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ANTHROPOMETRY OF THE AIR FORCE FEMALE HAND

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MARCH 1976

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AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

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FOREWORD

This report was prepared by the Anthropology Branch, Human Engineering Division, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio. The research was performed in support of Project 7184, "Human Performance in Advanced Systems," Task 718408, "Anthropology for Design," and Work Unit 003, "Anthropometry."

The author is grateful to Mr. Charles E. Clauser, Lt. Col. Pearl E. Tucker, and Maj. Dora Duncan for their cooperation during the data collection phase of this study; to Mr. Edmund Churchill, Anthropology Research Project, Antioch College, and his staff for their help during the editing and analysis of the data; and to the David Clark Company, Worcester, Massachusetts, for permitting us to modify and construct a measuring board designed by their company.

The author is also indebted to Mr. Clauser and Dr. Melvin J. Warrick for their critical review of the manuscript.

The art work is by Mr. Jerome Ingram of the University of Dayton's Graphic Arts Department. The photographs were taken by Mr. James Weir of the Wright-Patterson Air Force Base Technical Photograph Department; models are Mrs. Lara Green and Mr. Milton Alexander.

This technical report has been reviewed and is approved.

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SECTION I

INTRODUCTION

The Anthropology Branch, Aerospace Medical Research Laboratory, maintains a current and extensive anthropometric data bank on the USAF population and provides body-size data to the Air Force design engineers. This report contains a comprehensive compilation of data on the hands of the female component of the Air Force.

Since the latest published anthropometries of the Air Force population were 15-20 years old (ref. 1, 2), major anthropometric surveys of the male and female USAF population were recently conducted to maintain the currency and validity of the data for today's Air Force. The USAF male population was surveyed in 1967, and the USAF female personnel were surveyed in 1968. Although time and money considerations precluded taking all potentially useful anthropometric dimensions on the entire 1967-1968 sample, the specialized hand survey data covered herein was gathered in conjunction with the 1968 effort.

This report presents basic data, with some statistical analysis of the relationships between certain of these data. Application of the data to specific design problems is left to the design engineer.

SECTION II

THE HAND SURVEY

These data were collected at Lackland Air Force Base, Texas, in the summer of 1968 as an adjunct to the major anthropometric survey incorporating 137 physical dimensions of over 1900 Air Force females in the WAF, Nurse Corps, and Biomedical Science Corps. In addition to these 137 dimensions, a total of 56 measurements was secured on the

right hands of 211 females. The sample of 211 was not rigidly selected; instead, all subjects scheduled for the major survey effort on particular days were channeled to an extra measuring station for the hand measurements. The study sample does, however, compare favorably with the larger, major survey sample (see Table I).

TABLE I

<i>Age</i>	<i>Stature</i>	<i>Weight</i>	<i>Hand Breadth</i>	<i>Circ., Meto. Hand</i>
USAF Females				
1968 Survey N=1905	63.8 in.	127.3 lbs	2.97 in.	7.2 in.
Means and (S.D.s)	(2.4 in.)	(16.6 lbs)	(0.2 in.)	(0.4 in.)
USAF Females				
Study Sample N=211	64.0 in.	128.5 lbs	3.03 in.	7.4 in.
Means and (S.D.s)	(2.6 in.)	(18.0 lbs)	(0.2 in.)	(0.3 in.)

As far as possible the dimensions were selected to conform to certain of the hand dimensions presented in four previous Anthropology Branch publications—"A Sizing System for High Altitude Gloves" (ref. 3), "Nomograph of the Hand and Its Related Dimensions" (ref. 4), "X-Ray Anthropometry of the Hand" (ref. 5), and "Clearance and Performance Values For the Bare-Handed and Pressure-Suited Operator" (ref. 6). These four publications contain measurements obtained both by conventional anthropometric techniques on the fleshy exterior and through radiographs of skeletal segments of the hand. As X-Ray techniques were not used in the collection of the data herein, there can be no common reference to those dimensions in the aforementioned publications that were measured from points precisely located on the bones of the hand. Several of the previously presented dimensions have been carried further; to wit; the finger breadths and finger depths have been used in calculating finger circumferences. Finger circumferences, according to a prominent glove manufacturer, are more useful in the design of gloves than finger breadths and finger depths.

All measurements were secured on the 211

subjects' right hands. An excellent discussion of right hand vs left hand dimensions in "X-Ray Anthropometry of the Hand" (ref. 5, pgs 27-31) contains the following conclusions: The right hand tends to be slightly larger in both length and breadth dimensions than the left, with a majority of the differences statistically significant at the 1% level of confidence; the right hand evidenced slightly greater variability in lengths and less in breadths than did the left hand; and, inter-hand correlations on a dimension-by-dimension basis demonstrate a high degree of predictability from one hand to the other.

The wrist crease is the proximal baseline¹ for the measurement of the hand used throughout this report. This anatomical landmark has been used in previous anthropometry of the hand studies conducted by the author on selected Air Force samples (ref. 6 and unpublished data); by the U.S. Army Natick Laboratories on samples of Naval Recruit, Marine and Army populations (reports in preparation) and on the WAC (ref. 7). Other anatomical baselines used else-

¹Here specifically defined as a line drawn tangent to the most proximal portions of the diploid flexure crease formed at the bases of the thenar and hypothenar eminences.

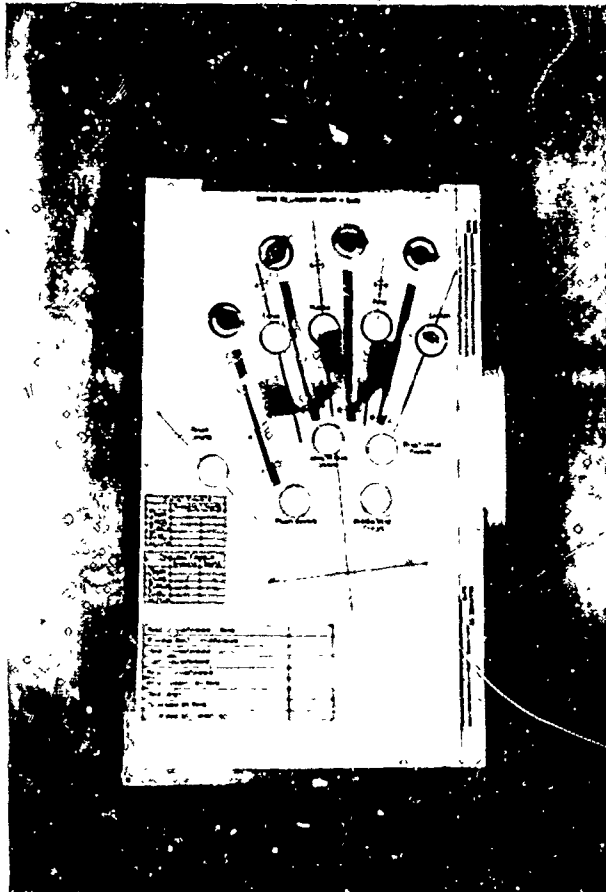
where include the proximal edge of the navicular bone (accurately determinable only through X-Rays (ref. 1-3, 8-16)); stylium (the distal-most point on the styloid process of the radius, (refs. 17-18)); the point where the thumb joins the wrist (ref. 19) ; and from the mid-point on a line connecting both styli (radial and ulnar, (refs. 20-21)). An exact determination of the correlative differences

of these techniques remains to be accomplished. However, an unpublished study by the author on a mixed male-female sample, N of 19, produced Hand Length means of 20.0 cm by measuring to the palpated navicular, 19.7 cm to the palpated radial stylium, and 19.4 cm to the wrist crease; a spread of 0.6 cm in the means between the three.

SECTION III

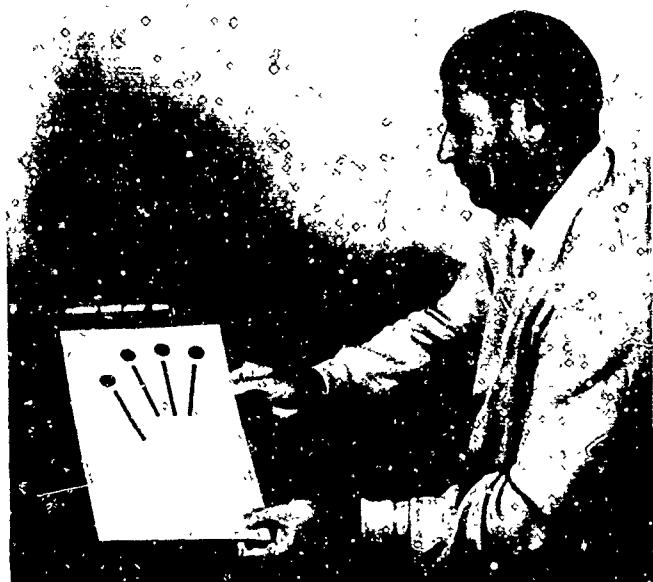
METHODS

To expedite the flow of subjects, most of the dimensions were measured on a hand measuring board. The actual measuring procedure is shown in the illustrations beginning on next page.



THE MEASURING BOARD

- (1) The data sheet was inserted and clamped onto the measuring board.



- (2) After personal information was recorded, the subject's right hand was raised to an oath-swearing position;

- (3) a plastic 6-inch ruler was attached to the wrist with Scotch double stick tape, one edge of the ruler on the most distal wrist crease;





- (4) the subject's hand was placed, palm down on the measuring board with the upper edge of the ruler (wrist crease) as close to the guide line as possible and the five fingers on the guide lines between the slides. The data blank was marked at both sides of the wrist along the upper edge of the ruler;

- (5) the slides were adjusted and tightened when they just touched the inter-digital webs;



- (6) the position of the fingertips were marked on the data sheet by a pin hole or pencil mark;

(7) Wrist Breadth (dimension #37) was measured;



(8) the hand was again raised and all other caliper-measured dimensions (#1-2, 8-11, 13-14, 16-17, 19-20, 22-23, 25-26, 28-29, 32-33, and 35-36) were secured and recorded on the data sheet;

(9) hand and wrist circumferences (#3-7) were measured with a steel measuring tape and recorded on the data sheet;





(10) the data sheet was then removed from the measuring board. Finger circumferences (#12, 15, 18, 21, 24, 27, 31, 34, and 37) were calculated and recorded.

The raw data was edited and summary statistics computed on an IBM 7040 electronic computer according to techniques and procedures developed by Mr. Edmund Churchill, Antioch College, and discussed by him in "Anthropometric Survey of Turkey, Greece and Italy," pp. 23-34 (ref. 12) and "Statistical Considerations," Chap. 3, in "Human Development," pp. 40-75 (ref. 22).

Contained on the following pages are the summary statistics for the 56 measured hand dimensions. The mean, standard error of the mean, standard deviation, standard error of the standard deviation, range, coefficient of variation, skewness, kurtosis, sample size, and selected percentiles are given for each dimension. The coefficient of variation is merely the standard deviation expressed as a percentage of the mean; thus $C.V. = (100.0 \times SD/M) \%$. The values of the listed measures of symmetry and kurtosis provide a basis for judging whether the shape of a distribution of data values resembles that

of the normal distribution. For the normal distribution, the measure of symmetry equals 0 and the measure for kurtosis equals 3. A distribution with values close to these will, in general, have a shape similar to that of the normal distribution. Conversely, values for these measures markedly different from 0 and 3 will usually indicate distributions which differ substantially from the normal one.

The measure of symmetry is computed as the third moment (the average value of the third powers of the deviations from the mean) divided by the third power of the standard deviation. The measure of kurtosis is the fourth moment divided by the fourth power of the standard deviation. In addition are presented comparisons of the sample by age, rank, and Corps; a correlation matrix, bivariate tables, and nomographs.

¹ Personal communication—Mr. E. Churchill, Antioch College.

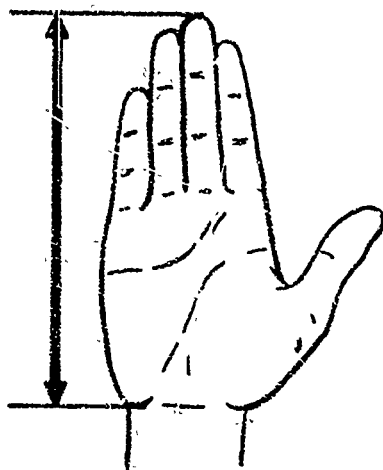
SECTION IV

SUMMARY DATA

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(1)



HAND LENGTH

Subject's right hand is extended, palm up. With the bar of the sliding caliper parallel to the long axis of her hand, measure the distance from the wrist crease baseline to the tip of the longest finger.



MEAN: 7.06 in.; 17.93 cm

STANDARD DEVIATION: 0.34 in.; 0.86 cm

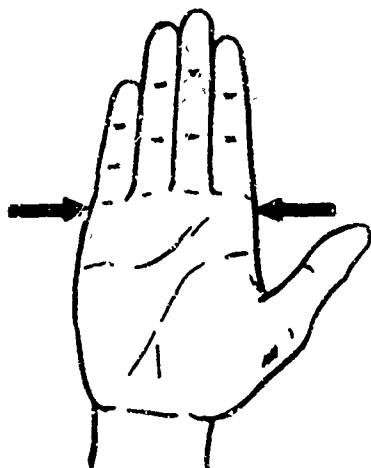
5th PERCENTILE: 6.51 in.; 16.53 cm

95th PERCENTILE: 7.60 in.; 19.29 cm

Range:	6.18-8.07 in.	Percentiles*	
Coefficient of Variation:	4.79% [calculated on unrounded data]	%	%
Kurtosis:	2.69	1—6.37 in.	60—7.16 in.
Skewness:	0.04	2—6.41 in.	70—7.25 in.
Sample Size:	211	3—6.45 in.	75—7.31 in.
		5—6.51 in.	80—7.36 in.
		10—6.61 in.	85—7.42 in.
		15—6.69 in.	90—7.50 in.
		20—6.76 in.	95—7.60 in.
		25—6.82 in.	97—7.65 in.
		30—6.87 in.	98—7.69 in.
		40—6.97 in.	99—7.73 in.
		50—7.06 in.	

*The percentile values for a particular set of data are treated as though plotted on normal-probability graph paper, and a smooth curve fitted to the points by conventional curve-fitting procedures.

(2)



HAND BREADTH;

METACARPALE

Subject's right hand is extended, palm down, thumb held away from the fingers. With the bar of the sliding caliper lying across the back of her hand, measure the breadth of the hand between metacarpal-phalangeal joints II and V.



MEAN: 3.03 in.; 7.71 cm

STANDARD DEVIATION: 0.15 in.; 0.38 cm

5th PERCENTILE: 2.78 in.; 7.06 cm

95th PERCENTILE: 3.28 in.; 8.32 cm

Range: 2.70-3.43 in.

Coefficient of Variation: 4.87%

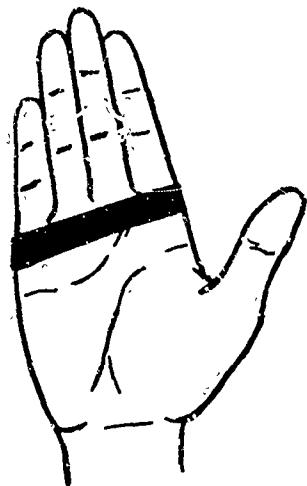
Kurtosis: 2.74

Skewness: 0.05

Sample Size: 211

Percentiles	
%	%
1—2.70 in.	60—3.07 in.
2—2.73 in.	70—3.11 in.
3—2.75 in.	75—3.14 in.
5—2.78 in.	80—3.16 in.
10—2.84 in.	85—3.19 in.
15—2.87 in.	90—3.22 in.
20—2.90 in.	95—3.28 in.
25—2.93 in.	97—3.32 in.
30—2.96 in.	98—3.35 in.
40—3.00 in.	99—3.40 in.
50—3.04 in.	

(8)



HAND CIRCUMFERENCE;

METACARPALE

Subject's right hand is extended, palm down, thumb held away from the fingers. With the tape passing over metacarpal-phalangeal joints II and V, measure the circumference of the hand.



MEAN: 7.37 in.; 18.71 cm

STANDARD DEVIATION: 0.33 in.; 0.83 cm

5th PERCENTILE: 6.87 in.; 17.45 cm

95th PERCENTILE: 7.93 in.; 20.15 cm

Range: 6.57-8.31 in.

Coefficient of Variation: 4.42%

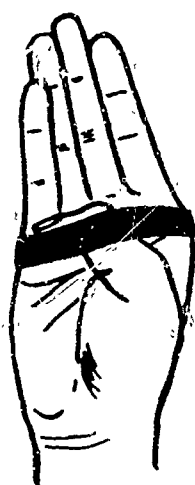
Kurtosis: 2.87

Skewness: 0.28

Sample Size: 211

Percentiles	
%	%
1—6.67 in.	60—7.43 in.
2—6.75 in.	70—7.52 in.
3—6.80 in.	75—7.57 in.
5—6.87 in.	80—7.64 in.
10—6.97 in.	85—7.71 in.
15—7.03 in.	90—7.80 in.
20—7.09 in.	95—7.93 in.
25—7.14 in.	97—8.02 in.
30—7.18 in.	98—8.08 in.
40—7.26 in.	99—8.17 in.
50—7.34 in.	

(4)



HAND CIRCUMFERENCE;

METACARPALE, MINIMUM

Subject extends and narrows her right hand as much as possible. With the tape passing over metacarpal-phalangeal joints II and V, measure the circumference of the hand.



MEAN: 8.45 in.; 21.46 cm

STANDARD DEVIATION: 0.48 in.; 1.23 cm

5th PERCENTILE: 7.65 in.; 19.43 cm

95th PERCENTILE: 9.25 in.; 23.48 cm

Range: 7.07-10.04 in.

Coefficient of Variation: 5.73%

Kurtosis: 3.19

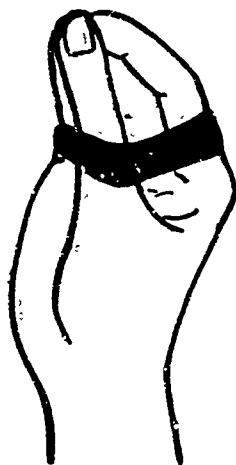
Skewness: 0.11

Sample Size: 211

Percentiles

%	%
1—7.37 in.	60—8.57 in.
2—7.47 in.	70—8.70 in.
3—7.55 in.	75—8.77 in.
5—7.65 in.	80—8.85 in.
10—7.82 in.	85—8.94 in.
15—7.94 in.	90—9.06 in.
20—8.04 in.	95—9.25 in.
25—8.12 in.	97—9.37 in.
30—8.20 in.	98—9.47 in.
40—8.33 in.	99—9.63 in.
50—8.45 in.	

(5)



HAND CIRCUMFERENCE;

FINGERTIPS EVEN

Subject taps her five fingertips even on any flat surface. With the fingertips held even, measure the circumference of the hand around the mid-points of the proximal phalanges of all five digits.



MEAN: 8.90 in.; 22.60 cm

STANDARD DEVIATION: 0.46 in.; 1.17 cm

5th PERCENTILE: 8.16 in.; 20.73 cm

95th PERCENTILE: 9.69 in.; 24.62 cm

Range: 7.64-10.08 in.

Coefficient of Variation: 5.18%

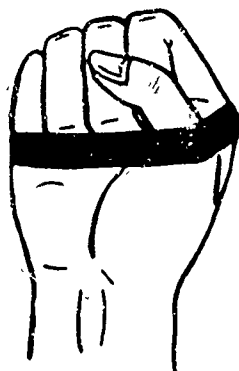
Kurtosis: 2.86

Skewness: 0.12

Sample Size: 211

Percentiles

%	%
1—7.89 in.	60—9.00 in.
2—8.00 in.	70—9.14 in.
3—8.07 in.	75—9.21 in.
5—8.16 in.	80—9.30 in.
10—8.31 in.	85—9.39 in.
15—8.41 in.	90—9.52 in.
20—8.50 in.	95—9.69 in.
25—8.57 in.	97—9.80 in.
30—8.64 in.	98—9.88 in.
40—8.76 in.	99—10.00 in.
50—8.88 in.	



FIST CIRCUMFERENCE

Subject makes a tight fist with her thumb tucked against the middle phalanges of digits II and III. With the tape passing over the metacarpal-phalangeal joints of all five digits, measure the circumference of the fist.



