032	1057	1.79	1
S25.Your child has difficulty listening and following stories, tales, etc. till the end.	99	4.07	5	1.18	0.119	958	1.39	1	0.874	0.028	1057	1.64	1
S26.Your child fails to follow the instructions given at the same pace with peers.	99	3.88	4	1.172	0.118	958	1.59	1	1.013	0.033	1057	1.81	1
S27.Your child responds questions by repeating it and not by giving direct answers.	99	3.75	4	1.181	0.119	958	1.87	1	1.104	0.036	1057	2.05	2
S28.Your child gives unusual answers to questions.	99	4	4	1.169	0.118	958	1.6	1	0.959	0.031	1057	1.82	1
S29.Your child has difficulty understanding or confuses, visual details e.g. math symbols '+', '-', abstract concepts/fractions.	99	3.97	5	1.257	0.126	958	1.53	1	0.986	0.032	1057	1.76	1

Comparing the mean and median of both categories as shown above in Table 7, it is obvious that they

are both higher for the category of 'suspect DCD' than those of the other category i.e., typically developing children as categorized by the questionnaire as 'probably not DCD'.

Within the category of 'probably not DCD' the mean varies between 1.39 m1.96, whereas the median = 1 in thirteen of the statements and median = 2 in only one of the fourteen statements. Regarding the other category 'suspect DCD' the mean varies between 3.4 m4.07 and the median =3 of this category for three of the statements; the median =4 for nine of the statements, and for two statements the median =5. It can be seen that in the areas identified by statements numbered from 19 to 29 the median = 4 and 5, referring to Likert scale 4- quite like my child and scale 5- extremely like my child. This high value of the median for this category indicates that 'suspect DCD' children face a lot of difficulties related to learning and school tasks compared to their peers whose median is 1 for most of the statements. Both the mean and median values differ considerably between the two categories asserting that 'suspect DCD' children encounter difficulties in all areas of academic tasks and learning skills when compared to their peers.

Referring to Table 7, the statements can be grouped into different learning aspects targeted such as the first aspect can be summarized as language difficulties, identified by statements numbered 20, 21, 23, 24, and 29, which are highlighted in yellow. In this subgroup the median = 4, and = 5 for the 'suspect DCD' category while for the other category median =1 for all these statements as well as total median =1 except for statement 21. This subgroup of statements identifies that 'suspect DCD' children face difficulties in pronouncing and writing words; and difficulty in reading comprehension activities, in other words, although they can read sentences and paragraphs, short passages, they fail to understand the content and find it difficult to form an idea/mental picture of it. Moreover, here in this subgroup of learning skills, it is obvious that 'suspect DCD children' are slow at learning new words such as numbers, the alphabet, days of the week, colors, geometric shapes, etc. They also have difficulties naming objects, finding the right words, ordering words correctly in sentences, and tend to create and use shorter sentences than his or her peers they encounter considerable difficulties in understanding and distinguishing visual details e.g., math symbols '+' and '-', or abstract concepts such as fractions as the median =5 for this statement.

The other aspect, identified by statements number 22, 25, 27, and 28, focuses on attention and understanding, which are highlighted in green in Table 7. Statement 22 targets the area of attention span and looking into the results, the median = 4, it seems that 'suspect DCD' children encounter difficulties in paying attention for a longer time or throughout the lesson and need more time to process information and topics when these are explained to him/her compared to their peers or typically developing children category. The highest mean 4.07 is for statement 25 targeting difficulties in listening and following stories or tales until the end thus identifying issues with attention span.

Another statement in this subgroup is statement 27, which relates to answering by repeating and not by giving straightforward answers. In this regard, it is identified that the total median 2, total mean 2.05, for this statement, is higher than most of the other values of the rest of the statements, thus we can conclude that besides 'suspect DCD' children this age group has a slight tendency to answer by repeating. Statement 28 relates to answering questions untypically and the mean and median 4 here for the first category.

