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### Research Summary – Jebsen-Taylor Hand Function Test (JTHFT) – Upper Limb

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Lynch & Bridle 1989 Follow-up study of the long-term functional effects of traumatic central spinal cord injury. Patient's homes	N=18 Mean Age: 52 years, range 26 to 70 years Reliability sample: n=26 (6 with quadriplegia)	Overall mean Jebsen- Taylor test score and overall mean Klein-Bell Scale score: Spearman's $\rho$ = -0.635, (P<.01) <u>Jebsen-Taylor &amp; Klein- Bell subscale:</u> Dressing: $\rho$ = -0.69, (P<.01) Bathing/Hygiene: $\rho$ = -0.57, (P<.01) Eating: $\rho$ = -0.45, (P<.05)		
<u>Jebsen et al.</u> 1969 Case-Control Unknown	Reported mean & standard deviation for Jebsen scores: N=300 AB subjects (30M, 30F from each of the following age categories: 20-29, 30-39,		<b>Test-retest, Inter- rater, Intra-rater:</b> Patients maintained their relative positions within the distribution of scores, indicating that each subtest was fairly reliable	

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	40-49, 50-59, 60-94) Reliability study: N=26 Mean (SD) age of all participants: 34.5 (20) 1 post-poliomyelitis 4 cerebral palsy 6 hemiparesis due to cerebral vascular disease 5 rheumatoid arthritis 4 postburn 1 congenital hand anomaly 2 posttrauma 1 polyneuropathy 1 severe degenerative joint disease		To test for reliability 26 subjects with a stable hand disability were chosen and tested twice. Results from their test results were tested using Pearson product movement correlations coefficients ranged from 0.60 to 0.99 (P<.01)	

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample		Va	Validity			ability	Resp Inter	onsiveness pretability
Panuccio et al. 2021 Psychometric study to evaluate the internal consistency and validity of the Italian version of the Jebsen– Taylor hand function test (JTHFT-IT) in people with tetraplegia	N= 48 participar with tetraplegia 38 male and 10 f Mean (± SD) age 15) yrs. Injury level: C2-C 11), C5 (n = 14), ar C7 (n = 23). AIS A (n = 18), AIS = 11), AIS C (n = 14 AIS D (n = 5).	nts a female e 48 (± C4 (n = nd C6- IS B (n 4), and	Pearson's coefficient showed significant correlations for both <b>concurrent validity</b> (dynamometer) and of <b>construct validity</b> (VLT-SV-IT). As shown in Tables 1 (left hand) and 2 (right hand), some items of the JTHFT-IT were correlated to the Van Lieshout test short version in Italian (VLT- SV-IT); there were more correlations for the dominant right hand than the left hand.			The <b>inter</b> <b>consister</b> JTHFT-IT Cronbach of 0.94 fo hand and the right Table 3 re results fo and right the total taken as a	nal ncy of the showed n's α values r the left d 0.96 for hand. eports the r the left hand in population a sample.		
Two Italian	Table 1. Gold-sta VLT-SV-IT, left-n	andard a non-dom	analysis: Pea ninant-hanc	FT-IT and the					
spinal units.	Left hand w Non- a dominant le hand	writing a24- etter	Turning Pick up Sim overa 3 × 5" small feed card object		nulate ding using spoon	Stacking checkers	Moving light cans	Moving large weighted cans	

### Research Summary – Jebsen-Taylor Hand Function Test (JTHFT) – Upper Limb – Cross-cultural Validation Studies

Author Year Research Design Setting (country)	Demograph Injury Characteris Sampl	ics and / stics of le	\ \	/alidity		Rel	iability	Res Inte	oonsiveness erpretability
	arc task	-0.24	-0.56ª	-0.50ª	-0.48	3ª	-0.52ª	-0.49ª	-0.45ª
	Reaching forward	-0.21	-0.47ª	-0.41ª	-0.45	5 <sup>a</sup>	-0.41ª	-0.43ª	-0.14
	Thumb opening	-0.40ª	-0.54ª	-0.60ª	-0.47	<b>7</b> a	-0.57ª	-0.49ª	-0.76ª
	Grip function of the thumb	-0.65ª	-0.64ª	-0.74ª	-0.62	)a -	-0.75ª	-0.65ª	-0.71ª
	Grip strength of the thumb	-0.15	-0.58ª	-0.53ª	-0.50	) <sup>a</sup>	-0.53ª	-0.50ª	-0.59ª
	Finger opening	-0.11	-0.81ª	-0.74ª	-0.81	a	-0.79ª	-0.77ª	-0.60ª
	Grip strength of the fingers	-0.21	-0.54ª	-0.54ª	-0.58	} <sup>a</sup>	-0.54ª	-0.48ª	-0.73ª
	Pen grip	-0.08	-0.50ª	-0.49ª	-0.51	а	-0.54ª	-0.51ª	-0.31ª
	Lighting a match	-0.34ª	-0.54ª	-0.62ª	-0.51	a	-0.63ª	-0.52ª	-0.82ª
	Opening a bottle	-0.39ª	-0.60ª	-0.55ª	-0.56	Sa	-0.59ª	-0.57ª	-0.17
	VLT-SV-Total	-0.36ª	-0.73ª	-0.72ª	-0.68	3ª	-0.74ª	-0.67ª	-0.69ª
	Dynamomet er	-0.37ª	-0.29ª	-0.35ª	-0.25	5	-0.34ª	-0.26	-0.40ª
	<sup>a</sup> Correlation	is signific	cant at the	e 0.05 level	(two-ta	iled).			

