

Supplementary Table S1. Search Strategy.

Database	Medline (Ovid)				
Coverage	Medicine and Health				
Date	April 20, 2022				
Limits	Publication Type: "Article", Language: "English", Age: "Children <18"				
Search Query	Population: Developmental Coordination Disorder (combined with 'OR')		AND	Concept: Auditory-Motor Timing (combined with 'OR')	
	Subject Headings	Keywords		Subject Headings	Keywords
	exp Motor Skills Disorders/	Developmental coordination disorder.mp. DCD.mp. (developmental coordination adj3 (disorder* or problem* or dysfunction* or difficult* or impairment* or deficit*)).mp. Motor skill* disorder.mp. (clums* adj3 child).mp. ((movement* or motor) adj1 (difficult* or deficit*)).mp. Dyspraxia.mp.		exp Acoustic Stimulation/	(audi* adj3 motor*).mp. auditory motor adj3 (synchron* or coupling).mp. ((auditory or audio or percept* or rhythm*) adj7 (motor or rhythm* or cue* or tap* or stimul* or action or synchron* or entrainment or coupling or adaptation* or interaction* or integration or performance or timing or processing)).mp. tap* adj5 (audi* or rhythm* or finger).mp.
Number of Hits	371				

Database	Embase (Ovid)				
Coverage	Medicine and Health				
Date	April 20, 2022				
Limits	Publication Type: "Article", Language: "English", Age: "Children <18"				
Search Query	Population: Developmental Coordination Disorder (combined with 'OR')		AND	Concept: Auditory-Motor Timing (combined with 'OR')	
	Subject Headings	Keywords		Subject Headings	Keywords
	exp developmental coordination disorder/	Motor skill* disorder.mp. DCD.mp. (developmental coordination adj3 (disorder* or problem* or dysfunction* or difficult* or impairment* or deficit*)).mp. dyspraxia.mp. (clums* adj3 child).mp. ((movement* or motor) adj1 (difficult* or deficit*)).mp.		exp auditory stimulation/	(audi* adj3 motor*).mp. auditory motor adj3 (synchron* or coupling).mp. ((auditory or audio or percept* or rhythm*) adj7 (motor or rhythm* or cue* or tap* or stimul* or action or synchron* or entrainment or coupling or adaptation* or interaction* or integration or performance or timing or processing)).mp. tap* adj5 (audi* or rhythm* or finger).mp.
Number of Hits	361				

Database	PsycInfo (Ovid)				
Coverage	Psychology				

Date	April 20, 2022				
Limits	Publication Type: "Article", Language: "English", Age: "Children <18"				
Search Query	Population: Developmental Coordination Disorder (combined with 'OR')		AND	Concept: Auditory-Motor Timing (combined with 'OR')	
	Subject Headings	Keywords		Subject Headings	Keywords
	exp Dyspraxia/	Motor skill* disorder.mp. DCD.mp. (developmental coordination adj3 (disorder* or problem* or dysfunction* or difficult* or impairment* or deficit* or deficit*)).mp. (clums* adj3 child).mp. ((movement* or motor) adj1 (difficult* or deficit*)).mp.		exp Auditory Stimulation/	(audi* adj3 motor*).mp. auditory motor adj3 (synchron* or coupling).mp. ((auditory or audio or percept* or rhythm*) adj7 (motor or rhythm* or cue* or tap* or stimul* or action or synchron* or entrainment or coupling or adaptation* or interaction* or integration or performance or timing or processing)).mp. tap* adj5 (audi* or rhythm* or finger).mp.
Number of Hits	728				

Database	CINAHL (EBSCO)				
Coverage	Nursing & allied health sciences				
Date	April 20, 2022				
Limits	Publication Type: "Article", Language: "English", Age: "Children <18"				
Search Query	Population: Developmental Coordination Disorder (combined with 'OR')		AND	Concept: Auditory-Motor Timing (combined with 'OR')	
	Subject Headings	Keywords		Subject Headings	Keywords
	MH Motor Skills Disorders	developmental coordination disorder OR dyspraxia OR DCD or coordination disorder OR developmental coordination OR clumsiness OR clumsy child OR movement difficult* OR movement deficit* OR motor difficult* OR motor deficit*		MH Auditory Perception	auditory OR audio OR percept* action OR sensorimotor OR auditory motor motor OR synchron* OR coupling OR rhythmic OR cue* OR tap* OR entrainment OR adaptation* OR interaction* OR integration OR stimul* OR performance OR timing OR processing
Number of Hits	108				

Database	Scopus		
Coverage	Interdisciplinary		
Date	April 20, 2022		
Limits	Publication Type: "Article", Language: "English", Age: "Children <18"		
	Population: Developmental Coordination Disorder (combined with 'OR')	AND	Concept: Auditory-Motor Timing (combined with 'OR')
	Keywords		Keywords

Search Query	{developmental coordination disorder} OR {DCD} OR {dyspraxia} OR "motor skill* disorder" OR "clumsiness" OR "coordination disorder" OR "developmental coordination" OR "clumsy child" OR "movement difficult*" OR "movement deficit*" OR "motor difficult*" OR "motor deficit"	"auditory motor synchron*" OR "audi* motor" OR "percept* action" OR "auditory stimul*" OR "rhythmic synchron*" OR "sensorimotor synchron*" OR "rhythm* tap*" OR "auditory cue*" OR "auditory motor coupling" OR "auditory motor entrainment" OR "audi* motor adaptation*" OR "audi* motor interaction*" OR "audi* motor integration" OR "audi* motor timing" OR "audi* motor processing" OR "audi* motor performance"
Number of Hits	105	

Supplementary Table S2: Title and Abstract Screening.