MEAN: 9.78 in.; 24.83 cm

STANDARD DEVIATION: 0.52 in.; 1.31 cm

5th PERCENTILE: 9.00 in.; 22.86 cm

95th PERCENTILE: 10.70 in.; 27.18 cm

Range: 8.58-11.46 in.

Coefficient of Variation: 5.27%

Kurtosis: 3.04

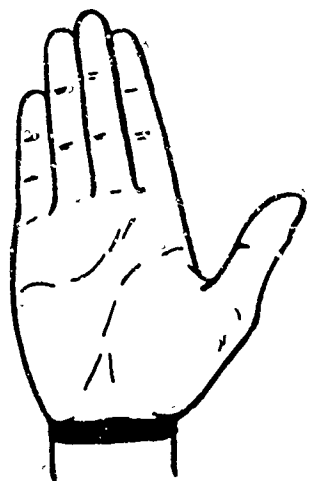
Skewness: 0.35

Sample Size: 211

Percentiles

%	%
1—8.71 in.	60—9.88 in.
2—8.83 in.	70—10.03 in.
3—8.90 in.	75—10.12 in.
5—9.00 in.	80—10.22 in.
10—9.15 in.	85—10.33 in.
15—9.25 in.	90—10.48 in.
20—9.34 in.	95—10.70 in.
25—9.41 in.	97—10.84 in.
30—9.48 in.	98—10.93 in.
40—9.61 in.	99—11.07 in.
50—9.74 in.	

(7)



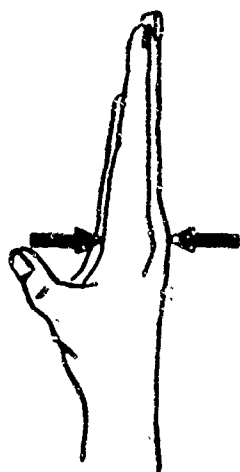
WRIST CIRCUMFERENCE

Subject's right hand is extended. With the tape perpendicular to the long axis of the forearm, measure the circumference of the wrist at the level of the wrist crease.



MEAN: 5.90 in.; 14.98 cm
STANDARD DEVIATION: 0.28 in.; 0.71 cm
5th PERCENTILE: 5.45 in.; 13.85 cm
95th PERCENTILE: 6.38 in.; 16.21 cm

Range:		Percentiles	
5.23-6.73 in.		%	%
Coefficient of Variation: 4.75%		1—5.27 in.	60—5.96 in.
Kurtosis: 2.78		2—5.35 in.	70—6.04 in.
Skewness: 0.18 in.		3—5.39 in.	75—6.09 in.
Sample Size: 211		5—5.45 in.	80—6.14 in.
		10—5.54 in.	85—6.20 in.
		15—5.61 in.	90—6.28 in.
		20—5.66 in.	95—6.38 in.
		25—5.70 in.	97—6.45 in.
		30—5.74 in.	98—6.50 in.
		40—5.81 in.	99—6.56 in.
		50—5.89 in.	



HAND THICKNESS;

METACARPALE III

Subject's right hand is extended. With the sliding caliper, measure the maximum thickness of the metacarpal-phalangeal joint of digit III.



MEAN: 1.09 in.; 2.76 cm

STANDARD DEVIATION: 0.07 in.; 0.18 cm

5th PERCENTILE: 0.97 in.; 2.46 cm

95th PERCENTILE: 1.20 in.; 3.05 cm

Range: 0.94-1.30 in.

Coefficient of Variation: 6.41%

Kurtosis: 2.81

Skewness: 0.07

Sample Size: 211

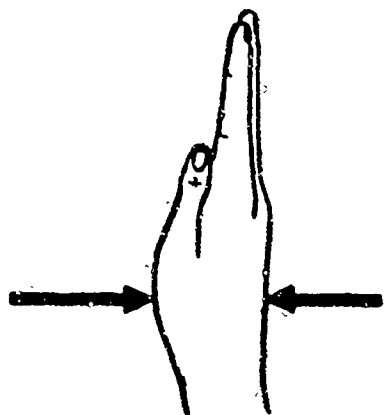
Percentiles

%	%
1—0.94 in.	60—1.11 in.
2—0.94 in.	70—1.13 in.
3—0.95 in.	75—1.14 in.
5—0.97 in.	80—1.15 in.
10—0.99 in.	85—1.16 in.
15—1.01 in.	90—1.18 in.
20—1.03 in.	95—1.20 in.
25—1.04 in.	97—1.22 in.
30—1.05 in.	98—1.23 in.
40—1.07 in.	99—1.26 in.
50—1.09 in.	

(9)

HAND DEPTH;

THENAR PAD



Subject's right hand is extended with the thumb lying adjacent to the volar surface of digit II. With the sliding caliper, measure the maximum depth from the volar side of the thenar pad to the dorsal surface of the hand.



MEAN: 2.03 in.; 5.17 cm

STANDARD DEVIATION: 0.15 in.; 0.39 cm

5th PERCENTILE: 1.78 in.; 4.53 cm

95th PERCENTILE: 2.29 in.; 5.82 cm

Range: 1.65-2.40 in.

Coefficient of Variation: 7.55%

Kurtosis: 2.40

Skewness: 0.01

Sample Size: 211

Percentiles

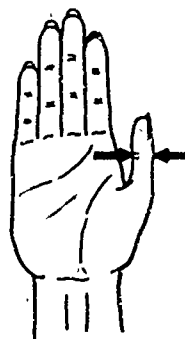
%	%
1—1.70 in.	60—2.08 in.
2—1.73 in.	70—2.12 in.
3—1.75 in.	75—2.15 in.
5—1.78 in.	80—2.17 in.
10—1.83 in.	85—2.20 in.
15—1.87 in.	90—2.24 in.
20—1.90 in.	95—2.29 in.
25—1.92 in.	97—2.32 in.
30—1.95 in.	98—2.34 in.
40—1.99 in.	99—2.36 in.
50—2.03 in.	

INTERPHALANGEAL
JOINT

— DIGIT 1



BREADTH



DEPTH



CIRCUMFERENCE

Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the interphalangeal joint of digit 1. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.75 in.; 1.90 cm	0.66 in.; 1.66 cm	2.21 in.; 5.61 cm
STANDARD DEVIATION:	0.05 in.; 0.12 cm	0.04 in.; 0.12 cm	0.13 in.; 0.33 cm
5th PERCENTILE:	0.68 in.; 1.71 cm	0.59 in.; 1.49 cm	2.00 in.; 5.07 cm
95th PERCENTILE:	0.83 in.; 2.11 cm	0.74 in.; 1.87 cm	2.43 in.; 6.18 cm

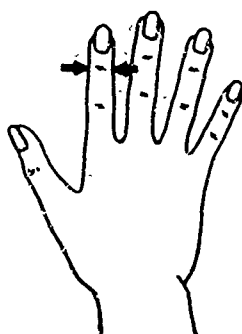
	<i>Ed</i>	<i>Dp</i>	<i>Circ</i>	<i>%</i>	<i>Bd</i>	<i>Percentiles</i> <i>Dp</i>	<i>Circ</i>
Coefficient of Variation:	6.13%	6.90%	5.95%	1—	0.65 in.	0.56 in.	1.95 in.
Kurtosis:	3.95	5.77	4.24	3—	0.67 in.	0.58 in.	1.97 in.
Skewness:	0.49	-0.03	0.57	5—	0.68 in.	0.59 in.	2.00 in.
				10—	0.69 in.	0.60 in.	2.04 in.
				25—	0.72 in.	0.63 in.	2.12 in.
				50—	0.75 in.	0.65 in.	2.21 in.
				75—	0.78 in.	0.68 in.	2.29 in.
				90—	0.81 in.	0.71 in.	2.37 in.
				95—	0.83 in.	0.74 in.	2.43 in.
				97—	0.85 in.	0.75 in.	2.49 in.
				99—	0.89 in.	0.79 in.	2.63 in.

Sample Size: 211

*The formula used presents an approximation of the joint circumference. The figure given will vary from the true circumference as the shape of the joint varies from that of an ellipse -- a = measured joint breadth; b = measured joint depth.

DISTAL INTERPHALANGEAL JOINT

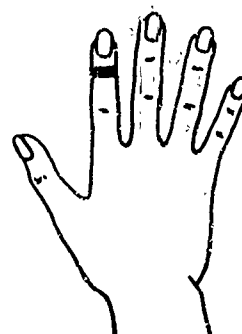
— DIGIT 2



BREADTH



DEPTH



CIRCUMFERENCE

Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the distal interphalangeal joint of digit 2. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.61 in.; 1.54 cm	0.31 in.; 1.23 cm	1.76 in.; 4.46 cm
STANDARD			
DEVIATION:	0.04 in.; 0.10 cm	0.04 in.; 0.09 cm	0.10 in.; 0.26 cm
5th PERCENTILE:	0.54 in.; 1.38 cm	0.45 in.; 1.15 cm	1.60 in.; 4.08 cm
95th PERCENTILE:	0.68 in.; 1.71 cm	0.57 in.; 1.45 cm	1.94 in.; 4.94 cm

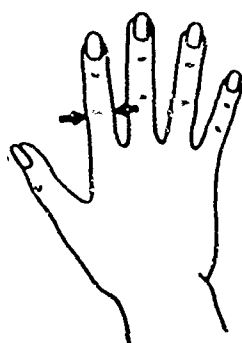
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	<i>Percentiles</i>		
	<i>%</i>	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>		
Coefficient of Variation:	6.33%	6.95%	5.85%	1—0.53 in.	0.43 in.	1.60 in.
Kurtosis:	2.61	2.84	2.49	3—0.54 in.	0.44 in.	1.60 in.
Skewness:	0.33	0.42	0.36	5—0.54 in.	0.45 in.	1.60 in.
				10—0.55 in.	0.46 in.	1.62 in.
				25—0.58 in.	0.48 in.	1.68 in.
				50—0.61 in.	0.50 in.	1.74 in.
				75—0.63 in.	0.53 in.	1.82 in.
				90—0.66 in.	0.56 in.	1.90 in.
				95—0.68 in.	0.57 in.	1.94 in.
				97—0.69 in.	0.58 in.	1.97 in.
				99—0.71 in.	0.60 in.	2.01 in.

Sample Size: 211

(16-18)

PROXIMAL
INTERPHALANGEAL
JOINT

— **DIGIT 2**



BREADTH



DEPTH



CIRCUMFERENCE

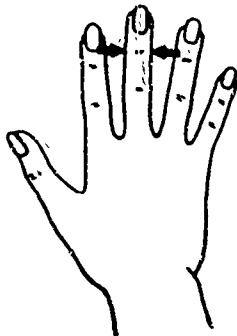
Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the proximal interphalangeal joint of digit 2. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.72 in.; 1.82 cm	0.64 in.; 1.62 cm	2.12 in.; 5.40 cm
STANDARD			
DEVIATION:	0.04 in.; 0.10 cm	0.04 in.; 0.10 cm	0.11 in.; 0.29 cm
5th PERCENTILE:	0.65 in.; 1.65 cm	0.57 in.; 1.45 cm	1.95 in.; 4.96 cm
95th PERCENTILE:	0.79 in.; 2.00 cm	0.71 in.; 1.79 cm	2.31 in.; 5.88 cm

	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	<i>Percentiles</i>			
				%	<i>Dp</i>	<i>Bd</i>	<i>Circ</i>
Coefficient of Variation:	5.66%	6.22%	5.30%	1—0.63 in.	0.54 in.	1.91 in.	
Kurtosis:	3.61	2.72	3.64	3—0.64 in.	0.56 in.	1.93 in.	
Skewness:	0.47	0.04	0.41	5—0.65 in.	0.57 in.	1.95 in.	
				10—0.66 in.	0.58 in.	1.99 in.	
				25—0.69 in.	0.61 in.	2.05 in.	
				50—0.71 in.	0.64 in.	2.12 in.	
				75—0.74 in.	0.67 in.	2.20 in.	
				90—0.77 in.	0.69 in.	2.27 in.	
				95—0.79 in.	0.71 in.	2.31 in.	
				97—0.80 in.	0.72 in.	2.35 in.	
				99—0.83 in.	0.73 in.	2.42 in.	
Sample Size:	211						

DISTAL INTERPHALANGEAL JOINT

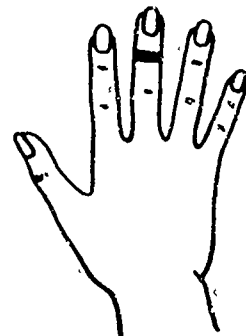
— DIGIT 3



BREADTH



DEPTH



CIRCUMFERENCE

Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the distal interphalangeal joint of digit 3. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

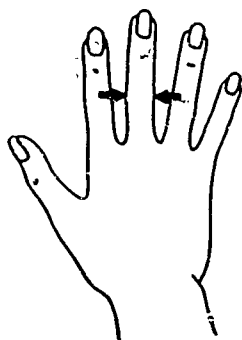
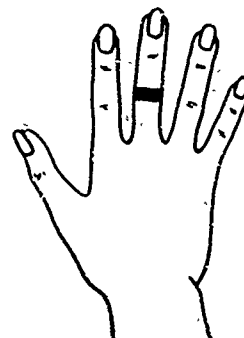
	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.60 in.; 1.53 cm	0.52 in.; 1.31 cm	1.76 in.; 4.48 cm
STANDARD DEVIATION:	0.04 in.; 0.09 cm	0.04 in.; 0.09 cm	0.10 in.; 0.26 cm
5th PERCENTILE:	0.54 in.; 1.38 cm	0.46 in.; 1.16 cm	1.61 in.; 4.10 cm
95th PERCENTILE:	0.67 in.; 1.70 cm	0.58 in.; 1.48 cm	1.94 in.; 4.93 cm

	Percentiles						
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	%	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>
Coefficient of Variation:	6.01%	7.11%	5.75%	1—0.53 in.	0.43 in.	1.56 in.	
Kurtosis:	2.90	2.78	2.79	3—0.54 in.	0.45 in.	1.60 in.	
Skewness:	0.28	0.22	0.25	5—0.54 in.	0.46 in.	1.61 in.	
				10—0.56 in.	0.47 in.	1.64 in.	
				25—0.58 in.	0.49 in.	1.69 in.	
				50—0.60 in.	0.51 in.	1.76 in.	
				75—0.62 in.	0.54 in.	1.83 in.	
				90—0.65 in.	0.57 in.	1.90 in.	
				95—0.67 in.	0.58 in.	1.94 in.	
				97—0.68 in.	0.59 in.	1.96 in.	
				99—0.69 in.	0.61 in.	1.99 in.	
Sample Size: 211							

Sample Size: 211

**PROXIMAL
INTERPHALANGEAL
JOINT**

— **DIGIT 3**

**BREADTH****DEPTH****CIRCUMFERENCE**

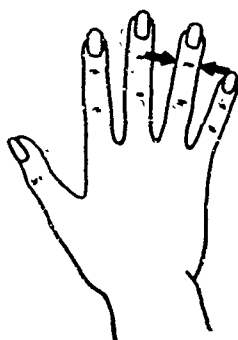
Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the proximal interphalangeal joint of digit 3. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.72 in.; 1.83 cm	0.66 in.; 1.67 cm	2.17 in.; 5.50 cm
STANDARD			
DEVIATION:	0.04 in.; 0.10 cm	0.04 in.; 0.11 cm	0.11 in.; 0.28 cm
5th PERCENTILE:	0.66 in.; 1.68 cm	0.59 in.; 1.49 cm	1.99 in.; 5.05 cm
95th PERCENTILE:	0.79 in.; 2.01 cm	0.73 in.; 1.86 cm	2.36 in.; 6.00 cm

				Percentiles			
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	%	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>
Coefficient of Variation:	5.18%	6.50%	5.15%	1—0.65 in.	0.57 in.	1.95 in.	
				3—0.66 in.	0.58 in.	1.97 in.	
				5—0.66 in.	0.59 in.	1.99 in.	
Kurtosis:	3.38	3.09	3.31	10—0.67 in.	0.60 in.	2.02 in.	
Skewness:	0.40	0.26	0.44	25—0.69 in.	0.63 in.	2.09 in.	
				50—0.72 in.	0.66 in.	2.16 in.	
				75—0.75 in.	0.69 in.	2.23 in.	
Sample Size: 211				90—0.77 in.	0.71 in.	2.31 in.	
				95—0.79 in.	0.73 in.	2.36 in.	
				97—0.80 in.	0.74 in.	2.40 in.	
				99—0.84 in.	0.77 in.	2.50 in.	

DISTAL INTERPHALANGEAL JOINT

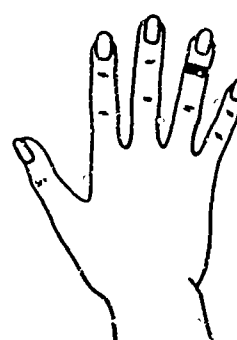
— DIGIT 4



BREADTH



DEPTH



CIRCUMFERENCE

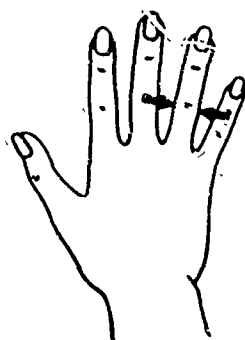
Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the distal interphalangeal joint of digit 4. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.57 in.; 1.43 cm	0.49 in.; 1.25 cm	1.66 in.; 4.22 cm
STANDARD			
DEVIATION:	0.03 in.; 0.09 cm	0.03 in.; 0.09 cm	0.10 in.; 0.24 cm
5th PERCENTILE:	0.51 in.; 1.30 cm	0.43 in.; 1.10 cm	1.52 in.; 3.86 cm
95th PERCENTILE:	0.63 in.; 1.60 cm	0.55 in.; 1.40 cm	1.83 in.; 4.64 cm

				Percentiles			
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	%	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>
				1—0.49 in.	0.40 in.	1.43 in.	
Coefficient of Variation:	5.91%	6.95%	5.70%	3—0.51 in.	0.42 in.	1.49 in.	
Kurtosis:	3.34	3.55	3.55	5—0.51 in.	0.43 in.	1.52 in.	
Skewness:	0.50	0.13	0.38	10—0.52 in.	0.45 in.	1.55 in.	
				25—0.54 in.	0.47 in.	1.60 in.	
				50—0.56 in.	0.49 in.	1.65 in.	
				75—0.59 in.	0.51 in.	1.71 in.	
Sample Size: 211				90—0.61 in.	0.54 in.	1.78 in.	
				95—0.63 in.	0.55 in.	1.83 in.	
				97—0.64 in.	0.56 in.	1.86 in.	
				99—0.65 in.	0.58 in.	1.92 in.	

PROXIMAL INTERPHALANGEAL JOINT

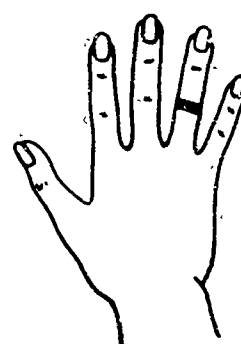
DIGIT 4



BREADTH



DEPTH



CIRCUMFERENCE

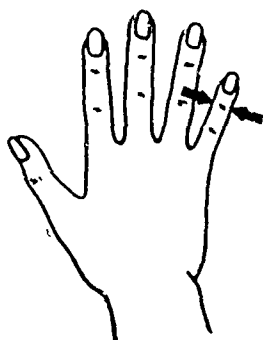
Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the proximal interphalangeal joint of digit 4. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.67 in.; 1.69 cm	0.62 in.; 1.57 cm	2.01 in.; 5.12 cm
STANDARD			
DEVIATION:	0.04 in.; 0.10 cm	0.04 in.; 0.11 cm	0.10 in.; 0.27 cm
5th PERCENTILE:	0.60 in.; 1.51 cm	0.55 in.; 1.39 cm	1.85 in.; 4.69 cm
95th PERCENTILE:	0.73 in.; 1.85 cm	0.69 in.; 1.76 cm	2.20 in.; 5.59 cm

	<i>Percentiles</i>		
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>
Coefficient of Variation:	5.80 %	6.84%	5.19%
Kurtosis:	2.77	2.79	3.25
Skewness:	0.01	0.24	0.23
Sample Size: 211			
	%	<i>Bd</i>	<i>Dp</i>
	1—	0.58 in.	0.53 in.
	3—	0.59 in.	0.54 in.
	5—	0.60 in.	0.55 in.
	10—	0.61 in.	0.56 in.
	25—	0.64 in.	0.59 in.
	50—	0.67 in.	0.62 in.
	75—	0.69 in.	0.65 in.
	90—	0.71 in.	0.67 in.
	95—	0.73 in.	0.69 in.
	97—	0.74 in.	0.70 in.
	99—	0.76 in.	0.73 in.

