

Adult Norms for the Corbett Targeted Coin Test TM (CTCT) Kimatha Grice, OTD, OTR, CHT The University of Texas Health Science Center at San Antonio

Introduction/Backgroumd

- The assessment of dexterity is important in measuring upper extremity function for clients of all ages. (1)
- Dexterity has been defined as "the fine voluntary movements used to manipulate small objects during a specific task, as measured by the time to complete the task." (2)
- In-hand manipulation (IHM) is defined as the adjustment of a grasped object within one hand while it is being held and includes translation, shift, and rotation with and without stabilization. (3)
- "Many daily living tasks that involve the use of tools and the handling of small materials require these skills in addition to refined grasp, release, and bilateral hand use." (4)
- Julie Corbett, OTR, CHT found there was a "gap" in standardized assessment tools for measuring and observing IHM; she designed and developed the Corbett Targeted Coin Test (CTCT) and introduced it in 2017.
- The purpose of this project was to establish normative data for adults for the CTCT.

Methods

- 190 participants were recruited from the university setting and other community settings
- 147 were female and 43 were male
- Ages ranged from 20-80 years
- Inclusion criteria included no history of sensory changes, arthritic, orthopedic or neuromuscular conditions; no previous surgery to hands; able to follow instructions, gave IRB approved consent
- Age, gender and hand dominance were recorded
- Standard instructions included with the CTCT were used
- Participants were allowed to practice with both hands and then dominant hand was tested first
- Scores were calculated using the standard provided with the CTCT tool

Results

- For all participants, the 41-50 age group demonstrated the highest performance and the 71-80 age group the lowest
- When compared by gender, there was no significant difference but female scores were slightly better than male
- Standard deviation for female subjects was lower than male subjects
- For all participants, the scores for the right hand were better than the left hand, regardless of dominance
- Accuracy (avg # drops) for all participants was best for the 41-50 age range, as well as for both genders

Normative Data

Average and Standard Deviation of Participants' Scores (190 total: 147 female; 43 male)

Age	Ν	Mean (SD) – Right (seconds)	Mean (SD) – Left (seconds)	Accuracy- Right (avg # drops)	Accuracy – Left (avg # drops)
20-30	55 45 female 10 male	31.94 (8.11)	35.28 (9.75)	1.3	1.6
31-40	30 21 female 9 male	32.07 (11.74)	34.50 (8.43)	1.2	1.2
41-50	30 22 female 8 male	28.96 (6.60)	32.32 (6.67)	1.0	1.1
51-60	30 22 female 8 male	33.34 (8.16)	35.45 (7.55)	1.2	1.4
61-70	30 23 female 7 male	34.05 (9.40)	38.16 (7.16)	1.4	1.6
71-80	15 14 female 1 male	38.50 (10.52)	45.42 (9.35)	1.9	2.5

Accuracy – avg. # drops per trial

Age	N	Accuracy-Right	
20-30	45 female	1.3	
	10 male	1.6	
31-40	21 female	1.2	
	9 male	1.2	
41-50	22 female	1.2	
	8 male	.37	
51-60	22 female	1.2	
	8 male	1.12	
61-70	23 female	1.3	
	7 male	1.8	
71-80	14 female	1.8	
	1 male	3	



Discussion/Conclusions

- Better performance with the right vs. the left hand is probably related to hand dominance
- 96% of female subjects and 84% of male subjects were right dominant
- Since left dominant participants were only 6.8% of the total sample, normative data are presented as right and left hands, combining the right and left dominant subjects
- Normative data for the CTCT will provide another dimension to dexterity assessment, specifically, in-hand manipulation



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References

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