	Exclusion Criteria	YES	NO	Maybe
1	Does the title/abstract identify the paper as a review or a survey study?			
2	Does the title/abstract identify the study as a conference proceeding, meeting minute, commentary, postscript, letter or in video format?			
3	Are participants in the study adults (above 18 y.o.)?			
4	Is the paper published in a language other than English?			
If "Yes" to any of the above, exclude the study.				
	Inclusion Criteria			
5	Does the title/abstract mention the effects of auditory stimuli on motor performance?			
6	Does the title/abstract mention children (<18 years) with motor coordination difficulties?			

If the reviewer's answer is "No" or "Maybe" to questions 1-4, a full-text article will be reviewed for decision-making on this level. If the reviewer's answer is "Yes" or "Maybe" to questions 5 and 6, the full-text article will be reviewed for decision-making on this level.

Supplementary Table S3. Full-Text Screening.

	Reasons for Exclusion	✓
1	The study did not report the effects of auditory stimuli on motor performance.	
2	The primary outcome measure was not related to motor performance (e.g., the primary goal of the study was an evaluation of a treatment method).	

	Sources Excluded	Primary Reason of Exclusion
1	Biotteau, M., Chaix, Y., & Albaret, J. M. (2015). Procedural learning and automatization process in children with developmental coordination disorder and/or developmental dyslexia. <i>Human movement science</i> , 43, 78-89.	1
2	Caçola, P., Getchell, N., Srinivasan, D., Alexandrakis, G., & Liu, H. (2018). Cortical activity in fine-motor tasks in children with developmental coordination disorder: a preliminary fNIRS study. <i>International Journal of Developmental Neuroscience</i> , 65, 83-90.	1
3	Chang, A., Li, Y. C., Chan, J. F., Dotov, D. G., Cairney, J., & Trainor, L. J. (2021). Inferior auditory time perception in children with motor difficulties. <i>Child Development</i> , 92(5), e907-e923.	2

4	Cosper, S. M., Lee, G. P., Peters, S. B., & Bishop, E. (2009). Interactive Metronome training in children with attention deficit and developmental coordination disorders. <i>International Journal of Rehabilitation Research</i> , 32(4), 331-336.	2
5	de Castelnau, P., Albaret, J. M., Chaix, Y., & Zanone, P. G. (2008). A study of EEG coherence in DCD children during motor synchronization task. <i>Human Movement Science</i> , 27(2), 230-241.	1
6	Hession, C. E., Law Smith, M. J., Watterson, D., Oxley, N., & Murphy, B. A. (2019). The Impact of equine therapy and an audio-visual approach emphasizing rhythm and beat perception in children with developmental coordination disorder. <i>The Journal of Alternative and Complementary Medicine</i> , 25(5), 535-541.	2
7	Holeckova, I., Cepicka, L., Mautner, P., Stepanek, D., & Moucek, R. (2014). Auditory ERPs in children with developmental coordination disorder. <i>Activitas Nervosa Superior</i> , 56(1), 37-44.	2
8	King, B. R., Kagerer, F. A., Harring, J. R., Contreras-Vidal, J. L., & Clark, J. E. (2011). Multisensory adaptation of spatial-to-motor transformations in children with developmental coordination disorder. <i>Experimental brain research</i> , 212(2), 257-265.	1
9	Lê, M., Blais, M., Jucla, M., Chauveau, N., Maziero, S., Biotteau, M., ... & Tallet, J. (2021). Procedural learning and retention of audio-verbal temporal sequence is altered in children with developmental coordination disorder but cortical thickness matters. <i>Developmental Science</i> , 24(1), e13009.	1
10	Leemrijse, C., Meijer, O. G., Vermeer, A., Adèr, H. J., & Diemel, S. (2000). The efficacy of Le Bon Départ and Sensory Integration treatment for children with developmental coordination disorder: a randomized study with six single cases. <i>Clinical Rehabilitation</i> , 14(3), 247-259.	2
11	Mikami, M., Hirota, T., Takahashi, M., Adachi, M., Saito, M., Koeda, S., ... & Yamada, J. (2021). Atypical sensory processing profiles and their associations with motor problems in preschoolers with developmental coordination disorder. <i>Child Psychiatry & Human Development</i> , 52(2), 311-320.	1
12	Niklasson, M., Niklasson, I., & Norlander, T. (2009). Sensorimotor therapy: using stereotypic movements and vestibular stimulation to increase sensorimotor proficiency of children with attentional and motor difficulties. <i>Perceptual and Motor Skills</i> , 108(3), 643-669.	1
13	Niklasson, M., Norlander, T., Niklasson, I., & Rasmussen, P. (2017). Catching-up: Children with developmental coordination disorder compared to healthy children before and after sensorimotor therapy. <i>PloS one</i> , 12(10), e0186126.	1
14	Piek, J. P., & Skinner, R. A. (1999). Timing and force control during a sequential tapping task in children with and without motor coordination problems. <i>Journal of the International Neuropsychological Society</i> , 5(4), 320-329.	1
15	Sartori, R. F., Valentini, N. C., Nobre, G. C., & Fonseca, R. P. (2021). Motor and verbal inhibitory control: Development and validity of the go/No-Go app test for children with development coordination disorder. <i>Applied Neuropsychology: Child</i> , 10(4), 359-368.	1
16	Volman, M. J. M., & Geuze, R. H. (1998). Stability of rhythmic finger movements in children with a developmental coordination disorder. <i>Motor Control</i> , 2(1), 34-60.	1