DISTAL INTERPHALANGEAL JOINT

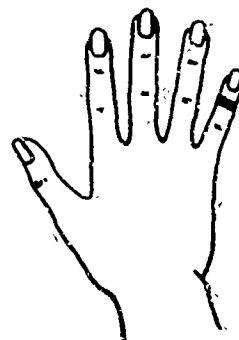
— DIGIT 5



BREADTH



DEPTH



CIRCUMFERENCE

Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the distal interphalangeal joint of digit 5. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

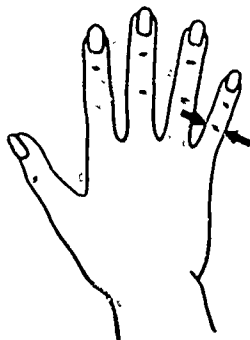
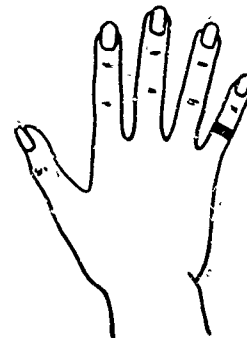
	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.52 in.; 1.31 cm	0.45 in.; 1.13 cm	1.52 in.; 3.86 cm
STANDARD			
DEVIATION:	0.03 in.; 0.09 cm	0.03 in.; 0.09 cm	0.09 in.; 0.24 cm
5th PERCENTILE:	0.46 in.; 1.17 cm	0.39 in.; 0.99 cm	1.38 in.; 3.51 cm
95th PERCENTILE:	0.58 in.; 1.47 cm	0.51 in.; 1.29 cm	1.67 in.; 4.24 cm

				Percentiles			
	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>	%	<i>Bd</i>	<i>Dp</i>	<i>Circ</i>
Coefficient of Variation:	6.58%	7.51%	6.16%	1—	0.45 in.	0.37 in.	1.36 in.
				3—	0.46 in.	0.38 in.	1.37 in.
				5—	0.46 in.	0.39 in.	1.38 in.
Kurtosis:	2.88	3.40	3.24	10—	0.47 in.	0.40 in.	1.40 in.
Skewness:	0.25	0.32	0.22	25—	0.49 in.	0.42 in.	1.43 in.
				50—	0.52 in.	0.45 in.	1.51 in.
				75—	0.54 in.	0.47 in.	1.59 in.
Sample Size: 211				90—	0.56 in.	0.49 in.	1.63 in.
				95—	0.58 in.	0.51 in.	1.67 in.
				97—	0.59 in.	0.52 in.	1.71 in.
				99—	0.61 in.	0.54 in.	1.75 in.

Sample Size: 211

**PROXIMAL
INTERPHALANGEAL
JOINT**

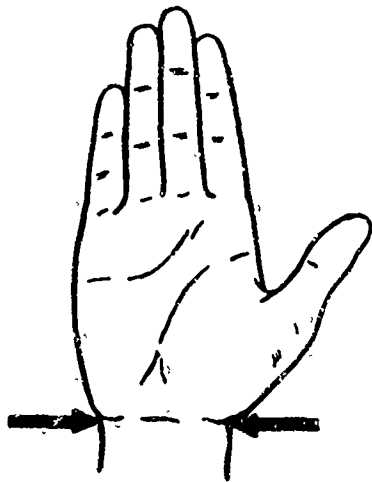
— DIGIT 5

**BREADTH****DEPTH****CIRCUMFERENCE**

Subject's right hand is extended. With the sliding caliper, measure the maximum breadth and maximum depth of the proximal interphalangeal joint of digit 5. Using the formula $C = 2\pi \sqrt{\frac{a^2 + b^2}{2}}$, calculate the circumference of the joint.

	<i>Breadth</i>	<i>Depth</i>	<i>Circumference</i>
MEAN:	0.57 in.; 1.46 cm	0.55 in.; 1.39 cm	1.77 in.; 4.48 cm
STANDARD			
DEVIATION:	0.04 in.; 0.09 cm	0.04 in.; 0.09 cm	0.10 in.; 0.25 cm
5th PERCENTILE:	0.52 in.; 1.32 cm	0.50 in.; 1.27 cm	1.63 in.; 4.13 cm
95th PERCENTILE:	0.65 in.; 1.64 cm	0.61 in.; 1.56 cm	1.95 in.; 4.94 cm

	<i>Percentiles</i>		
	<i>%</i>	<i>Bd</i>	<i>Circ</i>
Coefficient of Variation:	1—	0.49 in.	1.55 in.
	3—	0.51 in.	1.60 in.
	5—	0.52 in.	1.63 in.
	10—	0.53 in.	1.66 in.
	25—	0.55 in.	1.70 in.
	50—	0.57 in.	1.75 in.
	75—	0.60 in.	1.82 in.
	90—	0.62 in.	1.89 in.
	95—	0.65 in.	1.95 in.
	97—	0.66 in.	1.99 in.
Kurtosis:			
		3.16	3.82
Skewness:			
		0.68	0.60
Sample Size: 211			



WRIST BREADTH

Subject's right hand and wrist lie on the measuring board. With the sliding caliper, measure the breadth of the wrist at the level of the wrist crease baseline.



MEAN: 2.29 in.; 5.83 cm

STANDARD DEVIATION: 0.13 in.; 0.33 cm

5th PERCENTILE: 2.11 in.; 5.36 cm

95th PERCENTILE: 2.54 in.; 6.44 cm

Range: 2.01-2.68 in.

Coefficient of Variation: 5.61%

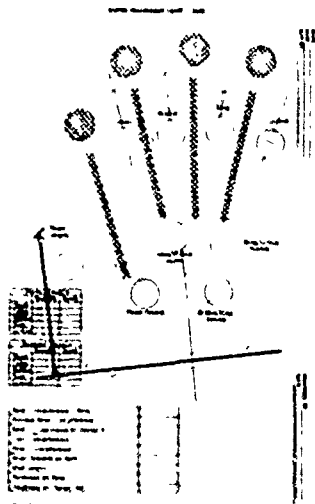
Kurtosis: 3.04

Skewness: 0.54

Sample Size: 211

Percentiles

%	%
1—2.04 in.	60—2.31 in.
2—2.07 in.	70—2.35 in.
3—2.09 in.	75—2.37 in.
5—2.11 in.	80—2.40 in.
10—2.14 in.	85—2.43 in.
15—2.17 in.	90—2.47 in.
20—2.18 in.	95—2.54 in.
25—2.20 in.	97—2.58 in.
30—2.22 in.	98—2.61 in.
40—2.25 in.	99—2.65 in.
50—2.28 in.	



DIGIT 1 HEIGHT;

PERPENDICULAR TO WRIST CREASE

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the midpoint of the tip of digit 1.



MEAN: 3.40 in.; 8.64 cm

STANDARD DEVIATION: 0.33 in.; 0.84 cm

5th PERCENTILE: 2.84 in.; 7.21 cm

95th PERCENTILE: 3.94 in.; 10.00 cm

Range: 2.51-4.29 in.

Coefficient of Variation: 9.69 %

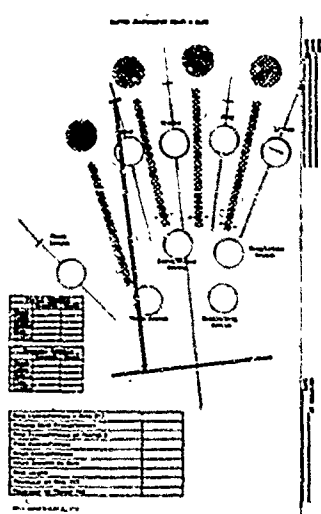
Kurtosis: 2.98

Skewness: -0.07

Sample Size: 211

Percentiles

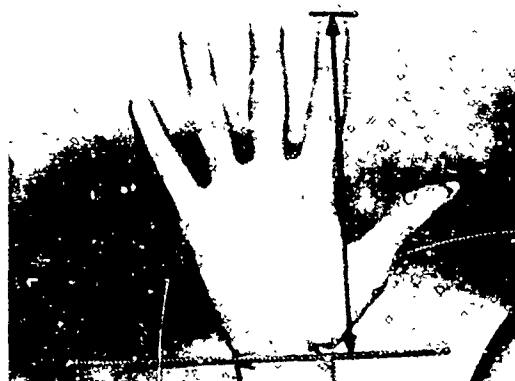
%	%
1—2.60 in.	60—3.49 in.
2—2.69 in.	70—3.58 in.
3—2.75 in.	75—3.62 in.
5—2.84 in.	80—3.67 in.
10—2.97 in.	85—3.73 in.
15—3.06 in.	90—3.81 in.
20—3.13 in.	95—3.94 in.
25—3.19 in.	97—4.03 in.
30—3.24 in.	98—4.10 in.
40—3.33 in.	99—4.23 in.
50—3.41 in.	



DIGIT 2 HEIGHT;

PERPENDICULAR TO WRIST CREASE

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the midpoint of the tip of digit 2.



MEAN: 6.47 in.; 16.43 cm

STANDARD DEVIATION: 0.36 in.; 0.92 cm

5th PERCENTILE: 5.87 in.; 14.91 cm

95th PERCENTILE: 7.05 in.; 17.90 cm

Range: 5.47-7.56 in.

Coefficient of Variation: 5.58%

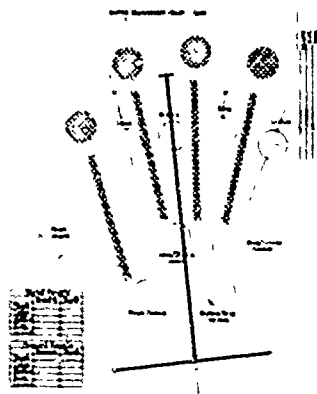
Kurtosis: 2.72

Skewness: -0.01

Sample Size: 211

Percentiles

%	%
1—5.70 in.	60—6.57 in.
2—5.76 in.	70—6.67 in.
3—5.80 in.	75—6.73 in.
5—5.87 in.	80—6.79 in.
10—5.99 in.	85—6.85 in.
15—6.08 in.	90—6.93 in.
20—6.15 in.	95—7.05 in.
25—6.21 in.	97—7.12 in.
30—6.27 in.	98—7.16 in.
40—6.38 in.	99—7.24 in.
50—6.47 in.	



DIGIT 3 HEIGHT;

PERPENDICULAR TO WRIST CREASE

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the midpoint of the tip of digit 3.



MEAN: 6.94 in.; 17.63 cm

STANDARD DEVIATION: 0.35 in.; 0.38 cm

5th PERCENTILE: 6.38 in.; 16.20 cm

95th PERCENTILE: 7.50 in.; 19.05 cm

Range: 6.02-7.95 in.

Coefficient of Variation: 4.97%

Kurtosis: 2.72

Skewness: -0.01

Sample Size: 211

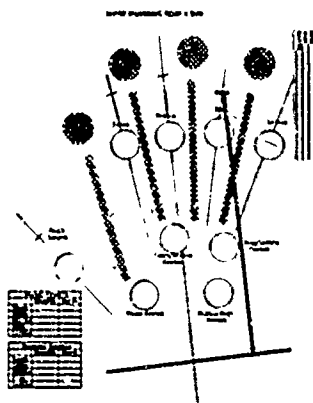
Percentiles

%	%
1—6.17 in.	60—7.04 in.
2—6.25 in.	70—7.14 in.
3—6.30 in.	75—7.19 in.
5—6.38 in.	80—7.25 in.
10—6.49 in.	85—7.32 in.
15—6.58 in.	90—7.40 in.
20—6.64 in.	95—7.50 in.
25—6.70 in.	97—7.56 in.
30—6.75 in.	98—7.59 in.
40—6.85 in.	99—7.63 in.
50—6.94 in.	

(41)

DIGIT 4 HEIGHT;

PERPENDICULAR TO WRIST CREASE



Measured on the data blank, the perpendicular distance from the wrist crease baseline to the midpoint of the tip of digit 4.



MEAN: 6.44 in.; 16.36 cm

STANDARD DEVIATION: 0.35 in.; 0.89 cm

5th PERCENTILE: 5.88 in.; 14.95 cm

95th PERCENTILE: 7.02 in.; 17.84 cm

Range: 5.43-7.52 in.

Coefficient of Variation: 5.42%

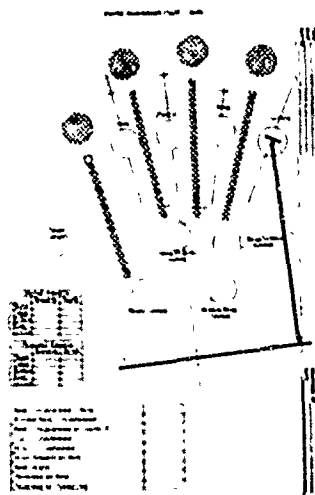
Kurtosis: 3.14

Skewness: 0.10

Sample Size: 211

Percentiles

%	%
1—5.67 in.	60—6.53 in.
2—5.76 in.	70—6.62 in.
3—5.81 in.	75—6.68 in.
5—5.88 in.	80—6.74 in.
10—6.00 in.	85—6.81 in.
15—6.08 in.	90—6.90 in.
20—6.14 in.	95—7.02 in.
25—6.20 in.	97—7.10 in.
30—6.25 in.	98—7.16 in.
40—6.35 in.	99—7.24 in.
50—6.44 in.	



DIGIT 5 HEIGHT;

PERPENDICULAR TO WRIST CREASE

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the midpoint of the tip of digit 5.



MEAN: 5.12 in.; 13.00 cm

STANDARD DEVIATION: 0.35 in.; 0.89 cm

5th PERCENTILE: 4.53 in.; 11.52 cm

95th PERCENTILE: 5.68 in.; 14.44 cm

Range: 4.06-6.22 in.

Coefficient of Variation: 6.87%

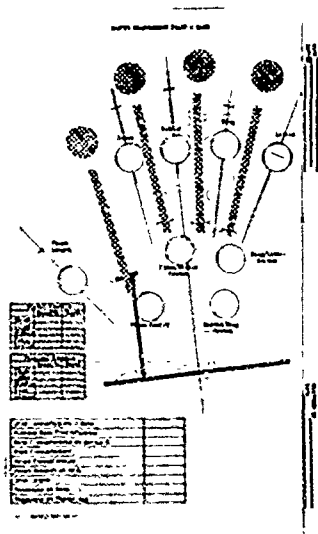
Kurtosis: 3.45

Skewness: 0.02

Sample Size: 211

Percentiles

%	%
1—4.35 in.	60—5.20 in.
2—4.41 in.	70—5.29 in.
3—4.46 in.	75—5.34 in.
5—4.53 in.	80—5.39 in.
10—4.66 in.	85—5.45 in.
15—4.76 in.	90—5.54 in.
20—4.83 in.	95—5.68 in.
25—4.89 in.	97—5.80 in.
30—4.94 in.	98—5.89 in.
40—5.04 in.	99—6.07 in.
50—5.12 in.	



CROTCH 1 HEIGHT

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the level of hand crotch 1.



MEAN: 2.25 in.; 5.72 cm

STANDARD DEVIATION: 0.22 in.; 0.56 cm

5th PERCENTILE: 1.91 in.; 4.85 cm

95th PERCENTILE: 2.63 in.; 6.69 cm

Range: 1.65-2.80 in.

Coefficient of Variation: 9.73%

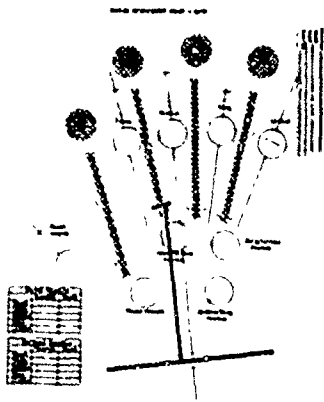
Kurtosis: 2.76

Skewness: 0.09

Sample Size: 211

Percentiles

%	%
1—1.72 in.	60—2.30 in.
2—1.81 in.	70—2.36 in.
3—1.85 in.	75—2.40 in.
5—1.91 in.	80—2.44 in.
10—1.99 in.	85—2.49 in.
15—2.03 in.	90—2.55 in.
20—2.07 in.	95—2.63 in.
25—2.10 in.	97—2.68 in.
30—2.13 in.	98—2.71 in.
40—2.18 in.	99—2.73 in.
50—2.24 in.	



CROTCH 2 HEIGHT

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the level of hand crotch 2.



MEAN: 3.88 in.; 9.86 cm
STANDARD DEVIATION: 0.24 in.; 0.60 cm
5th PERCENTILE: 3.49 in.; 8.87 cm
95th PERCENTILE: 4.27 in.; 10.85 cm

Range: 3.31-4.65 in.

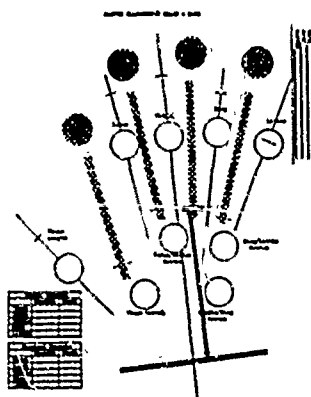
Coefficient of Variation: 6.03%

Kurtosis: 3.18

Skewness: 0.16

Sample Size: 211

Percentiles	
%	%
1—3.37 in.	60—3.94 in.
2—3.41 in.	70—4.00 in.
3—3.44 in.	75—4.03 in.
5—3.49 in.	80—4.07 in.
10—3.58 in.	85—4.12 in.
15—3.64 in.	90—4.17 in.
20—3.68 in.	95—4.27 in.
25—3.72 in.	97—4.34 in.
30—3.76 in.	98—4.40 in.
40—3.82 in.	99—4.51 in.
50—3.88 in.	



CROTCH 3 HEIGHT

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the level of hand crotch 3.



MEAN: 3.86 in.; 9.81 cm

STANDARD DEVIATION: 0.23 in.; 0.59 cm

5th PERCENTILE: 3.49 in.; 8.86 cm

95th PERCENTILE: 4.24 in.; 10.78 cm

Range: 3.25-4.72 in.

Coefficient of Variation: 6.04%

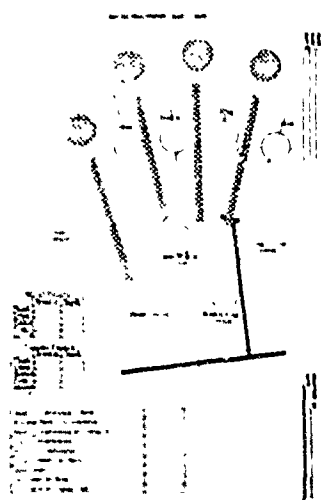
Kurtosis: 3.72

Skewness: 0.35

Sample Size: 211

Percentiles

%		%	
1	3.38 in.	60	3.92 in.
2	3.42 in.	70	3.98 in.
3	3.44 in.	75	4.01 in.
5	3.49 in.	80	4.05 in.
10	3.56 in.	85	4.09 in.
15	3.62 in.	90	4.15 in.
20	3.66 in.	95	4.24 in.
25	3.70 in.	97	4.31 in.
30	3.74 in.	98	4.36 in.
40	3.80 in.	99	4.45 in.
50	3.86 in.		



CROTCH 4 HEIGHT

Measured on the data blank, the perpendicular distance from the wrist crease baseline to the level of hand crotch 4.



MEAN: 3.43 in.; 8.72 cm

STANDARD DEVIATION: 0.24 in.; 0.60 cm

5th PERCENTILE: 3.02 in.; 7.67 cm

95th PERCENTILE: 3.81 in.; 9.67 cm

Range: 2.76-4.06 in.

