Unclassified

Security Classification

AD 743528

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*
Anthropology Research Project
Yellow Springs, Ohio

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE

ANTHROPOMETRY OF U. S. ARMY AVIATORS - 1970

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Final (November 1969 - December 1971)

5. AUTHOR(S) *(First name, middle initial, last name)*

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6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
December 1971	335	11

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
DAAG 17-70-C-0055	
b. PROJECT NO. 1T062106A121-02	72-52-CE (C&PLSEL-95)
c.	9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*
d.	

10. DISTRIBUTION STATEMENT

Approved for public release; distribution unlimited

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	U. S. Army Natick Laboratories Natick, Mass. 01760

13. ABSTRACT

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DD FORM 1 NOV 68 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

Unclassified

Security Classification

PAGES _____

ARE

MISSING

IN

ORIGINAL

DOCUMENT

Unclassified
Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Anthropometry	8				9	
Body Size	8				9	
Surveys (Data Collection)	8					
Military Personnel	9		9		9	
Aviation Personnel	9		9		9	
United States			8, 9		9	
Evaluation			8			
Armed Forces Equipment			8, 9			
Comparisons					8	
Statistics					8	
Percentiles					8	

Unclassified
Security Classification

Approved for public release;
distribution unlimited.

AD_____

TECHNICAL REPORT
72- 52 -CE

ANTHROPOMETRY OF U. S. ARMY AVIATORS - 1970

by

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Contract No. DAAG 17-70-C-0055

Project Reference:
1T062106A121-02

Series: C&PLSEL-95

December 1971

Clothing and Personal Life Support Equipment Laboratory
U. S. ARMY NATICK LABORATORIES
Natick, Massachusetts

FOREWORD

The proper design of the specialized clothing which the flying personnel of the U.S. Army must wear, the protective equipment which they must use, and the workspace within which they must function requires a knowledge of the body dimensions of these men. The present day Army fliers make up a group of men characterized by relatively new patterns of age, educational level, and training. As such, these men constitute a group whose anthropometric characteristics have not been previously documented. The present study was designed to provide this documentation.

The study reported herein was carried out by the Anthropology Research Project, Yellow Springs, Ohio under contract DAAG 17-70-C-0055 with the U.S. Army Natick Laboratories, Natick, Massachusetts. Mr. Edmund Churchill acted as senior investigator for the Anthropology Research Project and Mr. Robert M. White as Project Officer for the U.S. Army Natick Laboratories.

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ABSTRACT

This report describes an anthropometric survey of U.S. Army aviators conducted at Fort Rucker, Alabama in 1970. Data for 85 body-size measurements and for several variables describing the socio-military background of the survey subjects were gathered on a sample of 1482 flying personnel. Statistical summaries are presented for each measurement for the entire sample and for five subseries: enlisted men (crew chiefs, mechanics, door gunners), warrant officer and warrant officer candidate trainees, warrant officer rated pilots, commissioned trainees, and commissioned pilots. Summary statistics and percentiles for 80 anthropometric indices and for some 73 anthropometric variables computed from the measured dimensions are given, as is the correlation matrix for the measured variables and age.

INTRODUCTION

This report describes and summarizes the results of an anthropometric survey of approximately fifteen hundred flying personnel of the United States Army. The survey was conducted during the first three months of 1970 at Fort Rucker, Alabama, a major training base for helicopter pilots and other Army fliers.

The initial chapter of this report, The Survey, notes the reasons for conducting the survey and describes the organization of the survey group, the selection of the measurements to be made, the selection of the sample, and the manner in which the survey was conducted in the field. The second chapter, Statistical and Computational Procedures, describes the statistics that are subsequently reported and outlines the computational procedures used in the calculation of these statistics.

The third chapter, The Sample, describes the group of men measured in terms of a number of background variables: rank, military assignment, place of birth, education, handedness, whether they wear glasses, and whether they are rated parachutists. The flight experiences of the rated and trainee pilots in both rotary and fixed wing craft are summarized here.

Chapter four, The Visual Index, contains a set of line drawings, designed to provide a visual index of the set of 98 direct measurements. The following chapter, Variable Descriptions and Statistics, contains the basic anthropometric content of this report. There each measurement is described by a brief verbal description, by a line drawing, and by a photograph, and the data for the measurement presented in a set of summary statistics, a frequency table, and a frequency graph.

The sixth chapter, The Subseries Data, constitutes a recognition that neither the U.S. Army flying personnel nor the sample of these men who were studied is homogeneous in terms of age, military assignment, and educational background, and that differences in these factors may be reflected in differences in body size. Five basic subseries are recognized in this chapter: enlisted men, pilot trainees who were warrant officer candidates or warrant officers, pilot trainees who were commissioned officers, rated pilots with warrants, and rated pilots with commissions. These five groups are contrasted in terms of the background variables, and in terms of weight, stature, sitting height,

chest circumference, ponderal index, and subscapular skinfold thickness. Abbreviated summaries are given for all anthropometric variables for each group.

Chapter seven, Computed Variables and Indices, includes statistical summaries and percentile values for about one hundred and fifty variables and indices computed from the measurement data.

The final chapter, The Correlation Coefficients, provides information on the simultaneous variation of pairs of the measurement variables in the form of the 86 x 86 intercorrelation matrix for age and the anthropometric variables.

The final pages of the report include a copy of the survey blank (Appendix A), an anatomical glossary (Appendix B), and an index.

Chapter I

THE SURVEY: Description and Methodology

Purpose of the Survey

Reliable, up-to-date anthropometric data are essential for the proper sizing and tariffing of clothing and personal protective equipment. Such data are needed also as guides to the effective design of equipment and for the layout of efficient work stations. The current widespread utilization of rotary wing aircraft in the Army and the changes in the selection criteria for Army pilots which this utilization has engendered has generated a relatively new, broad user population for whom anthropometric data are either incomplete or non-existent.

Earlier anthropometric studies of Army fliers consist primarily of a survey conducted by White in 1959 and one conducted by Schane and his associates in 1968. White's survey of 500 Army aviators is somewhat dated; it substantially predates the adoption by the Army of its current selection procedures and criteria. In addition, the men in White's sample were, on the average, nearly five years older when measured than were the members of the present sample. White's subjects were, thus, born about 16 years, or about a generation, earlier than the present sample. Schane's study, while based on a sample largely contemporaneous with the present one (1640 warrant officer candidates undergoing flight training), was limited to nine body measurements.

The work described in this report was undertaken to fill the clear need for current and relatively complete data describing the distribution and variability of the body size of U.S. Army flying personnel, particularly those assigned to rotary wing duty.

Survey Procedure

The anthropometric survey was carried out as a joint activity of several individuals and organizations. Mr. Robert M. White served as the project officer and acted as liaison officer between the contractor staff and the Aeromedical Laboratory at Fort Rucker. Drs. J. T. McConville and L. L. Laubach of the Anthropology Research Project had the responsibility for the technical organization and for the team training. Dr. Laubach provided supervision of the survey team in the field and had major responsibility

for the day-to-day conduct of the survey. Capt. Robert Frank acted as project officer at Fort Rucker and supervised the field arrangements and scheduling of subjects.

To make a somewhat lengthy list of measurements on each subject with minimum interruptions of his regular duties a team of eight men was recruited to serve as measurers and recorders. The measurers were an Antioch College faculty member and seven students. These men were intensively trained in the specific measuring techniques before leaving for the field. The members of the measuring team were paired to form four measuring teams and trained to serve both as measurer and recorder. In the field the members of each pair alternated, as they chose, between the two roles for which they were trained. The list of dimensions to be measured was divided into four sets; each measuring-recording team was responsible for a single set. The dimensions assigned to a particular station and a particular measuring team were those which were easiest to measure in sequence, requiring the minimum of picking up and laying down of instruments, and which required essentially the same processing time per subject. The sequence and their assignment to the measuring stations are indicated on the survey data sheet (Appendix A).

The survey blank was designed to facilitate transcribing of the data into punch cards as well as for ease of recording the data and their subsequent location. Variables were numbered and their location on a punched deck indicated. The blanks were printed on carbonless 'carbon paper' to provide two copies of the completed form. The existence of two copies of the form facilitated shipment of data from the field for early processing and assured that the contractor and the project officer would both have original data records.

A place on the form was provided to record socio-military background information which would aid in describing the sample and in selecting from it series of men representative of various military subgroups. In addition, the data blank was designed to accommodate remarks by the subjects as to the fit, comfort, and adequacy of the human engineering design of their personal protective equipment and crew stations.

After a week of intensive training in Ohio the measuring team moved to Fort Rucker, Alabama. The survey was carried out between January 19 and March 13, 1970. The subjects to be measured were scheduled to arrive at the measuring facility in small groups. They were then briefed

by the liason officer as to the nature and conduct of the survey and asked to provide the background information and any remarks concerning their personal equipment and crew stations. The subjects were then instructed to disrobe to their underpants and proceed to any one of the four measuring stations. In addition to being measured at each station, each subject was photographed in a standardized pose.

Selection of Body Dimensions

The human body can be measured in an infinite number of ways. The initial task in preparing to conduct an anthropometric survey is not to determine what body dimensions can be measured but what dimensions should be measured. Each user of anthropometric data has a list of body dimensions that he considers essential for the solution to his particular problems. The list of any one user rarely coincides with the list favored by another. The selection of dimensions to be included in a major body size survey is, therefore, a compromise between the total number of dimensions that the users of the data would like to see measured and the number of dimensions that can effectively be measured with the resources available. For this survey some eighty-five body dimensions were chosen for measurement as being the most useful ones which could be obtained in the time for which each subject would be available. The dimensions included weight, skinfold thickness at four sites, twenty-one body heights and lengths, nine body breadths and depths, sixteen body girths, and eight body surface distances. In addition, there were some fifteen dimensions of the head and face, four dimensions of the hand, and seven dimensions of the feet. A complete listing of the dimensions measured in the survey is given in Appendix A, The Data Sheet, and the dimensions are illustrated in the Visual Index (pp 38-44). The Data Sheet also indicates the personal background information solicited from each subject.

The Training Manual

After the dimensions to be measured were selected a training manual was prepared which outlined in detail the manner in which the measurements were to be made. The following is an example of the type of description incorporated into the manual for each of the dimensions:

Stature-Instrument: Anthropometer

Position of Subject: The subject stands erect with feet together as close as is comfortable and weight distributed equally over both feet. The head is in the Frankfort plane with the eyes directed forward. The subject remains in this position while the measurement is being taken.

Position of Measurer: The measurer stands at the subject's left side.

Procedure: The anthropometer is held and balanced in a vertical position behind the subject. The measurer locates the vertex (highest point) of the head and slides the moving arm of the anthropometer down to rest there. The hair texture is taken into consideration, and sufficient pressure is used to bring the horizontal arm of the anthropometer firmly to the level of the vertex. The anthropometer is carefully removed from the subject and read with the eyes on the level of the reading.

Measuring Instruments and Techniques

The instruments used in this study were the following:

Anthropometer, Siber Hegner #101
Sliding Caliper, Siber Hegner #104
Spreading Caliper, Siber Hegner #106
Caliper Gauge, Siber Hegner #219
Steel Tapes, Lufkin
Lange Skinfold Caliper
Footboard and block
Headboard and block
Table measuring board
Wall measuring board
Scales

The anthropometer of a new, lightweight design is illustrated in the photograph for stature, variable 3. The bottom half is detachable to form the instrument which was used for measuring heights on the lower part of the body (see the photograph for calf height, variable 9). The detached upper half of the anthropometer forms a body caliper to measure breadths, depths, and segment lengths (see, for example, the photograph for shoulder-elbow length, variable 18). The smaller sliding and spreading calipers

are used primarily for measuring dimensions of the head and face, hands, and feet (such as elbow breadth, variable 30, and head length, variable 57).

The steel tape used for body circumferences (shoulder circumference, variable 34, for example) and the Lange skinfold calipers (used for variables 83-86) are other traditional anthropometric instruments.

A number of special measuring instruments were used to speed the measuring of subjects while maintaining accuracy. The headboard, with which variables 66-71 were measured, is used to locate points on the head and face as rectangular co-ordinates or as simple linear distances from the back or top of the head. The footboard and block permit the rapid measuring of various length and breadth dimensions of the foot (variables 76-78). The table and wall mounted scales provide a method for rapidly obtaining certain work space dimensions. These scales consist of sheets of millimeter graph paper covered with clear acetate mounted with the origin of the scale at a table edge (as for buttock-popliteal length, variable 20), or at the table surface (vertical arm reach, sitting, variable 24), or at the corner of the wall (functional reach, variable 23).

Landmarks

A number of landmarks were drawn on each subject to serve as reference points for the measurers. The type of landmarks used were those which indicate 1) bony reference points, 2) specific area of soft tissue, and 3) points of importance in garment or personal protective equipment construction. The definitions of the landmarks used are given below:*

Acromial, Right. The most lateral margin of the right acromial process as determined by palpation.

Biceps, Right. The point of maximum anterior protuberance of the strongly contracted biceps brachii muscle as determined by visual inspection.

Calf, Medial. The level of the maximum circumference of the right calf as determined by measurement.

Cervicale. The tip of the spinous process of the seventh cervical vertebra as determined by palpation.

---

*The Glossary, Appendix B, contains definitions of a number of the anatomical terms used here.

Deltoid, Right. The most lateral protrusion of the right deltoid muscle as determined by visual inspection.

Glabella. The most anterior point in the midsagittal plane on the forehead between the eyebrows as determined by palpation and visual inspection.

Instep Throat. The anterior juncture of the ankle with the right foot as determined by palpation and visual inspection.

Menton. A point in the midsagittal plane on the curvature of the lower jaw approximately 45° from the vertical as determined by palpation and visual inspection.

Metatarsal phalangeal joint I. The distal junction of the 1st metatarsal with its phalanx as determined by palpation.

Midaxillary, Right and Left. A vertical line originating from the center of the axillary (armpit) space as determined by visual inspection.

Midshoulder. A point on the upper surface of the right shoulder midway between the lateral neck and acromial as determined by measurement.

Neck, Right Lateral. The surface juncture of the neck with the shoulder as determined by visual inspection.

Patella Top. The superior edge of the knee cap as determined by palpation.

Scye Points, Right Anterior, Right and Left Posterior. Points on the axillary skinfolds at the inferior level of the axilla. The inferior level of the axilla is determined by placing a horizontal straight edge as high as possible into the axilla without compression of the soft tissue.

Suprasternale. The lowest point of the jugular notch on the sternum as determined by palpation.

Tragion, Right and Left. The deepest point of the notch just above the tragus of each ear as determined by visual inspection.

Waist, Iliac Crest. The level just superior to the iliac crest in the right midaxillary plane as determined by palpation.

Waist, Posterior. The level of omphalion as projected to the back by visual inspection.

Wrist, Right. The most distal level of the ulnar styloid as determined by palpation.

Other landmarks used in the measurements of the body but which were not marked are as follows:

Dactylion, Right. The most distal tip of the third digit of the right hand.

External Canthus, Right. The external corner or angle formed by the juncture of the upper and lower eye lid.

Gluteal Furrow, Right. The skin crease formed on the back of the thigh at its juncture with the buttock.

Olecranon, Right. The proximal end of the ulna bone of the forearm.

Omphalion. The center point of the navel.

Pronasale. The most anterior tip of the nose.

Sellion (Nasal Root Depression). The point of maximum indentation where the bridge of the nose meets the forehead.

Thelion. The right nipple.

Vertex. The top of the head.

Body Positions

The technique of measuring each body dimension is described along with the related statistical summaries in Chapter V. It is desirable, however, to describe here what is meant by the phrases 'subject stands' and 'subject sits erect' which are so often used in these descriptions. The purpose of a rather standardized subject posture is an attempt to assure that the variance found in body size within a group is truly that of variations in body size and not a compounding of this variance with differences in body posture. For many of the measurements, each subject was asked to stand erect, with his weight evenly distributed on both feet, his heels together as much as possible, his legs and trunk straight without stiffness, and his head erect with the line of vision parallel to the plane of the floor. His arms were to hang straight but loosely at his sides with the palms of the hands alongside of, but not touching, his thighs. The posture the subjects were asked to assume is similar to that of the position of military attention but without the stiffness and bracing which is often associated with it.

For the position of sitting erect the subject sits on a cushionless flat surface, feet on an adjustable foot rest so that the knees are flexed to 90°, the long axes of the thighs are parallel. The trunk is erect without stiffness, the head also erect with the path of vision parallel with the plane of the floor. The upper arms are hanging loosely at the side with elbow flexed 90° and

hands straight. Deviations from the standardized poses will be indicated on the individual descriptions which accompany the basic data summaries.

Selection of the Sample

The population which the survey was designed to describe was perceived as consisting of several groups: enlisted men, warrant officers, and commissioned officers, on the one hand, and crew chiefs, mechanics, gunners, pilot trainees, and rated pilots ('Army Pilots', 'Senior Pilots', and 'Master Pilots') on the other. An effort was made to obtain samples adequately large for statistical stability for each of the major groups listed.

Chapter II

STATISTICAL ANALYSIS AND COMPUTATIONAL PROCEDURES

Statistical Analysis

The statistical measures selected to summarize the survey data in this report were chosen as being the ones which we hope would provide most potential users of the data with the maximum of useful information. In the main, they are statistics which have become traditional in anthropometric reports prepared by the U.S. Army and the U.S. Air Force.

Briefly described, these statistics are:

The arithmetic mean. This is the most common of the averages and is computed as the sum of the values divided by the number of values. It is usually designated as M, $\bar{X}$, or μ. Any one of these symbols may be subscripted when several variables are considered simultaneously.

The median. A second average, the median, designates the value of the "person-in-the-middle". If all the subjects in this survey had been lined up in order from the shortest to the tallest, the height of the subject in the middle of the line would be the median height. The definition of the median is the same as that of the 50th percentile - half of the data being smaller than the median and half being larger. The value of the median is to be found at the middle of the percentile tables.

The median and the arithemtic mean have approximately the same values for most of the data gathered in this survey; for these data the question of whether one or the other is the better average is hardly important. Even for those variables such as weight and the skinfolds, for which the differences are largest, the differences are not substantial.*

---

*Differences between the arithmetic mean and the median will usually indicate a deviation from symmetry in the frequency distribution. When a distribution of values is symmetric all measures of central tendency coincide.

The standard deviation. The standard deviation is the basic measure of variability. If most of a set of data cluster close to their mean value, the standard deviation will be small. If, on the other hand, many of the data are either much smaller or much larger than the mean, the standard deviation will be large. By definition, the standard deviation is the square root of the average (i.e., arithmetic mean) of the squared deviations from the mean value. In formula, the standard deviation equals

$$SD = \sqrt{\Sigma(x-\bar{x})^2/N}$$

where Σ is the summation operator, x represents the individual values, $\bar{x}$ their arithmetic mean, and N the number of values.

A useful way of conceptualizing the standard deviation is to consider the middle two-thirds of a set of data such as the values of stature. The smallest value in this middle two-thirds will be about one standard deviation below the mean value and the largest value in this set will be roughly equal to the mean value plus one standard deviation. Similarly, the middle 95 percent of the data will have values ranging from approximately two standard deviations below the mean to two standard deviations above it. Almost all of them will fall within the range from three standard deviations below the mean to three standard deviations above it.

The standard deviation is usually designated by SD or σ. Like the symbols for the mean, any one of these symbols may be subscripted when several variables are being considered at the same time.

The coefficient of variation. This statistic is a restatement of the standard deviation as a percent of the mean, and it is usually denoted by the letter V. Thus,

$$V = 100\ SD/\bar{x}$$

The relationships which were noted for the standard deviation have equivalent forms in terms of V. Thus, about two-thirds of a set of data will lie between (100-V)% and (100+V)% of the mean, about 95 percent will lie between (100-2V)% and (100+2V)% of the mean. Rarely will values lie outside of from (100-3V)% to (100+3V)% of the mean.

For many anthropometric variables, the coefficient of variation varies within a much narrower range than does the standard deviation. The value of V is often associated with the general anatomical nature of the variable involved. Long bone lengths (major heights, hand length, and so forth)

tend to have coefficients of variation in the 3.5% to 5% range, fleshy circumferences have ones which range from 6% to 10%, and those for the skinfolds are mostly in the 30% to 40% range.

The percentiles. This group of statistics belongs to a class of measures designated as "measures of order or position". These measures can be thought of as being obtained by arranging the data in order from the smallest value to the largest one and then observing the value of the datum which lies at a specified position in the array.

Perhaps the most useful of these statistics are the percentiles. The 99 percentiles - ranging from the 1st to the 99th - are the values at the points which separate consecutive blocks or units of 1% of the data in the ordered array. The first percentile is the value which separates the smallest 1% of the data from the 99% of the data with larger values; the second percentile separates the smallest 2% from the larger 98% and so on.

Twenty-five of these percentiles: the 1st, 2nd, 3rd, 5th, 10th, 15th, 20th, 25th, 30th, 35th, 40th, 45th, 50th, 55th, 60th, 65th, 70th, 75th, 80th, 85th, 90th, 95th, 97th, 98th, and 99th were computed for each anthropometric variable.

The percentiles differ from the other statistics used in this report in that there usually is not a value and, especially, not a unique value satisfying the exact definition of the percentiles. Any method of computation of the percentiles will, of necessity, require some compromise with the definition, and the method of computation becomes the de facto definition. The method used here is described in detail several paragraphs later in the report.

Veta I - a measure of symmetry. The statistic β_1 is based on the fact that in a symmetric distribution every value lying a given distance above the mean will be matched by a value lying an equal distance below the mean, so that the cubes of the deviations from the mean - half negative and half positive - will add to zero. Although the converse of this fact is by no means true - a zero sum of the cubed deviations in no way implies a symmetric distribution - the size of this sum when properly adjusted is often considered a useful indication of whether a set of data is unsymmetrically distributed and, if so, how badly. Such a use seems reasonably justified for the kind of data reported here.

Veta I is computed from the sum of the cubed deviations by dividing it by the sample size and the cube of the standard deviation, producing a dimensionless statistic:

$$\beta_1 = \frac{\Sigma(x-\bar{x})^3}{N \cdot SD^3}$$

Veta II - a measure of kurtosis. The statistic β_2 is similarly computed from the fourth powers of the deviations:

$$\beta_2 = \frac{\Sigma(x-\bar{x})^4}{N \cdot SD^4}$$

The interpretation of β_2 is not obvious; its major value, along with β_1 is that its value provides a basis for judging the level of agreement between the normal distribution and the actual distribution of the data.

The normal distribution values for β_1 and β_2 are 0 and 3. In theory, data distributions can deviate from either of these values without deviating from the other. For the data of this study, however, deviant values of either β_1 or β_2 are usually accompanied by deviant values of the other. Most of these deviant values indicate positive skewness ($\beta_1>0$) and platykurtosis ($\beta_2>3$).

When we have occasion to spell out the symbol 'β' we have used 'Veta' in accordance with contemporary Greek pronunciation.

The standard errors. All statistics computed from a sample of data are subject to the effects of sampling error. When a sample has been selected by a random or other probability sampling process, it is often possible to estimate the magnitude of the sampling error. For many statistics, this estimate takes the form of the standard error of that statistic. The standard error is a standard deviation type statistic and is such that, were a large number of samples of data selected in the same way from the same population, about two-thirds of the samples would have means (or standard deviations or percentiles or whatever) with values which lie within a standard error of the corresponding population statistic, 95% within two standard errors, and so forth. Hence, it is conventional to suppose, when dealing with the statistics computed from a single sample, that the population statistics may well be within a standard error - up or down - of the corresponding sample statistics, and that it is rather likely that they are within two standard errors.

Each statistic has its own standard error, the value of which depends on the statistic, on the sample size, and, often, on the standard deviation of the data. The standard errors of the most common statistics (except that of the range) are, for the large samples inversely proportional in size to the square root of the sample size.

For each variable, the standard error of the mean ($=SD/\sqrt{N}$) and that of the standard deviation ($=SD/\sqrt{2N}$) are listed. The standard errors of the other statistics reported on here can be determined from the following formulas:

Statistic	Standard Error
30th thru 70th percentiles	1.3 SE of the Mean
20th, 25th, 75th & 80th percentiles	1.4 SE of the Mean
15th & 85th percentiles	1.5 SE of the Mean
10th & 90th percentiles	1.7 SE of the Mean
5th & 95th percentiles	2.1 SE of the Mean
3rd & 97th percentiles	2.5 SE of the Mean
2nd & 98th percentiles	2.9 SE of the Mean
1st & 99th percentiles	3.7 SE of the Mean
Coefficient of Variation	$V/\sqrt{2N}$
Veta I	$\sqrt{6/N}$
Veta II	$\sqrt{24/N}$

The standard error is variously designated as SE, $SE(\xi)$ where ξ is the statistic involved, $\sigma(\xi)$, and so forth. When a statistic is presented as "164.20 ± 0.93" the value "0.93" is usually (though not always) the standard error of that statistic.

The standard error is a well established statistic of widespread use, and it is generally expected that the various standard error values and a discussion of them will be included in a report of this type. Nevertheless, since probability sampling was not used in this survey, it is not clear what relationship exists between these standard errors and the actual sampling errors of the statistics reported here. A similar comment can, of course, be made about the sampling error statistics for all other large scale, broad anthropometric surveys.

The standard errors of the mean, the standard deviation, and the central percentiles are, in any event, generally rather small, most of them being less than 1.0 or 1.5 millimeters, a value of no real significance in evaluating these statistics.

The frequency tables. The frequency tables group the data for each variable into a table containing up to fifty intervals. For most of the variables, except those with the smallest ranges, the data were grouped in intervals 5 mm or 10 mm wide, the lower limits of these intervals always having values which end in 2.5 mm or 7.5 mm in order to minimize the effect of any overuse of 0's or 5's as final digits.

The tables list, for each interval, the end points of the interval; the number of men whose measurement falls within the interval (F); the cumulative frequency (CUMF), that is, the number of men whose measurement did not exceed the upper end point of the interval, and the values of F and CUMF expressed as percentages of the total number of men measured (FPCT and CUMPCT).

The frequency graphs are based on the data grouped exactly as for the frequency tables. The scale at the base of the graph represents the midpoints of the intervals. The small triangle near the middle of the base locates the mean value; the vertical lines extending upward from the base line mark the points one and two standard deviations below the mean value and those one and two standard deviations above it. The graphs for age and three of the skinfold measures contain only one vertical line to the left of the mean, that for the mean minus one standard deviation, since, for these variables, the value of the mean minus two standard deviations falls beyond the lower end of the range. The numbers along the left edge of the box indicate the frequencies.

Computational Procedures

The data obtained in the survey were initially recorded on the survey blank which is illustrated in Appendix A. The data processing began with the transferring of the data from the survey sheets to punch cards. A total of five cards were used for each record, one card for the military-sociological background data and four cards for the measured anthropometric data. The data were subjected to two separate punchings, normally by different key punch operators, and the resulting decks compared, column by column, on a computer. A computer printout then provided a list by subject and variable number for the discrepancies between the two punchings. This procedure was believed to provide a more rigorous check than that of the more conventional verifying process.

The anthropometric data were recorded and punched in millimeter or tenth-of-kilogram figures. All data were punched as three digit values, initial 'fourth digit' ones being ignored. These ignored values were reconstructed later as the data were transferred from cards to tape. For variables such as stature which exceeded one meter for all subjects, a value of 1000 was automatically added to each punched value. For those variables, such as sitting height, which range in value from below 1000 mm to above 1000 mm, the correction of 1000 mm was added to the punched value if it was less than 400 and not otherwise. The relatively small range of values for most anthropometric measurements of adult males made it possible to reconstruct this initial digit without ambiguity.

The punched cards were read into a computer and transferred to magnetic tape. At this point adjustments were made to four of the measured dimensions. The measurements of crotch height (7), elbow rest height (14), and popliteal height (17) had been read to the bottom of the anthropometer arm although the actual measurement was to the top of the arm and a compensation of 10 mm to the recorded value was therefore necessary. The measurement of buttock-heel length (22) was made using an anthropometer mounted on a base. Because of the manner in which this instrument was read it was necessary to subtract the thickness of the base (24 mm). Initial digits were added to all measurements in excess of 999 mm (or 99.9 kilograms). It is believed that such adjustments to the recorded data can be most easily and accurately accomplished with the computer and that it is highly desirable to reduce to the minimum the number of manipulations of the data that is required of the measurers and recorders.

The data analysis was carried out continuously as the records were received. As soon as the first two hundred records had been punched the data analysis was begun. Summary statistics for this group were prepared and evaluated in an attempt to determine if unusual difficulties were being encountered by the measuring team. The method of measuring crotch height (7) was modified early in the survey upon this evaluation. As additional records were punched the tape record of the survey was up-dated and the editing process begun.

The editing process used consisted of checking the values for each variable for each subject in order to detect any possible errors that might have occurred in the gathering-recording-transcription process. Two separate computer routines have been developed for this purpose. The first computer routine, termed XVAL (=extreme value), determines

for each variable the values which fall in the lower and upper extremes and which appear inconsistent with the other values for that variable. This program provides for each variable:

1) a list of the ten largest and ten smallest values with the associated subject numbers,
2) the mean, the standard deviations, β_1 and β_2 based on all the data, and
3) the mean and the standard deviation estimated from the sample truncated by excluding the 10 largest and smallest values.

Values which are far out of line with respect to the rest of the values for the variable are thereby identified and printed out for careful screening. The size of the smallest or largest values are often clear indicators of gross errors as are any substantial differences between the two sets of standard deviations. The measures of kurtosis β_2, also effectively indicate the presence of values lying outside the 'normal' range.

All values printed out as 'outlyers' were investigated and errors corrected. The data were then subjected to the second of the editing routines, termed EDIT. This routine is designed to evaluate each value in terms of other values recorded for the same individual through the use of a series of regression equations. The computer first calculates regression equations for each variable in a number of specified three-variable-combinations in terms of the other two variables in that combination. Once these equations were available they were used to estimate each variable in the combination. The estimates were then compared to the measured values and if the difference exceeded four times the standard error of estimate, an error message was printed out. The error message consisted of the subject number, the variable name, observed value, estimated value, the difference between these two in standard error units, and a series of other measurements on that subject expressed both in measured units and in standard score form. The choice of combinations used with this program was based on the rule that at least one member of the triplet should be predictable, with fair accuracy, from the other two. A list of typical combinations used in editing these data appears in Table I.

One might, for example, wish to edit the values recorded for stature (3) in terms of the two related dimensions of cervicale height (4) and shoulder height (5). Perhaps, for some subject, the recorded value for stature, 1849, differed from the regression value (based on cervicale and shoulder heights) of 1748 by 100 mm or 7.45 standard error

Table I

SELECTED EDITING COMBINATIONS

Stature, cervicale height, shoulder height
Stature, crotch height, sitting height
Cervicale height, crotch height, trunk height
Mid-shoulder height (sitting), elbow rest height, shoulder-elbow length
Cervicale height, waist height, waist back length

Waist height, crotch height, kneecap height
Crotch height, kneecap height, calf height
Shoulder length, neck circumference, shoulder circumference
Triceps skinfold, subscapular skinfold, suprailiac skinfold
Back curvature, interscye, interscye maximum

Waist back length, waist front length, trunk height
Calf circumference, ankle circumference, lower thigh circumference
Shoulder-elbow length, elbow-fingertip length, sleeve length
Chest depth, chest breadth, chest circumference
Hip breadth, hip circumference, hip breadth (sitting)

Sitting height, eye height (sitting), mid-shoulder height (sitting)
Thigh clearance, upper thigh circumference, lower thigh circumference
Kneecap height, knee height (sitting), popliteal height
Buttock-knee length, buttock-popliteal length, buttock-heel length
Shoulder circumference, chest circumference, waist circumference

Forearm circumference (flexed), wrist circumference, arm scye circumference
Vertical trunk circumference, vertical trunk circumference (sitting), trunk height
Head length, head breadth, head circumference
Head breadth, bitragion breadth, face breadth
Tragion to wall, ectocanthus to wall, nasal root to wall

Foot breadth, foot circumference, heel breadth
Foot circumference, instep circumference, heel-ankle circumference
Bitragion-coronal arc, bitragion breadth, head circumference
Bitragion breadth, bizygomatic breadth, interpupillary breadth

units. Related measurements of a number of body lengths also suggest that the observed value was incorrect with the true value being in the neighborhood of 1749. Examination of the subject's photograph further indicated a stature close to 1750. In this case, the recorded value would be modified to fit the general pattern. In general, only when the results of EDIT indicated clearly that a value was in error and there was general agreement from other measurements and the man's photograph as to what the correct value was, was the appropriate change made.

The relatively large number of dimensions measured on each subject plus the generally high level of intercorrelations among the variables make it possible to effectively use these approaches to evaluate each observation in terms of all the values recorded for a variable as well as all the values recorded for each subject.

A small number of subjects were discarded because of missing data or error patterns. A handful of missing values, never more than one for any dimension, were filled in with multiple regression estimates in order to provide full data records.

Computations of the statistics reported here were carried out using the taped data on an IBM 360 model 44. The programs were written in Fortran and were based on single precision arithmetic.

Four constants were introduced into the computer for each variable:

A(I,1) - the bottom of the first interval in the frequency table for the I'th variable,
A(I,2) - the maximum value attained by the I'th variable,
A(I,3) - the whole number closest to the mean value of the I'th variable, and
WID(I) - the desired width of the intervals in the frequency table.

The first of these constants was equal to or slightly less than the minimum value of the I'th variable; as the data were read into the computer they were routinely checked to insure that they fell within the range determined by A(I,1) and A(I,2).

The third constant was subtracted from each datum in order to reduce the size of the summations, particularly those required for the computation of β_1 and β_2.

The program used to prepare the tables of Chapters V, VI, and VII is listed - except for its input and output subroutines - in Table II. The computation of the mean, standard deviation, and the measures of symmetry and kurtosis are straightforward, as is the creation of the frequency tables.

The percentile computations follow the procedure originally developed for use with a NATO sponsored survey of military groups in Turkey, Greece, and Italy of 1960-61, and which has been used with all large Department of Defense anthropometric surveys since then. The essence of the method is that 'raw' percentiles are computed using the textbook method - that is, the K-th raw percentile, P(K), is computed by locating the first interval in the frequency table in which the cumulative percent frequency equals or exceeds K%:

$$P(K) = LL + \frac{K - CPF(J-1)}{CPF(J) - CPF(J-1)} * WID$$

where LL is the lower limit of this interval, CPF(J) the cumulative percent frequency including this interval, CPF(J-1) the cumulative percent frequency up to but not including this interval, and WID is the interval width.

The twenty five computed percentiles are then smoothed by a process designed to simulate plotting them on normal probability graph paper and drawing a smooth line through the set of points. What is actually done is to assign a 'X-value' to each raw percentile equal to the corresponding deviate of the normal distribution, fit a fourth degree polynomial to these points, and read the smoothed values from this polynomial. By using orthogonal polynomials, the computational procedure, as can be seen from Table II, is fairly simple.

Dimensional values for weight were multiplied by 0.1 to convert to kilograms; these values were then multiplied by 2.2046 to provide answers in pounds. For the other anthropometric measures the corresponding constants were 0.1 and 0.3937 to give centimeters and inches respectively. Weight and stature as reported by the subjects were originally recorded in English units. Weight was multiplied by 0.4536 to convert to kilograms, stature by 2.54 to convert to centimeters. To facilitate preparing the tables for photographic reproduction, the results were punched on cards and the tables as published were constructed from the cards.

Table II

COMPUTER PROGRAM FOR SUMMARY STATISTICS

```
C......A MICRO MEAN-STANDARD DEVIATION-PERCENTILE PROGRAM.............
      DIMENSION S(100,5),O(5),W(5),PEG(25,4)
C*****COMMON PROVIDES ACCESS FOR ALL PROGRAMS TO NAY=VARIABLE NAMES, A=
C     MIN, MAX, & APPROXIMATE MEAN VALUES, WID=INTERVAL WIDTHS, F, PF,
C*****CF & CFP=SIMPLE, PCT, CUM, & CUM PCT FREQUENCIES, X=DATA & NSUB
      COMMON NAY(100,5),A(100,3),WID(100),CF(50),PF(50),CPF(50),X(100),
     1NSUB,F(100,50)
C*****COMMON/OUTOUT/PROVIDES ACCESS FOR AN OUTPUT ROUTINE TO THE RESULTS
      COMMON /OUTOUT/AVG,SEM,SD,SESD,SPTL(25),V,V1,V2,N,PTL(25)
      INTEGER * 2  F
C*****PEG CONSISTS OF CONSTANTS FOR CREATING THE ORTHOGONAL POLYNOMIALS
      DATA PEG/
     1-.3654,-.3227,-.2955,-.2585,-.2014,-.1628,-.1323,-.1059,-.0823,
     2-.0605,-.0398,-.0198,+.0000,+.0198,+.0398,+.0605,+.0823,+.1059,
     3+.1323,+.1628,+.2014,+.2585,+.2955,+.3227,+.3654,+.4305,+.2952,
     4+.2178,+.1233,+.0026,-.0622,-.1035,-.1325,-.1529,-.1672,-.1768,
     5-.1823,-.1840,-.1823,-.1768,-.1672,-.1529,-.1325,-.1035,-.0622,
     6+.0026,+.1235,+.2178,+.2952,+.4305,-.4331,-.1397,-.0009,+.1350,
     7+.2404,+.2529,+.2359,+.2059,+.1694,+.1293,+.0871,+.0440,+.0000,
     8-.0440,-.0871,-.1293,-.1694,-.2059,-.2359,-.2529,-.2404,-.1350,
     9+.0009,+.1397,+.4331,+.4275,-.0425,-.2059,-.3019,-.2586,-.1585,
     A-.0666,+.0107,+.0717,+.1178,+.1499,+.1688,+.1752,+.1688,+.1499,
     B+.1178,+.0717,+.0107,-.0666,-.1585,-.2586,-.3019,-.2059,-.0425,
     C+.4275/
C*****SETUP PROVIDES CSTS UNIQUE TO THE PROBLEM AT HAND, READYS INPUT
      CALL SETUP (NV)
      DO 11 J=1,NV
      DO 12 K=1,5
   12 S(J,K) = 0.0
      DO 13 K = 1,50
   13 F(J,K) = 0
   11 CONTINUE
C*****INPUT PROVIDES A DATA RECORD CONSISTING OF A RECORD NUMBER (NSUB),
C     PLUS NV DATA VALUES (X(I)) EACH TIME IT IS CALLED. AFTER THE LAST
C*****DATA RECORD IS READ, INPUT RETURNS A NEGATIVE VALUE FOR NSUB.
    1 CALL INPUT
      IF (NSUB.LE.0) GO TO 99
C*****CHECK THAT EACH VALUE IS IN RANGE.
      DO 2 I=1,NV
      IF(X(I).GE.A(I,1).AND.X(I).LE.A(I,2).OR.X(I).EQ.0.0)GO TO 2
      IF ((X(I).GE.A(I,1)).AND.(X(I).LE.A(I,2)))GO TO 2
      WRITE(6,47) NSUB,I,X(I),A(I,1),A(I,2)
   47 FORMAT(20H  SOMETHING IS WRONG  ,2I8,3F10.2)
      X(I)=0.0
    2 CONTINUE
      DO 3 I=1,NV
      IF (X(I).EQ.0.0) GO TO 3
      Y=X(I)-A(I,3)
      Z= 1.0
      DO 4 J=1,5
      S(I,J)=S(I,J)+Z
    4 Z=Z*Y
C*****DETERMINE APPROPRIATE INTERVAL IN FREQUENCY TABLE
      J=(X(I)-A(I,1))/WID(I)+1.0
C*****CHECK THAT SELECTED INTERVAL IS LEGAL. IF NOT, IGNORE DATUM AND
C*****WRITE AN ERROR MESSAGE
      IF (J.LT.1.OR.J.GT.50) GO TO 9937
```

Table II (Cont'd)

```
      F(I,J)=F(I,J)+1
      GO TO 3
 9987 WRITE (6,9986) NSUB, I, X(I), J
 9986 FORMAT (3H **,2I10,F10.2,I10)
    3 CONTINUE
      GO TO 1
   99 CONTINUE
C*****SUMMATIONS ARE NOW COMPLETE. COMPUTATION OF FINAL RESULTS BEGIN
      DO 100 I=1,NV
      DO 101 J=2,5
  101 M(J)=S(I,J)/S(I,1)
      AVG = M(2) + A(I,3)
      SD = SQRT(M(3)-M(2)**2)
      V1=(M(4)-3.*M(3)*M(2)+2.*M(2)**3)/SD**3
      V2= (M(5)-4.*M(4)*M(2)+6.*M(3)*M(2)**2-3.*M(2)**4)/SD**4
      V=100.*SD/AVG
      SEM = SD/SQRT(S(I,1))
      SESD=SEM*0.7071
      N=S(I,1)
C*****COMPUTE CUMULATIVE FREQUENCIES (CF(I)), P/CENT FREQUENCIES (PF(I))
C*****AND CUMULATIVE PERCENT FREQUENCIES (CPF(I))
      PCT= 100.0/S(I,1)
      CF(1)=F(I,1)
      PF(1)=CF(1)*PCT
      CPF(1)=PF(1)
      DO 102 J=2,50
      CF(J)=CF(J-1) + F(I,J)
      PF(J) = F(I,J)*PCT
  102 CPF(J) = CPF(J-1) + PF(J)
C*****NEXT THE RAW PERCENTILES (PTL(J)) ARE COMPUTED
      K=1
      DO 103 J=1,25
  104 IF (CPF(K).GE.P(J)) GO TO 103
      K=K+1
      GO TO 104
  103 PTL(J)=A(I,1)+WID(I)*(FLOAT(K)-(CPF(K)-P(J))/ PF(K))
C*****BEGIN SMOOTHING PROCESS BY COMPUTING THE ORTHOGONAL POLYNOMIALS
      DO 105 J=1,5
  105 Q(J)=0.0
      DO 106 J=1,25
      Q(5)=Q(5)+PTL(J)
      DO 106 L=1,4
  106 Q(L)=Q(L)+PTL(J)*PEG(J,L)
C*****COMPUTE THE SMOOTHED PERCENTILES SPTL(J)
      VG=Q(5)/25.
      DO 107 J=1,25
      SPTL(J)=VG
      DO 107 L=1,4
  107 SPTL(J)=Q(L)*PEG(J,L)+SPTL(J)
C*****PASS THE RESULTS TO AN OUTPUT ROUTINE FOR PRINTING OUT
      CALL OUTPUT (I)
  100 CONTINUE
      WRITE (6,42)
   42 FORMAT(1H1/////20(1H.),10HTHAT'S ALL)
      STOP
      END
```

The correlation matrix of Chapter VIII was prepared using the computer program of Table III. The only complexity of this program results from the need to make efficient use of the computer's memory. To do this, the correlation coefficients as computed make up a single-dimensioned array corresponding to the upper half of the matrix. The somewhat odd appearing statements near the end of this program are designed to collect the terms required to print out a full line of the matrix.

Table III

COMPUTER PROGRAM FOR CORRELATION MATRIX

```
C--- A PROGRAM TO COMPUTE CORRELATION COEFFICIENTS FROM COMPLETE DATA
      DIMENSION R(4950)
      COMMON /DATUMS/ NSUB, X(100)
      COMMON /SETUP/ A(100,3), NAY(100,5), NV
      COMMON /RESULT/ Q(100), XM(100), SD(100)
C--- CALL INA PROVIDES THE CONSTANTS IN /SETUP/
      CALL INA
C---SET SUM X + SUM X*X = ZERO
      DO 100 I=1,NV
      XM(I) = 0.0
      SD(I) = 0.0
  100 CONTINUE
C--- SET NQ = NV-1 & SET NT = NO. OF R'S = NV*NQ/2
      NQ = NV-1
      NT = (NV*NQ)/2
C---- SET SUM CROSS PRODUCTS = ZERO FOR NT TERMS
      DO 101 I=1,NT
      R(I) = 0.0
  101 CONTINUE
C--- READ IN DATA BY CALLING INB
      N=0
    1 CALL INB
C--- END OF DATA IS SIGNALLED BY A RECORD WITH A BLANK SUBJECT NUMBER
      IF (NSUB.LE.0) GO TO 2
      DO 99 L=1,NV
      IF (X(L).GE.A(L,1).AND.X(L).LE.A(L,2)) GO TO 99
      WRITE (6,98) NSUB, L, X(L), A(L,1), A(L,2)
   98 FORMAT(3H $$,2I5,3F8.2)
      GO TO 1
   99 CONTINUE
      N = N + 1
      DO 102 I=1,NV
      X(I) = X(I) -A(I,3)
      XM(I) = XM(I) + X(I)
      SD(I) = SD(I) + X(I)*X(I)
  102 CONTINUE
      L=0
C--- CROSS PRODUCTS X(I)*X(J) FOR I=1,NV-1 AND J=I+1,NV ARE ACCUMULATED
C AND STORED IN A SINGLE DIMENSIONAL ARRAY
      DO 103 I=1,NQ
      IPLUS = I + 1
      DO 104 J = IPLUS,NV
      L=L+1
      R(L) = R(L) + X(I)*X(J)
  104 CONTINUE
  103 CONTINUE
      GO TO 1
    2 CONTINUE
C--- AT THIS POINT, ALL THE SUMMATIONS HAVE BEEN COMPUTED
C--- WE CALCULATE THE MEANS AND SD'S. (XN = N= NO. OF DATA RECORDS)
```

Table III (Cont'd)

```
      WRITE (6,4867) N
4867  FORMAT (1HI/1H ,25X,3HN =,I7)
      XN = N
      DO 105 I = 1,NV
      XM(I) = XM(I)/XN
      SD(I) = SQRT(SD(I)/XN-XM(I)**2)
      A(I,1) = XM(I) + A(I,3)
 105  CONTINUE
      L=0
      DO 106 I=1,NV
      IF (I.EQ.NV) GO TO 108
      IPLUS = I + 1
      DO 107 J=IPLUS,NV
      L= L+1
      R(L) = (R(L)/XN-XM(I)*XM(J)/(SD(I)*SD(J))
      Q(J) = R(L)
 107  CONTINUE
      IF (I.EQ.1) GO TO 109
 108  ILESS = I-1
      M=I-NV
      DO 109 J=1,ILESS
      M=M + NV-J
      Q(J) = R(M)
 109  CONTINUE
      Q(I) = 0.0
      CALL OUTPUT (I)
 106  CONTINUE
      STOP
      END
      SUBROUTINE OUTPUT(L)
      COMMON /SETUP/ A(100,3), NAY(100,5), NV
      COMMON /RESULT/ Q(100), XM(100), SD(100)
      INTEGER SY(9),FZ(13),FM(21),NS(9)
      DATA FZ/' ', A2',', A3',', A4',', I3',', I2',', I1',
     +' .00',' -00','0000','    ','(2I5',',5A4',')   '/
913   CONTINUE
      FM(1)=FZ(11)
      FM(2)=FZ(12)
      FM(23)=FZ(13)
      IF (L.EQ.1) WRITE(6,5) (J,(NAY(J,K),K=1,5),A(J,1),  SD(J),J=1,NV)
      IF (L.EQ.1) PUNCH 7,   (J,(NAY(J,K),K=1,5),A(J,1),SD(J),J=1,NV)
    7 FORMAT(I4,1X,5A4,2F20.8)
      DO 2 J=1,NV,9
      K = MIN0(NV,J+8)
      LNO=K-J+1
      DO 997 LQ=1,LNO
      LL=J+LQ-1
      KK=2*LQ+1
      FM(KK)= FZ(1)
```

Table III (Cont'd)

```
      IF(Q(LL).NE.0.0) GO TO 103
      FM(KK+1)= FZ(2)
      SY(LQ)= FZ(10)
      NS(LQ)= FZ(10)
      GO TO 97
  103 CONTINUE
      SY(LQ)= FZ(7)
      IF(Q(LL).LT.0.0)SY(LQ)=FZ(8)
      NS(LQ)= ABS(Q(LL))*1000.0+0.5
      FM(KK+1)= FZ(4)
      IF (NS(LQ).GE.100) GO TO 97
      IF (NS(LQ).LT.10) GO TO 104
      FM(KK) = FZ(2)
      FM(KK+1) = FZ(5)
      GO TO 97
  104 IF (NS(LQ).EQ.0) GO TO 105
      FM(KK) =FZ(3)
      FM(KK+1) = FZ(6)
      GO TO 97
  105 NS(LQ) = FZ(9)
      FM(KK+1) = FZ(2)
   97 CONTINUE
C     WRITE (6,996) L,J,LQ,LL,KK,FM(KK),FM(KK+1),SY(LQ),NS(LQ)
  996 FORMAT (5I5,3A6,I6)
  997 CONTINUE
      FM(2*LNQ+3)=FZ(13)
      WRITE (6,10) FM
   10 FORMAT(5X,23(A4,1H/))
      PUNCH FM, L,J,(NAY(L,M),M=1,5),(SY(M),NS(M),M=1,LNQ)
      WRITE (6,FM) L,J,(NAY(L,M),M=1,5),(SY(M),NS(M),M=1,LNQ)
    2 CONTINUE
    4 FORMAT (/I5,2F10.3/(10(I5,F6.3)))
      WRITE (6,4) L,A(L,1),SD(L),(J,Q(J),J=1,NV)
    3 FORMAT (2H $,213,918)
    5 FORMAT (41H1 A LIST OF MEANS AND STANDARD DEVIATIONS /
     *(I5,2X,5A4,2F8.3))
      RETURN
      END
      SUBROUTINE  INA
      COMMON /DATUMS/ NSUB, X(100)
      COMMON /SETUP/ A(100,3), NAY(100,5), NV
C-----A SUBROUTINE THE DETAILS OF WHICH
C ---DEPEND IMMENSELY ON THE FORM OF
C  --THE INPUT DATA
C   -
      RETURN
      ENTRY INB
      RETURN
      END
```

Chapter III

THE SAMPLE

The tables in this report reflect the information gleaned by the survey on a total of 1482 men. All were involved in one way or another with aircraft of the United States Army; they made up major sized groups of enlisted men, warrant officers and warrant officer candidates, and commissioned officers (plus five civilians), and sizable groups of crew chiefs and mechanics, pilot trainees, and rated pilots. Some of the background information about these men are summarized in this chapter.

Table IV provides the distribution of the sample by rank and aerorating.

Table V gives the reported birthplaces of the sample. In the second part of this table the breakdown by geographical regions is contrasted with the averages of United States census figures for 1940 and 1950, the censuses on either side of the median year of the birth of the sample. Agreement between these two sets of figures is not close; there is a substantially larger group in the sample (41%) than there was in the population (31%) from the three southern areas (south Atlantic, east-south central, and west-south central); conversely, there is a considerably smaller group in the sample (27%) than in the census figures (40%) from the mid-Atlantic and east-north central areas combined.

Table VI includes the distribution by rank and for the total group of the reported number of years of education completed.

Table VII lists the responses to the questions about handedness, the wearing of eyeglasses, and whether the subjects were rated parachutists.

Table VIII summarizes the answers the subjects gave in response to requests (before they were measured) for their nude weight in pounds and stature in inches. On the average, the differences between these reported values and the measured ones were small and the correlations high.

The flight experience of the pilots in the sample is summarized in Table IX. Because of difficulties encountered in interpreting some subjects' responses to the questions about their experience, these data are not as precise as they might be. However, the overall picture is

quite clear. The rated pilots, warrant and commissioned, fixed wing, rotary wing, and dual rated, had considerable flight experience with a median in the neighborhood of 1500 hours. The great majority of these pilots had had substantial combat experience with a median of near 700 hours. The trainees - all four groups - typically had had about 150 hours of flight experience.

Subjects were not asked to state their race; scrutiny of the pictures taken of the subjects identified 50 or 3.4% of the sample as probably non-caucasian. Of these 50, 43 were judged to be Negroes, 4 American Indians, and 3 Mongoloids. Four members of this group were commissioned pilots, three commissioned trainees, four warrant officer pilots and seven warrant trainees. The remaining 32 were enlisted men.

Table IV

DISTRIBUTION OF SAMPLE BY RANK AND AERORATING

Rank	Aerorating									
	Master Aviators	Senior Aviators	Army Aviators	Trainees	Machinists	Door Gunners	Mechanics	Crew Chiefs	Instructors	Totals
Lt. Col.	3	13	1							17
Major	1	8	9	1						19
Captain		1	119	32						152
1st Lt.		1	66	47						114
2nd Lt.			12	106						118
CW 4	1	12	2							15
CW 3		1	74							75
CW 2			260							260
WO 1			60	10						70
WOC				249						249
SP7/SFC					2		4	29	2	37
SP6/SSG					11	1	18	105	4	139
SP5/SGT					2	11	19	87	2	121
SP4/CPL					3	4	11	56		74
PFC					1	1	6	3		11
PV2 & PV1							3	3		6
Total	5	36	603	445	19	17	61	283	8	1477*

*Two civilians were recorded as Master Aviators and three as Army Aviators

Table V

DISTRIBUTION OF SAMPLE BY REGION OF BIRTH

A. Reported Birthplace

New England		76	5.1%
	Maine	13	
	New Hampshire	2	
	Massachusetts	42	
	Rhode Island	3	
	Connecticut	16	
Mid Atlantic		177	11.9%
	New York	64	
	New Jersey	29	
	Pennsylvania	84	
South Atlantic		240	16.2%
	Delaware	1	
	District of Columbia	10	
	Maryland	14	
	Virginia	29	
	West Virginia	18	
	North Carolina	44	
	South Carolina	25	
	Georgia	54	
	Florida	45	
East North Central		213	14.4%
	Ohio	65	
	Indiana	32	
	Illinois	55	
	Michigan	36	
	Wisconsin	25	
East South Central		163	11.0%
	Kentucky	30	
	Tennessee	31	
	Mississippi	22	
	Alabama	80	

Table V (Cont'd)

West North Central		140	9.4%
Minnesota	16		
Iowa	24		
Missouri	50		
North Dakota	6		
South Dakota	7		
Nebraska	10		
Kansas	27		
West South Central		177	11.9%
Arkansas	28		
Louisiana	29		
Oklahoma	33		
Texas	89		
Mountain		78	5.3%
Montana	6		
Idaho	15		
Wyoming	5		
Colorado	14		
Utah	10		
Nevada	4		
Arizona	14		
New Mexico	10		
Pacific		168	11.4%
Washington	34		
Oregon	14		
California	114		
Hawaii	6		
Foreign Born		50	3.4%

Table V (Cont'd)

DISTRIBUTION OF SAMPLE BY REGION OF BIRTH

B. Comparison of U.S. Born with 1940 and 1950 Censuses*

	1940 Census	1950 Census	Sample**
New England	5.6	6.2	5.3%
Mid Atlantic	17.8	20.0	12.4%
South Atlantic	15.6	14.1	16.8%
East North Central	19.2	20.2	14.9%
East South Central	9.8	7.6	11.4%
West North Central	9.9	9.3	9.8%
West South Central	11.0	9.3	12.4%
Mountain	4.3	3.4	5.4%
Pacific	6.7	9.6	11.7%
	99.9%	99.7%	100.1%

*National censuses closest to birth year

**N = 1432

Table VI

DISTRIBUTION OF SAMPLE BY RANK AND EDUCATION

Rank	Years of Education Completed										Mean	Total
	9-10	11	12	13	14	15	16	17	18	19-20		
Lt. Col.					1	2	10	2	2		16.1	17
Major				1	1	2	10	3	2		16.0	19
Captain			21	22	31	18	46	6	5	3	14.7	152
1st Lt.			28	13	23	12	31	6	1		14.2	114
2nd Lt.			17	6	22	15	48	9	1		14.9	118
CW 4			6	2	4		3				13.5	15
CW 3			50	14	9	1	1				12.5	75
CW 2	3		85	77	63	23	7	2			13.2	260
WO 1			25	12	19	5	6	3			13.5	70
WOC	1		88	50	73	25	11	1			13.3	249
SP7/SFC			31	4	1	1					12.2	37
SP6/SSG	2	1	123	7	4	1	1				12.0	139
SP5/SGT	8	3	83	10	11	5		1			12.2	121
SP4/CPL	1	7	44	10	6	6					12.4	74
PFC	5		4		2						11.3	11
PV1 & PV2			4		2						12.7	6
Total	20	11	609	228	272	116	174	33	11	3	13.4	1477

Table VII

DISTRIBUTION OF SAMPLE BY HANDEDNESS, EYEGLASSES AND PARACHUTIST RATING

A. HANDEDNESS

	N	%
Right	1306	88.7%
Left	119	8.1%
Ambidextrous	47	3.2%
Total Responses	1472	100.0%

B. EYEGLASSES

NO	1273	86.4%
YES	200	13.6%
Total Responses	1473	100.0%

C. PARACHUTIST RATING

NO	1329	90.6%
YES	138	9.4%
Total Responses	1467	100.0%

Table VIII

REPORTED AND MEASURED STATURES AND WEIGHTS

	Mean	SD	
Reported Stature	70.1(178.0)	2.6(6.5)	r = 0.943
Measured Stature	68.7(174.5)	2.5(6.3)	
Reported Weight	170.9(77.5)	21.8(9.9)	r = 0.965
Measured Weight	171.2(77.6)	23.8(10.8)	

N = 1482. Values are in inches(cm) and pounds(kg).

Table IX

FLIGHT AND COMBAT FLIGHT EXPERIENCE OF PILOTS

	Total Experience			Combat Experience		
	N	Median Hours		N	Median* Hours	
A. Commissioned Pilots						
Fixed Wing	54	1300		43	950	
Rotary Wing	127	1300		96	650	
Dual	53	1400	(Fixed)	24	325	(Fixed)
		600	(Rotary)	27	440	(Rotary)
B. Commissioned Trainees						
Fixed Wing	38	170				
Rotary Wing	148	150				
C. Warrant Pilots						
Fixed Wing	27	1500		17	950	
Rotary Wing	336	1300		288	800	
Dual	47	500	(Fixed)	24	800	(Fixed)
		1400	(Rotary)	27	1000	(Rotary)
D. Warrant Trainees						
Fixed Wing	16	150				
Rotary Wing	243	150				

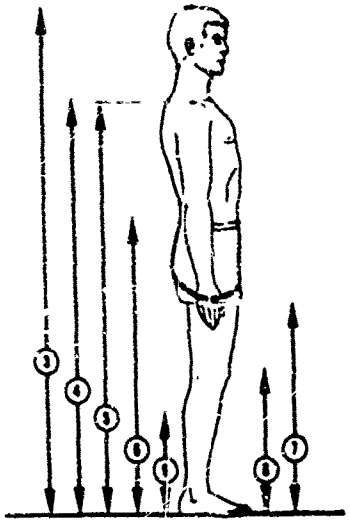
*Computed for pilots who reported combat experience

Chapter IV

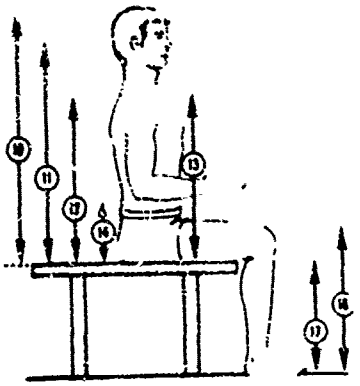
THE VISUAL INDEX

To facilitate ease of using this report a visual index appears on the following pages. The index consists of a series of line drawings which illustrate the dimensions measured in the survey. It is, therefore, not necessary that the reader know the name of a particular body dimension as he needs only to glance through the index and find those dimensions of interest to him. Each of the dimensions illustrated is numbered and the name of the dimension given below the figure. The numbers on the illustrations are the variable numbers which occur throughout the report and identify all the statistical results for those dimensions.

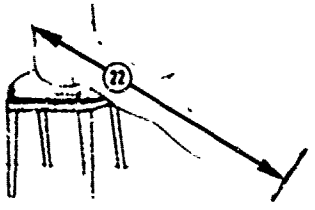
An attempt was made to place related measurements on the same drawing but this was often not possible. It is necessary, therefore, in a number of instances to refer to several drawings to locate all the dimensions in a particular category. The drawings are not technically exact, only illustrative, and the reader is referred to the description of the measurement in Chapter V for exact landmarks and techniques.



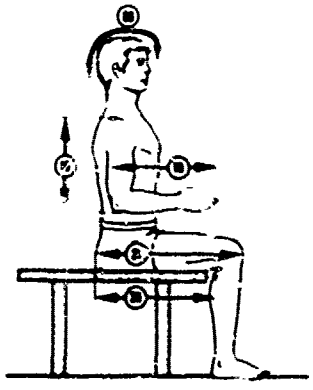
3 Stature
4 Cervicale Height
5 Shoulder Height
6 Waist Height
7 Crotch Height
8 Kneecap Height
9 Calf Height



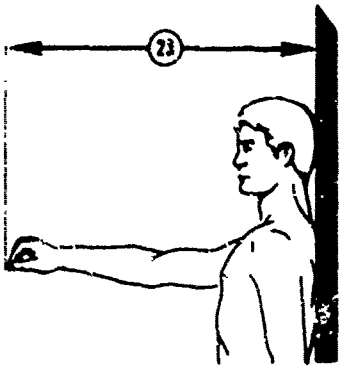
1 Age
2 Weight
10 Sitting Height
11 Eye Height (Sitting)
12 Mid-shoulder Height (Sitting)
13 Trunk Height (Sitting)
14 Elbow Rest Height (Sitting)
16 Knee Height (Sitting)
17 Popliteal Height (Sitting)



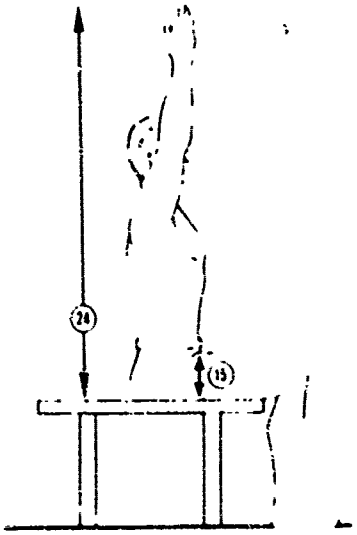
22 Buttock-Heel Length



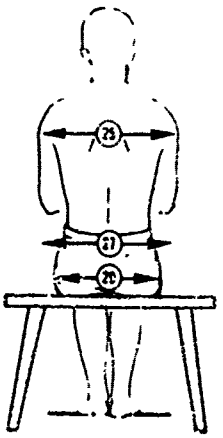
18 Shoulder-Elbow Length
19 Elbow-Fingertip Length
20 Buttock-Popliteal Length
21 Buttock-Knee Length
60 Sagittal Arc



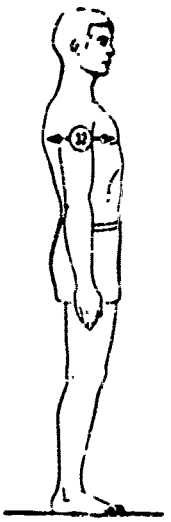
23 Functional Reach



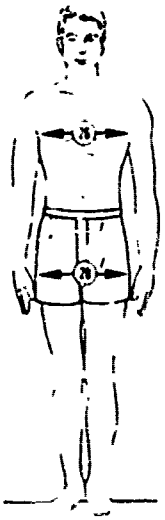
15 Thigh Clearance Height (Sitting)
24 Vertical Arm Reach (Sitting)



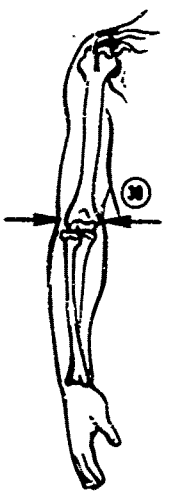
25 Shoulder Breadth
27 Forearm-Forearm Breadth
29 Hip Breadth (Sitting)



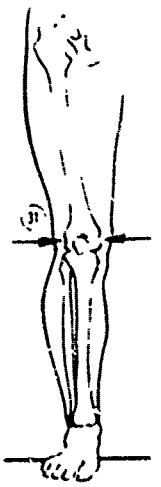
32 Chest Depth



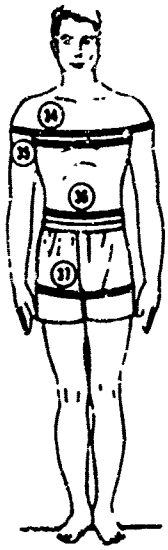
26 Chest Breadth
28 Hip Breadth (Standing)



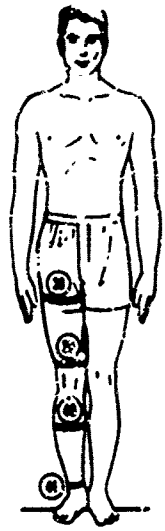
30 Elbow Breadth (Bone)



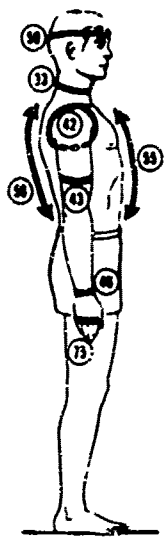
31 Knee Breadth (Bone)



34 Shoulder Circumference
35 Chest Circumference
36 Waist Circumference
37 Hip Circumference



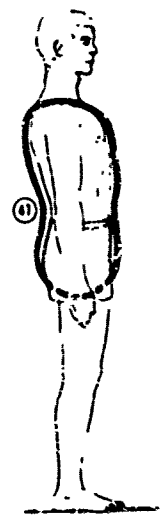
38 Upper Thigh Circumference
39 Lower Thigh Circumference
40 Calf Circumference
41 Ankle Circumference



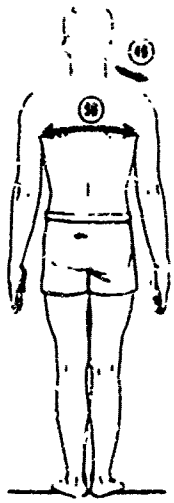
33 Neck Circumference
42 Arm Scye Circumference
43 Biceps Circumference (Relaxed)
46 Wrist Circumference
55 Waist Front Length
56 Waist Back Length
59 Head Circumference
75 Hand Circumference



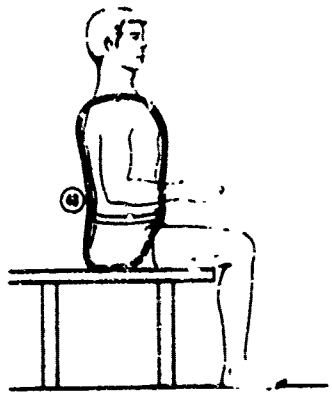
53 Sleeve Length



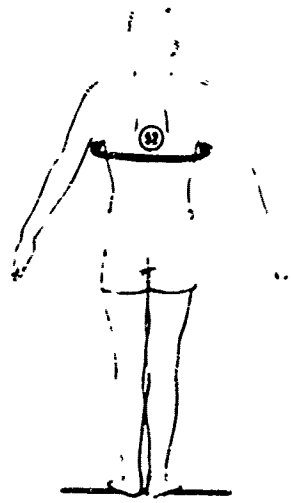
47 Vertical Trunk Circumference



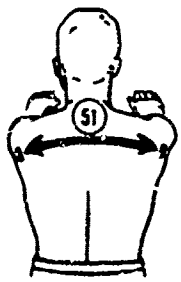
49 Shoulder Length
50 Interocye



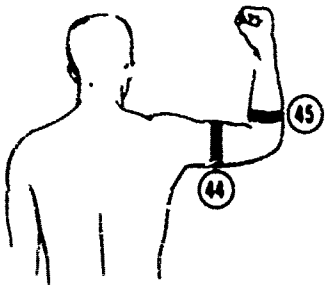
48 Vertical Trunk Circumference (Sitting)

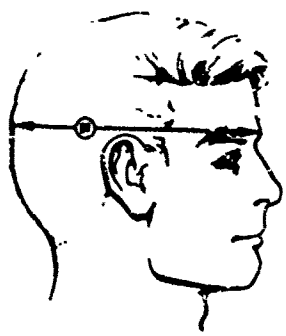


52 Back Curvature

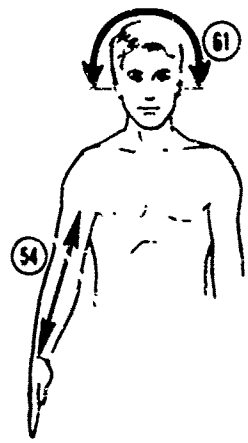


51 Interocye Maximum



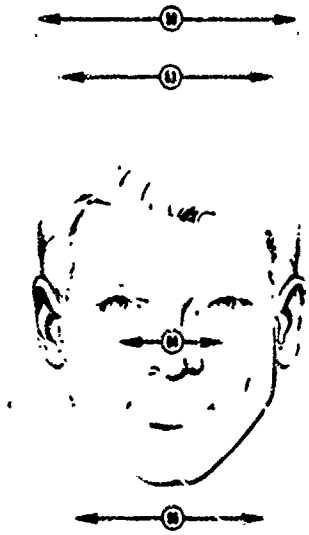


57 Head Length

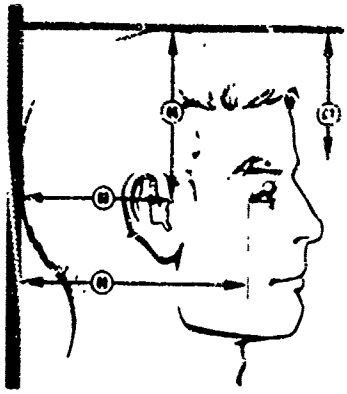


44 Biceps Circumference (Flexed)
45 Forearm Circumference (Flexed)

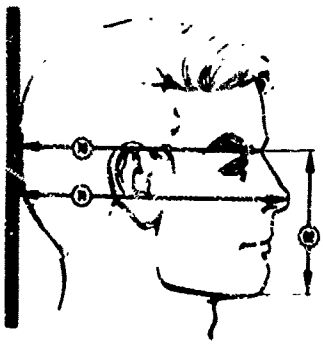
54 Sleeve Inseam Length
61 Bitragion-Coronal Arc



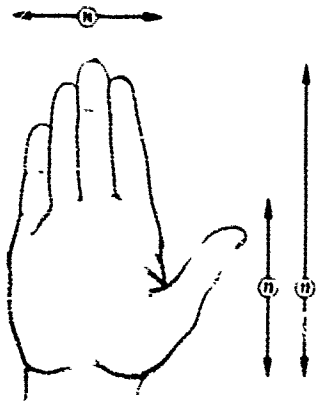
58 Head Breadth
63 Bitragion Breadth
64 Interpupillary Breadth
65 Face Breadth



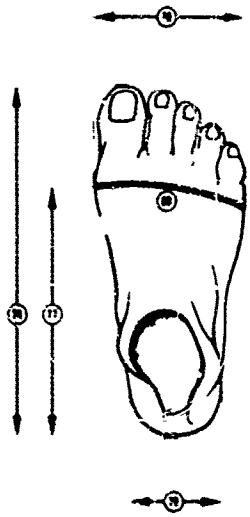
66 Head Height
67 Glabella to Vertex Height
68 Tragion to Wall
69 External Canthus to Wall



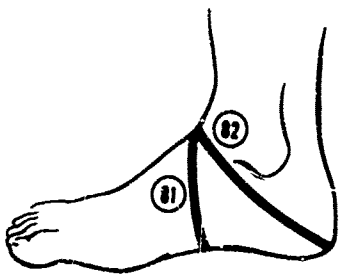
62 Face Length
70 Nasal Root to Wall
71 Pronasale to Wall



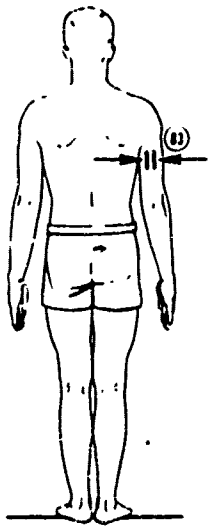
72 Hand Length
73 Palm Length
74 Hand Breadth



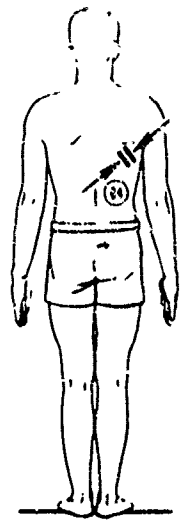
76 Foot Length
77 Instep Length
78 Foot Breadth
79 Heel Breadth
80 Foot Circumference



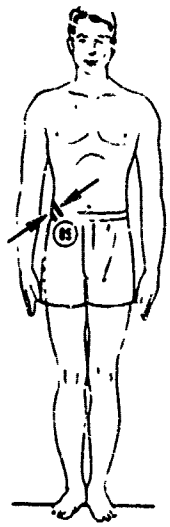
81 Instep Circumference
82 Heel-Ankle Circumference



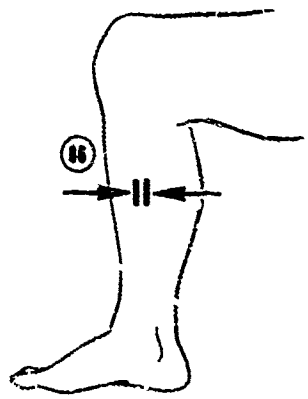
83 Triceps Skinfold



84 Subscapular Skinfold



85 Suprailiac Skinfold



86 Medial Calf Skinfold

Chapter V

VARIABLE DESCRIPTIONS AND STATISTICS

Descriptions and illustrations of the measuring techniques and summary statistics are presented in the following pages for age and the anthropometric dimensions. The variables are reported on a two-page layout. The left side page contains the description of the measurement and a photograph and line drawing illustrating the measuring technique. The verbal description of the dimension states the actual technique used. The occasional variation from these reflected in the photographs and line drawings were done deliberately to illustrate better the measurement technique.

The frequency graph at the bottom of the page is based on the same values as the frequency table of the opposite (right hand) page. A small triangle just above the base line indicates the mean value. The two vertical lines to the right and left of the triangle beneath the frequency curve, indicate the values that correspond to one and two standard deviations below and above the mean value. The frequency graphs for age and the skinfolds, because of the skewed nature of these distributions, have only one standard deviation value marked to the left of the mean value.

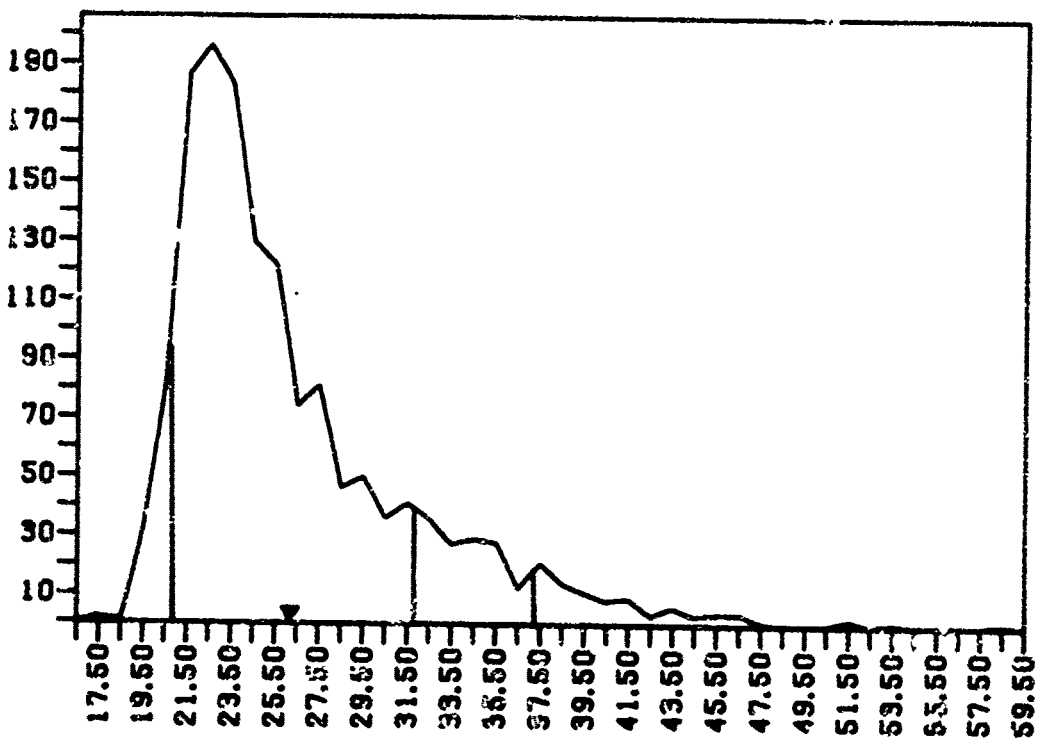
The right side page contains the summary statistics, all of which were defined in Chapter II, and the frequency table. The headings across the top of the frequency table: F, CUMF, FPCT and CUMPCT, stand for frequency, cumulative frequency, frequency as a percent of the total frequency and cumulative frequency as a percent of the total frequency. The ranges of the frequency tables and the left-most set of summary statistics are in the units in which the measurements were made.

Stature and weight as reported by the subjects are included as variables 87 and 88 with only a single page containing the summary statistics and frequency distribution being given for each.

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1. AGE

Subject's age is calculated from his recorded date of birth.