Author Year Research Design Setting (country)	Demograph Injury Characteris Samp	iics and y stics of le		Validity		Reliability			Res Inte	ponsiveness erpretability	
	Table 2. Gold-standard analysis: Pearson's correlation coefficient between the JTHFT-IT and the										
	VLI-SV-II, rig	nt-domin	ant-hanc	1.							
	Right hand dominant hand	writing a 24-letter	Turning over a 3 × 5" card	Pick up small common object	Sim fee usir tea	nulate ding ng spoon	Stacking checkers	Mov ligh	ving t cans	Moving large weighted cans	
	Arc task	-0.55ª	-0.57ª	-0.73ª	-0.	74ª	-0.80ª	-0.6	56ª	-0.66ª	
	Reaching forward	-0.20	-0.14	-0.42ª	-0.	27	-0.33ª	-0.3	33ª	-0.33ª	
	Thumb opening	-0.64ª	-0.56ª	-0.85ª	-0.	73ª	-0.77ª	-0.7	76ª	-0.76ª	
	Grip function of the thumb	-0.74ª	-0.63ª	-0.94ª	-0.	82ª	-0.73ª	-0.9	96ª	-0.96ª	
	Grip strength of the thumb	-0.77ª	-0.72ª	-0.76ª	-0.	95ª	-0.95ª	-0.7	76ª	-0.77ª	
	Finger opening	-0.69ª	-0.62ª	-0.89ª	-0.	81ª	-0.79ª	-0.8	36ª	-0.86ª	
	Grip strength of the fingers	-0.67ª	-0.63ª	-0.79ª	-0.	83ª	-0.88ª	-0.7	73 <sup>a</sup>	-0.72ª	
	Pen grip	-0.66ª	-0.63ª	-0.93ª	-0.	78ª	-0.74ª	-0.9	92ª	-0.92ª	
	Lighting a match	-0.41ª	-0.56ª	-0.56ª	-0.	55ª	-0.52*	-0.5	57ª	-0.58ª	
	Opening a	-0.19	-0.65ª	-0.68ª	-0.	4]ª	-0.41ª	-0.6	51ª	-0.61ª	

Author Year Research Design Setting (country)	Demograph Injury Characteris Sampl	ics and / stics of le		Validity		Reliability			Responsiveness Interpretability	
	bottle									
	VLT-SV-Total	-0.68ª	-0.67ª	-0.92ª	-0	.84ª	-0.84ª	-0.87	7ª -0.87ª	
	Dynamomet er	-0.46ª	-0.39ª	-0.59ª	-0	.52ª	-0.48ª	-0.57	<sup>7ª</sup> -0.57 <sup>ª</sup>	
	Table 3. Item-total analysis: Cronbach's alpha for each item ir people with tetraplegia.   Left hand						m in the r	eliabilit Righ	ty study JTHFT-IT in	
				Corrected item-total	rrected Cronbach's m-total alpha if iten		Corrected item- total correlation		Cronbach's alpha if item deleted	
	Writing a 24-I	etter sente	ence	0.42	0.	96	0.77		0.96	
	Stacking cheo	kers		0.95	0.	92	0.69		0.97	
	Turning over a	a 3 × 5" card	b	0.99	0.	92	0.95		0.95	
	Pick up small	common	object	0.94	0.	93	0.94		0.95	
	Simulate feed tea spoon	ing using		0.98	0.	92	0.88		0.95	
	Moving light of	cans		0.95	0.	93	0.95		0.95	
	Moving 1 lb ca	ns		0.65	0.	96	0.95		0.95	
Nobilia et al	Total sample	= 136	Inter	nal Consiste	ncy	The <b>int</b>	rarater ICo	С 🖌	Acceptability:	
2019	participants v	vith at	and C	Construct		was 0.8	14 (95% CI	T	he average time to	
	least one upp	er limb	Valid	ity:		[.615, .93	6]) for the	e   c	complete all subtests	
	disorder diag	nosis:	Stron	ng correlations domina			int hand a	vas 89.47 ± 67.98 s for		