Coefficient of Variation: 6.91%

Kurtosis: 2.97

Skewness: -0.09

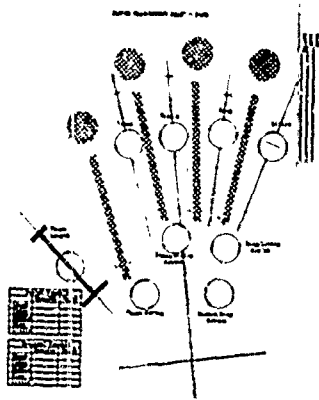
Sample Size: 211

Percentiles

%	%
1—2.89 in.	60—3.50 in.
2—2.93 in.	70—3.56 in.
3—2.97 in.	75—3.59 in.
5—3.02 in.	80—3.63 in.
10—3.11 in.	85—3.67 in.
15—3.18 in.	90—3.72 in.
20—3.23 in.	95—3.81 in.
25—3.27 in.	97—3.87 in.
30—3.31 in.	98—3.92 in.
40—3.38 in.	99—4.02 in.
50—3.44 in.	

DIGIT 1 LENGTH;

FINGERTIP TO CROTCH LEVEL



Measured on the data blank, the distance along the axis of digit 1 from the midpoint of the tip of digit 1 to the level of hand crotch 1.



MEAN: 2.12 in.; 5.37 cm

STANDARD DEVIATION: 0.17 in.; 0.44 cm

5th PERCENTILE: 1.84 in.; 4.68 cm

95th PERCENTILE: 2.41 in.; 6.12 cm

Range: 1.77-2.76 in.

Coefficient of Variation: 8.23%

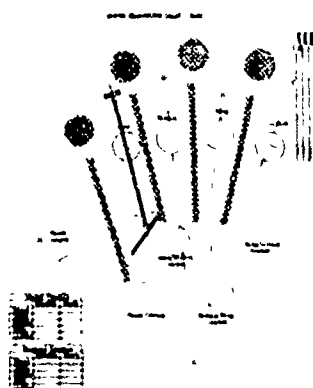
Kurtosis: 3.03

Skewness: 0.36

Sample Size: 211

Percentiles

%	%
1—1.77 in.	60—2.15 in.
2—1.80 in.	70—2.21 in.
3—1.82 in.	75—2.24 in.
5—1.84 in.	80—2.27 in.
10—1.89 in.	85—2.30 in.
15—1.93 in.	90—2.35 in.
20—1.96 in.	95—2.41 in.
25—1.99 in.	97—2.45 in.
30—2.01 in.	98—2.47 in.
40—2.06 in.	99—2.50 in.
50—2.11 in.	



DIGIT 2 LENGTH;

FINGERTIP TO CROTCH LEVEL

Measured on the data blank, the distance along the axis of digit 2 from the midpoint of the tip of digit 2 to the level of hand crotch 2.



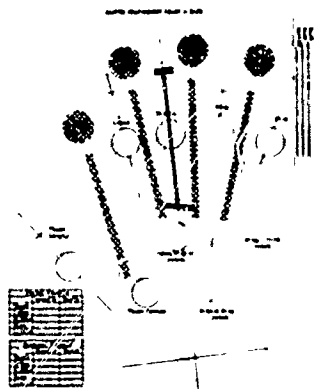
MEAN: 2.72 in.; 6.90 cm

STANDARD DEVIATION: 0.20 in.; 0.52 cm

5th PERCENTILE: 2.40 in.; 6.10 cm

95th PERCENTILE: 3.07 in.; 7.80 cm

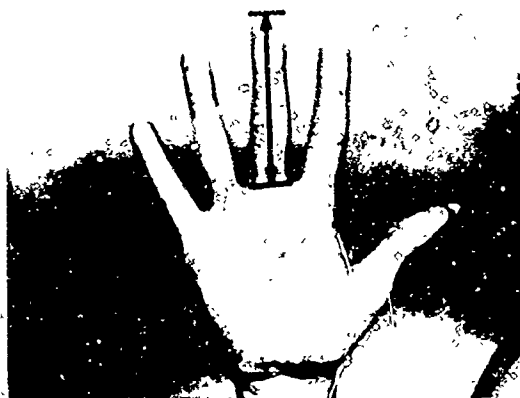
		Percentiles	
Range:	2.05-3.23 in.	%	%
Coefficient of Variation:	7.52%	1—2.13 in.	60—2.75 in.
Kurtosis:	3.64	2—2.26 in.	70—2.81 in.
Skewness:	-0.17	3—2.33 in.	75—2.84 in.
Sample Size: 211		5—2.40 in.	80—2.88 in.
		10—2.49 in.	85—2.93 in.
		15—2.54 in.	90—2.99 in.
		20—2.57 in.	95—3.07 in.
		25—2.60 in.	97—3.12 in.
		30—2.62 in.	98—3.15 in.
		40—2.66 in.	99—3.19 in.
		50—2.71 in.	



DIGIT 3 LENGTH;

FINGERTIP TO CROTCH LEVEL

Measured on the data blank, the distance along the axis of digit 3 from the midpoint of the tip of digit 3 to the average level of hand crotch 2-3.



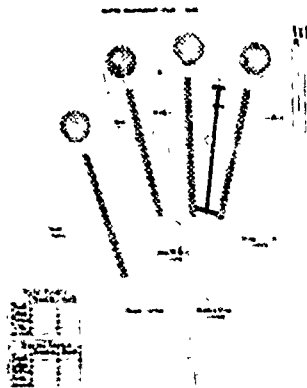
MEAN: 3.07 in.; 7.79 cm

STANDARD DEVIATION: 0.20 in.; 0.51 cm

5th PERCENTILE: 2.76 in.; 7.01 cm

95th PERCENTILE: 3.42 in.; 8.68 cm

		Percentiles	
Range:	2.40-3.54 in.	%	%
Coefficient of Variation:	6.49%	1—2.51 in.	60—3.11 in.
Kurtosis:	3.56	2—2.63 in.	70—3.16 in.
Skewness:	-0.20	3—2.69 in.	75—3.20 in.
		5—2.76 in.	80—3.23 in.
		10—2.84 in.	85—3.28 in.
		15—2.89 in.	90—3.34 in.
		20—2.92 in.	95—3.42 in.
		25—2.95 in.	97—3.46 in.
		30—2.97 in.	98—3.49 in.
Sample Size: 211		40—3.02 in.	99—3.53 in.
		50—3.06 in.	



DIGIT 4 LENGTH;

FINGERTIP TO CROTCH LEVEL

Measured on the data blank, the distance along the axis of digit 4 from the midpoint of the tip of digit 4 to the average level of hand crotch 3-4.



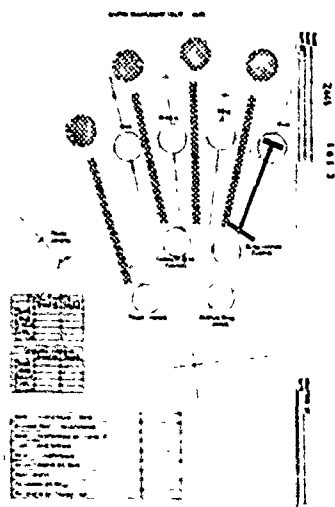
MEAN: 2.88 in.; 7.31 cm

STANDARD DEVIATION: 0.20 in.; 0.52 cm

5th PERCENTILE: 2.57 in.; 6.52 cm

95th PERCENTILE: 3.24 in.; 8.22 cm

		Percentiles	
Range:	2.17-3.43 in.	%	%
Coefficient of Variation:	7.05%	1—2.25 in.	60—2.91 in.
		2—2.41 in.	70—2.96 in.
Kurtosis:	4.15	3—2.48 in.	75—3.00 in.
		5—2.57 in.	80—3.03 in.
Skewness:	-0.21	10—2.66 in.	85—3.08 in.
		15—2.71 in.	90—3.14 in.
Sample Size: 211		20—2.74 in.	95—3.24 in.
		25—2.77 in.	97—3.29 in.
		30—2.79 in.	98—3.33 in.
		40—2.83 in.	99—3.38 in.
		50—2.87 in.	



DIGIT 5 LENGTH;

FINGERTIP TO CROTCH LEVEL

Measured on the data blank, the distance along the axis of digit 5 from the midpoint of the tip of digit 5 to the level of hand crotch 4.



MEAN: 2.15 in.; 5.46 cm

STANDARD DEVIATION: 0.17 in.; 0.44 cm

5th PERCENTILE: 1.89 in.; 4.80 cm

95th PERCENTILE: 2.46 in.; 6.24 cm

Range: 1.57-2.60 in.

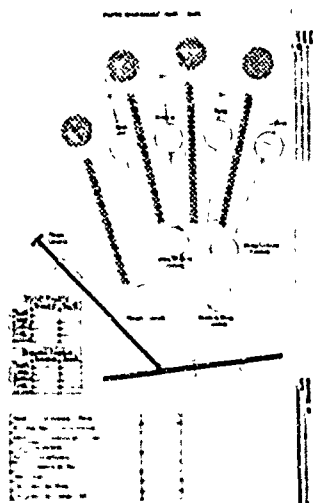
Coefficient of Variation: 8.06%

Kurtosis: 3.12

Skewness: 0.06

Sample Size: 211

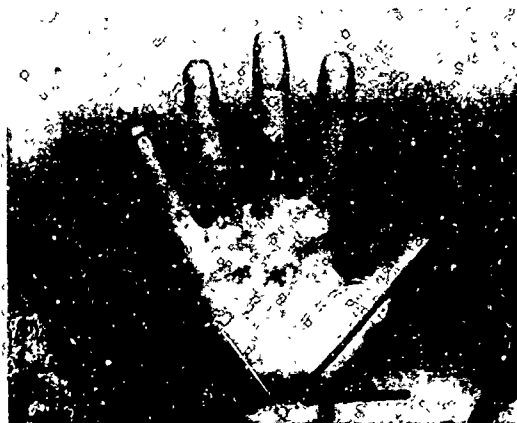
Percentiles	
%	%
1—1.78 in.	60—2.19 in.
2—1.83 in.	70—2.24 in.
3—1.85 in.	75—2.27 in.
5—1.89 in.	80—2.30 in.
10—1.94 in.	85—2.34 in.
15—1.97 in.	90—2.39 in.
20—2.00 in.	95—2.46 in.
25—2.03 in.	97—2.49 in.
30—2.05 in.	98—2.52 in.
40—2.10 in.	99—2.55 in.
50—2.14 in.	



DIGIT 1 LENGTH;

TOTAL, TIP TO WRIST CREASE

Measured on the data blank, the distance along the axis of digit 1 from the midpoint of the tip of digit 1 to the wrist crease baseline.



MEAN: 4.35 in.; 11.05 cm

STANDARD DEVIATION: 0.40 in.; 1.00 cm

5th PERCENTILE: 3.75 in.; 9.53 cm

95th PERCENTILE: 5.05 in.; 12.83 cm

Range: 3.43-5.31 in.

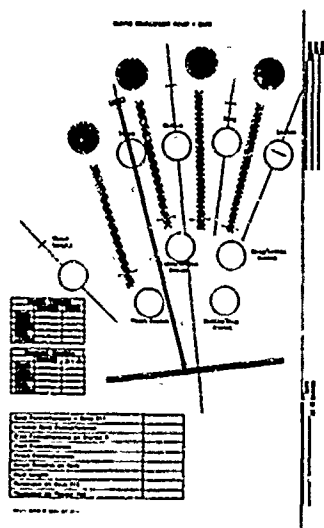
Coefficient of Variation: 9.07%

Kurtosis: 2.56

Skewness: 0.20

Sample Size: 211

Percentiles	
%	%
1—3.52 in.	60—4.43 in.
2—3.62 in.	70—4.56 in.
3—3.67 in.	75—4.62 in.
5—3.75 in.	80—4.70 in.
10—3.86 in.	85—4.79 in.
15—3.94 in.	90—4.90 in.
20—4.00 in.	95—5.05 in.
25—4.06 in.	97—5.13 in.
30—4.12 in.	98—5.19 in.
40—4.22 in.	99—5.25 in.
50—4.32 in.	



DIGIT 2 LENGTH;

TOTAL, TIP TO WRIST CREASE

Measured on the data blank, the distance along the axis of digit 2 from the midpoint of the tip of digit 2 to the wrist crease baseline.



MEAN: 6.56 in.; 16.67 cm

STANDARD DEVIATION: 0.35 in.; 0.89 cm

5th PERCENTILE: 5.99 in.; 15.21 cm

95th PERCENTILE: 7.14 in.; 18.14 cm

Range: 5.79-7.68 in.

Coefficient of Variation: 5.38%

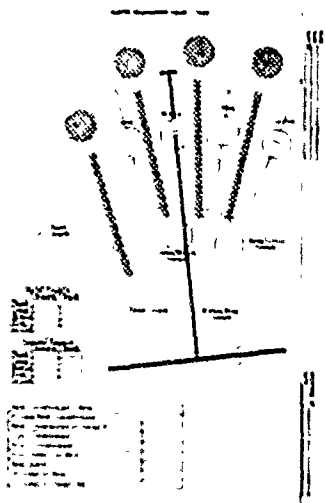
Kurtosis: 2.75

Skewness: 0.12

Sample Size: 211

Percentiles

%	%
1—5.81 in.	60—6.66 in.
2—5.87 in.	70—6.75 in.
3—5.92 in.	75—6.81 in.
5—5.99 in.	80—6.87 in.
10—6.10 in.	85—6.94 in.
15—6.19 in.	90—7.02 in.
20—6.25 in.	95—7.14 in.
25—6.32 in.	97—7.22 in.
30—6.37 in.	98—7.28 in.
40—6.47 in.	99—7.37 in.
50—6.56 in.	



DIGIT 3 LENGTH;

TOTAL, TIP TO WRIST CREASE

Measured on the data blank, the distance along the axis of digit 3 from the midpoint of the tip of digit 3 to the wrist crease baseline.



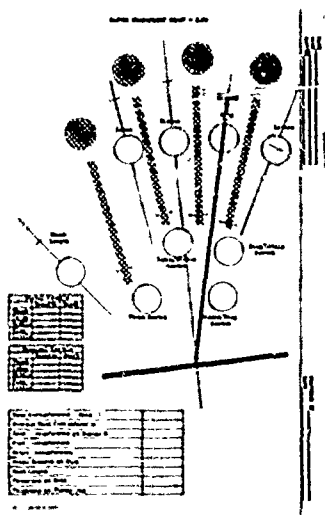
MEAN: 6.95 in.; 17.65 cm

STANDARD DEVIATION: 0.34 in.; 0.87 cm

5th PERCENTILE: 6.38 in.; 16.22 cm

95th PERCENTILE: 7.50 in.; 19.05 cm

		Percentiles	
Range:	6.06-7.95 in.	%	%
Coefficient of Variation:	4.93%	1—6.21 in.	60—7.04 in.
Kurtosis:	2.65	2—6.27 in.	70—7.14 in.
Skewness:	0.01	3—6.32 in.	75—7.20 in.
Sample Size:	211	5—6.38 in.	80—7.25 in.
		10—6.50 in.	85—7.32 in.
		15—6.58 in.	90—7.40 in.
		20—6.64 in.	95—7.50 in.
		25—6.70 in.	97—7.55 in.
		30—6.76 in.	98—7.59 in.
		40—6.86 in.	99—7.63 in.
		50—6.95 in.	



DIGIT 4 LENGTH:

TOTAL, TIP TO WRIST CREASE

Measured on the data blank, the distance along the axis of digit 4 from the midpoint of the tip of digit 4 to the wrist crease baseline.



MEAN: 6.60 in.; 16.76 cm

STANDARD DEVIATION: 3.52 in.; 8.94 cm

5th PERCENTILE: 6.02 in.; 15.28 cm

95th PERCENTILE: 7.17 in.; 18.20 cm

Range: 5.75-7.68 in.

Coefficient of Variation: 5.34%

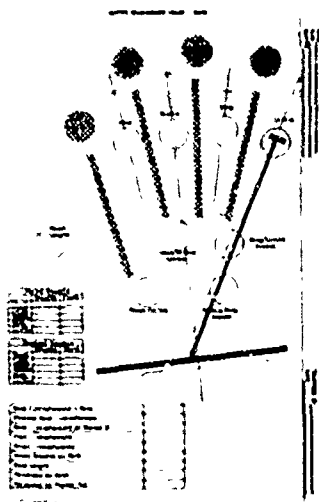
Kurtosis: 2.94

Skewness: 0.05

Sample Size: 211

Percentiles

%	%
1—5.82 in.	60—6.69 in.
2—5.89 in.	70—6.79 in.
3—5.94 in.	75—6.85 in.
5—6.02 in.	80—6.91 in.
10—6.14 in.	85—6.97 in.
15—6.22 in.	90—7.05 in.
20—6.29 in.	95—7.17 in.
25—6.35 in.	97—7.23 in.
30—6.41 in.	98—7.28 in.
40—6.51 in.	99—7.34 in.
50—6.60 in.	



DIGIT 5 LENGTH;

TOTAL, TIP TO WRIST CREASE

Measured on the data blank, the distance along the axis of digit 5 from the midpoint of the tip of digit 5 to the wrist crease baseline.



MEAN: 5.76 in.; 14.64 cm

STANDARD DEVIATION: 0.36 in.; 0.92 cm

5th PERCENTILE: 5.16 in.; 13.11 cm

95th PERCENTILE: 6.35 in.; 16.12 cm

Range: 4.84-6.89 in.

Coefficient of Variation: 6.26%

Kurtosis: 3.05

Skewness: 0.11

Sample Size: 211

Percentiles

%	%
1—5.00 in.	60—5.86 in.
2—5.05 in.	70—5.96 in.
3—5.09 in.	75—6.01 in.
5—5.16 in.	80—6.06 in.
10—5.29 in.	85—6.13 in.
15—5.38 in.	90—6.21 in.
20—5.46 in.	95—6.35 in.
25—5.52 in.	97—6.45 in.
30—5.58 in.	98—6.53 in.
40—5.68 in.	99—6.69 in.
50—5.78 in.	

SECTION V

IDENTIFICATION AND COMPARISON OF THE SAMPLE

SAMPLE BY RANK AND CORPS

<i>Rank</i>	<i>WAF</i>	<i>Nurse Corps</i>	<i>BSC</i>	<i>Total #</i>
Airman Basic	53	—	—	53
Airman Second Class	6	—	—	6
Airman First Class	26	—	—	26
Sergeant	27	—	—	27
Staff Sergeant	2	—	—	2
Technical Sergeant	—	—	—	—
Master Sergeant	1	—	—	1
Senior Master Sergeant	1	—	—	1
Officer Candidate	14	—	—	14
Second Lieutenant	8	19	—	27
First Lieutenant	3	23	—	26
Captain	1	11	—	12
Major	—	7	1	8
Lieutenant Colonel	—	7	—	7
Colonel	—	1	—	1
	<u>142</u>	<u>68</u>	<u>1</u>	<u>211</u>

Note: Nurse Corps Ratings include;
 Flight Nurse—2 Capts., 4 Majs., 2 L/Cs.
 Senior Flight Nurse—1 L/C.
 Aerospace Nurse—1 Maj.

Note: The Nurse Corps and Biomedical Science Corps are composed entirely of Commissioned Officers.