RANGES	F	CUMF	FPCT	CUMPCT
58.00- 59.00	1	1482	0.07	100.00
57.00- 58.00	0	1481	0.00	99.93
56.00- 57.00	0	1481	0.00	99.93
55.00- 56.00	0	1481	0.00	99.93
54.00- 55.00	0	1481	0.00	99.93
53.00- 54.00	1	1481	0.07	99.93
52.00- 53.00	0	1480	0.00	99.87
51.00- 52.00	2	1480	0.13	99.87
50.00- 51.00	0	1478	0.00	99.73
49.00- 50.00	0	1478	0.00	99.73
48.00- 49.00	0	1478	0.00	99.73
47.00- 48.00	1	1478	0.07	99.73
46.00- 47.00	4	1477	0.27	99.66
45.00- 46.00	4	1473	0.27	99.39
44.00- 45.00	3	1469	0.20	99.12
43.00- 44.00	6	1466	0.40	98.92
42.00- 43.00	3	1460	0.20	98.52
41.00- 42.00	9	1457	0.61	98.31
40.00- 41.00	8	1448	0.54	97.71
39.00- 40.00	11	1440	0.74	97.17
38.00- 39.00	14	1429	0.94	96.42
37.00- 38.00	21	1415	1.42	95.48
36.00- 37.00	12	1394	0.81	94.06
35.00- 36.00	28	1382	1.89	93.25
34.00- 35.00	29	1354	1.96	91.36
33.00- 34.00	27	1325	1.82	89.41
32.00- 33.00	36	1298	2.43	87.58
31.00- 32.00	41	1262	2.77	85.16
30.00- 31.00	36	1221	2.43	82.39
29.00- 30.00	50	1185	3.37	79.96
28.00- 29.00	46	1135	3.10	76.59
27.00- 28.00	81	1089	5.47	73.48
26.00- 27.00	74	1008	4.99	68.02
25.00- 26.00	122	934	8.23	63.02
24.00- 25.00	130	812	8.77	54.79
23.00- 24.00	183	682	12.35	46.02
22.00- 23.00	196	499	13.23	33.67
21.00- 22.00	186	303	12.55	20.45
20.00- 21.00	81	117	5.47	7.89
19.00- 20.00	33	36	2.23	2.43
18.00- 19.00	1	3	0.07	0.20
17.00- 18.00	2	2	0.13	0.13

ALL VALUES ARE IN YEARS

THE ARITHMETIC MEAN	26.71
STD ERROR (MEAN)	0.14
THE STANDARD DEVIATION	5.51
STD ERROR (STD DEV)	0.10

****

SYMMETRY---VETA I =	1.54
KURTOSIS---VETA II =	5.71
COEF. OF VARIATION =	21.4%

****

NUMBER OF SUBJECTS = 1482

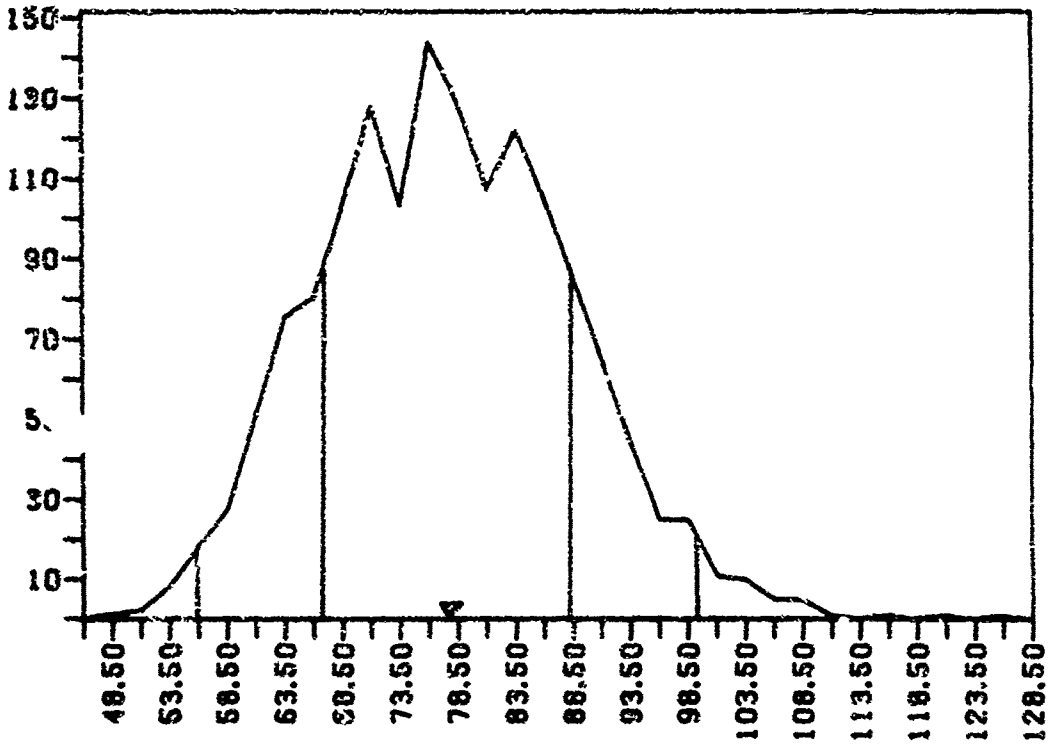
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THE PERCENTILES

99TH	44.34
98TH	41.67
97TH	39.91
95TH	37.51
90TH	33.93
85TH	31.67
80TH	30.01
75TH	28.69
70TH	27.59
65TH	26.67
60TH	25.86
55TH	25.15
50TH	24.51
45TH	23.94
40TH	23.42
35TH	22.96
30TH	22.54
25TH	22.15
20TH	21.80
15TH	21.47
10TH	21.14
5TH	20.70
3RD	20.32
2ND	19.95
1ST	19.60

2. WEIGHT

Subject stands on center of scale platform wearing shorts. Scale is read to the nearest 0.1 kilogram.



RANGE-S*	F	CUMF	FPCT	CUMPCT
124.75-127.25	1	1482	0.07	100.00
122.25-124.75	0	1481	0.00	99.93
119.75-122.25	1	1481	0.07	99.93
117.25-119.75	0	1480	0.00	99.86
114.75-117.25	1	1480	0.07	99.86
112.25-114.75	0	1479	0.00	99.80
109.75-112.25	1	1479	0.07	99.80
107.25-109.75	5	1478	0.34	99.73
104.75-107.25	5	1473	0.34	99.39
102.25-104.75	10	1468	0.67	99.06
99.75-102.25	11	1458	0.74	98.38
97.25- 99.75	25	1447	1.69	97.64
94.75- 97.25	25	1422	1.69	95.95
92.25- 94.75	44	1397	2.97	94.26
89.75- 92.25	65	1353	4.39	91.30
87.25- 89.75	85	1288	5.74	86.91
84.75- 87.25	105	1203	7.09	81.17
82.25- 84.75	122	1098	8.23	74.09
79.75- 82.25	107	976	7.22	65.86
77.25- 79.75	129	869	8.70	58.64
74.75- 77.25	144	740	9.72	49.93
72.25- 74.75	103	596	6.95	40.22
69.75- 72.25	128	493	8.64	33.27
67.25- 69.75	103	365	6.95	24.63
64.75- 67.25	80	262	5.40	17.68
62.25- 64.75	75	182	5.06	12.28
59.75- 62.25	51	107	3.44	7.22
57.25- 59.75	27	56	1.82	3.78
54.75- 57.25	18	29	1.21	1.96
52.25- 54.75	8	11	0.54	0.74
49.75- 52.25	2	3	0.13	0.20
47.25- 49.75	1	1	0.07	0.07

*IN KILOGRAMS

KILOGRAMS		POUNDS
77.63	MEAN VALUE	171.15
0.28	SE(MEAN)	0.62
10.81	SD DEVIATION	23.84
0.20	SE(SD DEV)	0.44

****

COEF. OF VARIATION = 13.92
SYMMETRY---VETA I = 0.27
KURTOSIS---VETA II = 3.08

****

NUMBER OF SUBJECTS = 1482

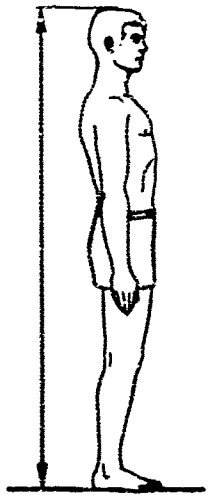
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THE PERCENTILES

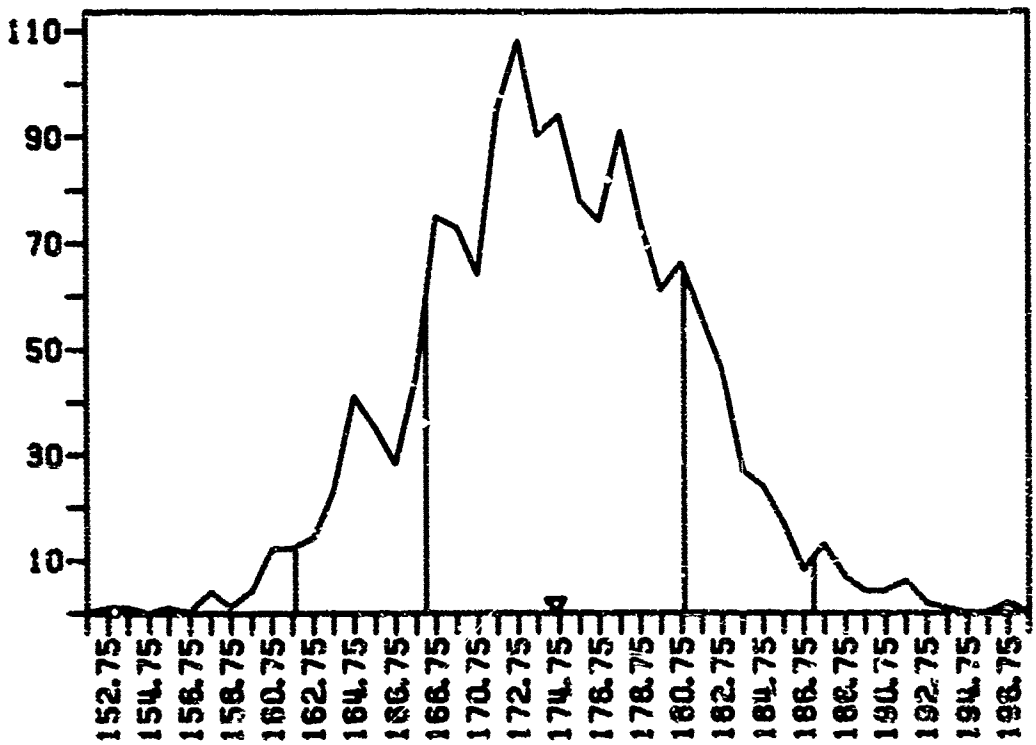
KILOGRAMS		POUNDS
104.44	99TH	230.25
100.96	98TH	222.57
98.82	97TH	217.86
96.00	95TH	211.65
91.78	90TH	202.34
88.98	85TH	196.17
86.79	80TH	191.34
84.90	75TH	187.17
83.21	70TH	183.45
81.66	65TH	180.02
80.18	60TH	176.76
78.76	55TH	173.62
77.35	50TH	170.53
75.95	45TH	167.43
74.54	40TH	164.32
73.08	35TH	161.12
71.57	30TH	157.78
69.94	25TH	154.20
68.16	20TH	150.26
66.15	15TH	145.82
63.70	10TH	140.43
60.37	5TH	133.09
58.45	3RD	128.86
57.20	2ND	126.09
55.54	1ST	122.44

3. STATURE

Subject stands erect, head in the Frankfort plane, heels together, and weight distributed equally on both feet. With the arm of the anthropometer firmly touching the scalp, measure the vertical distance from the standing surface to the top of the head.







RANGES*	F	CUMF	FPCT	CUMPCT
196.25-197.25	2	1482	0.13	100.00
195.25-196.25	0	1480	0.00	99.86
194.25-195.25	0	1480	0.00	99.86
193.25-194.25	1	1480	0.07	99.86
192.25-193.25	2	1479	0.13	99.80
191.25-192.25	6	1477	0.40	99.66
190.25-191.25	4	1471	0.27	99.26
189.25-190.25	4	1467	0.27	98.99
188.25-189.25	7	1463	0.47	98.72
187.25-188.25	13	1456	0.88	98.25
186.25-187.25	8	1443	0.54	97.37
185.25-186.25	17	1435	1.15	96.83
184.25-185.25	24	1418	1.62	95.68
183.25-184.25	27	1394	1.82	94.06
182.25-183.25	46	1367	3.10	92.24
181.25-182.25	56	1321	3.78	89.14
180.25-181.25	66	1265	4.45	85.36
179.25-180.25	61	1199	4.12	80.90
178.25-179.25	74	1138	4.99	76.79
177.25-178.25	91	1064	6.14	71.79
176.25-177.25	74	973	4.99	65.65
175.25-176.25	78	899	5.26	60.66
174.25-175.25	94	821	6.34	55.40
173.25-174.25	90	727	6.07	49.06
172.25-173.25	108	637	7.29	42.98
171.25-172.25	95	529	6.41	35.69
170.25-171.25	64	434	4.32	29.28
169.25-170.25	73	370	4.93	24.97
168.25-169.25	75	297	5.06	20.04
167.25-168.25	45	222	3.04	14.98
166.25-167.25	28	177	1.89	11.94
165.25-166.25	35	149	2.36	10.05
164.25-165.25	41	114	2.77	7.69
163.25-164.25	23	73	1.55	4.93
162.25-163.25	14	50	0.94	3.37
161.25-162.25	12	36	0.81	2.43
160.25-161.25	12	24	0.81	1.62
159.25-160.25	4	12	0.27	0.81
158.25-159.25	1	8	0.07	0.54
157.25-158.25	[illegible]	7	0.27	0.47
156.25-157.25	0	3	0.00	0.20
155.25-156.25	1	3	0.07	0.20
154.25-155.25	0	2	0.00	0.13
153.25-154.25	1	2	0.07	0.13
152.25-153.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
174.56	MEAN VALUE	68.72
0.16	SE(MEAN)	0.06
6.33	SD DEVIATION	2.49
0.12	SE(SD DEV)	0.05

****

COEF. OF VARIATION = 3.63
SYMMETRY---VETA I = 0.07
KURTOSIS---VETA II = 3.06

****

NUMBER OF SUBJECTS = 1482

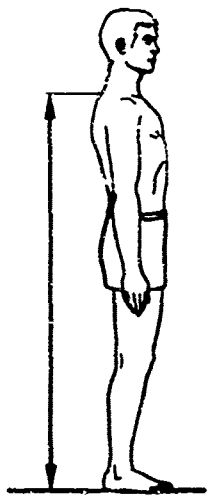
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THE PERCENTILES

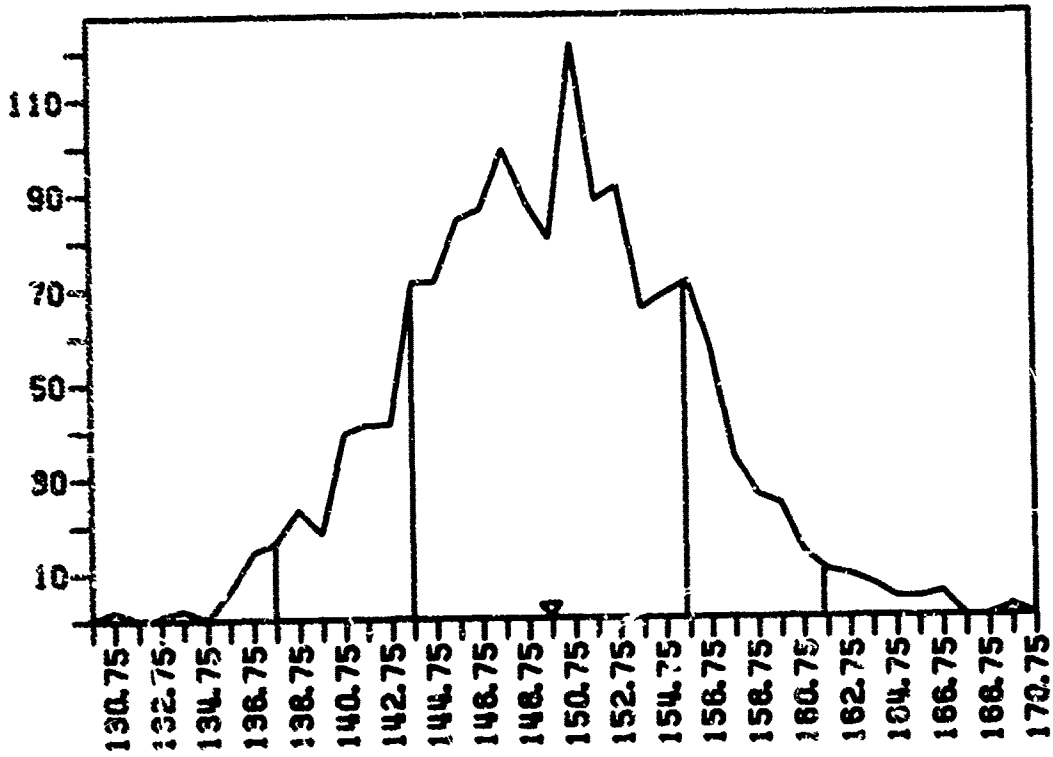
CENTIMETERS		INCHES
190.18	99TH	74.87
187.99	98TH	74.01
186.69	97TH	73.50
185.02	95TH	72.84
182.60	90TH	71.89
181.03	85TH	71.27
179.81	80TH	70.79
178.77	75TH	70.38
177.84	70TH	70.01
176.98	65TH	69.68
176.16	60TH	69.35
175.36	55TH	69.04
174.58	50TH	68.73
173.78	45TH	68.42
172.98	40TH	68.10
172.14	35TH	67.77
171.25	30TH	67.42
170.29	25TH	67.04
169.21	20TH	66.62
167.97	15TH	66.13
166.41	10TH	65.52
164.18	5TH	64.64
162.80	3RD	64.09
161.84	2ND	63.72
160.47	1ST	63.18

4. CERVICALE HEIGHT

Subject stands erect, head in the Frankfort plane, heels together, and weight distributed equally on both feet. With an anthropometer, measure the vertical distance from the standing surface to the cervicale landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
169.25-170.25	2	1482	0.13	100.00
168.25-169.25	0	1480	0.00	99.86
167.25-168.25	0	1480	0.00	99.86
166.25-167.25	5	1480	0.34	99.86
165.25-166.25	4	1475	0.27	99.53
164.25-165.25	4	1471	0.27	99.26
163.25-164.25	7	1467	0.47	98.99
162.25-163.25	9	1460	0.61	98.52
161.25-162.25	10	1451	0.67	97.91
160.25-161.25	14	1441	0.94	97.23
159.25-160.25	24	1427	1.62	96.29
158.25-159.25	26	1403	1.75	94.67
157.25-158.25	34	1377	2.29	92.91
156.25-157.25	57	1343	3.85	90.62
155.25-156.25	71	1286	4.79	86.77
154.25-155.25	68	1215	4.59	81.98
153.25-154.25	65	1147	4.39	77.40
152.25-153.25	91	1082	6.14	73.01
151.25-152.25	88	991	5.94	66.87
150.25-151.25	121	903	8.16	60.93
149.25-150.25	80	782	5.40	52.77
148.25-149.25	88	702	5.94	47.37
147.25-148.25	99	614	6.68	41.43
146.25-147.25	86	515	5.80	34.75
145.25-146.25	84	429	5.67	28.95
144.25-145.25	71	345	4.79	23.28
143.25-144.25	71	274	4.79	18.49
142.25-143.25	41	203	2.77	13.70
141.25-142.25	41	162	2.77	10.93
140.25-141.25	39	121	2.63	8.16
139.25-140.25	18	82	1.21	5.53
138.25-139.25	23	64	1.55	4.32
137.25-138.25	16	41	1.08	2.77
136.25-137.25	14	25	0.94	1.69
135.25-136.25	6	11	0.40	0.74
134.25-135.25	0	5	0.00	0.34
133.25-134.25	2	5	0.13	0.34
132.25-133.25	1	3	0.07	0.20
131.25-132.25	0	2	0.00	0.13
130.25-131.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
149.66	MEAN VALUE	58.92
0.16	SE(MEAN)	0.06
5.97	SD DEVIATION	2.35
0.11	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 4.0%
SYMMETRY---VETA I = 0.07
KURTOSIS---VETA II = 2.98

****

NUMBER OF SUBJECTS = 1482

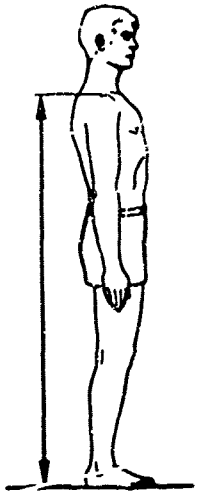
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THE PERCENTILES

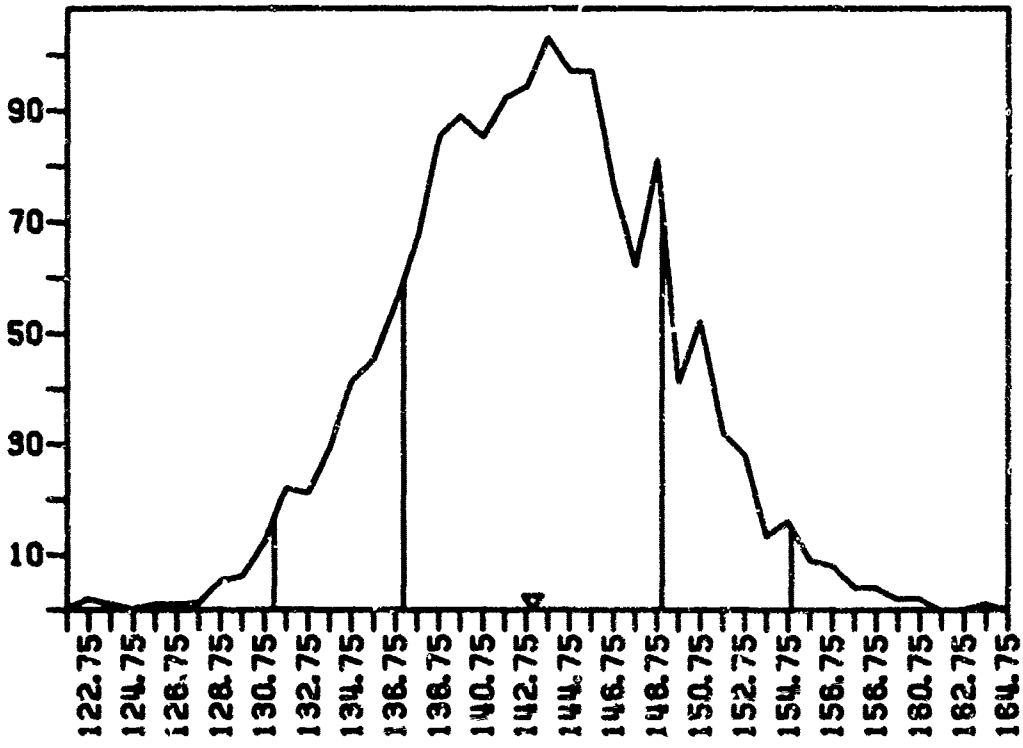
CENTIMETERS		INCHES
164.33	99TH	64.69
162.27	98TH	63.89
161.06	97TH	63.41
159.51	95TH	62.80
157.25	90TH	61.91
155.79	85TH	61.33
154.65	80TH	60.88
153.66	75TH	60.50
152.78	70TH	60.15
151.97	65TH	59.83
151.19	60TH	59.52
150.44	55TH	59.23
149.68	50TH	58.93
148.92	45TH	58.63
148.15	40TH	58.33
147.35	35TH	58.01
146.50	30TH	57.68
145.57	25TH	57.31
144.54	20TH	56.90
143.35	15TH	56.44
141.87	10TH	55.85
139.77	5TH	55.03
138.50	3RD	54.53
137.64	2ND	54.19
136.44	1ST	53.72

5. SHOULDER HEIGHT

Subject stands erect looking straight ahead, heels together, and weight distributed equally on both feet. With an anthropometer, measure the vertical distance from the standing surface to the right acromial landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
163.25-164.25	1	1482	0.07	100.00
162.25-163.25	0	1481	0.00	99.93
161.25-162.25	0	1481	0.00	99.93
160.25-161.25	2	1481	0.13	99.93
159.25-160.25	2	1479	0.13	99.80
158.25-159.25	4	1477	0.27	99.66
157.25-158.25	4	1473	0.27	99.39
156.25-157.25	8	1469	0.54	99.12
155.25-156.25	9	1461	0.61	98.58
154.25-155.25	16	1452	1.08	97.98
153.25-154.25	13	1436	0.88	96.90
152.25-153.25	28	1423	1.89	96.02
151.25-152.25	32	1395	2.16	94.13
150.25-151.25	52	1363	3.51	91.97
149.25-150.25	41	1311	2.77	88.46
148.25-149.25	81	1270	5.47	85.69
147.25-148.25	62	1189	4.19	80.23
146.25-147.25	76	1127	5.13	76.05
145.25-146.25	97	1051	6.55	70.92
144.25-145.25	97	954	6.55	64.37
143.25-144.25	103	857	6.95	57.83
142.25-143.25	94	754	6.34	50.88
141.25-142.25	92	660	6.21	44.53
140.25-141.25	85	568	5.74	38.33
139.25-140.25	89	483	6.01	32.59
138.25-139.25	85	394	5.74	26.59
137.25-138.25	67	309	4.52	20.85
136.25-137.25	55	242	3.71	16.33
135.25-136.25	45	187	3.04	12.62
134.25-135.25	41	142	2.77	9.58
133.25-134.25	29	101	1.96	6.82
132.25-133.25	21	72	1.42	4.86
131.25-132.25	22	51	1.48	3.44
130.25-131.25	12	29	0.81	1.96
129.25-130.25	6	17	0.40	1.15
128.25-129.25	5	11	0.34	0.74
127.25-128.25	1	6	0.07	0.40
126.25-127.25	1	5	0.07	0.34
125.25-126.25	1	4	0.07	0.27
124.25-125.25	0	3	0.00	0.20
123.25-124.25	1	3	0.07	0.20
122.25-123.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
143.06	MEAN VALUE	56.32
0.15	SE(MEAN)	0.06
5.92	SD DEVIATION	2.33
0.11	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 4.13%
SYMMETRY---VITA I = 0.02
KURTOSIS---VITA II = 2.96

****

NUMBER OF SUBJECTS = 1482

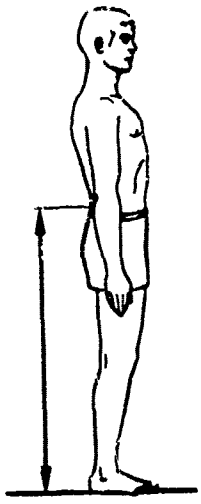
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THE PERCENTILES

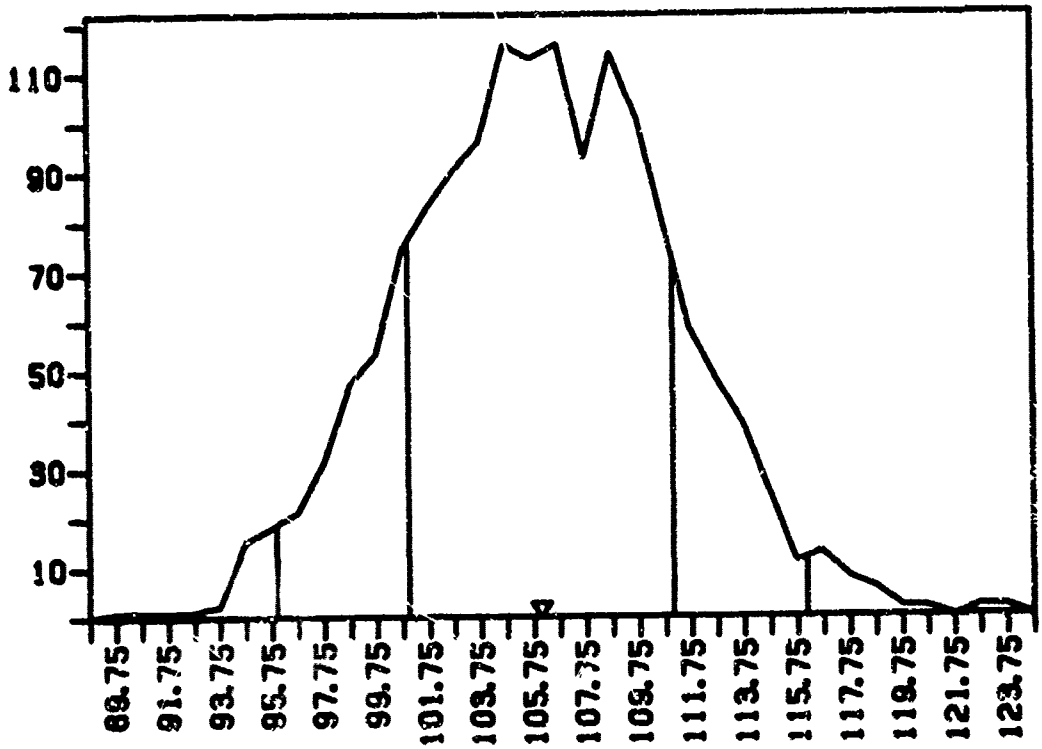
CENTIMETERS		INCHES
157.04	99TH	61.82
155.31	95TH	61.15
154.24	97TH	60.72
152.81	95TH	60.16
150.65	90TH	59.31
149.20	85TH	58.74
148.06	80TH	58.29
147.07	75TH	57.90
146.18	70TH	57.55
145.36	65TH	57.23
144.57	60TH	56.92
143.81	55TH	56.62
143.06	50TH	56.32
142.30	45TH	56.02
141.53	40TH	55.72
140.74	35TH	55.41
139.90	30TH	55.08
138.99	25TH	54.72
137.99	20TH	54.32
136.83	15TH	53.87
135.39	10TH	53.30
133.33	5TH	52.49
132.07	3RD	52.00
131.18	2ND	51.65
129.90	1ST	51.14

6. WAIST HEIGHT

Subject stands erect looking straight ahead, heels together, and weight distributed equally on both feet. With an anthropometer, measure the vertical distance from the standing surface to the right lateral waist landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
123.25-124.25	2	1482	0.13	100.00
122.25-123.25	2	1480	0.13	99.86
121.25-122.25	0	1478	0.00	99.73
120.25-121.25	2	1478	0.13	99.73
119.25-120.25	2	1476	0.13	99.60
118.25-119.25	6	1474	0.40	99.46
117.25-118.25	8	1468	0.54	99.06
116.25-117.25	13	1460	0.88	98.52
115.25-116.25	11	1447	0.74	97.64
114.25-115.25	25	1436	1.69	96.90
113.25-114.25	39	1411	2.63	95.21
112.25-113.25	48	1372	3.24	92.58
111.25-112.25	58	1324	3.91	89.34
110.25-111.25	79	1266	5.33	85.43
109.25-110.25	101	1187	6.82	80.09
108.25-109.25	114	1086	7.69	73.28
107.25-108.25	93	972	6.28	65.59
106.25-107.25	116	879	7.83	59.31
105.25-106.25	113	763	7.62	51.48
104.25-105.25	116	650	7.83	43.86
103.25-104.25	96	534	6.48	36.03
102.25-103.25	90	438	6.07	29.55
101.25-102.25	83	348	5.60	23.48
100.25-101.25	74	265	4.99	17.88
99.25-100.25	53	191	3.58	12.89
98.25- 99.25	47	138	3.17	9.31
97.25- 98.25	31	91	2.09	6.14
96.25- 97.25	21	60	1.42	4.05
95.25- 96.25	18	39	1.21	2.63
94.25- 95.25	15	21	1.01	1.42
93.25- 94.25	2	6	0.13	0.40
92.25- 93.25	1	4	0.07	0.27
91.25- 92.25	1	3	0.07	0.20
90.25- 91.25	1	2	0.07	0.13
89.25- 90.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
106.04	MEAN VALUE	41.75
0.13	SE(MEAN)	0.05
5.04	SD DEVIATION	1.99
0.09	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 4.84
SYMMETRY---VETA I = 0.05
KURTOSIS---VETA II = 2.98

****

NUMBER OF SUBJECTS = 1482

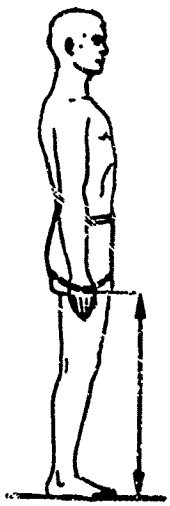
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THE PERCENTILES

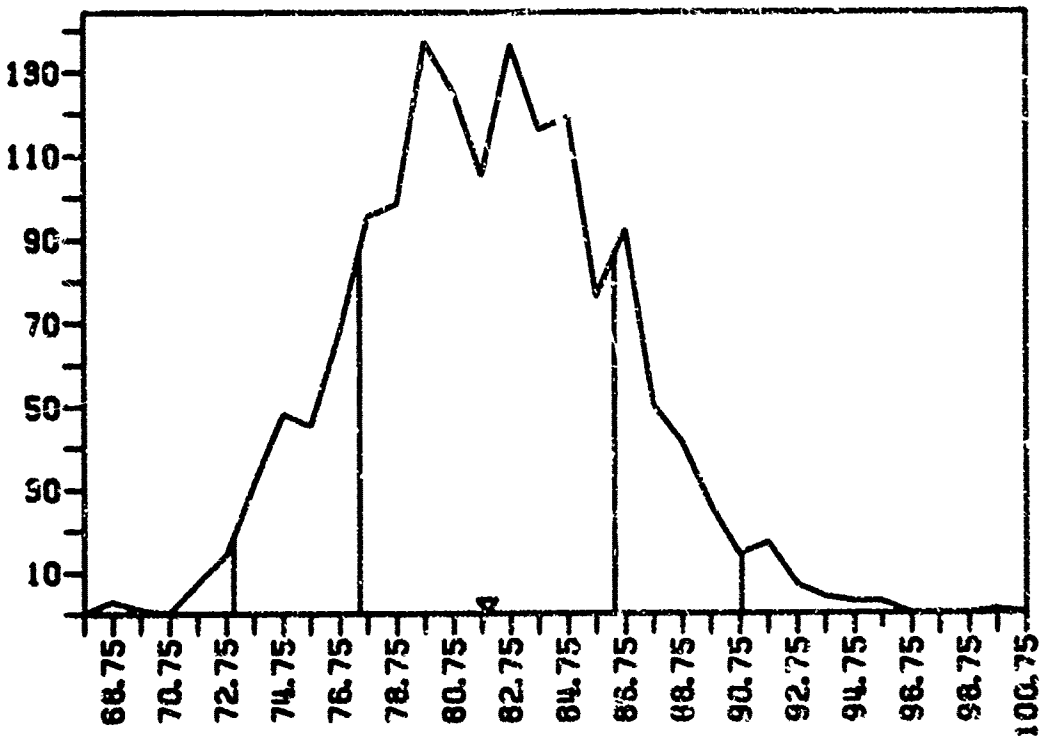
CENTIMETERS		INCHES
118.16	99TH	46.52
116.50	98TH	45.87
115.52	97TH	45.48
114.26	95TH	44.98
112.42	90TH	44.26
111.21	85TH	43.79
110.27	80TH	43.41
109.45	75TH	43.09
108.71	70TH	42.80
108.03	65TH	42.53
107.37	60TH	42.27
106.74	55TH	42.02
106.09	50TH	41.77
105.44	45TH	41.51
104.78	40TH	41.25
104.09	35TH	40.98
103.36	30TH	40.69
102.57	25TH	40.38
101.68	20TH	40.03
100.66	15TH	39.63
99.38	10TH	39.13
97.59	5TH	38.42
96.52	3RD	38.00
95.81	2ND	37.72
94.83	1ST	37.33

7. CROTCH HEIGHT

Subject stands erect, heels approximately 10 cm apart, and weight distributed equally on both feet. The measurer holds the anthropometer in front of the subject and requests him to raise the arm of the anthropometer up into the crotch until light contact is made. The point of contact is between the scrotum and the right leg. The subject brings his heels together maintaining the contact of the anthropometer arm in the crotch. The vertical distance from the standing surface to that level is then recorded.







RANGES*	F	CUMF	FPCT	CUMPCT
99.25-100.25	1	1482	0.07	100.00
98.25- 99.25	0	1481	0.00	99.93
97.25- 98.25	0	1481	0.00	99.93
96.25- 97.25	0	1481	0.00	99.93
95.25- 96.25	3	1481	0.20	99.93
94.25- 95.25	3	1478	0.20	99.73
93.25- 94.25	4	1475	0.27	99.53
92.25- 93.25	7	1471	0.47	99.26
91.25- 92.25	17	1464	1.15	98.79
90.25- 91.25	14	1447	0.94	97.64
89.25- 90.25	26	1433	1.75	96.69
88.25- 89.25	41	1407	2.77	94.94
87.25- 88.25	50	1366	3.37	92.17
86.25- 87.25	92	1316	6.21	88.80
85.25- 86.25	76	1224	5.13	82.59
84.25- 85.25	119	1148	8.03	77.46
83.25- 84.25	116	1029	7.83	69.43
82.25- 83.25	136	913	9.18	61.61
81.25- 82.25	105	777	7.09	52.43
80.25- 81.25	125	672	8.43	45.34
79.25- 80.25	137	547	9.24	36.91
78.25- 79.25	96	410	6.61	27.67
77.25- 78.25	95	312	6.41	21.05
76.25- 77.25	68	217	4.59	14.64
75.25- 76.25	45	149	3.04	10.05
74.25- 75.25	48	104	3.24	7.02
73.25- 74.25	31	56	2.09	3.78
72.25- 73.25	14	25	0.94	1.69
71.25- 72.25	7	11	0.47	0.74
70.25- 71.25	0	4	0.00	0.27
69.25- 70.25	1	4	0.07	0.27
68.25- 69.25	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
81.92	MEAN VALUE	32.25
0.12	SE(MEAN)	0.05
4.45	SD DEVIATION	1.75
0.08	SE(SD DEV)	0.03

****

COEF. OF VARIATION = 5.4%
SYMMETRY---VETA I = 0.15
KURTOSIS---VETA II = 2.96

****

NUMBER OF SUBJECTS = 1482

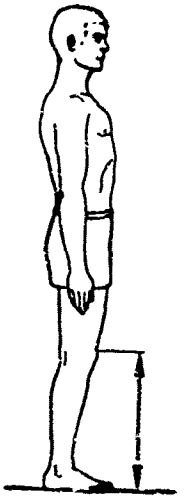
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THE PERCENTILES

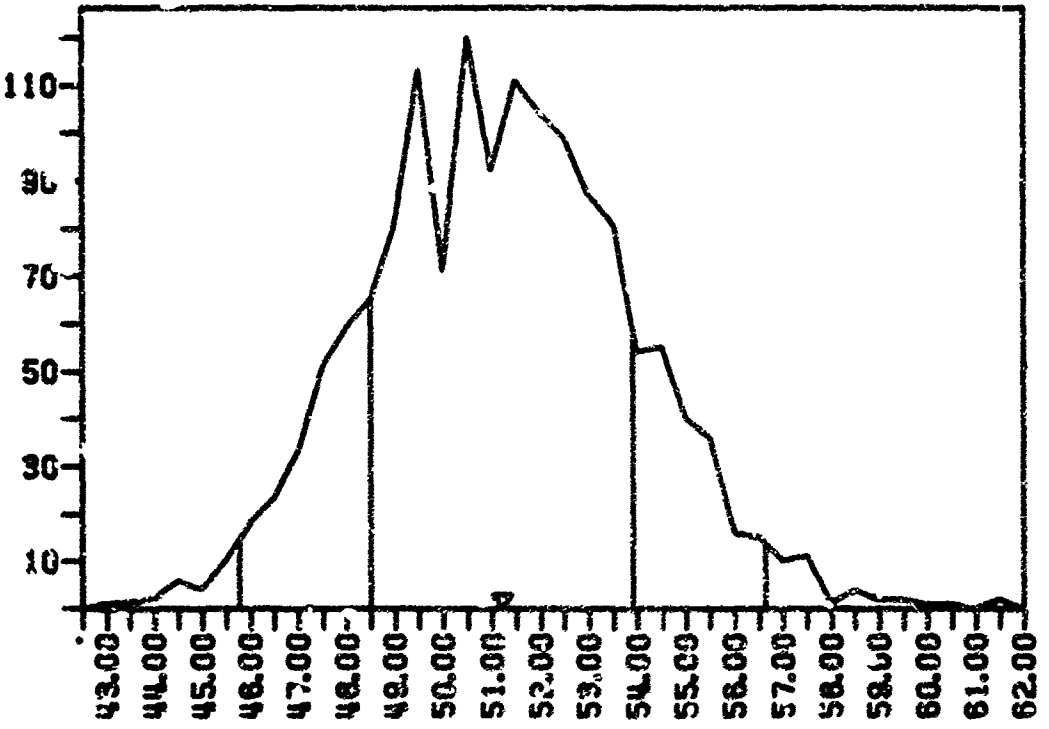
CENTIMETERS		INCHES
92.78	99TH	36.53
91.39	98TH	35.98
90.54	97TH	35.65
89.41	95TH	35.20
87.72	90TH	34.54
86.60	85TH	34.09
85.72	80TH	33.75
84.95	75TH	33.45
84.27	70TH	33.18
83.64	65TH	32.93
83.04	60TH	32.69
82.46	55TH	32.46
81.88	50TH	32.24
81.31	45TH	32.01
80.72	40TH	31.78
80.13	35TH	31.55
79.50	30TH	31.30
78.82	25TH	31.03
78.07	20TH	30.74
77.22	15TH	30.40
76.18	10TH	29.99
74.74	5TH	29.43
73.89	3RD	29.09
73.32	2ND	28.87
72.55	1ST	28.56

8. KNEECAP HEIGHT

Subject stands erect, heels together, and weight distributed equally on both feet. With an anthropometer, measure the vertical distance from the standing surface to the supra-patella landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
61.25- 61.75	2	1482	0.13	100.00
60.75- 61.25	0	1480	0.00	99.86
60.25- 60.75	1	1480	0.07	99.86
59.75- 60.25	1	1479	0.07	99.80
59.25- 59.75	2	1478	0.13	99.73
58.75- 59.25	2	1476	0.13	99.60
58.25- 58.75	4	1474	0.27	99.46
57.75- 58.25	1	1470	0.07	99.19
57.25- 57.75	11	1469	0.74	99.12
56.75- 57.25	10	1458	0.67	98.38
56.25- 56.75	15	1448	1.01	97.71
55.75- 56.25	16	1433	1.08	96.69
55.25- 55.75	36	1417	2.43	95.61
54.75- 55.25	40	1381	2.70	93.18
54.25- 54.75	55	1341	3.71	90.49
53.75- 54.25	54	1286	3.64	86.77
53.25- 53.75	81	1232	5.47	83.13
52.75- 53.25	87	1151	5.87	77.67
52.25- 52.75	99	1064	6.68	71.79
51.75- 52.25	104	965	7.02	65.11
51.25- 51.75	111	861	7.49	58.10
50.75- 51.25	42	750	8.21	50.61
50.25- 50.75	120	658	8.10	44.40
49.75- 50.25	71	538	4.79	36.30
49.25- 49.75	113	467	7.62	31.51
48.75- 49.25	81	354	5.47	23.89
48.25- 48.75	65	273	4.39	18.42
47.75- 48.25	59	208	3.98	14.04
47.25- 47.75	51	149	3.44	10.05
46.75- 47.25	33	98	2.23	6.61
46.25- 46.75	23	65	1.55	4.39
45.75- 46.25	18	42	1.21	2.83
45.25- 45.75	10	24	0.67	1.62
44.75- 45.25	4	14	0.27	0.94
44.25- 44.75	6	10	0.40	0.67
43.75- 44.25	2	4	0.13	0.27
43.25- 43.75	1	2	0.07	0.13
42.75- 43.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		IN
51.21	MEAN VALUE	[illegible]
0.07	SE(MEAN)	0.03
2.71	SD DEVIATION	1.07
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.3%
SYMMETRY---VETA I = 0.17
KURTOSIS---VETA II = 4.10

****

NUMBER OF SUBJECTS = 1482

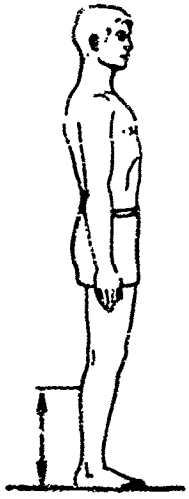
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THE PERCENTILES

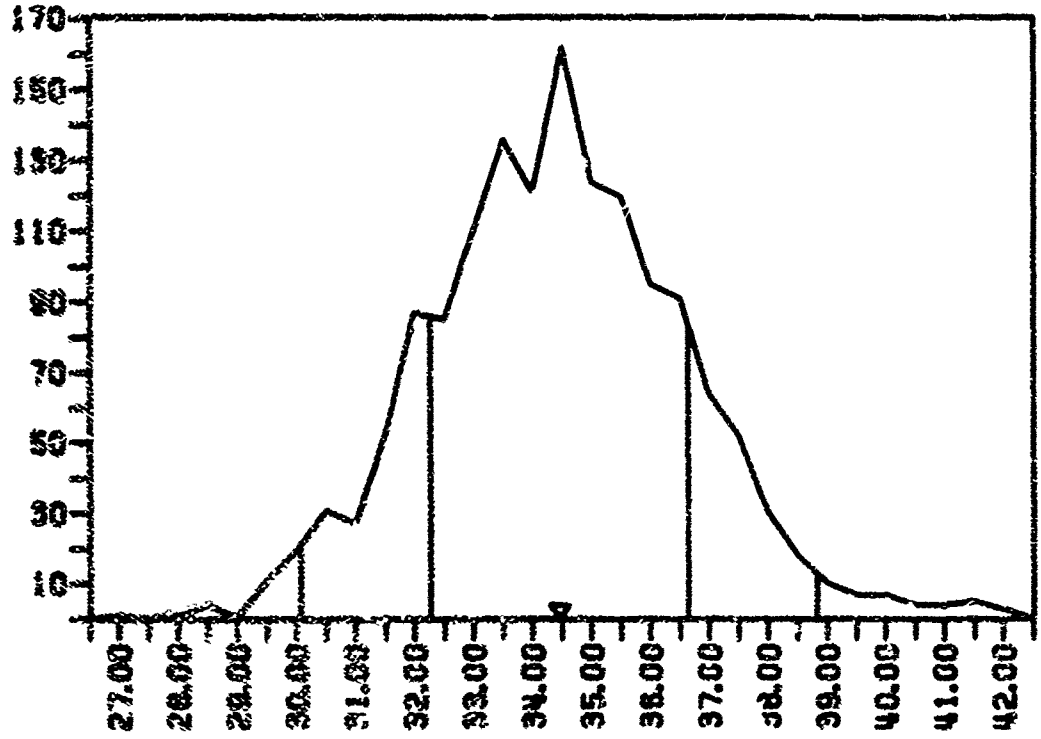
CENTIMETERS		INCHES
57.69	99TH	22.71
56.89	98TH	22.40
56.39	97TH	22.20
55.72	95TH	21.94
54.69	90TH	21.53
54.01	85TH	21.26
53.48	80TH	21.05
53.01	75TH	20.87
52.60	70TH	20.71
52.22	65TH	20.56
51.86	60TH	20.42
51.51	55TH	20.28
51.16	50TH	20.14
50.82	45TH	20.01
50.47	40TH	19.87
50.12	35TH	19.73
49.74	30TH	19.58
49.34	25TH	19.42
48.89	20TH	19.25
48.38	15TH	19.05
47.75	10TH	18.80
46.84	5TH	18.44
46.29	3RD	18.22
45.90	2ND	18.07
45.32	1ST	17.84

9. CALF HEIGHT

Subject stands erect, heels together, and weight distributed equally on both feet. With an anthropometer, measure the vertical distance from the standing surface to the calf landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
41.75- 42.25	3	1482	0.20	100.00
41.25- 41.75	5	1479	0.34	99.80
40.75- 41.25	4	1474	0.27	99.46
40.25- 40.75	4	1470	0.27	99.19
39.75- 40.25	7	1466	0.47	98.92
39.25- 39.75	7	1459	0.47	98.45
38.75- 39.25	10	1452	0.67	97.98
38.25- 38.75	18	1442	1.21	97.30
37.75- 38.25	30	1424	2.02	96.09
37.25- 37.75	52	1394	3.51	94.06
36.75- 37.25	64	1342	4.32	90.55
36.25- 36.75	91	1278	6.14	86.23
35.75- 36.25	95	1187	6.41	80.1[illegible]
35.25- 35.75	120	1092	8.10	73
34.75- 35.25	124	972	8.37	65
34.25- 34.75	162	848	10.93	57.[illegible]
33.75- 34.25	121	686	8.16	46.[illegible]
33.25- 33.75	136	565	9.18	38.12
32.75- 33.25	110	429	7.42	28.[illegible]
32.25- 32.75	85	319	5.74	21.52
31.75- 32.25	87	234	5.87	15.79
31.25- 31.75	53	147	3.58	9.92
30.75- 31.25	27	94	1.82	6.34
30.25- 30.75	31	67	2.09	4.52
29.75- 30.25	19	36	1.28	2.43
29.25- 29.75	11	17	0.74	1.15
28.75- 29.25	0	6	0.00	0.40
28.25- 28.75	4	6	0.27	0.40
27.75- 28.25	1	2	0.07	0.13
27.25- 27.75	0	1	0.00	0.07
26.75- 27.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
34.45	MEAN VALUE	13.55
0.06	SE(MEAN)	0.02
2.19	SD DEVIATION	0.86
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.4%
SYMMETRY---VETA I = 0.21
KURTOSIS---VETA II = 3.36

****

NUMBER OF SUBJECTS = 1482

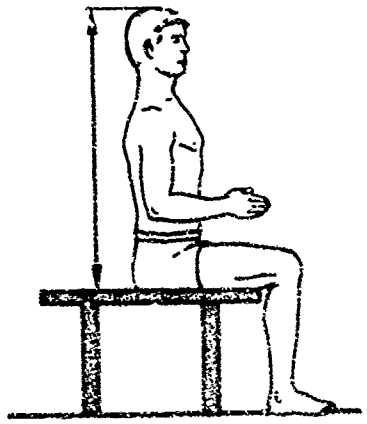
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THE PERCENTILES

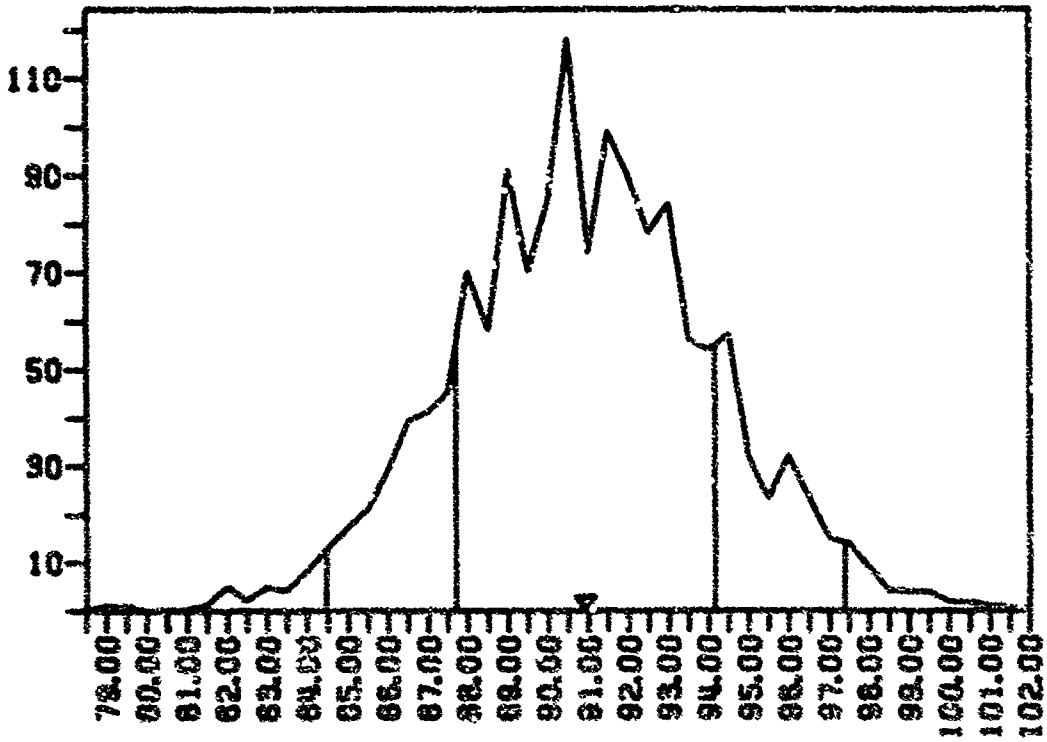
CENTIMETERS		INCHES
40.32	99TH	15.87
39.30	98TH	15.47
38.74	97TH	15.25
38.05	95TH	14.98
37.13	90TH	14.62
36.58	85TH	14.40
36.16	80TH	14.24
35.81	75TH	14.10
35.50	70TH	13.98
35.22	65TH	13.87
34.95	60TH	13.76
34.69	55TH	13.66
34.43	50TH	13.56
34.17	45TH	13.45
33.90	40TH	13.35
33.62	35TH	13.24
33.32	30TH	13.12
32.99	25TH	12.99
32.62	20TH	12.84
32.19	15TH	12.67
31.65	10TH	12.46
30.87	5TH	12.16
30.41	3RD	11.97
30.09	2ND	11.85
29.66	1ST	11.68

10. SITTING HEIGHT

Subject sits erect, head in the Frankfort plane, upper arms hanging relaxed, forearms and hands extended forward horizontally. With the anthropometer arm firmly touching the scalp, measure the vertical distance from the sitting surface to the top of the head.







RANGES*	F	CUMF	FPCT	CUMPCT
101.25-101.75	1	1482	0.07	100.00
100.75-101.25	1	1481	0.07	99.93
100.25-100.75	2	1480	0.13	99.86
99.75-100.25	2	1478	0.13	99.73
99.25- 99.75	4	1476	0.27	99.60
98.75- 99.25	4	1472	0.27	99.33
98.25- 98.75	4	1468	0.27	99.06
97.75- 98.25	9	1464	0.61	98.79
97.25- 97.75	14	1455	0.94	98.18
96.75- 97.25	15	1441	1.01	97.23
96.25- 96.75	23	1426	1.55	96.22
95.75- 96.25	32	1403	2.16	94.67
95.25- 95.75	23	1371	1.55	92.51
94.75- 95.25	32	1348	2.16	90.96
94.25- 94.75	57	1316	3.85	88.80
93.75- 94.25	54	1259	3.64	84.95
93.25- 93.75	56	1205	3.78	81.31
92.75- 93.25	84	1149	5.67	77.53
92.25- 92.75	78	1065	5.26	71.86
91.75- 92.25	90	987	6.07	66.60
91.25- 91.75	99	897	6.68	60.53
90.75- 91.25	74	798	4.99	53.85
90.25- 90.75	118	724	7.96	48.85
89.75- 90.25	85	606	5.74	40.89
89.25- 89.75	70	521	4.72	35.16
88.75- 89.25	91	451	6.14	30.43
88.25- 88.75	58	360	3.91	24.29
87.75- 88.25	70	302	4.72	20.38
87.25- 87.75	45	232	3.04	15.65
86.75- 87.25	41	187	2.77	12.62
86.25- 86.75	39	146	2.63	9.85
85.75- 86.25	29	107	1.96	7.22
85.25- 85.75	21	78	1.42	5.26
84.75- 85.25	17	57	1.15	3.85
84.25- 84.75	13	40	0.88	2.70
83.75- 84.25	8	27	0.54	1.82
83.25- 83.75	4	19	0.27	1.28
82.75- 83.25	5	15	0.34	1.01
82.25- 82.75	2	10	0.13	0.67
81.75- 82.25	5	8	0.34	0.54
81.25- 81.75	1	3	0.07	0.20
80.75- 81.25	0	2	0.00	0.13
80.25- 80.75	0	2	0.00	0.13
79.75- 80.25	0	2	0.00	0.13
79.25- 79.75	1	2	0.07	0.13
78.75- 79.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
90.92	MEAN VALUE	35.80
0.08	SE(MEAN)	0.03
3.23	SD DEVIATION	1.27
0.06	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 3.6%
SYMMETRY---VETA I = 0.01
KURTOSIS---VETA II = 3.13

****

NUMBER OF SUBJECTS = 1482

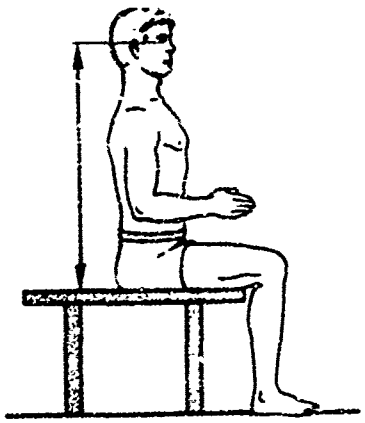
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THE PERCENTILES

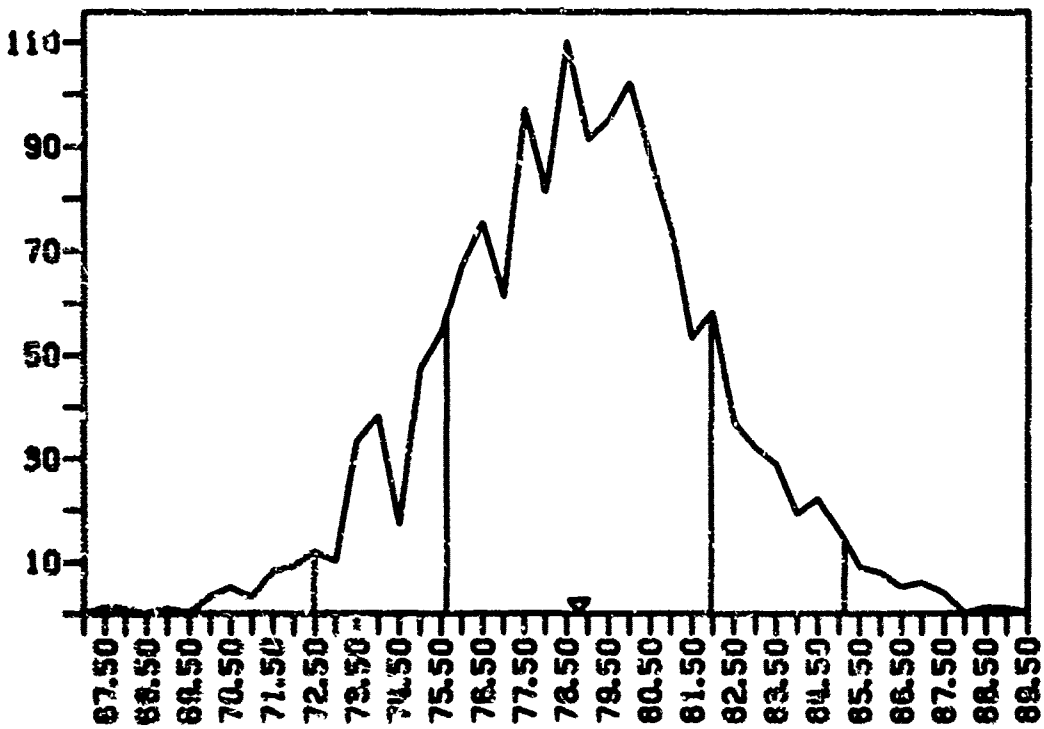
CENTIMETERS		INCHES
98.64	99TH	38.84
97.70	98TH	38.46
97.10	97TH	38.23
96.30	95TH	37.91
95.07	90TH	37.43
94.25	85TH	37.11
93.61	80TH	36.85
93.06	75TH	36.64
92.57	70TH	36.45
92.13	65TH	36.27
91.78	60TH	36.10
91.30	55TH	35.94
90.90	50TH	35.79
90.50	45TH	35.63
90.10	40TH	35.47
89.69	35TH	35.31
89.25	30TH	35.14
88.78	25TH	34.95
88.25	20TH	34.75
87.64	15TH	34.50
86.85	10TH	34.19
85.66	5TH	33.73
84.87	3RD	33.41
84.26	2ND	33.17
83.28	1ST	32.79

11. EYE HEIGHT (Sitting)

Subject sits erect, head in the Frankfort plane, upper arms hanging relaxed, forearms and hands extended forward horizontally. With an anthropometer, measure the vertical distance from the sitting surface to the external corner (external canthus) of the right eye.







RANGES*	F	CUMF	FPCT	CUMPCT
88.75- 89.25	1	1482	0.07	100.00
88.25- 88.75	1	1481	0.07	99.93
87.75- 88.25	0	1480	0.00	99.86
87.25- 87.75	4	1480	0.27	99.86
86.75- 87.25	6	1476	0.40	99.60
86.25- 86.75	5	1470	0.34	99.19
85.75- 86.25	8	1465	0.54	98.85
85.25- 85.75	9	1457	0.61	98.31
84.75- 85.25	16	1448	1.08	97.71
84.25- 84.75	22	1432	1.48	96.63
83.75- 84.25	19	1410	1.28	95.14
83.25- 83.75	29	1391	1.96	93.86
82.75- 83.25	32	1362	2.16	91.90
82.25- 82.75	37	1330	2.50	89.74
81.75- 82.25	58	1293	3.91	87.25
81.25- 81.75	53	1235	3.58	83.33
80.75- 81.25	74	1182	4.99	79.76
80.25- 80.75	87	1108	5.87	74.76
79.75- 80.25	102	1021	6.88	68.89
79.25- 79.75	95	919	6.41	62.01
78.75- 79.25	91	824	6.14	55.60
78.25- 78.75	110	733	7.42	49.46
77.75- 78.25	81	623	5.47	42.04
77.25- 77.75	97	542	6.55	36.57
76.75- 77.25	61	445	4.12	30.03
76.25- 76.75	75	384	5.06	25.91
75.75- 76.25	67	309	4.52	20.85
75.25- 75.75	54	242	3.64	16.33
74.75- 75.25	47	188	3.17	12.69
74.25- 74.75	17	141	1.15	9.51
73.75- 74.25	38	124	2.56	8.37
73.25- 73.75	33	86	2.23	5.80
72.75- 73.25	10	53	0.67	3.58
72.25- 72.75	12	43	0.81	2.90
71.75- 72.25	9	31	0.61	2.09
71.25- 71.75	8	22	0.54	1.48
70.75- 71.25	3	14	0.20	0.94
70.25- 70.75	5	11	0.34	0.74
69.75- 70.25	3	6	0.20	0.40
69.25- 69.75	0	3	0.00	0.20
68.75- 69.25	1	3	0.07	0.20
68.25- 68.75	0	2	0.00	0.13
67.75- 68.25	1	2	0.07	0.13
67.25- 67.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
78.80	MEAN VALUE	31.02
0.08	SE(MEAN)	0.03
3.16	SD DEVIATION	1.25
0.06	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 4.0%
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 3.17

****

NUMBER OF SUBJECTS = 1482

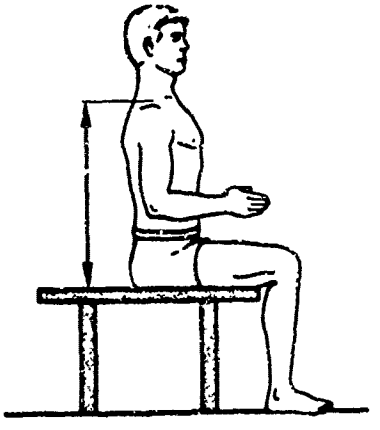
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THE PERCENTILES

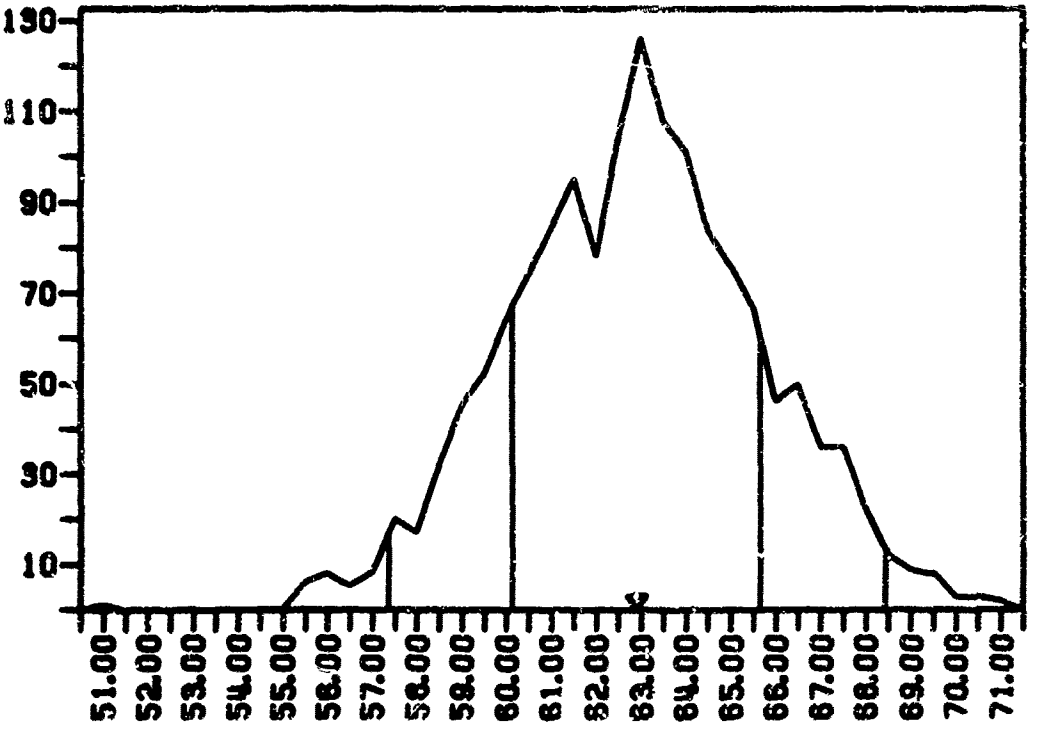
CENTIMETERS		INCHES
86.53	99TH	34.07
85.50	98TH	33.66
84.87	97TH	33.41
84.04	95TH	33.09
82.81	90TH	32.60
82.01	85TH	32.29
81.39	80TH	32.04
80.86	75TH	31.84
80.39	70TH	31.65
79.96	65TH	31.48
79.56	60TH	31.32
79.17	55TH	31.17
78.78	50TH	31.02
78.40	45TH	30.86
78.01	40TH	30.71
77.60	35TH	30.55
77.18	30TH	30.39
76.71	25TH	30.20
76.19	20TH	30.00
75.55	15TH	29.76
74.80	10TH	29.45
73.61	5TH	28.98
72.82	3RD	28.67
72.22	2ND	28.43
71.26	1ST	28.05

12. MIDSHOULDER HEIGHT (Sitting)

Subject sits erect, head in the Frankfort plane, upper arms hanging relaxed, forearms and hands extended forward horizontally. With an anthropometer, measure the vertical distance from the sitting surface to the right midshoulder landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
70.75- 71.25	2	1482	0.13	100.00
70.25- 70.75	2	1480	0.20	99.86
69.75- 70.25	3	1477	0.20	99.66
69.25- 69.75	8	1474	0.54	99.46
68.75- 69.25	8	1466	0.61	98.92
68.25- 68.75	12	1457	0.81	98.31
67.75- 68.25	22	1445	1.48	97.50
67.25- 67.75	36	1423	2.43	96.02
66.75- 67.25	36	1387	2.43	93.59
66.25- 66.75	50	1351	3.37	91.16
65.75- 66.25	46	1301	3.10	87.79
65.25- 65.75	67	1255	4.52	84.68
64.75- 65.25	76	1188	5.13	80.16
64.25- 64.75	84	1112	5.67	75.03
63.75- 64.25	101	1028	6.82	69.37
63.25- 63.75	108	927	7.29	62.55
62.75- 63.25	126	819	8.50	55.26
62.25- 62.75	104	693	7.02	46.76
61.75- 62.25	78	589	5.26	39.74
61.25- 61.75	95	511	6.41	34.48
60.75- 61.25	84	416	5.67	28.07
60.25- 60.75	74	332	4.99	22.40
59.75- 60.25	64	258	4.32	17.41
59.25- 59.75	52	194	3.51	13.09
58.75- 59.25	45	142	3.04	9.58
58.25- 58.75	32	97	2.16	6.55
57.75- 58.25	17	65	1.15	4.39
57.25- 57.75	20	48	1.35	3.24
56.75- 57.25	8	28	0.54	1.89
56.25- 56.75	5	20	0.34	1.35
55.75- 56.25	8	15	0.54	1.01
55.25- 55.75	6	7	0.40	0.47
54.75- 55.25	0	1	0.00	0.07
54.25- 54.75	0	1	0.00	0.07
53.75- 54.25	0	1	0.00	0.07
53.25- 53.75	0	1	0.00	0.07
52.75- 53.25	0	1	0.00	0.07
52.25- 52.75	0	1	0.00	0.07
51.75- 52.25	0	1	0.00	0.07
51.25- 51.75	0	1	0.00	0.07
50.75- 51.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
62.90	MEAN VALUE	24.76
0.07	SE(MEAN)	0.03
2.77	SD DEVIATION	1.09
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 4.4%
SYMMETRY---VETA I = -0.03
KURTOSIS---VETA II = 2.98

****

NUMBER OF SUBJECTS = 1482

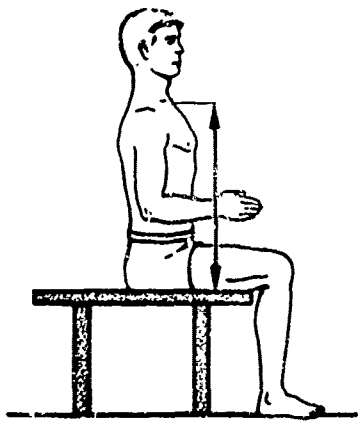
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THE PERCENTILES

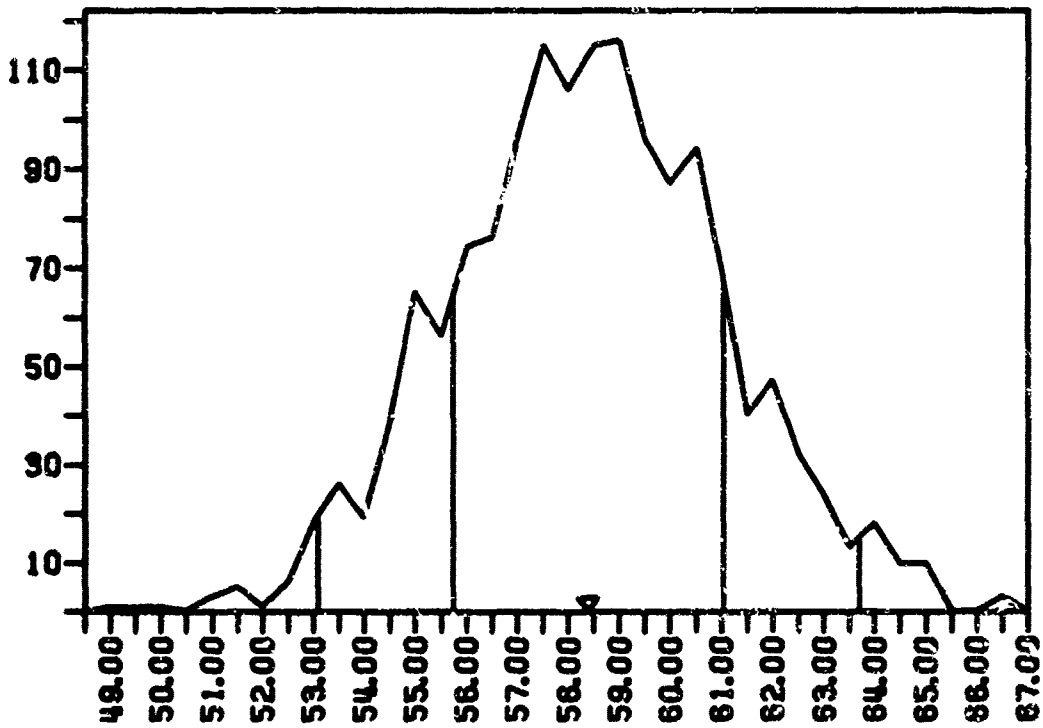
CENTIMETERS		INCHES
69.28	99TH	27.28
68.60	98TH	27.01
68.14	97TH	26.83
67.51	95TH	26.58
66.50	90TH	26.18
65.81	85TH	25.91
65.25	80TH	25.69
64.78	75TH	25.50
64.35	70TH	25.34
63.96	65TH	25.18
63.59	60TH	25.03
63.23	55TH	24.89
62.88	50TH	24.76
62.53	45TH	24.62
62.18	40TH	24.48
61.81	35TH	24.34
61.43	30TH	24.19
61.02	25TH	24.02
60.56	20TH	23.84
60.03	15TH	23.63
59.36	10TH	23.37
58.34	5TH	22.97
57.67	3RD	22.70
57.16	2ND	22.51
56.33	1ST	22.18

13. TRUNK HEIGHT (Sitting)

Subject sits erect, head in the Frankfort plane, upper arms hanging relaxed, forearms and hands extended forward horizontally. With an anthropometer, measure the vertical distance from the sitting surface to the supra-sternale landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
66.25- 66.75	3	1482	0.20	100.00
65.75- 66.25	0	1479	0.00	99.80
65.25- 65.75	0	1479	0.00	99.80
64.75- 65.25	10	1479	0.67	99.80
64.25- 64.75	10	1469	0.67	99.12
63.75- 64.25	18	1459	1.21	98.45
63.25- 63.75	13	1441	0.88	97.23
62.75- 63.25	24	1428	1.62	96.36
62.25- 62.75	32	1404	2.16	94.74
61.75- 62.25	47	1372	3.17	92.58
61.25- 61.75	40	1325	2.70	89.41
60.75- 61.25	69	1285	4.66	86.71
60.25- 60.75	94	1216	6.34	82.05
59.75- 60.25	87	1122	5.87	75.71
59.25- 59.75	96	1035	6.48	69.84
58.75- 59.25	116	939	7.83	63.36
58.25- 58.75	115	823	7.76	55.53
57.75- 58.25	106	708	7.15	47.77
57.25- 57.75	115	602	7.76	40.62
56.75- 57.25	96	487	6.48	32.86
56.25- 56.75	76	391	5.13	26.38
55.75- 56.25	74	315	4.99	21.26
55.25- 55.75	56	241	3.78	16.26
54.75- 55.25	65	185	4.39	12.48
54.25- 54.75	39	120	2.63	8.10
53.75- 54.25	19	81	1.28	5.47
53.25- 53.75	26	62	1.75	4.18
52.75- 53.25	18	36	1.21	2.43
52.25- 52.75	6	18	0.40	1.21
51.75- 52.25	1	12	0.07	0.81
51.25- 51.75	5	11	0.34	0.74
50.75- 51.25	3	6	0.20	0.40
50.25- 50.75	0	3	0.00	0.20
49.75- 50.25	1	3	0.07	0.20
49.25- 49.75	1	2	0.07	0.13
48.75- 49.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
58.39	MEAN VALUE	22.99
0.07	SE(MEAN)	0.03
2.65	SD DEVIATION	1.04
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 4.5%
SYMMETRY---VETA I = 0.01
KURTOSIS---VETA II = 3.00

****

NUMBER OF SUBJECTS = 1482

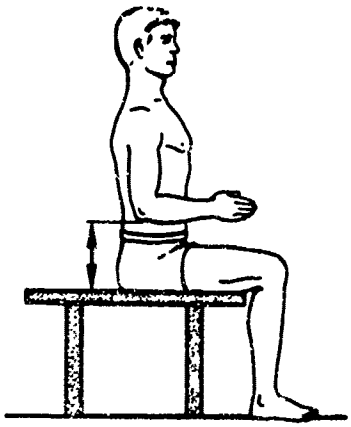
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THE PERCENTILES

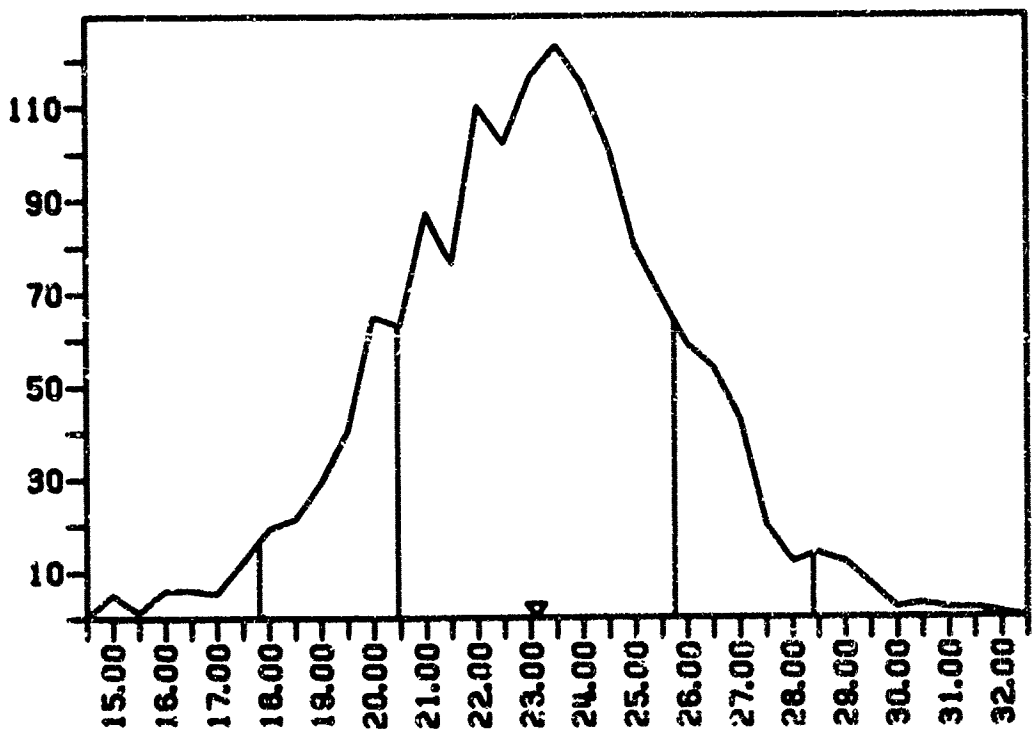
CENTIMETERS		INCHES
64.77	99TH	25.50
63.98	98TH	25.19
63.49	97TH	25.00
62.84	95TH	24.74
61.84	90TH	24.34
61.17	85TH	24.08
60.64	80TH	23.87
60.19	75TH	23.70
59.78	70TH	23.54
59.41	65TH	23.39
59.05	60TH	23.25
58.71	55TH	23.11
58.37	50TH	22.98
58.04	45TH	22.85
57.69	40TH	22.71
57.34	35TH	22.58
56.97	30TH	22.43
56.57	25TH	22.27
56.13	20TH	22.10
55.62	15TH	21.90
54.99	10TH	21.65
54.06	5TH	21.29
53.49	3RD	21.06
53.07	2ND	20.89
52.44	1ST	20.65

14. ELBOW REST HEIGHT (Sitting)

Subject sits erect looking straight ahead, upper arms hanging relaxed, forearms and hands extended forward horizontally. With an anthropometer, measure the vertical distance from the sitting surface to the bottom of the right elbow.







