

ADULT PINCH AND GRIP STRENGTH, Mathiowetz

Table 2: Performance of All Subjects on Grip Strength (pounds)

Hand	Men					Women				
	Mean	SD	SE	Low	High	Mean	SD	SE	Low	High
20-24 R	121.0	20.6	3.8	91	167	70.4	14.5	2.8	46	95
L	104.5	21.8	4.0	71	150	61.0	13.1	2.6	33	88
25-29 R	120.8	23.0	4.4	78	158	74.5	13.9	2.7	48	97
L	110.5	16.2	3.1	77	139	63.5	12.2	2.4	48	97
30-34 R	121.8	22.4	4.3	70	170	78.7	19.2	3.8	46	137
L	110.4	21.7	4.2	64	145	68.0	17.7	3.5	36	115
35-39 R	119.7	24.0	4.8	76	176	74.1	10.8	2.2	50	99
L	112.9	21.7	4.4	73	157	66.3	11.7	2.3	49	91
40-44 R	116.8	20.7	4.1	84	165	70.4	13.5	2.4	38	103
L	112.8	18.7	3.7	73	157	62.3	13.8	2.5	35	94
45-49 R	109.9	23.0	4.3	65	155	62.2	15.1	3.0	39	100
L	100.8	22.8	4.3	58	160	56.0	12.7	2.5	37	83
50-54 R	113.6	18.1	3.6	79	151	65.8	11.6	2.3	38	87
L	101.9	17.0	3.4	70	143	57.3	10.7	2.1	35	76
55-59 R	101.1	26.7	5.8	59	154	57.3	12.5	2.5	33	86
L	83.2	23.4	5.1	43	128	47.3	11.9	2.4	31	76
60-64 R	89.7	20.4	4.2	51	137	55.1	10.1	2.0	37	77
L	76.8	20.3	4.1	27	116	45.7	10.1	2.0	29	66
65-69 R	91.1	20.6	4.0	56	131	49.6	9.7	1.8	35	74
L	76.8	19.8	3.8	43	117	41.0	8.2	1.5	29	63
70-74 R	75.3	21.5	4.2	32	108	49.6	11.7	2.2	33	78
L	64.8	18.1	3.7	32	93	41.5	10.2	1.9	23	67
75+ R	65.7	21.0	4.2	40	135	42.6	11.0	2.2	25	65
L	55.0	17.0	3.4	31	119	37.6	8.9	1.7	24	61
All R	104.3	28.3	1.6	32	176	62.8	17.0	0.96	25	137
Subjects L	93.1	27.6	1.6	27	160	53.9	15.7	0.88	23	115

Instructions. Standardized instructions described by Mathiowetz and associates¹² were used.

RESULTS

In general, grip strength peaked within the 25 to 39 age group for both men and woman subjects (table 2) and gradually declined thereafter. For tip, key, and palmar pinch (tables 35) the average scores were relatively stable to 55 to

59 years before the gradual decline began. Thus it was not surprising that the inverse relationship between age and hand strength was higher for grip strength than for pinch strength (tables 6,7). In general the highest correlations were achieved between the right and left hand scores for each hand strength test (eg, right grip and left grip).

Data for both sexes (tables 2-5) demonstrated that the right

Table 3: Average Performance of All Subjects on Tip Pinch (pounds)

Age	Hand	Men					Women				
		Mean	SD	SE	Low	High	Mean	SD	SE	Low	High
20-24 R		18.0	3.0	.57	11	23	11.1	2.1	.42	8	16
L		17.0	2.3	.43	12	33	10.5	1.7	.34	8	14
25-29 R		18.3	4.4	.84	10	34	11.9	1.8	.35	8	16
L		17.5	5.2	.99	12	36	11.3	1.8	.35	9	18
30-34 R		17.6	6.7	.71	12	25	12.6	3.0	.58	8	20
L		17.6	4.8	.93	10	27	11.7	2.8	.54	7	17
35-39 R		18.0	3.6	.73	12	27	11.6	2.5	.50	8	19
L		17.7	3.8	.76	10	24	11.9	2.4	.47	8	16
40-44 R		17.8	4.0	.78	11	25	11.5	2.7	.49	5	15
L		17.7	3.5	.68	12	25	11.1	3.0	.54	6	17
45-49 R		18.7	4.9	.92	12	30	13.2	3.0	.60	9	19
L		17.6	4.1	.77	12	28	12.1	2.7	.55	7	18
50-54 R		18.3	4.0	.80	11	24	12.5	2.2	.44	9	18
L		17.8	3.9	.77	12	26	11.4	2.4	.49	7	16
55-59 R		16.6	3.3	.73	11	24	11.7	1.7	.34	9	16
L		15.0	3.7	.81	10	26	10.4	1.4	.29	8	13
60-64 R		15.8	3.9	.80	9	22	10.1	2.1	.43	7	17
L		15.3	3.7	.76	9	23	9.9	2.0	.39	6	15
65-69 R		17.0	4.2	.81	11	27	10.6	2.0	.39	7	15
L		15.4	2.9	.55	10	21	10.5	2.4	.45	7	17
70-74 R		13.8	2.6	.52	11	21	10.1	2.6	.48	7	15
L		13.3	2.6	.51	10	21	9.8	2.3	.43	6	17
75+ R		14.0	3.4	.68	7	21	9.6	2.8	.54	4	16
L		13.9	3.7	.75	8	25	9.3	2.4	.47	4	13
All R		17.0	4.1	.23	7	34	11.3	2.6	.15	4	20
Subjects L		16.4	4.0	.23	8	36	10.8	2.4	.14	4	18