SAMPLE BY AGE AND CORPS

<i>Age</i>	<i>WAF</i>	<i>Nurse Corps</i>	<i>BSC</i>	<i>Total #</i>
18	28	—	—	28
19	22	—	—	22
20	23	—	—	23
21	17	3	—	20
22	12	5	—	17
23	13	13	—	26
24	10	8	—	18
25	6	6	—	12
26	4	—	—	4
27	2	1	—	3
28	—	5	—	5
29	—	2	—	2
30	—	2	—	2
31	—	1	—	1
32	—	2	—	2
33	2	1	—	3
34	1	1	—	2
35	—	1	—	1
36	1	2	—	3
37	—	—	1	1
38	—	1	—	1
39	—	1	—	1
40	—	4	—	4
41	—	—	—	0
42	—	1	—	1
43	1	1	—	2
44	—	—	—	0
45	—	2	—	2
46-56	—	5	—	5
	<u>142</u>	<u>68</u>	<u>1</u>	<u>211</u>

COMPARISON OF SELECTED SUMMARY STATISTICS

WITHIN AGE GROUP 21-30

Sample of 46 in Nurse Corps (100% Commissioned)

Sample of 63 in WAF (38% Commissioned)

<i>Dimension</i>	<i>Corps</i>	<i>Mean</i>	<i>S.D.</i>
Hand Length	Nurse	7.10 in.	0.34 in.
	WAF	7.05 in.	0.34 in.
Hand Breadth; Meta	Nurse	3.06 in.	0.14 in.
	WAF	3.01 in.	0.15 in.
Hand Circumference; Metacarpale	Nurse	7.37 in.	0.31 in.
	WAF	7.33 in.	0.33 in.
Fist Circumference	Nurse	9.86 in.	0.48 in.
	WAF	9.63 in.	0.50 in.
Wrist Circumference	Nurse	5.92 in.	0.28 in.
	WAF	5.86 in.	0.28 in.
Hand Thickness; Meta III	Nurse	1.09 in.	0.07 in.
	WAF	1.07 in.	0.07 in.
Hand Depth; Thenar Pad	Nurse	2.08 in.	0.14 in.
	WAF	2.00 in.	0.16 in.
Digit 3 Circumference; Distal Interph. Jt.	Nurse	1.78 in.	0.09 in.
	WAF	1.75 in.	0.10 in.
Digit 3 Circumference; Proximal Interph. Jt.	Nurse	2.19 in.	0.12 in.
	WAF	2.15 in.	0.11 in.
Wrist Breadth	Nurse	2.29 in.	0.11 in.
	WAF	2.29 in.	0.13 in.
Crotch 3 Height	Nurse	3.88 in.	0.22 in.
	WAF	3.86 in.	0.26 in.
Stature	Nurse	64.45 in.	2.58 in.
	WAF	64.14 in.	2.49 in.
Weight	Nurse	134.43 lbs	9.20 lbs
	WAF	126.40 lbs	7.71 lbs

Although the differences of the means for each dimension between Corps are small, the probability of one group being so consistently larger, using the Sign Test (ref. Siegel, 3, 1956), is $p < .001$. Thus, the Null hypothesis being rejected, age 21-30 Nurses have slightly larger hands than the same age group WAF.

SUMMARY STATISTICS BY AGE GROUP

<i>Dimension</i>	<i>Age Group</i>	<i>Mean</i>	<i>S.D.</i>
Hand-Length	< 20 years (N=73)	6.98 in.	0.31 in.
	21-30 years (N=109)	7.08 in.	0.34 in.
	> 31 years (N=29)	7.22 in.	0.32 in.
Hand Breadth; Meta.	< 20 years (N=73)	3.00 in.	0.14 in.
	21-30 years (N=109)	3.03 in.	0.15 in.
	> 31 years (N=29)	3.12 in.	0.13 in.
Hand Circumference; Metacarpale	< 20 years (N=73)	7.31 in.	0.20 in.
	21-30 years (N=109)	7.35 in.	0.32 in.
	> 31 years (N=29)	7.57 in.	0.34 in.
Fist Circumference	< 20 years (N=73)	9.69 in.	0.46 in.
	21-30 years (N=109)	9.72 in.	0.50 in.
	> 31 years (N=29)	10.21 in.	0.48 in.
Hand Circumference: Minimum, Meta.	< 20 years (N=73)	8.39 in.	0.47 in.
	21-30 years (N=109)	8.44 in.	0.48 in.
	> 31 years (N=29)	8.63 in.	0.49 in.
Hand Circumference: Fingertips Even	< 20 years (N=73)	8.83 in.	0.45 in.
	21-30 years (N=109)	8.89 in.	0.46 in.
	> 31 years (N=29)	9.12 in.	0.40 in.
Wrist Circumference	< 20 years (N=73)	5.85 in.	0.26 in.
	21-30 years (N=109)	5.89 in.	0.28 in.
	> 31 years (N=29)	6.07 in.	0.27 in.
Hand Thickness; Metacarpale III	< 20 years (N=73)	1.09 in.	0.07 in.
	21-30 years (N=109)	1.08 in.	0.07 in.
	> 31 years (N=29)	1.12 in.	0.08 in.
Hand Depth; Thenar Pad	< 20 years (N=73)	2.01 in.	0.15 in.
	21-30 years (N=109)	2.03 in.	0.16 in.
	> 31 years (N=29)	2.10 in.	0.12 in.
Digit 1 Circumference; Interphalangeal Joint	< 20 years (N=73)	2.17 in.	0.11 in.
	21-30 years (N=109)	2.21 in.	0.13 in.
	> 31 years (N=29)	2.31 in.	0.14 in.
Digit 2 Circumference; Distal Interphalangeal Joint	< 20 years (N=73)	1.72 in.	0.08 in.
	21-30 years (N=109)	1.75 in.	0.10 in.
	> 31 years (N=29)	1.85 in.	0.11 in.
Digit 2 Circumference; Proximal Interphalangeal Joint	< 20 years (N=73)	2.10 in.	0.09 in.
	21-30 years (N=109)	2.12 in.	0.12 in.
	> 31 years (N=29)	2.22 in.	0.11 in.

<i>Dimension</i>	<i>Age Group</i>	<i>Mean</i>	<i>S.D.</i>
Digit 3 Circumference; Distal Interphalangeal Joint	< 20 years (N=73)	1.74 in.	0.09 in.
	21-30 years (N=109)	1.74 in.	0.10 in.
	> 31 years (N=29)	1.84 in.	0.11 in.
Digit 3 Circumference; Proximal Interphalangeal Joint	< 20 years (N=73)	2.13 in.	0.08 in.
	21-30 years (N=109)	2.17 in.	0.11 in.
	> 31 years (N=29)	2.25 in.	0.12 in.
Digit 4 Circumference; Distal Interphalangeal Joint	< 20 years (N=73)	1.64 in.	0.09 in.
	21-30 years (N=109)	1.66 in.	0.09 in.
	> 31 years (N=29)	1.74 in.	0.10 in.
Digit 4 Circumference; Proximal Interphalangeal Joint	< 20 years (N=73)	1.99 in.	0.09 in.
	21-30 years (N=109)	2.01 in.	0.11 in.
	> 31 years (N=29)	2.07 in.	0.12 in.
Digit 5 Circumference; Distal Interphalangeal Joint	< 20 years (N=73)	1.50 in.	0.08 in.
	21-30 years (N=109)	1.51 in.	0.08 in.
	> 31 years (N=29)	1.61 in.	0.11 in.
Wrist Breadth	< 20 years (N=73)	2.28 in.	0.12 in.
	21-30 years (N=109)	2.29 in.	0.12 in.
	> 31 years (N=29)	2.36 in.	0.14 in.
Digit 1 Height; Perpendicular to Wrist Crease	< 20 years (N=73)	3.34 in.	0.31 in.
	21-30 years (N=109)	3.43 in.	0.34 in.
	> 31 years (N=29)	3.46 in.	0.32 in.
Digit 2 Height; Perpendicular to Wrist Crease	< 20 years (N=73)	6.38 in.	0.32 in.
	21-30 years (N=109)	6.49 in.	0.37 in.
	> 31 years (N=29)	6.60 in.	0.35 in.
Digit 3 Height; Perpendicular to Wrist Crease	< 20 years (N=73)	6.86 in.	0.32 in.
	21-30 years (N=109)	6.95 in.	0.35 in.
	> 31 years (N=29)	7.12 in.	0.31 in.
Digit 4 Height; Perpendicular to Wrist Crease	< 20 years (N=73)	6.36 in.	0.34 in.
	21-30 years (N=109)	6.45 in.	0.34 in.
	> 31 years (N=29)	6.62 in.	0.33 in.
Digit 5 Height; Perpendicular to Wrist Crease	< 20 years (N=73)	5.05 in.	0.33 in.
	21-30 years (N=109)	5.11 in.	0.35 in.
	> 31 years (N=29)	5.32 in.	0.33 in.
Crotch 1 Height	< 20 years (N=73)	2.18 in.	0.18 in.
	21-30 years (N=109)	2.27 in.	0.23 in.
	> 31 years (N=29)	2.36 in.	0.21 in.
Crotch 2 Height	< 20 years (N=73)	3.31 in.	0.21 in.
	21-30 years (N=109)	3.90 in.	0.24 in.
	> 31 years (N=29)	3.99 in.	0.23 in.

<i>Dimension</i>	<i>Age Group</i>	<i>Mean</i>	<i>S.D.</i>
Crotch 3 Height	< 20 years (N=73)	3.80 in.	0.21 in.
	21-30 years (N=109)	3.87 in.	0.24 in.
	> 31 years (N=29)	3.99 in.	0.21 in.
4 Height	< 20 years (N=73)	3.38 in.	0.22 in.
	21-30 years (N=109)	3.44 in.	0.24 in.
	> 31 years (N=29)	3.56 in.	0.21 in.
Digit 1 Length; Fingertip to Crotch Level	< 20 years (N=73)	2.10 in.	0.18 in.
	21-30 years (N=109)	2.12 in.	0.17 in.
	> 31 years (N=29)	2.14 in.	0.15 in.
Digit 2 Length; Fingertip to Crotch Level	< 20 years (N=73)	2.70 in.	0.19 in.
	21-30 years (N=109)	2.71 in.	0.22 in.
	> 31 years (N=29)	2.75 in.	0.20 in.
Digit 3 Length; Fingertip to Crotch Level	< 20 years (N=73)	3.05 in.	0.20 in.
	21-30 years (N=109)	3.07 in.	0.20 in.
	> 31 years (N=29)	3.13 in.	0.17 in.
Digit 4 Length; Fingertip to Crotch Level	< 20 years (N=73)	2.87 in.	0.20 in.
	21-30 years (N=109)	2.88 in.	0.20 in.
	> 31 years (N=29)	2.89 in.	0.21 in.
Digit 5 Length; Fingertip to Crotch Level	< 20 years (N=73)	2.13 in.	0.15 in.
	21-30 years (N=109)	2.15 in.	0.18 in.
	> 31 years (N=29)	2.19 in.	0.19 in.
Digit 1 Length; Total, Tip to Wrist Crease	< 20 years (N=73)	4.26 in.	0.35 in.
	21-30 years (N=109)	4.38 in.	0.41 in.
	> 31 years (N=29)	4.47 in.	0.40 in.
Digit 2 Length; Total, Tip to Wrist Crease	< 20 years (N=73)	6.47 in.	0.31 in.
	21-30 years (N=109)	6.59 in.	0.36 in.
	> 31 years (N=29)	6.71 in.	0.35 in.
Digit 3 Length; Total, Tip to Wrist Crease	< 20 years (N=73)	6.86 in.	0.32 in.
	21-30 years (N=109)	6.96 in.	0.35 in.
	> 31 years (N=29)	7.12 in.	0.31 in.
Digit 4 Length; Total, Tip to Wrist Crease	< 20 years (N=73)	6.51 in.	0.34 in.
	21-30 years (N=109)	6.62 in.	0.35 in.
	> 31 years (N=29)	6.76 in.	0.33 in.
Digit 5 Length; Total, Tip to Wrist Crease	< 20 years (N=73)	5.68 in.	0.31 in.
	21-30 years (N=109)	5.76 in.	0.37 in.
	> 31 years (N=29)	5.97 in.	0.39 in.

SECTION VI

CORRELATION MATRIX FOR ALL VARIABLES

CORRELATION MATRIX FOR FEMALE HANDS

	1	2	3	4	5	6	7	8	9	10
1 HAND LENGTH		.569	.564	.401	.574	.610	.543	.269	.351	.408
2 HAND BREADTH, META	.569		.894	.710	.759	.771	.728	.427	.454	.535
3 HAND CIRC, METACARP	.564	.894		.747	.735	.777	.740	.471	.447	.547
4 HAND CIRC, META, MIN	.401	.710	.747		.665	.663	.578	.374	.448	.363
5 HAND CIRC, TIPS EVN	.574	.759	.735	.665		.776	.613	.447	.474	.474
6 FIST CIRCUMFERENCE	.610	.771	.777	.663	.776		.662	.455	.518	.549
7 WRIST CIRCUMFERENCE	.543	.728	.740	.578	.613	.662		.398	.482	.521
8 HAND THICK AT META	.269	.427	.471	.374	.447	.455	.398		.337	.397
9 HAND DPTH, THENAR PAD	.351	.454	.447	.440	.474	.518	.482	.337		.413
10 DIG 1 JOINT BRDTH	.408	.535	.547	.363	.474	.549	.521	.397	.413	
11 DIGIT 1 JOINT DPTH	.373	.549	.548	.433	.474	.509	.510	.387	.367	.608
12 DIGIT 1 JOINT CIRC	.430	.608	.614	.440	.526	.590	.579	.442	.443	.906
13 DIG 2 DST JNT BDTH	.352	.591	.558	.390	.422	.530	.490	.449	.345	.600
14 DIG 2 DST JNT DPTH	.251	.478	.447	.372	.472	.472	.483	.407	.303	.496
15 DIG 2 DST JNT CIRC	.349	.613	.577	.433	.499	.568	.548	.434	.368	.617
16 DIG 2 PR JNT BRDTH	.427	.616	.617	.491	.535	.594	.577	.425	.428	.629
17 DIG 2 PR JNT DPTH	.374	.495	.502	.449	.505	.598	.508	.443	.420	.469
18 DIG 2 PR JNT CIRC	.445	.614	.628	.522	.572	.663	.600	.476	.479	.623
19 DIG 3 DST JNT BDTH	.311	.558	.538	.425	.465	.488	.480	.460	.390	.612
20 DIG 3 DST JNT DPTH	.316	.553	.534	.424	.496	.501	.490	.448	.329	.453
21 DIG 3 DST JNT CIRC	.351	.617	.593	.460	.525	.547	.541	.504	.398	.602
22 DIG 3 PR JNT BRDTH	.367	.578	.575	.509	.473	.498	.551	.504	.373	.519
23 DIG 3 PR JNT DPTH	.396	.526	.500	.421	.490	.543	.462	.349	.402	.501
24 DIG 3 PR JNT CIRC	.431	.633	.615	.532	.551	.597	.583	.486	.451	.588
25 DIG 4 DST JNT BDTH	.335	.567	.545	.401	.434	.519	.493	.474	.364	.568
26 DIG 4 DST JNT DPTH	.315	.534	.567	.429	.520	.510	.526	.438	.353	.528
27 DIG 4 DST JNT CIRC	.358	.605	.603	.447	.512	.566	.559	.514	.389	.610
28 DIG 4 PR JNT BRDTH	.328	.520	.509	.441	.411	.461	.521	.422	.370	.558
29 DIG 4 PR JNT DPTH	.318	.397	.401	.392	.465	.441	.358	.348	.341	.382
30 DIG 4 PR JNT CIRC	.394	.559	.553	.515	.533	.551	.525	.461	.433	.564

CORRELATION MATRIX FOR FEMALE HANDS

	1	2	3	4	5	6	7	8	9	10
31 DIG 5 DST JNT BDTH	.284	.478	.489	.321	.408	.550	.456	.447	.320	.575
32 DIG 5 DST JNT DPTH	.340	.489	.536	.356	.439	.491	.460	.381	.368	.546
33 DIG 5 DST JNT CIRC	.330	.540	.571	.378	.470	.584	.514	.474	.381	.628
34 DIG 5 PR JNT BRDTH	.362	.512	.538	.420	.460	.500	.489	.460	.338	.579
35 DIG 5 PR JNT DPTH	.382	.390	.433	.366	.411	.459	.405	.308	.342	.534
36 DIG 5 PR JNT CIRC	.448	.538	.575	.461	.512	.570	.536	.462	.398	.654
37 WRIST BREADTH	.369	.582	.619	.447	.553	.554	.755	.400	.356	.442
38 DIGIT 1 HT PERP WC	.604	.278	.270	.242	.309	.301	.241	-.033	.206	.215
39 DIGIT 2 HT PERP WC	.856	.529	.518	.413	.554	.559	.459	.190	.345	.406
40 DIGIT 3 HT PERP WC	.950	.564	.555	.408	.574	.610	.511	.266	.347	.441
41 DIGIT 4 HT PERP WC	.897	.551	.543	.372	.538	.608	.504	.250	.342	.469
42 DIGIT 5 HT PERP WC	.782	.474	.498	.319	.449	.569	.453	.235	.290	.429
43 CROTCH 1 HEIGHT	.569	.254	.227	.155	.179	.275	.203	-.030	.153	.275
44 CROTCH 2 HEIGHT	.754	.402	.398	.323	.416	.420	.334	.072	.229	.331
45 CROTCH 3 HEIGHT	.748	.393	.401	.308	.414	.449	.345	.096	.238	.351
46 CROTCH 4 HEIGHT	.734	.397	.419	.299	.400	.457	.365	.169	.252	.400
47 DIGIT 1 TIP-CROTCH	.687	.401	.384	.336	.465	.466	.366	.230	.350	.287
48 DIGIT 2 TIP-CROTCH	.672	.493	.475	.340	.478	.530	.441	.277	.341	.359
49 DIGIT 3 TIP-CROTCH	.749	.503	.483	.339	.509	.547	.479	.356	.337	.359
50 DIGIT 4 TIP-CROTCH	.599	.446	.414	.300	.436	.480	.408	.218	.268	.316
51 DIGIT 5 TIP-CROTCH	.613	.421	.438	.312	.441	.496	.389	.205	.280	.283
52 DIGIT 1 TIP-WRIST	.681	.324	.310	.237	.306	.371	.291	.031	.263	.255
53 DIGIT 2 TIP-WRIST	.889	.541	.525	.408	.550	.581	.462	.213	.353	.410
54 DIGIT 3 TIP-WRIST	.951	.565	.555	.408	.580	.614	.509	.271	.350	.436
55 DIGIT 4 TIP-WRIST	.896	.551	.541	.392	.565	.599	.490	.229	.344	.465
56 DIG 1 JOINT BRDTH	.800	.518	.540	.393	.528	.592	.472	.223	.330	.446

CORRELATION MATRIX FOR FEMALE HANDS

	11	12	13	14	15	16	17	18	19	20
1 HAND LENGTH	.373	.430	.352	.251	.349	.427	.374	.445	.311	.316
2 HAND BREADTH, META	.549	.608	.591	.478	.613	.616	.495	.614	.558	.553
3 HAND CIRC, METACARP	.548	.614	.558	.447	.577	.617	.502	.628	.538	.534
4 HAND CIRC, META, MIN	.433	.440	.390	.372	.433	.491	.449	.522	.425	.424
5 HAND CIRC, TIPS EVN	.474	.526	.422	.472	.499	.535	.505	.572	.465	.496
6 FIST CIRCUMFERENCE	.509	.590	.530	.472	.566	.594	.598	.663	.480	.501
7 WRIST CIRCUMF-ENCE	.510	.579	.490	.483	.548	.577	.508	.600	.480	.490
8 HAND THICK AT META	.387	.442	.449	.407	.484	.425	.443	.476	.460	.448
9 HND DPTH, THENR PAD	.367	.443	.345	.303	.368	.428	.420	.479	.390	.329
10 DIG 1 JOINT BRDTH	.608	.906	.600	.496	.617	.629	.469	.623	.612	.453
11 DIGIT 1 JOINT DPTH		.879	.524	.602	.630	.584	.553	.649	.564	.579
12 DIGIT 1 JOINT CIRC	.879		.631	.612	.696	.677	.565	.708	.666	.572
13 DIG 2 DST JNT BDTH	.524	.621		.552	.913	.686	.480	.644	.727	.553
14 DIG 2 DST JNT DPTH	.602	.612	.552		.833	.573	.589	.636	.560	.749
15 DIG 2 DST JNT CIRC	.630	.696	.913	.833		.710	.591	.716	.733	.711
16 DIG 2 PR JNT BRDTH	.584	.677	.686	.573	.710		.547	.882	.663	.550
17 DIG 2 PR JNT DPTH	.553	.565	.480	.589	.591	.547		.849	.497	.545
18 DIG 2 PR JNT CIRC	.649	.708	.644	.636	.716	.862	.849		.650	.600
19 DIG 3 DST JNT BDTH	.564	.666	.727	.560	.733	.663	.497	.650		.601
20 DIG 3 DST JNT DPTH	.579	.572	.553	.749	.711	.550	.545	.600	.601	
21 DIG 3 DST JNT CIRC	.634	.694	.722	.704	.800	.681	.570	.697	.919	.857
22 DIG 3 PR JNT BRDTH	.532	.589	.576	.530	.620	.687	.467	.634	.629	.569
23 DIG 3 PR JNT DPTH	.551	.585	.502	.541	.582	.524	.762	.713	.545	.563
24 DIG 3 PR JNT CIRC	.631	.681	.633	.622	.702	.700	.725	.789	.680	.652
25 DIG 4 DST JNT BDTH	.480	.596	.685	.547	.702	.615	.498	.615	.731	.547
26 DIG 4 DST JNT DPTH	.542	.599	.565	.645	.674	.602	.501	.611	.584	.690
27 DIG 4 DST JNT CIRC	.566	.665	.708	.662	.772	.675	.549	.676	.751	.682
28 DIG 4 PR JNT BRDTH	.505	.601	.527	.494	.573	.658	.491	.634	.631	.510
29 DIG 4 PR JNT DPTH	.510	.484	.369	.551	.498	.470	.609	.601	.451	.560
30 DIG 4 PR JNT CIRC	.612	.652	.526	.624	.634	.670	.660	.738	.643	.633