RANGES*	F	CUMF	FPCT	CUMPCT
31.75- 32.25	1	1482	0.07	100.00
31.25- 31.75	2	1481	0.13	99.93
30.75- 31.25	2	1479	0.13	99.80
30.25- 30.75	3	1477	0.20	99.66
29.75- 30.25	2	1474	0.13	99.46
29.25- 29.75	7	1472	0.47	99.33
28.75- 29.25	12	1465	0.81	98.85
28.25- 28.75	14	1453	0.94	98.04
27.75- 28.25	12	1439	0.81	97.10
27.25- 27.75	20	1427	1.35	96.29
26.75- 27.25	43	1407	2.90	94.94
26.25- 26.75	54	1364	3.64	92.04
25.75- 26.25	59	1310	3.98	88.39
25.25- 25.75	69	1251	4.66	84.41
24.75- 25.25	80	1182	5.40	79.76
24.25- 24.75	101	1102	6.82	74.36
23.75- 24.25	115	1001	7.76	67.54
23.25- 23.75	123	886	8.30	59.78
22.75- 23.25	116	763	7.83	51.48
22.25- 22.75	102	647	6.88	43.66
21.75- 22.25	110	545	7.42	36.77
21.25- 21.75	76	435	5.13	29.35
20.75- 21.25	87	359	5.87	24.22
20.25- 20.75	63	272	4.25	18.35
19.75- 20.25	65	209	4.39	14.10
19.25- 19.75	40	144	2.70	9.72
18.75- 19.25	29	104	1.96	7.02
18.25- 18.75	21	75	1.42	5.06
17.75- 18.25	19	54	1.28	3.64
17.25- 17.75	12	35	0.81	2.36
16.75- 17.25	5	23	0.34	1.55
16.25- 16.75	6	18	0.40	1.21
15.75- 16.25	6	12	0.40	0.81
15.25- 15.75	1	6	0.07	0.40
14.75- 15.25	5	5	0.34	0.34

*IN CENTIMETERS

CENTIMETERS		INCHES
23.10	MEAN VALUE	9.09
0.07	SE(MEAN)	0.03
2.65	SD DEVIATION	1.04
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 11.4%
SYMMETRY---VETA I = -0.03
KURTOSIS---VETA II = 3.22

****

NUMBER OF SUBJECTS = 1482

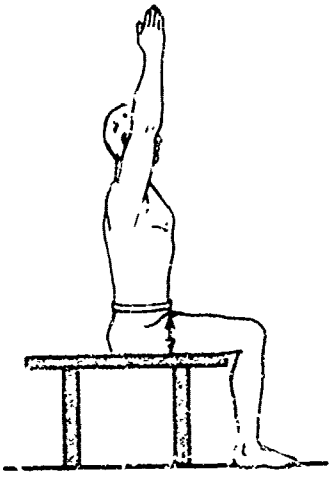
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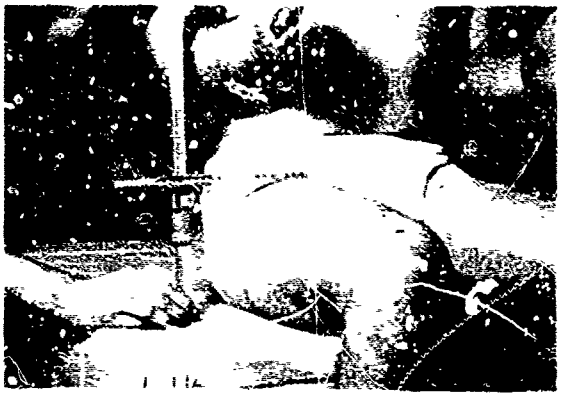
THE PERCENTILES

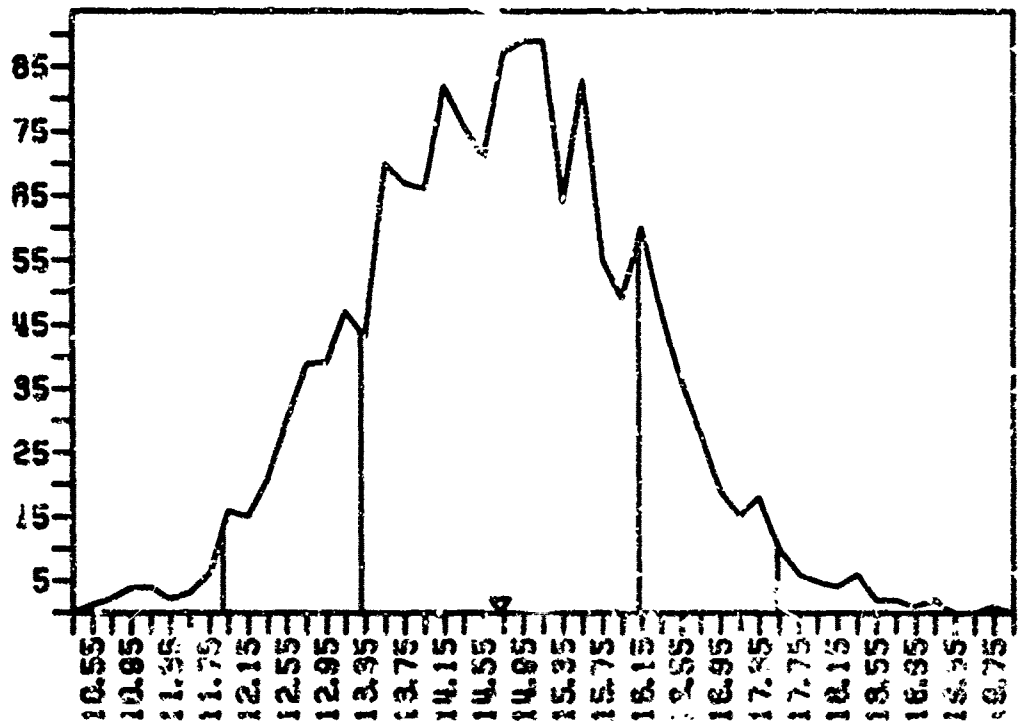
CENTIMETERS		INCHES
29.45	99TH	11.59
28.63	98TH	11.27
28.12	97TH	11.07
27.45	95TH	10.81
26.45	90TH	10.41
25.79	85TH	10.15
25.27	80TH	9.95
24.84	75TH	9.78
24.45	70TH	9.63
24.09	65TH	9.49
23.76	60TH	9.35
23.43	55TH	9.23
23.11	50TH	9.10
22.79	45TH	8.97
22.47	40TH	8.85
22.13	35TH	8.71
21.77	30TH	8.57
21.39	25TH	8.42
20.94	20TH	8.25
20.43	15TH	8.04
19.75	10TH	7.78
18.71	5TH	7.37
17.99	3RD	7.08
17.45	2ND	6.87
16.54	1ST	6.51

15. THIGH CLEARANCE HEIGHT (Sitting)

Subject sits erect on a flat surface, feet on the adjustable platform, knees flexed 90 degrees, and thighs parallel. With an anthropometer, measure the vertical distance from the sitting surface to the highest point on the right thigh.







RANGES*	F	CUMF	FPCT	CUMPCT
19.65- 19.85	1	1482	0.07	100.00
19.45- 19.65	0	1481	0.00	99.93
19.25- 19.45	0	1481	0.00	99.93
19.05- 19.25	2	1481	0.13	99.93
18.85- 19.05	1	1479	0.07	99.80
18.65- 18.85	2	1478	0.13	99.73
18.45- 18.65	2	1476	0.13	99.60
18.25- 18.45	6	1474	0.40	99.46
18.05- 18.25	4	1468	0.27	99.06
17.85- 18.05	5	1464	0.34	98.79
17.65- 17.85	6	1459	0.40	98.45
17.45- 17.65	10	1453	0.67	98.04
17.25- 17.45	18	1443	1.21	97.37
17.05- 17.25	15	1425	1.01	96.15
16.85- 17.05	19	1410	1.28	95.14
16.65- 16.85	28	1391	1.89	93.86
16.45- 16.65	36	1363	2.43	91.97
16.25- 16.45	47	1327	3.17	89.54
16.05- 16.25	60	1280	4.05	86.37
15.85- 16.05	49	1220	3.31	82.32
15.65- 15.85	55	1171	3.71	79.01
15.45- 15.65	83	1116	5.60	75.30
15.25- 15.45	64	1033	4.32	69.70
15.05- 15.25	89	969	6.01	65.38
14.85- 15.05	89	880	6.01	59.38
14.65- 14.85	87	791	5.87	53.37
14.45- 14.65	71	704	4.79	47.50
14.25- 14.45	76	633	5.13	42.71
14.05- 14.25	82	557	5.53	37.58
13.85- 14.05	66	475	4.45	32.05
13.65- 13.85	67	409	4.52	27.60
13.45- 13.65	70	342	4.72	23.08
13.25- 13.45	43	272	2.90	18.35
13.05- 13.25	47	229	3.17	15.45
12.85- 13.05	39	182	2.63	12.28
12.65- 12.85	39	143	2.63	9.65
12.45- 12.65	30	104	2.02	7.02
12.25- 12.45	21	74	1.42	4.99
12.05- 12.25	15	53	1.01	3.58
11.85- 12.05	16	38	1.08	2.56
11.65- 11.85	6	22	0.40	1.48
11.45- 11.65	3	16	0.20	1.08
11.25- 11.45	2	13	0.13	0.88
11.05- 11.25	4	11	0.27	0.74
10.85- 11.05	4	7	0.27	0.47
10.65- 10.85	2	3	0.13	0.20
10.45- 10.65	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
14.71	MEAN VALUE	5.79
0.04	SE(MEAN)	0.01
1.41	SD DEVIATION	0.55
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 9.6%
SYMMETRY---VETA I = 0.09
KURTOSIS---VETA II = 2.99

****

NUMBER OF SUBJECTS = 1482

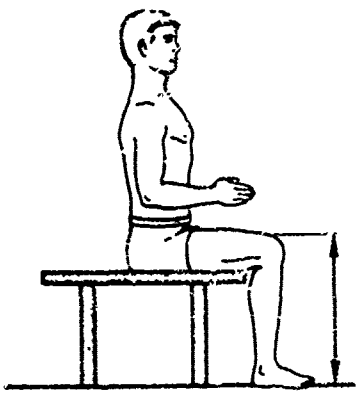
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THE PERCENTILES

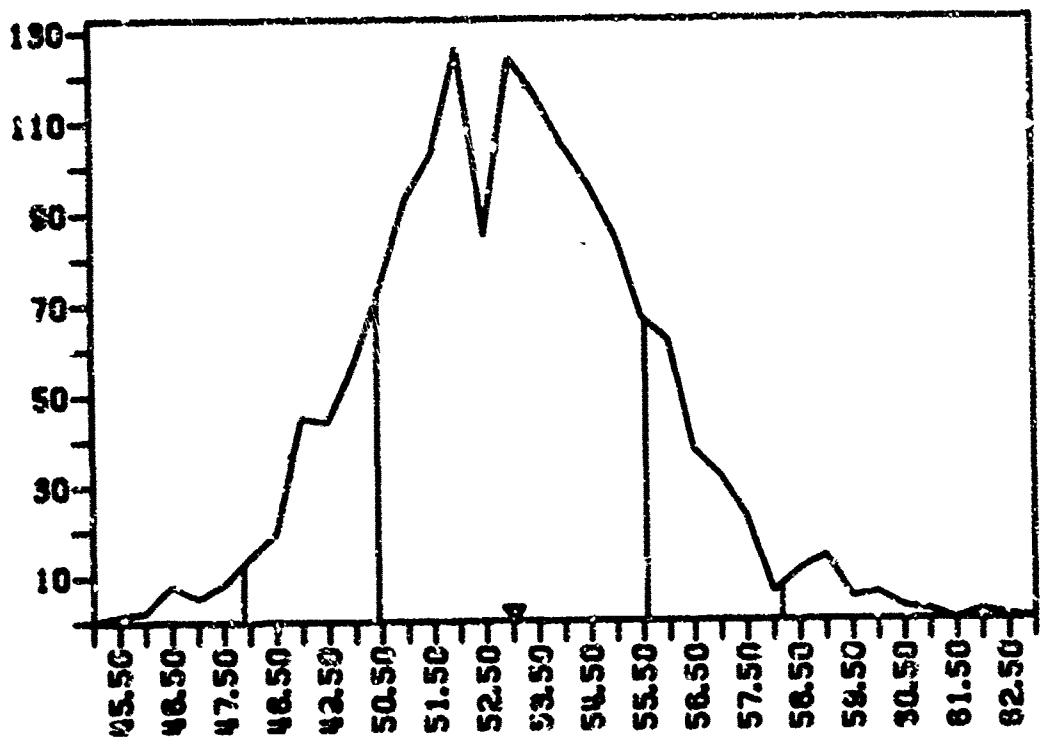
CENTIMETERS		INCHES
18.17	99TH	7.15
17.69	98TH	6.96
17.40	97TH	6.85
17.04	95TH	6.71
16.50	90TH	6.5
16.15	85TH	6.36
15.88	80TH	6.25
15.65	75TH	6.16
15.44	70TH	6.08
15.25	65TH	6.00
15.07	60TH	5.93
14.89	55TH	5.86
14.71	50TH	5.79
14.54	45TH	5.72
14.36	40TH	5.65
14.17	35TH	5.58
13.97	30TH	5.50
13.76	25TH	5.42
13.52	20TH	5.32
13.24	15TH	5.21
12.90	10TH	5.08
12.41	5TH	4.89
12.11	3RD	4.77
11.91	2ND	4.69
11.62	1ST	4.57

16. KNEE HEIGHT (Sitting)

Subject site erect on a flat surface, feet on the adjustable platform, knees flexed 90 degrees, and thighs parallel. With an anthropometer, measure the vertical distance from the platform surface to the top of the right knee at a point 5cm proximal to the anterior surface of the patella.







RANGES*	F	CUMF	FPCT	CUMPCT
19.65- 19.85	1	1482	0.07	100.00
19.45- 19.65	0	1481	0.00	99.93
19.25- 19.45	0	1481	0.00	99.93
19.05- 19.25	2	1481	0.13	99.93
18.85- 19.05	1	1479	0.07	99.80
18.65- 18.85	2	1478	0.13	99.73
18.45- 18.65	2	1476	0.13	99.60
18.25- 18.45	6	1474	0.40	99.46
18.05- 18.25	4	1468	0.27	99.06
17.85- 18.05	5	1464	0.34	98.79
17.65- 17.85	6	1459	0.40	98.45
17.45- 17.65	10	1453	0.67	98.04
17.25- 17.45	18	1443	1.21	97.37
17.05- 17.25	15	1425	1.01	96.15
16.85- 17.05	19	1410	1.28	95.14
16.65- 16.85	28	1391	1.89	93.86
16.45- 16.65	36	1363	2.43	91.97
16.25- 16.45	47	1327	3.17	89.54
16.05- 16.25	60	1280	4.05	86.37
15.85- 16.05	49	1220	3.31	82.32
15.65- 15.85	55	1171	3.71	79.01
15.45- 15.65	83	1116	5.60	75.30
15.25- 15.45	64	1033	4.32	69.70
15.05- 15.25	89	969	6.01	65.38
14.85- 15.05	99	880	6.01	59.38
14.65- 14.85	87	791	5.87	53.37
14.45- 14.65	71	704	4.79	47.50
14.25- 14.45	76	633	5.13	42.71
14.05- 14.25	82	557	5.53	37.58
13.85- 14.05	66	475	4.45	32.05
13.65- 13.85	67	409	4.52	27.60
13.45- 13.65	70	342	4.72	23.08
13.25- 13.45	43	272	2.90	18.35
13.05- 13.25	47	229	3.17	15.45
12.85- 13.05	39	182	2.63	12.28
12.65- 12.85	39	143	2.63	9.65
12.45- 12.65	30	104	2.02	7.02
12.25- 12.45	21	74	1.42	4.99
12.05- 12.25	15	53	1.01	3.58
11.85- 12.05	16	38	1.08	2.56
11.65- 11.85	6	22	0.40	1.48
11.45- 11.65	3	16	0.20	1.08
11.25- 11.45	2	13	0.13	0.88
11.05- 11.25	4	11	0.27	0.74
10.85- 11.05	4	7	0.27	0.47
10.65- 10.85	2	3	0.13	0.20
10.45- 10.65	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
14.71	MEAN VALUE	5.79
0.04	SE(MEAN)	0.01
1.41	SD DEVIATION	0.55
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 9.6%
SYMMETRY---VETA I = 0.09
KURTOSIS---VETA II = 2.99

****

NUMBER OF SUBJECTS = 1482

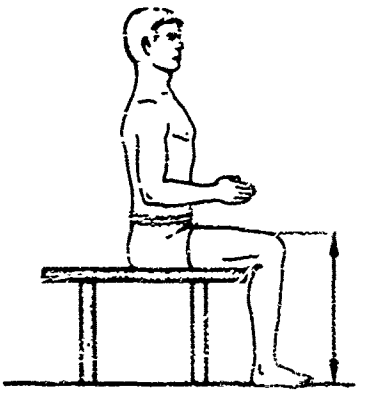
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THE PERCENTILES

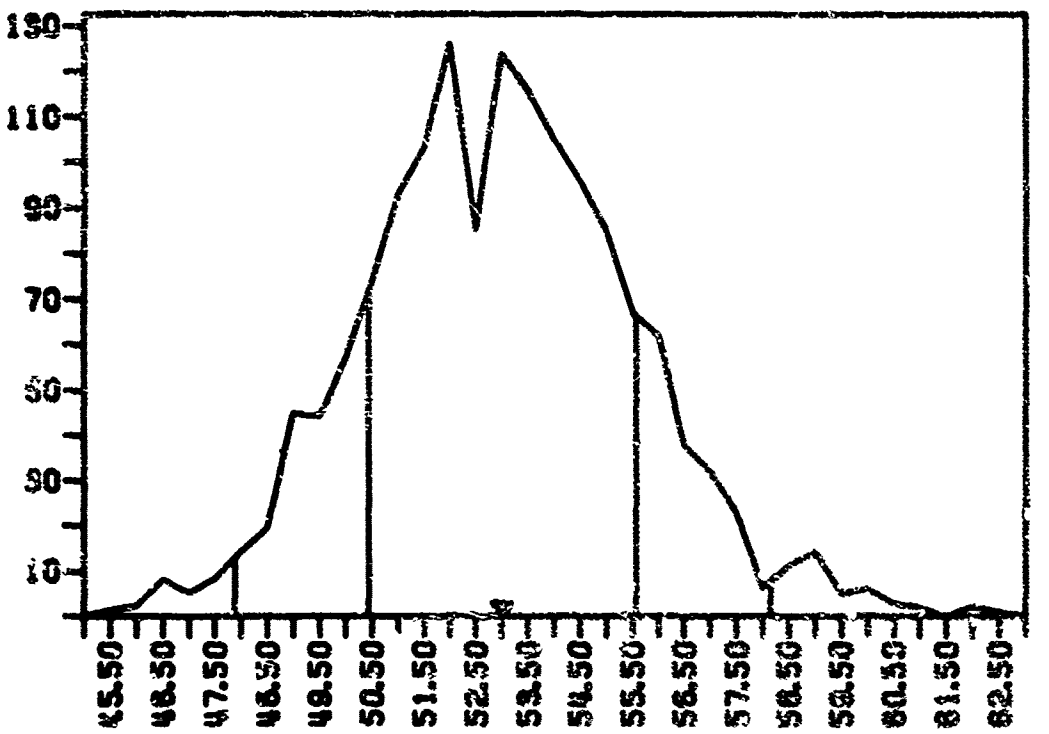
CENTIMETERS		INCHES
18.17	99TH	7.15
17.69	98TH	6.96
17.40	97TH	6.85
17.04	95TH	6.71
16.50	90TH	6.50
16.15	85TH	6.36
15.88	80TH	6.25
15.65	75TH	6.16
15.44	70TH	6.08
15.25	65TH	6.00
15.07	60TH	5.93
14.89	55TH	5.86
14.71	50TH	5.79
14.54	45TH	5.72
14.36	40TH	5.65
14.17	35TH	5.58
13.97	30TH	5.50
13.76	25TH	5.42
13.52	20TH	5.32
13.24	15TH	5.21
12.90	10TH	5.08
12.41	5TH	4.89
12.13	3RD	4.77
11.91	2ND	4.69
11.62	1ST	4.57

16. KNEE HEIGHT (Sitting)

Subject sits erect on a flat surface, feet on the adjustable platform, knees flexed 90 degrees, and thighs parallel. With an anthropometer, measure the vertical distance from the platform surface to the top of the right knee at a point 5cm proximal to the anterior surface of the patella.







RANGES*	F	CUMF	FPCT	CUMPCT
62.25- 62.75	1	1482	0.07	100
61.75- 62.25	2	1481	0.13	99.93
61.25- 61.75	0	1479	0.00	99.80
60.75- 61.25	2	1479	0.13	99.80
60.25- 60.75	3	1477	0.20	99.66
59.75- 60.25	6	1474	0.40	99.46
59.25- 59.75	5	1468	0.34	99.06
58.75- 59.25	14	1463	0.94	98.72
58.25- 58.75	11	1449	0.74	97.77
57.75- 58.25	6	1438	0.40	97.03
57.25- 57.75	23	1432	1.55	96.63
56.75- 57.25	32	1409	2.16	95.07
56.25- 56.75	38	1377	2.56	92.91
55.75- 56.25	62	1339	4.18	90.35
55.25- 55.75	67	1277	4.52	86.17
54.75- 55.25	85	1210	5.74	81.65
54.25- 54.75	96	1125	6.48	75.91
53.75- 54.25	105	1029	7.09	69.43
53.25- 53.75	116	924	7.83	62.35
52.75- 53.25	124	808	8.37	54.52
52.25- 52.75	85	684	5.74	46.15
51.75- 52.25	126	599	8.50	40.42
51.25- 51.75	103	473	6.95	31.92
50.75- 51.25	93	370	6.28	24.97
50.25- 50.75	74	277	4.99	18.69
49.75- 50.25	57	203	3.85	13.70
49.25- 49.75	44	146	2.97	9.85
48.75- 49.25	45	102	3.04	6.88
48.25- 48.75	19	57	1.28	3.85
47.75- 48.25	14	38	0.94	2.56
47.25- 47.75	8	24	0.54	1.62
46.75- 47.25	5	16	0.34	1.08
46.25- 46.75	8	11	0.54	0.74
45.75- 46.25	2	3	0.13	0.20
45.25- 45.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
53.01	MEAN VALUE	20.87
0.07	SE(MEAN)	0.03
2.57	SD DEVIATION	1.01
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 4.8%
SYMMETRY---VETA I = 0.21
KURTOSIS---VETA II = 3.20

****

NUMBER OF SUBJECTS = 1482

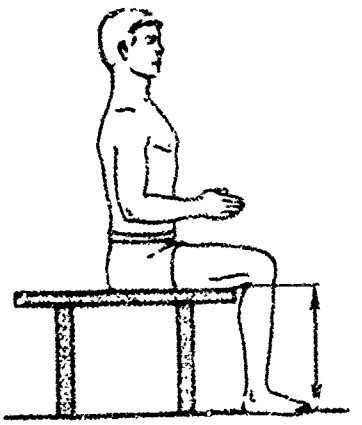
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THE PERCENTILES

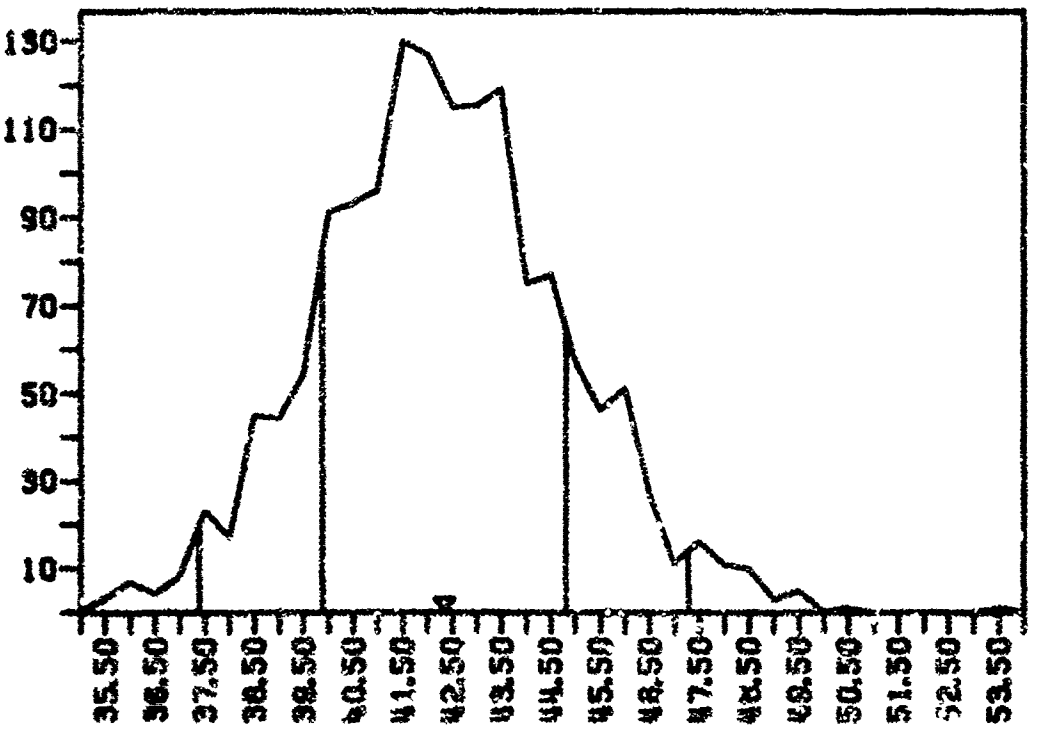
CENTIMETERS		INCHES
59.71	99TH	23.51
58.74	98TH	23.13
58.15	97TH	22.90
57.40	95TH	22.60
56.31	90TH	22.17
55.61	85TH	21.90
55.09	80TH	21.69
54.64	75TH	21.51
54.25	70TH	21.36
53.89	65TH	21.22
53.56	60TH	21.09
53.24	55TH	20.96
52.93	50TH	20.84
52.62	45TH	20.72
52.31	40TH	20.59
51.99	35TH	20.47
51.65	30TH	20.33
51.28	25TH	20.19
50.88	20TH	20.03
50.43	15TH	19.84
49.88	10TH	19.61
48.91	5TH	19.26
48.33	3RD	19.03
47.90	2ND	18.86
47.22	1ST	18.59

17. POPLITEAL HEIGHT (Sitting)

Subject sits erect, feet on the adjustable platform, knees flexed 90 degrees, and thighs parallel. With an anthropometer, measure the vertical distance from the surface of the platform to the lateral underside of the thigh at the point where the tendon on the m. biceps femoris joins the lower leg.







RANGES*	F	CUMF	FPCT	CUMPCT
53.25- 53.75	1	1482	0.07	100.00
52.75- 53.25	0	1481	0.00	99.93
52.25- 52.75	0	1481	0.00	99.93
51.75- 52.25	0	1481	0.00	99.93
51.25- 51.75	0	1481	0.00	99.93
50.75- 51.25	0	1481	0.00	99.93
50.25- 50.75	1	1481	0.07	99.93
49.75- 50.25	0	1480	0.00	99.86
49.25- 49.75	5	1480	0.34	99.86
48.75- 49.25	3	1475	0.20	99.53
48.25- 48.75	10	1472	0.67	99.33
47.75- 48.25	11	1462	0.74	98.65
47.25- 47.75	16	1451	1.08	97.91
46.75- 47.25	11	1435	0.74	96.83
46.25- 46.75	27	1424	1.82	96.09
45.75- 46.25	51	1397	3.44	94.26
45.25- 45.75	46	1346	3.10	90.82
44.75- 45.25	57	1300	3.85	87.72
44.25- 44.75	77	1243	5.20	83.87
43.75- 44.25	75	1166	5.06	78.68
43.25- 43.75	119	1091	8.03	73.62
42.75- 43.25	115	972	7.76	65.59
42.25- 42.75	115	857	7.76	57.83
41.75- 42.25	127	742	8.57	50.07
41.25- 41.75	130	615	8.77	41.50
40.75- 41.25	96	485	6.48	32.73
40.25- 40.75	93	389	6.28	26.25
39.75- 40.25	91	296	6.14	19.97
39.25- 39.75	54	205	3.64	13.83
38.75- 39.25	44	151	2.97	10.19
38.25- 38.75	46	107	3.04	7.22
37.75- 38.25	17	62	1.15	4.18
37.25- 37.75	23	45	1.55	3.04
36.75- 37.25	8	22	0.54	1.48
36.25- 36.75	4	14	0.27	0.94
35.75- 36.25	7	10	0.47	0.67
35.25- 35.75	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
42.34	MEAN VALUE	16.67
0.06	SE(MEAN)	0.03
2.47	SD DEVIATION	0.97
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.8%
SYMMETRY---VETA I = 0.18
KURTOSIS---VETA II = 3.18

****

NUMBER OF SUBJECTS = 1482

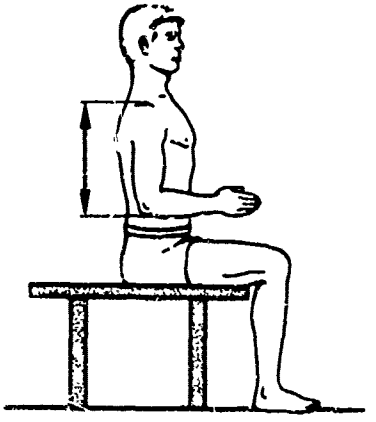
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THE PERCENTILES

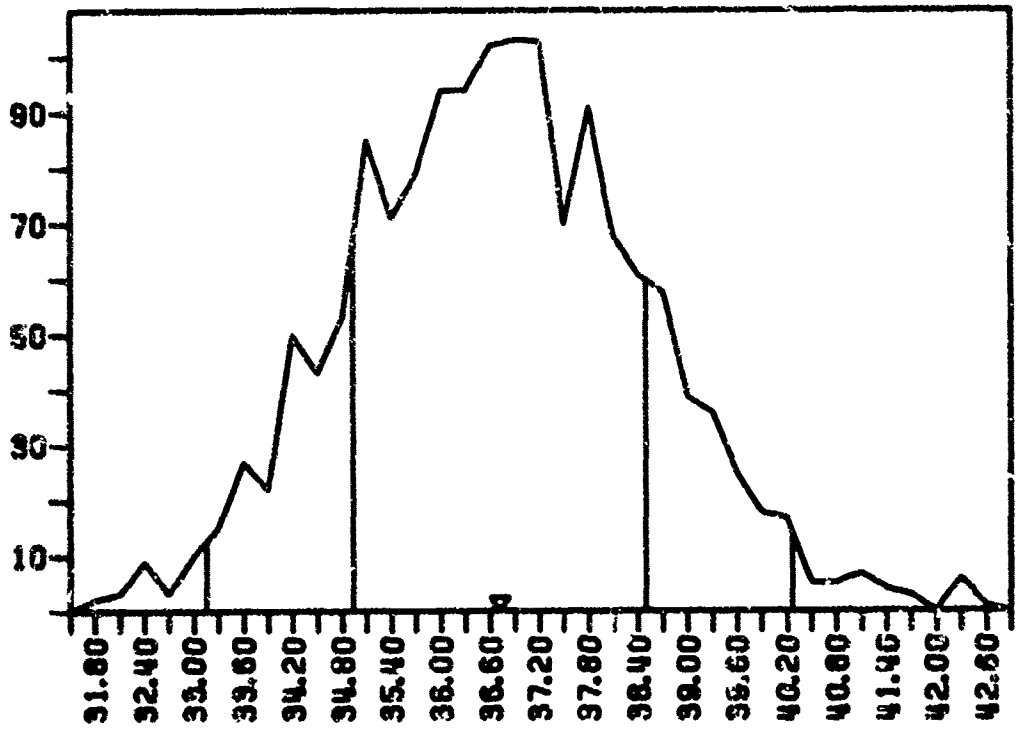
CENTIMETERS		INCHES
48.57	99TH	19.12
47.75	98TH	18.80
47.24	97TH	18.60
46.56	95TH	18.33
45.55	90TH	17.93
44.89	85TH	17.67
44.34	80TH	17.47
43.95	75TH	17.30
43.56	70TH	17.15
43.21	65TH	17.01
42.89	60TH	16.88
42.57	55TH	16.76
42.26	50TH	16.64
41.96	45TH	16.52
41.65	40TH	16.40
41.34	35TH	16.27
41.01	30TH	16.14
40.65	25TH	16.00
40.26	20TH	15.85
39.80	15TH	15.67
39.23	10TH	15.44
38.38	5TH	15.11
37.82	3RD	14.89
37.41	2ND	14.73
36.76	1ST	14.47

18. SHOULDER-ELBOW LENGTH

Subject sits erect, upper arms hanging relaxed, forearms and hands extended forward horizontally. With a beam caliper, measure the vertical distance of the long axis of the upper arm from the right acromion landmark to the inferior tip of the olecranon process of the right elbow.







RANGES*	F	CUMF	FPCT	CUMPCT
42.45- 42.75	1	1482	0.07	100.00
42.15- 42.45	6	1481	0.40	99.93
41.85- 42.15	0	1475	0.00	99.53
41.55- 41.85	3	1475	0.20	99.53
41.25- 41.55	4	1472	0.27	99.33
40.95- 41.25	7	1468	0.47	99.06
40.65- 40.95	5	1461	0.34	98.58
40.35- 40.65	5	1456	0.34	98.25
40.05- 40.35	17	1451	1.15	97.91
39.75- 40.05	18	1434	1.21	96.76
39.45- 39.75	25	1416	1.69	95.55
39.15- 39.45	36	1391	2.43	93.86
38.85- 39.15	39	1355	2.63	91.43
38.55- 38.85	58	1316	3.91	88.80
38.25- 38.55	61	1258	4.12	84.89
37.95- 38.25	68	1197	4.59	80.77
37.65- 37.95	91	1129	6.14	76.18
37.35- 37.65	70	1038	4.72	70.04
37.05- 37.35	103	968	6.95	65.32
36.75- 37.05	103	865	6.95	58.37
36.45- 36.75	102	762	6.88	51.42
36.15- 36.45	96	660	6.34	44.53
35.85- 36.15	94	566	6.34	38.19
35.55- 35.85	79	472	5.33	31.85
35.25- 35.55	71	393	4.79	26.52
34.95- 35.25	85	322	5.74	21.73
34.65- 34.95	53	237	3.58	15.99
34.35- 34.65	43	184	2.90	12.42
34.05- 34.35	50	141	3.37	9.51
33.75- 34.05	22	91	1.48	6.14
33.45- 33.75	27	69	1.82	4.66
33.15- 33.45	15	42	1.01	2.83
32.85- 33.15	10	27	0.67	1.82
32.55- 32.85	3	17	0.20	1.15
32.25- 32.55	9	14	0.61	0.94
31.95- 32.25	3	5	0.20	0.34
31.65- 31.95	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
36.71	MEAN VALUE	14.45
0.05	SE(MEAN)	0.02
1.78	SD DEVIATION	0.70
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.8%
SYMMETRY---VETA I = 0.14
KURTOSIS---VETA II = 3.02

****

NUMBER OF SUBJECTS = 1482

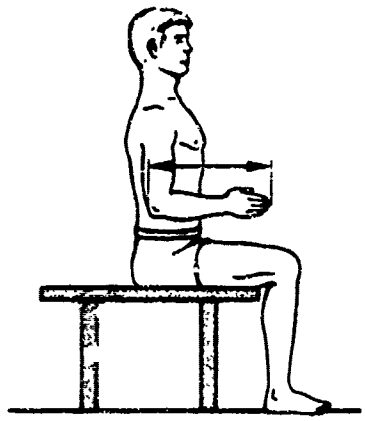
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THE PERCENTILES

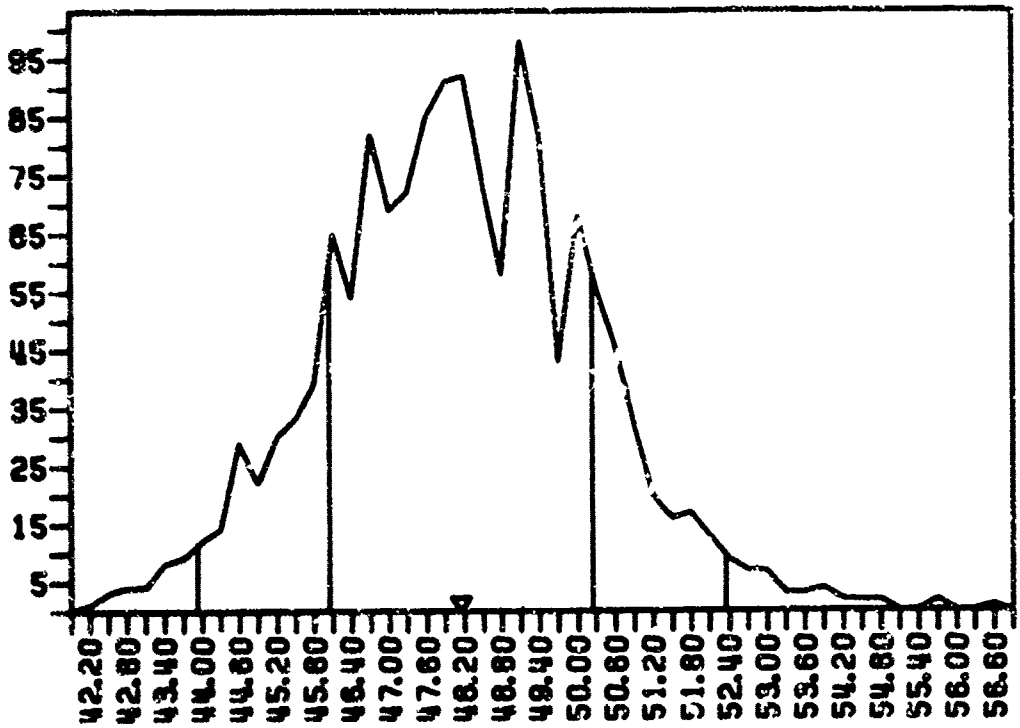
CENTIMETERS		INCHES
41.13	99TH	16.19
40.52	98TH	15.95
40.15	97TH	15.81
39.87	95TH	15.62
39.58	90TH	15.34
39.32	85TH	15.17
39.17	80TH	15.03
38.87	75TH	14.91
38.60	70TH	14.80
38.36	65TH	14.71
38.13	60TH	14.62
38.90	55TH	14.53
37.68	50TH	14.44
37.46	45TH	14.35
37.24	40TH	14.27
37.01	35TH	14.18
36.76	30TH	14.08
36.50	25TH	13.97
36.20	20TH	13.86
35.86	15TH	13.72
35.43	10TH	13.58
34.81	5TH	13.31
34.41	3RD	13.15
34.13	2ND	13.04
33.71	1ST	12.88

19. ELBOW-FINGERTIP LENGTH

Subject sits erect, upper arms hanging relaxed, forearms and hands extended forward horizontally. With a beam caliper, measure the horizontal distance along the long axis of the forearm and hand from the posterior tip of the olecranon process to dactylion.







RANGES*	F	CUMF	FPCT	CUMPCT
56.45- 56.75	1	1482	0.07	100.00
56.15- 56.45	0	1481	0.00	99.93
55.85- 56.15	0	1481	0.00	99.93
55.55- 55.85	2	1481	0.13	99.93
55.25- 55.55	0	1479	0.00	99.80
54.95- 55.25	0	1479	0.00	99.80
54.65- 54.95	2	1479	0.13	99.80
54.35- 54.65	2	1477	0.13	99.66
54.05- 54.35	2	1475	0.13	99.53
53.75- 54.05	4	1473	0.27	99.39
53.45- 53.75	3	1469	0.20	99.12
53.15- 53.45	3	1466	0.20	98.92
52.85- 53.15	7	1463	0.47	98.72
52.55- 52.85	7	1456	0.47	98.25
52.25- 52.55	9	1449	0.61	97.77
51.95- 52.25	13	1440	0.88	97.17
51.65- 51.95	17	1427	1.15	96.29
51.35- 51.65	16	1410	1.08	95.14
51.05- 51.35	20	1394	1.35	94.06
50.75- 51.05	32	1374	2.16	92.71
50.45- 50.75	46	1342	3.10	90.55
50.15- 50.45	56	1296	3.78	87.45
49.85- 50.15	68	1240	4.59	83.67
49.55- 49.85	43	1172	2.90	79.08
49.25- 49.55	82	1129	5.53	76.18
48.95- 49.25	98	1047	6.61	70.65
48.65- 48.95	58	949	3.91	64.04
48.35- 48.65	73	891	4.93	60.12
48.05- 48.35	92	818	6.21	55.20
47.75- 48.05	91	726	6.14	48.99
47.45- 47.75	85	635	5.74	42.85
47.15- 47.45	72	550	4.86	37.11
46.85- 47.15	69	478	4.66	32.25
46.55- 46.85	82	409	5.53	27.60
46.25- 46.55	54	327	3.64	22.06
45.95- 46.25	65	273	4.39	18.42
45.65- 45.95	39	208	2.63	14.04
45.35- 45.65	33	169	2.23	11.40
45.05- 45.35	30	136	2.02	9.18
44.75- 45.05	22	106	1.48	7.15
44.45- 44.75	29	84	1.96	5.67
44.15- 44.45	14	55	0.94	3.71
43.85- 44.15	12	41	0.81	2.77
43.55- 43.85	9	29	0.61	1.96
43.25- 43.55	8	20	0.54	1.35
42.95- 43.25	4	12	0.27	0.81
42.65- 42.95	4	8	0.27	0.54
42.35- 42.65	3	4	0.20	0.27
42.05- 42.35	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
48.14	MEAN VALUE	18.95
0.05	SE(MEAN)	0.02
2.10	SD DEVIATION	0.83
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 4.4%
SYMMETRY---VETA I = 0.16
KURTOSIS---VETA II = 3.27

****

NUMBER OF SUBJECTS = 1482

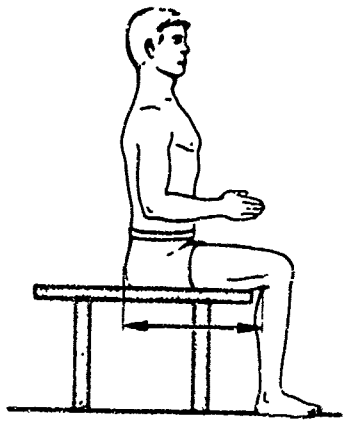
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THE PERCENTILES

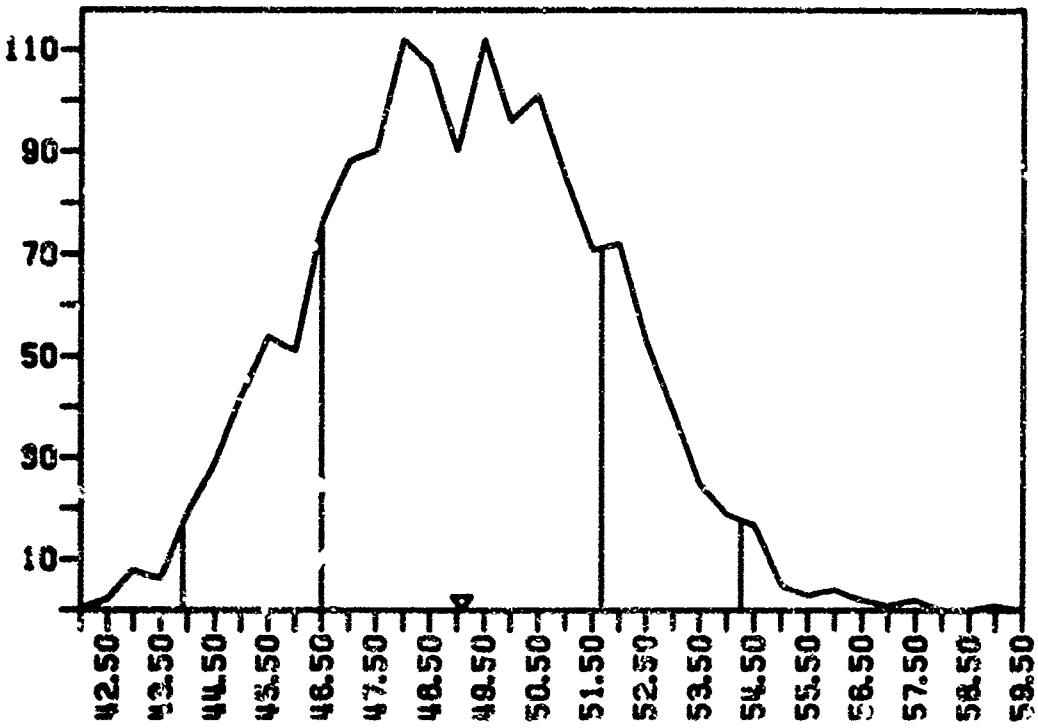
CENTIMETERS		INCHES
53.54	99TH	21.08
52.70	98TH	20.75
52.22	97TH	20.56
51.62	95TH	20.32
50.77	90TH	19.99
50.24	85TH	19.78
49.83	80TH	19.62
49.49	75TH	19.48
49.19	70TH	19.36
48.91	65TH	19.25
48.64	60TH	19.15
48.39	55TH	19.05
48.13	50TH	18.95
47.87	45TH	18.85
47.61	40TH	18.74
47.34	35TH	18.64
47.05	30TH	18.52
46.73	25TH	18.40
46.38	20TH	18.26
45.96	15TH	18.10
45.44	10TH	17.89
44.67	5TH	17.59
44.20	3RD	17.40
43.86	2ND	17.27
43.37	1ST	17.08

20. BUTTOCK-POPLITEAL LENGTH

Subject sits erect on a table, on the surface of which is affixed a measuring scale. His feet are on the adjustable platform, knees flexed 90 degrees, thighs parallel, and the posterior surface of the right lower leg touching the front edge of the table. With a block held against the most posterior aspect of the right buttock, measure on the table scale the horizontal distance from that point to the back of the right lower leg.







RANGES*	F	CUMF	FPCT	CUMPCT
58.75- 59.25	1	1482	0.07	100.00
58.25- 58.75	0	1481	0.00	99.93
57.75- 58.25	0	1481	0.00	99.93
57.25- 57.75	2	1481	0.13	99.93
56.75- 57.25	1	1479	0.07	99.80
56.25- 56.75	2	1478	0.13	99.73
55.75- 56.25	4	1476	0.27	99.60
55.25- 55.75	3	1472	0.20	99.33
54.75- 55.25	5	1469	0.34	99.12
54.25- 54.75	17	1464	1.15	98.79
53.75- 54.25	19	1447	1.28	97.64
53.25- 53.75	25	1428	1.69	96.36
52.75- 53.25	39	1403	2.63	94.67
52.25- 52.75	53	1364	3.58	92.04
51.75- 52.25	72	1311	4.86	88.46
51.25- 51.75	71	1239	4.79	83.60
50.75- 51.25	85	1168	5.74	78.81
50.25- 50.75	101	1083	6.82	73.08
49.75- 50.25	96	982	6.48	66.26
49.25- 49.75	112	886	7.56	59.78
48.75- 49.25	90	774	6.07	52.23
48.25- 48.75	107	684	7.22	46.15
47.75- 48.25	112	577	7.56	38.93
47.25- 47.75	90	465	6.07	31.38
46.75- 47.25	88	375	5.94	25.30
46.25- 46.75	76	287	5.13	19.37
45.75- 46.25	51	211	3.44	14.24
45.25- 45.75	54	160	3.64	10.80
44.75- 45.25	42	106	2.83	7.15
44.25- 44.75	29	64	1.96	4.32
43.75- 44.25	19	35	1.28	2.36
43.25- 43.75	6	16	0.40	1.08
42.75- 43.25	8	10	0.54	0.67
42.25- 42.75	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
49.09	MEAN VALUE	19.33
0.07	SE(MEAN)	0.03
2.59	SD DEVIATION	1.02
0.05	SE(SD DEV)	0.02

****

COEFF. OF VARIATION = 5.44
SYMMETRY---VETA I = 0.14
KURTOSIS---VETA II = 2.77

****

NUMBER OF SUBJECTS = 1482

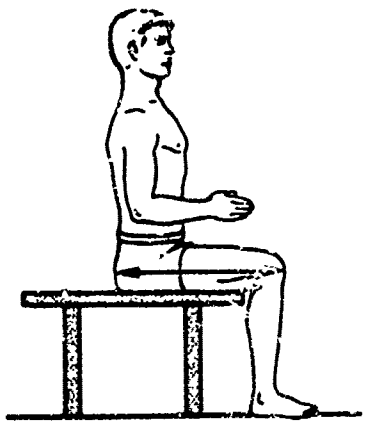
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THE PERCENTILES

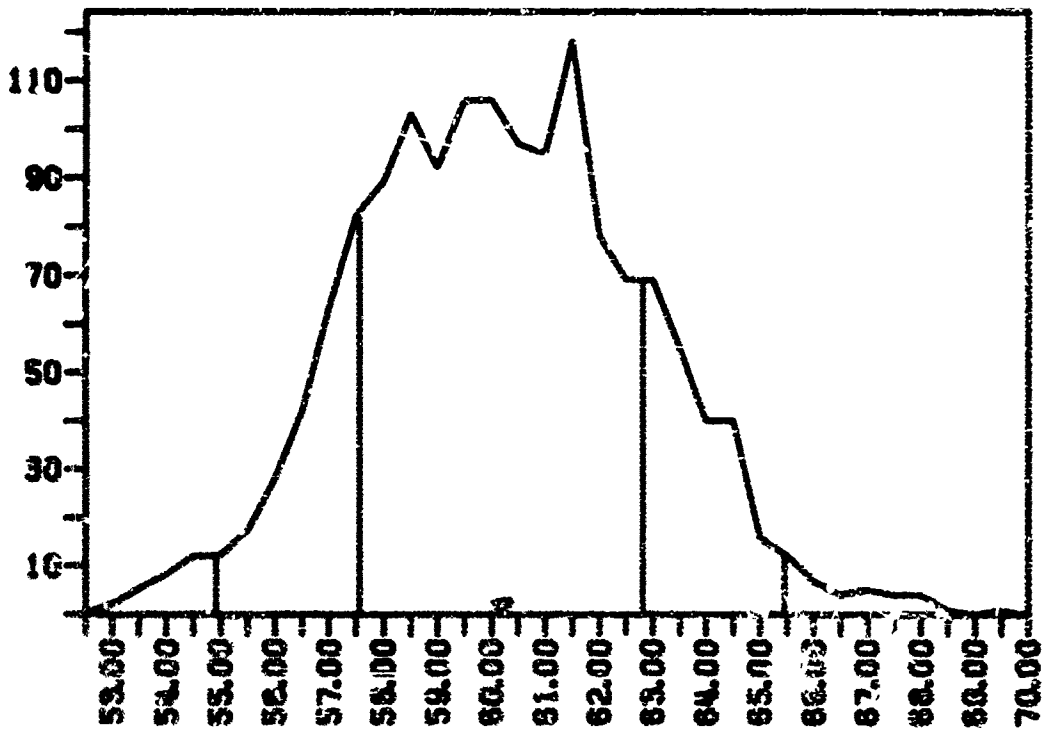
CENTIMETERS		INCHES
55.05	99TH	21.67
54.41	98TH	21.42
53.99	97TH	21.25
53.41	95TH	21.03
52.50	90TH	20.67
51.86	85TH	20.42
51.35	80TH	20.22
50.90	75TH	20.04
50.50	70TH	19.88
50.12	65TH	19.73
49.76	60TH	19.59
49.41	55TH	19.45
49.07	50TH	19.32
48.72	45TH	19.18
48.37	40TH	19.04
48.01	35TH	18.90
47.63	30TH	18.75
47.23	25TH	18.59
46.78	20TH	18.42
46.29	15TH	18.22
45.68	10TH	17.99
44.86	5TH	17.66
44.39	3RD	17.48
44.08	2ND	17.36
43.68	1ST	17.20

21. BUTTOCK-KNEE LENGTH

Subject sits erect, feet on the adjustable platform, knees flexed 90 degrees, and thighs parallel. With a beam caliper held parallel to the long axis of the thigh, measure the horizontal distance from the most posterior aspect of the right buttock to the most anterior aspect of the right kneecap.







RANGES*	F	CUMF	FPCT	CUMFCT
69.25- 69.75	1	1482	0.07	100.00
68.75- 69.25	0	1481	0.00	99.93
68.25- 68.75	1	1481	0.07	99.93
67.75- 68.25	4	1480	0.27	99.86
67.25- 67.75	4	1476	0.27	99.60
66.75- 67.25	5	1472	0.34	99.33
66.25- 66.75	4	1467	0.27	98.99
65.75- 66.25	7	1463	0.47	98.72
65.25- 65.75	12	1456	0.81	98.25
64.75- 65.25	16	1444	1.08	97.44
64.25- 64.75	40	1428	2.70	96.36
63.75- 64.25	40	1388	2.70	93.66
63.25- 63.75	55	1348	3.71	90.96
62.75- 63.25	69	1293	4.66	87.25
62.25- 62.75	69	1224	4.66	82.59
61.75- 62.25	78	1155	5.26	77.94
61.25- 61.75	118	1077	7.96	72.67
60.75- 61.25	95	959	6.41	64.71
60.25- 60.75	97	864	6.55	58.30
59.75- 60.25	106	767	7.15	51.75
59.25- 59.75	106	661	7.15	44.60
58.75- 59.25	92	555	6.21	37.45
58.25- 58.75	103	463	6.95	31.24
57.75- 58.25	89	360	6.01	24.29
57.25- 57.75	82	271	5.53	18.29
56.75- 57.25	63	189	4.25	12.75
56.25- 56.75	42	126	2.83	8.50
55.75- 56.25	28	84	1.89	5.67
55.25- 55.75	17	56	1.15	3.78
54.75- 55.25	12	39	0.81	2.63
54.25- 54.75	12	27	0.81	1.82
53.75- 54.25	8	15	0.54	1.01
53.25- 53.75	5	7	0.34	0.47
52.75- 53.25	2	2	0.13	0.13

* IN CENTIMETERS

CENTIMETERS		INCHES
60.19	MEAN VALUE	23.70
0.07	SE(MEAN)	0.03
2.63	SD DEVIATION	1.04
0.05	SE(SD C.V)	0.02

****

COEF. OF VARIATION = 4.4%
SYMMETRY---VETA I = 0.14
KURTOSIS---VETA II = 2.87

****

NUMBER OF SUBJECTS = 1482

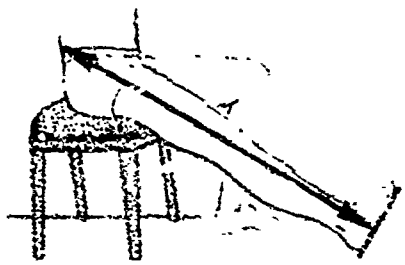
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THE PERCENTILES

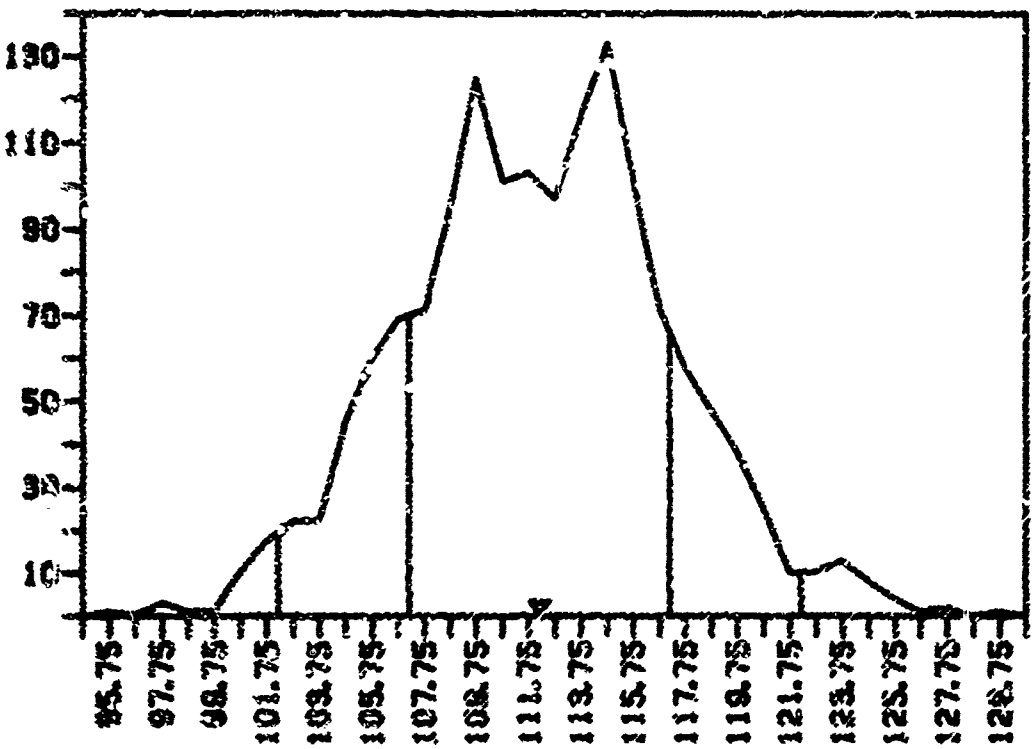
CENTIMETERS		INCHES
66.56	99TH	26.20
66.75	98TH	26.28
65.25	97TH	25.69
64.58	95TH	25.42
63.57	90TH	25.03
62.91	85TH	24.77
62.34	80TH	24.56
61.94	75TH	24.38
61.54	70TH	24.23
61.17	65TH	24.08
60.82	60TH	23.95
60.49	55TH	23.81
60.15	50TH	23.68
59.82	45TH	23.55
59.49	40TH	23.42
59.14	35TH	23.28
58.78	30TH	23.14
58.39	25TH	22.99
57.95	20TH	22.82
57.45	15TH	22.62
56.82	10TH	22.37
55.91	5TH	22.01
55.34	3RD	21.79
54.93	2ND	21.62
54.30	1ST	21.38

22. BUTTOCK-HEEL LENGTH

Subject sits erect on the edge of a chair, his right leg is extended forward with knee straightened. With the base of the modified anthropometer firmly in contact with the plantar surface of the foot, measure from the heel, along the long axis of the leg to the posterior waist landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
129.25-130.25	1	1482	0.07	100.00
128.25-129.25	0	1481	0.00	99.93
127.25-128.25	2	1481	0.13	99.93
126.25-127.25	1	1479	0.07	99.80
125.25-126.25	4	1478	0.27	99.73
124.25-125.25	8	1474	0.54	99.46
123.25-124.25	13	1466	0.88	98.92
122.25-123.25	10	1453	0.67	98.04
121.25-122.25	10	1443	0.67	97.37
120.25-121.25	25	1433	1.69	96.69
119.25-120.25	38	1408	2.56	95.01
118.25-119.25	48	1370	3.24	92.44
117.25-118.25	58	1322	3.91	89.20
116.25-117.25	71	1264	4.79	85.29
115.25-116.25	101	1193	6.82	80.50
114.25-115.25	133	1092	8.97	73.68
113.25-114.25	116	959	7.83	64.71
112.25-113.25	97	843	6.55	56.88
111.25-112.25	103	746	6.95	50.34
110.25-111.25	101	643	6.82	43.39
109.25-110.25	125	542	8.43	36.57
108.25-109.25	95	417	6.41	28.14
107.25-108.25	71	322	4.79	21.73
106.25-107.25	69	251	4.66	16.94
105.25-106.25	60	182	4.05	12.28
104.25-105.25	45	122	3.04	8.23
103.25-104.25	22	77	1.48	5.20
102.25-103.25	22	55	1.48	3.71
101.25-102.25	17	33	1.15	2.23
100.25-101.25	10	16	0.67	1.08
99.25-100.25	1	6	0.07	0.40
98.25- 99.25	1	5	0.07	0.34
97.25- 98.25	3	4	0.20	0.27
96.25- 97.25	0	1	0.00	0.07
95.25- 96.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
112.17	MEAN VALUE	44.16
0.13	SE(MEAN)	0.05
4.99	SD DEVIATION	1.97
0.09	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 4.44
SYMMETRY---VETA I = 0.00
KURTOSIS---VETA II = -0.99

****

NUMBER OF SUBJECTS = 1482

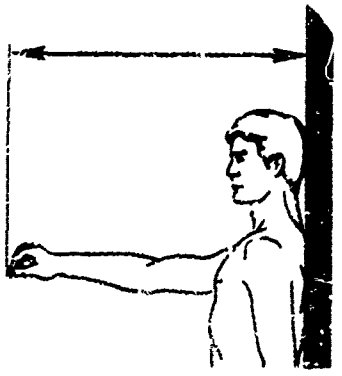
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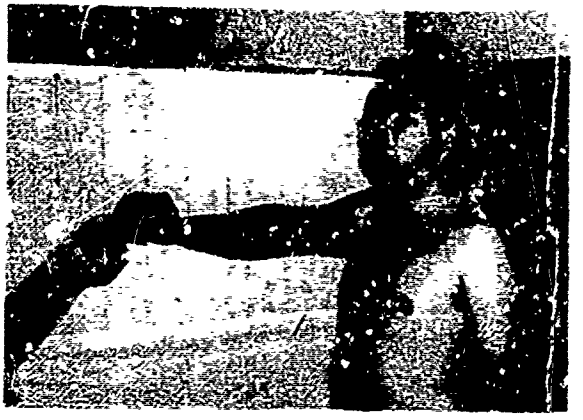
THE PERCENTILES

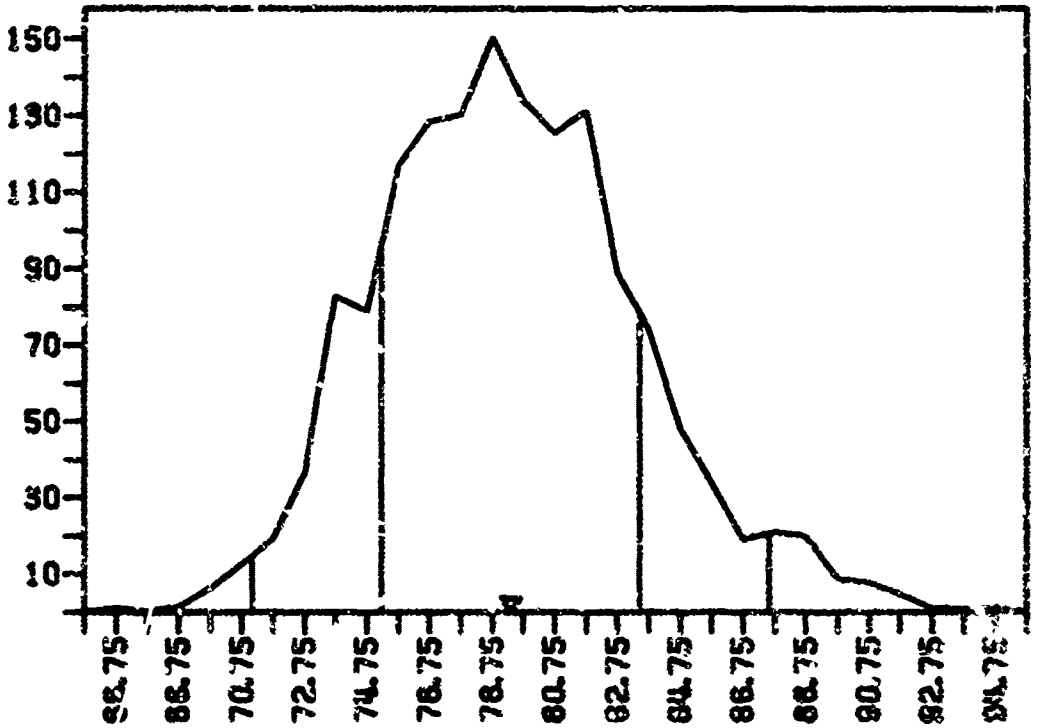
CENTIMETERS		INCHES
124.56	99TH	49.04
122.79	98TH	48.34
121.75	97TH	47.93
120.42	95TH	47.41
118.51	90TH	46.66
117.23	85TH	46.17
116.32	80TH	45.80
115.50	75TH	45.47
114.77	70TH	45.18
114.09	65TH	44.92
113.44	60TH	44.66
112.81	55TH	44.41
112.18	50TH	44.16
111.54	45TH	43.91
110.90	40TH	43.66
110.25	35TH	43.40
109.52	30TH	43.12
108.75	25TH	42.82
107.89	20TH	42.48
106.90	15TH	42.08
105.66	10TH	41.60
103.90	5TH	40.91
102.84	3RD	40.49
102.12	2ND	40.21
101.12	1ST	39.81

23. FUNCTIONAL REACH

Subject stands erect in a corner looking straight ahead, both shoulders against the back wall, his right arm horizontal and held against the scale mounted on the side wall. The tip of his index finger touches the pad of his extended thumb. With a block touching the tip of the thumb, measure on the wall scale the horizontal distance from the back wall to the tip of the thumb.







RANGES*	F	CUM'	FPCT	CUMPCT
94.25- 95.25	1	1482	0.07	100.00
93.25- 94.25	1	1481	0.07	99.93
92.25- 93.25	1	1480	0.07	99.86
91.25- 92.25	5	1479	0.34	99.80
90.25- 91.25	8	1474	0.54	99.46
89.25- 90.25	9	1466	0.61	98.92
88.25- 89.25	20	1457	1.35	98.31
87.25- 88.25	21	1437	1.42	96.96
86.25- 87.25	19	1416	1.28	95.55
85.25- 86.25	34	1397	2.29	94.26
84.25- 85.25	48	1363	3.24	91.97
83.25- 84.25	74	1315	4.99	88.73
82.25- 83.25	89	1241	6.01	83.74
81.25- 82.25	131	1152	8.84	77.73
80.25- 81.25	125	1021	8.43	68.89
79.25- 80.25	134	896	9.04	60.46
78.25- 79.25	150	762	10.12	51.42
77.25- 78.25	130	612	8.77	41.30
76.25- 77.25	128	482	8.64	32.52
75.25- 76.25	117	354	7.89	23.89
74.25- 75.25	79	237	5.33	15.99
73.25- 74.25	83	158	5.60	10.66
72.25- 73.25	36	75	2.43	5.06
71.25- 72.25	19	39	1.28	2.63
70.25- 71.25	12	20	0.81	1.35
69.25- 70.25	6	8	0.40	0.54
68.25- 69.25	1	2	0.07	0.13
67.25- 68.25	0	1	0.00	0.07
66.25- 67.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
79.34	MEAN VALUE	31.24
0.11	SE(MEAN)	0.0
4.17	SD DEVIATION	1.6
0.08	SE(SD DEV)	0.03

****

COEF. OF VARIATION = 5.27
SYMMETRY---VETA I = 0.39
KURTOSIS---VETA II = 3.17

****

NUMBER OF SUBJECTS = 1482

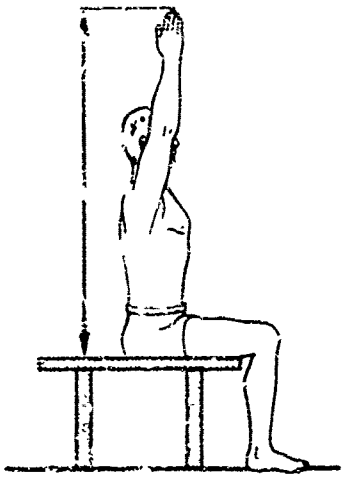
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THE PERCENTILES

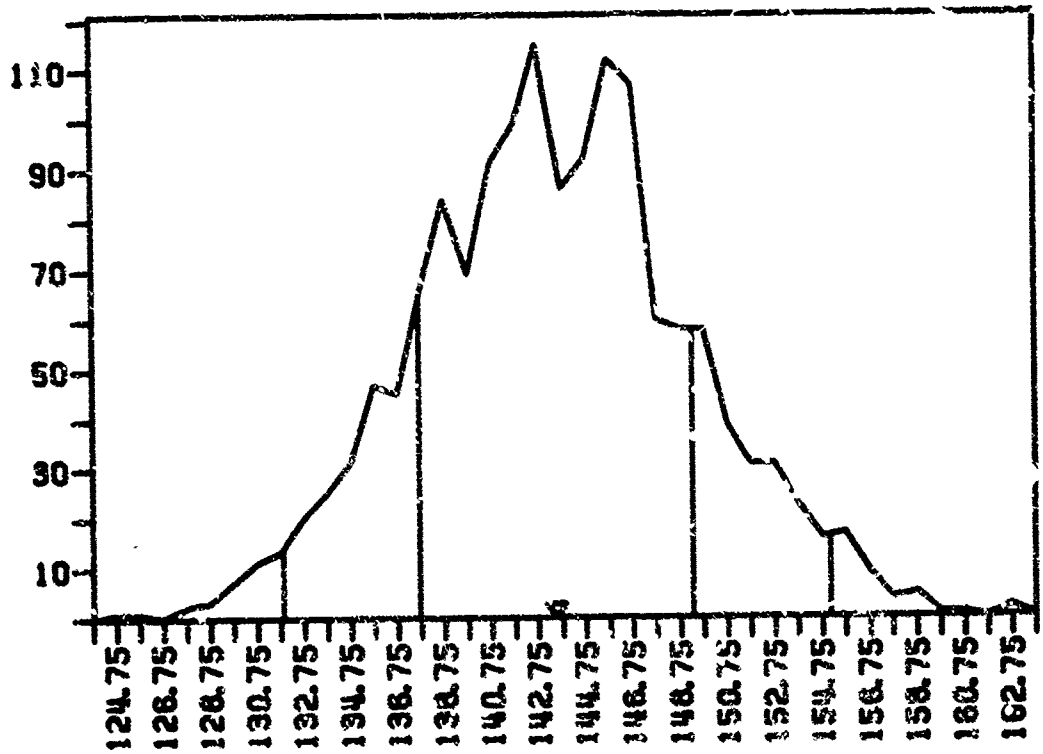
CENTIMETERS		INCHES
90.52	99TH	35.64
88.98	98TH	35.03
88.02	97TH	34.65
86.75	95TH	34.15
84.88	90TH	33.42
83.67	85TH	32.94
82.75	80TH	32.58
81.97	75TH	32.27
81.29	70TH	32.01
80.68	65TH	31.76
80.11	60TH	31.54
79.58	55TH	31.33
79.06	50TH	31.12
78.55	45TH	30.92
78.04	40TH	30.73
77.53	35TH	30.52
77.00	30TH	30.32
76.44	25TH	30.09
75.83	20TH	29.85
75.14	15TH	29.58
74.29	10TH	29.25
73.07	5TH	28.77
72.31	3RD	28.47
71.75	2ND	28.25
70.68	1ST	27.91

24. VERTICAL ARM REACH (Sitting)

Subject sits erect, his right side against a wall, his right arm extended upward with the palm of his hand flat against the wall and finger extended. With the special measuring device, measure on the wall scale the vertical distance from the sitting surface to the tip of the middle finger of the right hand.







RANGES*	F	CUMF	FPCT	CUMPCT
162.25-163.25	2	1482	0.13	100.00
161.25-162.25	0	1480	0.00	99.86
160.25-161.25	1	1480	0.07	99.86
159.25-160.25	1	1479	0.07	99.80
158.25-159.25	5	1478	0.34	99.73
157.25-158.25	4	1473	0.27	99.39
156.25-157.25	9	1469	0.61	99.12
155.25-156.25	17	1460	1.15	98.52
154.25-155.25	16	1443	1.08	97.37
153.25-154.25	23	1427	1.55	96.29
152.25-153.25	31	1404	2.09	94.74
151.25-152.25	31	1373	2.09	92.64
150.25-151.25	39	1342	2.63	90.55
149.25-150.25	58	1303	3.91	87.92
148.25-149.25	58	1245	3.91	84.01
147.25-148.25	60	1187	4.05	80.09
146.25-147.25	107	1127	7.22	76.05
145.25-146.25	112	1020	7.56	68.83
144.25-145.25	92	908	6.21	61.27
143.25-144.25	86	816	5.80	55.06
142.25-143.25	115	730	7.76	49.26
141.25-142.25	99	615	6.68	41.50
140.25-141.25	91	516	6.14	34.82
139.25-140.25	69	425	4.66	28.68
138.25-139.25	84	356	5.67	24.02
137.25-138.25	66	272	4.45	18.35
136.25-137.25	45	206	3.04	13.90
135.25-136.25	47	161	3.17	10.86
134.25-135.25	31	114	2.09	7.69
133.25-134.25	25	83	1.69	5.60
132.25-133.25	20	58	1.35	3.91
131.25-132.25	13	38	0.88	2.56
130.25-131.25	11	25	0.74	1.69
129.25-130.25	7	14	0.47	0.94
128.25-129.25	3	7	0.20	0.47
127.25-128.25	2	4	0.13	0.27
126.25-127.25	0	2	0.00	0.13
125.25-126.25	1	2	0.07	0.13
124.25-125.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
145.48	MEAN VALUE	56.49
0.15	SE(MEAN)	0.06
5.81	SD DEVIATION	2.29
0.11	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 4.0%
SYMMETRY---VETA I = 0.08
KURTOSIS---VETA II = 2.95

****

NUMBER OF SUBJECTS = 1482

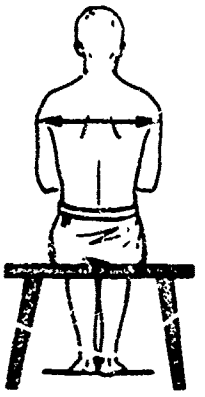
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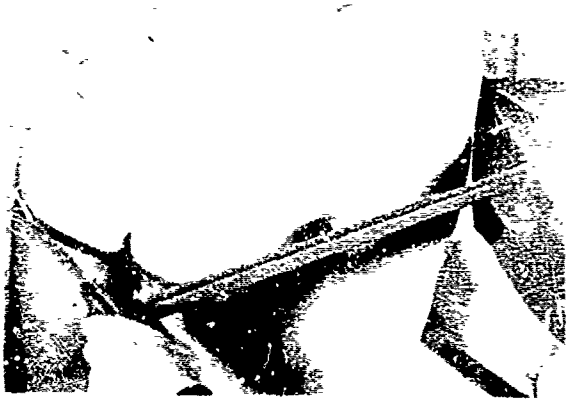
THE PERCENTILES

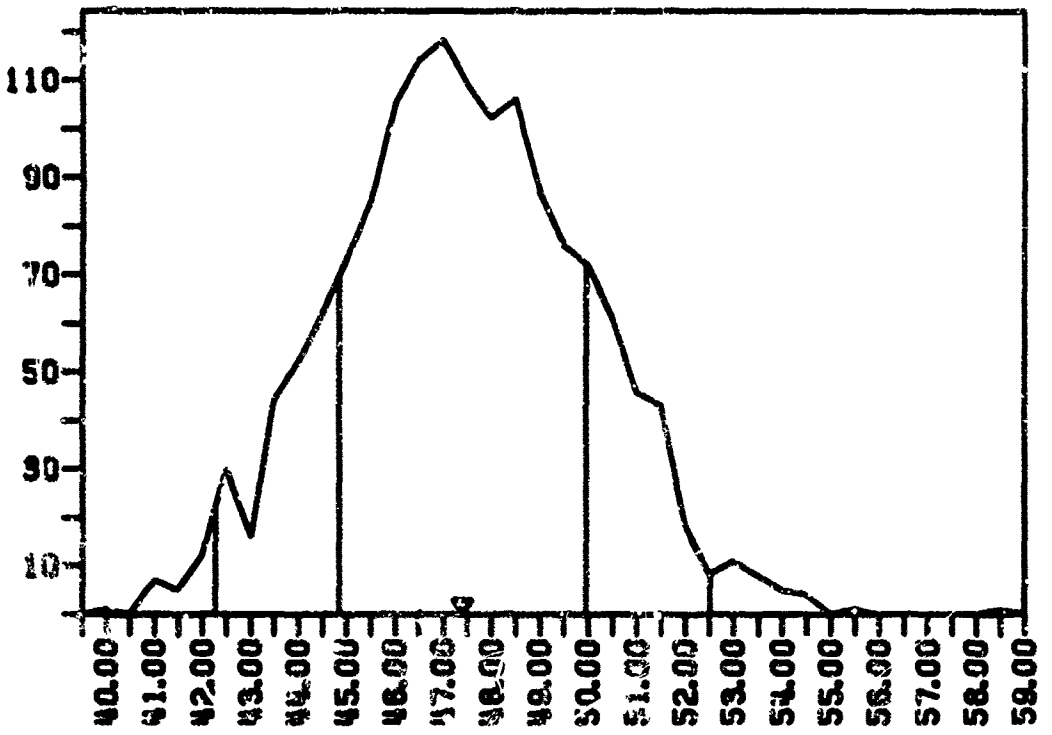
CENTIMETERS		INCHES
157.29	99TH	61.92
155.69	98TH	61.29
154.66	97TH	60.89
153.25	95TH	60.33
151.07	90TH	59.47
149.59	85TH	58.89
148.42	80TH	58.43
147.42	75TH	58.04
146.52	70TH	57.68
145.69	65TH	57.36
144.91	60TH	57.05
144.16	55TH	56.76
143.42	50TH	56.46
142.68	45TH	56.17
141.93	40TH	55.88
141.17	35TH	55.58
140.36	30TH	55.26
139.50	25TH	54.92
138.53	20TH	54.54
137.42	15TH	54.10
136.03	10TH	53.56
133.99	5TH	52.75
132.67	3RD	52.23
131.70	2ND	51.85
130.18	1ST	51.25

25. SHOULDER BREADTH

Subject sits erect looking straight ahead, upper arms hanging relaxed. forearms and hands extended forward horizontally. With a beam caliper, measure the horizontal distance across the body at the level of the deltoid landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
58.25- 58.75	1	1482	0.07	100.00
57.75- 58.25	0	1481	0.00	99.93
57.25- 57.75	0	1481	0.00	99.93
56.75- 57.25	0	1481	0.00	99.93
56.25- 56.75	0	1481	0.00	99.93
55.75- 56.25	0	1481	0.00	99.93
55.25- 55.75	1	1481	0.07	99.93
54.75- 55.25	0	1480	0.00	99.86
54.25- 54.75	4	1480	0.27	99.86
53.75- 54.25	5	1476	0.34	99.60
53.25- 53.75	8	1471	0.54	99.26
52.75- 53.25	11	1463	0.74	98.72
52.25- 52.75	8	1452	0.54	97.98
51.75- 52.25	18	1444	1.21	97.44
51.25- 51.75	43	1426	2.90	96.22
50.75- 51.25	46	1383	3.10	93.32
50.25- 50.75	61	1337	4.12	90.22
49.75- 50.25	72	1276	4.86	86.10
49.25- 49.75	76	1204	5.13	81.24
48.75- 49.25	87	1128	5.87	76.11
48.25- 48.75	106	1041	7.15	70.24
47.75- 48.25	102	935	6.88	63.09
47.25- 47.75	109	833	7.35	56.21
46.75- 47.25	118	724	7.96	48.85
46.25- 46.75	114	606	7.69	40.88
45.75- 46.25	105	492	7.09	33.20
45.25- 45.75	85	387	5.74	26.11
44.75- 45.25	73	302	4.93	20.38
44.25- 44.75	62	229	4.18	15.45
43.75- 44.25	52	167	3.51	11.27
43.25- 43.75	44	115	2.97	7.76
42.75- 43.25	16	71	1.08	4.79
42.25- 42.75	30	55	2.02	3.71
41.75- 42.25	12	25	0.81	1.69
41.25- 41.75	5	13	0.34	0.88
40.75- 41.25	7	8	0.47	0.54
40.25- 40.75	0	1	0.00	0.07
39.75- 40.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
47.40	MEAN VALUE	18.66
0.07	SE(MEAN)	0.03
2.56	SD DEVIATION	1.01
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.42
SYMMETRY---VETA I = 0.17
KURTOSIS---VETA II = 2.94

****

NUMBER OF SUBJECTS = 1482

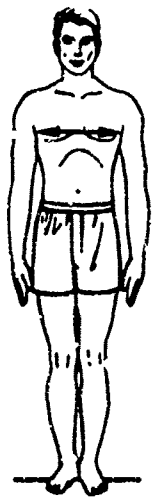
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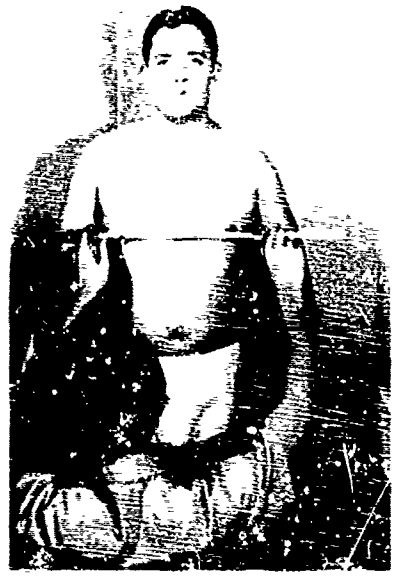
THE PERCENTILES

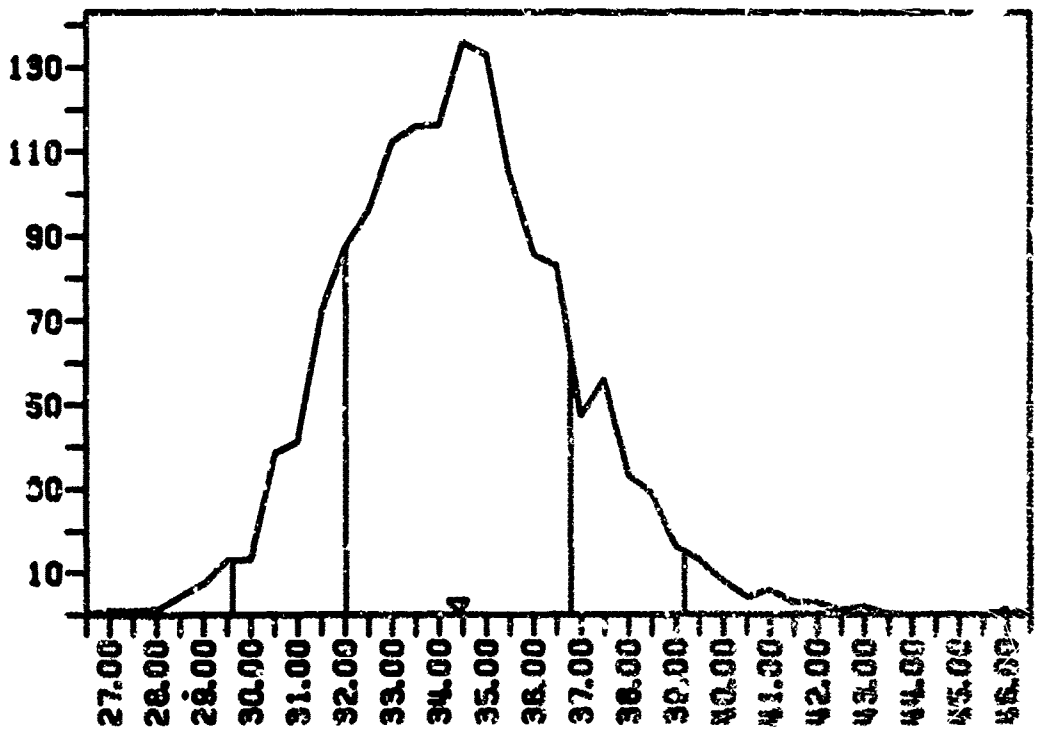
CENTIMETERS		INCHES
53.47	99TH	21.05
52.70	98TH	20.75
52.23	97TH	20.56
51.61	95TH	20.32
50.67	90TH	19.95
50.03	85TH	19.70
49.55	80TH	19.51
49.12	75TH	19.34
48.74	70TH	19.19
48.38	65TH	19.05
48.04	60TH	18.91
47.71	55TH	18.78
47.38	50TH	18.66
47.06	45TH	18.53
46.72	40TH	18.39
46.38	35TH	18.26
46.01	30TH	18.12
45.62	25TH	17.96
45.13	20TH	17.79
44.69	15TH	17.59
44.07	10TH	17.35
43.20	5TH	17.01
42.68	3RD	16.80
42.32	2ND	16.66
41.82	1ST	16.46

26. CHEST BREADTH

Subject stands erect looking straight ahead with his arms slightly abducted. With a beam caliper, measure the horizontal distance across the trunk at the level of the nipples.