The other subgroup is that of time and pace of completing different school tasks that are targeted by statements 17 and 26 and are highlighted in brown in the table above, both these statements refer to the time and pace needed to complete tasks and follow instructions. The statistical processing for these two indicates that 'suspect DCD' children have received a higher median value. However, even the other category scored higher for statement 17 respectively the median 2, and the total median 2, identifying that all our subjects seem to need more time to carry out school tasks.

The assumption that DCD or suspect DCD children, when compared to typically developing children tend to not engage in activities that require physical response or action, is confirmed by our study if we refer to the mean value of statement 18 of the 'suspect DCD' category, $m > 3.6$ whereas that of 'probably not DCD' category $m > 1.64$.

Referring to the statistical results we can confirm that children of both categories do not like changes in daily routine, and the environment around him/her as the total median and mean for statement 19 have received a higher value, mean > 2.04 and median = 2, compared to most of the other statements' values (Table 7).

4. Conclusions

In conclusion, we can say that our study has identified some vital information about the prevalence rate of suspect DCD children aged 5-10 in Albania. The percentage of 'suspect DCD' children, after the processing of the given data gathered through a questionnaire answered by parents or educators in 12 different cities from all regions of Albania, indicates that the percentage ranges from 2.3% to 21.1%. In some cities, it reaches 14%-21%, more specifically only in four of them the percentage is within or below the average rate of the respective literature and studies at about 5-6%.

Another interest within the scope of our study was finding out some difficulties encountered by 'suspect DCD' children and comparing both groups of children in this regard. We identified that, as expected, suspect DCD children encounter more difficulties in learning such as difficulty in learning new words and concepts and difficulties in paying attention for longer periods. They tend to give atypical and inconsistent answers; and encounter difficulty in understanding and distinguishing visual details e.g., Math symbols '+' and '-', or abstract concepts such as fractions as well as keeping pace with peers when asked to follow instructions.

Moreover, they encounter language difficulties i.e., naming objects, finding the right words, ordering words correctly in sentences, and tend to create and use shorter sentences than his or her peers and difficulty listening and following stories and tales. There are identified difficulties in learning new words and concepts; difficulties in paying attention for a longer time or throughout the lesson and need more time to process information and topics when these are explained to him/her. These children do not like changes in daily routine or their surroundings; difficulty in reading comprehension activities although they can read passages or texts. A limitation of this study in this aspect is a differentiation of various types of learning disorders that accompany difficulties in academic settings of our population sample as well as gender differences that might be analyzed and tackled further on.

Engagement in physical activity of children with motor coordination problems is influenced by other numerous factors such as social and cultural ones, physical environment, as well as individual characteristics (Blank et al., 2011) however, research studies have concluded that children with DCD participate less in physical activities especially in team sports (Smyth & Anderson, 2000; Blank et al., 2011).

Therefore, based on evidence confirmed by numerous studies early diagnosis via all the appropriate instruments and interdisciplinary specialists such as physical education, medical and psychological experts in order to confirm the exact percentage of children with DCD and also to identify all the factors affecting their activities and moreover to suggest accordingly to their field of expertise ways to overcome difficulties of various types encountered by children in their everyday and academic settings. Regarding the identification of learning disorders can occur later on in school age and academic settings, as these are manifested clearly at this stage of life and appropriate generic or specific tests or instruments can be applied accordingly.

The study (Blank et al., 2011) states that there are different treatment approaches that can be seen as different strategies to support learning even though learning is a highly individual process and that every child with DCD has individual difficulties and abilities and prefers individual learning strategies and solutions. Some coping mechanisms may include physical education classes, which can increase perceived competence in children with DCD (Blank et al., 2011, p. 66). Additionally, the study (Guillamón et al., 2021) suggest that physical condition assessment, including motor component, has a positive relationship with academic performance and cognitive abilities. Thus, improving physical condition could potentially improve academic performance and strengthening

the role of motor coordination in academic performance could be beneficial (Guillamón et al., 2021).

It is recommended that further studies possibly cohort ones should be undertaken in Albania and the findings should be disseminated to teachers and other specialists to assist them and overcoming difficulties. In order to have results that are more accurate on the differences between the two categories concerning learning difficulties it is suggested to have approximately the same number of children with suspected DCD and not suspected with DCD.

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