CORRELATION MATRIX FOR FEMALE HANDS

	11	12	13	14	15	16	17	18	19	20
31 DIG 5 DST JNT BDTH	.480	.591	.563	.456	.577	.522	.460	.549	.637	.433
32 DIG 5 DST JNT DPTH	.557	.615	.521	.555	.603	.538	.465	.562	.598	.659
33 DIG 5 DST JNT CIRC	.580	.676	.610	.568	.664	.594	.525	.624	.699	.596
34 DIG 5 PR JNT BRDTH	.446	.585	.558	.500	.598	.637	.441	.594	.588	.510
35 DIG 5 PR JNT DPTH	.550	.591	.419	.535	.528	.529	.516	.588	.493	.511
36 DIG 5 PR JNT CIRC	.587	.693	.583	.602	.665	.591	.559	.696	.641	.601
37 WRIST BREADTH	.502	.526	.372	.488	.464	.491	.492	.555	.448	.510
38 DIGIT 1 HT PERP WC	.221	.240	.198	.106	.187	.254	.262	.295	.162	.097
39 DIGIT 2 HT PERP WC	.362	.428	.366	.238	.357	.449	.371	.462	.315	.229
40 DIGIT 3 HT PERP WC	.406	.469	.378	.270	.377	.458	.374	.462	.346	.306
41 DIGIT 4 HT PERP WC	.425	.498	.369	.279	.373	.444	.349	.441	.342	.307
42 DIGIT 5 HT PERP WC	.381	.453	.324	.252	.332	.395	.317	.392	.276	.266
43 CROTCH 1 HEIGHT	.225	.278	.261	.079	.210	.258	.202	.270	.190	.081
44 CROTCH 2 HEIGHT	.293	.348	.257	.141	.236	.359	.231	.333	.248	.136
45 CROTCH 3 HEIGHT	.286	.353	.247	.151	.230	.349	.183	.292	.239	.155
46 CROTCH 4 HEIGHT	.296	.391	.300	.180	.276	.360	.196	.303	.241	.194
47 DIGIT 1 TIP-CROTCH	.297	.327	.213	.208	.244	.341	.354	.393	.225	.227
48 DIGIT 2 TIP-CROTCH	.322	.371	.355	.281	.368	.380	.389	.434	.275	.306
49 DIGIT 3 TIP-CROTCH	.371	.401	.337	.286	.359	.357	.390	.411	.304	.349
50 DIGIT 4 TIP-CROTCH	.336	.362	.263	.254	.296	.291	.317	.343	.246	.289
51 DIGIT 5 TIP-CROTCH	.324	.335	.245	.230	.265	.282	.338	.349	.172	.229
52 DIGIT 1 TIP-WRIST	.264	.289	.249	.131	.230	.298	.289	.333	.206	.161
53 DIGIT 2 TIP-WRIST	.370	.435	.384	.250	.373	.460	.376	.471	.322	.262
54 DIGIT 3 TIP-WRIST	.408	.466	.377	.271	.377	.458	.376	.462	.347	.313
55 DIGIT 4 TIP-WRIST	.410	.486	.368	.279	.373	.453	.366	.455	.346	.297
56 DIG 3 DST JNT DPTH	.391	.464	.355	.268	.356	.429	.354	.431	.310	.261

CORRELATION MATRIX FOR FEMALE HANDS

	21	22	23	24	25	26	27	28	29	30
1 HAND LENGTH	.351	.367	.396	.431	.335	.315	.356	.328	.318	.394
2 HAND BREADTH, META	.617	.578	.526	.633	.567	.534	.605	.520	.397	.559
3 HAND CIRC,METACARP	.593	.575	.500	.615	.545	.567	.603	.509	.401	.553
4 HAND CIRC,META,MIN	.460	.509	.421	.533	.401	.429	.447	.441	.392	.515
5 HAND CIRC,TIPS EVN	.525	.473	.490	.551	.434	.520	.512	.411	.465	.533
6 FIST CIRCUMFERENCE	.547	.498	.543	.597	.519	.510	.566	.461	.441	.551
7 WRIST CIRCUMF-ENCE	.541	.551	.462	.583	.493	.526	.559	.521	.358	.525
8 HAND THICK AT META	.504	.504	.349	.486	.474	.438	.514	.422	.348	.461
9 HND DPTH,THENR PAD	.398	.373	.402	.451	.364	.353	.389	.370	.341	.433
10 DIG 1 JOINT BRDTH	.602	.519	.501	.588	.568	.528	.610	.558	.382	.564
11 DIGIT 1 JOINT DPTH	.634	.532	.551	.631	.480	.542	.566	.505	.510	.612
12 DIGIT 1 JOINT CIRC	.694	.589	.585	.681	.596	.599	.665	.601	.484	.652
13 DIG 2 DST JNT BDTH	.722	.576	.502	.633	.685	.565	.708	.527	.369	.526
14 DIG 2 DST JNT DPTH	.704	.530	.541	.622	.547	.645	.662	.494	.551	.624
15 DIG 2 DST JNT CIRC	.800	.620	.582	.702	.702	.674	.772	.573	.498	.634
16 DIG 2 PR JNT BRDTH	.681	.687	.524	.700	.615	.602	.675	.658	.470	.670
17 DIG 2 PR JNT DPTH	.570	.467	.762	.725	.498	.501	.549	.491	.609	.660
18 DIG 2 PR JNT CIRC	.697	.634	.713	.789	.615	.611	.676	.634	.601	.738
19 DIG 3 DST JNT BDTH	.919	.629	.545	.680	.731	.584	.751	.631	.451	.643
20 DIG 3 DST JNT DPTH	.857	.569	.563	.652	.547	.690	.682	.510	.560	.633
21 DIG 3 DST JNT CIRC		.678	.610	.744	.712	.697	.793	.645	.550	.709
22 DIG 3 PR JNT BRDTH	.678		.475	.845	.539	.529	.599	.736	.449	.712
23 DIG 3 PR JNT DPTH	.610	.475		.864	.548	.527	.599	.489	.713	.717
24 DIG 3 PR JNT CIRC	.744	.845	.864		.624	.607	.687	.719	.672	.832
25 DIG 4 DST JNT BDTH	.712	.539	.548	.624		.571	.917	.604	.373	.576
26 DIG 4 DST JNT DPTH	.697	.529	.527	.607	.571		.840	.558	.485	.607
27 DIG 4 DST JNT CIRC	.793	.599	.599	.687	.917	.840		.558	.469	.658
28 DIG 4 PR JNT BRDTH	.645	.736	.89	.719	.604	.558	.653		.395	.823
29 DIG 4 PR JNT DPTH	.550	.449	.713	.672	.373	.485	.469	.395		.837
30 DIG 4 PR JNT CIRC	.709	.712	.717	.832	.576	.607	.658	.823	.837	

CORRELATION MATRIX FOR FEMALE HANDS

	21	22	23	24	25	26	27	28	29	30
31 DIG 5 DST JNT BDTH	.612	.463	.413	.500	.678	.541	.693	.449	.306	.449
32 DIG 5 DST JNT DPTH	.693	.476	.511	.572	.520	.703	.668	.481	.436	.536
33 DIG 5 DST JNT CIRC	.728	.522	.514	.597	.692	.684	.770	.524	.405	.548
34 DIG 5 PR JNT BRDTH	.619	.629	.425	.611	.593	.506	.630	.709	.381	.650
35 DIG 5 PR JNT DPTH	.552	.463	.541	.576	.427	.514	.512	.411	.557	.589
36 DIG 5 PR JNT CIRC	.604	.646	.565	.699	.604	.602	.677	.673	.541	.730
37 WRIST BREADTH	.523	.461	.406	.499	.418	.497	.493	.418	.584	.480
38 DIGIT 1 HT PERP WC	.150	.138	.294	.258	.140	.152	.161	.219	.207	.256
39 DIGIT 2 HT PERP WC	.307	.304	.383	.396	.319	.291	.337	.325	.312	.386
40 DIGIT 3 HT PERP WC	.368	.368	.409	.441	.364	.316	.379	.357	.339	.425
41 DIGIT 4 HT PERP WC	.364	.352	.411	.432	.389	.336	.407	.344	.340	.416
42 DIGIT 5 HT PERP WC	.295	.309	.366	.361	.336	.327	.365	.272	.299	.346
43 CROTCH 1 HEIGHT	.164	.149	.280	.253	.161	.114	.163	.215	.161	.228
44 CROTCH 2 HEIGHT	.219	.235	.282	.298	.217	.190	.224	.290	.218	.309
45 CROTCH 3 HEIGHT	.222	.258	.259	.293	.228	.217	.247	.292	.238	.319
46 CROTCH 4 HEIGHT	.240	.288	.282	.323	.274	.279	.312	.306	.237	.328
47 DIGIT 1 TIP-CROTCH	.254	.241	.338	.333	.255	.260	.272	.229	.283	.305
48 DIGIT 2 TIP-CROTCH	.320	.284	.377	.383	.330	.328	.359	.246	.312	.336
49 DIGIT 3 TIP-CROTCH	.366	.332	.385	.404	.356	.312	.374	.271	.311	.357
50 DIGIT 4 TIP-CROTCH	.302	.238	.338	.326	.306	.275	.327	.213	.276	.301
51 DIGIT 5 TIP-CROTCH	.209	.195	.320	.290	.278	.283	.306	.159	.225	.241
52 DIGIT 1 TIP-WRIST	.212	.197	.344	.314	.215	.188	.223	.225	.246	.283
53 DIGIT 2 TIP-WRIST	.329	.322	.401	.415	.346	.303	.359	.328	.325	.397
54 DIGIT 3 TIP-WRIST	.373	.368	.411	.442	.364	.320	.380	.359	.342	.428
55 DIGIT 4 TIP-WRIST	.358	.337	.404	.422	.378	.341	.403	.349	.326	.412
56 DIG 4 PR JNT CIRC	.308	.308	.388	.395	.343	.348	.380	.300	.296	.362

CORRELATION MATRIX FOR FEMALE HANDS

	31	32	33	34	35	36	37	38	39	40
1 HAND LENGTH	.284	.340	.330	.362	.382	.448	.369	.604	.856	.950
2 HAND BREADTH, META	.478	.489	.540	.512	.390	.538	.582	.278	.529	.564
3 HAND CIRC, METACARP	.489	.536	.571	.538	.433	.575	.619	.270	.518	.555
4 HAND CIRC, META, MIN	.321	.356	.378	.420	.366	.461	.447	.242	.413	.408
5 HAND CIRC, TIPS EVN	.408	.439	.470	.460	.411	.512	.523	.309	.554	.574
6 FIST CIRCUMFERENCE	.550	.491	.584	.500	.459	.570	.524	.301	.559	.610
7 WRIST CIRCUMFERENCE	.456	.460	.514	.489	.405	.536	.755	.241	.459	.511
8 HAND THICK AT META	.447	.381	.474	.460	.308	.462	.400	.033	.190	.266
9 HND DPTH, THENR PAD	.320	.368	.331	.338	.342	.398	.356	.206	.345	.347
10 DIG 1 JOINT BRDTH	.575	.546	.628	.579	.534	.654	.442	.215	.406	.441
11 DIGIT 1 JOINT DPTH	.480	.557	.580	.446	.550	.587	.502	.221	.362	.406
12 DIGIT 1 JOINT CIRC	.591	.615	.676	.585	.591	.693	.526	.240	.428	.469
13 DIG 2 DST JNT BDTH	.565	.521	.610	.558	.419	.583	.372	.198	.366	.378
14 DIG 2 DST JNT DPTH	.456	.555	.562	.500	.535	.602	.488	.106	.238	.270
15 DIG 2 DST JNT CIRC	.577	.603	.664	.598	.528	.665	.464	.187	.357	.377
16 DIG 2 PR JNT BRDTH	.522	.538	.594	.637	.529	.691	.491	.254	.449	.458
17 DIG 2 PR JNT DPTH	.460	.465	.525	.441	.516	.559	.492	.262	.371	.374
18 DIG 2 PR JNT CIRC	.549	.562	.624	.594	.588	.696	.555	.295	.462	.462
19 DIG 3 DST JNT BDTH	.637	.598	.699	.588	.493	.641	.448	.162	.315	.346
20 DIG 3 DST JNT DPTH	.433	.659	.596	.510	.511	.601	.510	.097	.229	.306
21 DIG 3 DST JNT CIRC	.612	.693	.728	.619	.552	.694	.523	.150	.307	.368
22 DIG 3 PR JNT BRDTH	.463	.476	.522	.629	.463	.646	.461	.138	.304	.368
23 DIG 3 PR JNT DPTH	.413	.511	.514	.425	.541	.565	.406	.294	.383	.409
24 DIG 3 PR JNT CIRC	.500	.572	.597	.611	.576	.699	.499	.258	.396	.441
25 DIG 4 DST JNT BDTH	.678	.520	.692	.593	.427	.604	.418	.140	.319	.364
26 DIG 4 DST JNT DPTH	.541	.703	.684	.506	.514	.602	.497	.152	.291	.316
27 DIG 4 DST JNT CIRC	.693	.668	.770	.630	.512	.677	.493	.161	.337	.379
28 DIG 4 PR JNT BRDTH	.449	.481	.524	.709	.411	.673	.418	.219	.325	.357
29 DIG 4 PR JNT DPTH	.306	.436	.405	.381	.557	.541	.384	.207	.312	.339
30 DIG 4 PR JNT CIRC	.449	.536	.548	.650	.589	.730	.480	.256	.386	.425

CORRELATION MATRIX FOR FEMALE HANDS

	31	32	33	34	35	36	37	38	39	40
31 DIG 5 DST JNT BDTH		.529	.909	.508	.390	.530	.409	.101	.257	.299
32 DIG 5 DST JNT DPTH	.529		.823	.459	.524	.583	.446	.107	.266	.333
33 DIG 5 DST JNT CIRC	.909	.823		.554	.510	.630	.479	.104	.281	.338
34 DIG 5 PR JNT BRDTH	.508	.459	.554		.425	.852	.416	.183	.341	.370
35 DIG 5 PR JNT DPTH	.390	.524	.510	.425		.825	.382	.215	.324	.391
36 DIG 5 PR JNT CIRC	.530	.583	.630	.852	.825		.473	.241	.399	.460
37 WRIST BREADTH	.409	.446	.479	.416	.382	.473		.004	.221	.297
38 DIGIT 1 HT PERP WC	.101	.107	.104	.183	.215	.241	.004		.799	.661
39 DIGIT 2 HT PERP WC	.257	.266	.281	.341	.324	.399	.221	.799		.922
40 DIGIT 3 HT PERP WC	.299	.333	.338	.370	.391	.460	.297	.661	.922	
41 DIGIT 4 HT PERP WC	.315	.346	.355	.379	.395	.471	.316	.549	.839	.954
42 DIGIT 5 HT PERP WC	.304	.319	.339	.340	.391	.446	.309	.391	.687	.817
43 CROTCH 1 HEIGHT	.159	.126	.148	.237	.225	.292	-.078	.815	.717	.640
44 CROTCH 2 HEIGHT	.196	.224	.216	.292	.294	.359	.096	.679	.828	.817
45 CROTCH 3 HEIGHT	.206	.237	.231	.317	.303	.382	.122	.578	.757	.810
46 CROTCH 4 HEIGHT	.238	.285	.275	.331	.325	.405	.175	.466	.693	.788
47 DIGIT 1 TIP-CROTCH	.216	.199	.222	.241	.270	.301	.296	.637	.698	.686
48 DIGIT 2 TIP-CROTCH	.231	.250	.265	.256	.259	.307	.311	.522	.728	.691
49 DIGIT 3 TIP-CROTCH	.272	.298	.314	.265	.329	.350	.372	.408	.660	.759
50 DIGIT 4 TIP-CROTCH	.223	.229	.246	.217	.251	.278	.274	.426	.667	.734
51 DIGIT 5 TIP-CROTCH	.224	.233	.253	.189	.294	.280	.286	.393	.641	.638
52 DIGIT 1 TIP-WRIST	.139	.142	.141	.220	.280	.311	.073	.880	.753	.716
53 DIGIT 2 TIP-WRIST	.271	.277	.292	.347	.339	.413	.229	.760	.979	.944
54 DIGIT 3 TIP-WRIST	.307	.338	.346	.371	.390	.460	.299	.655	.918	.998
55 DIGIT 4 TIP-WRIST	.315	.345	.355	.372	.382	.454	.279	.639	.902	.961
56 DIGIT 3 HT PERP WC	.320	.340	.361	.328	.396	.431	.277	.584	.836	.861

CORRELATION MATRIX FOR FEMALE HANDS

	41	42	43	44	45	46	47	48	49	50
1 HAND LENGTH	.897	.782	.569	.754	.748	.734	.687	.672	.749	.699
2 HAND BREADTH, META	.551	.474	.254	.402	.393	.397	.401	.493	.503	.446
3 HAND CIRC, METACARP	.543	.498	.227	.398	.401	.419	.384	.475	.483	.414
4 HAND CIRC, META, MIN	.372	.319	.155	.323	.308	.299	.336	.340	.339	.300
5 HAND CIRC, TIPS EVN	.538	.449	.179	.416	.414	.400	.465	.478	.509	.436
6 FIST CIRCUMFERENCE	.608	.569	.275	.420	.449	.457	.466	.530	.547	.480
7 WRIST CIRCUMF-ENCE	.504	.453	.203	.334	.345	.365	.366	.441	.479	.408
8 HAND THICK AT META	.250	.235	-.030	.072	.096	.169	.230	.277	.356	.218
9 HAND DPTH, THENR PAD	.342	.290	.153	.229	.238	.252	.350	.341	.339	.268
10 DIG 1 JOINT BRDTH	.469	.429	.275	.331	.351	.400	.287	.339	.359	.316
11 DIGIT 1 JOINT DPTH	.425	.381	.225	.293	.286	.296	.297	.322	.371	.336
12 DIGIT 1 JOINT CIRC	.498	.453	.278	.348	.353	.391	.327	.371	.401	.362
13 DIG 2 DST JNT BDTH	.369	.334	.261	.257	.247	.300	.213	.355	.337	.263
14 DIG 2 DST JNT DPTH	.279	.252	.079	.141	.151	.180	.208	.281	.286	.254
15 DIG 2 DST JNT CIRC	.373	.332	.210	.236	.230	.276	.244	.368	.359	.296
16 DIG 2 PR JNT BRDTH	.444	.395	.258	.359	.349	.360	.341	.380	.357	.291
17 DIG 2 PR JNT DPTH	.349	.317	.202	.231	.183	.196	.354	.389	.390	.317
18 DIG 2 PR JNT CIRC	.441	.392	.270	.333	.292	.303	.393	.434	.411	.343
19 DIG 3 DST JNT BDTH	.342	.276	.190	.248	.239	.241	.225	.275	.304	.246
20 DIG 3 DST JNT DPTH	.307	.266	.081	.136	.155	.194	.227	.306	.349	.289
21 DIG 3 DST JNT CIRC	.364	.295	.164	.219	.222	.240	.254	.320	.366	.302
22 DIG 3 PR JNT BRDTH	.352	.309	.149	.235	.258	.288	.241	.284	.332	.238
23 DIG 3 PR JNT DPTH	.411	.366	.280	.282	.259	.282	.338	.377	.385	.338
24 DIG 3 PR JNT CIRC	.432	.381	.253	.298	.293	.323	.333	.383	.404	.328
25 DIG 4 DST JNT BDTH	.389	.336	.161	.217	.228	.274	.255	.330	.356	.306
26 DIG 4 DST JNT DPTH	.336	.327	.114	.190	.217	.279	.260	.328	.312	.275
27 DIG 4 DST JNT CIRC	.407	.365	.163	.224	.247	.312	.272	.359	.374	.327
28 DIG 4 PR JNT BRDTH	.344	.272	.215	.290	.292	.306	.229	.246	.271	.213
29 DIG 4 PR JNT DPTH	.340	.299	.161	.218	.238	.237	.283	.312	.311	.276
30 DIG 4 PR JNT CIRC	.416	.346	.228	.309	.319	.328	.305	.336	.357	.301