RANGES*	F	CUMF	FPCT	CUMPCT
45.75- 46.25	1	1482	0.07	100.00
45.25- 45.75	0	1481	0.00	99.93
44.75- 45.25	0	1481	0.00	99.93
44.25- 44.75	0	1481	0.00	99.93
43.75- 44.25	0	1481	0.00	99.93
43.25- 43.75	0	1481	0.00	99.93
42.75- 43.25	2	1481	0.13	99.93
42.25- 42.75	1	1479	0.07	99.80
41.75- 42.25	3	1478	0.20	99.73
41.25- 41.75	3	1475	0.20	99.53
40.75- 41.25	6	1472	0.40	99.33
40.25- 40.75	4	1466	0.27	98.92
39.75- 40.25	8	1462	0.54	98.65
39.25- 39.75	13	1454	0.88	98.11
38.75- 39.25	16	1441	1.08	97.23
38.25- 38.75	29	1425	1.96	96.15
37.75- 38.25	33	1396	2.23	94.20
37.25- 37.75	56	1363	3.78	91.97
36.75- 37.25	47	1307	3.17	88.19
36.25- 36.75	83	1260	5.60	85.02
35.75- 36.25	86	1177	5.80	79.42
35.25- 35.75	104	1091	7.02	73.62
34.75- 35.25	133	987	8.97	66.60
34.25- 34.75	136	854	9.18	57.62
33.75- 34.25	116	718	7.83	48.45
33.25- 33.75	116	602	7.83	40.62
32.75- 33.25	112	486	7.56	32.79
32.25- 32.75	96	374	6.48	25.24
31.75- 32.25	87	278	5.87	18.76
31.25- 31.75	72	191	4.86	12.89
30.75- 31.25	41	119	2.77	8.03
30.25- 30.75	38	78	2.56	5.26
29.75- 30.25	13	40	0.88	2.70
29.25- 29.75	13	27	0.88	1.82
28.75- 29.25	7	14	0.47	0.94
28.25- 28.75	4	7	0.27	0.47
27.75- 28.25	1	3	0.07	0.20
27.25- 27.75	1	2	0.07	0.13
26.75- 27.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
34.40	MEAN VALUE	13.54
0.06	SE(MEAN)	0.02
2.39	SD DEVIATION	0.94
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.94
SYMMETRY---VETA I = 0.36
KURTOSIS---VETA II = 3.53

****

NUMBER OF SUBJECTS = 1482

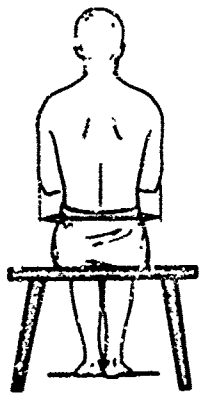
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THE PERCENTILES

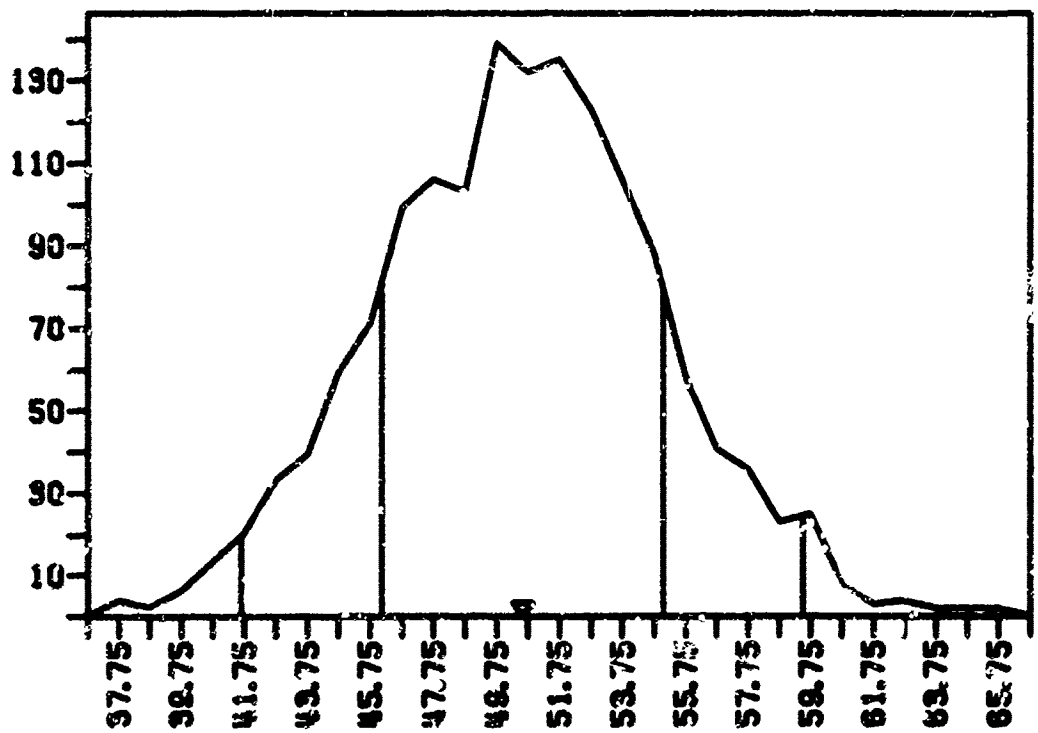
CENTIMETERS		INCHES
40.76	99TH	16.05
39.78	98TH	15.66
39.20	97TH	15.43
38.46	95TH	15.14
37.42	90TH	14.73
36.77	85TH	14.48
36.28	80TH	14.28
35.86	75TH	14.12
35.50	70TH	13.98
35.17	65TH	13.85
34.87	60TH	13.73
34.57	55TH	13.61
34.28	50TH	13.50
34.00	45TH	13.39
33.71	40TH	13.27
33.42	35TH	13.16
33.11	30TH	13.03
32.77	25TH	12.90
32.40	20TH	12.76
31.97	15TH	12.59
31.44	10TH	12.38
30.67	5TH	12.08
30.19	3RD	11.89
29.85	2ND	11.75
29.35	1ST	11.55

27. FOREARM-FOREARM BREADTH

Subject sits erect looking straight ahead, upper arms relaxed with elbows just touching his sides, forearms and hands extended forward horizontally. With a beam caliper, measure the horizontal distance across the trunk including the elbows at the level of the forearm musculature.







RANGES*	F	CUMF	FPCT	CUMPCT
65.25- 66.25	2	1482	0.13	100.00
64.25- 65.25	2	1480	0.13	99.86
63.25- 64.25	2	1478	0.13	99.73
62.25- 63.25	4	1476	0.27	99.60
61.25- 62.25	3	1472	0.20	99.33
60.25- 61.25	8	1469	0.54	99.12
59.25- 60.25	25	1461	1.69	98.58
58.25- 59.25	23	1436	1.55	96.90
57.25- 58.25	36	1413	2.43	95.34
56.25- 57.25	41	1377	2.77	92.91
55.25- 56.25	58	1336	3.91	90.15
54.25- 55.25	88	1278	5.94	86.23
53.25- 54.25	106	1190	7.15	80.30
52.25- 53.25	123	1084	8.30	73.14
51.25- 52.25	135	961	9.11	64.84
50.25- 51.25	132	826	8.91	55.74
49.25- 50.25	139	694	9.38	46.83
48.25- 49.25	103	555	6.95	37.45
47.25- 48.25	106	452	7.15	30.50
46.25- 47.25	99	346	6.68	23.35
45.25- 46.25	71	247	4.79	16.67
44.25- 45.25	59	176	3.98	11.88
43.25- 44.25	39	117	2.63	7.89
42.25- 43.25	33	78	2.23	5.26
41.25- 42.25	20	45	1.35	3.04
40.25- 41.25	13	25	0.88	1.69
39.25- 40.25	6	12	0.40	0.81
38.25- 39.25	2	6	0.13	0.40
37.25- 38.25	4	4	0.27	0.27

*IN CENTIMETERS

CENTIMETERS		INCHES
50.58	MEAN VALUE	19.91
0.12	SE(MEAN)	0.05
4.46	SD DEVIATION	1.76
0.08	SE(SD DEV)	0.03

****

COEF. OF VARIATION = 8.82%
SYMMETRY---VETA I = 0.06
KURTOSIS---VETA II = 3.04

****

NUMBER OF SUBJECTS = 1482

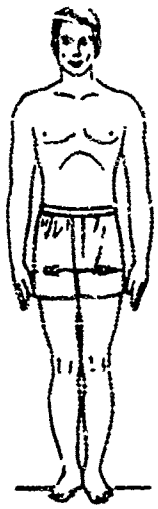
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THE PERCENTILES

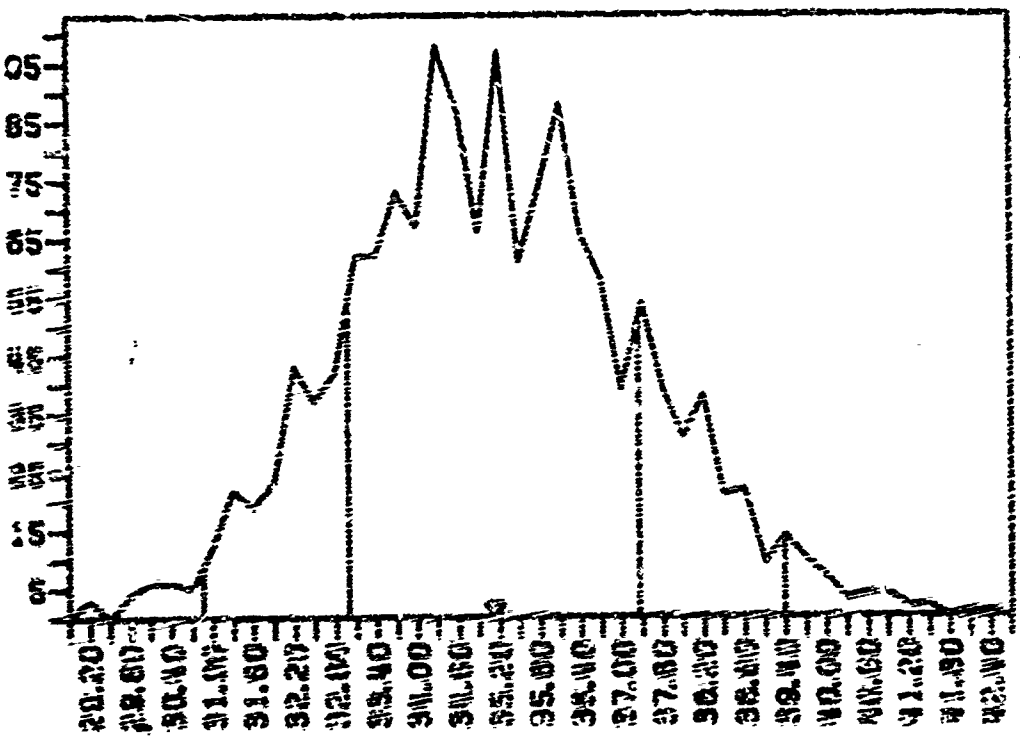
CENTIMETERS		INCHES
61.18	99TH	24.09
59.87	98TH	23.57
59.06	97TH	23.25
57.97	95TH	22.82
56.31	90TH	22.17
55.20	85TH	21.73
54.33	80TH	21.39
53.58	75TH	21.09
52.91	70TH	20.83
52.26	65TH	20.58
51.69	60TH	20.35
51.13	55TH	20.13
50.55	50TH	19.90
49.99	45TH	19.68
49.41	40TH	19.45
48.82	35TH	19.22
48.20	30TH	18.97
47.52	25TH	18.71
46.76	20TH	18.41
45.90	15TH	18.07
44.80	10TH	17.64
43.22	5TH	17.02
42.22	3RD	16.62
41.50	2ND	16.34
40.42	1ST	15.91

28. HIP BREADTH (Standing)

Subject stands erect, heels together and weight distributed equally on both feet. With a beam caliper, measure the maximum horizontal breadth of the hips.







RANGES*	F	CUMF	FPCT	CUMPCT
42.25- 42.55	1	1482	0.07	100.00
41.95- 42.25	1	1481	0.07	99.93
41.65- 41.95	0	1480	0.00	99.86
41.35- 41.65	2	1480	0.13	99.86
41.05- 41.35	2	1478	0.13	99.73
40.75- 41.05	4	1476	0.27	99.60
40.45- 40.75	4	1472	0.27	99.33
40.15- 40.45	3	1468	0.20	99.06
39.85- 40.15	7	1465	0.47	98.85
39.55- 39.85	10	1458	0.67	98.38
39.25- 39.55	14	1448	0.94	97.71
38.95- 39.25	9	1434	0.61	96.76
38.65- 38.95	22	1425	1.48	96.15
38.35- 38.65	21	1403	1.42	94.67
38.05- 38.35	38	1382	2.56	93.25
37.75- 38.05	31	1344	2.09	90.69
37.45- 37.75	39	1313	2.63	88.60
37.15- 37.45	54	1274	3.64	85.96
36.85- 37.15	39	1220	2.63	82.32
36.55- 36.85	58	1181	3.91	79.69
36.25- 36.55	66	1123	4.45	75.78
35.95- 36.25	88	1057	5.94	71.32
35.65- 35.95	74	969	4.99	65.38
35.35- 35.65	61	895	4.12	60.39
35.05- 35.35	97	834	6.55	56.28
34.75- 35.05	66	737	4.45	49.73
34.45- 34.75	87	671	5.87	45.28
34.15- 34.45	98	584	6.61	39.41
33.85- 34.15	67	486	4.52	32.79
33.55- 33.85	73	419	4.93	28.27
33.25- 33.55	62	346	4.18	23.35
32.95- 33.25	62	284	4.18	19.16
32.65- 32.95	42	222	2.83	14.98
32.35- 32.65	37	180	2.50	12.15
32.05- 32.35	43	143	2.90	9.65
31.75- 32.05	23	100	1.55	6.75
31.45- 31.75	19	77	1.28	5.20
31.15- 31.45	22	58	1.48	3.91
30.85- 31.15	12	36	0.81	2.43
30.55- 30.85	5	24	0.34	1.62
30.25- 30.55	6	19	0.40	1.28
29.95- 30.25	6	13	0.40	0.88
29.65- 29.95	4	7	0.27	0.47
29.35- 29.65	0	3	0.00	0.20
29.05- 29.35	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
35.12	MEAN VALUE	13.83
0.06	SE(MEAN)	0.02
2.13	SD DEVIATION	0.84
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.1%
SYMMETRY---VETA I = 0.17
KURTOSIS---VETA II = 2.94

****

NUMBER OF SUBJECTS = 1482

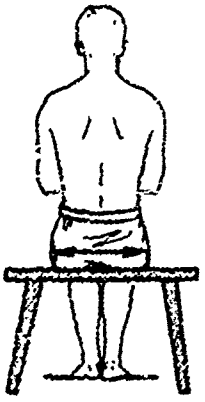
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THE PERCENTILES

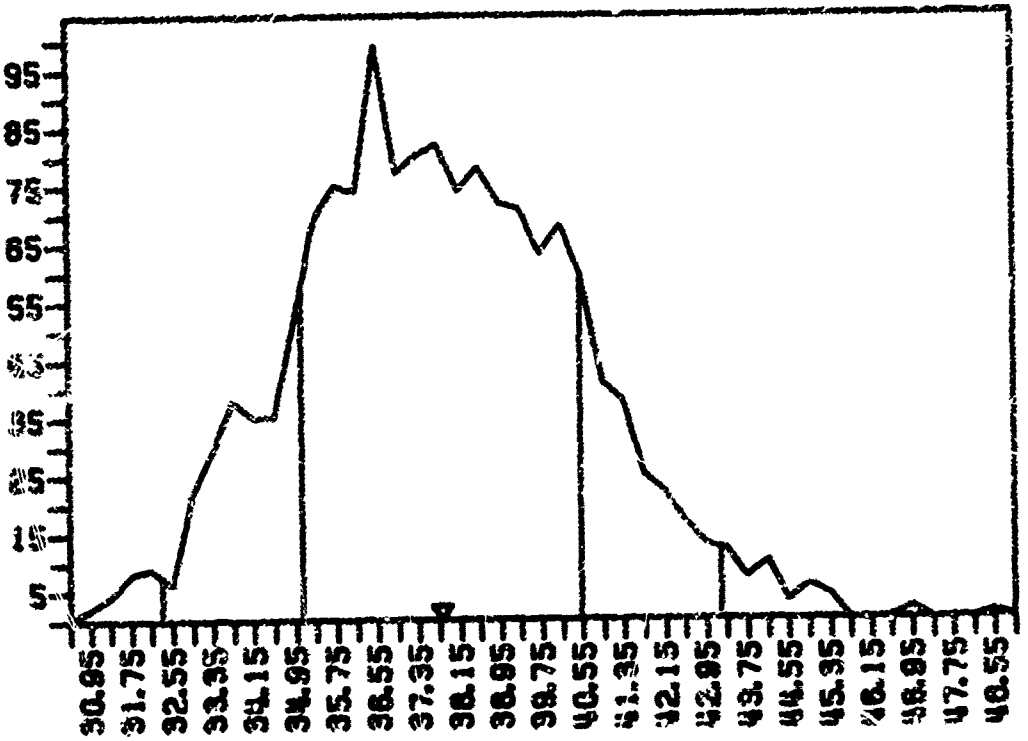
CENTIMETERS		INCHES
40.34	99TH	15.88
39.71	98TH	15.64
39.31	97TH	15.48
38.76	95TH	15.26
37.91	90TH	14.93
37.35	85TH	14.70
36.90	80TH	14.53
36.52	75TH	14.38
36.19	70TH	14.25
35.87	65TH	14.13
35.59	60TH	14.01
35.32	55TH	13.90
35.05	50TH	13.80
34.78	45TH	13.69
34.51	40TH	13.59
34.24	35TH	13.48
33.95	30TH	13.37
33.65	25TH	13.25
33.31	20TH	13.11
32.92	15TH	12.96
32.44	10TH	12.77
31.72	5TH	12.49
31.26	3RD	12.31
30.92	2ND	12.17
30.38	1ST	11.96

29. HIP BREADTH (Sitting)

Subject sits erect, upper arms relaxed, forearms and hands extended forward horizontally, thighs completely supported by the sitting surface, and the long axis of the thighs parallel. With the beam caliper, measure the maximum horizontal distance across the thighs.







RANGES*	F	CUMF	FPCT	CUMPCT
48.35- 48.75	1	1482	0.07	100.00
47.95- 48.35	0	1481	0.00	99.93
47.55- 47.95	0	1481	0.00	99.93
47.15- 47.55	0	1481	0.00	99.93
46.75- 47.15	2	1481	0.13	99.93
46.35- 46.75	0	1479	0.00	99.80
45.95- 46.35	0	1479	0.00	99.80
45.55- 45.95	0	1479	0.00	99.80
45.15- 45.55	4	1479	0.27	99.80
44.75- 45.15	6	1475	0.40	99.53
44.35- 44.75	3	1469	0.20	99.12
43.95- 44.35	10	1466	0.67	98.92
43.55- 43.95	7	1456	0.47	98.25
43.15- 43.55	12	1449	0.81	97.77
42.75- 43.15	13	1437	0.88	96.96
42.35- 42.75	17	1424	1.15	96.09
41.95- 42.35	22	1407	1.48	94.94
41.55- 41.95	25	1385	1.69	93.45
41.15- 41.55	38	1360	2.56	91.77
40.75- 41.15	41	1322	2.77	89.20
40.35- 40.75	59	1281	3.98	86.44
39.95- 40.35	68	1222	4.59	82.46
39.55- 39.95	63	1154	4.25	77.87
39.15- 39.55	71	1091	4.79	73.62
38.75- 39.15	72	1020	4.86	68.83
38.35- 38.75	78	948	5.26	63.97
37.95- 38.35	74	870	4.99	58.70
37.55- 37.95	82	796	5.53	53.71
37.15- 37.55	80	714	5.40	48.18
36.75- 37.15	77	634	5.20	42.78
36.35- 36.75	99	557	6.68	37.58
35.95- 36.35	74	458	4.99	30.90
35.55- 35.95	75	384	5.06	25.91
35.15- 35.55	69	309	4.66	20.85
34.75- 35.15	52	240	3.51	16.19
34.35- 34.75	35	188	2.36	12.69
33.95- 34.35	35	153	2.36	10.32
33.55- 33.95	38	118	2.56	7.96
33.15- 33.55	29	80	1.96	5.40
32.75- 33.15	22	51	1.48	3.44
32.35- 32.75	6	29	0.40	1.96
31.95- 32.35	9	23	0.61	1.55
31.55- 31.95	8	14	0.54	0.94
31.15- 31.55	4	6	0.27	0.40
30.75- 31.15	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
37.80	MEAN VALUE	14.88
0.07	SE(MEAN)	0.03
2.72	SD DEVIATION	1.07
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 7.24
SYMMETRY---VETA I = 0.23
KURTOSIS---VETA II = 2.94

****

NUMBER OF SUBJECTS = 1482

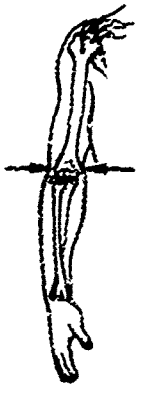
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THE PERCENTILES

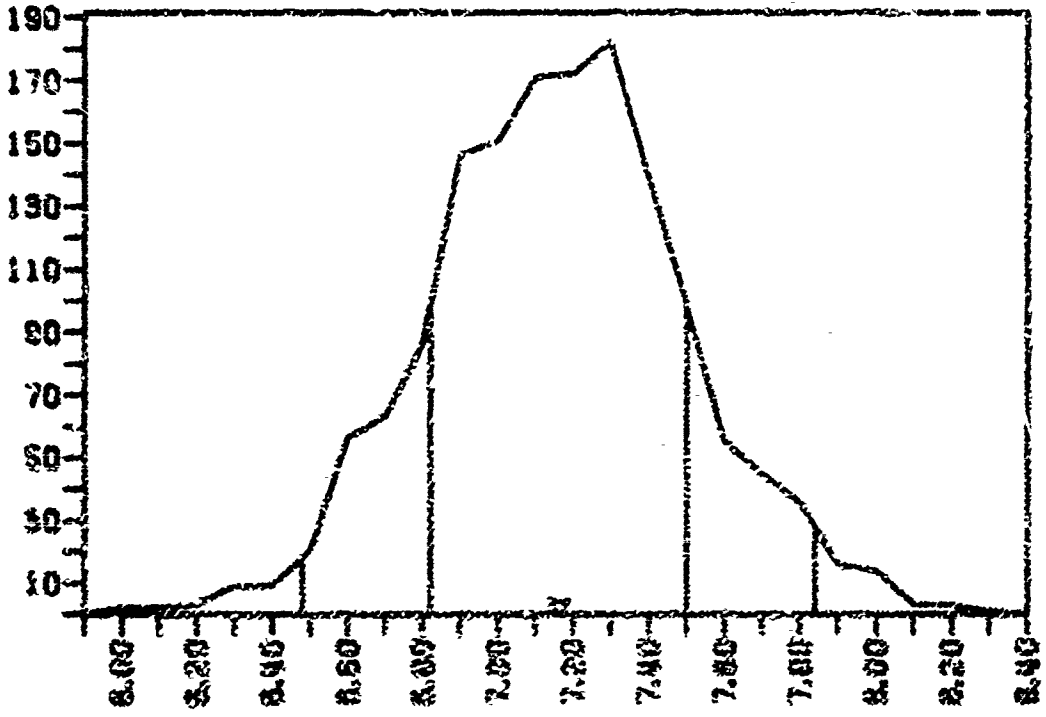
CENTIMETERS		INCHES
44.51	99TH	17.52
43.68	98TH	17.20
43.16	97TH	16.99
42.45	95TH	16.71
41.37	90TH	16.29
40.65	85TH	16.00
40.09	80TH	15.78
39.60	75TH	15.59
39.17	70TH	15.42
38.78	65TH	15.27
38.41	60TH	15.13
38.05	55TH	14.98
37.70	50TH	14.84
37.35	45TH	14.71
37.01	40TH	14.57
36.65	35TH	14.43
36.27	30TH	14.28
35.89	25TH	14.13
35.45	20TH	13.96
34.96	15TH	13.77
34.36	10TH	13.53
33.51	5TH	13.19
32.99	3RD	12.99
32.62	2ND	12.84
32.08	1ST	12.63

30. ELBOW BREADTH (Bone)

Subject sits, right upper arm raised and elbow flexed. With a sliding caliper and using firm pressure, measure the maximum distance between the epicondyles of the humerus.







RANGES*		F	CUMF	FPCT	CUMPCT
8.25-	8.35	1	1487	0.07	100.00
8.15-	8.25	3	1481	0.20	99.93
8.05-	8.15	3	1478	0.20	99.73
7.95-	8.05	14	1475	0.94	99.53
7.85-	7.95	16	1461	1.08	98.59
7.75-	7.85	36	1445	2.43	97.50
7.65-	7.75	45	1409	3.04	95.07
7.55-	7.65	55	1364	3.71	92.04
7.45-	7.55	98	1309	6.61	88.33
7.35-	7.45	139	1211	9.36	81.71
7.25-	7.35	182	1072	12.28	72.33
7.15-	7.25	172	890	11.61	60.05
7.05-	7.15	171	718	11.54	48.45
6.95-	7.05	151	547	10.19	36.91
6.85-	6.95	146	396	9.85	26.72
6.75-	6.85	86	250	5.80	16.87
6.65-	6.75	63	164	4.25	11.07
6.55-	6.65	56	101	3.78	6.82
6.45-	6.55	20	45	1.35	3.04
6.35-	6.45	9	25	0.61	1.69
6.25-	6.35	9	16	0.61	1.08
6.15-	6.25	3	7	0.20	0.47
6.05-	6.15	4	4	0.13	0.27
5.95-	6.05	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
7.16	MEAN VALUE	2.82
0.01	SE(MEAN)	0.00
0.34	SD DEVIATION	0.13
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 4.8%
SYMMETRY---BETA I = 0.03
KURTOSIS---BETA II = 3.20

****

NUMBER OF SUBJECTS = 1482

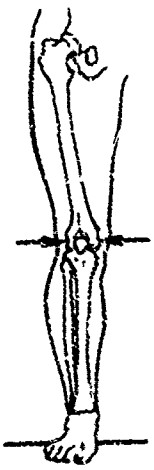
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THE PERCENTILES

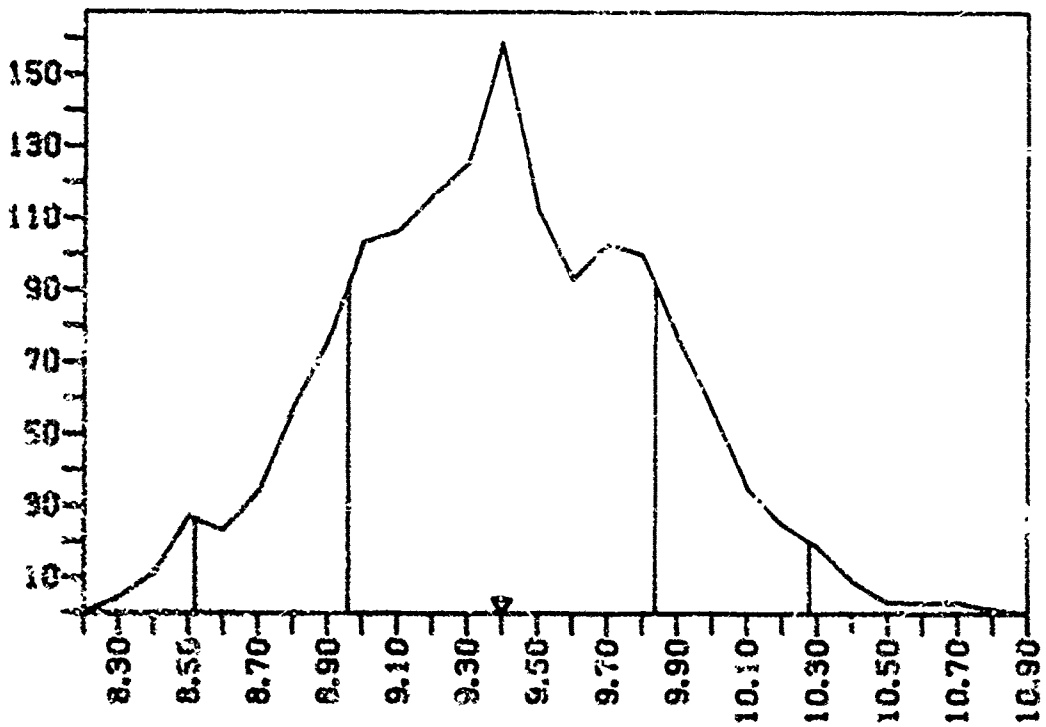
CENTIMETERS		INCHES
8.30	99TH	3.19
7.89	95TH	3.11
7.83	97TH	3.08
7.74	95TH	3.05
7.60	90TH	2.99
7.51	85TH	2.96
7.44	80TH	2.93
7.38	75TH	2.91
7.33	70TH	2.89
7.28	65TH	2.87
7.24	60TH	2.85
7.20	55TH	2.83
7.16	50TH	2.82
7.12	45TH	2.80
7.07	40TH	2.78
7.03	35TH	2.77
6.99	30TH	2.75
6.94	25TH	2.73
6.88	20TH	2.71
6.82	15TH	2.69
6.76	10TH	2.66
6.61	5TH	2.60
6.53	3RD	2.57
6.46	2ND	2.54
6.35	1ST	2.50

31. KNEE BREADTH (Bone)

Subject sits, knees flexed, and feet supported. With a spreading caliper and using firm pressure, measure the maximum distance between the epicondyles of the right femur.







RANGES*		F	CUMF	FPCT	CUMPCT
10.75-	10.85	1	1482	0.07	100.00
10.65-	10.75	3	1481	0.20	99.93
10.55-	10.65	3	1478	0.20	99.73
10.45-	10.55	3	1475	0.20	99.53
10.35-	10.45	9	1472	0.61	99.33
10.25-	10.35	19	1463	1.28	98.72
10.15-	10.25	25	1444	1.69	97.44
10.05-	10.15	35	1419	2.36	95.75
9.95-	10.05	57	1384	3.85	93.39
9.85-	9.95	77	1327	5.20	89.54
9.75-	9.85	100	1250	6.75	84.35
9.65-	9.75	103	1150	6.95	77.60
9.55-	9.65	93	1047	6.28	70.65
9.45-	9.55	113	954	7.62	64.37
9.35-	9.45	159	841	10.73	56.75
9.25-	9.35	125	682	8.43	46.02
9.15-	9.25	116	557	7.83	37.58
9.05-	9.15	106	441	7.15	29.76
8.95-	9.05	103	335	6.95	22.60
8.85-	8.95	76	232	5.13	15.65
8.75-	8.85	57	156	3.85	10.53
8.65-	8.75	34	99	2.29	6.68
8.55-	8.65	23	65	1.55	4.39
8.45-	8.55	27	42	1.82	2.83
8.35-	8.45	11	15	0.74	1.01
8.25-	8.35	4	4	0.27	0.27

*IN CENTIMETERS

CENTIMETERS		INCHES
9.40	MEAN VALUE	3.70
0.01	SE(MEAN)	0.00
0.44	SD DEVIATION	0.17
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 4.67
SYMMETRY---VETA I = 0.08
KURTOSIS---VETA II = 2.72

****

NUMBER OF SUBJECTS = 1482

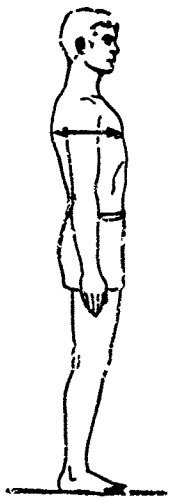
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THE PERCENTILES

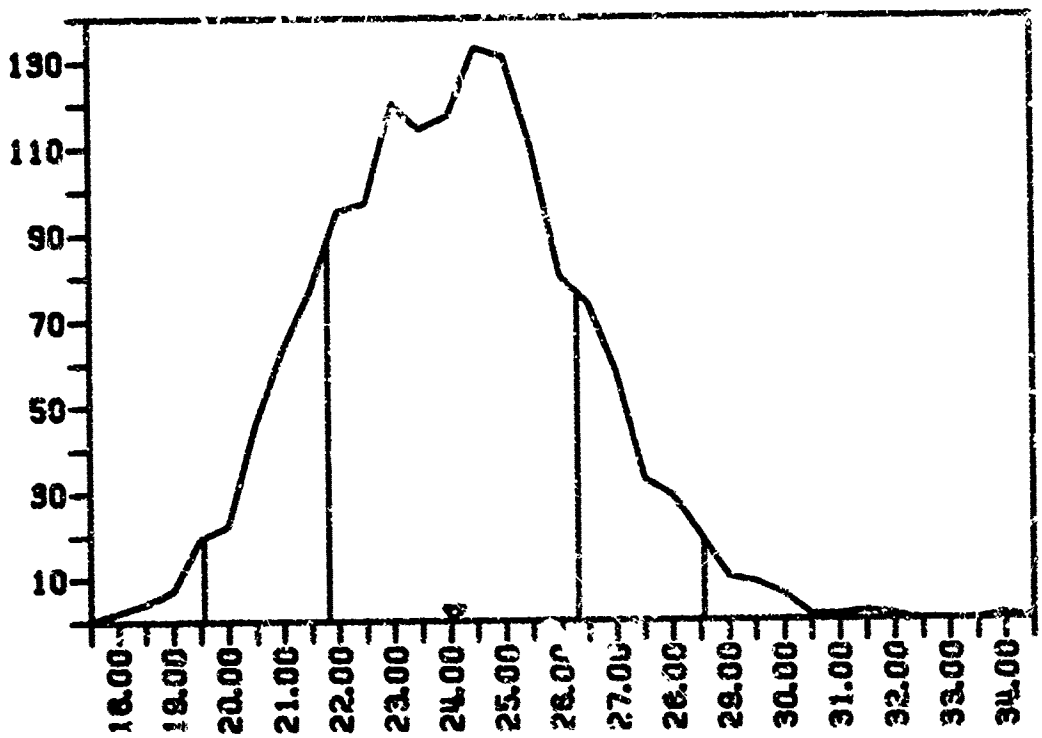
CENTIMETERS		INCHES
10.40	99TH	4.09
10.29	98TH	4.05
10.22	97TH	4.02
10.15	95TH	3.99
9.97	90TH	3.92
9.86	85TH	3.88
9.77	80TH	3.85
9.70	75TH	3.82
9.63	70TH	3.79
9.57	65TH	3.77
9.51	60TH	3.74
9.45	55TH	3.72
9.39	50TH	3.70
9.33	45TH	3.67
9.28	40TH	3.65
9.22	35TH	3.63
9.15	30TH	3.60
9.09	25TH	3.58
9.01	20TH	3.55
8.93	15TH	3.51
8.82	10TH	3.47
8.67	5TH	3.41
8.58	3RD	3.38
8.52	2ND	3.35
8.43	1ST	3.32

32. CHEST DEPTH

Subject stands erect looking straight ahead, heels together, and weight distributed equally on both feet. With a beam caliper, measure the horizontal depth of the trunk at the level of the nipples. The reading is made at the point of maximum quiet inspiration.







RANGES*	F	CUMF	FPCT	CUMPCT
33.75- 34.25	1	1482	0.07	100.00
33.25- 33.75	0	1481	0.00	99.93
32.75- 33.25	0	1481	0.00	99.93
32.25- 32.75	0	1481	0.00	99.93
31.75- 32.25	1	1481	0.07	99.93
31.25- 31.75	2	1480	0.13	99.86
30.75- 31.25	1	1478	0.07	99.73
30.25- 30.75	1	1477	0.07	99.66
29.75- 30.25	6	1476	0.40	99.60
29.25- 29.75	9	1470	0.61	99.19
28.75- 29.25	10	1461	0.67	98.58
28.25- 28.75	20	1451	1.35	97.91
27.75- 28.25	29	1431	1.96	96.56
27.25- 27.75	33	1402	2.23	94.60
26.75- 27.25	58	1369	3.91	92.38
26.25- 26.75	74	1311	4.99	88.46
25.75- 26.25	80	1237	5.40	83.47
25.25- 25.75	110	1157	7.42	78.07
24.75- 25.25	131	1047	8.84	70.65
24.25- 24.75	133	916	8.97	61.81
23.75- 24.25	117	783	7.89	52.83
23.25- 23.75	114	666	7.69	44.94
22.75- 23.25	120	552	8.10	37.25
22.25- 22.75	97	432	6.55	29.15
21.75- 22.25	95	335	6.41	22.60
21.25- 21.75	77	240	5.20	16.19
20.75- 21.25	63	163	4.25	11.00
20.25- 20.75	46	100	3.10	6.75
19.75- 20.25	22	54	1.48	3.64
19.25- 19.75	19	32	1.28	2.16
18.75- 19.25	7	13	0.47	0.88
18.25- 18.75	4	6	0.27	0.40
17.75- 18.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
24.06	MEAN VALUE	9.47
0.06	SE(MEAN)	0.02
2.25	SD DEVIATION	0.89
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 9.3%
SYMMETRY---VETA I = 0.21
KURTOSIS---VETA II = 3.06

****

NUMBER OF SUBJECTS = 1482

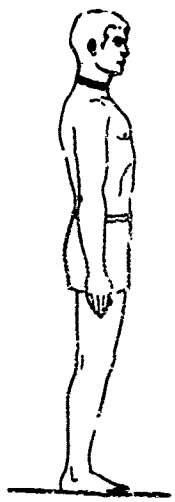
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THE PERCENTILES

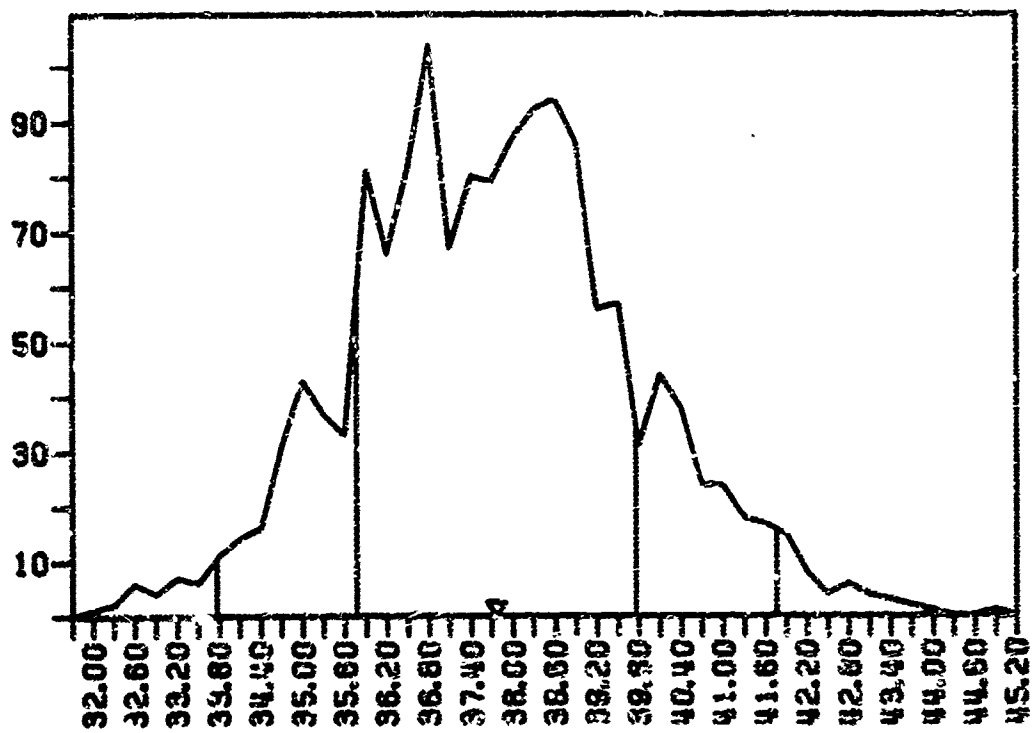
CENTIMETERS		INCHES
29.53	99TH	11.64
28.85	98TH	11.36
28.41	97TH	11.18
27.83	95TH	10.96
26.97	90TH	10.62
26.40	85TH	10.39
25.96	80TH	10.22
25.57	75TH	10.07
25.23	70TH	9.93
24.91	65TH	9.81
24.61	60TH	9.69
24.31	55TH	9.57
24.02	50TH	9.46
23.73	45TH	9.34
23.44	40TH	9.23
23.14	35TH	9.11
22.82	30TH	8.98
22.47	25TH	8.85
22.10	20TH	8.70
21.66	15TH	8.53
21.14	10TH	8.32
20.41	5TH	8.03
19.98	3RD	7.87
19.70	2ND	7.76
19.33	1ST	7.61

33. NECK CIRCUMFERENCE

Subject sits erect, head in the Frankfort plane. With a tape, measure the maximum circumference of the neck at a point just inferior to the bulge of the thyroid cartilage. The tape is held in a plane which is perpendicular to the long axis of the neck.







RANGES*	F	CUMF	FPCT	CUMPCT
44.75- 45.05	1	1482	0.07	100.00
44.45- 44.75	0	1481	0.00	99.93
44.15- 44.45	0	1481	0.00	99.93
43.85- 44.15	1	1481	0.07	99.93
43.55- 43.85	2	1480	0.13	99.86
43.25- 43.55	3	1478	0.20	99.73
42.95- 43.25	4	1475	0.27	99.53
42.65- 42.95	6	1471	0.40	99.26
42.35- 42.65	4	1465	0.27	98.85
42.05- 42.35	8	1461	0.54	98.58
41.75- 42.05	15	1453	1.01	98.04
41.45- 41.75	17	1438	1.15	97.03
41.15- 41.45	18	1421	1.21	95.88
40.85- 41.15	24	1403	1.62	94.67
40.55- 40.85	24	1379	1.62	93.05
40.25- 40.55	38	1355	2.56	91.43
39.95- 40.25	44	1317	2.97	88.87
39.65- 39.95	31	1273	2.09	85.90
39.35- 39.65	57	1242	3.85	83.81
39.05- 39.35	56	1185	3.78	79.96
38.75- 39.05	86	1129	5.80	76.18
38.45- 38.75	94	1043	6.34	70.38
38.15- 38.45	92	949	6.21	64.04
37.85- 38.15	87	857	5.87	57.83
37.55- 37.85	79	770	5.33	51.96
37.25- 37.55	80	691	5.40	46.63
36.95- 37.25	67	611	4.52	41.23
36.65- 36.95	104	544	7.02	36.71
36.35- 36.65	82	440	5.53	29.69
36.05- 36.35	66	358	4.45	24.16
35.75- 36.05	81	292	5.47	19.70
35.45- 35.75	33	211	2.23	14.24
35.15- 35.45	37	178	2.50	12.01
34.85- 35.15	43	141	2.90	9.51
34.55- 34.85	31	98	2.09	6.61
34.25- 34.55	16	67	1.08	4.52
33.95- 34.25	14	51	0.94	3.44
33.65- 33.95	11	37	0.74	2.50
33.35- 33.65	6	26	0.40	1.75
33.05- 33.35	7	20	0.47	1.35
32.75- 33.05	4	13	0.27	0.88
32.45- 32.75	6	9	0.40	0.61
32.15- 32.45	2	3	0.13	0.20
31.85- 32.15	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
37.76	MEAN VALUE	14.87
0.05	SE(MEAN)	0.02
2.00	SD DEVIATION	0.79
0.04	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 5.3%
SYMMETRY---VETA I = 0.15
KURTOSIS---VETA II = 3.05

****

NUMBER OF SUBJECTS = 1482

****

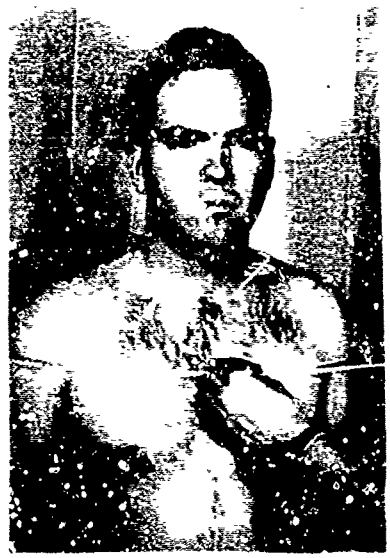
THE PERCENTILES

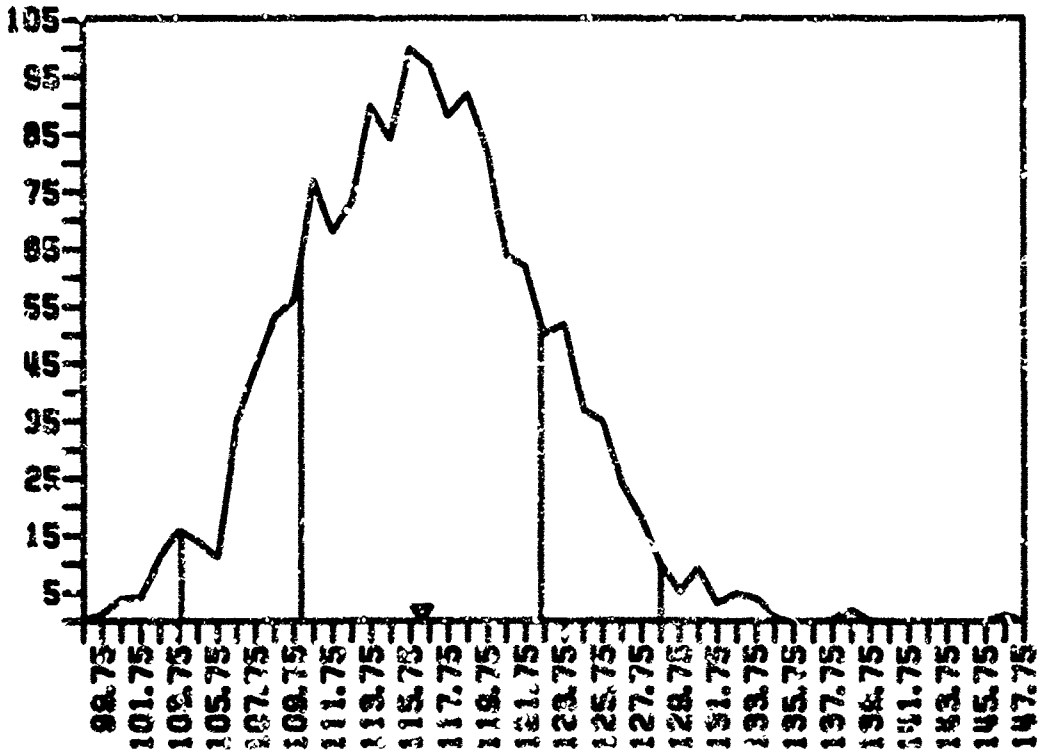
CENTIMETERS		INCHES
42.73	99TH	16.82
42.11	98TH	16.58
41.72	97TH	16.42
41.18	95TH	16.21
40.57	90TH	15.89
39.83	85TH	15.68
39.41	80TH	15.52
39.06	75TH	15.38
38.74	70TH	15.25
38.48	65TH	15.14
38.19	60TH	15.04
37.94	55TH	14.94
37.69	50TH	14.84
37.45	45TH	14.74
37.20	40TH	14.65
36.95	35TH	14.55
36.69	30TH	14.44
36.41	25TH	14.33
36.09	20TH	14.21
35.73	15TH	14.07
35.27	10TH	13.89
34.57	5TH	13.61
34.10	3RD	13.43
33.74	2ND	13.28
33.15	1ST	13.05

34. SHOULDER CIRCUMFERENCE

Subject stands erect looking straight ahead, arms relaxed at sides, heels together, and weight distributed equally on both feet. With a tape held in a horizontal plane, measure the circumference of the body at the level of the deltoid landmark. The reading is made at the average point of quiet respiration.







RANGES*	F	CUMF	FPCT	CUMPCT
146.25-147.25	1	1482	0.07	100.00
145.25-146.25	0	1481	0.00	99.93
144.25-145.25	0	1481	0.00	99.93
143.25-144.25	0	1481	0.00	99.93
142.25-143.25	0	1481	0.00	99.93
141.25-142.25	0	1481	0.00	99.93
140.25-141.25	0	1481	0.00	99.93
139.25-140.25	0	1481	0.00	99.93
138.25-139.25	2	1481	0.13	99.93
137.25-138.25	0	1479	0.00	99.80
136.25-137.25	0	1479	0.00	99.80
135.25-136.25	0	1479	0.00	99.80
134.25-135.25	1	1479	0.07	99.80
133.25-134.25	4	1478	0.27	99.73
132.25-133.25	5	1474	0.34	99.46
131.25-132.25	3	1469	0.20	99.12
130.25-131.25	9	1466	0.61	98.92
129.25-130.25	5	1457	0.34	98.31
128.25-129.25	10	1452	0.67	97.98
127.25-128.25	18	1442	1.21	97.30
126.25-127.25	24	1424	1.62	96.09
125.25-126.25	35	1400	2.36	94.47
124.25-125.25	37	1365	2.50	92.11
123.25-124.25	52	1328	3.51	89.61
122.25-123.25	50	1276	3.37	86.10
121.25-122.25	62	1226	4.18	82.73
120.25-121.25	64	1164	4.32	78.54
119.25-120.25	82	1100	5.53	74.22
118.25-119.25	92	1018	6.21	68.69
117.25-118.25	88	926	5.94	62.48
116.25-117.25	97	838	6.55	56.55
115.25-116.25	100	741	6.75	50.00
114.25-115.25	84	641	5.67	43.25
113.25-114.25	90	557	6.07	37.58
112.25-113.25	73	467	4.93	31.51
111.25-112.25	68	394	4.59	26.59
110.25-111.25	77	326	5.20	22.00
109.25-110.25	56	249	3.78	16.80
108.25-109.25	53	193	3.58	13.02
107.25-108.25	44	140	2.97	9.45
106.25-107.25	35	96	2.36	6.48
105.25-106.25	11	61	0.74	4.12
104.25-105.25	14	50	0.94	3.37
103.25-104.25	16	36	1.08	2.43
102.25-103.25	11	20	0.74	1.35
101.25-102.25	4	9	0.27	0.61
100.25-101.25	4	5	0.27	0.34
99.25-100.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
116.34	MEAN VALUE	45.80
0.16	SE(MEAN)	0.06
6.22	SD DEVIATION	2.45
0.11	SE(SD DEV)	0.05

****

COEF. OF VARIATION = 5.3%
SYMMETRY---VETA I = 0.21
KURTOSIS---VETA II = 3.20

****

NUMBER OF SUBJECTS = 1482

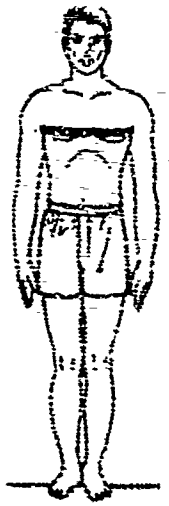
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THE PERCENTILES

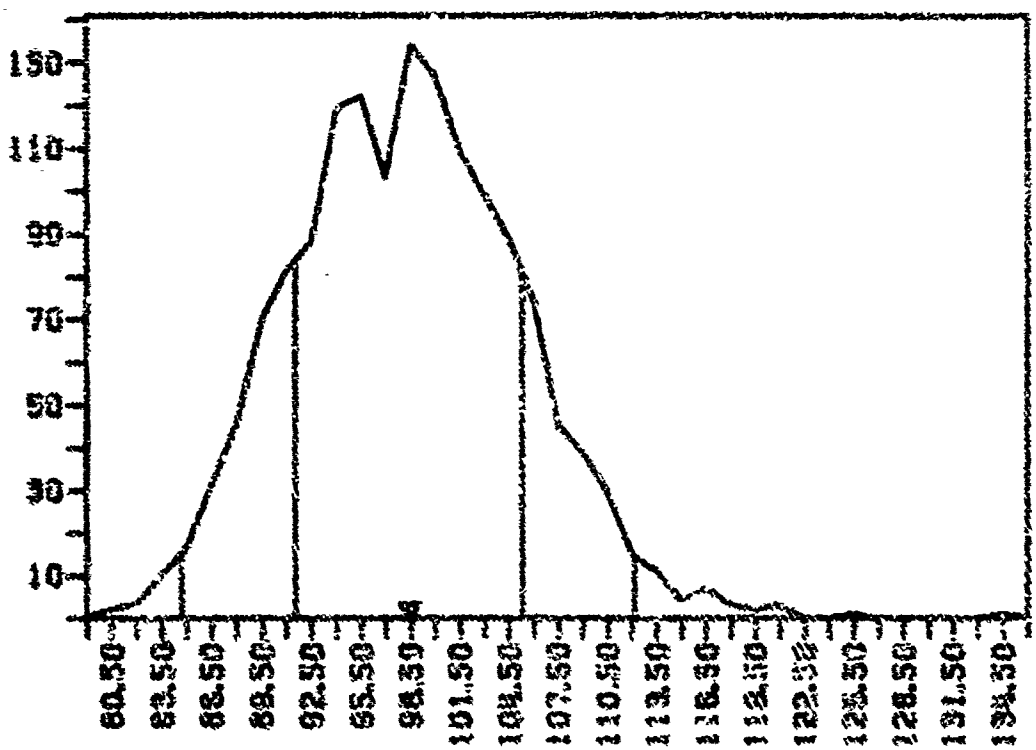
CENTIMETERS		INCHES
131.44	99TH	51.75
129.45	98TH	50.97
128.24	97TH	50.49
126.65	95TH	49.86
124.29	90TH	48.93
122.73	85TH	48.32
121.51	80TH	47.84
120.46	75TH	47.42
119.52	70TH	47.05
118.65	65TH	46.71
117.83	60TH	46.39
117.04	55TH	46.08
116.25	50TH	45.77
115.46	45TH	45.46
114.67	40TH	45.14
113.86	35TH	44.82
112.98	30TH	44.48
112.04	25TH	44.11
111.00	20TH	43.70
109.81	15TH	43.23
108.33	10TH	42.65
106.22	5TH	41.82
104.94	3RD	41.31
104.04	2ND	40.96
102.75	1ST	40.45

35. CHEST CIRCUMFERENCE

Subject stands erect looking straight ahead, heels together and weight distributed equally on both feet. The arms are abducted sufficiently to allow clearance of a tape between the arms and trunk and then relaxed. With a tape held in a horizontal plane, measure the circumference of the chest at the level of the nipples. The reading is made at the average point of quiet respiration.







RANGES*	F	CUMF	PCT	CUMPCT
133.75-135.25	1	1482	0.07	100.00
132.25-133.75	0	1481	0.00	99.93
130.75-132.25	0	1481	0.00	99.93
129.25-130.75	0	1481	0.00	99.93
127.75-129.25	0	1481	0.00	99.93
126.25-127.75	0	1481	0.00	99.93
124.75-126.25	1	1481	0.07	99.93
123.25-124.75	0	1480	0.00	99.86
121.75-123.25	0	1480	0.00	99.86
120.25-121.75	3	1480	0.20	99.86
118.75-120.25	2	1477	0.13	99.66
117.25-118.75	3	1475	0.20	99.53
115.75-117.25	7	1472	0.47	99.33
114.25-115.75	4	1465	0.27	98.85
112.75-114.25	11	1461	0.74	98.58
111.25-112.75	15	1450	1.01	97.84
109.75-111.25	29	1435	1.96	96.83
108.25-109.75	39	1406	2.63	94.87
106.75-108.25	45	1367	3.04	92.24
105.25-106.75	74	1322	4.99	89.20
103.75-105.25	89	1248	6.01	84.21
102.25-103.75	99	1159	6.68	78.21
100.75-102.25	109	1060	7.35	71.52
99.25-100.75	127	951	8.57	64.17
97.75- 99.25	144	824	9.04	55.6[illegible]
96.25- 97.75	134	690	6.95	46.56
94.75- 96.25	122	587	8.23	39.61
93.25- 94.75	119	465	8.03	31.38
91.75- 93.25	88	346	5.94	23.35
90.25- 91.75	81	258	5.47	17.41
88.75- 90.25	70	177	4.72	11.94
87.25- 88.75	45	107	3.04	7.22
85.75- 87.25	31	62	2.09	4.18
84.25- 85.75	16	31	1.08	2.09
82.75- 84.25	10	15	0.67	1.01
81.25- 82.75	3	5	0.20	0.34
79.75- 81.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
98.44	MEAN VALUE	38.75
0.18	SE(MEAN)	0.07
6.87	SD DEVIATION	2.71
0.1[illegible]	SE(SD DEV)	0.0[illegible]

****

COEF. OF VARIATION = 7.02
SYMMETRY---BETA I = 0.39
KURTOSIS---BETA II = 3.41

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

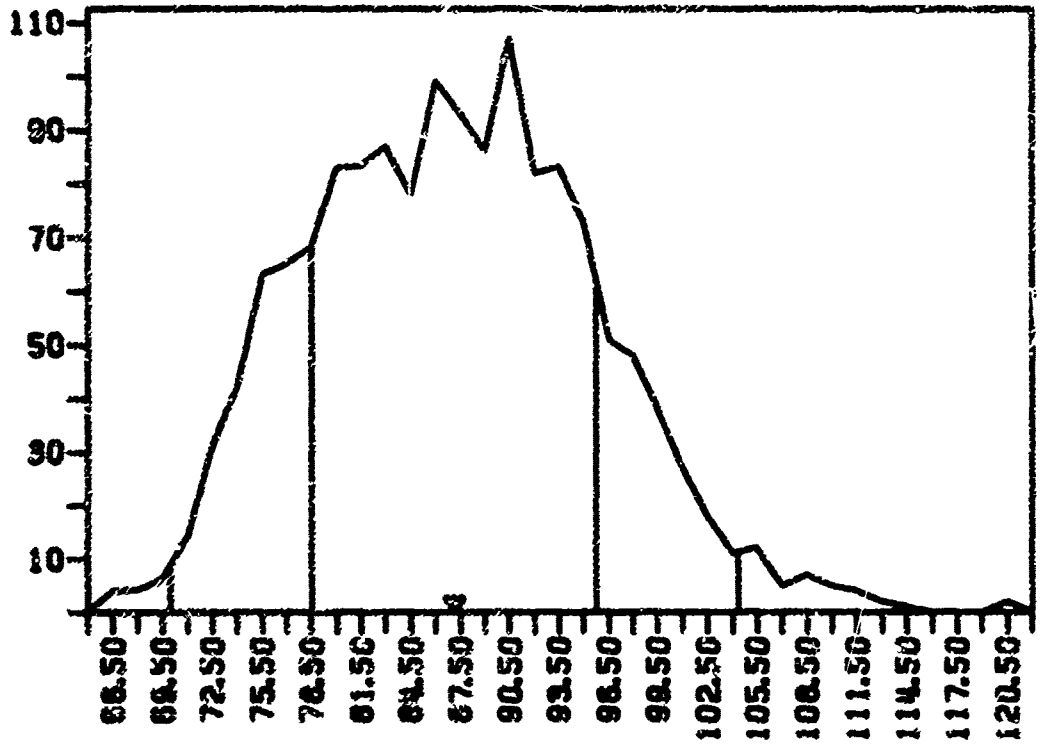
CENTIMETERS		INCHES
115.89	99TH	45.63
113.37	98TH	44.61
111.81	97TH	44.02
109.90	95TH	43.27
107.15	90TH	42.19
105.39	85TH	41.49
104.04	80TH	40.96
102.87	75TH	40.50
101.84	70TH	40.10
100.89	65TH	39.72
99.99	60TH	39.36
99.11	55TH	39.02
98.25	50TH	38.68
97.35	45TH	38.34
96.50	40TH	37.99
95.59	35TH	37.64
94.64	30TH	37.26
93.61	25TH	36.86
92.48	20TH	36.41
91.19	15TH	35.90
89.61	10TH	35.28
87.46	5TH	34.43
86.24	3RD	33.95
85.46	2ND	33.65
84.48	1ST	33.26

36. WAIST CIRCUMFERENCE

Subject stands erect looking straight ahead, heels together, and weight distributed equally on both feet. With a tape held in a horizontal plane, measure the circumference of the trunk at the level of the waist (omphalion) landmarks. The reading is made at the average point of quiet respiration. The subject must not pull in his stomach.







RANGES*	F	CUMF	FPCT	CUMPCT
119.75-121.25	2	1482	0.13	100.00
118.25-119.75	0	1480	0.00	99.86
116.75-118.25	0	1480	0.00	99.86
115.25-116.75	0	1480	0.00	99.86
113.75-115.25	1	1480	0.07	99.86
112.25-113.75	2	1479	0.13	99.80
110.75-112.25	4	1477	0.27	99.66
109.25-110.75	5	1473	0.34	99.39
107.75-109.25	7	1468	0.47	99.06
106.25-107.75	5	1461	0.34	98.58
104.75-106.25	12	1456	0.81	98.25
103.25-104.75	11	1444	0.74	97.44
101.75-103.25	18	1433	1.21	96.69
100.25-101.75	27	1415	1.82	95.48
98.75-100.25	38	1388	2.56	93.66
97.25- 98.75	48	1350	3.24	91.09
95.75- 97.25	51	1302	3.44	87.85
94.25- 95.75	73	1251	4.93	84.41
92.75- 94.25	83	1178	5.60	79.49
91.25- 92.75	82	1095	5.53	73.89
89.75- 91.25	107	1013	7.22	68.36
88.25- 89.75	86	906	5.80	61.13
86.75- 88.25	93	820	6.28	55.33
85.25- 86.75	99	727	6.68	49.06
83.75- 85.25	78	628	5.26	42.38
82.25- 83.75	87	550	5.87	37.11
80.75- 82.25	83	463	5.60	31.24
79.25- 80.75	83	380	5.60	25.64
77.75- 79.25	68	297	4.59	20.04
76.25- 77.75	65	229	4.39	15.45
74.75- 76.25	63	164	4.25	11.07
73.25- 74.75	42	101	2.83	6.82
71.75- 73.25	31	59	2.09	3.98
70.25- 71.75	14	28	0.94	1.89
68.75- 70.25	6	14	0.40	0.94
67.25- 68.75	4	8	0.27	0.54
65.75- 67.25	4	4	0.27	0.27

*IN CENTIMETERS

CENTIMETERS		INCHES
87.13	MEAN VALUE	34.30
0.22	SE(MEAN)	0.09
8.61	SD DEVIATION	3.39
0.16	SE(SD DEV)	0.07

****

COEF. OF VARIATION = 9.9%
SYMMETRY---VETA I = 0.27
KURTOSIS---VETA II = 2.91

****

NUMBER OF SUBJECTS = 1482

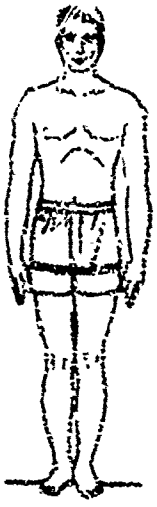
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THE PERCENTILES

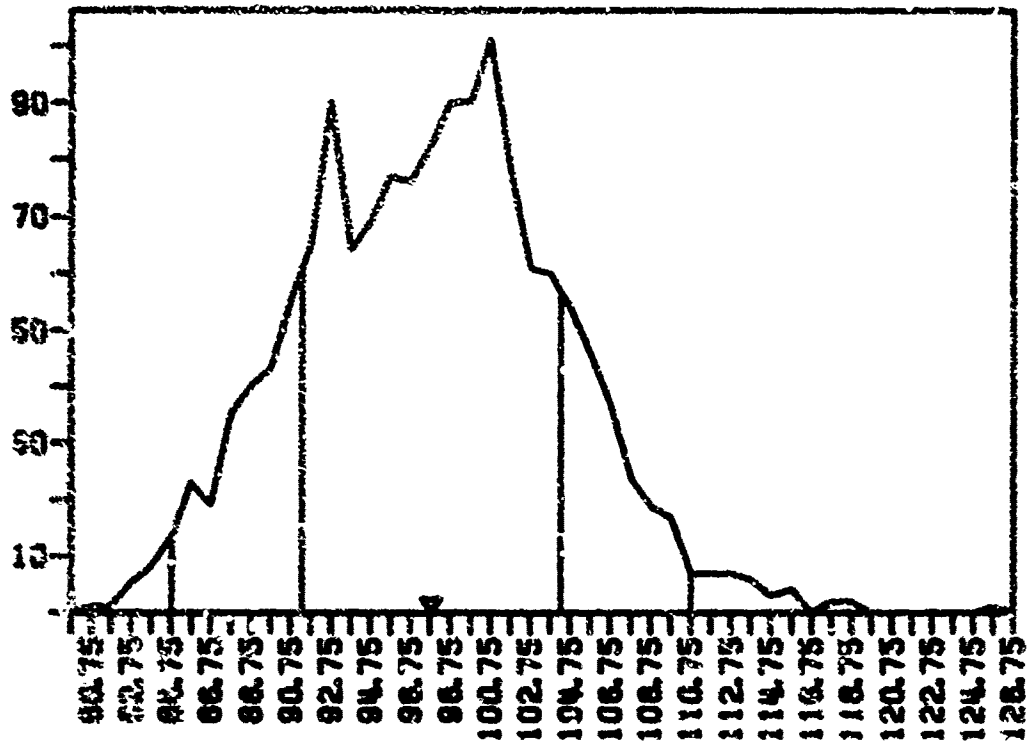
CENTIMETERS		INCHES
108.66	99TH	42.84
105.80	98TH	41.66
104.00	97TH	40.95
101.68	95TH	40.03
98.31	90TH	38.70
96.10	85TH	37.84
94.38	80TH	37.16
92.89	75TH	36.57
91.56	70TH	36.05
90.33	65TH	35.56
89.15	60TH	35.10
88.01	55TH	34.65
86.88	50TH	34.21
85.75	45TH	33.76
84.61	40TH	33.31
83.43	35TH	32.85
82.20	30TH	32.36
80.88	25TH	31.84
79.44	20TH	31.28
77.83	15TH	30.64
75.91	10TH	29.89
73.46	5TH	28.92
72.20	3RD	28.42
71.49	2ND	28.14
70.82	1ST	27.88

37. HIP CIRCUMFERENCE

Subject stands erect looking straight ahead, heels together, and weight distributed equally on both feet. A tape is passed around the hips without constriction, at the level of the maximum posterior protrusion of the buttocks, with the plane of the girth at a right angle to the long axis of the trunk. Measure the maximum circumference of the hips at this level.







RANGES*	F	CUMF	FPCT	CUMPCT
125.25-126.25	1	1482	0.07	100.00
124.25-125.25	0	1481	0.00	99.93
123.25-124.25	0	1481	0.00	99.93
122.25-123.25	0	1481	0.00	99.93
121.25-122.25	0	1481	0.00	99.93
120.25-121.25	0	1481	0.00	99.93
119.25-120.25	0	1481	0.00	99.93
118.25-119.25	2	1481	0.13	99.93
117.25-118.25	2	1479	0.13	99.80
116.25-117.25	0	1477	0.00	99.66
115.25-116.25	4	1477	0.27	99.66
114.25-115.25	3	1473	0.20	99.39
113.25-114.25	6	1470	0.40	99.19
112.25-113.25	7	1464	0.47	98.79
111.25-112.25	7	1457	0.47	98.31
110.25-111.25	7	1450	0.47	97.84
109.25-110.25	17	1443	1.15	97.37
108.25-109.25	19	1426	1.28	96.22
107.25-108.25	24	1407	1.62	94.94
106.25-107.25	37	1383	2.50	93.32
105.25-106.25	46	1346	3.10	90.82
104.25-105.25	54	1300	3.64	87.72
103.25-104.25	60	1246	4.05	84.08
102.25-103.25	61	1186	4.12	80.03
101.25-102.25	78	1125	5.26	75.91
100.25-101.25	101	1047	6.82	70.65
99.25-100.25	90	946	6.07	63.83
98.25- 99.25	90	856	6.07	57.76
97.25- 98.25	82	766	5.53	51.69
96.25- 97.25	76	684	5.13	46.15
95.25- 96.25	77	608	5.20	41.03
94.25- 95.25	69	531	4.66	35.83
93.25- 94.25	64	462	4.32	31.17
92.25- 93.25	90	398	6.07	26.86
91.25- 92.25	65	308	4.39	20.78
90.25- 91.25	55	243	3.71	16.40
89.25- 90.25	43	188	2.90	12.69
88.25- 89.25	40	145	2.70	9.78
87.25- 88.25	35	105	2.36	7.09
86.25- 87.25	19	70	1.28	4.72
85.25- 86.25	23	51	1.55	3.44
84.25- 85.25	13	23	0.88	1.89
83.25- 84.25	8	15	0.54	1.01
82.25- 83.25	5	7	0.34	0.47
81.25- 82.25	1	2	0.07	0.13
80.25- 81.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
97.79	MEAN VALUE	38.50
0.17	SE(MEAN)	0.07
6.48	SD DEVIATION	2.55
0.12	SE(SD DEV)	0.05

****

COEF. OF VARIATION = 6.6%
SYMMETRY---VETA I = -0.17
KURTOSIS---VETA II = 2.94

****

NUMBER OF SUBJECTS = 1482

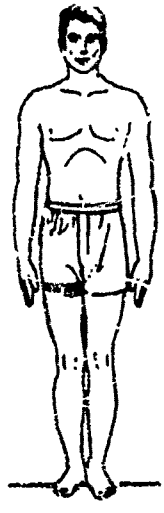
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THE PERCENTILES

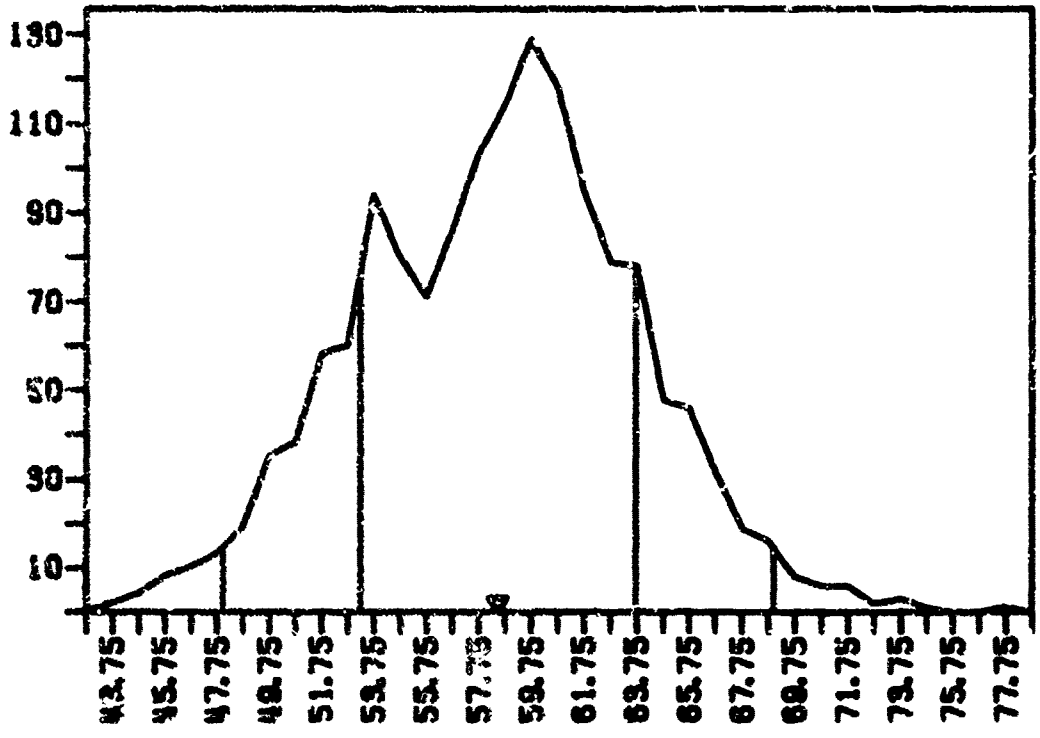
CENTIMETERS		INCHES
113.72	99TH	44.77
111.44	98TH	43.88
110.12	97TH	43.35
108.44	95TH	42.69
106.01	90TH	41.74
104.44	85TH	41.12
103.21	80TH	40.64
102.15	75TH	40.22
101.19	70TH	39.84
100.30	65TH	39.49
99.45	60TH	39.15
98.62	55TH	38.83
97.79	50TH	38.50
96.95	45TH	38.17
96.09	40TH	37.83
95.20	35TH	37.48
94.26	30TH	37.11
93.25	25TH	36.71
92.12	20TH	36.27
90.83	15TH	35.76
89.26	10TH	35.14
87.14	5TH	34.31
85.96	3RD	33.84
85.23	2ND	33.56
84.37	1ST	33.22

38. UPPER THIGH CIRCUMFERENCE

Subject stands erect, heels approximately 10 cm apart, and weight distributed equally on both feet. With a tape held in a plane perpendicular to the long axis of the right thigh, measure the circumference of the thigh at the level of the gluteal furrow. Where the furrow is deeply indented, the measurement is made just distal to the furrow.







RANGES*	F	CUMF	FPCT	CUMPCT
77.25- 78.25	1	1482	0.07	100.00
76.25- 77.25	0	1481	0.00	99.93
75.25- 76.25	0	1481	0.00	99.93
74.25- 75.25	1	1481	0.07	99.93
73.25- 74.25	3	1480	0.20	99.86
72.25- 73.25	2	1477	0.13	99.66
71.25- 72.25	6	1475	0.40	99.53
70.25- 71.25	6	1469	0.40	99.12
69.25- 70.25	8	1463	0.54	98.72
68.25- 69.25	16	1455	1.08	98.18
67.25- 68.25	19	1439	1.28	97.10
66.25- 67.25	32	1420	2.16	95.82
65.25- 66.25	46	1388	3.10	93.66
64.25- 65.25	48	1342	3.24	90.55
63.25- 64.25	78	1294	5.26	87.31
62.25- 63.25	79	1216	5.33	82.05
61.25- 62.25	95	1137	6.41	76.72
60.25- 61.25	118	1042	7.96	70.31
59.25- 60.25	129	924	8.70	62.35
58.25- 59.25	114	795	7.69	53.64
57.25- 58.25	103	681	6.95	45.95
56.25- 57.25	86	578	5.80	39.00
55.25- 56.25	71	492	4.79	33.20
54.25- 55.25	80	421	5.40	28.41
53.25- 54.25	94	341	6.34	23.01
52.25- 53.25	60	247	4.05	16.67
51.25- 52.25	58	187	3.91	12.62
50.25- 51.25	38	129	2.56	8.70
49.25- 50.25	35	91	2.36	6.14
48.25- 49.25	19	56	1.28	3.78
47.25- 48.25	13	37	0.88	2.50
46.25- 47.25	10	24	0.67	1.62
45.25- 46.25	8	14	0.54	0.94
44.25- 45.25	4	6	0.27	0.40
43.25- 44.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
58.47	MEAN VALUE	23.02
0.14	SE(MEAN)	0.05
5.24	SD DEVIATION	2.06
0.10	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 9.0%
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 2.89

****

NUMBER OF SUBJECTS = 1482

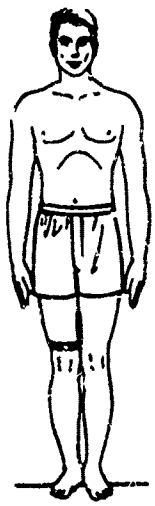
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THE PERCENTILES

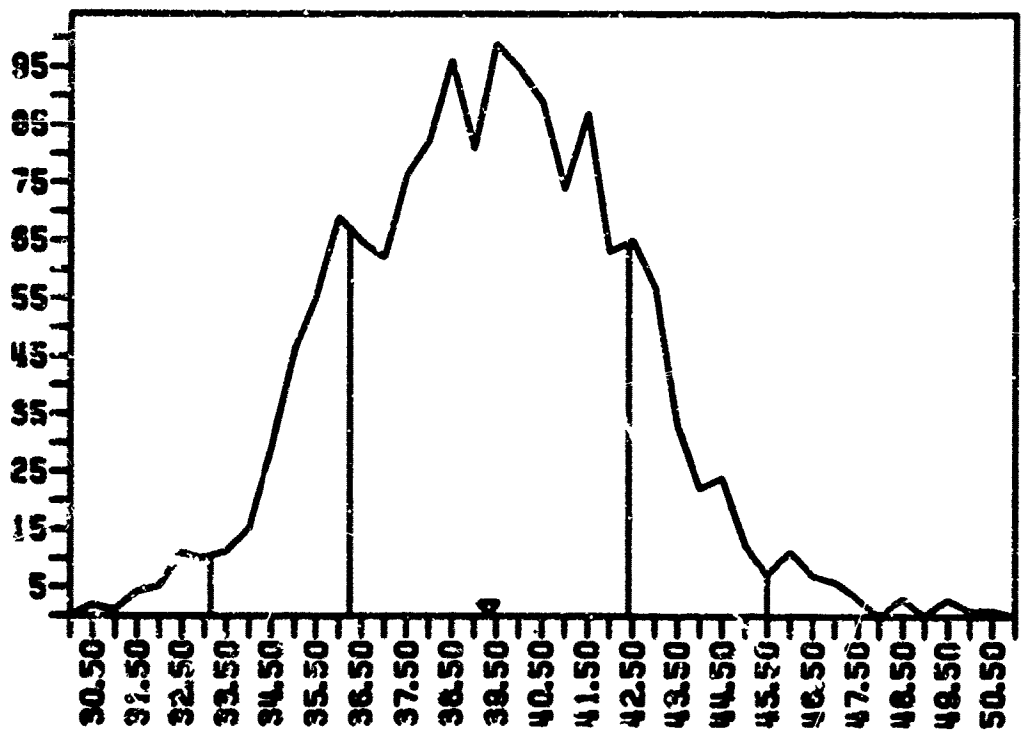
CENTIMETERS		INCHES
70.86	99TH	27.90
69.17	98TH	27.23
68.18	97TH	26.84
66.91	95TH	26.34
65.05	90TH	25.61
63.83	85TH	25.13
62.88	80TH	24.75
62.04	75TH	24.43
61.29	70TH	24.13
60.59	65TH	23.86
59.92	60TH	23.59
59.26	55TH	23.33
58.60	50TH	23.07
57.93	45TH	22.81
57.25	40TH	22.54
56.53	35TH	22.26
55.77	30TH	21.96
54.94	25TH	21.63
54.00	20TH	21.26
52.91	15TH	20.83
51.55	10TH	20.30
49.61	5TH	19.53
48.43	3RD	19.07
47.63	2ND	18.75
46.51	1ST	18.31

39. LOWER THIGH CIRCUMFERENCE

Subject stands erect, heels together and weight distributed equally on both feet. With the tape held perpendicular to the long axis of the right thigh, measure the circumference of the thigh at the level just above the top of the patella.