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity		Reliability		Res Inte	ponsiveness erpretability
Cross-sectional study to assess the psychometric properties of the Italian version of the Jebsen–Taylor Hand Function Test (JTHFT). Policlinico Umberto I University Hospital, Sant'Eugenio Hospital, and the spinal unit of CTO Andrea	Mean (± SD) age 54.79 (± 22.39) yrs. 80 female and 56 male. 15 (11%) participants had tetraplegia.	were found all subtests ( and betwee subtests and force measu the dynamo .05). See table 1.	between (p < .01) n the d grip red with meter (p <	0.981 (95 .993]) fo nondom The <b>inte</b> was .818 .936]) fo domina .821 (959 .953]) fo nondom (see tab The <b>reli</b> a JTHFT–I .829 for domina a = .415 f nondom	5% CI [.948, r the ninant hand. errater ICC 6 (95% CI [.615, r the nt hand and 6 CI [.432, r the ninant hand le 2). ability of the T was a = the nt hand and for the ninant hand.	the doi and 16' for the hand (s	minant hand 7.11 ± 257.58 s nondominant see table 3).
in Rome; Italy	Table 1. Construct Validity: 136)	Correlations B	etween JTHF	T–IT Subte	estsand Dynam	nometer	Measures (N =
			[	Dynamome	eter Measures		
	JTHFT Subtest		Dominant Ha	and	Nondominant H	land	
	VVriting		-0.494**		-0.307		
	Dicking Up Small Common	Objects	-0.498***		-0.410""		
	Simulated Feeding		-0.465**		-0.344		

Author Year Research Design Setting (country)	Demographics a Injury Characteristics Sample	nd of V	alidity	Re	eliability	Responsiveness Interpretability
	Stacking		-0.461**		-0.429	
	Lifting Large, Lightwe	eight Objects	-0.456**		-0.440**	
	Lifting Large, Heavy C	Objects	-0.606**		-0.533**	
	Pinch		1.000**		1.000*	
	Note. JTHFT-IT = Jebs	en–Taylor Hand F	unction Test, Italia	an versio	n.	
	*p < .05 (two-tailed). ** Table 2. Intrarater a	*p < .01 (two-tailec nd Interrater Rel	l). iability of the JTH	FT–IT (N	= 51)	
		Intrarater R	eliability, ICC [95% CI	]	Interrrater Re	eliability, ICC [95% CI]
	Subtest	Dominant Hand	Nondominant	Hand	Dominant Hand	Nondominant Hand
	Writing	.791 [.512, .919]	.998 [.994, .99	7]	.658 [.092, .902]	.778 [.584, .888]
	Simulated Page Turning	.877 [.694, .959]	.948 [.862, .98	1]	.964 [.863, .991]	.985 [.970, .993]
	Picking Up Small Common Objects	.867 [.672, .950]	.121 [368, .558	3]	.446 [.213, .836]	.484 [.155, .716]
	Simulated Feeding	.264 [233, .651]	.699 [.343, .879	9]	.412 [.252, .813]	.412 [.066, .669]
	Stacking	.903 [.754, .964]	.952 [.873, .982	2]	.797 [.377, .945]	.792 [.607, .895]
	Lifting Large, Lightweight Objects	.904 [.755, .964]	.813 [.556, .928	3]	.807 [.399, .948]	.798 [.618, .899]
	Lifting Large, Heavy Objects	.803 [.537, .924]	.776 [.483, .913	[.483, .913] .821 [.432, .953]		.818 [.652, .909]
	Note. CI = confidence	interval; ICC = int	raclass correlation	o coefficie	ent; JTHFT–IT = Je	bsen–Taylor Hand Function
	Test, Italian version.					
	Table 3. Test Run Ti	me for JTHFT–IT	Subtests			
					Seconds, M (SD)	

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	JTHFT Subtest		Dominant H	land	Nondomina	nt Hand
	Writing		29.81 (20.19)		88.25 (164.4	(+3)
	Simulated Page Turning		9.27 (6.50)		10.69 (9.49)	)
	Picking Up Small Common	Objects	11.09 (6.38)		21.42 (36.14)	
	Simulated Feeding	-	16.52 (17.14)		19.82 (20.93	3)
	Stacking		9.04 (8.36)		11.42 (14.41)	)
	Lifting Large, Lightweight O	bjects	7.04 (5.95)		8.15 (7.28)	
	Lifting Large, Heavy Objects		6.66 (3.45)		7.33 (4.86)	
	Note. JTHFT-IT = Jebsen-Tay	vlor Hand Functio	n Test, Itali	ian version;		
	M = mean; SD = standard de	viation.	.,			