CORRELATION MATRIX FOR FEMALE HANDS

	41	42	43	44	45	46	47	48	49	50
31 DIG 5 DST JNT BDTH	.315	.304	.159	.196	.206	.238	.216	.231	.272	.223
32 DIG 5 DST JNT DPTH	.346	.319	.126	.224	.237	.285	.199	.250	.298	.229
33 DIG 5 DST JNT CIRC	.355	.339	.148	.216	.231	.275	.222	.265	.314	.246
34 DIG 5 PR JNT BRDTH	.379	.340	.237	.292	.317	.331	.241	.256	.265	.217
35 DIG 5 PR JNT DPTH	.395	.391	.225	.294	.303	.325	.270	.259	.329	.251
36 DIG 5 PR JNT CIRC	.471	.446	.292	.359	.382	.405	.301	.307	.350	.278
37 WRIST BREADTH	.316	.309	-.078	.096	.122	.175	.296	.311	.372	.274
38 DIGIT 1 HT PERP WC	.549	.391	.815	.679	.578	.466	.637	.522	.408	.426
39 DIGIT 2 HT PERP WC	.839	.687	.717	.828	.757	.693	.698	.728	.660	.667
40 DIGIT 3 HT PERP WC	.954	.817	.640	.817	.810	.788	.686	.691	.759	.734
41 DIGIT 4 HT PERP WC		.904	.596	.777	.816	.834	.633	.651	.705	.744
42 DIGIT 5 HT PERP WC	.904		.489	.664	.734	.797	.528	.570	.590	.596
43 CROTCH 1 HEIGHT	.596	.489		.765	.691	.602	.379	.335	.253	.305
44 CROTCH 2 HEIGHT	.777	.664	.765		.929	.835	.465	.281	.281	.355
45 CROTCH 3 HEIGHT	.816	.734	.691	.929		.886	.420	.269	.266	.326
46 CROTCH 4 HEIGHT	.834	.797	.602	.835	.886		.391	.302	.347	.348
47 DIGIT 1 TIP-CROTCH	.633	.528	.379	.465	.420	.591		.727	.674	.657
48 DIGIT 2 TIP-CROTCH	.651	.570	.335	.281	.269	.302	.727		.872	.816
49 DIGIT 3 TIP-CROTCH	.705	.590	.253	.281	.266	.347	.674	.872		.878
50 DIGIT 4 TIP-CROTCH	.744	.596	.305	.355	.326	.348	.637	.816	.878	
51 DIGIT 5 TIP-CROTCH	.640	.650	.272	.343	.311	.286	.507	.729	.730	.786
52 DIGIT 1 TIP-WRIST	.680	.605	.793	.667	.622	.577	.720	.582	.480	.489
53 DIGIT 2 TIP-WRIST	.892	.763	.709	.822	.770	.730	.737	.755	.692	.701
54 DIGIT 3 TIP-WRIST	.953	.815	.634	.813	.806	.786	.689	.690	.763	.736
55 DIGIT 4 TIP-WRIST	.964	.813	.638	.817	.820	.811	.624	.651	.695	.738
56 DIGIT 4 TIP-CROTCH	.870	.862	.598	.771	.769	.783	.529	.591	.590	.601

CORRELATION MATRIX FOR FEMALE HANDS

	51	52	53	54	55	56
1 HAND LENGTH	.613	.681	.889	.951	.896	.800
2 HAND BREADTH, META	.421	.324	.541	.565	.551	.518
3 HAND CIRC,METACARP	.438	.310	.525	.555	.541	.540
4 HAND CIRC,META,MIN	.312	.237	.408	.408	.392	.393
5 HAND CIRC,TIPS EVN	.441	.306	.550	.580	.565	.528
6 FIST CIRCUMFERENCE	.496	.371	.581	.614	.599	.592
7 WRIST CIRCUMF-ENCE	.389	.291	.462	.509	.490	.472
8 HAND THICK AT META	.205	.031	.213	.271	.229	.223
9 HND DPTH,THENR PAD	.280	.263	.353	.350	.344	.330
10 DIG 1 JOINT BRDTH	.283	.255	.410	.436	.465	.446
11 DIGIT 1 JOINT DPTH	.324	.264	.370	.408	.410	.391
12 DIGIT 1 JOINT CIRC	.335	.289	.435	.466	.486	.464
13 DIG 2 DST JNT BDTH	.245	.249	.384	.377	.368	.355
14 DIG 2 DST JNT DPTH	.230	.131	.250	.271	.279	.268
15 DIG 2 DST JNT CIRC	.265	.230	.373	.377	.373	.356
16 DIG 2 PR JNT BRDTH	.282	.298	.460	.458	.453	.429
17 DIG 2 PR JNT DPTH	.338	.289	.376	.376	.366	.354
18 DIG 2 PR JNT CIRC	.349	.333	.471	.462	.455	.431
19 DIG 3 DST JNT BDTH	.172	.206	.322	.347	.346	.310
20 DIG 3 DST JNT DPTH	.229	.161	.262	.313	.297	.261
21 DIG 3 DST JNT CIRC	.209	.212	.329	.373	.358	.308
22 DIG 3 PR JNT BRDTH	.195	.197	.322	.368	.337	.308
23 DIG 3 PR JNT DPTH	.320	.344	.401	.411	.404	.388
24 DIG 3 PR JNT CIRC	.290	.314	.415	.442	.422	.395
25 DIG 4 DST JNT BDTH	.278	.215	.346	.364	.378	.343
26 DIG 4 DST JNT DPTH	.283	.188	.303	.320	.341	.348
27 DIG 4 DST JNT CIRC	.306	.223	.359	.380	.403	.380
28 DIG 4 PR JNT BRDTH	.159	.225	.328	.359	.349	.300
29 DIG 4 PR JNT DPTH	.225	.246	.325	.342	.326	.276
30 DIG 4 PR JNT CIRC	.241	.283	.397	.428	.412	.362

CORRELATION MATRIX FOR FEMALE HANDS

	51	52	53	54	55	56
31 DIG 5 DST JNT BDTH	.224	.139	.271	.307	.315	.320
32 DIG 5 DST JNT DPTH	.233	.142	.277	.338	.345	.340
33 DIG 5 DST JNT CIRC	.253	.141	.292	.346	.355	.361
34 DIG 5 PR JNT BRDTH	.189	.220	.347	.371	.372	.328
35 DIG 5 PR JNT DPTH	.294	.280	.339	.390	.382	.396
36 DIG 5 PR JNT CIRC	.280	.311	.413	.460	.454	.431
37 WRIST BREADTH	.286	.073	.229	.299	.279	.277
38 DIGIT 1 HT PERP WC	.393	.880	.760	.655	.639	.584
39 DIGIT 2 HT PERP WC	.621	.753	.979	.918	.902	.836
40 DIGIT 3 HT PERP WC	.638	.716	.944	.998	.961	.861
41 DIGIT 4 HT PERP WC	.640	.680	.892	.953	.964	.870
42 DIGIT 5 HT PERP WC	.650	.605	.763	.815	.813	.862
43 CROTCH 1 HEIGHT	.272	.793	.709	.634	.638	.598
44 CROTCH 2 HEIGHT	.343	.667	.822	.813	.817	.771
45 CROTCH 3 HEIGHT	.311	.622	.770	.806	.820	.769
46 CROTCH 4 HEIGHT	.286	.577	.730	.786	.811	.783
47 DIGIT 1 TIP-CROTCH	.507	.720	.737	.689	.624	.529
48 DIGIT 2 TIP-CROTCH	.729	.582	.755	.690	.651	.591
49 DIGIT 3 TIP-CROTCH	.730	.480	.692	.763	.695	.590
50 DIGIT 4 TIP-CROTCH	.786	.489	.701	.736	.738	.601
51 DIGIT 5 TIP-CROTCH		.413	.637	.636	.641	.686
52 DIGIT 1 TIP-WRIST	.413		.792	.712	.671	.616
53 DIGIT 2 TIP-WRIST	.637	.792		.942	.920	.850
54 DIGIT 3 TIP-WRIST	.636	.712	.942		.961	.858
55 DIGIT 4 TIP-WRIST	.641	.671	.920	.961		.901
56 DIGIT 5 TIP-WRIST	.686	.616	.850	.858	.901	

SECTION VII

BIVARIATE FREQUENCY TABLES

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Hand Length and Stature	71
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H A N D L E N G T H

S T A T U R E

	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	Total
7.99																					0.4				0.4
7.89																					0.1				0.1
7.79																					0.5				0.5
7.69																					0.0				0.0
7.59																					3.5				3.5
7.49																					3.3				3.3
7.39																					4.8				4.8
7.29																					5.3				5.3
7.19																					10.9				10.9
7.09																					11.0				11.0
6.99	0.1	0.4	0.5	0.5	1.0	1.6	0.9	0.4	0.5	0.9	1.0	0.8	0.6	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	10.8
6.89	0.4	0.5	0.5	0.5	1.0	1.2	0.9	0.7	0.5	0.9	1.0	0.8	0.6	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	9.9
6.79	0.5	0.5	0.5	0.5	1.0	1.0	0.7	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	9.0
6.69																					7.5				7.5
6.59																					8.7				8.7
6.49																					5.4				5.4
6.39	0.5	0.5	0.5	0.5	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	1.0	0.2	0.2	4.2
6.29																					2.3				2.3
6.19																					1.0				1.0
6.09	0.2	0.2																			0.5				0.5
	1.2	3.7	2.3	4.9	4.3	5.8	5.9	7.9	5.5	4.9	6.2	9.4	4.8	6.1	6.4	4.8	3.0	6.1	2.3	1.5	1.0	1.0	0.5	0.5	100.0

Bivariate Frequency Table for Hand Length and Stature
r=.700 (for grouped data)

(All frequency values are expressed as percentages. Dimensions are in inches)

H A N D L E N G T H

H A N D B R E A D T H ; M E T A .

	2.74	2.84	2.94	3.04	3.14	3.24	3.34	3.44	Total
7.99									0.4
7.89						0.4			0.1
7.79						0.1			0.5
7.69								0.5	0.0
7.59			0.2	0.3	0.9	1.0	0.9		3.3
7.49			0.7	0.5	1.0	0.7	0.5	0.5	3.9
7.39		0.5	0.0	0.3	1.7	1.5	0.7	0.2	4.9
7.29			0.4	1.2	2.2	1.0	0.7		5.5
7.19		0.1	3.0	2.2	3.4	2.1	0.2		11.1
7.09		0.9	3.5	3.2	3.8	0.2			11.6
6.99	0.2	1.0	2.0	2.2	4.9	0.9			11.1
6.89	0.9	0.4	3.0	2.2	2.6	0.7			9.3
6.79	1.3	0.8	3.2	2.1	1.4	0.2			9.1
6.69	0.5	1.5	2.3	1.6	1.2	0.5			7.6
6.59	1.4	1.1	3.9	1.0	0.9				8.4
6.49		0.7	1.9	1.5	0.8	0.2			5.2
6.39	1.1	1.2	0.5	1.2					4.1
6.29	0.5	0.0	0.7	0.9					2.2
6.19	0.2	0.3	0.5						0.9
6.09		0.5							0.5
	6.0	9.0	25.9	20.4	24.9	9.6	3.0	1.1	100.0

Bivariate Frequency Table for Hand Length and Hand Breadth; Meta.

r = .561 (for grouped data)

(All frequency values are expressed as percentages. Dimensions are in inches)

HAND LENGTH

HAND CIRC; META.

	6.60	6.70	6.80	6.90	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	8.00	8.10	8.20	8.30	Total
7.99													0.4						0.4
7.89													0.1						0.1
7.79																	0.4		0.4
7.69																			0.0
7.59									0.5	0.9	0.1	0.4	0.5	0.5	0.5		0.5		3.3
7.49					0.5	0.1	0.4	0.3	1.0	0.9	0.5	0.5	0.5	0.1	0.7		0.5		3.9
7.39			0.5					0.2	1.0	0.1				0.6	1.5				4.9
7.29								1.3	0.8	0.4	0.3	1.4	0.6	0.6	0.2				5.5
7.19					0.1	0.6	1.2	1.6	1.3	1.3	1.8	0.8	1.1	0.8	0.4				11.1
7.09					1.6	0.5	1.8	1.7	2.0	2.2	0.8	0.5		0.2	0.3				11.6
6.99			0.1	1.0	0.8	0.2	1.8	1.9	2.1	1.1	0.6	0.5		0.5	0.5				11.1
6.89	0.5	0.6	0.6	0.6	0.6	0.9	0.9	0.4	1.0	1.4	1.3	1.5							9.8
6.79		1.0	1.2	1.1	1.1	0.5	0.1	1.7	1.8	1.2		0.5							9.1
6.69		0.3	0.9	0.8	1.0	1.0	1.4	1.6	0.4	0.4	0.4	0.2	0.3						7.6
6.59	0.5		0.5	1.0	1.5	1.7	1.4	0.5	0.5	0.7	0.1								8.4
6.49						0.9	1.4	1.0	0.6	0.4	0.8	0.2							5.2
6.39	0.2	0.3		0.5	0.4	0.1	0.8	1.0	0.7										4.1
6.29				0.5	0.0	0.1	0.8	0.1	0.7										2.2
6.19				0.5	0.5														0.9
6.09				0.5															0.5
	1.2	0.3	2.4	7.1	7.8	6.7	12.1	13.0	13.7	9.3	8.0	6.2	3.8	3.4	3.9	0.0	0.5	0.9	100.0

Bivariate Frequency Table for Hand Length and Hand Circumference; Metacarpale

r = .558 (for grouped data)

(All frequency values are expressed as percentages. Dimensions are in inches)

IZO WEZOTI

Bivariate Frequency Table for Hand Length and Crotch 3 Height

(All frequency values are expressed as percentages. Dimensions are in inches.)

HAND CIRCUMFERENCE **FINGERTIPS EVEN**

HAND CIRC; META.

	6.60	6.70	6.80	6.90	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	8.00	8.10	8.20	8.30	Total
10.06															0.6				0.6
9.96															0.7				0.7
9.86							0.2				0.5			0.2	0.4		0.5	0.5	2.2
9.76							0.3						0.8						1.6
9.66									0.5				1.2	1.0				0.4	3.2
9.56									0.4	0.1	0.4	0.1	0.3	0.7	0.7				2.5
9.46										0.5	0.0	1.2	0.8		1.0				3.6
9.36			0.2	0.2			0.2	0.3		0.5	0.0	0.5	0.5						2.7
9.26						0.7	1.2	1.3	1.3	0.2	0.7	0.8							6.2
9.16					0.9		0.5	0.4	1.6	0.5	1.8	1.2		0.2	0.3				7.4
9.06						0.3	0.0	1.3	2.0	1.4	1.5	0.9		0.5	0.3				8.2
8.96					0.1	0.2	0.4	1.2	0.9	3.2	0.6	0.3		0.6					7.6
8.86					1.0	0.2	1.3	2.8	2.0	1.0	0.9		0.3						9.3
8.76				0.6	0.2	1.3	1.9	1.5	1.7	0.8	0.4	0.8							9.5
8.66				0.4	1.2	1.2	0.6	1.5	1.2	0.1	0.7	0.5							7.3
8.56				0.9	1.3	1.7	1.8	1.4	0.9										8.0
8.46			0.5	1.4	0.3	0.5	1.7	0.4	1.0	0.1									5.9
8.36				0.9	0.9	0.6	0.9	0.0	0.1	0.5									3.9
8.26	0.5		0.5	0.5	0.9		0.8	0.2											3.3
8.16				0.5	1.0					0.5									2.0
8.06				1.0			0.5												1.5
7.96			1.1	0.7															1.8
7.86																			0.0
7.76	0.1	0.2																	0.3
7.66	0.5	0.1																	0.6
	1.2	0.3	2.4	7.1	7.8	6.7	12.1	13.0	13.7	9.3	8.0	6.2	3.8	3.4	3.9	0.0	0.5	0.9	100.0

Bivariate Frequency Table for Hand Circumference; Fingertips Even and Hand Circumference; Metacarpale

r= .734 (for grouped data)

(All frequency values are expressed as percentages. Dimensions are in inches)

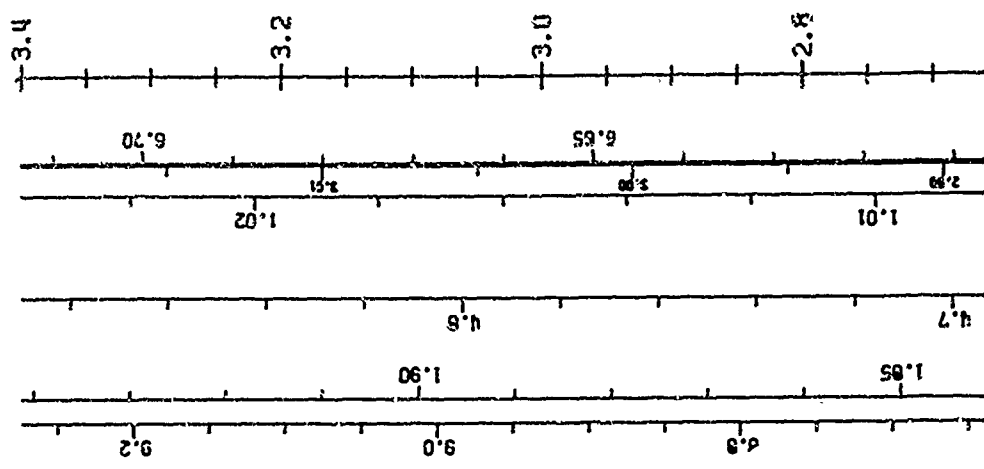
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SECTION VIII

SELECTED NOMOGRAPHS

1. English Units of Measurement
2. Metric Units of Measurement

Hand Breadth: MPTA
 Hand Breadth: Keta III
 Hand Circumference
 Hand Depth: Tamar Pad
 Fit Circumference

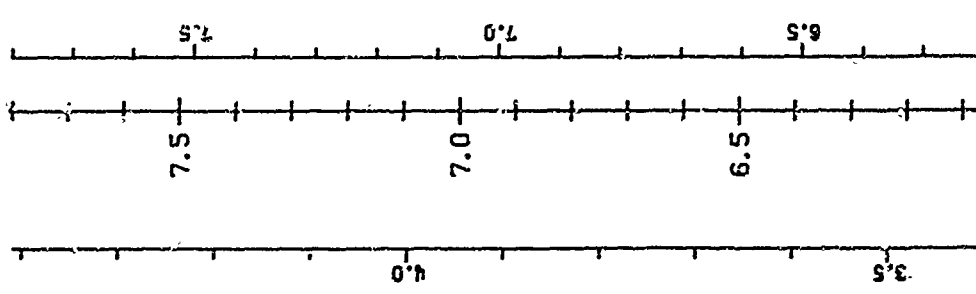


USAF FEMALE PERSONNEL

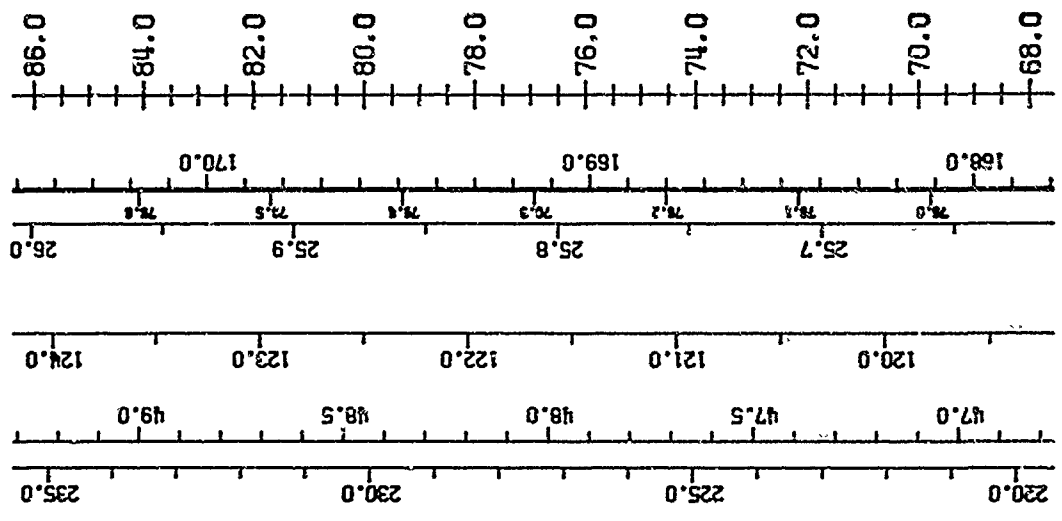
A straight line passing through known values of HAND LENGTH and HAND BREADTH. METACARPALE will also pass through average values of the other dimensions for USAF female personnel having this Hand Length and this Hand Breadth, Metacarpale. Each average value thus found is the midpoint of a range, found by adding and subtracting the number shown below the line to this midpoint, which will include the dimensions of about two-thirds of the women with the original values of Hand Length and Hand Breadth, Metacarpale.