RANGES*	F	CUMF	FPCT	CUMPCT
50.25- 50.75	1	1482	0.07	100.00
49.75- 50.25	1	1481	0.07	99.93
49.25- 49.75	3	1480	0.20	99.86
48.75- 49.25	0	1477	0.00	99.66
48.25- 48.75	3	1477	0.20	99.66
47.75- 48.25	0	1474	0.00	99.46
47.25- 47.75	3	1474	0.20	99.46
46.75- 47.25	6	1471	0.40	99.26
46.25- 46.75	7	1465	0.47	98.85
45.75- 46.25	11	1458	0.74	98.38
45.25- 45.75	7	1447	0.47	97.64
44.75- 45.25	12	1440	0.81	97.17
44.25- 44.75	24	1428	1.62	96.36
43.75- 44.25	22	1404	1.48	94.74
43.25- 43.75	33	1382	2.23	93.25
42.75- 43.25	57	1349	3.85	91.03
42.25- 42.75	65	1292	4.39	87.18
41.75- 42.25	63	1227	4.25	82.79
41.25- 41.75	87	1164	5.87	78.54
40.75- 41.25	74	1077	4.99	72.67
40.25- 40.75	89	1003	6.01	67.68
39.75- 40.25	95	914	6.41	61.67
39.25- 39.75	99	819	6.68	55.26
38.75- 39.25	81	720	5.47	48.58
38.25- 38.75	96	639	6.48	43.12
37.75- 38.25	82	543	5.53	36.64
37.25- 37.75	76	461	5.13	31.11
36.75- 37.25	62	385	4.18	25.98
36.25- 36.75	65	323	4.39	21.79
35.75- 36.25	69	258	4.66	17.41
35.25- 35.75	55	189	3.71	12.75
34.75- 35.25	46	134	3.10	9.04
34.25- 34.75	29	88	1.96	5.94
33.75- 34.25	15	59	1.01	3.98
33.25- 33.75	11	44	0.74	2.97
32.75- 33.25	10	33	0.67	2.23
32.25- 32.75	11	23	0.74	1.55
31.75- 32.25	5	12	0.34	0.81
31.25- 31.75	4	7	0.27	0.47
30.75- 31.25	1	3	0.07	0.20
30.25- 30.75	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
39.32	MEAN VALUE	15.48
0.08	SE(MEAN)	0.03
3.09	SD DEVIATION	1.22
0.06	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 7.8%
SYMMETRY---VETA I = 0.13
KURTOSIS---VETA II = 3.03

****

NUMBER OF SUBJECTS = 1482

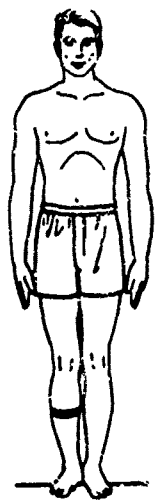
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THE PERCENTILES

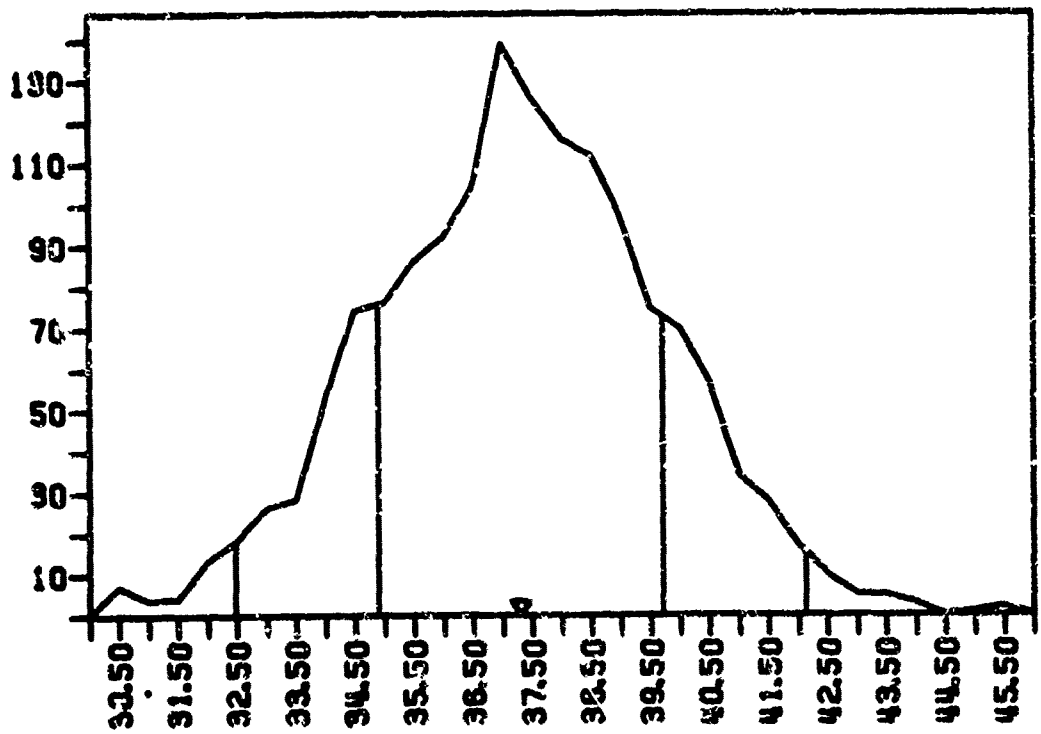
CENTIMETERS		INCHES
46.91	99TH	18.47
45.87	98TH	18.06
45.25	97TH	17.81
44.44	95TH	17.49
43.25	90TH	17.03
42.48	85TH	16.72
41.88	80TH	16.49
41.36	75TH	16.28
40.90	70TH	16.10
40.48	65TH	15.94
40.08	60TH	15.78
39.69	55TH	15.63
39.30	50TH	15.47
38.92	45TH	15.32
38.53	40TH	15.17
38.12	35TH	15.01
37.69	30TH	14.84
37.23	25TH	14.66
36.71	20TH	14.45
36.11	15TH	14.22
35.36	10TH	13.92
34.28	5TH	13.50
33.62	3RD	13.24
33.15	2ND	13.05
32.47	1ST	12.78

40. CALF CIRCUMFERENCE

Subject stands erect, heels approximately 10 cm apart, and weight distributed equally on both feet. With a tape held in a plane perpendicular to the long axis of the right lower leg, measure the maximum circumference of the calf.







RANGES*	F	CUMF	FPCT	CUMPCT
45.25- 45.75	2	1482	0.13	100.00
44.75- 45.25	1	1480	0.07	99.85
44.25- 44.75	0	1479	0.00	99.80
43.75- 44.25	3	1479	0.20	99.80
43.25- 43.75	5	1476	0.34	99.60
42.75- 43.25	5	1471	0.34	99.26
42.25- 42.75	10	1466	0.67	98.92
41.75- 42.25	17	1456	1.15	98.25
41.25- 41.75	28	1439	1.89	97.10
40.75- 41.25	34	1411	2.29	95.21
40.25- 40.75	57	1377	3.85	92.91
39.75- 40.25	70	1320	4.72	89.07
39.25- 39.75	75	1250	5.06	84.35
38.75- 39.25	97	1175	6.55	79.28
38.25- 38.75	112	1078	7.56	72.74
37.75- 38.25	116	966	7.83	65.18
37.25- 37.75	126	850	8.50	57.35
36.75- 37.25	139	724	9.38	48.85
36.25- 36.75	104	585	7.02	39.47
35.75- 36.25	92	481	6.21	32.46
35.25- 35.75	86	389	5.80	26.25
34.75- 35.25	76	303	5.13	20.45
34.25- 34.75	74	227	4.99	15.32
33.75- 34.25	53	153	3.58	10.32
33.25- 33.75	28	100	1.89	6.75
32.75- 33.25	26	72	1.75	4.86
32.25- 32.75	18	46	1.21	3.10
31.75- 32.25	13	28	0.88	1.89
31.25- 31.75	4	15	0.27	1.01
30.75- 31.25	4	11	0.27	0.74
30.25- 30.75	7	7	0.47	0.47

*IN CENTIMETERS

CENTIMETERS		INCHES
37.30	MEAN VALUE	14.68
0.06	SE(MEAN)	0.02
2.41	SD DEVIATION	0.95
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.5%
SYMMETRY---VETA I = -0.02
KURTOSIS---VETA II = 2.98

****

NUMBER OF SUBJECTS = 1482

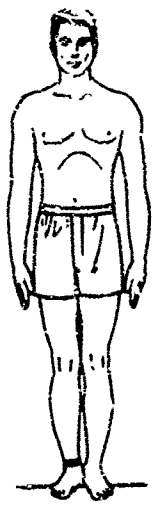
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THE PERCENTILES

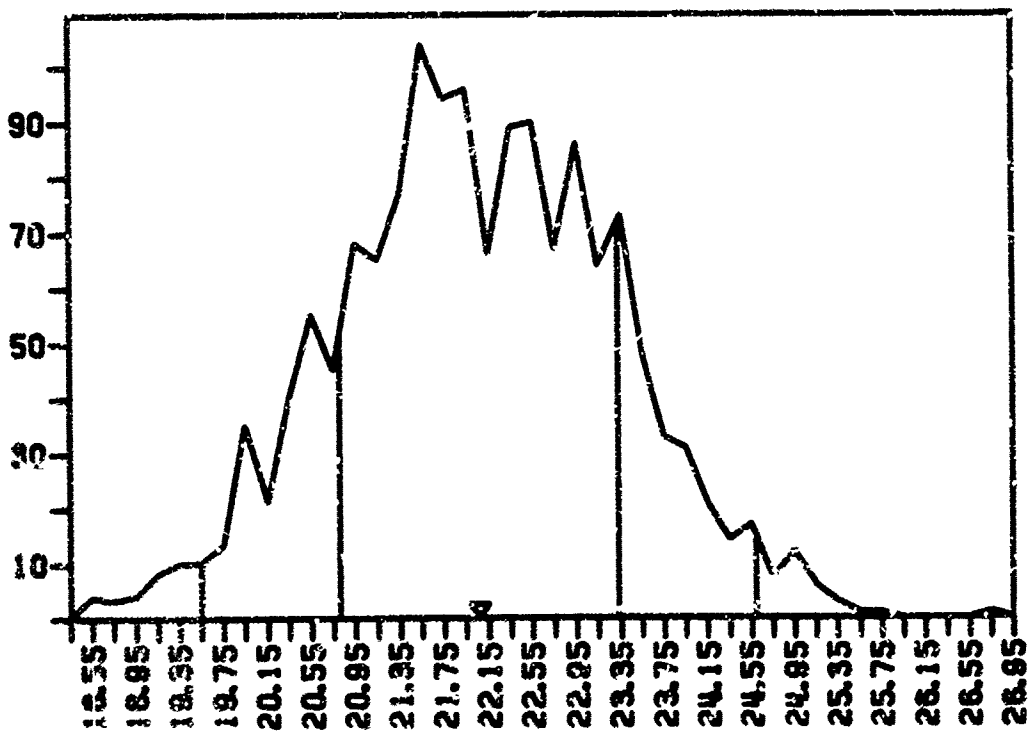
CENTIMETERS		INCHES
42.85	99TH	16.87
42.17	98TH	16.60
41.75	97TH	16.44
41.19	95TH	16.22
40.35	90TH	15.88
39.78	85TH	15.66
39.33	80TH	15.48
38.94	75TH	15.33
38.58	70TH	15.19
38.26	65TH	15.06
37.94	60TH	14.94
37.64	55TH	14.82
37.33	50TH	14.70
37.02	45TH	14.58
36.71	40TH	14.45
36.39	35TH	14.33
36.04	30TH	14.19
35.67	25TH	14.04
35.25	20TH	13.88
34.77	15TH	13.69
34.16	10TH	13.45
33.27	5TH	13.10
32.71	3RD	12.88
32.31	2ND	12.72
31.72	1ST	12.49

41. ANKLE CIRCUMFERENCE

Subject stands erect, heels approximately 10 cm apart, and weight distributed equally on both feet. With a tape held in a plane perpendicular to the long axis of the right lower leg, measure the minimum circumference of the ankle.







RANGES*	F	CUMF	FPCT	CUMPCT
26.65- 26.85	1	1482	0.07	100.00
26.45- 26.65	0	1481	0.00	99.93
26.25- 26.45	0	1481	0.00	99.93
26.05- 26.25	0	1481	0.00	99.93
25.85- 26.05	0	1481	0.00	99.93
25.65- 25.85	1	1481	0.07	99.93
25.45- 25.65	1	1480	0.07	99.86
25.25- 25.45	3	1479	0.20	99.80
25.05- 25.25	6	1476	0.40	99.60
24.85- 25.05	12	1470	0.81	99.19
24.65- 24.85	7	1458	0.47	98.38
24.45- 24.65	17	1451	1.15	97.91
24.25- 24.45	14	1434	0.94	96.76
24.05- 24.25	21	1420	1.42	95.82
23.85- 24.05	31	1399	2.09	94.40
23.65- 23.85	33	1368	2.23	92.31
23.45- 23.65	48	1335	3.24	90.08
23.25- 23.45	73	1287	4.93	86.84
23.05- 23.25	64	1214	4.32	81.92
22.85- 23.05	86	1150	5.80	77.60
22.65- 22.85	67	1064	4.52	71.79
22.45- 22.65	90	997	6.07	67.27
22.25- 22.45	89	907	6.01	61.20
22.05- 22.25	66	818	4.45	55.20
21.85- 22.05	96	752	6.48	50.74
21.65- 21.85	94	656	6.34	44.26
21.45- 21.65	104	562	7.02	37.92
21.25- 21.45	77	458	5.20	30.90
21.05- 21.25	65	381	4.39	25.71
20.85- 21.05	68	316	4.59	21.32
20.65- 20.85	45	248	3.04	16.73
20.45- 20.65	55	203	3.71	13.70
20.25- 20.45	40	148	2.70	9.99
20.05- 20.25	21	108	1.42	7.29
19.85- 20.05	35	87	2.36	5.87
19.65- 19.85	13	52	0.88	3.51
19.45- 19.65	10	39	0.67	2.63
19.25- 19.45	10	29	0.67	1.96
19.05- 19.25	8	19	0.54	1.28
18.85- 19.05	4	11	0.27	0.74
18.65- 18.85	2	7	0.20	0.47
18.45- 18.65	4	4	0.27	0.27

*IN CENTIMETERS

CENTIMETERS		INCHES
22.07	MEAN VALUE	8.69
0.03	SE(MEAN)	0.01
1.26	SD DEVIATION	0.50
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 5.7%
SYMMETRY---VETA I = 0.02
KURTOSIS---VETA II = 2.87

****

NUMBER OF SUBJECTS = 1482

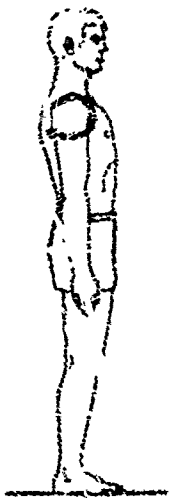
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THE PERCENTILES

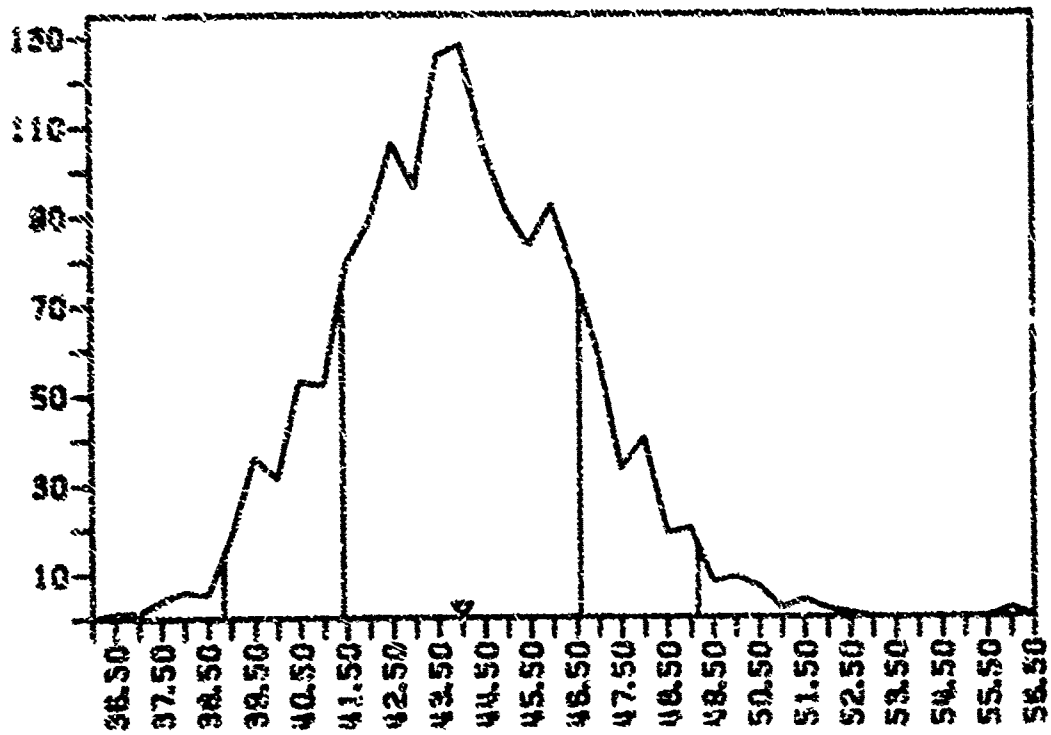
CENTIMETERS		INCHES
25.01	99TH	9.85
24.67	98TH	9.71
24.46	97TH	9.63
24.16	95TH	9.51
23.70	90TH	9.33
23.39	85TH	9.21
23.14	80TH	9.11
22.93	75TH	9.03
22.74	70TH	8.95
22.56	65TH	8.88
22.39	60TH	8.81
22.23	55TH	8.75
22.07	50TH	8.69
21.91	45TH	8.62
21.74	40TH	8.56
21.57	35TH	8.49
21.40	30TH	8.42
21.21	25TH	8.35
20.99	20TH	8.27
20.75	15TH	8.17
20.44	10TH	8.05
19.99	5TH	7.87
19.69	3RD	7.75
19.48	2ND	7.67
19.15	1ST	7.54

42. ARM SCYE CIRCUMFERENCE

Subject stands erect looking straight ahead. The right arm is abducted sufficiently to allow placement of a tape into the axilla. With a tape passing through the axilla, over the anterior and posterior-vertical scye landmarks and over the right acromial landmark, measure the circumference of the scye. Light tension on the tape is used to prevent compression of the axillary tissue.







RANGES*	F	CUMF	FPCT	CUMPCT
55.75- 56.25	2	1482	0.13	100.00
55.25- 55.75	0	1480	0.00	99.87
54.75- 55.25	0	1480	0.00	99.86
54.25- 54.75	0	1480	0.00	99.86
53.75- 54.25	0	1480	0.00	99.86
53.25- 53.75	0	1480	0.00	99.86
52.75- 53.25	0	1480	0.00	99.86
52.25- 52.75	1	1480	0.07	99.86
51.75- 52.25	2	1479	0.13	99.80
51.25- 51.75	4	1477	0.27	99.66
50.75- 51.25	2	1473	0.13	99.39
50.25- 50.75	7	1471	0.47	99.26
49.75- 50.25	9	1464	0.61	98.79
49.25- 49.75	8	1455	0.54	98.18
48.75- 49.25	20	1447	1.35	97.64
48.25- 48.75	19	1427	1.28	96.29
47.75- 48.25	40	1408	2.70	95.01
47.25- 47.75	33	1368	2.23	92.31
46.75- 47.25	59	1335	3.98	90.08
46.25- 46.75	76	1276	5.13	86.10
45.75- 46.25	92	1200	6.21	80.97
45.25- 45.75	83	1108	5.60	74.76
44.75- 45.25	91	1025	6.14	69.16
44.25- 44.75	105	934	7.09	63.02
43.75- 44.25	128	829	8.64	55.94
43.25- 43.75	125	701	8.43	47.30
42.75- 43.25	94	576	6.48	38.87
42.25- 42.75	106	480	7.15	32.39
41.75- 42.25	88	374	5.94	25.24
41.25- 41.75	79	286	5.33	19.30
40.75- 41.25	52	207	3.51	13.97
40.25- 40.75	53	155	3.58	10.46
39.75- 40.25	31	102	2.09	6.88
39.25- 39.75	36	71	2.43	4.79
38.75- 39.25	18	35	1.21	2.36
38.25- 38.75	5	17	0.34	1.15
37.75- 38.25	6	12	0.40	0.81
37.25- 37.75	4	6	0.27	0.40
36.75- 37.25	1	2	0.07	0.13
36.25- 36.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
44.00	MEAN VALUE	17.32
0.07	SE(MEAN)	0.03
2.58	SD DEVIATION	1.02
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.9%
SYMMETRY---VETA I = 0.28
KURTOSIS---VETA II = 3.40

****

NUMBER OF SUBJECTS = 1482

****

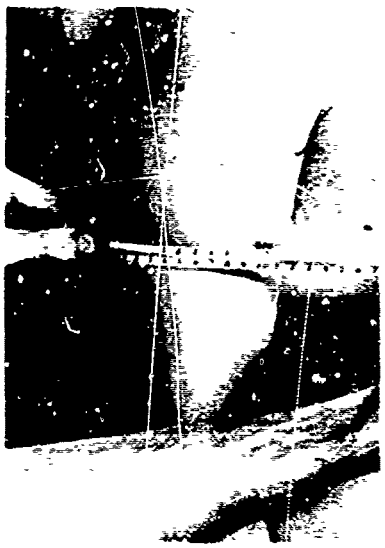
THE PERCENTILES

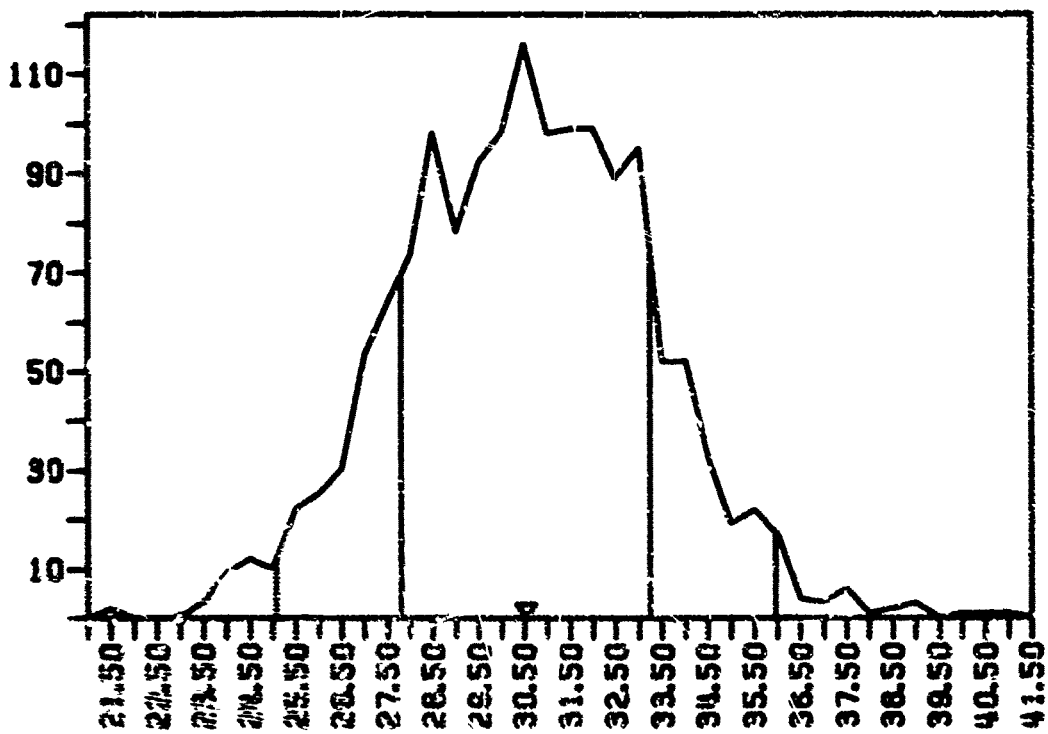
CENTIMETERS		INCHES
50.47	99TH	19.87
49.56	98TH	19.51
49.01	97TH	19.30
48.31	95TH	19.02
47.29	90TH	18.62
46.63	85TH	18.36
46.11	80TH	18.16
45.68	75TH	17.98
45.29	70TH	17.83
44.93	65TH	17.69
44.59	60TH	17.56
44.26	55TH	17.43
43.94	50TH	17.30
43.62	45TH	17.17
43.29	40TH	17.04
42.95	35TH	16.91
42.60	30TH	16.77
42.21	25TH	16.62
41.79	20TH	16.45
41.30	15TH	16.26
40.71	10TH	16.03
39.87	5TH	15.70
39.37	3RD	15.50
39.03	2ND	15.37
38.56	1ST	15.18

43. BICEPS CIRCUMFERENCE (Relaxed)

Subject stands with right arm slightly abducted. With a tape held in a plane perpendicular to the long axis of the upper arm, measure the circumference of the arm at the level of the biceps landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
40.75- 41.25	1	1482	0.07	100.00
40.25- 40.75	1	1481	0.07	99.93
39.75- 40.25	1	1480	0.07	99.86
39.25- 39.75	0	1479	0.00	99.80
38.75- 39.25	3	1479	0.20	99.80
38.25- 38.75	2	1476	0.13	99.60
37.75- 38.25	1	1474	0.07	99.46
37.25- 37.75	6	1473	0.40	99.39
36.75- 37.25	3	1467	0.20	98.99
36.25- 36.75	4	1464	0.27	98.79
35.75- 36.25	17	1460	1.15	98.52
35.25- 35.75	22	1443	1.48	97.37
34.75- 35.25	19	1421	1.28	95.88
34.25- 34.75	33	1402	2.23	94.60
33.75- 34.25	52	1369	3.51	92.38
33.25- 33.75	52	1317	3.51	88.87
32.75- 33.25	95	1265	6.41	85.36
32.25- 32.75	89	1170	6.01	78.95
31.75- 32.25	99	1081	6.68	72.94
31.25- 31.75	99	982	6.68	66.26
30.75- 31.25	98	883	6.61	59.58
30.25- 30.75	116	785	7.83	52.97
29.75- 30.25	98	669	6.61	45.14
29.25- 29.75	92	571	6.21	38.53
28.75- 29.25	78	479	5.26	32.32
28.25- 28.75	98	401	6.61	27.06
27.75- 28.25	73	303	4.93	20.45
27.25- 27.75	64	230	4.32	15.52
26.75- 27.25	53	166	3.58	11.20
26.25- 26.75	30	113	2.02	7.62
25.75- 26.25	25	83	1.69	5.60
25.25- 25.75	22	58	1.48	3.91
24.75- 25.25	10	36	0.67	2.43
24.25- 24.75	12	26	0.81	1.75
23.75- 24.25	9	14	0.61	0.94
23.25- 23.75	3	5	0.20	0.34
22.75- 23.25	0	2	0.00	0.13
22.25- 22.75	0	2	0.00	0.13
21.75- 22.25	0	2	0.00	0.13
21.25- 21.75	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
30.53	MEAN VALUE	12.02
0.07	SE(MEAN)	0.03
2.72	SD DEVIATION	1.07
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 8.9%
SYMMETRY---VETA I = 0.08
KURTOSIS----VETA II = 3.16

****

NUMBER OF SUBJECTS = 1482

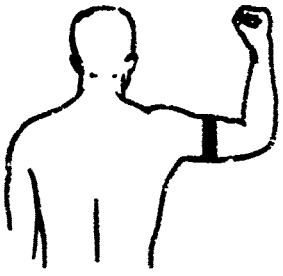
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THE PERCENTILES

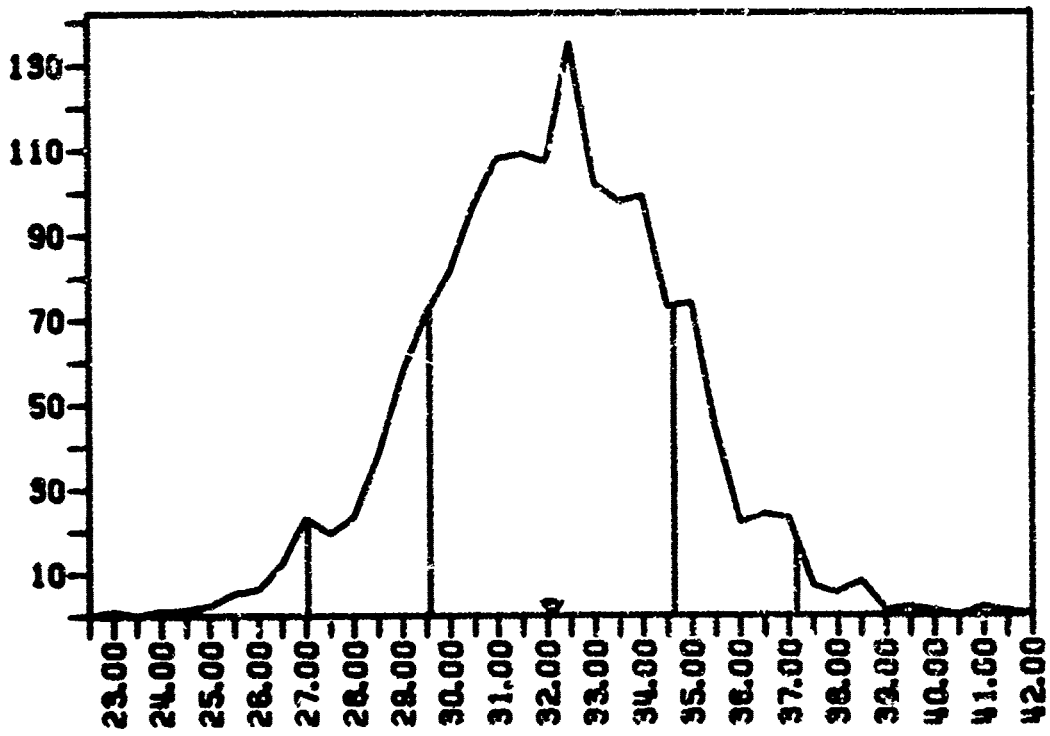
CENTIMETERS		INCHES
37.14	99TH	14.62
36.19	98TH	14.25
35.64	97TH	14.03
34.93	95TH	13.75
33.93	90TH	13.36
33.28	85TH	13.10
32.77	80TH	12.90
32.34	75TH	12.73
31.95	70TH	12.58
31.59	65TH	12.44
31.24	60TH	12.30
30.91	55TH	12.17
30.57	50TH	12.04
30.23	45TH	11.90
29.88	40TH	11.77
29.52	35TH	11.62
29.13	30TH	11.47
28.71	25TH	11.30
28.24	20TH	11.12
27.69	15TH	10.90
26.99	10TH	10.63
25.99	5TH	10.23
25.38	3RD	9.99
24.95	2ND	9.82
24.34	1ST	9.58

44. BICEPS CIRCUMFERENCE (Flexed)

Subject stands, right upper arm raised so that its long axis is horizontal, elbow flexed 90 degrees, and fist tightly clenched. With a tape held in a plane perpendicular to the long axis of the upper arm, measure the circumference of the arm at the level of the biceps landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
41.25- 41.75	1	1482	0.07	100.00
40.75- 41.25	2	1481	0.13	99.93
40.25- 40.75	0	1479	0.00	99.80
39.75- 40.25	1	1479	0.07	99.80
39.25- 39.75	2	1478	0.13	99.73
38.75- 39.25	1	1476	0.07	99.60
38.25- 38.75	8	1475	0.54	99.53
37.75- 38.25	5	1467	0.34	98.99
37.25- 37.75	7	1462	0.47	98.65
36.75- 37.25	23	1455	1.55	98.18
36.25- 36.75	24	1432	1.62	96.63
35.75- 36.25	22	1408	1.48	95.01
35.25- 35.75	44	1386	2.97	93.52
34.75- 35.25	74	1342	4.99	90.55
34.25- 34.75	73	1268	4.93	85.56
33.75- 34.25	99	1195	6.68	80.63
33.25- 33.75	98	1096	6.61	73.95
32.75- 33.25	102	998	6.88	67.34
32.25- 32.75	135	896	9.11	60.46
31.75- 32.25	107	761	7.22	51.35
31.25- 31.75	109	654	7.35	44.13
30.75- 31.25	108	545	7.29	36.77
30.25- 30.75	97	437	6.55	29.49
29.75- 30.25	81	340	5.47	22.94
29.25- 29.75	71	259	4.79	17.48
28.75- 29.25	57	188	3.85	12.69
28.25- 28.75	38	131	2.56	8.84
27.75- 28.25	23	93	1.55	6.28
27.25- 27.75	19	70	1.28	4.72
26.75- 27.25	23	51	1.55	3.44
26.25- 26.75	12	28	0.81	1.89
25.75- 26.25	6	16	0.40	1.08
25.25- 25.75	5	10	0.34	0.67
24.75- 25.25	2	5	0.13	0.34
24.25- 24.75	1	3	0.07	0.20
23.75- 24.25	1	2	0.07	0.13
23.25- 23.75	0	1	0.00	0.07
22.75- 23.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
32.10	MEAN VALUE	12.64
0.07	SE(MEAN)	0.03
2.53	SD DEVIATION	1.00
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 7.9%
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 3.22

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

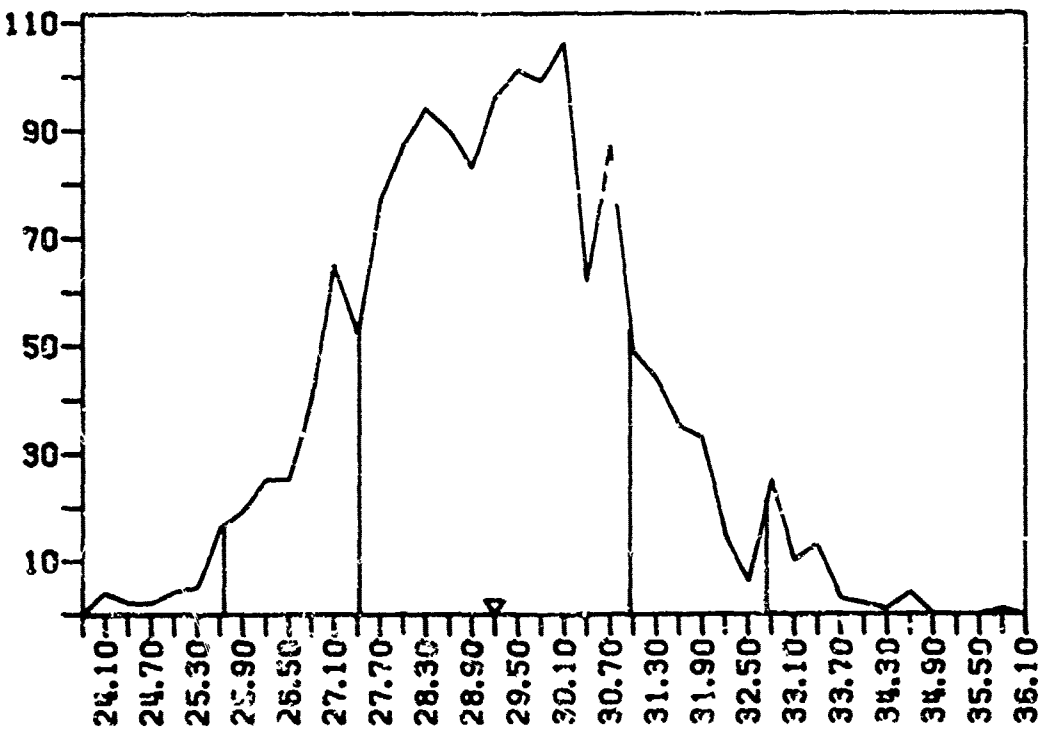
CENTIMETERS		INCHES
38.20	99TH	15.04
37.34	98TH	14.70
36.84	97TH	14.50
36.19	95TH	14.25
35.26	90TH	13.88
34.65	85TH	13.64
34.19	80TH	13.46
33.78	75TH	13.30
33.42	70TH	13.16
33.09	65TH	13.03
32.77	60TH	12.90
32.45	55TH	12.78
32.14	50TH	12.65
31.83	45TH	12.53
31.50	40TH	12.40
31.17	35TH	12.27
30.81	30TH	12.13
30.42	25TH	11.98
29.97	20TH	11.80
29.46	15TH	11.60
28.80	10TH	11.34
27.83	5TH	10.96
27.22	3RD	10.71
26.78	2ND	10.54
26.13	1ST	10.29

45. FOREARM CIRCUMFERENCE (Flexed)

Subject stands, right upper arm raised so that its long axis is horizontal, elbow flexed 90 degrees, and fist tightly clenched. With a tape held in a plane perpendicular to his long axis, measure the maximum circumference of the forearm.







RANGES*	F	CUMF	FPCT	CUMPCT
35.65- 35.95	1	1482	0.07	100.00
35.35- 35.65	0	1481	0.00	99.93
35.05- 35.35	0	1481	0.00	99.93
34.75- 35.05	0	1481	0.00	99.93
34.45- 34.75	4	1481	0.27	99.93
34.15- 34.45	1	1477	0.07	99.66
33.85- 34.15	2	1476	0.13	99.60
33.55- 33.85	3	1474	0.20	99.46
33.25- 33.55	13	1471	0.88	99.26
32.95- 33.25	10	1458	0.67	98.38
32.65- 32.95	25	1448	1.69	97.71
32.35- 32.65	6	1423	0.40	96.02
32.05- 32.35	15	1417	1.01	95.61
31.75- 32.05	33	1402	2.23	94.60
31.45- 31.75	35	1369	2.36	92.38
31.15- 31.45	44	1334	2.97	90.01
30.85- 31.15	49	1290	3.31	87.04
30.55- 30.85	87	1241	5.87	83.74
30.25- 30.55	62	1154	4.18	77.87
29.95- 30.25	106	1092	7.15	73.68
29.65- 29.95	99	986	6.68	66.53
29.35- 29.65	101	887	6.82	59.85
29.05- 29.35	96	786	6.48	53.04
28.75- 29.05	83	690	5.60	46.56
28.45- 28.75	90	607	6.07	40.96
28.15- 28.45	94	517	6.34	34.89
27.85- 28.15	87	423	5.87	28.54
27.55- 27.85	77	336	5.20	22.67
27.25- 27.55	52	259	3.51	17.48
26.95- 27.25	65	207	4.39	13.97
26.65- 26.95	40	142	2.70	9.58
26.35- 26.65	25	102	1.69	6.88
26.05- 26.35	25	77	1.69	5.20
25.75- 26.05	19	52	1.28	3.51
25.45- 25.75	16	33	1.08	2.23
25.15- 25.45	5	17	0.34	1.15
24.85- 25.15	4	12	0.27	0.81
24.55- 24.85	2	8	0.13	0.54
24.25- 24.55	2	6	0.13	0.40
23.95- 24.25	4	4	0.27	0.27

*IN CENTIMETERS

CENTIMETERS		INCHES
29.20	MEAN VALUE	11.49
0.05	SE(MEAN)	0.02
1.77	SD DEVIATION	0.70
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 6.1%
SYMMETRY---VETA I = 0.13
KURTOSIS---VETA II = 3.06

****

NUMBER OF SUBJECTS = 1482

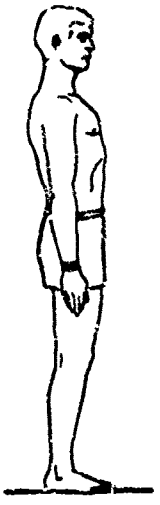
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THE PERCENTILES

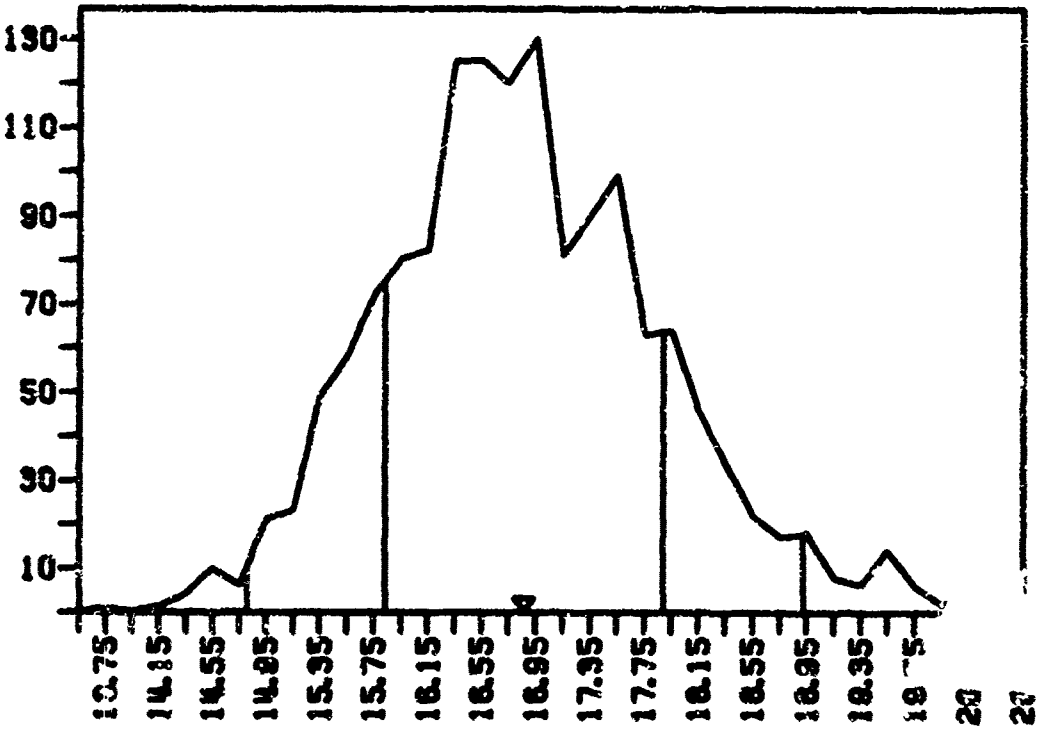
CENTIMETERS		INCHES
33.56	99TH	13.21
33.01	98TH	13.00
32.66	97TH	12.86
32.20	95TH	12.68
31.51	90TH	12.40
31.05	85TH	12.22
30.69	80TH	12.08
30.38	75TH	11.96
30.11	70TH	11.85
29.86	65TH	11.75
29.62	60TH	11.66
29.39	55TH	11.57
29.16	50TH	11.48
28.94	45TH	11.39
28.71	40TH	11.30
28.48	35TH	11.21
28.24	30TH	11.12
27.98	25TH	11.01
27.69	20TH	10.90
27.35	15TH	10.77
26.94	10TH	10.61
26.34	5TH	10.37
25.96	3RD	10.22
25.70	2ND	10.12
25.29	1ST	9.96

46. WRIST CIRCUMFERENCE

Subject stands with the right arm slightly abducted. With a tape held in a plane perpendicular to the long axis of the forearm, measure the circumference of the wrist at a level just proximal to the epicondyles.







RANGES*	F	CUMF	FPCT	CUMPCT
20.25- 20.45	1	1487	0.07	100.00
20.05- 20.25	4	1486	0.27	99.93
19.85- 20.05	2	1477	0.13	99.66
19.65- 19.85	6	1475	0.40	99.53
19.45- 19.65	14	1469	0.94	99.12
19.25- 19.45	6	1455	0.40	98.18
19.05- 19.25	8	1449	0.54	97.77
18.85- 19.05	18	1441	1.21	97.23
18.65- 18.85	17	1423	1.15	96.02
18.45- 18.65	22	1406	1.48	94.87
18.25- 18.45	34	1384	2.29	93.39
18.05- 18.25	46	1350	3.10	91.09
17.85- 18.05	64	1304	4.32	87.99
17.65- 17.85	63	1240	4.25	83.67
17.45- 17.65	99	1177	6.68	79.42
17.25- 17.45	90	1078	6.07	72.74
17.05- 17.25	81	988	5.47	66.67
16.85- 17.05	130	907	8.77	61.20
16.65- 16.85	120	777	8.10	52.43
16.45- 16.65	125	657	8.43	44.33
16.25- 16.45	125	532	8.43	35.90
16.05- 16.25	82	407	5.53	27.46
15.85- 16.05	80	325	5.40	21.93
15.65- 15.85	72	245	4.86	16.53
15.45- 15.65	58	173	3.91	11.67
15.25- 15.45	49	115	3.31	7.76
15.05- 15.25	23	66	1.55	4.45
14.85- 15.05	21	43	1.42	2.90
14.65- 14.85	6	22	0.40	1.48
14.45- 14.65	10	16	0.67	1.08
14.25- 14.45	4	6	0.27	0.40
14.05- 14.25	1	2	0.07	0.13
13.85- 14.05	0	1	0.00	0.07
13.65- 13.85	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
16.86	MEAN VALUE	6.64
0.03	SE(MEAN)	0.01
1.03	SD DEVIATION	0.41
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 6.1%
SYMMETRY---VETA I = 0.34
KURTOSIS---VETA II = 3.19

****

NUMBER OF SUBJECTS = 1482

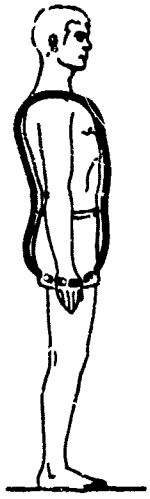
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THE PERCENTILES

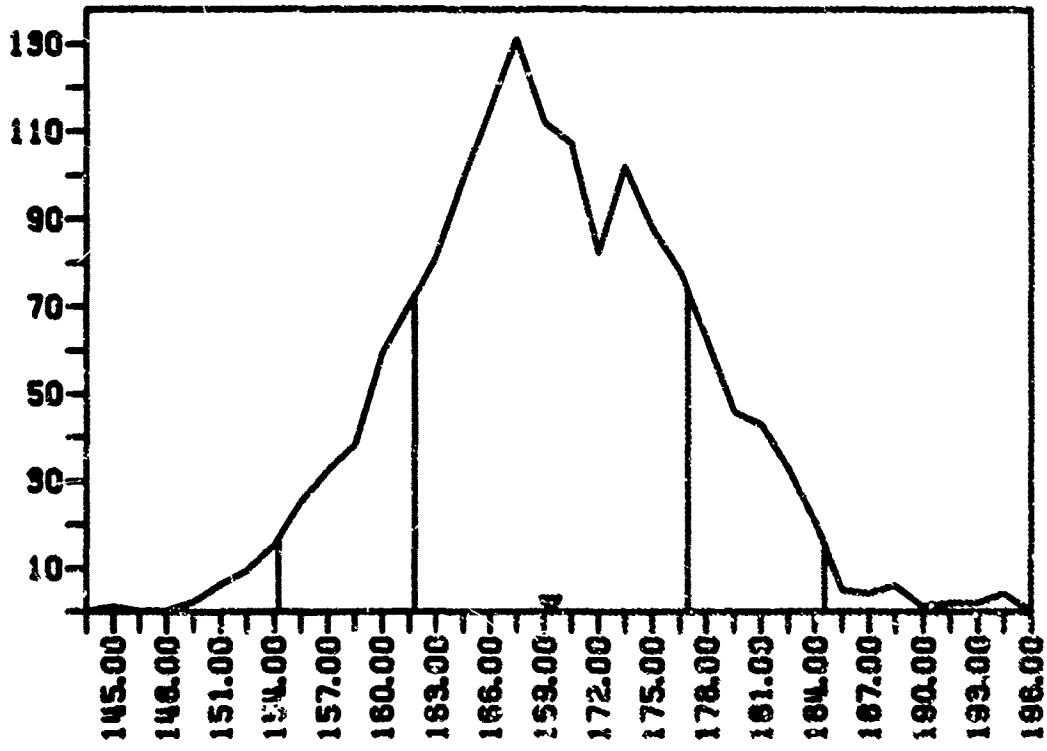
CENTIMETERS		INCHES
19.67	99TH	7.74
19.27	98TH	7.58
19.02	97TH	7.49
18.69	95TH	7.36
18.22	90TH	7.17
17.92	85TH	7.05
17.69	80TH	6.96
17.50	75TH	6.89
17.33	70TH	6.82
17.18	65TH	6.77
17.05	60TH	6.71
16.92	55TH	6.66
16.79	50TH	6.61
16.66	45TH	6.56
16.54	40TH	6.51
16.41	35TH	6.46
16.28	30TH	6.41
16.15	25TH	6.36
15.99	20TH	6.30
15.82	15TH	6.23
15.60	10TH	6.14
15.27	5TH	6.01
15.06	3RD	5.93
14.90	2ND	5.87
14.64	1ST	5.76

47. VERTICAL TRUNK CIRCUMFERENCE (Standing)

The subject stands with legs slightly apart. A length of tape is passed between the legs, over the protrusion of the right buttock, and up the back to lie over the midshoulder landmark. The other end of the tape is brought up over the right nipple to the midshoulder landmark completing the circumference. The measurer holds the tape into the concavity of the back to insure that it follows the posterior body contour. (The tape does not follow the anterior body contour.) The measurement is made at the average point of quiet respiration.







RANGES*	F	CUMF	FPCT	CUMPCT
193.75-195.25	4	1482	0.27	100.00
192.25-193.75	2	1478	0.13	99.73
190.75-192.25	2	1476	0.13	99.60
189.25-190.75	1	1474	0.07	99.46
187.75-189.25	6	1473	0.40	99.39
186.25-187.75	4	1467	0.27	98.99
184.75-186.25	5	1463	0.34	98.72
183.25-184.75	21	1458	1.42	98.38
181.75-183.25	33	1437	2.23	96.96
180.25-181.75	43	1404	2.90	94.74
178.75-180.25	46	1361	3.10	91.84
177.25-178.75	63	1315	4.25	88.73
175.75-177.25	78	1252	5.26	84.48
174.25-175.75	88	1174	5.94	79.22
172.75-174.25	102	1086	6.88	73.28
171.25-172.75	82	984	5.53	66.40
169.75-171.25	107	902	7.22	60.86
168.25-169.75	112	795	7.56	53.64
166.75-168.25	131	683	8.84	46.09
165.25-166.75	115	552	7.76	37.25
163.75-165.25	99	437	6.68	29.49
162.25-163.75	81	338	5.47	22.81
160.75-162.25	70	257	4.72	17.34
159.25-160.75	59	187	3.98	12.62
157.75-159.25	38	128	2.56	8.64
156.25-157.75	32	90	2.16	6.07
154.75-156.25	25	58	1.69	3.91
153.25-154.75	15	33	1.01	2.23
151.75-153.25	9	18	0.61	1.21
150.25-151.75	6	9	0.40	0.61
148.75-150.25	2	3	0.13	0.20
147.25-148.75	0	1	0.00	0.07
145.75-147.25	0	1	0.00	0.07
144.25-145.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
169.39	MEAN VALUE	66.69
0.20	SE(MEAN)	0.08
7.58	SD DEVIATION	2.99
0.14	SE(SD DEV)	0.05

****

COEF. OF VARIATION = 4.5%
SYMMETRY---VETA I = 0.12
KURTOSIS---VETA II = 2.93

****

NUMBER OF SUBJECTS = 1482

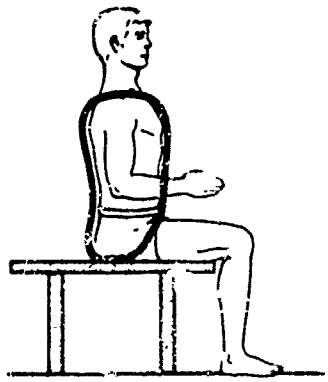
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THE PERCENTILES

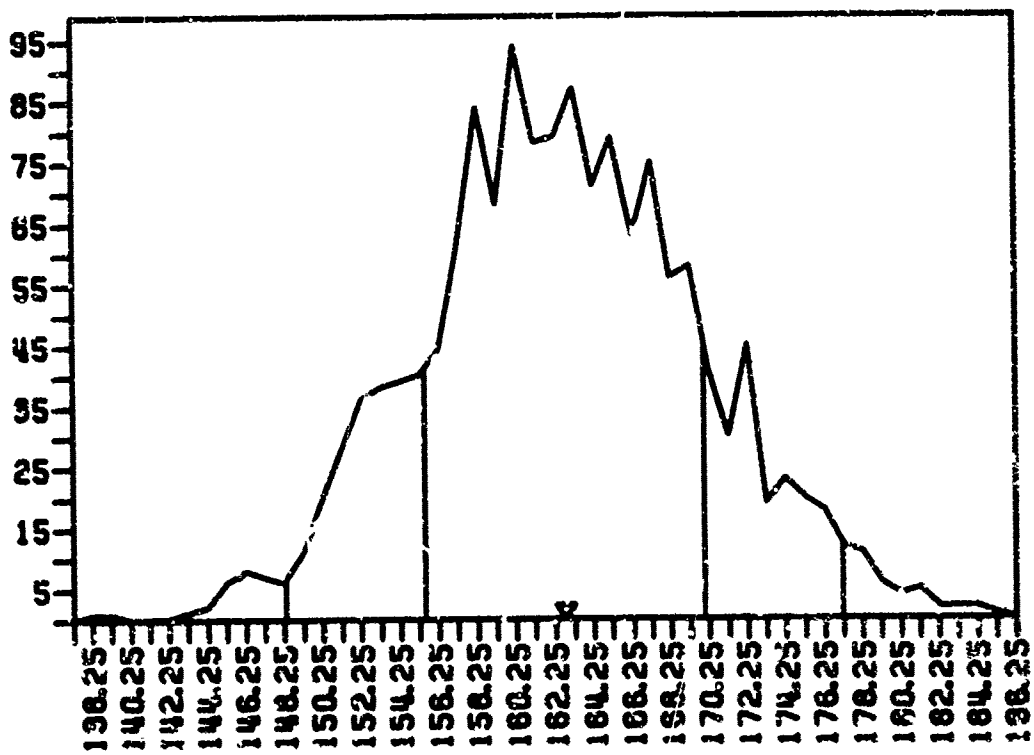
CENTIMETERS		INCHES
187.22	99TH	73.71
185.05	98TH	72.85
183.69	97TH	72.32
181.87	95TH	71.60
179.09	90TH	70.51
177.22	85TH	69.77
175.75	80TH	69.19
174.47	75TH	68.69
173.32	70TH	68.24
172.26	65TH	67.82
171.26	60TH	67.42
170.28	55TH	67.04
169.31	50TH	66.66
168.34	45TH	66.28
167.37	40TH	65.89
166.35	35TH	65.49
165.29	30TH	65.08
164.15	25TH	64.62
162.87	20TH	64.12
161.42	15TH	63.55
159.61	10TH	62.84
157.05	5TH	61.83
155.47	3RD	61.21
154.37	2ND	60.78
152.77	1ST	60.15

48. VERTICAL TRUNK CIRCUMFERENCE (Sitting)

The subject stands with legs slightly apart. A length of tape is passed between the legs, over the protrusion of the right buttock, and up the back to lie over the midshoulder landmark. Keeping the tape in place, the subject then sits, erect but with shoulders relaxed. The other end of the tape is brought over the right nipple to the midshoulder landmark completing the circumference. The measurer holds the tape into the concavity of the back to insure that it follows the posterior body contour. (The tape does not follow the anterior body contour.) The measurement is made at the average point of quiet respiration.







RANGES*	F	CUMF	FPCT	CUMPCT
184.75-185.75	1	1482	0.07	100.00
183.75-184.75	2	1481	0.13	99.93
182.75-183.75	2	1479	0.13	99.80
181.75-182.75	2	1477	0.13	99.66
180.75-181.75	5	1475	0.34	99.53
179.75-180.75	4	1470	0.27	99.19
178.75-179.75	6	1466	0.40	98.92
177.75-178.75	11	1460	0.74	98.52
176.75-177.75	12	1449	0.81	97.77
175.75-176.75	18	1437	1.21	96.96
174.75-175.75	20	1419	1.35	95.75
173.75-174.75	23	1399	1.55	94.40
172.75-173.75	19	1376	1.28	92.85
171.75-172.75	45	1357	3.04	91.57
170.75-171.75	30	1312	2.02	88.53
169.75-170.75	41	1282	2.77	86.50
168.75-169.75	58	1241	3.91	83.74
167.75-168.75	56	1183	3.78	79.82
166.75-167.75	75	1127	5.06	76.05
165.75-166.75	63	1052	4.25	70.99
164.75-165.75	79	989	5.33	66.73
163.75-164.75	71	910	4.79	61.40
162.75-163.75	87	839	5.87	56.61
161.75-162.75	79	752	5.33	50.74
160.75-161.75	78	673	5.26	45.41
159.75-160.75	94	595	6.34	40.15
158.75-159.75	68	501	4.59	33.81
157.75-158.75	84	433	5.67	29.22
156.75-157.75	61	349	4.12	23.55
155.75-156.75	44	288	2.97	19.43
154.75-155.75	40	244	2.70	16.46
153.75-154.75	39	204	2.63	13.77
152.75-153.75	38	165	2.56	11.13
151.75-152.75	36	127	2.43	8.57
150.75-151.75	28	91	1.89	6.14
149.75-150.75	20	63	1.35	4.25
148.75-149.75	11	43	0.74	2.90
147.75-148.75	6	32	0.40	2.16
146.75-147.75	7	26	0.47	1.75
145.75-146.75	8	19	0.54	1.28
144.75-145.75	6	11	0.40	0.74
143.75-144.75	2	5	0.13	0.34
142.75-143.75	1	3	0.07	0.20
141.75-142.75	0	2	0.00	0.13
140.75-141.75	0	2	0.00	0.13
139.75-140.75	0	2	0.00	0.13
138.75-139.75	1	2	0.07	0.13
137.75-138.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
162.76	MEAN VALUE	64.08
0.19	SE(MEAN)	0.07
7.22	SD DEVIATION	2.84
0.13	SE(SD DEV)	0.05

****

COEF. OF VARIATION = 4.4%
SYMMETRY---VETA I = 0.10
KURTOSIS---VETA II = 2.96

****

NUMBER OF SUBJECTS = 1482

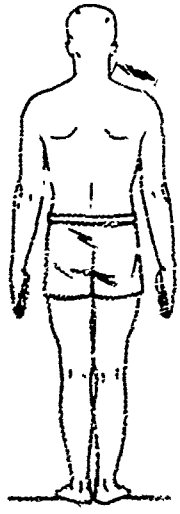
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THE PERCENTILES

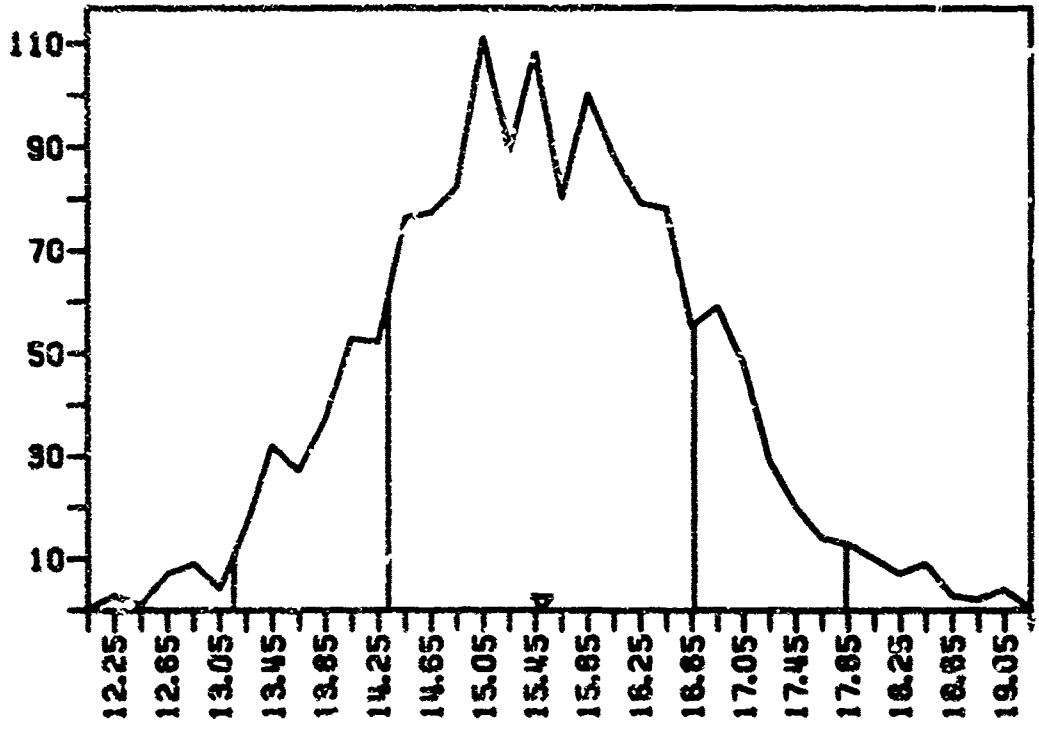
CENTIMETERS		INCHES
180.06	99TH	70.89
178.09	98TH	70.11
176.80	97TH	69.61
175.02	95TH	68.90
172.23	90TH	67.81
170.34	85TH	67.06
168.86	80TH	66.48
167.58	75TH	65.98
166.45	70TH	65.53
165.42	65TH	65.13
164.44	60TH	64.74
163.51	55TH	64.37
162.60	50TH	64.01
161.69	45TH	63.66
160.78	40TH	63.30
159.85	35TH	62.93
158.88	30TH	62.55
157.84	25TH	62.14
156.69	20TH	61.69
155.36	15TH	61.16
153.68	10TH	60.51
151.20	5TH	59.53
149.55	3RD	58.88
148.32	2ND	58.39
146.32	1ST	57.60

49. SHOULDER LENGTH

Subject stands erect looking straight ahead. With a tape, measure the surface distance along the top of the shoulder from the right lateral-neck landmark to the right acromial landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
18.95- 19.15	4	1482	0.27	100.00
18.75- 18.95	2	1478	0.13	99.73
18.55- 18.75	3	1476	0.20	99.60
18.35- 18.55	9	1473	0.61	99.39
18.15- 18.35	7	1464	0.47	98.79
17.95- 18.15	10	1457	0.67	98.31
17.75- 17.95	13	1447	0.88	97.64
17.55- 17.75	14	1434	0.94	96.76
17.35- 17.55	20	1420	1.35	95.82
17.15- 17.35	29	1400	1.96	94.47
16.95- 17.15	48	1371	3.24	92.51
16.75- 16.95	59	1323	3.98	89.27
16.55- 16.75	55	1264	3.71	85.29
16.35- 16.55	78	1209	5.26	81.58
16.15- 16.35	79	1131	5.33	76.32
15.95- 16.15	88	1052	5.94	70.99
15.75- 15.95	100	964	6.75	65.05
15.55- 15.75	80	864	5.40	58.30
15.35- 15.55	108	784	7.29	52.90
15.15- 15.35	89	676	6.01	45.61
14.95- 15.15	111	587	7.49	39.61
14.75- 14.95	82	476	5.53	32.12
14.55- 14.75	77	394	5.20	26.59
14.35- 14.55	76	317	5.13	21.39
14.15- 14.35	52	241	3.51	16.26
13.95- 14.15	53	189	3.58	12.75
13.75- 13.95	37	136	2.50	9.18
13.55- 13.75	27	99	1.82	6.68
13.35- 13.55	32	72	2.16	4.86
13.15- 13.35	16	40	1.08	2.70
12.95- 13.15	4	24	0.27	1.62
12.75- 12.95	9	20	0.61	1.35
12.55- 12.75	7	11	0.47	0.74
12.35- 12.55	1	4	0.07	0.27
12.15- 12.35	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
15.50	MEAN VALUE	6.10
0.03	SE(MEAN)	0.01
1.17	SD DEVIATION	0.46
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 7.6%
SYMMETRY---VETA I = 0.11
KURTOSIS---VETA II = 2.90

****

NUMBER OF SUBJECTS = 1482

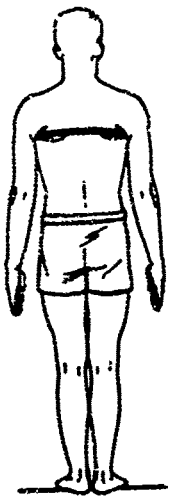
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THE PERCENTILES

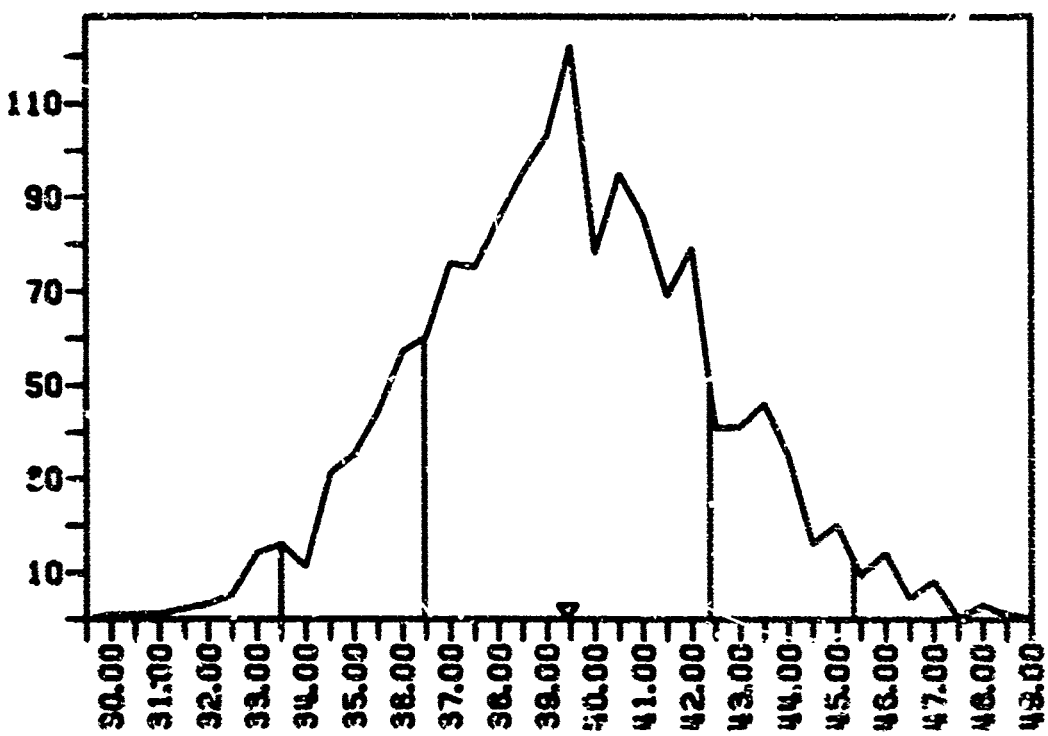
CENTIMETERS		INCHES
18.42	99TH	7.25
18.03	98TH	7.10
17.80	97TH	7.01
17.48	95TH	6.88
17.02	90TH	6.70
16.72	85TH	6.58
16.48	80TH	6.49
16.28	75TH	6.41
16.10	70TH	6.34
15.93	65TH	6.27
15.78	60TH	6.21
15.63	55TH	6.15
15.48	50TH	6.10
15.33	45TH	6.04
15.19	40TH	5.98
15.03	35TH	5.92
14.87	30TH	5.85
14.70	25TH	5.79
14.50	20TH	5.71
14.28	15TH	5.62
14.00	10TH	5.51
13.60	5TH	5.35
13.34	3RD	5.25
13.16	2ND	5.18
12.88	1ST	5.07

50. INTERSCYE

Subject stands erect with arms relaxed. With a tape held in a horizontal plane, measure the distance across the back between right and left posterior scye landmarks.







RANGES*	F	CUMF	FPCT	CUMPCT
48.25- 48.75	1	1482	0.07	100.00
47.75- 48.25	3	1481	0.20	99.93
47.25- 47.75	0	1478	0.00	99.73
46.75- 47.25	8	1478	0.54	99.73
46.25- 46.75	4	1470	0.27	99.19
45.75- 46.25	14	1466	0.94	98.92
45.25- 45.75	9	1452	0.61	97.98
44.75- 45.25	20	1443	1.35	97.37
44.25- 44.75	16	1423	1.08	96.02
43.75- 44.25	35	1407	2.36	94.94
43.25- 43.75	46	1372	3.10	92.58
42.75- 43.25	41	1326	2.77	89.47
42.25- 42.75	41	1285	2.77	86.71
41.75- 42.25	79	1244	5.33	83.94
41.25- 41.75	69	1165	4.66	78.61
40.75- 41.25	86	1096	5.80	73.95
40.25- 40.75	95	1010	6.41	68.15
39.75- 40.25	78	915	5.26	61.74
39.25- 39.75	122	837	8.23	56.48
38.75- 39.25	103	715	6.95	48.25
38.25- 38.75	95	612	6.41	41.30
37.75- 38.25	85	517	5.74	34.89
37.25- 37.75	75	432	5.06	29.15
36.75- 37.25	76	357	5.13	24.09
36.25- 36.75	60	281	4.05	18.96
35.75- 36.25	57	221	3.85	14.91
35.25- 35.75	44	164	2.97	11.07
34.75- 35.25	35	120	2.36	8.10
34.25- 34.75	31	85	2.09	5.74
33.75- 34.25	11	54	0.74	3.64
33.25- 33.75	16	43	1.08	2.90
32.75- 33.25	14	27	0.94	1.82
32.25- 32.75	5	13	0.34	0.88
31.75- 32.25	3	8	0.20	0.54
31.25- 31.75	2	5	0.13	0.34
30.75- 31.25	1	3	0.07	0.20
30.25- 30.75	1	2	0.07	0.13
29.75- 30.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
39.42	MEAN VALUE	15.52
0.08	SE(MEAN)	0.03
2.96	SD DEVIATION	1.17
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 7.52
SYMMETRY---VETA I = 0.08
KURTOSIS---VETA II = 2.89

****

NUMBER OF SUBJECTS = 1482

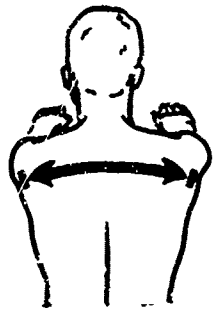
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THE PERCENTILES

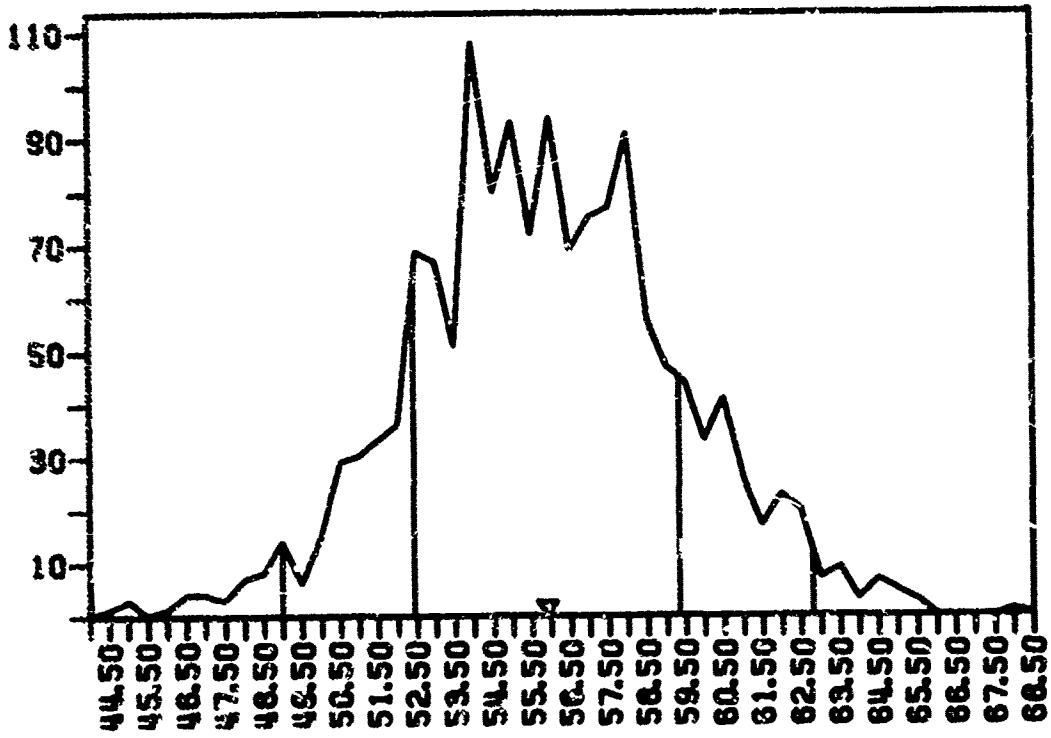
CENTIMETERS		INCHES
46.49	99TH	18.30
45.63	98TH	17.96
45.08	97TH	17.75
44.35	95TH	17.46
43.24	90TH	17.02
42.49	85TH	16.73
41.90	80TH	16.50
41.39	75TH	16.30
40.94	70TH	16.12
40.52	65TH	15.95
40.12	60TH	15.80
39.74	55TH	15.64
39.36	50TH	15.49
38.98	45TH	15.35
38.60	40TH	15.20
38.20	35TH	15.04
37.79	30TH	14.88
37.34	25TH	14.70
36.84	20TH	14.51
36.27	15TH	14.28
35.56	10TH	14.00
34.53	5TH	13.60
33.89	3RD	13.34
33.43	2ND	13.16
32.73	1ST	12.88

51. INTERSCYE MAXIMUM

Subject stands erect, arms extended forward at a 90 degree angle from the torso. With a tape, measure the surface distance across the back between the right and left posterior scye landmarks.







RANGES*	F	CUMF	FPCT	CUMPCT
67.75- 68.25	1	1482	0.07	100.00
67.25- 67.75	0	1481	0.00	99.93
66.75- 67.25	0	1481	0.00	99.93
66.25- 66.75	0	1481	0.00	99.93
65.75- 66.25	0	1481	0.00	99.93
65.25- 65.75	3	1481	0.20	99.93
64.75- 65.25	5	1478	0.34	99.73
64.25- 64.75	7	1473	0.47	99.39
63.75- 64.25	3	1466	0.20	98.92
63.25- 63.75	9	1463	0.61	98.72
62.75- 63.25	7	1454	0.47	98.11
62.25- 62.75	20	1447	1.35	97.64
61.75- 62.25	23	1427	1.55	96.29
61.25- 61.75	17	1404	1.15	94.74
60.75- 61.25	26	1387	1.75	93.59
60.25- 60.75	41	1361	2.77	91.84
59.75- 60.25	33	1320	2.23	89.07
59.25- 59.75	44	1287	2.97	86.84
58.75- 59.25	47	1243	3.17	83.87
58.25- 58.75	56	1196	3.78	80.70
57.75- 58.25	91	1140	6.14	76.92
57.25- 57.75	77	1049	5.20	70.78
56.75- 57.25	75	972	5.06	65.59
56.25- 56.75	69	897	4.66	60.53
55.75- 56.25	94	828	6.34	55.87
55.25- 55.75	72	734	4.86	49.53
54.75- 55.25	93	662	6.28	44.67
54.25- 54.75	80	569	5.40	38.39
53.75- 54.25	108	489	7.29	33.00
53.25- 53.75	51	381	3.44	25.71
52.75- 53.25	67	330	4.52	22.27
52.25- 52.75	69	263	4.66	17.75
51.75- 52.25	36	194	2.43	13.09
51.25- 51.75	33	158	2.23	10.66
50.75- 51.25	30	125	2.02	8.43
50.25- 50.75	29	95	1.96	6.41
49.75- 50.25	15	66	1.01	4.45
49.25- 49.75	6	51	0.40	3.44
48.75- 49.25	14	45	0.94	3.04
48.25- 48.75	8	31	0.54	2.09
47.75- 48.25	7	23	0.47	1.55
47.25- 47.75	3	16	0.20	1.08
46.75- 47.25	4	13	0.27	0.88
46.25- 46.75	4	9	0.27	0.61
45.75- 46.25	1	5	0.07	0.34
45.25- 45.75	0	4	0.00	0.27
44.75- 45.25	3	4	0.20	0.27
44.25- 44.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
55.89	MEAN VALUE	22.00
0.09	SE(MEAN)	0.04
3.45	SD DEVIATION	1.36
0.06	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.2%
SYMMETRY---VETA I = 0.03
KURTOSIS---VETA II = 3.13

****

NUMBER OF SUBJECTS = 1482

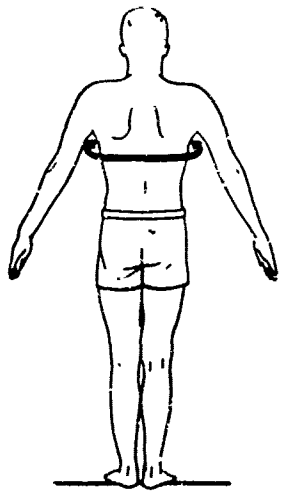
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THE PERCENTILES

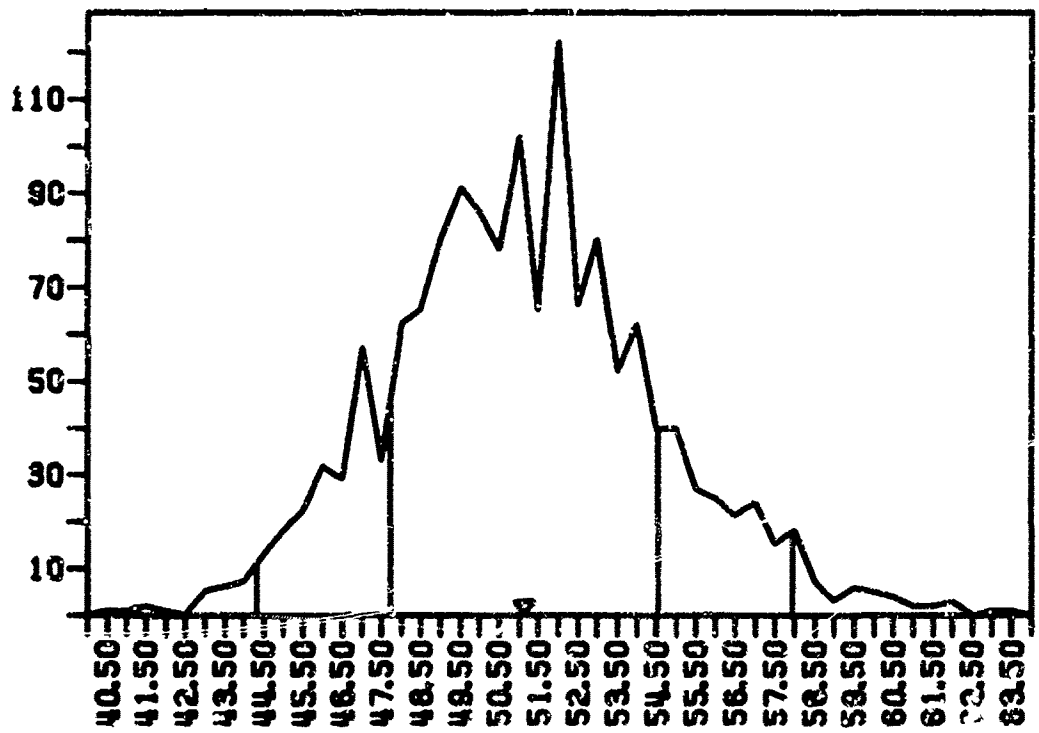
CENTIMETERS		INCHES
64.25	99TH	25.29
63.26	98TH	24.91
62.61	97TH	24.65
61.72	95TH	24.30
60.36	90TH	23.76
59.44	85TH	23.40
58.73	80TH	23.12
58.12	75TH	22.88
57.59	70TH	22.67
57.10	65TH	22.48
56.65	60TH	22.30
56.21	55TH	22.13
55.79	50TH	21.96
55.37	45TH	21.80
54.95	40TH	21.63
54.51	35TH	21.46
54.06	30TH	21.28
53.57	25TH	21.09
53.02	20TH	20.88
52.39	15TH	20.62
51.56	10TH	20.30
50.28	5TH	19.79
49.39	3RD	19.44
48.69	2ND	19.17
47.51	1ST	18.70

52. BACK CURVATURE

Subject stands erect with arms abducted approximately 30 degrees. With a tape held in a horizontal plane, measure the distance across the back between the mid-axillary landmarks at the nipple level.







RANGES*	F	CUMF	FPCT	CUMPCT
63.25- 63.75	1	1482	0.07	100.00
62.75- 63.25	1	1481	0.07	99.93
62.25- 62.75	0	1480	0.00	99.86
61.75- 62.25	3	1480	0.20	99.86
61.25- 61.75	2	1477	0.13	99.66
60.75- 61.25	2	1475	0.13	99.53
60.25- 60.75	4	1473	0.27	99.39
59.75- 60.25	5	1469	0.34	99.12
59.25- 59.75	6	1464	0.40	98.79
58.75- 59.25	3	1458	0.20	98.38
58.25- 58.75	7	1455	0.47	98.18
57.75- 58.25	18	1448	1.21	97.71
57.25- 57.75	15	1430	1.01	96.49
56.75- 57.25	24	1415	1.62	95.48
56.25- 56.75	21	1391	1.42	93.86
55.75- 56.25	25	1370	1.69	92.44
55.25- 55.75	27	1345	1.82	90.76
54.75- 55.25	40	1318	2.70	88.93
54.25- 54.75	40	1278	2.70	86.23
53.75- 54.25	62	1238	4.18	83.54
53.25- 53.75	52	1176	3.51	79.35
52.75- 53.25	80	1124	5.40	75.84
52.25- 52.75	66	1044	4.45	70.45
51.75- 52.25	122	978	8.23	65.99
51.25- 51.75	65	856	4.39	57.76
50.75- 51.25	102	791	6.88	53.37
50.25- 50.75	78	689	5.26	46.49
49.75- 50.25	86	611	5.80	41.23
49.25- 49.75	91	525	6.14	35.43
48.75- 49.25	80	434	5.40	29.28
48.25- 48.75	85	354	4.39	23.89
47.75- 48.25	62	289	4.18	19.50
47.25- 47.75	33	227	2.23	15.32
46.75- 47.25	57	194	3.85	13.09
46.25- 46.75	29	137	1.96	9.24
45.75- 46.25	32	108	2.16	7.29
45.25- 45.75	22	76	1.48	5.13
44.75- 45.25	18	54	1.21	3.64
44.25- 44.75	13	36	0.88	2.43
43.75- 44.25	7	23	0.47	1.55
43.25- 43.75	6	16	0.40	1.08
42.75- 43.25	5	10	0.34	0.67
42.25- 42.75	0	5	0.00	0.34
41.75- 42.25	1	5	0.07	0.34
41.25- 41.75	2	4	0.13	0.27
40.75- 41.25	1	2	0.07	0.13
40.25- 40.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
51.13	MEAN VALUE	20.13
0.09	SE(MEAN)	0.03
3.41	SD DEVIATION	1.34
0.06	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 6.7%
SYMMETRY---VETA I = 0.25
KURTOSIS---VETA II = 3.25

****

NUMBER OF SUBJECTS = 1482

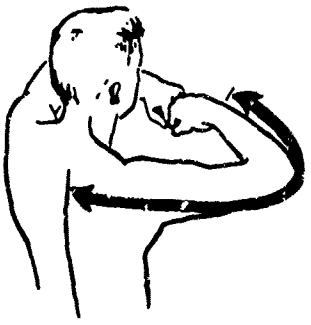
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THE PERCENTILES

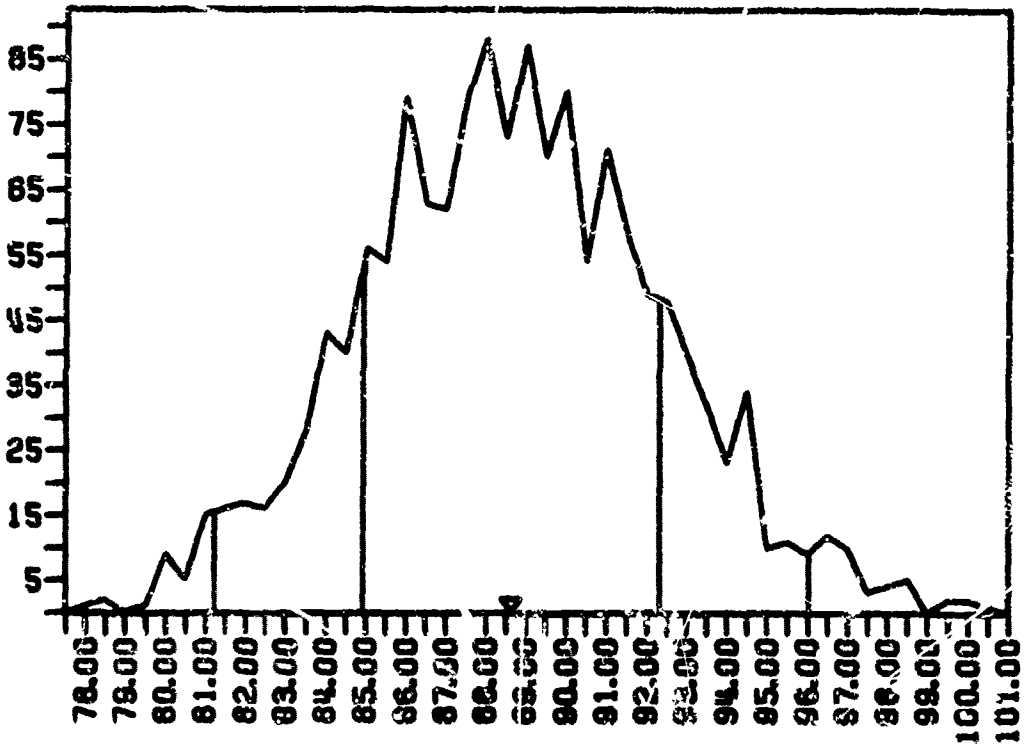
CENTIMETERS		INCHES
60.02	99TH	23.63
58.73	98TH	23.12
57.94	97TH	22.81
56.94	95TH	22.42
55.48	90TH	21.84
54.56	85TH	21.48
53.85	80TH	21.21
53.26	75TH	20.97
52.74	70TH	20.76
52.27	65TH	20.58
51.82	60TH	20.40
51.40	55TH	20.24
50.99	50TH	20.07
50.57	45TH	19.91
50.16	40TH	19.75
49.74	35TH	19.58
49.29	30TH	19.41
48.81	25TH	19.22
48.29	20TH	19.01
47.66	15TH	18.76
46.89	10TH	18.46
45.75	5TH	18.01
45.01	3RD	17.72
44.48	2ND	17.51
43.64	1ST	17.18

53. SLEEVE LENGTH

Subject stands, arms horizontal, elbows flexed about 60 degrees, fists clenched and touching, and shoulders relaxed. A tape with its origin on the midline of the spine is passed horizontally around the right shoulder and over the tip of the elbow to the wrist landmark. Measure the surface distance from the spine to the wrist landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
100.25-100.75	1	1482	0.07	100.00
99.75-100.25	2	1481	0.13	99.93
99.25- 99.75	2	1479	0.13	99.80
98.75- 99.25	0	1477	0.00	99.66
98.25- 98.75	5	1477	0.34	99.66
97.75- 98.25	4	1472	0.27	99.33
97.25- 97.75	3	1468	0.20	99.06
96.75- 97.25	10	1465	0.67	98.85
96.25- 96.75	12	1455	0.81	98.18
95.75- 96.25	9	1443	0.61	97.37
95.25- 95.75	11	1434	0.74	96.76
94.75- 95.25	10	1423	0.67	96.02
94.25- 94.75	34	1413	2.29	95.34
93.75- 94.25	23	1379	1.55	93.05
93.25- 93.75	32	1356	2.16	91.50
92.75- 93.25	40	1324	2.70	89.34
92.25- 92.75	48	1284	3.24	86.64
91.75- 92.25	49	1236	3.31	83.40
91.25- 91.75	58	1187	3.91	80.09
90.75- 91.25	71	1129	4.79	76.18
90.25- 90.75	54	1058	3.64	71.39
89.75- 90.25	80	1004	5.40	67.75
89.25- 89.75	70	924	4.72	62.35
88.75- 89.25	87	854	5.87	57.62
88.25- 88.75	73	767	4.93	51.75
87.75- 88.25	88	694	5.94	46.83
87.25- 87.75	79	606	5.33	40.89
86.75- 87.25	62	527	4.18	35.56
86.25- 86.75	63	465	4.25	31.38
85.75- 86.25	79	402	5.33	27.13
85.25- 85.75	54	323	3.64	21.79
84.75- 85.25	56	269	3.78	18.15
84.25- 84.75	40	213	2.70	14.37
83.75- 84.25	43	173	2.90	11.67
83.25- 83.75	28	130	1.89	8.77
82.75- 83.25	20	102	1.35	6.88
82.25- 82.75	16	82	1.08	5.53
81.75- 82.25	17	66	1.15	4.45
81.25- 81.75	16	49	1.08	3.31
80.75- 81.25	15	33	1.01	2.23
80.25- 80.75	5	18	0.34	1.21
79.75- 80.25	9	13	0.61	0.88
79.25- 79.75	1	4	0.07	0.27
78.75- 79.25	0	3	0.00	0.20
78.25- 78.75	2	3	0.13	0.20
77.75- 78.25	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
88.63	MEAN VALUE	34.89
0.10	SE(MEAN)	0.04
3.70	SD DEVIATION	1.45
0.07	SE(SD DEV)	0.03

****

COEF. OF VARIATION = 4.2%
SYMMETRY---VETA I = 0.12
KURTOSIS---VETA II = 2.90

****

NUMBER OF SUBJECTS = 1482

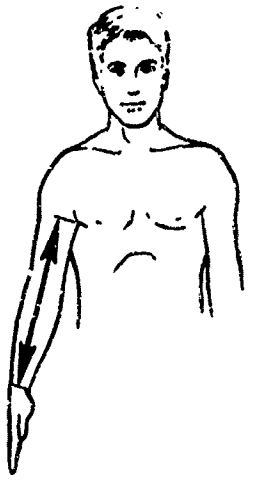
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THE PERCENTILES

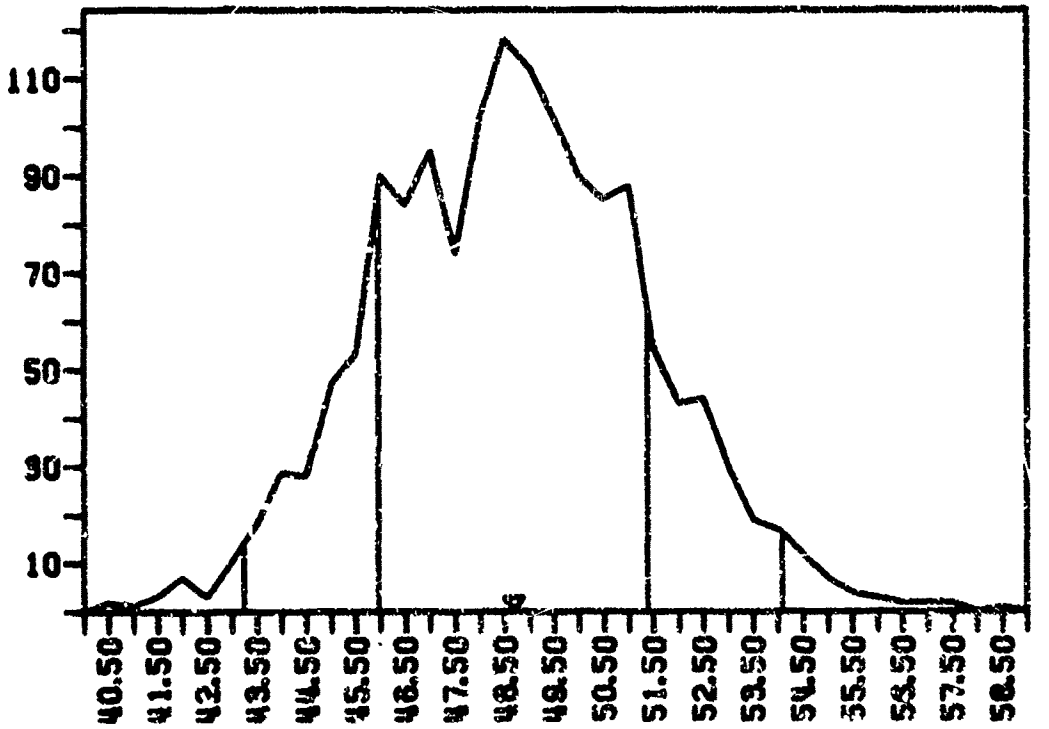
CENTIMETERS		INCHES
97.71	99TH	38.47
96.53	98TH	38.00
95.80	97TH	37.72
94.84	95TH	37.34
93.41	90TH	36.78
92.47	85TH	36.41
91.74	80TH	36.12
91.11	75TH	35.87
90.54	70TH	35.65
90.02	65TH	35.44
89.53	60TH	35.25
89.06	55TH	35.06
88.59	50TH	34.88
88.12	45TH	34.69
87.64	40TH	34.51
87.15	35TH	34.31
86.64	30TH	34.11
86.08	25TH	33.89
85.46	20TH	33.64
84.74	15TH	33.36
83.85	10TH	33.01
82.56	5TH	32.50
81.75	3RD	32.19
81.18	2ND	31.96
80.33	1ST	31.63

54. SLEEVE INSEAM LENGTH

Subject stands, right arm slightly abducted and palm forward. With a tape, measure the distance from the anterior scye-point landmark to the medial side of the wrist landmark. The tape is held tense and does not follow the surface contour of the arm.







RANGES*	F	CUMF	FPCT	CUMPCT
58.25- 58.75	1	1482	0.07	100.00
57.75- 58.25	0	1481	0.00	99.93
57.25- 57.75	2	1481	0.13	99.93
56.75- 57.25	2	1479	0.13	99.80
56.25- 56.75	2	1477	0.13	99.66
55.75- 56.25	3	1475	0.20	99.53
55.25- 55.75	4	1472	0.27	99.33
54.75- 55.25	7	1468	0.47	99.06
54.25- 54.75	12	1461	0.81	98.59
53.75- 54.25	17	1449	1.15	97.77
53.25- 53.75	19	1432	1.28	96.63
52.75- 53.25	30	1413	2.02	95.34
52.25- 52.75	44	1383	2.97	93.32
51.75- 52.25	43	1339	2.90	90.35
51.25- 51.75	55	1296	3.71	87.45
50.75- 51.25	88	1241	5.94	83.74
50.25- 50.75	85	1153	5.74	77.80
49.75- 50.25	90	1068	6.07	72.06
49.25- 49.75	102	978	6.88	65.99
48.75- 49.25	112	876	7.56	59.11
48.25- 48.75	118	764	7.96	51.55
47.75- 48.25	102	646	6.88	43.59
47.25- 47.75	74	544	4.99	36.71
46.75- 47.25	95	470	6.41	31.71
46.25- 46.75	84	375	5.67	25.30
45.75- 46.25	90	291	6.07	19.64
45.25- 45.75	53	201	3.58	13.56
44.75- 45.25	47	148	3.17	9.99
44.25- 44.75	28	101	1.89	6.82
43.75- 44.25	29	73	1.96	4.93
43.25- 43.75	18	44	1.21	2.97
42.75- 43.25	10	26	0.67	1.75
42.25- 42.75	3	16	0.20	1.08
41.75- 42.25	7	13	0.47	0.88
41.25- 41.75	3	6	0.20	0.40
40.75- 41.25	1	3	0.07	0.20
40.25- 40.75	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
48.67	MEAN VALUE	19.16
0.07	SE(MEAN)	0.03
2.71	SD DEVIATION	1.07
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.6%
SYMMETRY---VETA I = 0.13
KURTOSIS---VETA II = 3.03

****

NUMBER OF SUBJECTS = 1482

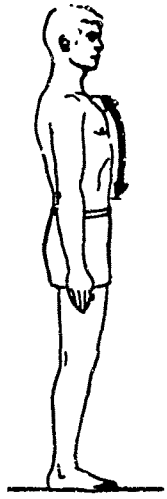
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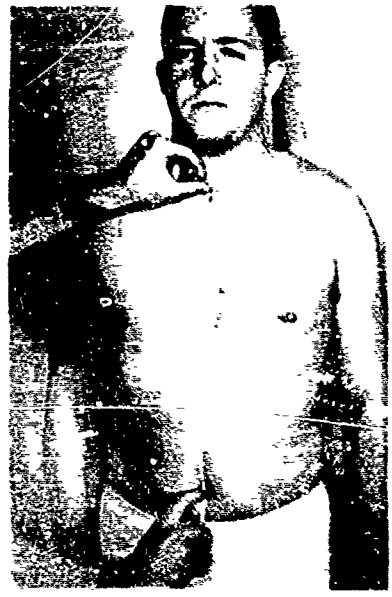
THE PERCENTILES

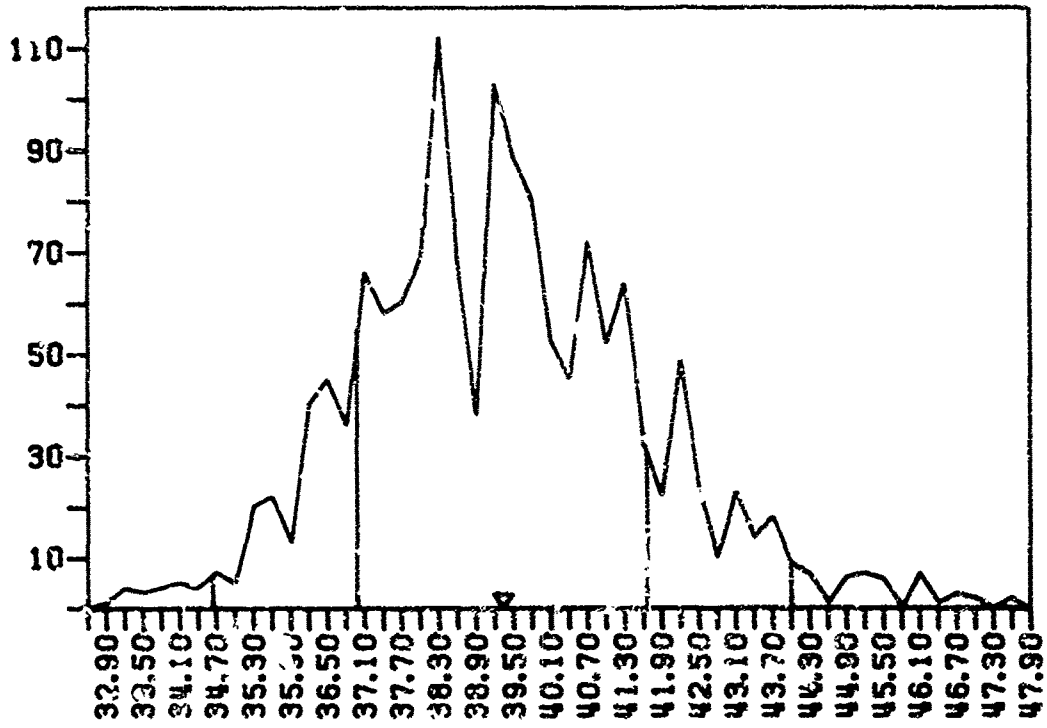
CENTIMETERS		INCHES
55.18	99TH	21.73
54.39	98TH	21.41
53.89	97TH	21.22
53.21	95TH	20.95
52.19	90TH	20.54
51.49	85TH	20.27
50.94	80TH	20.06
50.47	75TH	19.87
50.06	70TH	19.71
49.67	65TH	19.56
49.31	60TH	19.41
48.96	55TH	19.28
48.62	50TH	19.14
48.28	45TH	19.01
47.93	40TH	18.87
47.58	35TH	18.73
47.21	30TH	18.58
46.81	25TH	18.43
46.36	20TH	18.25
45.85	15TH	18.05
45.22	10TH	17.80
44.29	5TH	17.44
43.70	3RD	17.21
43.28	2ND	17.04
42.62	1ST	16.78

55. WAIST FRONT LENGTH

Subject stands erect looking straight ahead. With a tape, measure the surface distance from the supra-sternale landmark to the anterior waist landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
47.45- 47.75	2	1482	0.13	100.00
47.15- 47.45	0	1480	0.00	99.86
46.85- 47.15	2	1480	0.13	99.86
46.55- 46.85	3	1478	0.20	99.73
46.25- 46.55	1	1475	0.07	99.53
45.95- 46.25	7	1474	0.47	99.46
45.65- 45.95	0	1467	0.00	98.99
45.35- 45.65	6	1467	0.40	98.99
45.05- 45.35	7	1461	0.47	98.58
44.75- 45.05	6	1454	0.40	98.11
44.45- 44.75	1	1448	0.07	97.71
44.15- 44.45	7	1447	0.47	97.64
43.85- 44.15	9	1440	0.61	97.17
43.55- 43.85	18	1431	1.21	96.56
43.25- 43.55	14	1413	0.94	95.34
42.95- 43.25	23	1399	1.55	94.40
42.65- 42.95	10	1376	0.67	92.85
42.35- 42.65	24	1366	1.62	92.17
42.05- 42.35	49	1342	3.31	90.55
41.75- 42.05	22	1293	1.48	87.25
41.45- 41.75	33	1271	2.23	85.76
41.15- 41.45	64	1238	4.32	83.54
40.85- 41.15	52	1174	3.51	79.22
40.55- 40.85	72	1122	4.86	75.71
40.25- 40.55	45	1050	3.04	70.85
39.95- 40.25	53	1005	3.58	67.81
39.65- 39.95	80	952	5.40	64.24
39.35- 39.65	89	872	6.01	58.84
39.05- 39.35	103	783	6.95	52.83
38.75- 39.05	38	680	2.56	45.88
38.45- 38.75	68	642	4.59	43.32
38.15- 38.45	112	574	7.56	38.73
37.85- 38.15	69	462	4.66	31.17
37.55- 37.85	60	393	4.05	26.52
37.25- 37.55	58	333	3.91	22.47
36.95- 37.25	66	275	4.45	18.56
36.65- 36.95	36	209	2.43	14.10
36.35- 36.65	45	173	3.04	11.67
36.05- 36.35	40	128	2.70	8.64
35.75- 36.05	13	88	0.88	5.94
35.45- 35.75	22	75	1.48	5.06
35.15- 35.45	20	53	1.35	3.58
34.85- 35.15	5	33	0.34	2.23
34.55- 34.85	7	28	0.47	1.89
34.25- 34.55	4	21	0.27	1.42
33.95- 34.25	5	17	0.34	1.15
33.65- 33.95	4	12	0.27	0.81
33.35- 33.65	3	8	0.20	0.54
33.05- 33.35	4	5	0.27	0.34
32.75- 33.05	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
39.33	MEAN VALUE	15.48
0.06	SE(MEAN)	0.02
2.34	SD DEVIATION	0.92
0.04	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.9%
SYMMETRY---VETA I = 0.38
KURTOSIS---VETA II = 3.38

****

NUMBER OF SUBJECTS = 1482

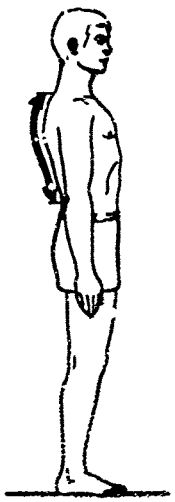
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THE PERCENTILES

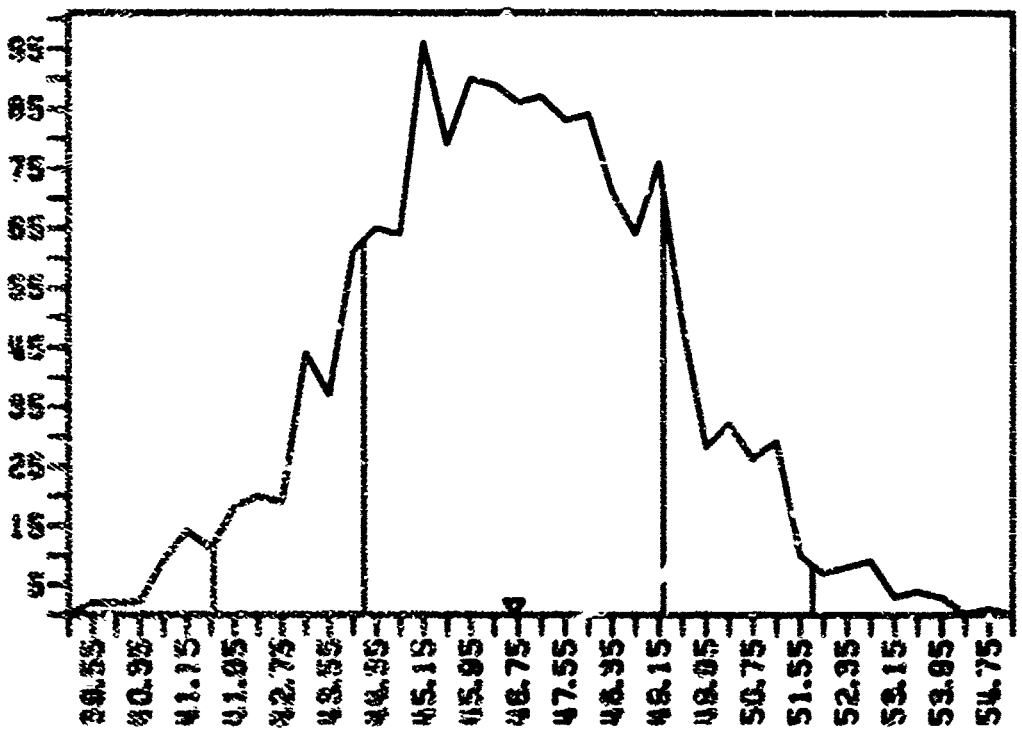
CENTIMETERS		INCHES
45.92	99TH	18.08
44.87	98TH	17.66
44.25	97TH	17.42
43.45	95TH	17.11
42.34	90TH	16.67
41.66	85TH	16.40
41.15	80TH	16.20
40.73	75TH	16.03
40.36	70TH	15.89
40.04	65TH	15.76
39.74	60TH	15.64
39.45	55TH	15.53
39.18	50TH	15.42
38.90	45TH	15.32
38.63	40TH	15.21
38.36	35TH	15.10
38.07	30TH	14.99
37.76	25TH	14.87
37.41	20TH	14.73
37.01	15TH	14.57
36.51	10TH	14.37
35.74	5TH	14.07
35.23	3RD	13.87
34.85	2ND	13.72
34.23	1ST	13.48

56. WAIST BACK LENGTH

Subject stands erect with head in the Frankfort plane. With a tape, measure the surface distance along the spine from the cervicale landmark to the posterior waist landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
54.55- 54.95	1	1482	0.07	100.00
54.15- 54.55	0	1481	0.00	99.93
53.75- 54.15	3	1481	0.20	99.93
53.35- 53.75	4	1478	0.27	99.73
52.95- 53.35	3	1474	0.20	99.46
52.55- 52.95	9	1471	0.61	99.26
52.15- 52.55	8	1462	0.54	98.65
51.75- 52.15	7	1454	0.47	98.11
51.35- 51.75	10	1447	0.67	97.64
50.95- 51.35	29	1437	1.96	96.96
50.55- 50.95	26	1408	1.75	95.01
50.15- 50.55	32	1382	2.16	93.25
49.75- 50.15	28	1350	1.89	91.09
49.35- 49.75	49	1322	3.31	89.20
48.95- 49.35	76	1273	5.13	85.90
48.55- 48.95	64	1197	4.32	80.77
48.15- 48.55	71	1133	4.79	76.45
47.75- 48.15	84	1062	5.66	71.66
47.35- 47.75	83	978	5.60	65.99
46.95- 47.35	87	895	5.87	60.39
46.55- 46.95	86	808	5.80	54.52
46.15- 46.55	89	722	6.01	48.72
45.75- 46.15	90	633	6.07	42.71
45.35- 45.75	79	543	5.33	36.64
44.95- 45.35	96	464	6.48	31.31
44.55- 44.95	64	368	4.32	24.83
44.15- 44.55	65	304	4.39	20.51
43.75- 44.15	61	239	4.12	16.13
43.35- 43.75	37	178	2.50	12.01
42.95- 43.35	44	141	2.97	9.51
42.55- 42.95	19	97	1.28	6.55
42.15- 42.55	20	78	1.35	5.26
41.75- 42.15	18	58	1.21	3.91
41.35- 41.75	11	40	0.74	2.70
40.95- 41.35	14	29	0.94	1.96
40.55- 40.95	9	15	0.61	1.01
40.15- 40.55	2	6	0.13	0.40
39.75- 40.15	2	4	0.13	0.27
39.35- 39.75	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
46.68	MEAN VALUE	18.38
0.07	SE(MEAN)	0.03
2.54	SD DEVIATION	1.00
0.05	SE(SD DEV)	0.02

****

COEF. OF VARIATION = 5.4%
SYMMETRY---VETA I = 0.06
KURTOSIS---VETA II = 2.86

****

NUMBER OF SUBJECTS = 1482

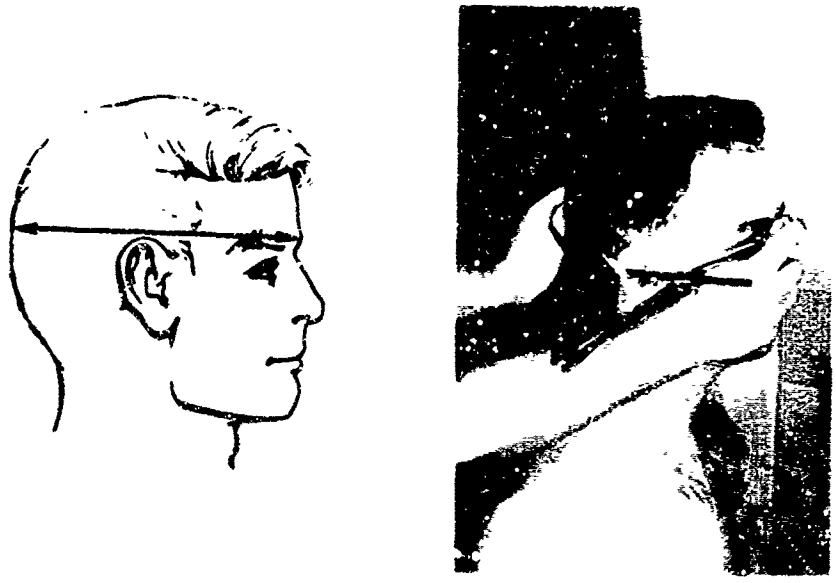
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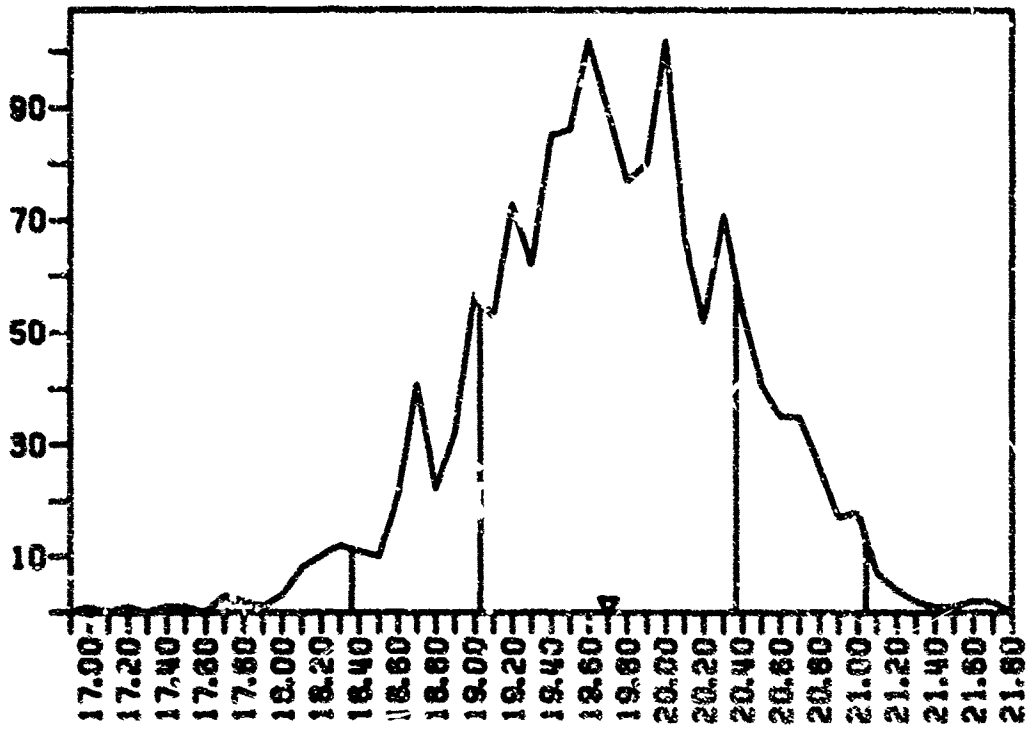
THE PERCENTILES

CENTIMETERS		INCHES
52.77	99TH	20.78
51.99	98TH	20.47
51.52	97TH	20.28
50.89	95TH	20.03
49.94	90TH	19.66
49.31	85TH	19.41
48.82	80TH	19.22
48.39	75TH	19.05
48.01	70TH	18.90
47.62	65TH	18.76
47.32	60TH	18.63
46.99	55TH	18.50
46.67	50TH	18.37
46.34	45TH	18.25
46.01	40TH	18.12
45.67	35TH	17.98
45.31	30TH	17.84
44.92	25TH	17.69
44.49	20TH	17.52
43.99	15TH	17.32
43.36	10TH	17.07
42.45	5TH	16.71
41.88	3RD	16.49
41.48	2ND	16.33
40.88	1ST	16.09

57. HEAD LENGTH

Subject sits. With a spreading caliper, measure in the midsagittal plane the maximum length of the head between the glabella landmark and the occiput.





RANGES*	F	CUMF	FPCT	CUMPCT
21.65- 21.75	2	1482	0.13	100.00
21.55- 21.65	2	1480	0.13	99.86
21.45- 21.55	1	1478	0.07	99.73
21.35- 21.45	1	1477	0.07	99.66
21.25- 21.35	2	1476	0.13	99.60
21.15- 21.25	4	1474	0.27	99.46
21.05- 21.15	7	1470	0.47	99.19
20.95- 21.05	18	1463	1.21	98.72
20.85- 20.95	17	1445	1.15	97.50
20.75- 20.85	26	1428	1.75	96.36
20.65- 20.75	35	1402	2.36	94.60
20.55- 20.65	35	1367	2.36	92.24
20.45- 20.55	41	1332	2.77	89.88
20.35- 20.45	54	1291	3.64	87.11
20.25- 20.35	71	1237	4.79	83.47
20.15- 20.25	52	1166	3.51	78.68
20.05- 20.15	67	1114	4.52	75.17
19.95- 20.05	102	1047	6.88	70.65
19.85- 19.95	80	945	5.40	63.77
19.75- 19.85	77	865	5.20	58.37
19.65- 19.75	90	788	6.07	53.17
19.55- 19.65	102	698	6.88	47.10
19.45- 19.55	86	596	5.80	40.22
19.35- 19.45	85	510	5.74	34.41
19.25- 19.35	62	425	4.18	28.68
19.15- 19.25	73	363	4.93	24.49
19.05- 19.15	53	290	3.58	19.57
18.95- 19.05	57	237	3.85	15.99
18.85- 18.95	32	180	2.16	12.15
18.75- 18.85	22	148	1.48	9.99
18.65- 18.75	41	126	2.77	8.50
18.55- 18.65	21	85	1.42	5.74
18.45- 18.55	10	64	0.67	4.32
18.35- 18.45	11	54	0.74	3.64
18.25- 18.35	12	43	0.81	2.90
18.15- 18.25	10	31	0.67	2.09
18.05- 18.15	8	21	0.54	1.42
17.95- 18.05	3	13	0.20	0.88
17.85- 17.95	1	10	0.07	0.67
17.75- 17.85	2	9	0.13	0.61
17.65- 17.75	3	7	0.20	0.47
17.55- 17.65	0	4	0.00	0.27
17.45- 17.55	1	4	0.07	0.27
17.35- 17.45	1	3	0.07	0.20
17.25- 17.35	0	2	0.00	0.13
17.15- 17.25	1	2	0.07	0.13
17.05- 17.15	0	1	0.00	0.07
16.95- 17.05	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
19.70	MEAN VALUE	7.76
0.02	SE(MEAN)	0.01
0.67	SD DEVIATION	0.26
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 3.4%
SYMMETRY---VETA I = -0.20
KURTOSIS---VETA II = 3.21

****

NUMBER OF SUBJECTS = 1482

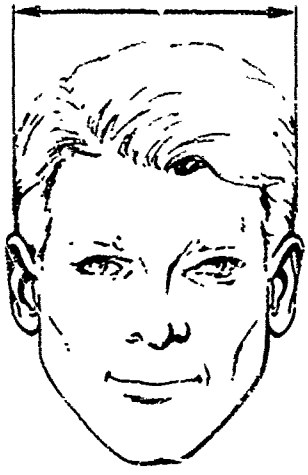
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THE PERCENTILES

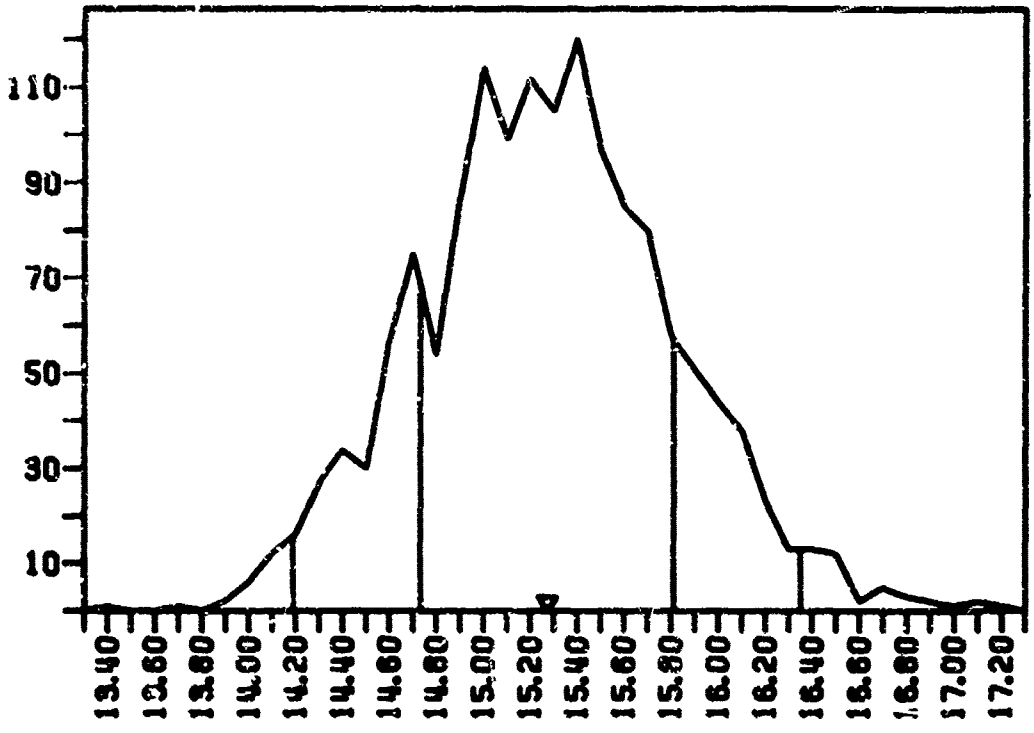
CENTIMETERS		INCHES
21.12	99TH	8.31
20.99	98TH	8.26
20.90	97TH	8.23
20.77	95TH	8.18
20.55	90TH	8.09
20.39	85TH	8.03
20.27	80TH	7.98
20.16	75TH	7.94
20.06	70TH	7.90
19.97	65TH	7.86
19.88	60TH	7.83
19.79	55TH	7.79
19.71	50TH	7.76
19.63	45TH	7.73
19.54	40TH	7.69
19.45	35TH	7.66
19.36	30TH	7.62
19.26	25TH	7.58
19.15	20TH	7.54
19.01	15TH	7.49
18.84	10TH	7.42
18.58	5TH	7.32
18.40	3RD	7.25
18.27	2ND	7.19
18.04	1ST	7.10

58. HEAD BREADTH

Subject sits. With a spreading caliper, measure the maximum horizontal breadth of the head.







RANGES*	F	CUMF	FPCT	CUMPCT
17.15- 17.25	1	1482	0.07	100.00
17.05- 17.15	2	1481	0.13	99.93
16.95- 17.05	1	1479	0.07	99.80
16.85- 16.95	2	1478	0.13	99.73
16.75- 16.85	3	1476	0.20	99.60
16.65- 16.75	5	1473	0.34	99.39
16.55- 16.65	2	1468	0.13	99.06
16.45- 16.55	12	1466	0.81	98.92
16.35- 16.45	13	1454	0.88	98.11
16.25- 16.35	13	1441	0.88	97.23
16.15- 16.25	23	1428	1.55	96.36
16.05- 16.15	38	1405	2.56	94.80
15.95- 16.05	44	1367	2.97	92.24
15.85- 15.95	51	1323	3.44	89.27
15.75- 15.85	58	1272	3.91	85.83
15.65- 15.75	80	1214	5.40	81.92
15.55- 15.65	85	1134	5.74	76.52
15.45- 15.55	97	1049	6.55	70.78
15.35- 15.45	120	952	8.10	64.24
15.25- 15.35	105	832	7.09	56.14
15.15- 15.25	112	727	7.56	49.06
15.05- 15.15	99	615	6.68	41.50
14.95- 15.05	114	516	7.69	34.82
14.85- 14.95	87	402	5.87	27.13
14.75- 14.85	54	315	3.64	21.26
14.65- 14.75	75	261	5.06	17.61
14.55- 14.65	57	186	3.85	12.55
14.45- 14.55	30	129	2.02	8.70
14.35- 14.45	34	99	2.29	6.68
14.25- 14.35	27	65	1.82	4.39
14.15- 14.25	16	38	1.08	2.56
14.05- 14.15	12	22	0.81	1.48
13.95- 14.05	6	10	0.40	0.67
13.85- 13.95	2	4	0.13	0.27
13.75- 13.85	0	2	0.00	0.13
13.65- 13.75	1	2	0.07	0.13
13.55- 13.65	0	1	0.00	0.07
13.45- 13.55	0	1	0.00	0.07
13.35- 13.45	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
15.27	MEAN VALUE	6.01
0.01	SE(MEAN)	0.01
0.54	SD DEVIATION	0.21
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 3.5%
SYMMETRY---VETA I = 0.15
KURTOSIS---VETA II = 3.09

****

NUMBER OF SUBJECTS = 1482

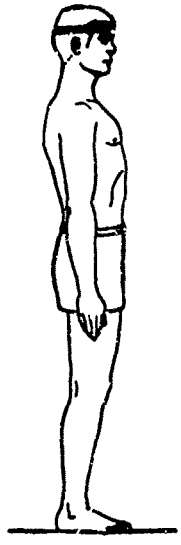
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THE PERCENTILES

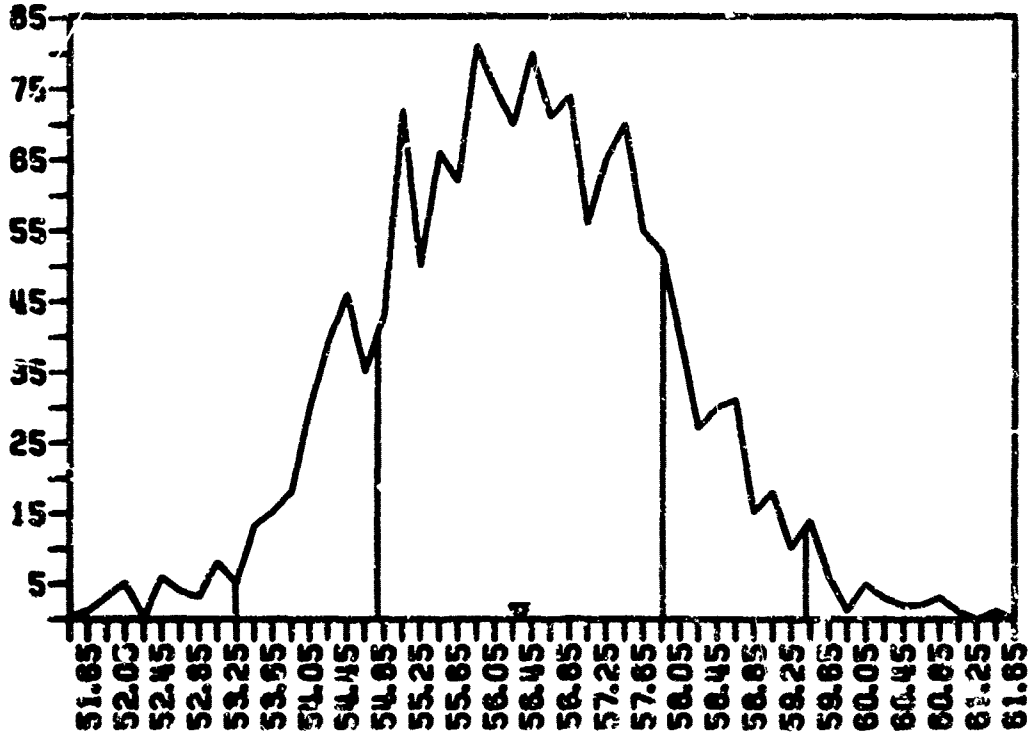
CENTIMETERS		INCHES
16.62	99TH	6.54
16.43	98TH	6.47
16.32	97TH	6.42
16.17	95TH	6.37
15.96	90TH	6.28
15.82	85TH	6.23
15.72	80TH	6.19
15.63	75TH	6.15
15.55	70TH	6.12
15.47	65TH	6.09
15.40	60TH	6.06
15.33	55TH	6.04
15.26	50TH	6.01
15.20	45TH	5.98
15.13	40TH	5.96
15.06	35TH	5.93
14.98	30TH	5.90
14.90	25TH	5.87
14.81	20TH	5.83
14.71	15TH	5.79
14.58	10TH	5.74
14.39	5TH	5.67
14.28	3RD	5.62
14.20	2ND	5.59
14.08	1ST	5.54

59. HEAD CIRCUMFERENCE

Subject sits. With a tape passing above (but not including) the brow ridges and held in a plane parallel to the Frankfort plane, measure the circumference of the head.







RANGES*	F	CUMF	FPCT	CUMPCT
61.35- 61.55	1	1482	0.07	100.00
61.15- 61.35	0	1481	0.00	99.93
60.95- 61.15	1	1481	0.07	99.93
60.75- 60.95	3	1480	0.20	99.86
60.55- 60.75	2	1477	0.13	99.66
60.35- 60.55	2	1475	0.13	99.53
60.15- 60.35	3	1473	0.20	99.39
59.95- 60.15	5	1470	0.34	99.19
59.75- 59.95	1	1465	0.07	98.85
59.55- 59.75	6	1464	0.40	98.79
59.35- 59.55	14	1458	0.94	98.38
59.15- 59.35	10	1444	0.67	97.44
58.95- 59.15	18	1434	1.21	96.76
58.75- 58.95	15	1416	1.01	95.55
58.55- 58.75	31	1401	2.09	94.53
58.35- 58.55	30	1370	2.02	92.44
58.15- 58.35	27	1340	1.82	90.42
57.95- 58.15	40	1313	2.70	88.60
57.75- 57.95	52	1273	3.51	85.90
57.55- 57.75	55	1221	3.71	82.39
57.35- 57.55	70	1166	4.72	78.68
57.15- 57.35	65	1096	4.39	73.95
56.95- 57.15	56	1031	3.78	69.57
56.75- 56.95	74	975	4.99	65.79
56.55- 56.75	71	901	4.79	60.80
56.35- 56.55	80	830	5.40	56.01
56.15- 56.35	70	750	4.72	50.61
55.95- 56.15	75	680	5.06	45.88
55.75- 55.95	81	605	5.47	40.82
55.55- 55.75	62	524	4.18	35.36
55.35- 55.55	66	462	4.45	31.17
55.15- 55.35	50	396	3.37	26.72
54.95- 55.15	72	346	4.86	23.35
54.75- 54.95	43	274	2.90	18.49
54.55- 54.75	35	231	2.36	15.59
54.35- 54.55	46	196	3.10	13.23
54.15- 54.35	39	150	2.63	10.12
53.95- 54.15	30	111	2.02	7.49
53.75- 53.95	18	81	1.21	5.47
53.55- 53.75	15	63	1.01	4.25
53.35- 53.55	13	48	0.88	3.24
53.15- 53.35	5	35	0.34	2.36
52.95- 53.15	8	30	0.54	2.02
52.75- 52.95	3	22	0.20	1.48
52.55- 52.75	4	19	0.27	1.28
52.35- 52.55	6	15	0.40	1.01
52.15- 52.35	0	9	0.00	0.61
51.95- 52.15	5	9	0.34	0.61
51.75- 51.95	3	4	0.20	0.27
51.55- 51.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
56.32	MEAN VALUE	22.17
0.04	SE(MEAN)	0.02
1.54	SD DEVIATION	0.61
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 2.7%
SYMMETRY---VETA I = 0.01
KURTOSIS---VETA II = 3.00

****

NUMBER OF SUBJECTS = 1482

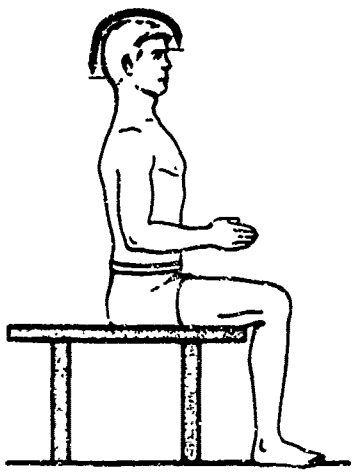
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THE PERCENTILES

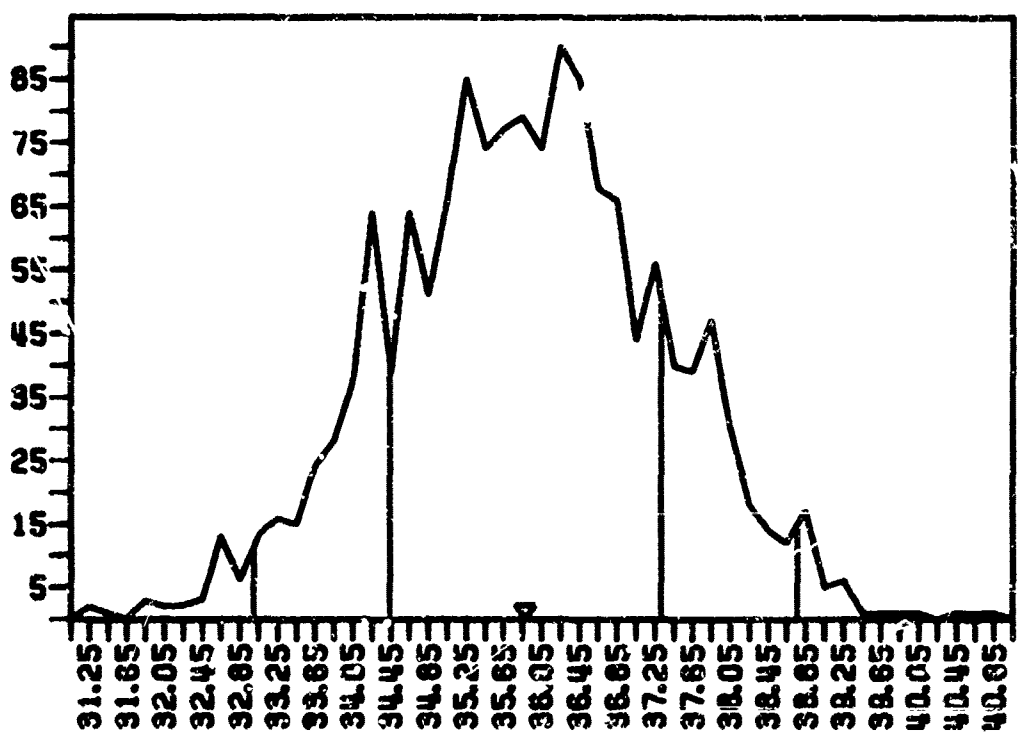
CENTIMETERS		INCHES
59.96	99TH	23.61
59.53	98TH	23.44
59.26	97TH	23.33
58.88	95TH	23.18
58.30	90TH	22.95
57.91	85TH	22.80
57.61	80TH	22.68
57.35	75TH	22.58
57.11	70TH	22.49
56.90	65TH	22.40
56.70	60TH	22.32
56.50	55TH	22.25
56.31	50TH	22.17
56.12	45TH	22.10
55.93	40TH	22.02
55.73	35TH	21.94
55.53	30TH	21.86
55.30	25TH	21.77
55.05	20TH	21.67
54.75	15TH	21.56
54.37	10TH	21.41
53.80	5TH	21.18
53.41	3RD	21.03
53.11	2ND	20.91
52.63	1ST	20.72

60. SAGITTAL ARC

Subject sits. With a tape held as close to the scalp as possible, measure the surface distance in the midsagittal plane from the glabella landmark to nuchale.







RANGES*	F	CUMF	FPCT	CUMPCT
40.75- 40.95	1	1482	0.07	100.00
40.55- 40.75	1	1481	0.07	99.93
40.35- 40.55	1	1480	0.07	99.86
40.15- 40.35	0	1479	0.00	99.80
39.95- 40.15	1	1479	0.07	99.80
39.75- 39.95	1	1478	0.07	99.73
39.55- 39.75	1	1477	0.07	99.66
39.35- 39.55	1	1476	0.07	99.60
39.15- 39.35	6	1475	0.40	99.53
38.95- 39.15	5	1469	0.34	99.13
38.75- 38.95	17	1464	1.15	98.79
38.55- 38.75	12	1447	0.81	97.64
38.35- 38.55	14	1435	0.94	96.83
38.15- 38.35	18	1421	1.21	95.88
37.95- 38.15	30	1403	2.02	94.67
37.75- 37.95	47	1373	3.17	92.64
37.55- 37.75	39	1326	2.63	89.47
37.35- 37.55	40	1287	2.70	86.84
37.15- 37.35	56	1247	3.78	84.14
36.95- 37.15	44	1191	2.97	80.36
36.75- 36.95	66	1147	4.45	77.40
36.55- 36.75	68	1081	4.59	72.94
36.35- 36.55	85	1013	5.74	68.35
36.15- 36.35	90	928	6.07	62.62
35.95- 36.15	74	838	4.99	56.55
35.75- 35.95	79	764	5.33	51.55
35.55- 35.75	77	685	5.20	46.22
35.35- 35.55	74	608	4.99	41.03
35.15- 35.35	85	534	5.74	36.03
34.95- 35.15	66	449	4.45	30.30
34.75- 34.95	51	383	3.44	25.84
34.55- 34.75	64	332	4.32	22.40
34.35- 34.55	39	268	2.63	18.08
34.15- 34.35	64	229	4.32	15.45
33.95- 34.15	37	165	2.50	11.13
33.75- 33.95	28	128	1.89	8.64
33.55- 33.75	24	100	1.62	6.75
33.35- 33.55	15	76	1.01	5.13
33.15- 33.35	16	61	1.08	4.12
32.95- 33.15	13	45	0.88	3.04
32.75- 32.95	6	32	0.40	2.16
32.55- 32.75	13	26	0.88	1.75
32.35- 32.55	3	13	0.20	0.88
32.15- 32.35	2	10	0.13	0.67
31.95- 32.15	2	8	0.13	0.54
31.75- 31.95	3	6	0.20	0.40
31.55- 31.75	0	3	0.00	0.20
31.35- 31.55	1	3	0.07	0.20
31.15- 31.35	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
35.88	MEAN VALUE	14.13
0.04	SE(MEAN)	0.01
1.44	SD DEVIATION	0.57
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.0%
SYMMETRY---VETA I = -0.02
KURTOSIS---VETA II = 2.96

****

NUMBER OF SUBJECTS = 1482

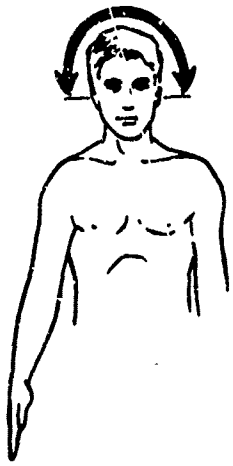
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THE PERCENTILES

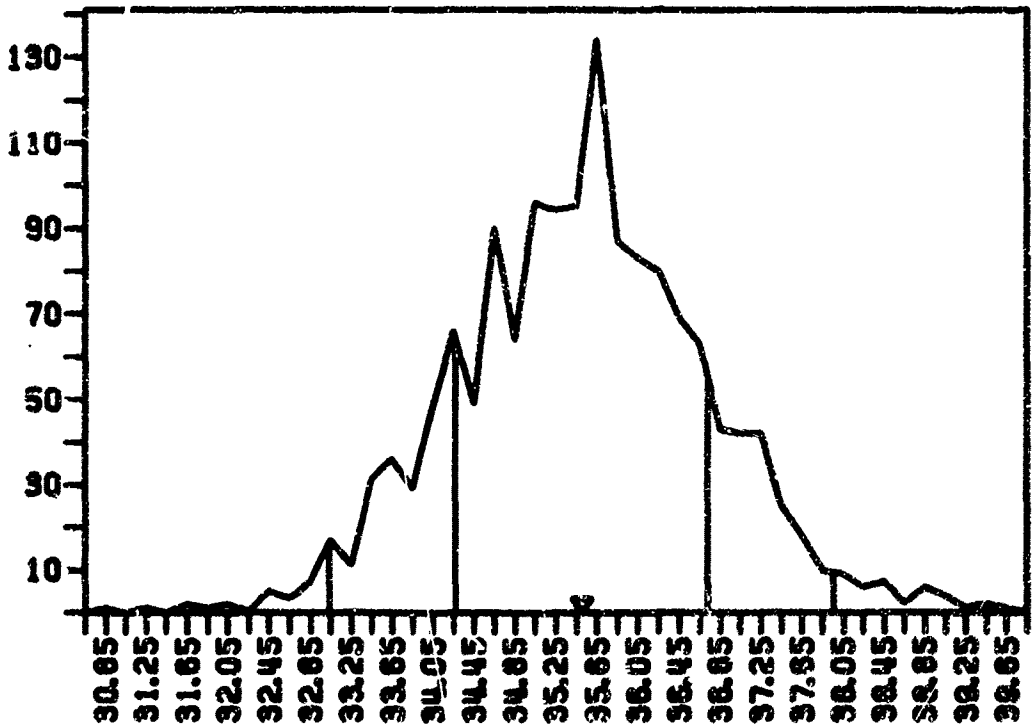
CENTIMETERS		INCHES
39.10	99TH	15.40
38.78	98TH	15.27
38.56	97TH	15.18
38.25	95TH	15.06
37.75	90TH	14.86
37.40	85TH	14.73
37.12	80TH	14.61
36.88	75TH	14.52
36.66	70TH	14.43
36.45	65TH	14.35
36.26	60TH	14.27
36.07	55TH	14.20
35.88	50TH	14.13
35.70	45TH	14.05
35.51	40TH	13.98
35.32	35TH	13.90
35.11	30TH	13.82
34.89	25TH	13.74
34.65	20TH	13.64
34.37	15TH	13.53
34.02	10TH	13.39
33.50	5TH	13.19
33.17	3RD	13.06
32.92	2ND	12.96
32.54	1ST	12.81

61. BITRAGION-CORONAL ARC

Subject sits. With a tape held as close to the scalp as possible, measure the surface distance in the coronal plane from the left to the right tragion landmark.







RANGES*	F	CUMF	FPCT	CUMPCT
39.55- 39.75	1	1482	0.07	100.00
39.35- 39.55	2	1481	0.13	99.93
39.15- 39.35	1	1479	0.07	99.80
38.95- 39.15	4	1478	0.27	99.73
38.75- 38.95	6	1474	0.40	99.46
38.55- 38.75	2	1468	0.13	99.06
38.35- 38.55	7	1466	0.47	98.92
38.15- 38.35	6	1459	0.40	98.45
37.95- 38.15	9	1453	0.61	98.04
37.75- 37.95	10	1444	0.67	97.44
37.55- 37.75	18	1434	1.21	96.76
37.35- 37.55	25	1416	1.69	95.55
37.15- 37.35	42	1391	2.83	93.86
36.95- 37.15	42	1349	2.83	91.03
36.75- 36.95	43	1307	2.90	88.19
36.55- 36.75	63	1264	4.25	85.29
36.35- 36.55	69	1201	4.66	81.04
36.15- 36.35	80	1132	5.40	76.38
35.95- 36.15	83	1052	5.60	70.99
35.75- 35.95	87	969	5.87	65.38
35.55- 35.75	134	882	9.04	59.51
35.35- 35.55	95	748	6.41	50.47
35.15- 35.35	94	653	6.34	44.06
34.95- 35.15	96	559	6.48	37.72
34.75- 34.95	64	463	4.32	31.24
34.55- 34.75	90	399	6.07	26.92
34.35- 34.55	49	309	3.31	20.85
34.15- 34.35	66	260	4.45	17.54
33.95- 34.15	48	194	3.24	13.09
33.75- 33.95	29	146	1.96	9.85
33.55- 33.75	36	117	2.43	7.89
33.35- 33.55	31	81	2.09	5.47
33.15- 33.35	11	50	0.74	3.37
32.95- 33.15	17	39	1.15	2.63
32.75- 32.95	7	22	0.47	1.48
32.55- 32.75	3	15	0.20	1.01
32.35- 32.55	5	12	0.34	0.81
32.15- 32.35	0	7	0.00	0.47
31.95- 32.15	2	7	0.13	0.47
31.75- 31.95	1	5	0.07	0.34
31.55- 31.75	2	4	0.13	0.27
31.35- 31.55	0	2	0.00	0.13
31.15- 31.35	1	2	0.07	0.13
30.95- 31.15	0	1	0.00	0.07
30.75- 30.95	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
35.50	MEAN VALUE	13.98
0.03	SE(MEAN)	0.01
1.23	SD DEVIATION	0.48
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 3.4%
SYMMETRY---VETA I = 0.05
KURTOSIS---VETA II = 3.32

****

NUMBER OF SUBJECTS = 1482

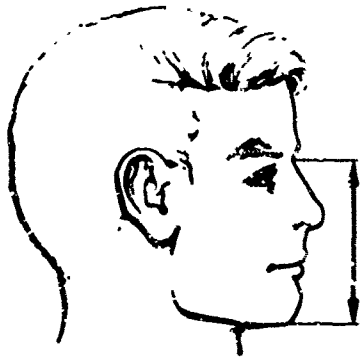
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THE PERCENTILES

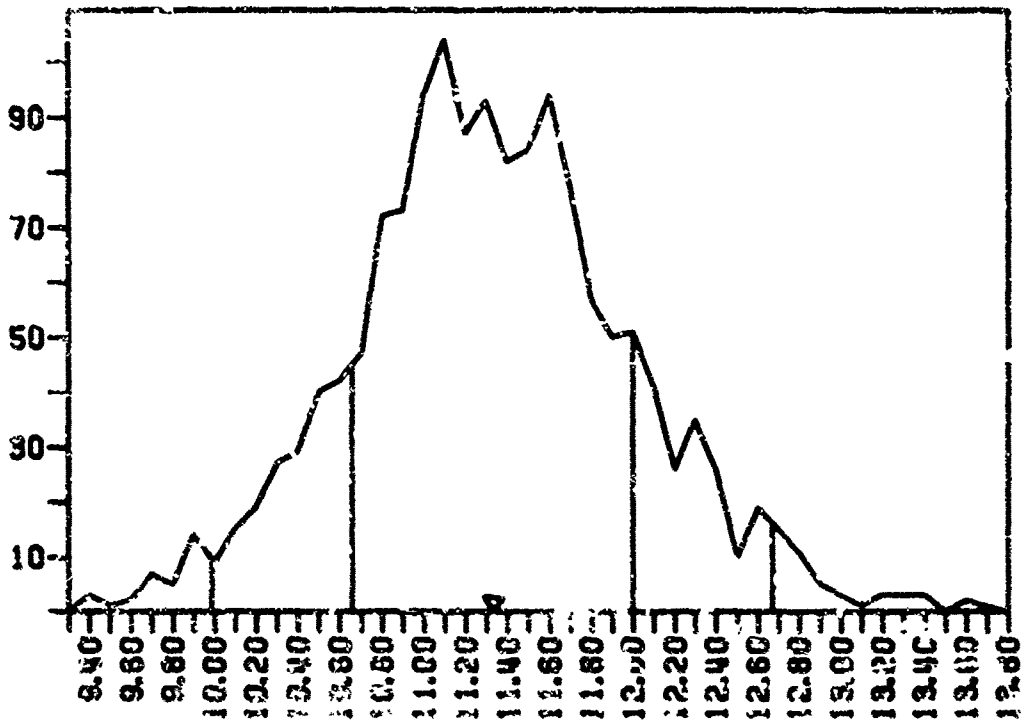
CENTIMETERS		INCHES
38.64	99TH	15.21
38.15	98TH	15.02
37.86	97TH	14.91
37.51	95TH	14.77
37.02	90TH	14.58
36.72	85TH	14.46
36.49	80TH	14.37
36.29	75TH	14.29
36.12	70TH	14.22
35.96	65TH	14.16
35.81	60TH	14.10
35.66	55TH	14.04
35.51	50TH	13.98
35.37	45TH	13.92
35.21	40TH	13.86
35.06	35TH	13.80
34.89	30TH	13.74
34.71	25TH	13.66
34.50	20TH	13.58
34.26	15TH	13.49
33.95	10TH	13.37
33.51	5TH	13.19
33.23	3RD	13.08
33.03	2ND	13.01
32.75	1ST	12.89

62. FACE LENGTH

Subject sits with mouth closed and jaw relaxed. With a sliding caliper, measure the distance from the menton landmark to the deepest point of the nasal root depression.







RANGES*	F	CUMF	FPCT	CUMPCT
13.65- 13.75	1	1482	0.07	100.00
13.55- 13.65	2	1481	0.13	99.93
13.45- 13.55	0	1479	0.00	99.80
13.35- 13.45	3	1479	0.20	99.80
13.25- 13.35	3	1476	0.20	99.60
13.15- 13.25	3	1473	0.20	99.39
13.05- 13.15	1	1470	0.07	99.19
12.95- 13.05	3	1469	0.20	99.12
12.85- 12.95	5	1466	0.34	98.92
12.75- 12.85	11	1461	0.74	98.58
12.65- 12.75	15	1450	1.01	97.84
12.55- 12.65	19	1435	1.28	96.83
12.45- 12.55	10	1416	0.67	95.55
12.35- 12.45	26	1406	1.75	94.87
12.25- 12.35	35	1380	2.36	93.12
12.15- 12.25	26	1345	1.75	90.76
12.05- 12.15	41	1319	2.77	89.00
11.95- 12.05	51	1278	3.44	86.23
11.85- 11.95	50	1227	3.37	82.79
11.75- 11.85	57	1177	3.85	79.42
11.65- 11.75	77	1120	5.20	75.57
11.55- 11.65	94	1043	6.34	70.38
11.45- 11.55	84	949	5.67	64.04
11.35- 11.45	82	865	5.53	58.37
11.25- 11.35	93	783	6.28	52.83
11.15- 11.25	87	690	5.87	46.56
11.05- 11.15	104	603	7.02	40.69
10.95- 11.05	94	499	6.34	33.67
10.85- 10.95	73	405	4.93	27.33
10.75- 10.85	72	332	4.86	22.40
10.65- 10.75	47	260	3.17	17.54
10.55- 10.65	42	213	2.83	14.37
10.45- 10.55	40	171	2.70	11.54
10.35- 10.45	29	131	1.96	8.84
10.25- 10.35	27	102	1.82	6.88
10.15- 10.25	19	75	1.28	5.06
10.05- 10.15	15	56	1.01	3.78
9.95- 10.05	9	41	0.61	2.77
9.85- 9.95	14	32	0.94	2.16
9.75- 9.85	5	18	0.34	1.21
9.65- 9.75	7	13	0.47	0.88
9.55- 9.65	2	6	0.13	0.40
9.45- 9.55	1	4	0.07	0.27
9.35- 9.45	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
11.33	MEAN VALUE	4.46
0.02	SE(MEAN)	0.01
0.67	SD DEVIATION	0.26
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 5.9%
SYMMETRY---VETA I = 0.17
KURTOSIS---VETA II = 3.25

****

NUMBER OF SUBJECTS = 1482

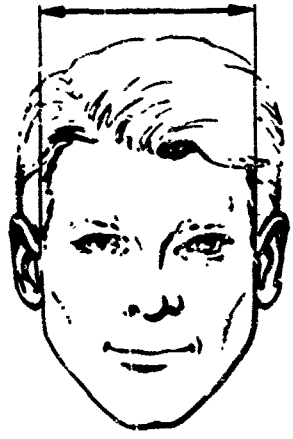
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THE PERCENTILES

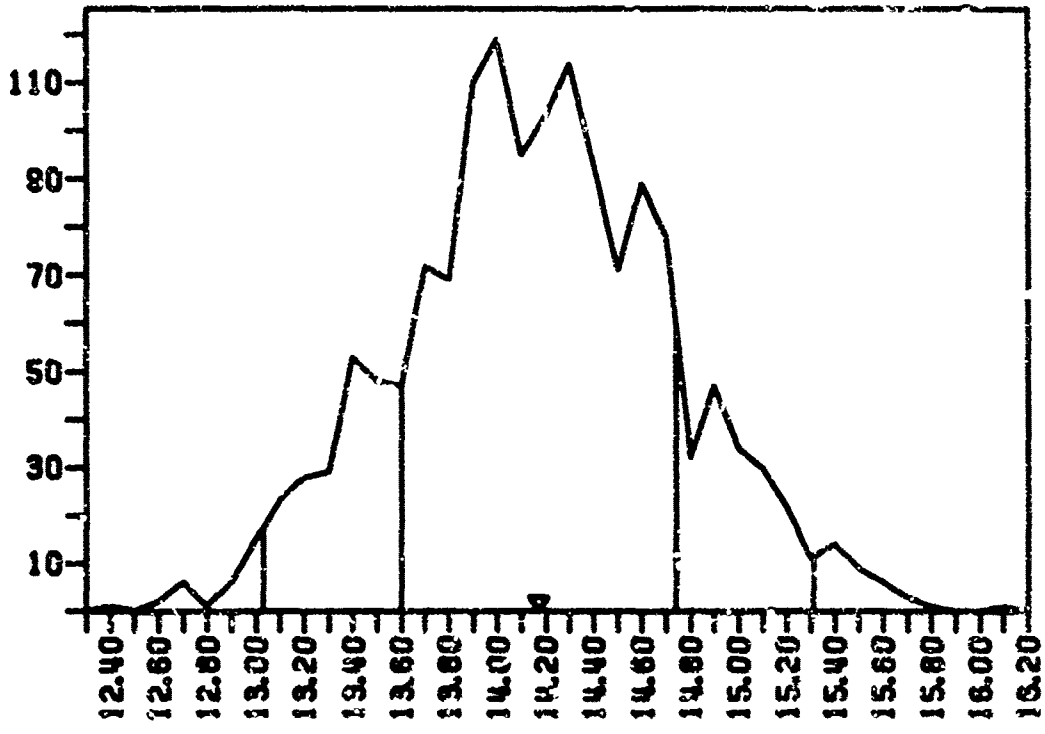
CENTIMETERS		INCHES
13.00	99TH	5.12
12.78	98TH	5.03
12.64	97TH	4.98
12.46	95TH	4.91
12.19	90TH	4.80
12.01	85TH	4.73
11.88	80TH	4.68
11.76	75TH	4.63
11.66	70TH	4.59
11.56	65TH	4.55
11.48	60TH	4.52
11.39	55TH	4.49
11.31	50TH	4.45
11.23	45TH	4.42
11.15	40TH	4.39
11.07	35TH	4.36
10.98	30TH	4.32
10.88	25TH	4.29
10.78	20TH	4.24
10.66	15TH	4.19
10.50	10TH	4.13
10.25	5TH	4.04
10.09	3RD	3.97
9.96	2ND	3.92
9.76	1ST	3.84

63. BITRAGION BREADTH

Subject sits. With a spreading caliper, measure the breadth of the head between the right and left tragion landmarks.







RANGES*	F	CUMF	FPCT	CUMPCT
16.05- 16.15	1	1482	0.07	100.00
15.95- 16.05	0	1481	0.00	99.93
15.85- 15.95	0	1481	0.00	99.93
15.75- 15.85	1	1481	0.07	99.93
15.65- 15.75	3	1480	0.20	99.86
15.55- 15.65	6	1477	0.40	99.66
15.45- 15.55	9	1471	0.61	99.26
15.35- 15.45	14	1462	0.94	98.65
15.25- 15.35	11	1448	0.74	97.71
15.15- 15.25	22	1437	1.48	96.96
15.05- 15.15	30	1415	2.02	95.48
14.95- 15.05	34	1385	2.29	93.45
14.85- 14.95	47	1351	3.17	91.16
14.75- 14.85	32	1304	2.16	87.99
14.65- 14.75	78	1272	5.26	85.83
14.55- 14.65	89	1194	6.01	80.57
14.45- 14.55	71	1105	4.79	74.56
14.35- 14.45	93	1034	6.28	69.77
14.25- 14.35	114	941	7.69	63.50
14.15- 14.25	103	827	6.95	55.80
14.05- 14.15	95	724	6.41	48.85
13.95- 14.05	119	629	8.03	42.44
13.85- 13.95	110	510	7.42	34.41
13.75- 13.85	69	400	4.66	26.99
13.65- 13.75	72	331	4.86	22.33
13.55- 13.65	47	259	3.17	17.48
13.45- 13.55	48	212	3.24	14.30
13.35- 13.45	53	164	3.58	11.07
13.25- 13.35	29	111	1.96	7.49
13.15- 13.25	28	82	1.89	5.53
13.05- 13.15	23	54	1.55	3.64
12.95- 13.05	15	31	1.01	2.09
12.85- 12.95	6	16	0.40	1.08
12.75- 12.85	1	10	0.07	0.67
12.65- 12.75	6	9	0.40	0.61
12.55- 12.65	2	3	0.13	0.20
12.45- 12.55	0	1	0.00	0.07
12.35- 12.45	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
14.17	MEAN VALUE	5.58
0.01	SE(MEAN)	0.01
0.57	SD DEVIATION	0.22
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 4.0%
SYMMETRY---VETA I = 0.05
KURTOSIS---VETA II = 2.91

****

NUMBER OF SUBJECTS = 1482

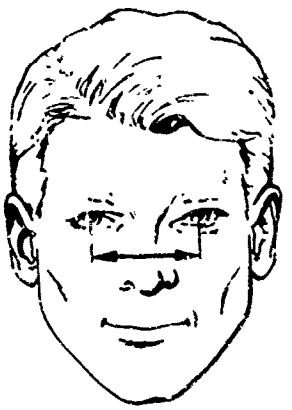
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THE PERCENTILES

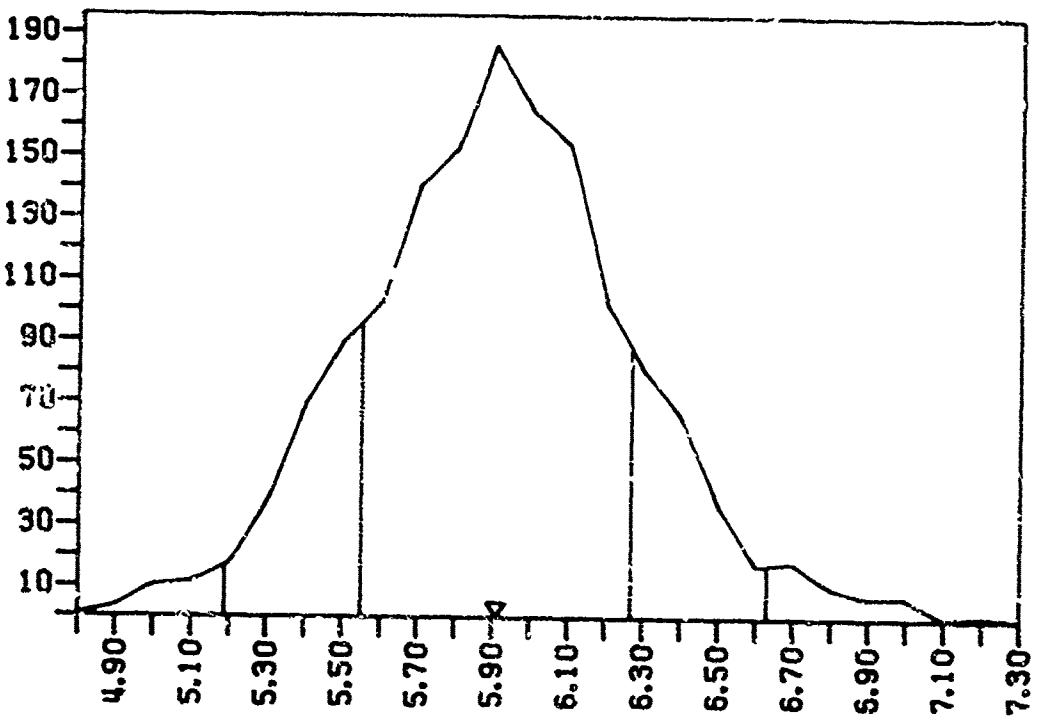
CENTIMETERS		INCHES
15.53	99TH	6.11
15.36	98TH	6.05
15.25	97TH	6.00
15.11	95TH	5.95
14.90	90TH	5.87
14.76	85TH	5.81
14.65	80TH	5.77
14.55	75TH	5.73
14.47	70TH	5.70
14.39	65TH	5.66
14.31	60TH	5.64
14.24	55TH	5.61
14.17	50TH	5.58
14.10	45TH	5.55
14.02	40TH	5.52
13.95	35TH	5.49
13.87	30TH	5.46
13.78	25TH	5.4
13.68	20TH	5.39
13.57	15TH	5.34
13.44	10TH	5.29
13.24	5TH	5.21
13.12	3RD	5.17
13.04	2ND	5.13
12.92	1ST	5.09

64. INTERPUPILLARY BREADTH

Subject sits. With a sliding caliper, measure the horizontal distance from the center of the pupil of the right eye to the center of the pupil of the left eye.