All dimensions are in inches.

Hand Length
 Dist. 3 Length: Total
 Tip To Wrist Crease
 Grade 3 HL



Hand Circumference: Meta III
 Hand Breadth: Meta III
 Hand Breadth: Meta IV
 Hand Circumference: Meta III
 Hand Depth: Thamar Pad
 Flat Circumference

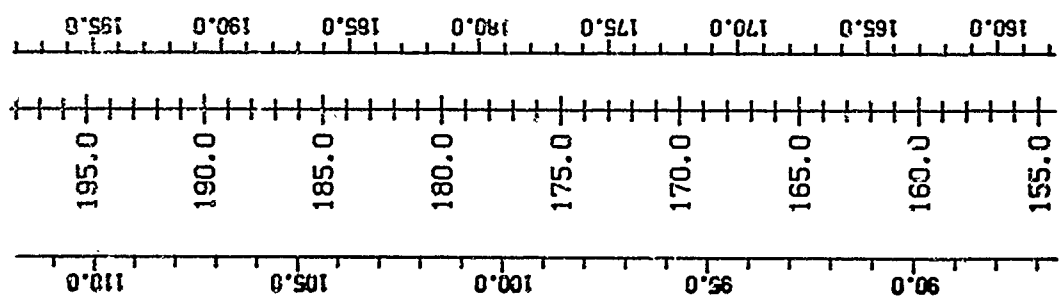


USAF FEMALE PERSONNEL

A straight line passing through known values of HAND LENGTH and HAND BREADTH, METACARPAL will also pass through average values of the other dimensions for USAF female personnel having this Hand Length and this Hand Breadth, Metacarpale. Each average value thus found is the midpoint of a range, found by adding and subtracting the number shown below the line to this midpoint, which will include the dimensions of about two-thirds of the women with the original values of Hand Length and Hand Breadth, Metacarpale.

All dimensions are in millimeters.

Code 3 HL
 HAND LENGTH
 Dist 3 Length: Total
 Tip to Wrist Crease



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11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY
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13. ABSTRACT		
This report describes 56 anthropometric dimensions measured on the hands of 211 Air Force female personnel (Women in the Air Force, Nurse Corps, and Biomedical Science Corps), aged 18-56. Summary statistics including the means, standard deviations, ranges, selected percentiles, measures of distribution, and coefficients of variation are presented for the 56 dimensions. Also included are statistical variations by age, rank and Corps within the sample, a complete correlation matrix, bivariate tables, and nomographs for various selected combinations of dimensions.		

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Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Anthropology Anthropometry Hands Hand Measurements Body Size						

SUPPLEMENTARY

INFORMATION

Multiple Regression Equations in Terms of Hand Length & Hand Breadth

1	HAND LENGTH	=	(1.000)H.L.	+	(0.000)H.B.	+	(0.000)	R = 1.000	SE = .00
2	HAND BREADTH META	=	(0.000)H.L.	+	(1.000)H.B.	+	(0.000)	R = 1.000	SE = .00
3	HAND CIRC METACARP	=	(.079)H.L.	+	(1.851)H.B.	+	(3.022)	R = .897	SE = .37
4	HAND CIRC META MIN	=	(-.006)H.L.	+	(2.306)H.B.	+	(3.788)	R = .710	SE = .87
5	HAND CIRC TIPS EVN	=	(.286)H.L.	+	(1.969)H.B.	+	(2.291)	R = .773	SE = .73
6	FIST CIRC	=	(.386)H.L.	+	(2.161)H.B.	+	(1.248)	R = .799	SE = .79
7	WRIST CIRC	=	(.157)H.L.	+	(1.158)H.B.	+	(3.237)	R = .745	SE = .47
8	HAND THICK AT META	=	(.008)H.L.	+	(.192)H.B.	+	(1.136)	R = .428	SE = .16
9	HND DPTH THENR PAD	=	(.062)H.L.	+	(.386)H.B.	+	(1.082)	R = .468	SE = .34
10	DIG 1 JOINT BROTH	=	(.021)H.L.	+	(.141)H.B.	+	(.436)	R = .550	SE = .10
11	DIGIT 1 JOINT DPTH	=	(.013)H.L.	+	(.157)H.B.	+	(.216)	R = .554	SE = .12
12	DIGIT 1 JOINT CIRC	=	(.043)H.L.	+	(.467)H.B.	+	(1.149)	R = .617	SE = .26
13	DIG 2 DST JNT BOTH	=	(.003)H.L.	+	(.152)H.B.	+	(.314)	R = .591	SE = .03
14	DIG 2 DST JNT DPTH	=	(-.003)H.L.	+	(.117)H.B.	+	(.432)	R = .479	SE = .02
15	DIG 2 DST JNT CIRC	=	(0.000)H.L.	+	(.419)H.B.	+	(1.230)	R = .613	SE = .21
16	DIG 2 PR JNT BROTH	=	(.013)H.L.	+	(.145)H.B.	+	(.469)	R = .623	SE = .08
17	DIG 2 PR JNT DPTH	=	(.016)H.L.	+	(.110)H.B.	+	(.485)	R = .508	SE = .09
18	DIG 2 PR JNT CIRC	=	(.048)H.L.	+	(.407)H.B.	+	(1.401)	R = .625	SE = .23
19	DIG 3 DST JNT BOTH	=	(-.001)H.L.	+	(.133)H.B.	+	(.523)	R = .558	SE = .07
20	DIG 3 DST JNT DPTH	=	(0.000)H.L.	+	(.131)H.B.	+	(.300)	R = .553	SE = .07
21	DIG 3 DST JNT CIRC	=	(0.000)H.L.	+	(.422)H.B.	+	(1.226)	R = .617	SE = .20
22	DIG 3 PR JNT BROTH	=	(.007)H.L.	+	(.144)H.B.	+	(.594)	R = .580	SE = .08
23	DIG 3 PR JNT DPTH	=	(.018)H.L.	+	(.129)H.B.	+	(.353)	R = .539	SE = .09
24	DIG 3 PR JNT CIRC	=	(.034)H.L.	+	(.423)H.B.	+	(1.629)	R = .639	SE = .22
25	DIG 4 DST JNT BOTH	=	(.002)H.L.	+	(.132)H.B.	+	(.376)	R = .567	SE = .07
26	DIG 4 DST JNT DPTH	=	(.002)H.L.	+	(.124)H.B.	+	(.258)	R = .534	SE = .08
27	DIG 4 DST JNT CIRC	=	(.006)H.L.	+	(.375)H.B.	+	(1.221)	R = .605	SE = .19
28	DIG 4 PR JNT BROTH	=	(.006)H.L.	+	(.130)H.B.	+	(.580)	R = .521	SE = .09
29	DIG 4 PR JNT DPTH	=	(.017)H.L.	+	(.092)H.B.	+	(.556)	R = .412	SE = .10
30	DIG 4 PR JNT CIRC	=	(.035)H.L.	+	(.352)H.B.	+	(1.779)	R = .567	SE = .22
31	DIG 5 DST JNT BOTH	=	(.002)H.L.	+	(.111)H.B.	+	(.418)	R = .478	SE = .08
32	DIG 5 DST JNT DPTH	=	(.010)H.L.	+	(.104)H.B.	+	(.149)	R = .495	SE = .08
33	DIG 5 DST JNT CIRC	=	(.009)H.L.	+	(.329)H.B.	+	(1.162)	R = .541	SE = .20
34	DIG 5 PR JNT BROTH	=	(.011)H.L.	+	(.107)H.B.	+	(.438)	R = .519	SE = .08
35	DIG 5 PR JNT DPTH	=	(.025)H.L.	+	(.060)H.B.	+	(.479)	R = .436	SE = .08
36	DIG 5 PR JNT CIRC	=	(.061)H.L.	+	(.275)H.B.	+	(1.266)	R = .565	SE = .21
37	WRIST BREADTH	=	(.021)H.L.	+	(.478)H.B.	+	(1.768)	R = .584	SE = .27
38	DIGIT 1 HT PERP WC	=	(.044)H.L.	+	(-.215)H.B.	+	(-1.249)	R = .609	SE = .67
39	DIGIT 2 HT PERP WC	=	(.078)H.L.	+	(.150)H.B.	+	(-.469)	R = .858	SE = .47
40	DIGIT 3 HT PERP WC	=	(.052)H.L.	+	(.080)H.B.	+	(-.056)	R = .950	SE = .27
41	DIGIT 4 HT PERP WC	=	(.093)H.L.	+	(.141)H.B.	+	(-.739)	R = .898	SE = .39
42	DIGIT 5 HT PERP WC	=	(.078)H.L.	+	(.101)H.B.	+	(-1.936)	R = .783	SE = .55
43	CROTCH 1 HEIGHT	=	(.409)H.L.	+	(-.152)H.B.	+	(-.441)	R = .575	SE = .46
44	CROTCH 2 HEIGHT	=	(.542)H.L.	+	(-.063)H.B.	+	(.628)	R = .755	SE = .39
45	CROTCH 3 HEIGHT	=	(.532)H.L.	+	(-.075)H.B.	+	(.849)	R = .749	SE = .39
46	CROTCH 4 HEIGHT	=	(.524)H.L.	+	(-.048)H.B.	+	(-.305)	R = .734	SE = .41
47	DIGIT 1 TIP-CROTCH	=	(.347)H.L.	+	(.017)H.B.	+	(-.383)	R = .687	SE = .32
48	DIGIT 2 TIP-CROTCH	=	(.350)H.L.	+	(.224)H.B.	+	(-1.103)	R = .685	SE = .38
49	DIGIT 3 TIP-CROTCH	=	(.406)H.L.	+	(.152)H.B.	+	(-.631)	R = .755	SE = .33
50	DIGIT 4 TIP-CROTCH	=	(.398)H.L.	+	(.098)H.B.	+	(-.532)	R = .701	SE = .37
51	DIGIT 5 TIP-CROTCH	=	(.283)H.L.	+	(.124)H.B.	+	(-.570)	R = .619	SE = .35
52	DIGIT 1 TIP-WRIST	=	(.854)H.L.	+	(-.247)H.B.	+	(-2.358)	R = .685	SE = .73
53	DIGIT 2 TIP-WRIST	=	(.889)H.L.	+	(.122)H.B.	+	(-.210)	R = .898	SE = .41
54	DIGIT 3 TIP-WRIST	=	(.942)H.L.	+	(.081)H.B.	+	(.135)	R = .951	SE = .27
55	DIGIT 4 TIP-WRIST	=	(.891)H.L.	+	(.143)H.B.	+	(-.318)	R = .897	SE = .39
56	DIGIT 5 TIP-WRIST	=	(.799)H.L.	+	(.225)H.B.	+	(-1.421)	R = .804	SE = .55

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F Multiple Regression Equations in Terms of Hand Length & Fist Circumference

1 HAND LENGTH	=	(1.000)H.L.	+	(0.000)F.C.	+	(0.000)	R = 1.000	SE = .00
2 HAND BREADTH META	=	(.069)H.L.	+	(.196)F.C.	+	(1.006)	R = .781	SE = .24
3 HAND CIRC METACARP	=	(.138)H.L.	+	(.437)F.C.	+	(5.385)	R = .785	SE = .51
4 HAND CIRC META MIN	=	(-.008)H.L.	+	(.626)F.C.	+	(6.060)	R = .683	SE = .92
5 HAND CIRC TIPS EVN	=	(.218)H.L.	+	(.606)F.C.	+	(3.644)	R = .786	SE = .72
6 FIST CIRC	=	(0.000)H.L.	+	(1.000)F.C.	+	(0.000)	R = 1.000	SE = .00
7 WRIST CIRC	=	(.183)H.L.	+	(.286)F.C.	+	(4.597)	R = .585	SE = .52
8 HAND THICK AT META	=	(-.003)H.L.	+	(.064)F.C.	+	(1.225)	R = .455	SE = .15
9 HAND DPTH THENR PAD	=	(.025)H.L.	+	(.144)F.C.	+	(1.146)	R = .520	SE = .33
10 DIG 1 JOINT BROTH	=	(.016)H.L.	+	(.044)F.C.	+	(.521)	R = .557	SE = .10
11 DIGIT 1 JOINT DPTH	=	(.014)H.L.	+	(.041)F.C.	+	(.391)	R = .515	SE = .10
12 DIGIT 1 JOINT CIRC	=	(.043)H.L.	+	(.131)F.C.	+	(1.586)	R = .597	SE = .26
13 DIG 2 DST JNT BOTH	=	(.005)H.L.	+	(.038)F.C.	+	(.507)	R = .531	SE = .08
14 DIG 2 DST JNT DPTH	=	(-.006)H.L.	+	(.035)F.C.	+	(.519)	R = .474	SE = .08
15 DIG 2 DST JNT CIRC	=	(.001)H.L.	+	(.112)F.C.	+	(1.661)	R = .563	SE = .21
16 DIG 2 PR JNT BROTH	=	(.012)H.L.	+	(.041)F.C.	+	(.587)	R = .600	SE = .08
17 DIG 2 PR JNT DPTH	=	(.002)H.L.	+	(.045)F.C.	+	(.467)	R = .598	SE = .08
18 DIG 2 PR JNT CIRC	=	(.022)H.L.	+	(.138)F.C.	+	(1.579)	R = .665	SE = .22
19 DIG 3 DST JNT BOTH	=	(.002)H.L.	+	(.033)F.C.	+	(.675)	R = .488	SE = .08
20 DIG 3 DST JNT DPTH	=	(.002)H.L.	+	(.034)F.C.	+	(.430)	R = .501	SE = .08
21 DIG 3 DST JNT CIRC	=	(.008)H.L.	+	(.105)F.C.	+	(1.729)	R = .547	SE = .22
22 DIG 3 PR JNT BROTH	=	(.012)H.L.	+	(.033)F.C.	+	(.795)	R = .504	SE = .09
23 DIG 3 PR JNT DPTH	=	(.013)H.L.	+	(.040)F.C.	+	(.444)	R = .549	SE = .09
24 DIG 3 PR JNT CIRC	=	(.035)H.L.	+	(.114)F.C.	+	(2.042)	R = .603	SE = .22
25 DIG 4 DST JNT BOTH	=	(.003)H.L.	+	(.034)F.C.	+	(.532)	R = .520	SE = .08
26 DIG 4 DST JNT DPTH	=	(.001)H.L.	+	(.035)F.C.	+	(.363)	R = .510	SE = .08
27 DIG 4 DST JNT CIRC	=	(.006)H.L.	+	(.101)F.C.	+	(1.605)	R = .566	SE = .20
28 DIG 4 PR JNT BRI	=	(.009)H.L.	+	(.032)F.C.	+	(.734)	R = .465	SE = .09
29 DIG 4 PR JNT DPT	=	(.010)H.L.	+	(.033)F.C.	+	(.571)	R = .445	SE = .10
30 DIG 4 PR JNT CIRC	=	(.029)H.L.	+	(.102)F.C.	+	(2.067)	R = .556	SE = .22
31 DIG 5 DST JNT BOTH	=	(.009)H.L.	+	(.041)F.C.	+	(.453)	R = .554	SE = .07
32 DIG 5 DST JNT DPTH	=	(.007)H.L.	+	(.031)F.C.	+	(.235)	R = .494	SE = .08
33 DIG 5 DST JNT CIRC	=	(-.012)H.L.	+	(.112)F.C.	+	(1.294)	R = .585	SE = .19
34 DIG 5 PR JNT BROTH	=	(.010)H.L.	+	(.031)F.C.	+	(.511)	R = .505	SE = .08
35 DIG 5 PR JNT DPTH	=	(.017)H.L.	+	(.025)F.C.	+	(.464)	R = .477	SE = .08
36 DIG 5 PR JNT CIRC	=	(.046)H.L.	+	(.090)F.C.	+	(1.421)	R = .584	SE = .20
37 WRIST BREADTH	=	(.019)H.L.	+	(.132)F.C.	+	(2.212)	R = .555	SE = .27
38 DIGIT 1 HT PERP WC	=	(.654)H.L.	+	(-.069)F.C.	+	(-1.373)	R = .610	SE = .67
39 DIGIT 2 HT PERP WC	=	(.877)H.L.	+	(.041)F.C.	+	(-.313)	R = .857	SE = .47
40 DIGIT 3 HT PERP WC	=	(.942)H.L.	+	(.033)F.C.	+	(-.079)	R = .951	SE = .27
41 DIGIT 4 HT PERP WC	=	(.867)H.L.	+	(.066)F.C.	+	(-.824)	R = .900	SE = .39
42 DIGIT 5 HT PERP WC	=	(.717)H.L.	+	(.100)F.C.	+	(-2.339)	R = .791	SE = .55
43 CROTCH 1 HEIGHT	=	(.416)H.L.	+	(-.049)F.C.	+	(-.522)	R = .576	SE = .46
44 CROTCH 2 HEIGHT	=	(.553)H.L.	+	(-.029)F.C.	+	(.665)	R = .756	SE = .39
45 CROTCH 3 HEIGHT	=	(.518)H.L.	+	(-.005)F.C.	+	(.646)	R = .748	SE = .39
46 CROTCH 4 HEIGHT	=	(.506)H.L.	+	(.007)F.C.	+	(-.526)	R = .734	SE = .41
47 DIGIT 1 TIP-CROTCH	=	(.323)H.L.	+	(.025)F.C.	+	(-1.132)	R = .690	SE = .32
48 DIGIT 2 TIP-CROTCH	=	(.336)H.L.	+	(.076)F.C.	+	(-1.012)	R = .689	SE = .38
49 DIGIT 3 TIP-CROTCH	=	(.392)H.L.	+	(.056)F.C.	+	(-.629)	R = .758	SE = .33
50 DIGIT 4 TIP-CROTCH	=	(.391)H.L.	+	(.034)F.C.	+	(-.545)	R = .702	SE = .37
51 DIGIT 5 TIP-CROTCH	=	(.253)H.L.	+	(.065)F.C.	+	(-.590)	R = .632	SE = .34
52 DIGIT 1 TIP-WRIST	=	(.842)H.L.	+	(-.054)F.C.	+	(-2.706)	R = .683	SE = .73
53 DIGIT 2 TIP-WRIST	=	(.881)H.L.	+	(.042)F.C.	+	(-.169)	R = .890	SE = .41
54 DIGIT 3 TIP-WRIST	=	(.929)H.L.	+	(.036)F.C.	+	(.099)	R = .952	SE = .27
55 DIGIT 4 TIP-WRIST	=	(.875)H.L.	+	(.057)F.C.	+	(-.344)	R = .898	SE = .39
56 DIGIT 5 TIP-WRIST	=	(.748)H.L.	+	(.116)F.C.	+	(-1.552)	R = .811	SE = .54