RANGES*		F	CUMF	FPCT	CUMPCT
7.15-	7.25	1	1482	0.07	100.00
7.05-	7.15	0	1481	0.00	99.93
6.95-	7.05	7	1481	0.47	99.93
6.85-	6.95	7	1474	0.47	99.46
6.75-	6.85	10	1467	0.67	98.99
6.65-	6.75	18	1457	1.21	98.31
6.55-	6.65	17	1439	1.15	97.10
6.45-	6.55	37	1422	2.50	95.95
6.35-	6.45	66	1385	4.45	93.45
6.25-	6.35	81	1319	5.47	89.00
6.15-	6.25	103	1238	6.95	83.54
6.05-	6.15	154	1135	10.39	76.59
5.95-	6.05	165	981	11.13	66.19
5.85-	5.95	186	816	12.55	55.06
5.75-	5.85	152	630	10.26	42.51
5.65-	5.75	140	478	9.45	32.25
5.55-	5.65	102	338	6.88	22.81
5.45-	5.55	89	236	6.01	15.92
5.35-	5.45	69	147	4.66	9.92
5.25-	5.35	37	78	2.50	5.26
5.15-	5.25	17	41	1.15	2.77
5.05-	5.15	11	24	0.74	1.62
4.95-	5.05	10	13	0.67	0.88
4.85-	4.95	3	3	0.20	0.20

*IN CENTIMETERS

CENTIMETERS		INCHES
5.91	MEAN VALUE	2.33
0.01	SE(MEAN)	0.00
0.36	SD DEVIATION	0.14
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 6.1%
SYMMETRY---VETA I = 0.16
KURTOSIS---VETA II = 3.21

****

NUMBER OF SUBJECTS = 1482

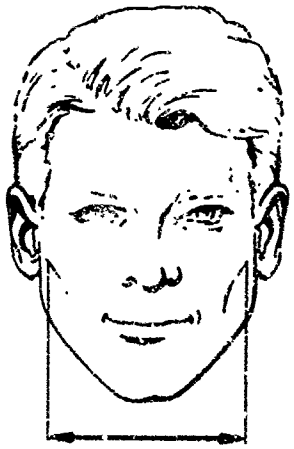
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THE PERCENTILES

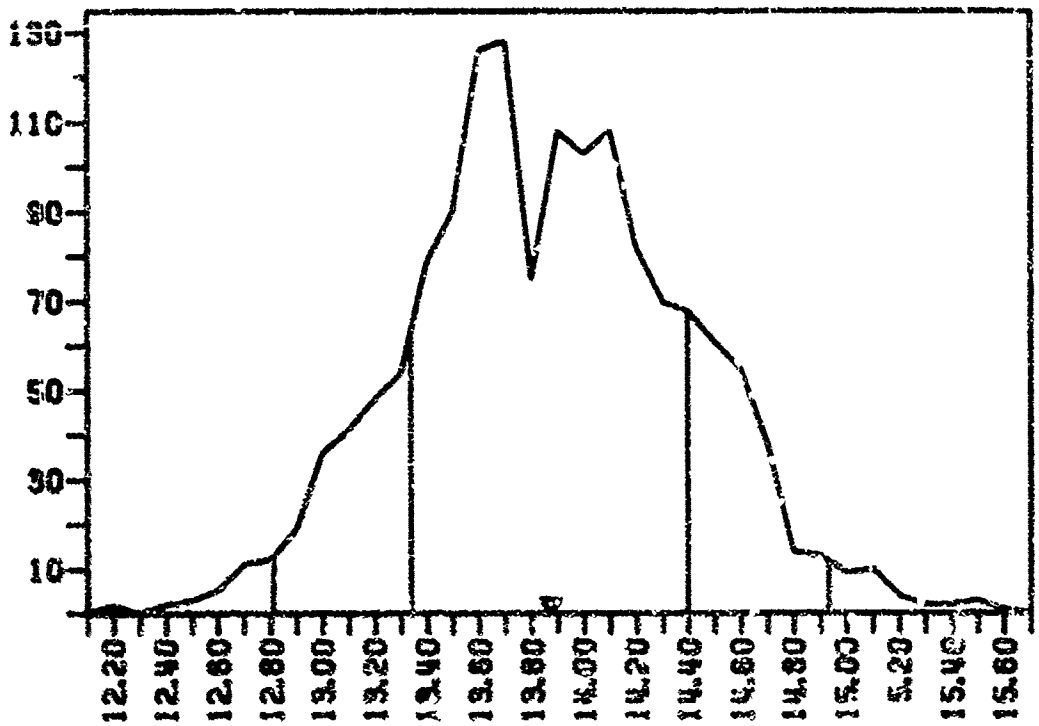
CENTIMETERS		INCHES
6.86	99TH	2.70
6.72	98TH	2.64
6.63	97TH	2.61
6.54	96TH	2.57
6.37	90TH	2.51
6.28	85TH	2.47
6.20	80TH	2.44
6.14	75TH	2.42
6.09	70TH	2.40
6.04	65TH	2.38
5.99	60TH	2.36
5.95	55TH	2.34
5.90	50TH	2.32
5.86	45TH	2.31
5.82	40TH	2.29
5.77	35TH	2.27
5.73	30TH	2.25
5.67	25TH	2.23
5.62	20TH	2.21
5.55	15TH	2.18
5.46	10TH	2.15
5.33	5TH	2.10
5.24	3RD	2.06
5.18	2ND	2.04
5.08	1ST	2.00

65. FACE BREADTH

Subject sits. With a spreading caliper, measure the maximum horizontal breadth of the face between the zygomatic arches.







RANGES*	F	CUMF	FPCT	CUMPCT
15.55- 15.65	1	1482	0.07	100.00
15.45- 15.55	3	1481	0.20	99.93
15.35- 15.45	2	1478	0.13	99.73
15.25- 15.35	2	1476	0.13	99.60
15.15- 15.25	4	1474	0.27	99.46
15.05- 15.15	10	1470	0.67	99.19
14.95- 15.05	9	1460	0.61	98.52
14.85- 14.95	13	1451	0.88	97.91
14.75- 14.85	14	1438	0.94	97.03
14.65- 14.75	38	1424	2.56	96.09
14.55- 14.65	55	1386	3.71	93.52
14.45- 14.55	61	1331	4.12	89.81
14.35- 14.45	68	1270	4.59	85.69
14.25- 14.35	70	1202	4.72	81.11
14.15- 14.25	82	1132	5.53	76.38
14.05- 14.15	108	1050	7.29	70.85
13.95- 14.05	108	942	6.95	63.56
13.85- 13.95	108	839	7.29	56.61
13.75- 13.85	75	731	5.06	49.33
13.65- 13.75	128	656	8.64	44.26
13.55- 13.65	126	528	8.50	35.63
13.45- 13.55	90	402	6.07	27.13
13.35- 13.45	79	312	5.33	21.05
13.25- 13.35	54	233	3.64	15.72
13.15- 13.25	48	179	3.24	12.08
13.05- 13.15	41	131	2.77	8.84
12.95- 13.05	36	90	2.43	6.07
12.85- 12.95	19	54	1.28	3.64
12.75- 12.85	12	35	0.81	2.36
12.65- 12.75	11	23	0.74	1.55
12.55- 12.65	5	12	0.34	0.81
12.45- 12.55	3	7	0.20	0.47
12.35- 12.45	2	4	0.13	0.27
12.25- 12.35	0	2	0.00	0.13
12.15- 12.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
13.87	MEAN VALUE	5.46
0.01	SE(MEAN)	0.01
0.53	SD DEVIATION	0.21
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 3.8%
SYMMETRY---VETA I = 0.07
KURTOSIS---VETA II = 2.94

****

NUMBER OF SUBJECTS = 1482

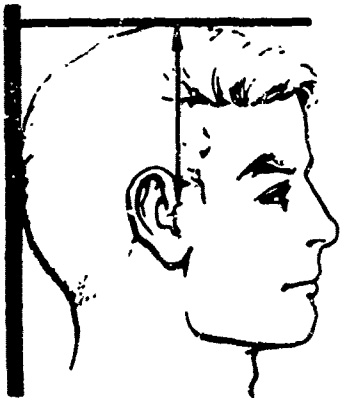
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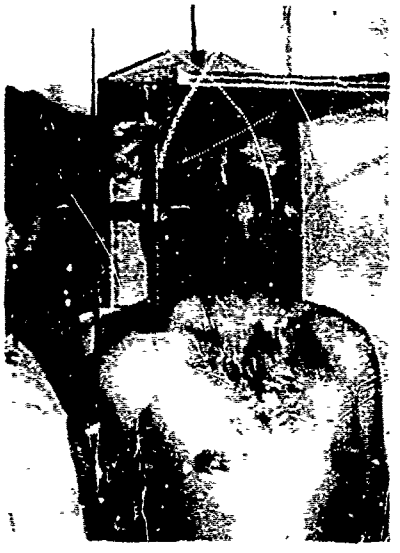
THE PERCENTILES

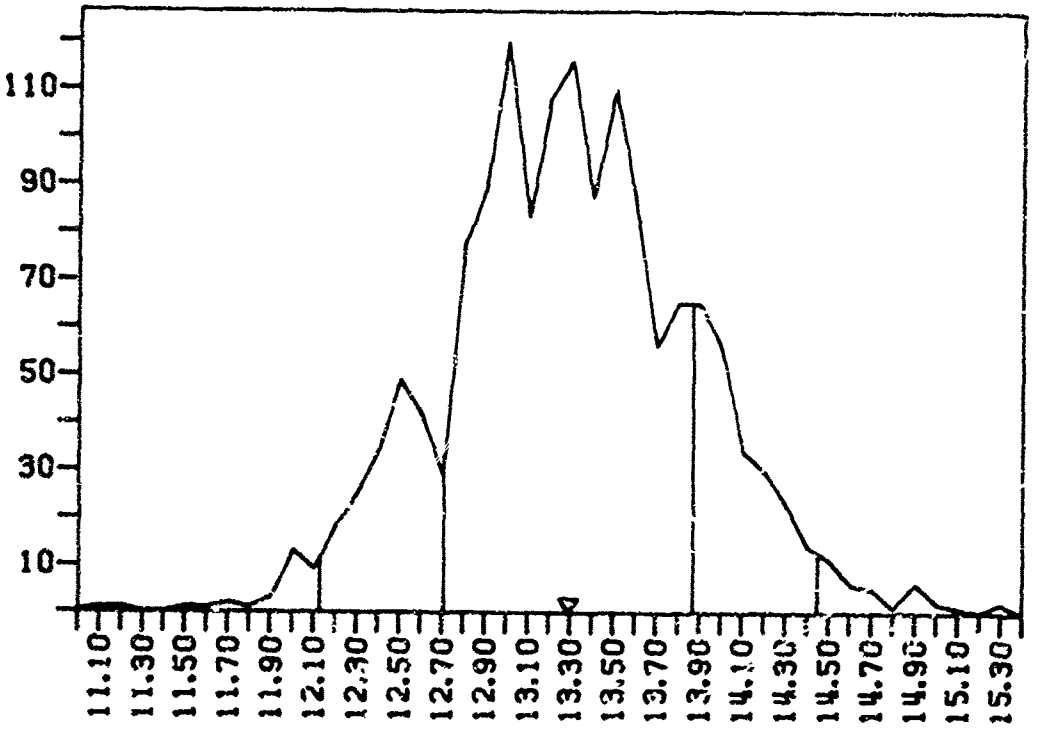
CENTIMETERS		INCHES
15.11	99TH	5.95
14.96	98TH	5.89
14.87	97TH	5.85
14.74	95TH	5.80
14.54	90TH	5.73
14.41	85TH	5.67
14.31	80TH	5.63
14.22	75TH	5.60
14.14	70TH	5.57
14.06	65TH	5.54
13.99	60TH	5.51
13.93	55TH	5.48
13.86	50TH	5.46
13.79	45TH	5.43
13.73	40TH	5.40
13.66	35TH	5.38
13.58	30TH	5.35
13.50	25TH	5.32
13.42	20TH	5.28
13.32	15TH	5.24
13.19	10TH	5.19
13.01	5TH	5.12
12.89	3RD	5.08
12.81	2ND	5.04
12.68	1ST	4.99

66. HEAD HEIGHT (Tragion to Vertex)

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the vertical distance from the horizontal plane to the right tragion landmark.







RANGES*	F	CUMF	FPCT	CUMFCT
15.25- 15.35	2	1482	0.13	100.00
15.15- 15.25	0	1480	0.00	99.86
15.05- 15.15	1	1480	0.07	99.86
14.95- 15.05	2	1479	0.13	99.80
14.85- 14.95	6	1477	0.40	99.66
14.75- 14.85	1	1471	0.07	99.26
14.65- 14.75	5	1470	0.34	99.19
14.55- 14.65	6	1465	0.40	98.85
14.45- 14.55	11	1459	0.74	98.45
14.35- 14.45	14	1448	0.94	97.71
14.25- 14.35	23	1434	1.55	96.76
14.15- 14.25	30	1411	2.02	95.21
14.05- 14.15	34	1381	2.29	93.18
13.95- 14.05	56	1347	3.78	90.89
13.85- 13.95	65	1291	4.39	87.11
13.75- 13.85	65	1226	4.39	82.73
13.65- 13.75	56	1161	3.78	78.34
13.55- 13.65	86	1105	5.80	74.56
13.45- 13.55	110	1019	7.42	68.76
13.35- 13.45	87	909	5.87	61.34
13.25- 13.35	116	822	7.83	55.47
13.15- 13.25	108	706	7.29	47.64
13.05- 13.15	83	598	5.60	40.35
12.95- 13.05	120	515	8.10	34.75
12.85- 12.95	89	395	6.01	26.65
12.75- 12.85	77	306	5.20	20.65
12.65- 12.75	29	229	1.96	15.45
12.55- 12.65	42	200	2.83	13.50
12.45- 12.55	49	158	3.31	10.66
12.35- 12.45	34	109	2.29	7.36
12.25- 12.35	25	75	1.69	5.06
12.15- 12.25	18	50	1.21	3.37
12.05- 12.15	9	32	0.61	2.16
11.95- 12.05	13	23	0.88	1.55
11.85- 11.95	3	10	0.20	0.67
11.75- 11.85	1	7	0.07	0.47
11.65- 11.75	2	6	0.13	0.40
11.55- 11.65	1	4	0.07	0.27
11.45- 11.55	1	3	0.07	0.20
11.35- 11.45	0	2	0.00	0.13
11.25- 11.35	0	2	0.00	0.13
11.15- 11.25	1	2	0.07	0.13
11.05- 11.15	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
13.29	MEAN VALUE	5.23
0.02	SE(MEAN)	0.01
0.58	SD DEVIATION	0.23
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 4.3%
SYMMETRY---VETA I = 0.09
KURTOSIS---VETA II = 3.22

****

NUMBER OF SUBJECTS = 1482

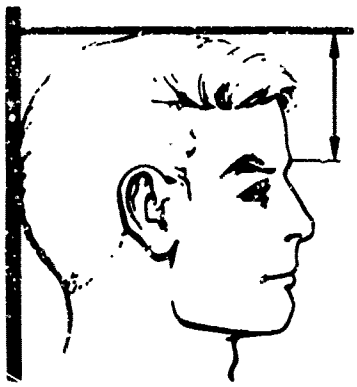
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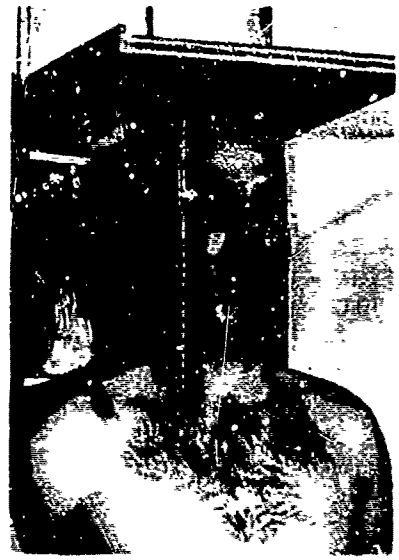
THE PERCENTILES

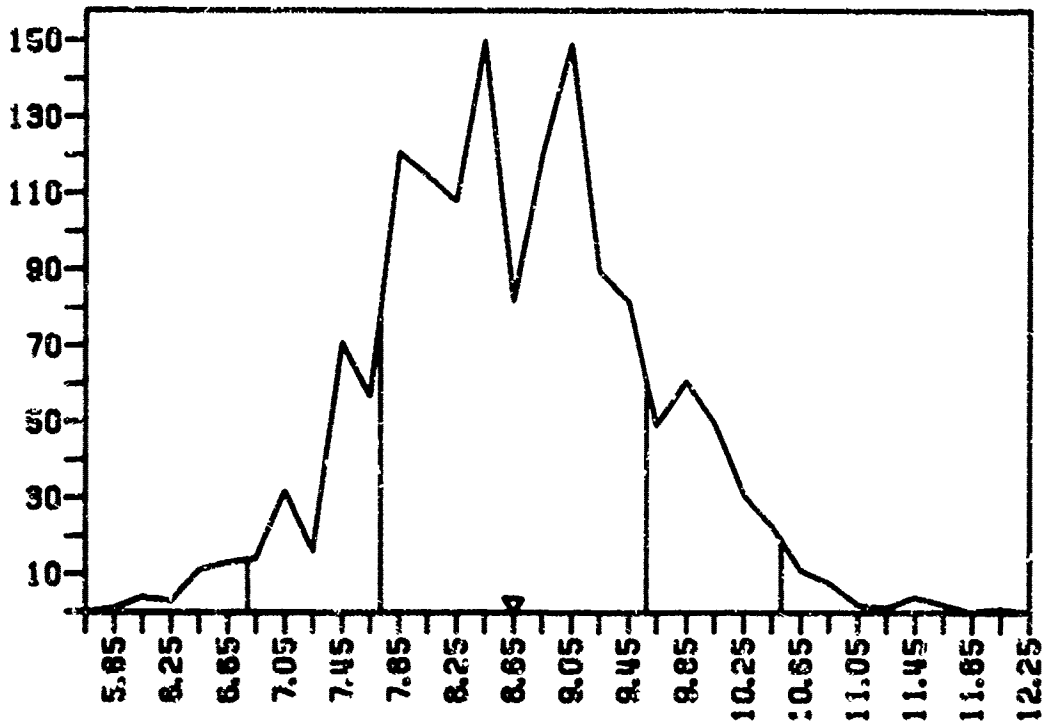
CENTIMETERS		INCHES
14.63	99TH	5.76
14.50	98TH	5.71
14.39	97TH	5.66
14.24	95TH	5.61
14.02	90TH	5.52
13.88	85TH	5.46
13.77	80TH	5.42
13.67	75TH	5.38
13.59	70TH	5.35
13.51	65TH	5.32
13.43	60TH	5.29
13.36	55TH	5.26
13.29	50TH	5.23
13.22	45TH	5.20
13.14	40TH	5.17
13.07	35TH	5.15
12.99	30TH	5.11
12.91	25TH	5.08
12.81	20TH	5.04
12.70	15TH	5.00
12.56	10TH	4.94
12.35	5TH	4.86
12.22	3RD	4.81
12.13	2ND	4.77
11.98	1ST	4.72

67. GLABELLA TO VERTEX HEIGHT

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the vertical distance from the horizontal plane to the glabella landmark.







RANGES*		F	CUMF	FPCT	CUMPCT
11.95-	12.15	1	1482	0.07	100.00
11.75-	11.95	0	1481	0.00	99.93
11.55-	11.75	2	1481	0.13	99.93
11.35-	11.55	4	1479	0.27	99.80
11.15-	11.35	1	1475	0.07	99.53
10.95-	11.15	2	1474	0.13	99.46
10.75-	10.95	8	1472	0.54	99.33
10.55-	10.75	11	1464	0.74	98.79
10.35-	10.55	23	1453	1.55	98.04
10.15-	10.35	31	1430	2.09	96.49
9.95-	10.15	50	1399	3.37	94.40
9.75-	9.95	61	1349	4.12	91.03
9.55-	9.75	49	1288	3.31	86.91
9.35-	9.55	82	1239	5.53	83.60
9.15-	9.35	90	1157	6.07	78.07
8.95-	9.15	149	1067	10.05	72.00
8.75-	8.95	120	918	8.10	61.94
8.55-	8.75	82	798	5.53	53.85
8.35-	8.55	150	716	10.12	48.31
8.15-	8.35	108	566	7.29	38.19
7.95-	8.15	115	458	7.76	30.90
7.75-	7.95	121	343	8.16	23.14
7.55-	7.75	57	222	3.85	14.98
7.35-	7.55	71	165	4.79	11.13
7.15-	7.35	16	94	1.08	6.34
6.95-	7.15	32	78	2.16	5.26
6.75-	6.95	14	46	0.94	3.10
6.55-	6.75	13	32	0.88	2.16
6.35-	6.55	11	19	0.74	1.28
6.15-	6.35	3	8	0.20	0.54
5.95-	6.15	4	5	0.27	0.34
5.75-	5.95	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
8.65	MEAN VALUE	3.40
0.02	SE(MEAN)	0.01
0.93	SD DEVIATION	0.37
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 10.8%
SYMMETRY---VETA I = 0.11
KURTOSIS---VETA II = 3.05

****

NUMBER OF SUBJECTS = 1482

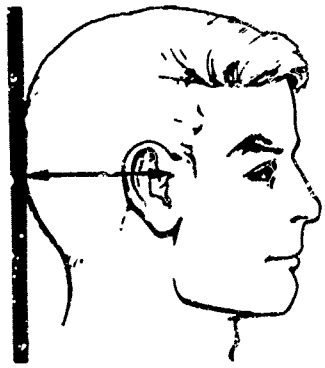
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THE PERCENTILES

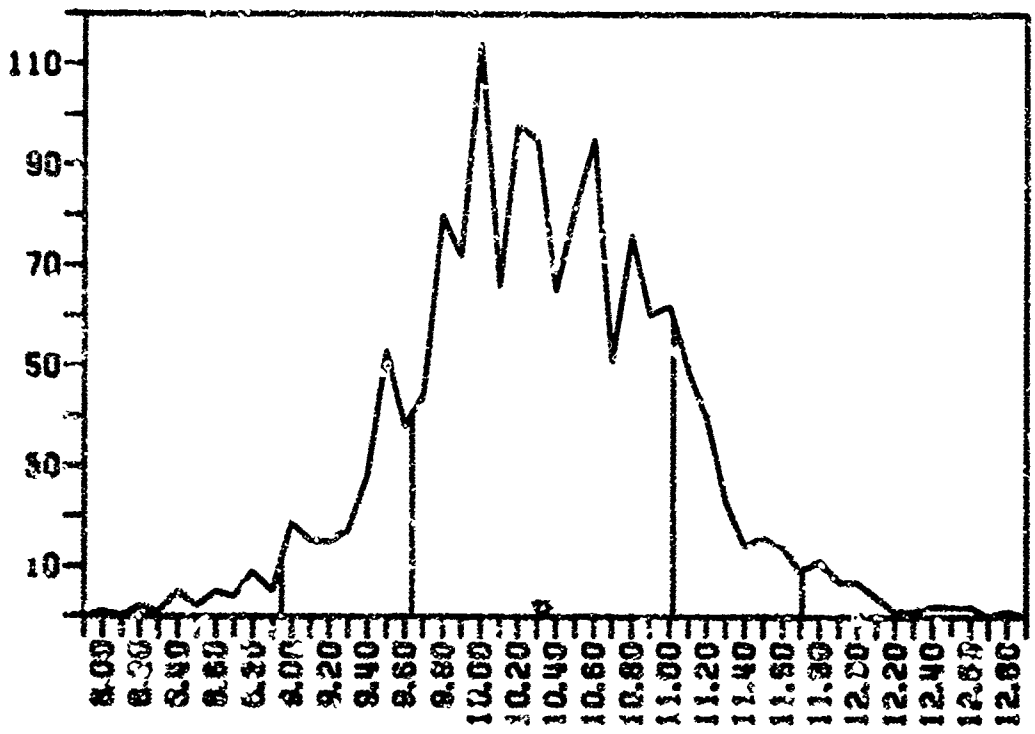
CENTIMETERS		INCHES
10.80	99TH	4.25
10.58	98TH	4.17
10.43	97TH	4.11
10.23	95TH	4.02
9.86	90TH	3.88
9.62	85TH	3.79
9.43	80TH	3.71
9.27	75TH	3.65
9.12	70TH	3.59
8.99	65TH	3.54
8.87	60TH	3.49
8.75	55TH	3.44
8.63	50TH	3.40
8.51	45TH	3.35
8.40	40TH	3.31
8.28	35TH	3.26
8.15	30TH	3.21
8.02	25TH	3.16
7.87	20TH	3.10
7.70	15TH	3.03
7.48	10TH	2.94
7.15	5TH	2.81
6.92	3RD	2.72
6.75	2ND	2.66
6.46	1ST	2.54

68. TRAGION TO WALL

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the horizontal distance from the vertical plane to the right tragion landmark.







RANGES*		F	CUMF	FPCT	CUMPCT
12.75-	12.85	1	1482	0.07	100.00
12.65-	12.75	0	1481	0.00	99.93
12.55-	12.65	2	1481	0.13	99.93
12.45-	12.55	2	1479	0.13	99.80
12.35-	12.45	2	1477	0.13	99.66
12.25-	12.35	1	1475	0.07	99.53
12.15-	12.25	1	1474	0.07	99.46
12.05-	12.15	4	1473	0.27	99.39
11.95-	12.05	7	1469	0.47	99.12
11.85-	11.95	7	1462	0.47	98.65
11.75-	11.85	11	1455	0.74	98.18
11.65-	11.75	9	1444	0.61	97.44
11.55-	11.65	14	1435	0.94	96.83
11.45-	11.55	16	1421	1.08	95.88
11.35-	11.45	14	1405	0.94	94.80
11.25-	11.35	23	1391	1.55	93.86
11.15-	11.25	40	1368	2.70	92.31
11.05-	11.15	49	1328	3.31	89.61
10.95-	11.05	62	1279	4.18	86.30
10.85-	10.95	60	1217	4.05	82.12
10.75-	10.85	76	1157	5.13	78.07
10.65-	10.75	51	1081	3.44	72.94
10.55-	10.65	95	1030	6.41	69.50
10.45-	10.55	82	935	5.53	63.09
10.35-	10.45	65	853	4.39	57.56
10.25-	10.35	95	788	6.41	53.17
10.15-	10.25	98	693	6.61	46.76
10.05-	10.15	66	595	4.45	40.15
9.95-	10.05	114	529	7.69	35.69
9.85-	9.95	72	415	4.86	28.00
9.75-	9.85	80	343	5.40	23.14
9.65-	9.75	44	263	2.97	17.75
9.55-	9.65	38	219	2.56	14.78
9.45-	9.55	53	181	3.58	12.21
9.35-	9.45	28	128	1.89	8.64
9.25-	9.35	17	100	1.15	6.75
9.15-	9.25	15	83	1.01	5.60
9.05-	9.15	15	68	1.01	4.59
8.95-	9.05	19	53	1.28	3.58
8.85-	8.95	5	34	0.34	2.29
8.75-	8.85	9	29	0.61	1.96
8.65-	8.75	4	20	0.27	1.35
8.55-	8.65	5	16	0.34	1.08
8.45-	8.55	2	11	0.13	0.74
8.35-	8.45	5	9	0.34	0.61
8.25-	8.35	1	4	0.07	0.27
8.15	8.25	2	3	0.13	0.20
8.05-	8.15	0	1	0.00	0.07
7.95-	8.05	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
10.33	MEAN VALUE	4.07
0.02	SE(MEAN)	0.01
0.69	SD DEVIATION	0.27
0.01	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 6.74
SYMMETRY---VETA I = 0.06
KURTOSIS---VETA II = 3.39

****

NUMBER OF SUBJECTS = 1482

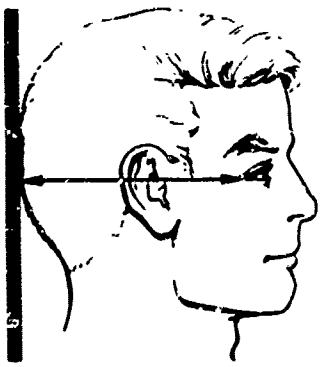
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THE PERCENTILES

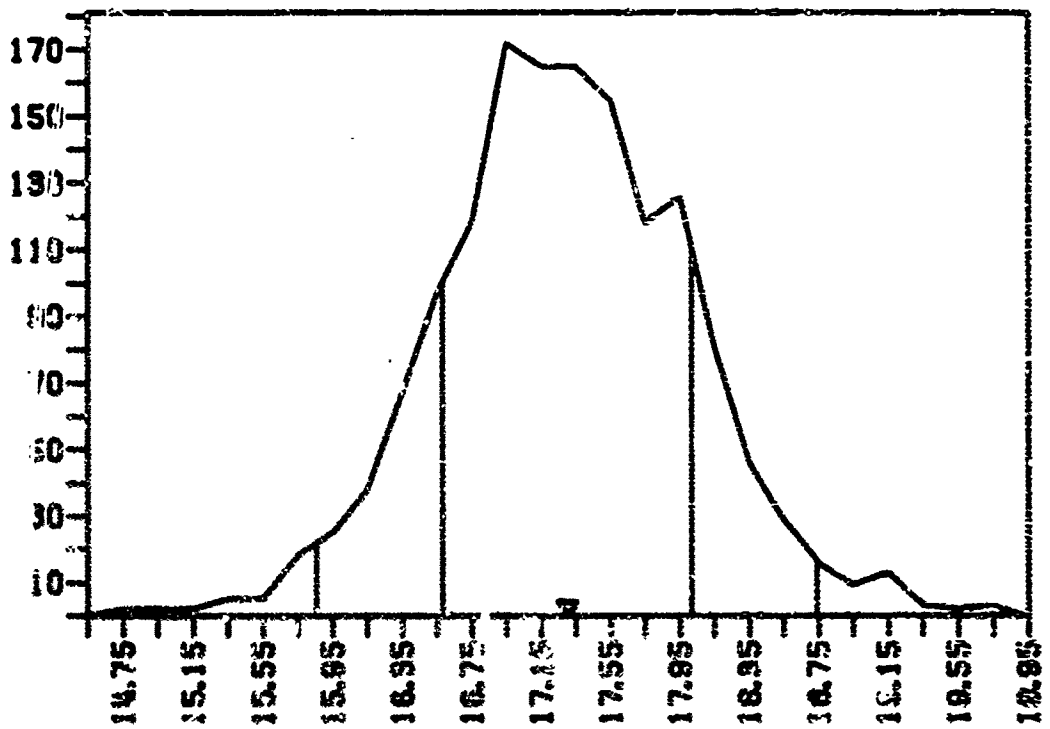
CENTIMETERS		INCHES
12.03	99TH	4.74
11.81	98TH	4.65
11.67	97TH	4.59
11.48	95TH	4.52
11.20	90TH	4.41
11.02	85TH	4.34
10.88	80TH	4.28
10.76	75TH	4.24
10.66	70TH	4.20
10.57	65TH	4.16
10.48	60TH	4.13
10.40	55TH	4.09
10.32	50TH	4.06
10.24	45TH	4.03
10.15	40TH	4.00
10.07	35TH	3.96
9.98	30TH	3.93
9.88	25TH	3.89
9.77	20TH	3.85
9.64	15TH	3.80
9.47	10TH	3.73
9.20	5TH	3.62
9.02	3RD	3.55
8.87	2ND	3.49
8.62	1ST	3.39

69. EXTERNAL CANTHUS TO WALL

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the horizontal distance from the vertical plane to the right external canthus.







RANGES*	F	CUMF	FPCT	CUMPCT
19.65- 19.85	3	1482	0.20	100.00
19.45- 19.65	2	1479	0.13	99.80
19.25- 19.45	3	1477	0.20	99.66
19.05- 19.25	13	1474	0.88	99.46
18.85- 19.05	9	1461	0.61	98.58
18.65- 18.85	16	1452	1.08	97.98
18.45- 18.65	29	1436	1.95	96.90
18.25- 18.45	46	1407	3.10	94.94
18.05- 18.25	81	1361	5.47	91.84
17.85- 18.05	126	1280	8.50	86.37
17.65- 17.85	118	1154	7.96	77.87
17.45- 17.65	155	1036	10.46	69.91
17.25- 17.45	165	881	11.13	59.45
17.05- 17.25	165	716	11.13	48.31
16.85- 17.05	172	551	11.61	37.18
16.65- 16.85	118	379	7.96	25.57
16.45- 16.65	97	261	6.55	17.61
16.25- 16.45	67	164	4.52	11.07
16.05- 16.25	38	97	2.56	6.55
15.85- 16.05	25	59	1.69	3.98
15.65- 15.85	18	34	1.21	2.29
15.45- 15.65	5	16	0.34	1.08
15.25- 15.45	5	11	0.34	0.74
15.05- 15.25	2	6	0.13	0.40
14.85- 15.05	2	4	0.13	0.27
14.65- 14.85	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
17.30	MEAN VALUE	6.81
0.02	SE(MEAN)	0.01
0.72	SD DEVIATION	0.28
0.01	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.1%
SYMMETRY---VETA I = 0.05
KURTOSIS---VETA II = 3.42

****

NUMBER OF SUBJECTS = 1482

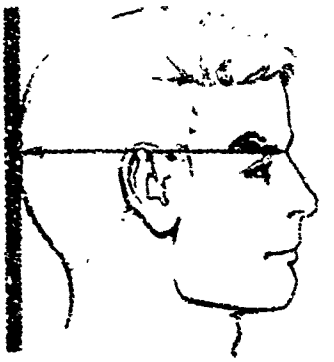
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THE PERCENTILES

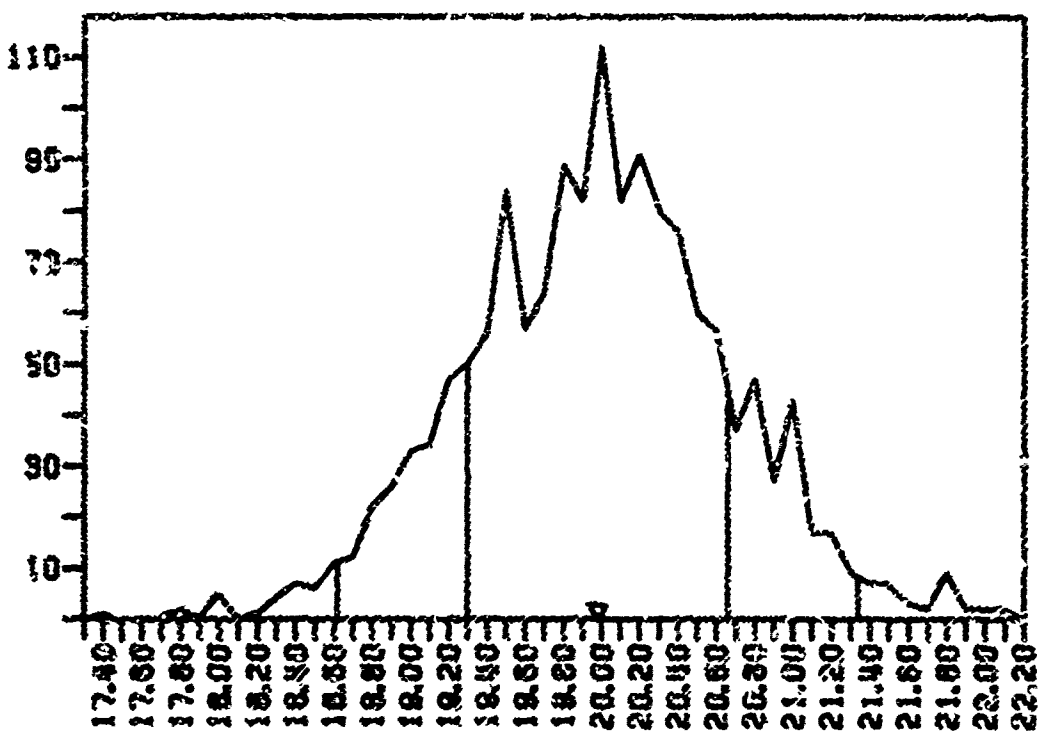
CENTIMETERS		INCHES
19.13	99TH	7.53
18.85	98TH	7.42
18.69	97TH	7.36
18.48	95TH	7.28
18.19	90TH	7.16
18.01	85TH	7.09
17.87	80TH	7.03
17.75	75TH	6.99
17.65	70TH	6.95
17.55	65TH	6.91
17.46	60TH	6.86
17.38	55TH	6.84
17.29	50TH	6.81
17.21	45TH	6.77
17.12	40TH	6.74
17.03	35TH	6.71
16.93	30TH	6.67
16.83	25TH	6.62
16.71	20TH	6.58
16.57	15TH	6.52
16.39	10TH	6.45
16.12	5TH	6.35
15.94	3RD	6.28
15.81	2ND	6.22
15.60	1ST	6.14

70. NASAL ROOT TO WALL

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the horizontal distance from the vertical plane to the nasal root depression.







RANGES*	F	CUMF	FPCT	CUMPCT
22.05- 22.15	2	1482	0.13	100.00
21.95- 22.05	2	1480	0.13	99.86
21.85- 21.95	2	1478	0.13	99.73
21.75- 21.85	9	1476	0.61	99.60
21.65- 21.75	2	1467	0.13	98.99
21.55- 21.65	3	1465	0.20	98.85
21.45- 21.55	7	1462	0.47	98.65
21.35- 21.45	7	1455	0.47	98.18
21.25- 21.35	9	1448	0.61	97.71
21.15- 21.25	17	1439	1.15	97.10
21.05- 21.15	17	1422	1.15	95.95
20.95- 21.05	43	1405	2.90	94.80
20.85- 20.95	27	1362	1.82	91.90
20.75- 20.85	47	1335	3.17	90.08
20.65- 20.75	37	1288	2.50	86.91
20.55- 20.65	57	1251	3.85	84.41
20.45- 20.55	60	1194	4.05	80.57
20.35- 20.45	76	1134	5.13	76.52
20.25- 20.35	80	1058	5.40	71.39
20.15- 20.25	91	978	6.14	65.99
20.05- 20.15	82	887	5.53	59.85
19.95- 20.05	112	805	7.56	54.32
19.85- 19.95	82	693	5.53	46.76
19.75- 19.85	89	611	6.01	41.23
19.65- 19.75	64	522	4.32	35.22
19.55- 19.65	57	458	3.85	30.90
19.45- 19.55	84	401	5.67	27.06
19.35- 19.45	56	317	3.78	21.39
19.25- 19.35	50	261	3.37	17.61
19.15- 19.25	47	211	3.17	14.24
19.05- 19.15	34	164	2.29	11.07
18.95- 19.05	33	130	2.23	8.77
18.85- 18.95	26	97	1.75	6.55
18.75- 18.85	22	71	1.48	4.79
18.65- 18.75	12	49	0.81	3.31
18.55- 18.65	11	37	0.74	2.50
18.45- 18.55	6	26	0.40	1.75
18.35- 18.45	7	20	0.47	1.35
18.25- 18.35	4	13	0.27	0.88
18.15- 18.25	1	9	0.07	0.61
18.05- 18.15	0	8	0.00	0.54
17.95- 18.05	5	8	0.34	0.54
17.85- 17.95	0	3	0.00	0.20
17.75- 17.85	2	3	0.13	0.20
17.65- 17.75	0	1	0.00	0.07
17.55- 17.65	0	1	0.00	0.07
17.45- 17.55	0	1	0.00	0.07
17.35- 17.45	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
19.98	MEAN VALUE	7.87
0.02	SE(MEAN)	0.01
0.68	SD DEVIATION	0.27
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 3.4%
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 3.20

****

NUMBER OF SUBJECTS = 1482

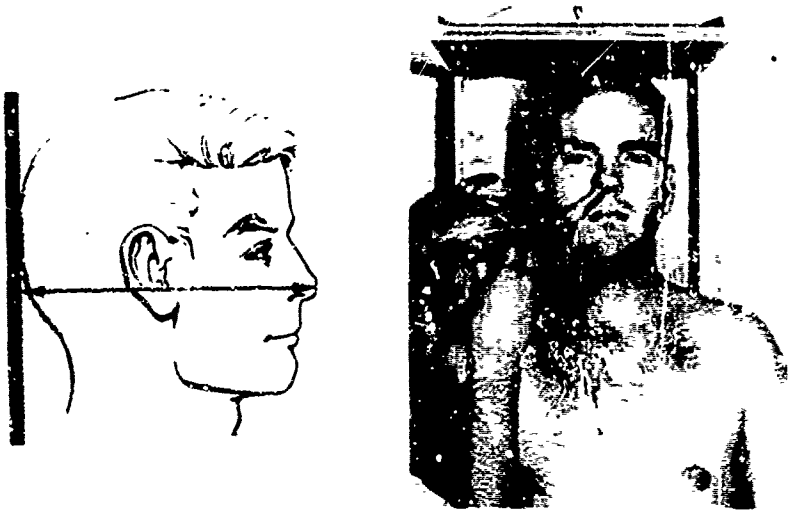
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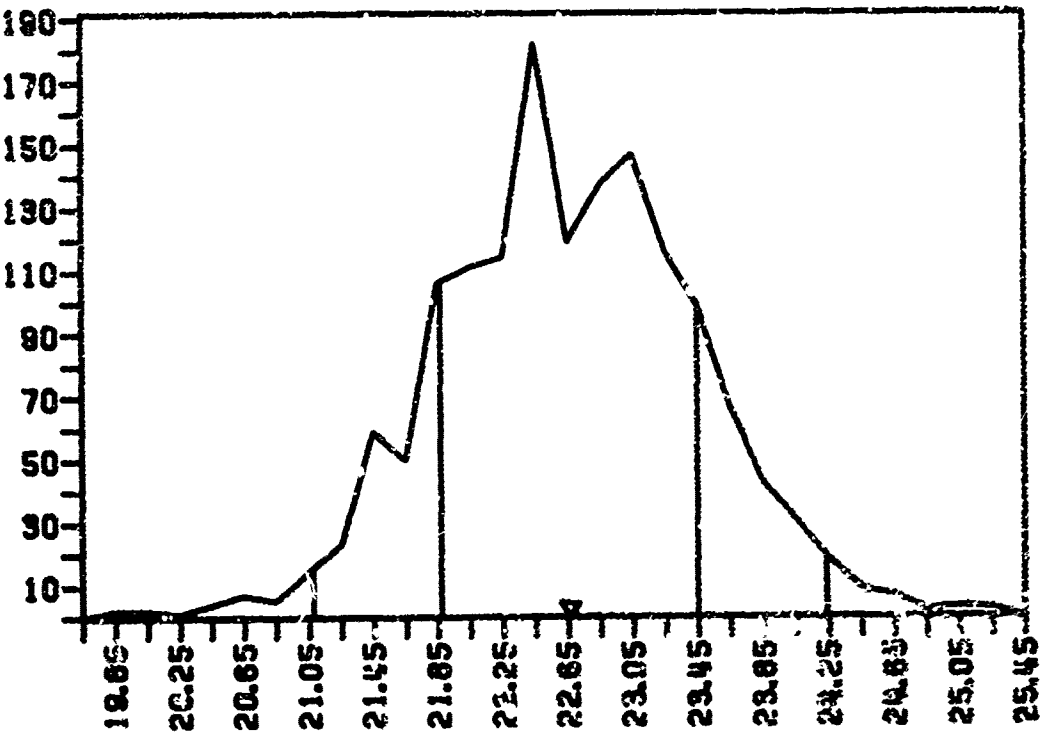
THE PERCENTILES

CENTIMETERS		INCHES
21.72	99TH	8.55
21.44	98TH	8.44
21.28	97TH	8.38
21.09	95TH	8.30
20.82	90TH	8.20
20.65	85TH	8.13
20.53	80TH	8.08
20.42	75TH	8.04
20.32	70TH	8.00
20.24	65TH	7.97
20.15	60TH	7.93
20.07	55TH	7.90
19.99	50TH	7.87
19.91	45TH	7.84
19.82	40TH	7.80
19.74	35TH	7.77
19.64	30TH	7.73
19.54	25TH	7.69
19.42	20TH	7.65
19.28	15TH	7.59
19.11	10TH	7.52
18.85	5TH	7.42
18.68	3RD	7.36
18.57	2ND	7.31
18.40	1ST	7.24

71. PRONASALE TO WALL

Subject stands under the headboard looking straight ahead. The headboard is adjusted so that its vertical and horizontal planes are in firm contact with the back and the top of the head. Placing the head in the Frankfort plane and using the special gauge, measure the horizontal distance from the vertical plane to pronasale.





RANGES*	F	CUMF	FPCT	CUMPCT
25.15- 25.35	3	1482	0.20	100.00
24.95- 25.15	3	1479	0.20	99.80
24.75- 24.95	2	1476	0.13	99.60
24.55- 24.75	7	1474	0.47	99.46
24.35- 24.55	9	1467	0.61	98.99
24.15- 24.35	19	1458	1.28	98.38
23.95- 24.15	31	1439	2.09	97.10
23.75- 23.95	43	1408	2.90	95.01
23.55- 23.75	67	1365	4.52	92.11
23.35- 23.55	99	1298	6.68	87.58
23.15- 23.35	116	1199	7.83	80.90
22.95- 23.15	147	1083	9.92	73.08
22.75- 22.95	137	936	9.24	63.16
22.55- 22.75	119	799	8.03	53.91
22.35- 22.55	182	680	12.28	45.88
22.15- 22.35	114	498	7.69	33.60
21.95- 22.15	111	384	7.49	25.91
21.75- 21.95	106	273	7.15	18.42
21.55- 21.75	50	167	3.37	11.27
21.35- 21.55	59	117	3.98	7.89
21.15- 21.35	23	58	1.55	3.91
20.95- 21.15	14	35	0.94	2.36
20.75- 20.95	5	21	0.34	1.42
20.55- 20.75	7	16	0.47	1.08
20.35- 20.55	4	9	0.27	0.61
20.15- 20.35	1	5	0.07	0.34
19.95- 20.15	2	4	0.13	0.27
19.75- 19.95	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
22.66	MEAN VALUE	8.92
0.02	SE(MEAN)	0.01
0.79	SD DEVIATION	0.31
0.01	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 3.5%
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 3.23

****

NUMBER OF SUBJECTS = 1482

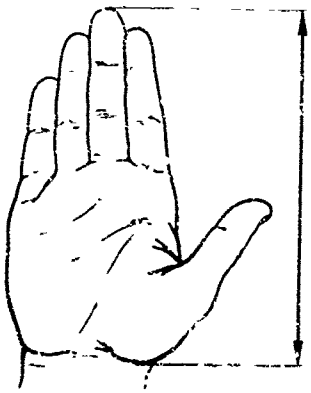
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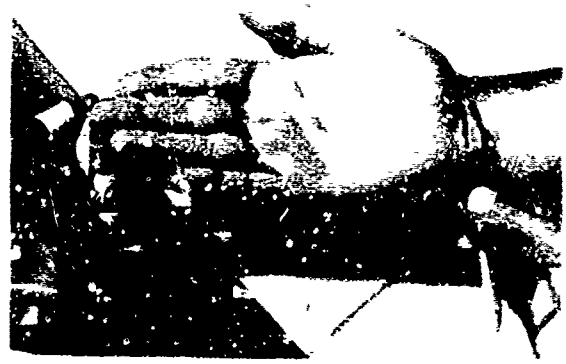
THE PERCENTILES

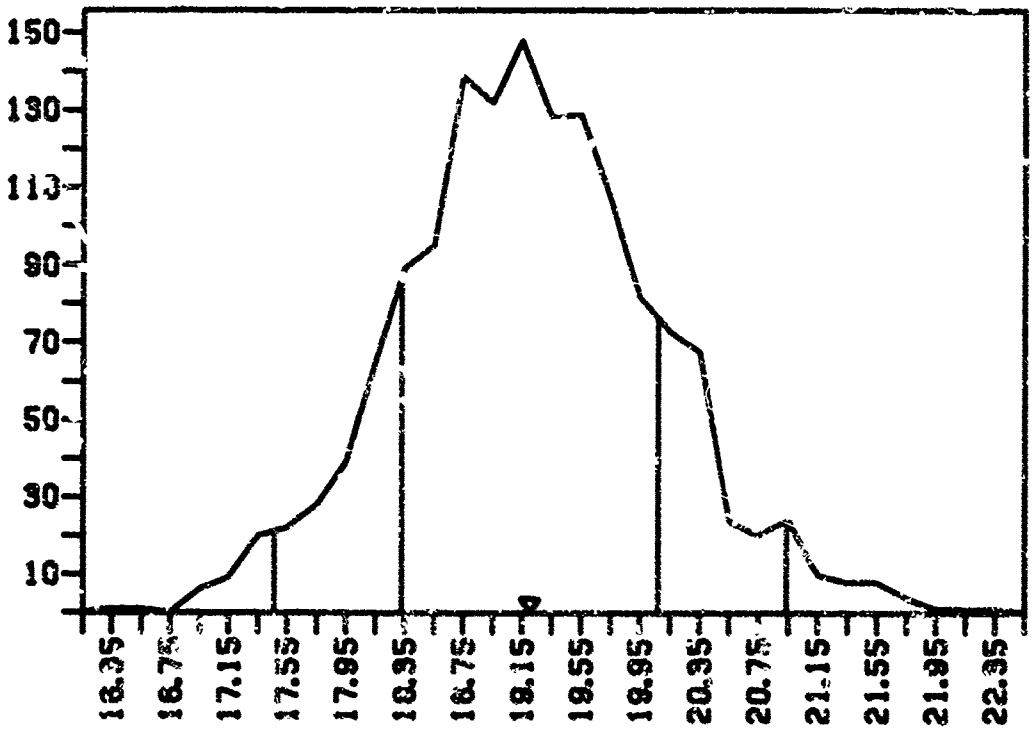
CENTIMETERS		INCHES
24.52	99TH	9.65
24.30	98TH	9.57
24.16	97TH	9.51
23.97	95TH	9.44
23.67	90TH	9.32
23.47	85TH	9.24
23.32	80TH	9.18
23.18	75TH	9.13
23.06	70TH	9.08
22.96	65TH	9.04
22.85	60TH	9.00
22.76	55TH	8.96
22.66	50TH	8.92
22.56	45TH	8.88
22.47	40TH	8.85
22.37	35TH	8.81
22.26	30TH	8.77
22.15	25TH	8.72
22.02	20TH	8.67
21.87	15TH	8.61
21.68	10TH	8.54
21.39	5TH	8.42
21.19	3RD	8.34
21.03	2ND	8.28
20.77	1ST	8.18

72. HAND LENGTH

Subject sits, right hand flat on a table, palm up. The fingers are together and straight but not hyper-extended. With the bar of a sliding caliper parallel to the long axis of the hand, measure the distance from the wrist landmark to dactylion.







RANGES*	F	CUMF	FPCT	CUMPCT
22.25- 22.45	1	1482	0.07	100.00
22.05- 22.25	1	1481	0.07	99.93
21.85- 22.05	1	1480	0.07	99.86
21.65- 21.85	4	1479	0.27	99.80
21.45- 21.65	8	1475	0.54	99.53
21.25- 21.45	8	1467	0.54	98.99
21.05- 21.25	10	1459	0.67	98.45
20.85- 21.05	24	1449	1.62	97.77
20.65- 20.85	20	1425	1.35	96.15
20.45- 20.65	24	1405	1.62	94.60
20.25- 20.45	68	1381	4.59	93.18
20.05- 20.25	73	1313	4.93	88.60
19.85- 20.05	82	1240	5.53	83.67
19.65- 19.85	107	1158	7.22	78.14
19.45- 19.65	129	1051	8.70	70.92
19.25- 19.45	128	922	8.64	62.21
19.05- 19.25	148	794	9.99	53.58
18.85- 19.05	132	646	8.91	43.59
18.65- 18.85	139	514	9.38	34.68
18.45- 18.65	95	375	6.41	25.30
18.25- 18.45	89	280	6.01	18.89
18.05- 18.25	65	191	4.39	12.89
17.85- 18.05	39	126	2.63	8.50
17.65- 17.85	28	87	1.89	5.87
17.45- 17.65	22	59	1.48	3.98
17.25- 17.45	20	37	1.35	2.50
17.05- 17.25	9	17	0.61	1.15
16.85- 17.05	6	8	0.40	0.54
16.65- 16.85	0	2	0.00	0.13
16.45- 16.65	1	2	0.07	0.13
16.25- 16.45	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
19.20	MEAN VALUE	7.56
0.02	SE(MEAN)	0.01
0.87	SD DEVIATION	0.34
0.02	SE(SD DEV)	0.01

****

COEFF. OF VARIATION = 4.5%
SYMMETRY---BETA I = 0.13
KURTOSIS---BETA II = 3.27

****

NUMBER OF SUBJECTS = 1482

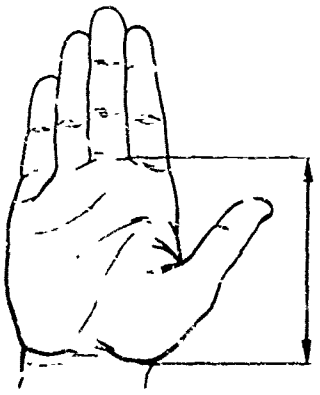
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THE PERCENTILES

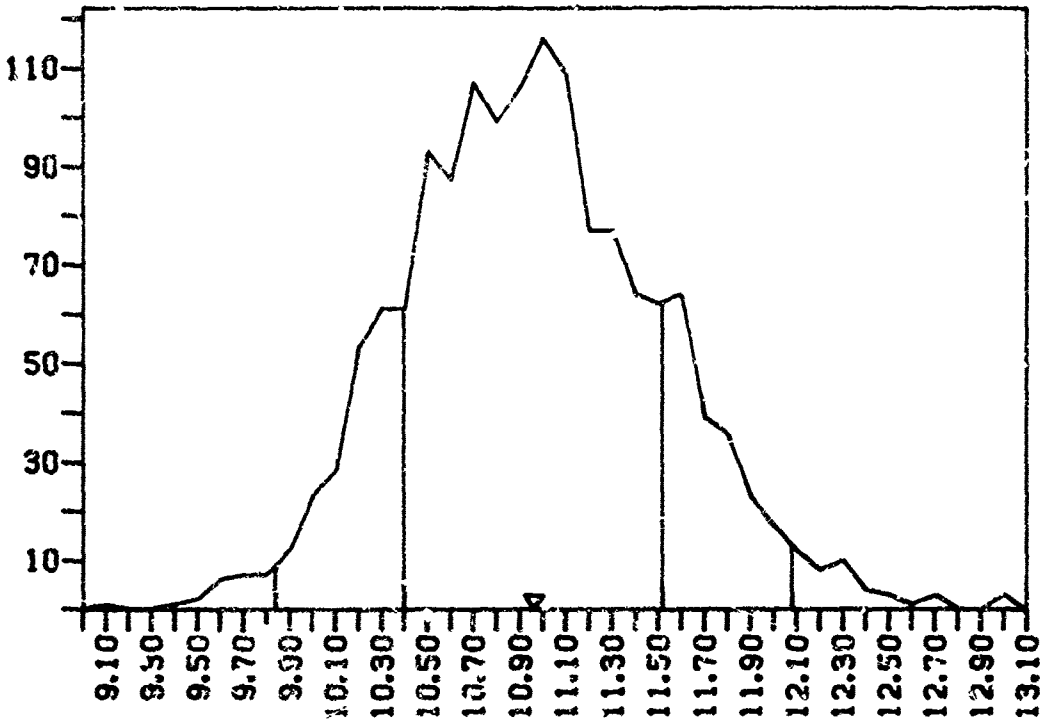
CENTIMETERS		INCHES
21.46	99TH	8.45
21.14	98TH	8.32
20.93	97TH	8.24
20.68	95TH	8.14
20.32	90TH	8.00
20.09	85TH	7.91
19.91	80TH	7.84
19.77	75TH	7.78
19.64	70TH	7.73
19.52	65TH	7.68
19.40	60TH	7.64
19.30	55TH	7.60
19.19	50TH	7.56
19.08	45TH	7.51
18.98	40TH	7.47
18.86	35TH	7.43
18.75	30TH	7.38
18.62	25TH	7.33
18.47	20TH	7.27
18.30	15TH	7.21
18.09	10TH	7.12
17.77	5TH	7.00
17.56	3RD	6.91
17.40	2ND	6.85
17.17	1ST	6.76

73. PALM LENGTH

Subject sits, right hand flat on a table, palm up. The fingers are together but not hyper-extended. With the bar of the sliding caliper parallel to the long axis of the hand, measure the distance from the wrist landmark to the skin crease at the base of the middle finger.







RANGES*	F	CUMF	FPCT	CUMPCT
12.95- 13.05	3	1482	0.20	100.00
12.85- 12.95	0	1479	0.00	99.80
12.75- 12.85	0	1479	0.00	99.80
12.65- 12.75	3	1479	0.20	99.80
12.55- 12.65	1	1476	0.07	99.60
12.45- 12.55	3	1475	0.20	99.53
12.35- 12.45	4	1472	0.27	99.33
12.25- 12.35	10	1468	0.67	99.06
12.15- 12.25	8	1458	0.54	98.38
12.05- 12.15	12	1450	0.81	97.84
11.95- 12.05	17	1438	1.15	97.03
11.85- 11.95	23	1421	1.55	95.88
11.75- 11.85	36	1398	2.43	94.33
11.65- 11.75	39	1362	2.63	91.90
11.55- 11.65	64	1323	4.32	89.27
11.45- 11.55	62	1259	4.18	84.95
11.35- 11.45	64	1197	4.32	80.77
11.25- 11.35	77	1133	5.20	76.45
11.15- 11.25	77	1056	5.20	71.26
11.05- 11.15	109	979	7.35	66.06
10.95- 11.05	116	870	7.83	58.70
10.85- 10.95	106	754	7.15	50.88
10.75- 10.85	99	648	6.68	43.72
10.65- 10.75	107	549	7.22	37.04
10.55- 10.65	87	442	5.87	29.82
10.45- 10.55	93	355	6.28	23.95
10.35- 10.45	61	262	4.12	17.68
10.25- 10.35	61	201	4.12	13.56
10.15- 10.25	53	140	3.58	9.45
10.05- 10.15	28	87	1.89	5.87
9.95- 10.05	23	59	1.55	3.98
9.85- 9.95	12	36	0.81	2.43
9.75- 9.85	7	24	0.47	1.62
9.65- 9.75	7	17	0.47	1.15
9.55- 9.65	6	10	0.40	0.67
9.45- 9.55	2	4	0.13	0.27
9.35- 9.45	1	2	0.07	0.13
9.25- 9.35	0	1	0.00	0.07
9.15- 9.25	0	1	0.00	0.07
9.05- 9.15	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
10.96	MEAN VALUE	4.31
0.01	SE(MEAN)	0.01
0.56	SD DEVIATION	0.22
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 5.1%
SYMMETRY---VETA I = 0.25
KURTOSIS---VETA II = 3.17

****

NUMBER OF SUBJECTS = 1482

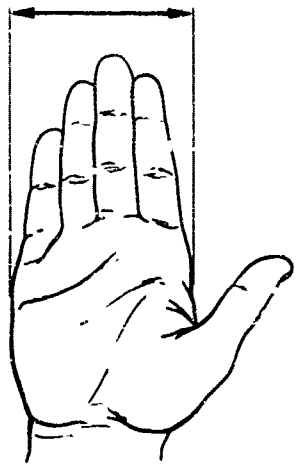
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THE PERCENTILES

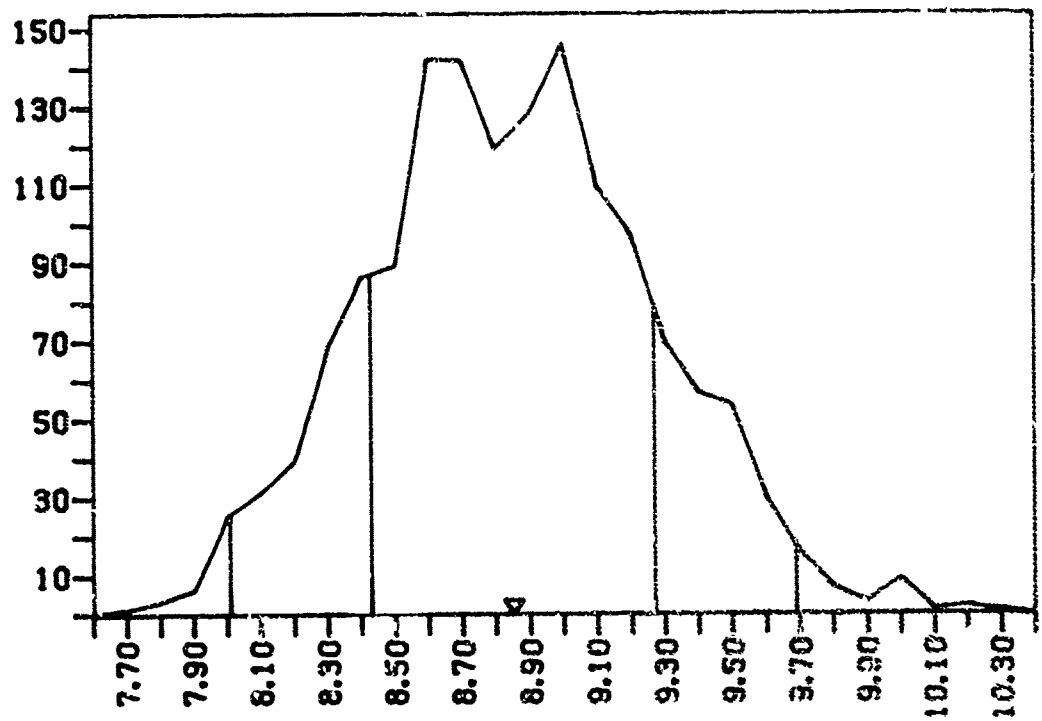
CENTIMETERS		INCHES
12.34	99TH	4.86
12.17	98TH	4.79
12.06	97TH	4.75
11.91	95TH	4.69
11.69	90TH	4.60
11.53	85TH	4.54
11.42	80TH	4.49
11.32	75TH	4.45
11.23	70TH	4.42
11.15	65TH	4.39
11.07	60TH	4.36
11.00	55TH	4.33
10.93	50TH	4.30
10.86	45TH	4.28
10.79	40TH	4.25
10.72	35TH	4.22
10.65	30TH	4.19
10.58	25TH	4.16
10.49	20TH	4.13
10.39	15TH	4.09
10.27	10TH	4.04
10.09	5TH	3.97
9.97	3RD	3.93
9.87	2ND	3.89
9.74	1ST	3.83

74. HAND BREADTH

Subject sits, right hand flat on a table, palm down. The fingers are together and straight but not hyper-extended. With the sliding caliper, measure the breadth of the hand between metacarpal-phalangeal joints II and V.







CENTIMETERS		INCHES
8.85	MEAN VALUE	3.48
0.01	SE(MEAN)	0.00
0.42	SD DEVIATION	0.17
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 4.72
SYMMETRY---VETA I = 0.17
KURTOSIS---VETA II = 2.87

****

NUMBER OF SUBJECTS = 1482

****

RANGES*		F	CUMF	FPCT	CUMPCT
10.25-	10.35	1	1482	0.07	100.00
10.15-	10.25	2	1481	0.13	99.93
10.05-	10.15	1	1479	0.07	99.80
9.95-	10.05	9	1478	0.61	99.73
9.85-	9.95	3	1469	0.20	99.12
9.75-	9.85	7	1466	0.47	98.92
9.65-	9.75	16	1459	1.08	98.45
9.55-	9.65	30	1443	2.02	97.37
9.45-	9.55	54	1413	3.64	95.34
9.35-	9.45	57	1359	3.85	91.70
9.25-	9.35	70	1302	4.72	87.85
9.15-	9.25	97	1232	6.55	83.13
9.05-	9.15	110	1135	7.42	76.59
8.95-	9.05	146	1025	9.85	69.16
8.85-	8.95	128	879	8.64	59.31
8.75-	8.85	119	751	8.03	50.67
8.65-	8.75	142	632	9.58	42.65
8.55-	8.65	142	490	9.58	33.06
8.45-	8.55	89	348	6.01	23.48
8.35-	8.45	86	259	5.80	17.48
8.25-	8.35	68	173	4.59	11.67
8.15-	8.25	39	105	2.63	7.09
8.05-	8.15	31	66	2.09	4.45
7.95-	8.05	25	35	1.69	2.36
7.85-	7.95	6	10	0.40	0.67
7.75-	7.85	3	4	0.20	0.27
7.65-	7.75	1	1	0.07	0.07

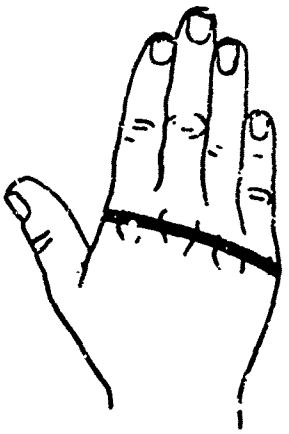
*IN CENTIMETERS

THE PERCENTILES

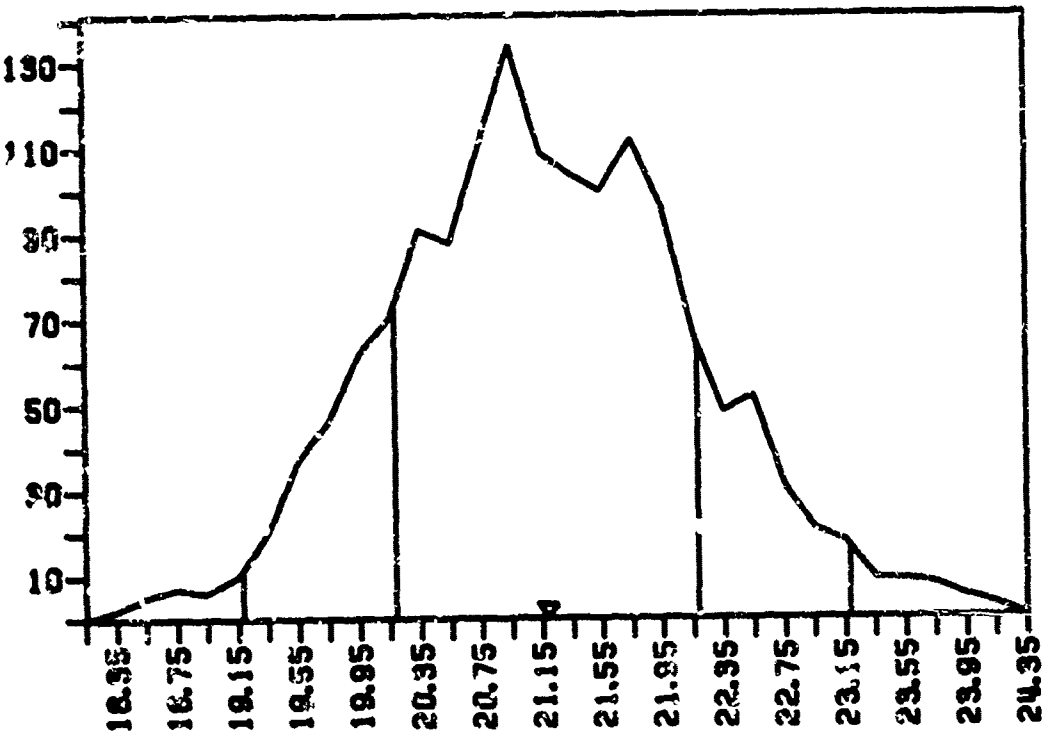
CENTIMETERS		INCHES
9.57	99TH	3.77
9.43	98TH	3.72
9.35	97TH	3.68
9.34	90TH	3.76
9.32	90TH	3.69
9.28	85TH	3.65
9.20	80TH	3.62
9.13	75TH	3.59
9.07	70TH	3.57
9.01	65TH	3.55
8.95	60TH	3.52
8.90	55TH	3.50
8.84	50TH	3.48
8.79	45TH	3.46
8.74	40TH	3.44
8.68	35TH	3.42
8.62	30TH	3.39
8.56	25TH	3.37
8.49	20TH	3.34
8.40	15TH	3.31
8.30	10TH	3.27
8.17	5TH	3.22
8.09	3RD	3.18
8.03	2ND	3.16
7.97	1ST	3.14

75. HAND CIRCUMFERENCE

Subject sits, right hand flat on a table, palm down, with fingers extended and thumb abducted. With a tape passing over the metacarpal-phalangeal joints at II and V, measure the circumference of the hand.







RANGES*	F	CUMF	FPCT	CUMPCT
24.05- 24.25	3	1482	0.20	100.00
23.85- 24.05	5	1479	0.34	99.80
23.65- 23.85	8	1474	0.54	99.46
23.45- 23.65	9	1466	0.61	98.92
23.25- 23.45	9	1457	0.61	98.31
23.05- 23.25	18	1448	1.21	97.71
22.85- 23.05	21	1430	1.42	96.49
22.65- 22.85	31	1409	2.09	95.07
22.45- 22.65	52	1378	3.51	92.98
22.25- 22.45	48	1326	3.24	89.47
22.05- 22.25	67	1278	4.52	86.23
21.85- 22.05	97	1211	6.55	81.71
21.65- 21.85	117	1114	7.56	75.17
21.45- 21.65	100	1002	6.75	67.61
21.25- 21.45	104	902	7.02	60.86
21.05- 21.25	109	798	7.35	53.85
20.85- 21.05	134	689	9.04	46.49
20.65- 20.85	111	555	7.49	37.45
20.45- 20.65	88	444	5.94	29.96
20.25- 20.45	91	356	6.14	24.02
20.05- 20.25	70	265	4.72	17.88
19.85- 20.05	62	195	4.18	13.16
19.65- 19.85	46	133	3.10	8.97
19.45- 19.65	37	87	2.50	5.87
19.25- 19.45	20	50	1.35	3.37
19.05- 19.25	10	30	0.67	2.02
18.85- 19.05	6	20	0.40	1.35
18.65- 18.85	7	14	0.47	0.94
18.45- 18.65	5	7	0.34	0.47
18.25- 18.45	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
21.18	MEAN VALUE	8.34
0.03	SE(MEAN)	0.01
1.00	SD DEVIATION	0.39
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.7%
SYMMETRY---VETA I = 0.12
KURTOSIS---VETA II = 2.92

****

NUMBER OF SUBJECTS = 1482

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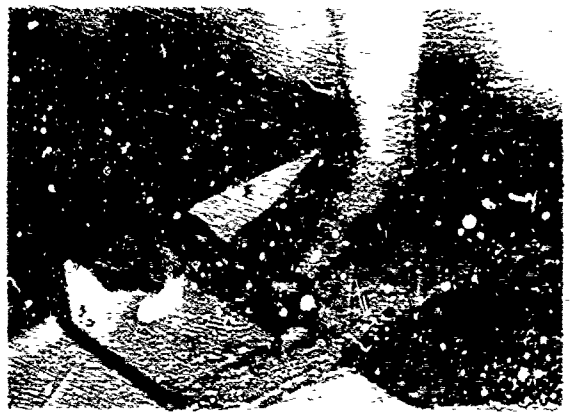
THE PERCENTILES

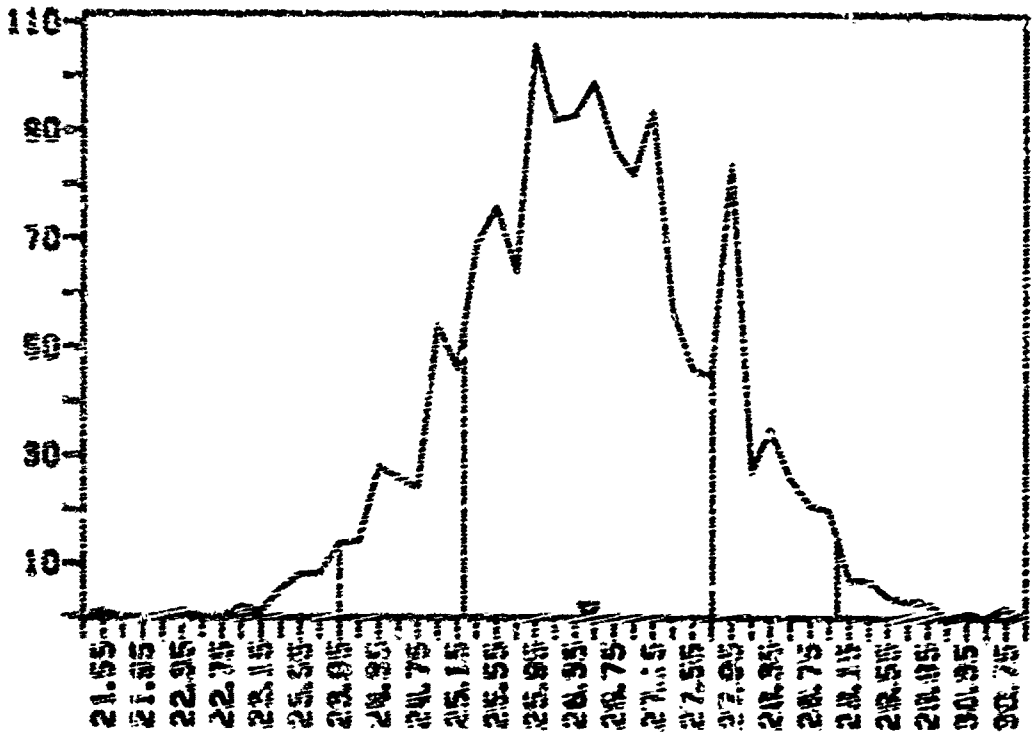
CENTIMETERS		INCHES
23.67	99TH	9.32
23.36	98TH	9.19
23.14	97TH	9.11
22.87	95TH	9.01
22.47	90TH	8.85
22.21	85TH	8.74
22.01	80TH	8.66
21.83	75TH	8.60
21.68	70TH	8.54
21.54	65TH	8.48
21.41	60TH	8.43
21.28	55TH	8.38
21.16	50TH	8.33
21.04	45TH	8.28
20.91	40TH	8.23
20.78	35TH	8.18
20.64	30TH	8.13
20.50	25TH	8.07
20.34	20TH	8.01
20.15	15TH	7.93
19.92	10TH	7.84
19.58	5TH	7.71
19.35	3RD	7.62
19.19	2ND	7.55
18.93	1ST	7.45

76. FOOT LENGTH

Subject stands erect, right foot in the measuring box, left foot on a board of equal height, and weight distributed equally. The right foot is positioned so that the heel touches the rear of the box and the lateral metatarsal-phalangeal joint touches its side. With the measuring block touching the tip of the most protruding toe, measure on the scale of the box the length of the foot.







RANGES*		#	CUMF	FPCT	CUMPCT
30.65-	30.85	2	1482	0.13	100.00
30.45-	30.65	0	1480	0.00	99.85
30.25-	30.45	1	1480	0.07	99.86
30.05-	30.25	0	1479	0.00	99.80
29.85-	30.05	3	1479	0.20	99.80
29.65-	29.85	3	1476	0.20	99.60
29.45-	29.65	4	1473	0.27	99.39
29.25-	29.45	7	1469	0.47	99.12
29.05-	29.25	7	1462	0.47	98.65
28.85-	29.05	20	1455	1.35	98.18
28.65-	28.85	21	1435	1.42	96.83
28.45-	28.65	26	1414	1.75	95.41
28.25-	28.45	35	1388	2.36	93.66
28.05-	28.25	27	1353	1.82	91.30
27.85-	28.05	84	1326	5.67	89.47
27.65-	27.85	45	1242	3.04	83.81
27.45-	27.65	46	1197	3.10	80.77
27.25-	27.45	57	1151	3.85	77.67
27.05-	27.25	94	1094	6.34	73.82
26.85-	27.05	82	1000	5.53	67.48
26.65-	26.85	87	918	5.87	61.94
26.45-	26.65	99	831	6.68	56.07
26.25-	26.45	93	732	6.28	49.39
26.05-	26.25	92	639	6.21	43.12
25.85-	26.05	106	547	7.15	36.91
25.65-	25.85	64	441	4.32	29.76
25.45-	25.65	76	377	5.13	25.44
25.25-	25.45	69	301	4.66	20.31
25.05-	25.25	46	232	3.10	15.65
24.85-	25.05	54	186	3.64	12.55
24.65-	24.85	24	132	1.62	8.91
24.45-	24.65	28	108	1.75	7.29
24.25-	24.45	28	82	1.89	5.53
24.05-	24.25	14	54	0.94	3.64
23.85-	24.05	14	40	0.94	2.70
23.65-	23.85	8	26	0.54	1.75
23.45-	23.65	8	18	0.54	1.21
23.25-	23.45	5	10	0.34	0.67
23.05-	23.25	1	5	0.07	0.34
22.85-	23.05	2	4	0.13	0.27
22.65-	22.85	0	2	0.00	0.13
22.45-	22.65	0	2	0.00	0.13
22.25-	22.45	1	2	0.07	0.13
22.05-	22.25	0	1	0.00	0.07
21.85-	22.05	0	1	0.00	0.07
21.65-	21.85	0	1	0.00	0.07
21.45-	21.65	1	1	0.07	0.07

*In CENTIMETERS

CENTIMETERS		INCHES
26.49	MEAN VALUE	10.43
0.03	SE(MEAN)	0.01
1.27	SD DEVIATION	0.50
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.8%
SYMMETRY---VETA I = 0.02
KURTOSIS---VETA II = 3.02

****

NUMBER OF SUBJECTS = 1482

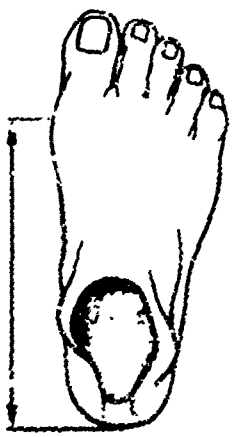
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THE PERCENTILES

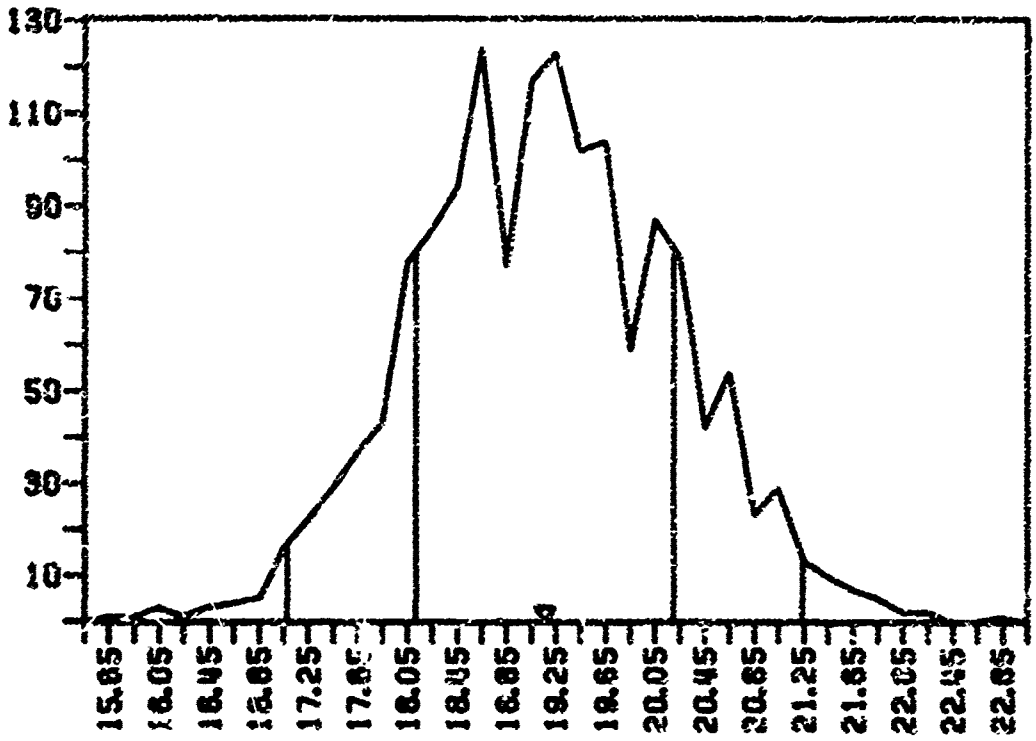
CENTIMETERS		INCHES
29.38	99TH	11.57
29.07	98TH	11.45
28.87	97TH	11.37
28.50	95TH	11.23
28.13	90TH	11.07
27.81	85TH	10.95
27.56	80TH	10.85
27.35	75TH	10.77
27.15	70TH	10.69
26.97	65TH	10.62
26.80	60TH	10.55
26.64	55TH	10.49
26.48	50TH	10.42
26.32	45TH	10.36
26.16	40TH	10.30
25.99	35TH	10.23
25.82	30TH	10.17
25.63	25TH	10.09
25.43	20TH	10.01
25.19	15TH	9.92
24.88	10TH	9.80
24.43	5TH	9.62
24.13	3RD	9.50
23.91	2ND	9.41
23.55	1ST	9.27

77. INSTEP LENGTH

Subject stands erect, right foot in the measuring box, left foot on a board of equal height, and weight distributed equally. The right foot is positioned so that the heel touches the rear of the box and the lateral metatarsal-phalangeal joint touches its side. With the measuring block touching the metatarsal-phalangeal joint I, measure on the scale of the box the length of the foot from heel to instep.







RANGES*	F	CUMF	FRCT	CUMPCT
22.75- 22.95	1	1482	0.07	100.00
22.55- 22.75	0	1481	0.00	99.93
22.35- 22.55	0	1481	0.00	99.93
22.15- 22.35	2	1481	0.13	99.93
21.95- 22.15	2	1479	0.13	99.80
21.75- 21.95	5	1477	0.34	99.66
21.55- 21.75	7	1472	0.47	99.33
21.35- 21.55	10	1465	0.67	98.85
21.15- 21.35	13	1455	0.88	98.18
20.95- 21.15	29	1442	1.96	97.30
20.75- 20.95	23	1413	1.55	95.34
20.55- 20.75	54	1390	3.64	93.79
20.35- 20.55	42	1336	2.83	90.15
20.15- 20.35	79	1294	5.33	87.31
19.95- 20.15	87	1215	5.87	81.98
19.75- 19.95	59	1128	3.98	76.11
19.55- 19.75	104	1069	7.02	72.13
19.35- 19.55	102	965	6.88	65.11
19.15- 19.35	123	863	8.30	58.23
18.95- 19.15	117	740	7.89	49.93
18.75- 18.95	77	623	5.20	42.04
18.55- 18.75	124	546	8.37	36.84
18.35- 18.55	94	422	6.34	28.48
18.15- 18.35	85	328	5.74	22.13
17.95- 18.15	78	243	5.26	16.40
17.75- 17.95	43	165	2.90	11.13
17.55- 17.75	37	122	2.50	8.23
17.35- 17.55	29	85	1.96	5.74
17.15- 17.35	22	56	1.48	3.78
16.95- 17.15	16	34	1.08	2.29
16.75- 16.95	5	18	0.34	1.21
16.55- 16.75	4	13	0.27	0.88
16.35- 16.55	3	9	0.20	0.61
16.15- 16.35	1	6	0.07	0.40
15.95- 16.15	3	5	0.20	0.34
15.75- 15.95	1	2	0.07	0.13
15.55- 15.75	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
19.16	MEAN VALUE	7.54
0.03	SE(MEAN)	0.01
1.04	SD DEVIATION	0.41
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 5.44
SYMMETRY---VETA I = 0.55
KURTOSIS---VETA II = 2.9

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NUMBER OF SUBJECTS = 1482

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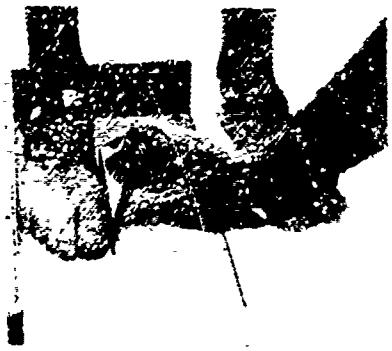
THE PERCENTILES

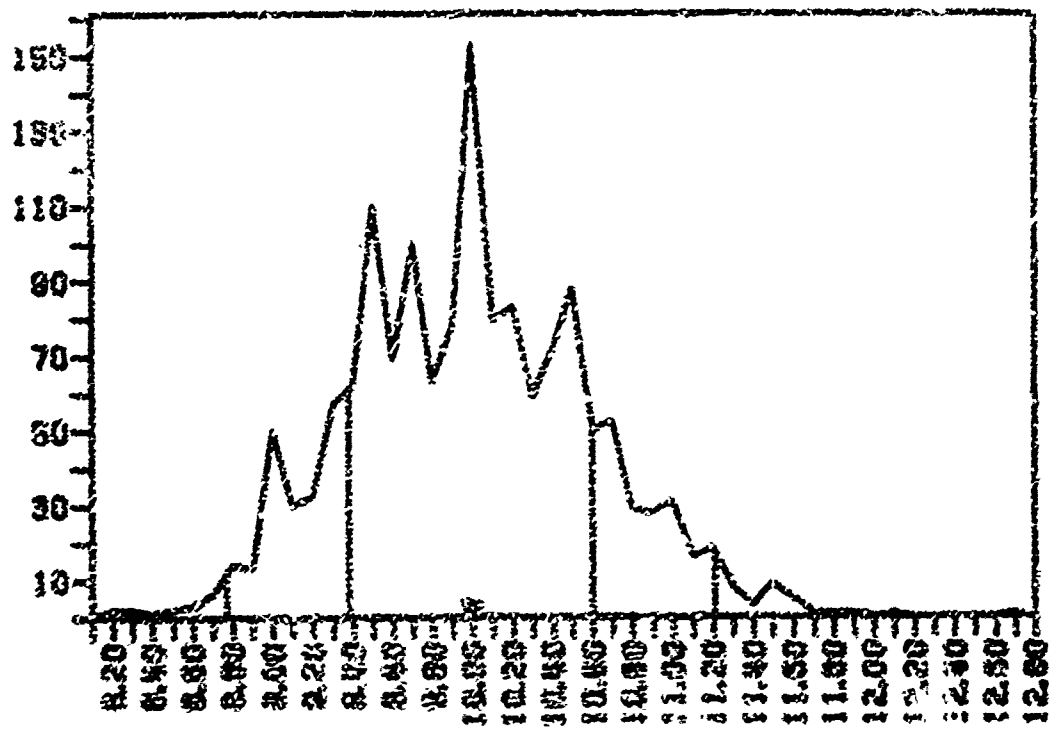
CENTIMETERS		INCHES
21.59	99TH	8.50
21.33	98TH	8.4
21.15	97TH	8.3
20.91	95TH	8.23
20.52	90TH	8.08
20.26	85TH	7.98
20.05	80TH	7.89
19.87	75TH	7.82
19.70	70TH	7.76
19.56	65TH	7.70
19.41	60TH	7.64
19.28	55TH	7.59
19.14	50TH	7.54
19.01	45TH	7.48
18.88	40TH	7.43
18.74	35TH	7.38
18.60	30TH	7.32
18.44	25TH	7.26
18.28	20TH	7.1
18.08	15TH	7.1
17.84	10TH	7.
17.48	5TH	6.
17.26	3RD	6.
17.09	2ND	6.
16.82	1ST	6.

78. FOOT BREADTH

Subject stands erect, right foot in the measuring box, left foot on a board of equal height, and weight distributed equally. The right foot is positioned so that the heel touches the rear of the box and the lateral metatarsal-phalangeal joint touches its side. With the measuring block touching the widest part of the foot, measure on the scale of the box the breadth of the foot.







RANGES*	F	CUMF	FPCT	CUMPCT
12.65- 12.75	1	1482	0.07	100.00
12.55- 12.65	0	1481	0.00	99.93
12.45- 12.55	0	1481	0.00	99.93
12.35- 12.45	0	1481	0.00	99.93
12.25- 12.35	0	1481	0.00	99.93
12.15- 12.25	0	1481	0.00	99.93
12.05- 12.15	1	1481	0.07	99.93
11.95- 12.05	0	1480	0.00	99.86
11.85- 11.95	1	1480	0.07	99.86
11.75- 11.85	1	1479	0.07	99.80
11.65- 11.75	1	1478	0.07	99.73
11.55- 11.65	5	1477	0.34	99.66
11.45- 11.55	9	1472	0.61	99.33
11.35- 11.45	3	1463	0.20	98.72
11.25- 11.35	8	1460	0.54	98.52
11.15- 11.25	18	1452	1.21	97.98
11.05- 11.15	16	1434	1.08	96.76
10.95- 11.05	31	1418	2.09	95.68
10.85- 10.95	28	1387	1.89	93.59
10.75- 10.85	29	1359	1.96	91.70
10.65- 10.75	52	1330	3.51	89.74
10.55- 10.65	50	1278	3.37	86.23
10.45- 10.55	88	1228	5.94	82.86
10.35- 10.45	72	1140	4.86	76.92
10.25- 10.35	59	1068	3.98	72.06
10.15- 10.25	83	1009	5.60	68.08
10.05- 10.15	79	926	5.33	62.48
9.95- 10.05	153	847	10.32	57.15
9.85- 9.95	78	694	5.26	46.83
9.75- 9.85	63	616	4.25	41.57
9.65- 9.75	100	553	6.75	37.31
9.55- 9.65	69	453	4.66	30.57
9.45- 9.55	110	384	7.42	25.91
9.35- 9.45	62	274	4.18	18.49
9.25- 9.35	57	212	3.85	14.30
9.15- 9.25	32	155	2.16	10.46
9.05- 9.15	30	123	2.02	8.30
8.95- 9.05	50	93	3.37	6.28
8.85- 8.95	13	43	0.88	2.90
8.75- 8.85	14	30	0.94	2.02
8.65- 8.75	6	16	0.40	1.08
8.55- 8.65	3	10	0.20	0.67
8.45- 8.55	2	7	0.13	0.47
8.35- 8.45	1	5	0.07	0.34
8.25- 8.35	2	4	0.13	0.27
8.15- 8.25	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
9.99	MEAN VALUE	3.93
0.02	SE(MEAN)	0.01
0.61	SD DEVIATION	0.24
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 6.1%
SYMMETRY---VETA I = 0.22
KURTOSIS---VETA II = 5.07

****

NUMBER OF SUBJECTS = 1482

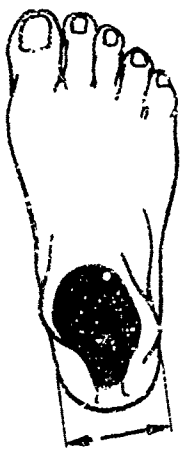
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THE PERCENTILES

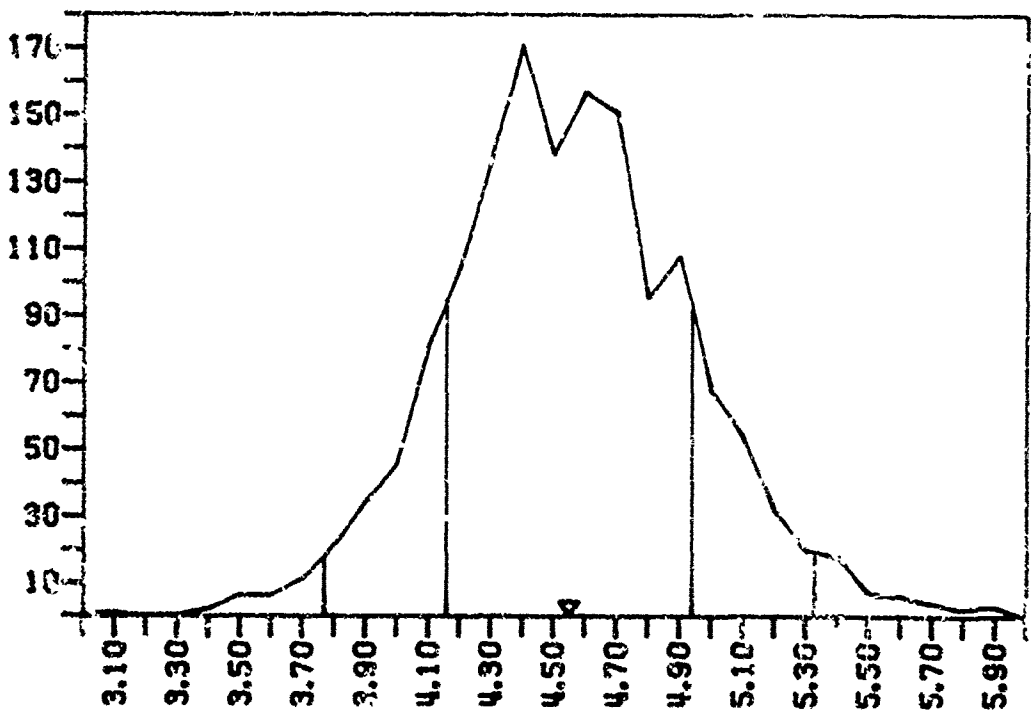
CENTIMETERS		INCHES
11.48	99TH	4.52
11.29	98TH	4.44
11.17	97TH	4.40
11.01	95TH	4.33
10.77	90TH	4.24
10.61	85TH	4.18
10.49	80TH	4.13
10.38	75TH	4.09
10.29	70TH	4.05
10.20	65TH	4.02
10.12	60TH	3.99
10.04	55TH	3.95
9.97	50TH	3.92
9.89	45TH	3.89
9.81	40TH	3.86
9.73	35TH	3.83
9.65	30TH	3.80
9.56	25TH	3.76
9.46	20TH	3.73
9.35	15TH	3.68
9.22	10TH	3.63
9.03	5TH	3.56
8.92	3RD	3.51
8.85	2ND	3.48
8.74	1ST	3.44

79. HEEL BREADTH

Subject stands erect, feet slightly apart, and weight distributed equally on both feet. With a sliding caliper, measure the maximum horizontal breadth of the right calcaneus.







RANGES*		F	CUMF	FPCT	CUMPCT
5.85-	5.95	3	1482	0.20	100.00
5.75-	5.85	2	1479	0.13	99.80
5.65-	5.75	4	1477	0.27	99.66
5.55-	5.65	6	1473	0.40	99.39
5.45-	5.55	7	1467	0.47	98.99
5.35-	5.45	18	1460	1.21	98.52
5.25-	5.35	20	1442	1.35	97.30
5.15-	5.25	32	1422	2.16	95.95
5.05-	5.15	54	1390	3.64	93.79
4.95-	5.05	68	1336	4.59	90.15
4.85-	4.95	108	1268	7.29	85.56
4.75-	4.85	95	1160	6.41	78.27
4.65-	4.75	151	1065	10.19	71.86
4.55-	4.65	157	914	10.59	61.67
4.45-	4.55	138	757	9.31	51.08
4.35-	4.45	171	619	11.54	41.77
4.25-	4.35	137	446	9.24	30.23
4.15-	4.25	104	311	7.02	20.99
4.05-	4.15	81	207	5.47	13.97
3.95-	4.05	45	126	3.04	8.50
3.85-	3.95	34	81	2.29	5.47
3.75-	3.85	21	47	1.42	3.17
3.65-	3.75	11	26	0.74	1.75
3.55-	3.65	6	15	0.40	1.01
3.45-	3.55	6	9	0.40	0.61
3.35-	3.45	2	3	0.13	0.20
3.25-	3.35	0	1	0.00	0.07
3.15-	3.25	0	1	0.00	0.07
3.05-	3.15	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
4.55	MEAN VALUE	1.79
0.01	SE(MEAN)	0.00
0.39	SD DEVIATION	0.15
0.01	SE(SD DEV)	0.00

****

COEF. OF VARIATION = 8.57
SYMMETRY---BETA 2 = 0.17
KURTOSIS---BETA II = 3.37

****

NUMBER OF SUBJECTS = 1482

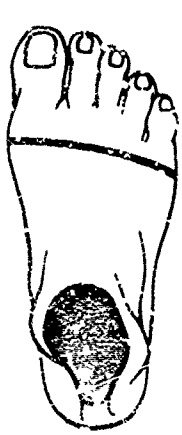
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THE PERCENTILES

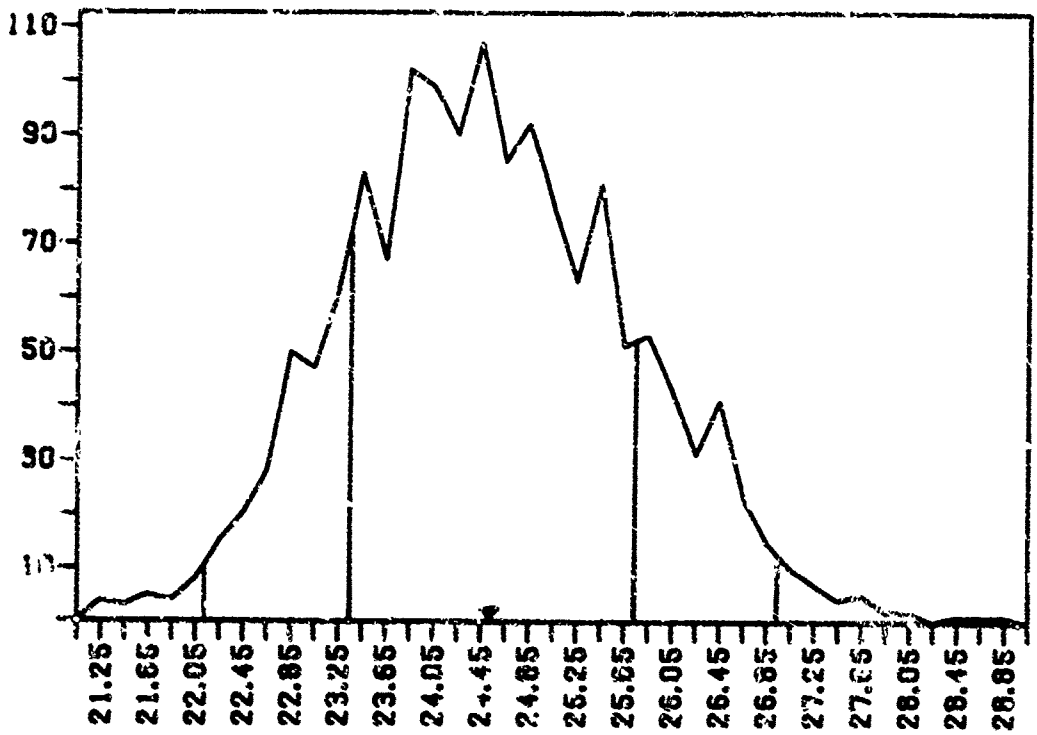
CENTIMETERS		INCHES
5.55	99TH	2.18
5.41	98TH	2.13
5.33	97TH	2.10
5.21	95TH	2.05
5.05	90TH	1.99
4.94	85TH	1.95
4.86	80TH	1.91
4.79	75TH	1.89
4.74	70TH	1.86
4.68	65TH	1.84
4.63	60TH	1.82
4.58	55TH	1.80
4.54	50TH	1.79
4.49	45TH	1.77
4.44	40TH	1.75
4.40	35TH	1.73
4.35	30TH	1.71
4.29	25TH	1.69
4.23	20TH	1.67
4.16	15TH	1.64
4.07	10TH	1.60
3.93	5TH	1.55
3.83	3RD	1.51
3.77	2ND	1.48
3.65	1ST	1.44

80. FOOT CIRCUMFERENCE

Subject stands erect, feet slightly apart, and weight distributed equally on both feet. With a tape, measure the circumference of the right foot over the distal ends of the metatarsal bones. The measurement is in a plane oblique to the long axis of the foot.







RANGES*	F	CUMF	FPCT	CUMPCT
28.75- 28.95	1	1482	0.07	100.00
28.55- 28.75	1	1481	0.07	99.93
28.35- 28.55	1	1480	0.07	99.86
28.15- 28.35	0	1479	0.00	99.80
27.95- 28.15	2	1479	0.13	99.80
27.75- 27.95	2	1477	0.13	99.66
27.55- 27.75	5	1475	0.34	99.53
27.35- 27.55	4	1470	0.27	99.19
27.15- 27.35	7	1466	0.47	98.92
26.95- 27.15	10	1459	0.67	98.45
26.75- 26.95	15	1449	1.01	97.77
26.55- 26.75	23	1434	1.55	96.76
26.35- 26.55	41	1411	2.77	95.21
26.15- 26.35	31	1370	2.09	92.44
25.95- 26.15	43	1339	2.90	90.35
25.75- 25.95	53	1296	3.58	87.45
25.55- 25.75	51	1243	3.44	83.87
25.35- 25.55	81	1192	5.47	80.43
25.15- 25.35	63	1111	4.25	74.97
24.95- 25.15	77	1048	5.20	70.72
24.75- 24.95	92	971	6.21	65.52
24.55- 24.75	85	879	5.74	59.31
24.35- 24.55	107	794	7.22	53.58
24.15- 24.35	90	687	6.07	46.36
23.95- 24.15	99	597	6.68	40.28
23.75- 23.95	102	498	6.88	33.60
23.55- 23.75	67	396	4.52	26.72
23.35- 23.55	83	329	5.60	22.20
23.15- 23.35	61	246	4.12	16.60
22.95- 23.15	47	185	3.17	12.48
22.75- 22.95	50	138	3.37	9.31
22.55- 22.75	28	88	1.89	5.94
22.35- 22.55	20	60	1.35	4.05
22.15- 22.35	15	40	1.01	2.70
21.95- 22.15	8	25	0.54	1.69
21.75- 21.95	4	17	0.27	1.15
21.55- 21.75	5	13	0.34	0.88
21.35- 21.55	3	8	0.20	0.54
21.15- 21.35	5	5	0.34	0.34

*IN CENTIMETERS

CENTIMETERS		INCHES
24.51	MEAN VALUE	9.65
0.03	SE(MEAN)	0.01
1.20	SD DEVIATION	0.47
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.9%
SYMMETRY---VETA I = 0.19
KURTOSIS---VETA II = 2.91

****

NUMBER OF SUBJECTS = 1482

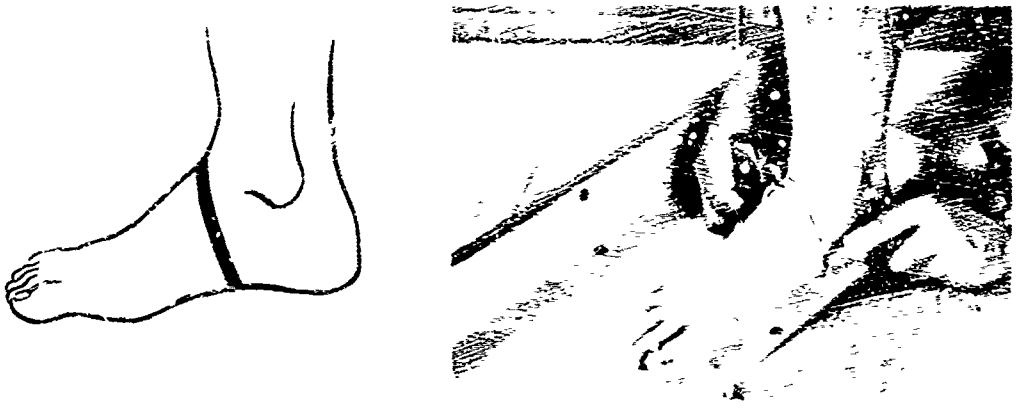
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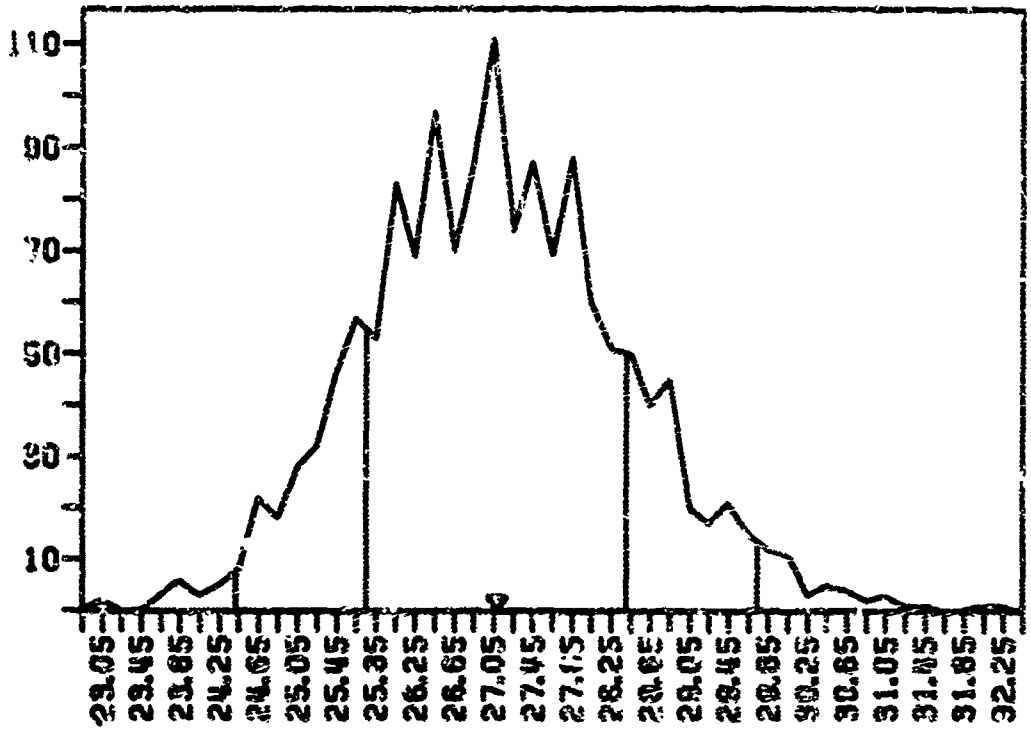
THE PERCENTILES

CENTIMETERS		INCHES
27.35	99TH	10.77
27.06	98TH	10.65
26.85	97TH	10.57
26.56	95TH	10.46
26.10	90TH	10.27
25.78	85TH	10.15
25.53	80TH	10.05
25.31	75TH	9.96
25.11	70TH	9.89
24.94	65TH	9.82
24.77	60TH	9.75
24.62	55TH	9.69
24.46	50TH	9.63
24.31	45TH	9.57
24.16	40TH	9.51
24.00	35TH	9.45
23.84	30TH	9.39
23.67	25TH	9.32
23.49	20TH	9.25
23.27	15TH	9.16
23.01	10TH	9.06
22.62	5TH	8.91
22.37	3RD	8.81
22.18	2ND	8.73
21.87	1ST	8.61

81. INSTEP CIRCUMFERENCE

Subject stands, feet slightly apart, and weight distributed equally on both feet. With a tape, measure the circumference of the right foot in a plane perpendicular to the long axis of the foot at the mid-instep level. This level is determined from the mid-arch of the foot as viewed from the medial aspect and should coincide with the metatarsal-cuneiform joint.





RANGES*	F	CUMF	FPCT	CUMFCT
32.15- 32.35	1	1482	0.07	100.00
31.95- 32.15	1	1481	0.07	99.93
31.75- 31.95	0	1480	0.00	99.86
31.55- 31.75	0	1480	0.00	99.86
31.35- 31.55	1	1480	0.07	99.86
31.15- 31.35	1	1479	0.07	99.80
30.95- 31.15	3	1478	0.20	99.73
30.75- 30.95	2	1475	0.13	99.53
30.55- 30.75	4	1473	0.27	99.39
30.35- 30.55	5	1469	0.34	99.12
30.15- 30.35	3	1464	0.20	98.79
29.95- 30.15	11	1461	0.74	98.58
29.75- 29.95	12	1450	0.81	97.84
29.55- 29.75	15	1438	1.01	97.03
29.35- 29.55	21	1423	1.42	96.02
29.15- 29.35	17	1402	1.15	94.60
28.95- 29.15	20	1385	1.35	93.45
28.75- 28.95	45	1365	3.04	92.11
28.55- 28.75	40	1320	2.70	89.07
28.35- 28.55	50	1280	3.37	86.37
28.15- 28.35	51	1230	3.44	83.00
27.95- 28.15	60	1179	4.05	79.55
27.75- 27.95	88	1119	5.94	75.51
27.55- 27.75	69	1031	4.66	69.57
27.35- 27.55	67	962	5.87	64.91
27.15- 27.35	74	875	4.99	59.04
26.95- 27.15	111	801	7.49	54.05
26.75- 26.95	87	690	5.87	46.56
26.55- 26.75	70	603	4.72	40.69
26.35- 26.55	97	533	6.55	35.96
26.15- 26.35	69	436	4.66	29.42
25.95- 26.15	83	367	5.60	24.76
25.75- 25.95	55	284	3.58	19.16
25.55- 25.75	57	231	3.85	15.59
25.35- 25.55	47	174	3.17	11.74
25.15- 25.35	32	127	2.16	8.57
24.95- 25.15	28	95	1.89	6.41
24.75- 24.95	18	67	1.21	4.52
24.55- 24.75	22	49	1.48	3.31
24.35- 24.55	8	27	0.54	1.82
24.15- 24.35	5	19	0.34	1.28
23.95- 24.15	3	14	0.20	0.94
23.75- 23.95	6	11	0.40	0.74
23.55- 23.75	3	5	0.20	0.34
23.35- 23.55	0	2	0.00	0.13
23.15- 23.35	0	2	0.00	0.13
22.95- 23.15	2	2	0.13	0.13

*IN CENTIMETERS

CENTIMETERS		INCHES
27.08	MEAN VALUE	10.66
0.03	SE(MEAN)	0.01
1.33	SD DEVIATION	0.52
0.02	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.9%
SYMMETRY---VETA I = 0.25
KURTOSIS---VETA II = 3.19

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

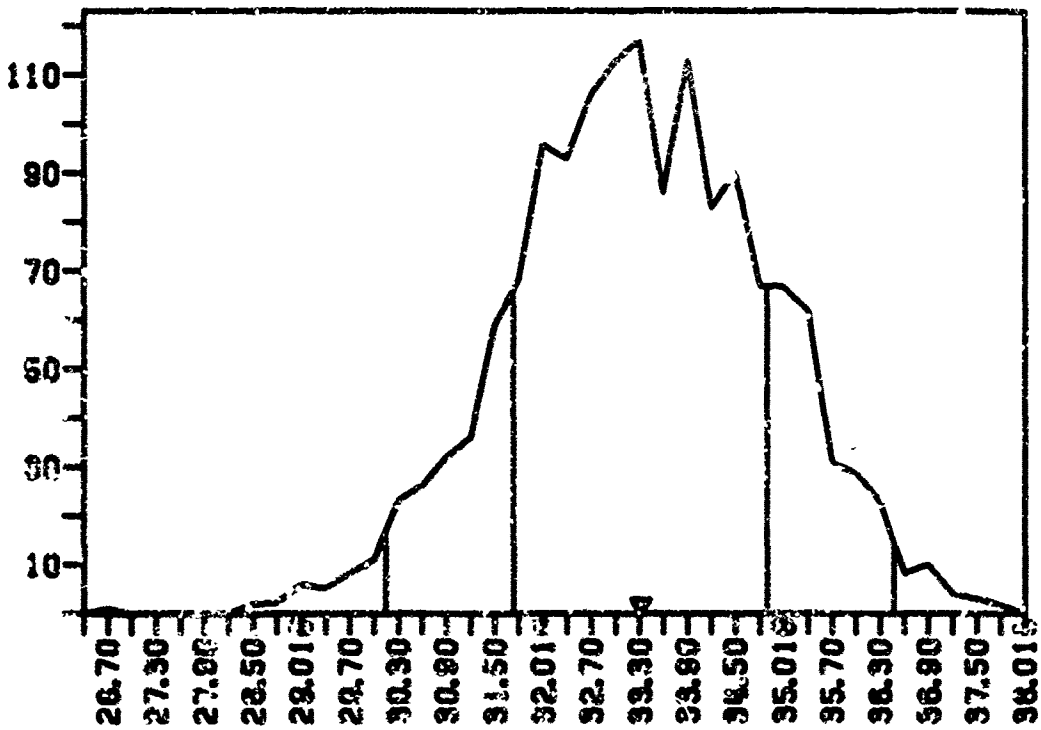
CENTIMETERS		INCHES
30.46	99TH	11.99
30.02	98TH	11.82
29.74	97TH	11.71
29.38	95TH	11.57
28.83	90TH	11.35
28.47	85TH	11.21
28.19	80TH	11.10
27.95	75TH	11.00
27.74	70TH	10.92
27.55	65TH	10.85
27.37	60TH	10.78
27.20	55TH	10.71
27.04	50TH	10.64
26.87	45TH	10.58
26.71	40TH	10.52
26.54	35TH	10.45
26.37	30TH	10.38
26.18	25TH	10.31
25.97	20TH	10.22
25.73	15TH	10.13
25.44	10TH	10.01
25.00	5TH	9.84
24.73	3RD	9.74
24.52	2ND	9.66
24.21	1ST	9.53

82. HEEL-ANKLE CIRCUMFERENCE

Subject stands erect, feet slightly apart, and weight distributed equally on both feet. With a tape, measure the diagonal circumference of the right foot with the tape passing over the throat of the foot and around the base of the heel.







RANGES*	F	CUMF	FPCT	CUMPCT
37.65- 37.95	2	1482	0.13	100.00
37.35- 37.65	3	1480	0.20	99.86
37.05- 37.35	4	1477	0.27	99.66
36.75- 37.05	10	1473	0.67	99.39
36.45- 36.75	8	1463	0.54	98.72
36.15- 36.45	23	1455	1.55	98.18
35.85- 36.15	29	1432	1.96	96.63
35.55- 35.85	31	1403	2.09	94.67
35.25- 35.55	62	1372	4.18	92.58
34.95- 35.25	67	1310	4.52	88.39
34.65- 34.95	67	1243	4.52	83.87
34.35- 34.65	90	1176	6.07	79.35
34.05- 34.35	83	1086	5.60	73.28
33.75- 34.05	113	1003	7.62	67.68
33.45- 33.75	86	890	5.80	60.05
33.15- 33.45	117	804	7.89	54.25
32.85- 33.15	113	687	7.62	46.36
32.55- 32.85	106	574	7.15	38.73
32.25- 32.55	93	468	6.28	31.58
31.95- 32.25	96	375	6.48	25.30
31.65- 31.95	68	279	4.59	18.83
31.35- 31.65	59	211	3.98	14.24
31.05- 31.35	36	152	2.43	10.26
30.75- 31.05	32	116	2.16	7.83
30.45- 30.75	26	84	1.75	5.67
30.15- 30.45	23	58	1.55	3.91
29.85- 30.15	11	35	0.74	2.36
29.55- 29.85	8	24	0.54	1.62
29.25- 29.55	5	16	0.34	1.08
28.95- 29.25	6	11	0.40	0.74
28.65- 28.95	2	5	0.13	0.34
28.35- 28.65	2	3	0.13	0.20
28.05- 28.35	0	1	0.00	0.07
27.75- 28.05	0	1	0.00	0.07
27.45- 27.75	0	1	0.00	0.07
27.15- 27.45	0	1	0.00	0.07
26.85- 27.15	0	1	0.00	0.07
26.55- 26.85	1	1	0.07	0.07

*IN CENTIMETERS

CENTIMETERS		INCHES
33.31	MEAN VALUE	13.12
0.04	SE(MEAN)	0.02
1.58	SD DEVIATION	0.62
0.03	SE(SD DEV)	0.01

****

COEF. OF VARIATION = 4.7%
SYMMETRY---VETA I = -0.11
KURTOSIS---VETA II = 2.99

****

NUMBER OF SUBJECTS = 1482

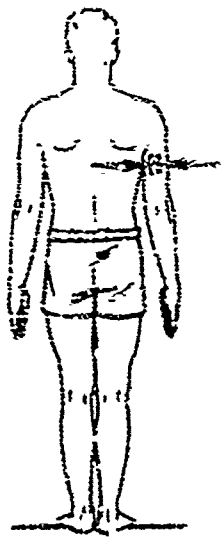
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THE PERCENTILES

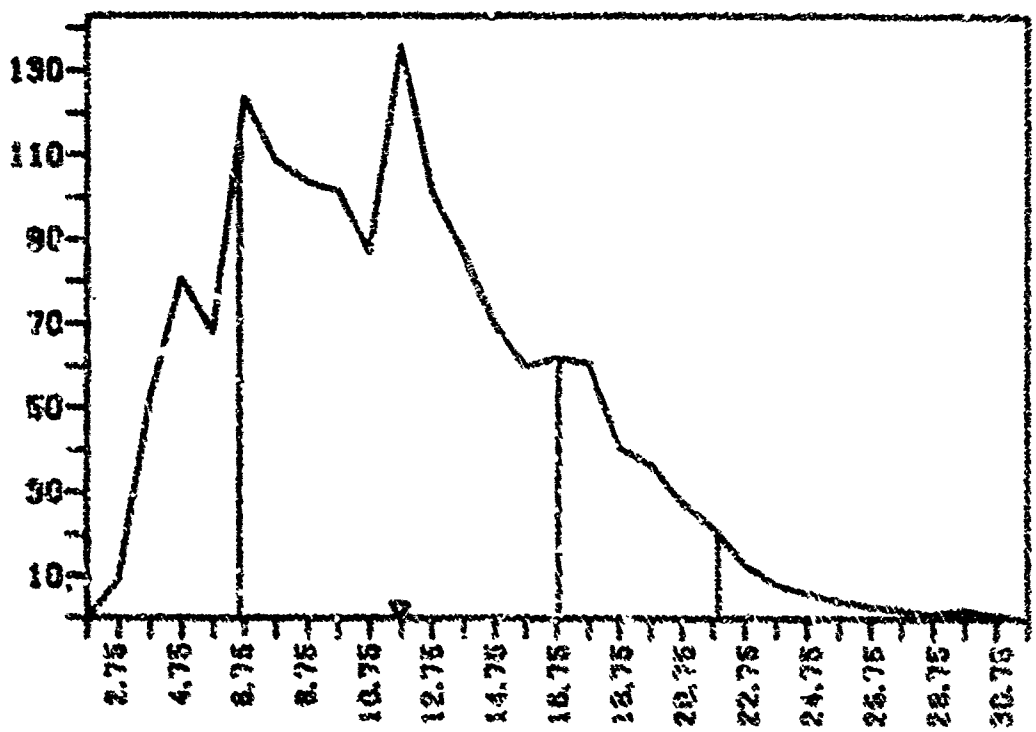
CENTIMETERS		INCHES
36.82	99TH	14.50
36.48	98TH	14.36
36.25	97TH	14.27
35.91	95TH	14.14
35.36	90TH	13.92
34.98	85TH	13.77
34.67	80TH	13.65
34.40	75TH	13.54
34.16	70TH	13.45
33.94	65TH	13.36
33.73	60TH	13.28
33.52	55TH	13.20
33.32	50TH	13.12
33.12	45TH	13.04
32.92	40TH	12.96
32.71	35TH	12.88
32.49	30TH	12.79
32.25	25TH	12.70
31.98	20TH	12.59
31.67	15TH	12.47
31.27	10TH	12.31
30.68	5TH	12.08
30.21	3RD	11.92
29.98	2ND	11.80
29.49	1ST	11.61

83. TRICEPS SKINFOLD

Subject stands with right elbow flexed 90 degrees. Locate the level on the back of the upper arm halfway between acromion and the tip of the elbow and then have the subject relax his arm at his side. At the level previously located, pick up a skinfold parallel to the long axis of the upper arm. Using a Lange skinfold caliper, measure the thickness of the fold.







RANGES*	F	CUMF	FPCT	CUMPCT
30.25- 31.25	1	1482	0.07	100.00
29.25- 30.25	2	1481	0.13	99.93
28.25- 29.25	1	1479	0.07	99.80
27.25- 28.25	2	1478	0.13	99.73
26.25- 27.25	3	1476	0.20	99.60
25.25- 26.25	4	1473	0.27	99.39
24.25- 25.25	6	1469	0.40	99.12
23.25- 24.25	8	1463	0.54	98.72
22.25- 23.25	13	1455	0.88	98.18
21.25- 22.25	22	1442	1.48	97.30
20.25- 21.25	28	1420	1.89	95.82
19.25- 20.25	37	1392	2.50	93.93
18.25- 19.25	41	1355	2.77	91.43
17.25- 18.25	61	1314	4.12	88.66
16.25- 17.25	62	1253	4.18	84.55
15.25- 16.25	60	1191	4.05	80.36
14.25- 15.25	70	1131	4.72	76.32
13.25- 14.25	87	1061	5.87	71.59
12.25- 13.25	102	974	6.88	65.72
11.25- 12.25	136	872	9.18	58.84
10.25- 11.25	87	736	5.87	49.66
9.25- 10.25	102	649	6.88	43.79
8.25- 9.25	104	547	7.02	36.91
7.25- 8.25	109	443	7.35	29.89
6.25- 7.25	124	334	8.37	22.54
5.25- 6.25	68	210	4.59	14.17
4.25- 5.25	81	142	5.47	9.58
3.25- 4.25	52	61	3.51	4.12
2.25- 3.25	9	9	0.61	0.61

*IN MILLIMETERS

MILLIMETERS		TENTH-INCHES
11.71	MEAN VALUE	4.61
0.13	SE(MEAN)	0.05
5.08	SD DEVIATION	2.00
0.09	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 43.40
SYMMETRY---BETA I = 0.56
KURTOSIS---BETA II = 2.93

****

NUMBER OF SUBJECTS = 1482

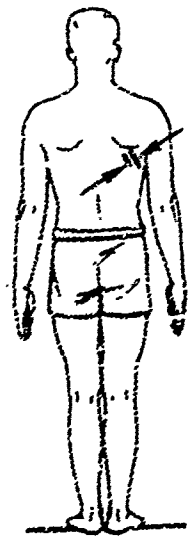
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THE PERCENTILES

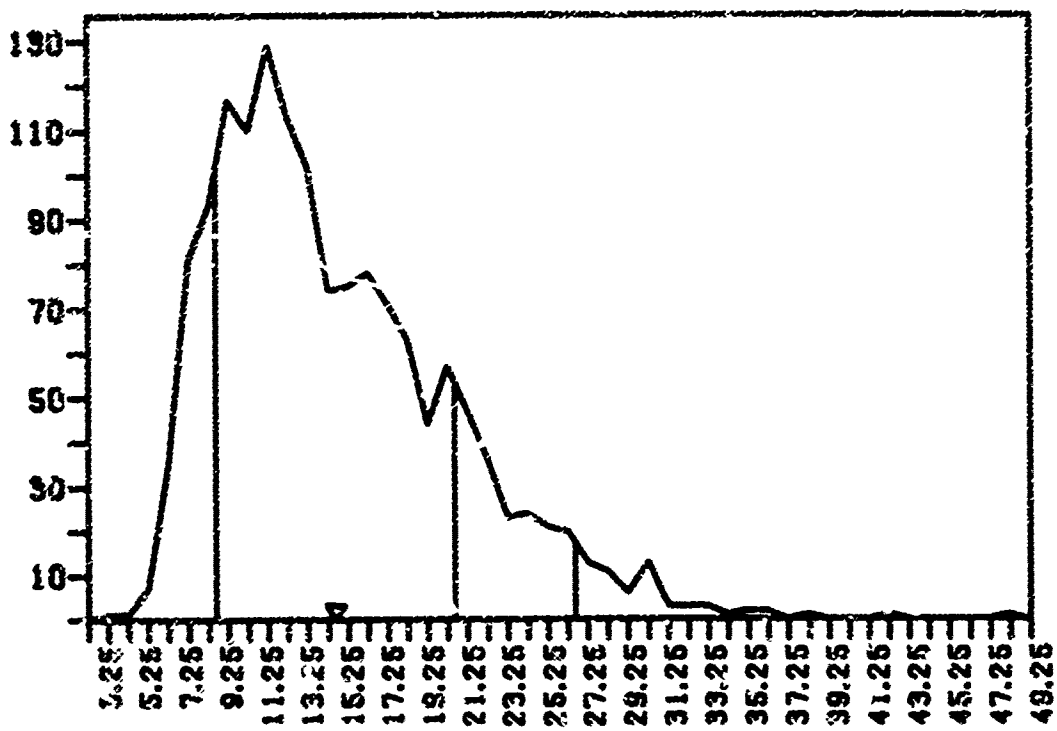
MILLIMETERS		TENTH-INCHES
24.73	99TH	9.74
23.24	98TH	9.15
22.24	97TH	8.76
20.86	95TH	8.21
18.66	90TH	7.35
17.16	85TH	6.76
15.98	80TH	6.29
14.97	75TH	5.89
14.06	70TH	5.54
13.26	65TH	5.22
12.50	60TH	4.92
11.78	55TH	4.64
11.08	50TH	4.36
10.40	45TH	4.10
9.74	40TH	3.83
9.07	35TH	3.57
8.40	30TH	3.31
7.71	25TH	3.04
6.98	20TH	2.75
6.21	15TH	2.45
5.35	10TH	2.11
4.34	5TH	1.71
3.87	3RD	1.53
3.63	2ND	1.43
3.44	1ST	1.35

84. SUBSCAPULAR SKINFOLD

Subject stands relaxed. Pick up a skinfold just below the inferior angle of the right scapula and parallel to the tension lines of the skin. Using the Lange skinfold caliper, measure the thickness of the fold.







RANGES*	F	CUMF	FPCT	CUMPCT
47.75- 48.75	1	1482	0.07	100.00
46.75- 47.75	0	1481	0.00	99.93
45.75- 46.75	0	1481	0.00	99.93
44.75- 45.75	0	1481	0.00	99.93
43.75- 44.75	0	1481	0.00	99.93
42.75- 43.75	0	1481	0.00	99.93
41.75- 42.75	1	1481	0.07	99.93
40.75- 41.75	0	1480	0.00	99.86
39.75- 40.75	0	1480	0.00	99.86
38.75- 39.75	0	1480	0.00	99.86
37.75- 38.75	1	1480	0.07	99.86
36.75- 37.75	0	1479	0.00	99.80
35.75- 36.75	2	1479	0.13	99.80
34.75- 35.75	2	1477	0.13	99.66
33.75- 34.75	1	1475	0.07	99.53
32.75- 33.75	3	1474	0.20	99.46
31.75- 32.75	3	1471	0.20	99.26
30.75- 31.75	3	1468	0.20	99.06
29.75- 30.75	13	1465	0.88	98.85
28.75- 29.75	6	1452	0.40	97.98
27.75- 28.75	11	1446	0.74	97.57
26.75- 27.75	13	1435	0.88	96.83
25.75- 26.75	20	1422	1.35	95.95
24.75- 25.75	21	1402	1.42	94.60
23.75- 24.75	24	1381	1.62	93.18
22.75- 23.75	23	1357	1.55	91.57
21.75- 22.75	36	1334	2.43	90.01
20.75- 21.75	47	1298	3.17	87.58
19.75- 20.75	57	1251	3.85	84.41
18.75- 19.75	44	1194	2.97	80.57
17.75- 18.75	63	1150	4.25	77.60
16.75- 17.75	71	1087	4.79	73.35
15.75- 16.75	78	1016	5.26	68.56
14.75- 15.75	75	938	5.06	63.29
13.75- 14.75	74	863	4.99	58.23
12.75- 13.75	102	789	6.88	53.24
11.75- 12.75	113	687	7.62	46.36
10.75- 11.75	129	574	8.70	38.73
9.75- 10.75	110	445	7.42	30.03
8.75- 9.75	117	335	7.89	22.60
7.75- 8.75	93	218	6.28	14.71
6.75- 7.75	81	125	5.47	8.43
5.75- 6.75	35	44	2.36	2.97
4.75- 5.75	7	9	0.47	0.61
3.75- 4.75	1	2	0.07	0.13
2.75- 3.75	1	1	0.07	0.07

*IN MILLIMETERS

MILLIMETERS		TENTH-INCHES
14.57	MEAN VALUE	5.74
0.15	SE(MEAN)	0.06
5.95	SD DEVIATION	2.34
0.11	SE(SD DEV)	0.04

****

COEF. OF VARIATION = 40.9%
SYMMETRY---VETA I = 0.99
KURTOSIS---VETA II = 4.16

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

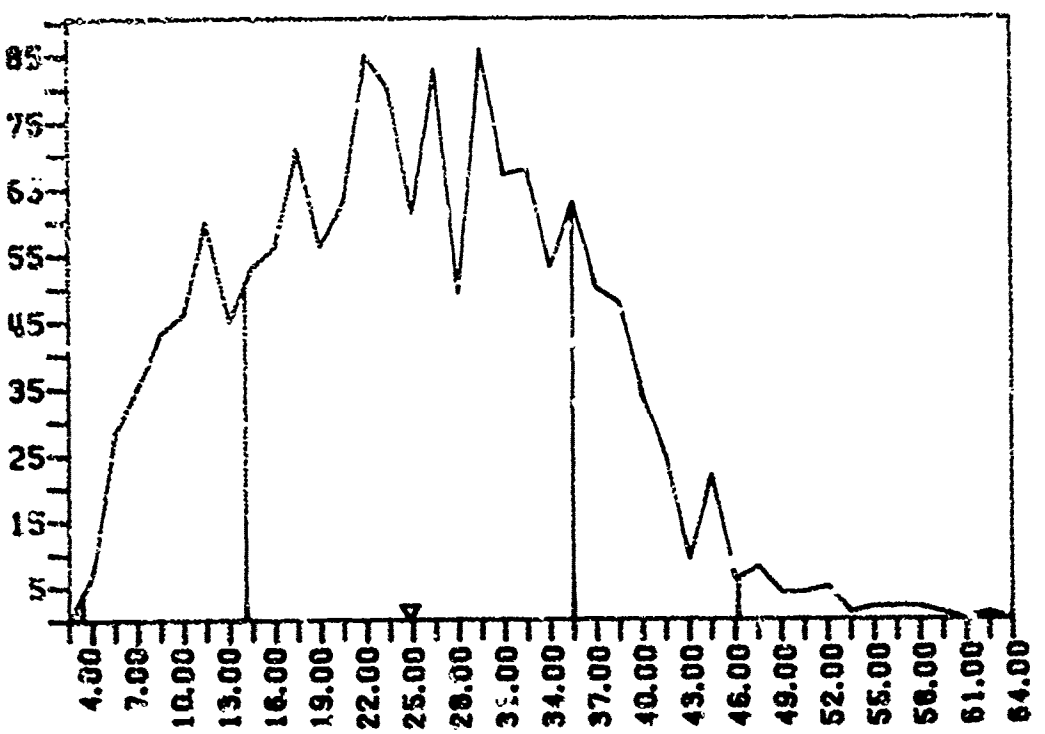
MILLIMETERS		TENTH-INCHES
31.57	99TH	12.43
29.49	98TH	11.61
28.08	97TH	11.06
26.10	95TH	10.28
23.01	90TH	9.06
20.95	85TH	8.25
19.37	80TH	7.63
18.06	75TH	7.11
16.94	70TH	6.67
15.94	65TH	6.28
15.04	60TH	5.92
14.21	55TH	5.60
13.44	50TH	5.29
12.70	45TH	5.00
12.01	40TH	4.73
11.34	35TH	4.46
10.68	30TH	4.21
10.03	25TH	3.95
9.38	20TH	3.69
8.72	15TH	3.43
8.01	10TH	3.15
7.16	5TH	2.82
6.71	3RD	2.64
6.39	2ND	2.52
5.90	1ST	2.32

85. SUPRAILIAC SKINFOLD

Subject stands relaxed. Pick up a skinfold in the right mid-axillary line at the level of the crest of the ilium and following the border of the crest. Using the Lange skinfold caliper, measure the thickness of the fold.







RANGES*	F	CUMF	FPCT	CUMPCT
61.75- 63.25	1	1482	0.07	100.00
60.25- 61.75	0	1481	0.00	99.93
58.75- 60.25	1	1481	0.07	99.93
57.25- 58.75	2	1480	0.13	99.86
55.75- 57.25	2	1478	0.13	99.73
54.25- 55.75	2	1476	0.13	99.60
52.75- 54.25	1	1474	0.07	99.46
51.25- 52.75	5	1473	0.34	99.39
49.75- 51.25	4	1468	0.27	99.06
48.25- 49.75	4	1464	0.27	98.79
46.75- 48.25	8	1460	0.54	98.52
45.25- 46.75	6	1452	0.40	97.98
43.75- 45.25	22	1446	1.48	97.57
42.25- 43.75	9	1424	0.61	96.09
40.75- 42.25	25	1415	1.69	95.48
39.25- 40.75	34	1390	2.29	93.79
37.75- 39.25	48	1356	3.24	91.50
36.25- 37.75	50	1308	3.37	88.26
34.75- 36.25	63	1258	4.25	84.89
33.25- 34.75	53	1195	3.58	80.63
31.75- 33.25	68	1142	4.59	77.06
30.25- 31.75	67	1074	4.52	72.47
28.75- 30.25	86	1007	5.80	67.95
27.25- 28.75	49	921	3.31	62.15
25.75- 27.25	83	872	5.60	58.84
24.25- 25.75	61	789	4.12	53.24
22.75- 24.25	80	728	5.40	49.12
21.25- 22.75	85	648	5.74	43.72
19.75- 21.25	63	563	4.25	37.99
18.25- 19.75	56	500	3.78	33.74
16.75- 18.25	71	444	4.79	29.96
15.25- 16.75	56	373	3.78	25.17
13.75- 15.25	53	317	3.58	21.39
12.25- 13.75	45	264	3.04	17.81
10.75- 12.25	60	219	4.05	14.78
9.25- 10.75	46	159	3.10	10.73
7.75- 9.25	43	113	2.90	7.62
6.25- 7.75	35	70	2.36	4.72
4.75- 6.25	28	35	1.89	2.36
3.25- 4.75	7	7	0.47	0.47

*IN MILLIMETERS

MILLIMETERS		TENTH-INCHES
24.81	MEAN VALUE	9.77
0.28	SE(MEAN)	0.11
10.69	SD DEVIATION	4.21
0.20	SE(SD DEV)	0.08

****

COEF. OF VARIATION = 43.1%
SYMMETRY---VETA I = 0.20
KURTOSIS---VETA II = 2.56

****

NUMBER OF SUBJECTS = 1482

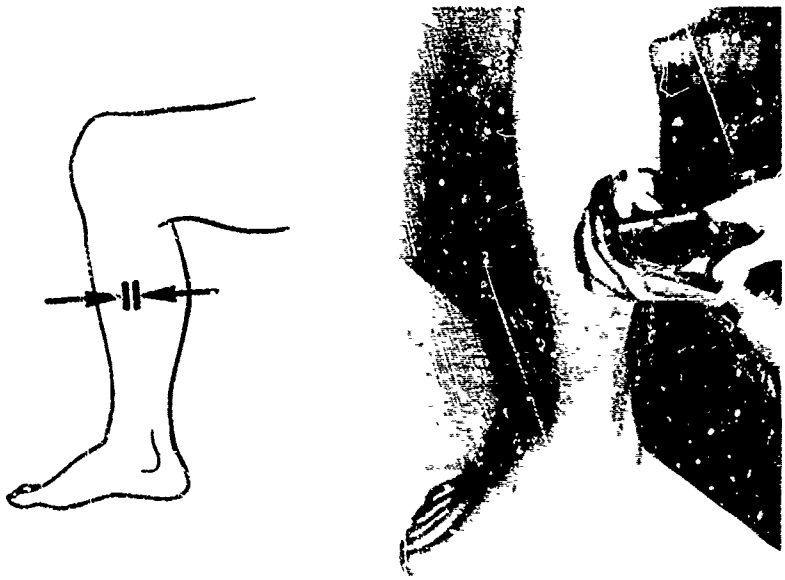
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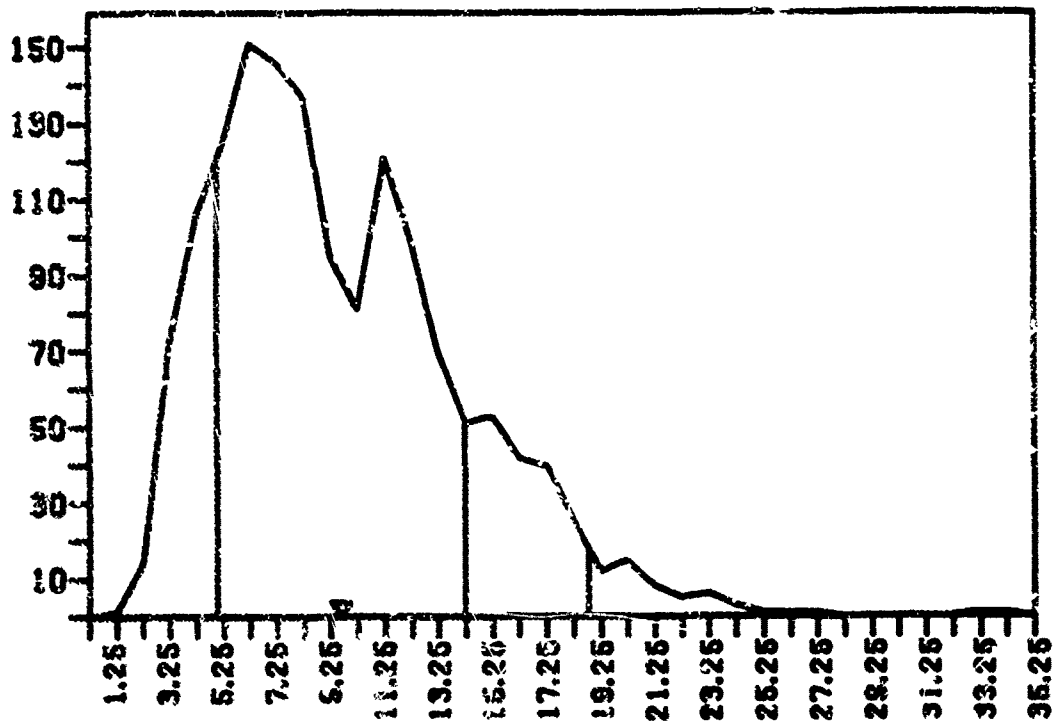
THE PERCENTILES

MILLIMETERS		TENTH-INCHES
50.46	99TH	19.87
47.00	98TH	18.51
44.99	97TH	17.71
42.42	95TH	16.70
38.64	90TH	15.21
36.12	85TH	14.22
34.09	80TH	13.42
32.31	75TH	12.72
30.68	70TH	12.08
29.15	65TH	11.48
27.67	60TH	10.89
26.21	55TH	10.32
24.75	50TH	9.74
23.28	45TH	9.16
21.78	40TH	8.57
20.22	35TH	7.96
18.58	30TH	7.32
16.83	25TH	6.63
14.92	20TH	5.87
12.81	15TH	5.04
10.36	10TH	4.08
7.43	5TH	2.93
6.18	3RD	2.43
5.66	2ND	2.23
5.14	1ST	2.02

86. MEDIAL CALF SKINFOLD

Subject stands with right foot resting on a platform so that his right hip and knee are flexed about 90 degrees. Pick up a skinfold parallel to the long axis of the lower leg at the medial, right calf landmark. Using a Lange skinfold caliper, measure the thickness of the fold.





RANGES*	F	CUMF	FPCT	CUMPCT
33.75- 34.75	1	1482	0.07	100.00
32.75- 33.75	1	1481	0.07	99.93
31.75- 32.75	0	1480	0.00	99.86
30.75- 31.75	0	1480	0.00	99.86
29.75- 30.75	0	1480	0.00	99.86
28.75- 29.75	0	1480	0.00	99.86
27.75- 28.75	0	1480	0.00	99.86
26.75- 27.75	1	1480	0.07	99.86
25.75- 26.75	1	1479	0.07	99.80
24.75- 25.75	1	1478	0.07	99.73
23.75- 24.75	3	1477	0.20	99.66
22.75- 23.75	6	1474	0.40	99.46
21.75- 22.75	5	1468	0.34	99.06
20.75- 21.75	8	1463	0.54	98.72
19.75- 20.75	15	1455	1.01	98.18
18.75- 19.75	12	1440	0.81	97.17
17.75- 18.75	25	1428	1.69	96.36
16.75- 17.75	40	1403	2.70	94.67
15.75- 16.75	42	1363	2.83	91.97
14.75- 15.75	53	1321	3.58	89.14
13.75- 14.75	51	1268	3.44	85.56
12.75- 13.75	70	1217	4.72	82.12
11.75- 12.75	98	1147	6.61	77.40
10.75- 11.75	121	1049	8.16	70.78
9.75- 10.75	81	928	5.47	62.62
8.75- 9.75	95	847	6.41	57.15
7.75- 8.75	137	752	9.24	50.74
6.75- 7.75	146	615	9.85	41.50
5.75- 6.75	151	469	10.19	31.65
4.75- 5.75	125	318	8.43	21.46
3.75- 4.75	106	193	7.15	13.02
2.75- 3.75	72	87	4.86	5.87
1.75- 2.75	14	15	0.94	1.01
0.75- 1.75	1	1	0.07	0.07

*IN MILLIMETERS

MILLIMETERS		TENTH-INCHES
9.56	MEAN VALUE	3.77
0.12	SE(MEAN)	0.05
4.58	SD DEVIATION	1.80
0.08	SE(SD DEV)	0.03

****

COEF. OF VARIATION = 47.9%
SYMMETRY---VETA I = 0.87
KURTOSIS---VETA II = 3.97

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

MILLIMETERS		TENTH-INCHES
22.39	99TH	8.82
20.72	99TH	8.16
19.64	97TH	7.73
18.17	95TH	7.15
15.93	90TH	6.27
14.45	85TH	5.69
13.31	80TH	5.24
12.36	75TH	4.87
11.54	70TH	4.54
10.80	65TH	4.25
10.12	60TH	3.98
9.48	55TH	3.73
8.88	50TH	3.50
8.30	45TH	3.27
7.74	40TH	3.05
7.19	35TH	2.83
6.64	30TH	2.61
6.09	25TH	2.40
5.51	20TH	2.17
4.91	15TH	1.93
4.26	10TH	1.68
3.51	5TH	1.38
3.16	3RD	1.24
2.96	2ND	1.17
2.78	1ST	1.09

REPORTED STATURE

RANGES*	F	CUMF	PCT	CUMPCT
77.50- 78.50	2	1482	0.13	100.00
76.50- 77.50	6	1480	0.40	99.86
75.50- 76.50	18	1474	1.21	99.46
74.50- 75.50	31	1456	2.09	98.25
73.50- 74.50	71	1425	4.79	96.15
72.50- 73.50	122	1354	8.23	91.36
71.50- 72.50	170	1232	11.47	83.13
70.50- 71.50	223	1062	15.05	71.66
69.50- 70.50	251	839	16.94	56.61
68.50- 69.50	176	588	11.88	39.68
67.50- 68.50	160	412	10.80	27.80
66.50- 67.50	120	252	8.10	17.00
65.50- 66.50	84	132	5.67	8.91
64.50- 65.50	30	48	2.02	3.24
63.50- 64.50	12	18	0.81	1.21
62.50- 63.50	2	6	0.13	0.40
61.50- 62.50	4	4	0.27	0.27

*IN INCHES

INCHES		CENTIMETERS
70.08	MEAN VALUE	178.09
0.07	SE(MEAN)	0.17
2.56	SD DEVIATION	6.50
0.05	SE(SD DEV)	0.12

****

COEF. OF VARIATION = 3.62
SYMMETRY---VETA I = -0.01
KURTOSIS---VETA II = 2.99

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

INCHES		CENTIMETERS
76.13	99TH	193.37
75.36	98TH	191.41
74.89	97TH	190.22
74.27	95TH	188.65
73.34	90TH	186.28
72.72	85TH	184.71
72.23	80TH	183.46
71.81	75TH	182.40
71.43	70TH	181.43
71.07	65TH	180.52
70.73	60TH	179.65
70.40	55TH	178.82
70.08	50TH	178.00
69.74	45TH	177.14
69.41	40TH	176.30
69.06	35TH	175.41
68.69	30TH	174.47
68.29	25TH	173.46
67.85	20TH	172.34
67.34	15TH	171.04
66.70	10TH	169.42
65.79	5TH	167.11
65.24	3RD	165.71
64.86	2ND	164.74
64.31	1ST	163.35

REPORTED WEIGHT

RANGES*	F	CUMF	FPCT	CUMPCT
257.50-260.50	1	1482	0.07	100.00
254.50-257.50	0	1481	0.00	99.93
251.50-254.50	0	1481	0.00	99.93
248.50-251.50	0	1481	0.00	99.93
245.50-248.50	1	1481	0.07	99.93
242.50-245.50	1	1480	0.07	99.86
239.50-242.50	3	1479	0.20	99.80
236.50-239.50	1	1476	0.07	99.60
233.50-236.50	3	1475	0.20	99.53
230.50-233.50	0	1472	0.00	99.33
227.50-230.50	7	1472	0.47	99.33
224.50-227.50	3	1465	0.20	98.85
221.50-224.50	2	1462	0.13	98.65
218.50-221.50	8	1460	0.54	98.52
215.50-218.50	3	1452	0.20	97.98
212.50-215.50	11	1449	0.74	97.77
209.50-212.50	18	1438	1.21	97.03
206.50-209.50	5	1420	0.34	95.82
203.50-206.50	20	1415	1.35	95.48
200.50-203.50	6	1395	0.40	94.13
197.50-200.50	68	1389	4.59	93.72
194.50-197.50	57	1321	3.85	89.14
191.50-194.50	18	1264	1.21	85.29
188.50-191.50	90	1246	6.07	84.08
185.50-188.50	32	1156	2.16	78.00
182.50-185.50	102	1124	6.88	75.84
179.50-182.50	100	1022	6.75	68.96
176.50-179.50	30	922	2.02	62.21
173.50-176.50	84	892	5.67	60.19
170.50-173.50	19	808	1.28	54.52
167.50-170.50	130	789	8.77	53.24
164.50-167.50	97	659	6.55	44.47
161.50-164.50	24	562	1.62	37.92
158.50-161.50	101	538	6.82	36.30
155.50-158.50	29	437	1.96	29.49
152.50-155.50	88	408	5.94	27.53
149.50-152.50	76	320	5.13	21.59
146.50-149.50	21	244	1.42	16.46
143.50-146.50	65	223	4.39	15.05
140.50-143.50	16	158	1.08	10.66
137.50-140.50	62	142	4.18	9.58
134.50-137.50	37	80	2.50	5.40
131.50-134.50	4	43	0.27	2.90
128.50-131.50	23	39	1.55	2.63
125.50-128.50	2	16	0.13	1.08
122.50-125.50	7	14	0.47	0.94
119.50-122.50	7	7	0.47	0.47

*IN POUNDS

POUNDS		KILOGRAMS
170.90	MEAN VALUE	77.52
0.57	SE(MEAN)	0.26
21.80	SD DEVIATION	9.89
0.40	SE(SD DEV)	0.18

****

COEF. OF VARIATION = 12.8%
SYMMETRY---VETA I = 0.26
KURTOSIS---VETA II = 3.02

****

NUMBER OF SUBJECTS = 1482

****

THE PERCENTILES

POUNDS		KILOGRAMS
227.40	99TH	103.15
218.50	98TH	99.11
213.40	97TH	96.80
207.20	95TH	93.99
198.50	90TH	90.04
193.00	85TH	87.54
188.80	80TH	85.64
185.20	75TH	84.01
182.00	70TH	82.55
179.00	65TH	81.19
176.10	60TH	79.88
173.40	55TH	78.65
170.60	50TH	77.38
167.80	45TH	76.11
164.90	40TH	74.80
162.00	35TH	73.48
158.80	30TH	72.03
155.50	25TH	70.53
151.70	20TH	68.81
147.50	15TH	66.91
142.40	10TH	64.59
135.70	5TH	61.55
132.20	3RD	59.97
130.20	2ND	59.06
128.30	1ST	58.20

Chapter VI

THE SUBSERIES

A major function of this survey was to explore the anthropometric differences of the major subgroups within the Army flying population. To carry out this analysis, five groups from this population of flying personnel were defined prior to the start of the survey. Serious - and successful - efforts were made to recruit and measure enough subjects from each of these groups to make meaningful statistical analyses possible. The five groups are:

Group I: Enlisted men - crew chiefs, mechanics, machinists, door gunners, and the like. No effort was made to subdivide this group.

Group II: Pilot trainees who were either warrant officer candidates or warrant officers.

Group III: Rated pilots who were warrant officers.

Group IV: Pilot trainees who were commissioned officers.

Group V: Rated pilots who were commissioned officers.

These groups will be described in this chapter in terms of the major background variables and contrasted with respect to weight, stature, sitting height, ponderal index, chest circumference, and subscapular skinfold measurements. Abbreviated statistical summaries are then presented for each of the anthropometric measures.

The sample sizes of the several groups are as follows:

Group I - enlisted men: N = 388
Group II - warrant trainees: N = 259
Group III - rated pilots (warrant): N = 410
Group IV - commissioned trainees: N = 186
Group V - rated pilots (commissioned): N = 234.

The five civilians present in the total sample have not been included in any of these subseries; data for these men are, however, included in the total sample values which appear in many of the tables in this chapter.

The composition of these five groups in terms of rank is shown in Table X. Most of the enlisted men (86%)

were sergeants or above. Almost all of the warrant trainees (96%) were warrant officer candidates (WOC), although a few (4%) already had their warrants. Five-eighths of the warrant pilots (Group III) were warrant officers, 2nd class, (CW2); roughly 20% were higher (CW3 and CW4), 15% lower. The typical commissioned trainee was a second lieutenant (57%); a quarter of Group IV were first lieutenants and the remaining sixth were captains. A little more than half of Group V, the commissioned pilots, were captains, a third were first or second lieutenants, and the other 15% were divided almost equally between majors and lieutenant colonels.

The aeroratings held by the members of the subseries are shown in Table XI. Group I is the only group with any real diversity: 72% are crew chiefs, 16% are mechanics, the remaining 12% are spread out over several categories. Groups II and IV are, of course, trainees. Most of the rated pilots-97% of the warrants and 89% of the commissioned pilots - are classed as Army Aviators. About 3% of Group III and 10% of Group V are listed as Senior Aviators.

Differences in age (Table XII) among the groups of pilots follow the expected patterns: commissioned pilots (rated and trainees) tend to be somewhat older than the corresponding warrant pilots, and rated pilots (commissioned and warrant) older than the corresponding trainees. None of the differences in the group means are large - all four groups can be described as being, in general, in their mid-twenties - and the overlap of the four distributions is considerable. Less predictable, perhaps, was the relationship of the ages of the members of Group I to those of the other groups: the mean age of this group is actually the closest of the five group means to the average of the entire sample, and differs from it by only three months.

Educational differences (Table XIII) also show a predictable pattern. Here, too, the differences are small. The enlisted men average a shade over 12 years of schooling (high school completed), the warrant officers and candidates average about one year more, and the commissioned officers averaged about one and a half years more than the warrant officers. The distributions for Groups II and III and for Groups IV and V are similar, except that the proportion of college graduates among the commissioned trainees (51%) is somewhat higher than that among the commissioned rated pilots (39%). There is, as Table XII shows, a difference in the patterns as well as the mean values: the enlisted men, by and large, are high school graduates, the warrant officers and candidates generally had 12-14 years of schooling, and the commissioned officers had 14-16 years.

Table X

DISTRIBUTION OF SUBGROUPS BY RANK

Rank	- Group - I	II	III	IV	V	Total
Lt. Col.					17	17
Major				1	18	19
Captain				32	120	152
1st Lt.				47	67	114
2nd Lt.				106	12	118
CW 4			15			15
CW 3			75			75
CW 2			260			260
WO 1		10	60			70
WOC		249				249
SP7/SFC	37					37
SP6/SSG	139					139
SP5/SGT	121					121
SP4/CPL	74					74
PFC	11					11
PV2 & PV1	6					6
	588	259	410	186	234	1477

Table XI

DISTRIBUTION OF SUBGROUPS BY AERORATING

	- Group -					
Aerorating	I	II	III	IV	V	Total
Master Aviator			1		4	5
Senior Aviator			13		23	36
Army Aviator			396		207	603
Trainee		259		186		445
Machinist	19					19
Door Gunner	17					17
Mechanics	61					61
Crew Chief	283					283
Instructor	8					8
	388	259	410	186	234	1477

Table XII

DISTRIBUTION OF SUBGROUPS BY AGE

Reported Age	- Group - I	II	III	IV	V	Total
40 & up	3.9		3.4		4.4	2.6%
35-39	8.2	0.8	2.4	1.1	7.7	5.8%
30-34	13.9	6.2	7.8	8.1	10.3	11.4%
28-29	6.5	4.2	14.6	9.1	6.3	6.5%
26-27	9.5	8.5	6.3	16.1	17.5	10.5%
24-25	6.9	12.0	7.1	38.2	28.6	17.1%
22-23	21.7	27.8	14.6	24.7	22.3	25.6%
20-21	26.8	35.1	30.5	2.7	3.0	18.1%
18-19	4.6	5.4	14.6			2.3%
17	0.5		1.0			0.1%
Mean	26.5	23.6	26.8	25.8	27.5	26.2
N	388	259	410	186	234	1477

Differences in the region of birth data (Table XIV) form no clear pattern, certainly not one which might be expected to affect significantly the body size data.

The selected anthropometric data which are summarized in Table XV involve both bony and fleshy dimensions. Differences for the bony dimensions - stature and sitting height - are almost nonexistent among the four pilot groups, and the enlisted men's mean values are about a third of an inch and a quarter of an inch less than the total means for these two measures.

Somewhat greater differences exist among the mean values of the measurements of the fleshy dimensions. There is, for example, a nine pound difference in weight, a one-and-a-quarter inch difference in chest circumference, and a half standard deviation difference in subscapular skinfold between the warrant trainees and the commissioned rated pilots, the two most disparate groups.

Much of these differences in the fleshy dimensions appear to be attributable to the differences in age among the four pilot groups. To illustrate this, age-adjusted estimates of the weights of the several groups are presented in the following table. These estimates were computed by assuming that men gain about 1.5 pounds a year during their early and mid-20's, and by adjusting each group's mean weight by 1.5 (lb/yr) times the difference between the total and the group mean ages. The adjustment was upward for the two student groups which had mean ages less than that of the total group and downward for the other three groups.

	I	II	III	IV	V
Age	26.48	23.62	26.76	25.80	27.53
Δ Age[1]	-.27	2.59	.55	.41	1.32
Mean Weight	169.70	166.02	172.48	172.73	175.35
Adjustment[2]	-.40	3.89	-.83	.62	-1.98
Adjusted Weight	169.30	169.91	171.65	173.35	173.37
		170.8		173.4	

[1] Total mean age (e.g., 26.21) - group mean age

[2] Δ Age times 1.5 lb/yr

These adjusted weights are in considerably closer agreement than are the actual weights. The adjusted weights for groups IV and V are virtually identical, those for groups

Table XIII

DISTRIBUTION OF SUBGROUPS BY EDUCATION

Years Completed	- Group - I	II	III	IV	V	Total*
19 or 20				0.5	0.8	0.2%
18				1.6	3.4	0.8%
17	0.3	0.4	1.2	8.1	4.7	2.2%
16	0.3	5.0	3.7	40.9	29.5	11.7%
15	3.4	9.7	7.1	11.8	11.5	7.8%
14	6.7	29.0	22.7	17.7	15.2	18.6%
13	8.0	19.3	25.6	5.4	13.7	15.3%
12	74.5	36.3	39.0	14.0	17.1	41.2%
11	2.8					0.7%
9 or 10	4.1	0.4	0.7			1.4%
College Plus	0.3	0.4	1.2	10.2	9.0	3.2%
College Completed	0.3	5.0	3.7	40.9	29.5	11.7%
Some College	18.0	57.9	55.4	34.9	44.4	41.7%
High School	74.5	36.3	39.0	14.0	17.1	41.2%
Less than High School	7.0	0.4	0.7			2.1%
Mean	12.2	13.3	13.1	14.9	14.6	13.4 years
N	288	259	410	186	234	1477

*Excluding the 5 civilians

Table XIV

DISTRIBUTION OF SUBGROUPS BY REGION OF BIRTH

Region	- Group - I	II	III	IV	V	Total*
New England	3.4	4.2	7.6	2.7	6.8	5.1%
Mid Atlantic	9.0	11.6	15.1	13.4	10.7	12.0%
South Atlantic	15.7	18.1	15.6	14.5	17.5	16.3%
East North Central	13.7	11.2	17.3	12.9	15.0	14.4%
East South Central	13.7	10.1	6.6	11.8	14.1	11.0%
West North Central	8.5	8.5	8.5	12.9	10.3	9.3%
West South Central	14.2	8.9	10.0	15.1	12.4	11.9%
Mountain	5.9	5.8	4.4	5.4	5.1	5.3%
Pacific	11.3	17.8	10.5	10.8	6.4	11.4%
Foreign	4.6	3.5	4.4	0.5	1.7	3.4%

*Excluding the five civilians

Table XV

SELECTED ANTHROPOMETRIC MEASURES BY SUBGROUPS

	- Group - I	II	III	IV	V	Total	
			A. Weight				
Mean	76.98	75.31	78.23	78.35	79.54	77.63	kg
SD	13.19	8.90	10.12	9.34	10.10	10.81	kg
Mean	169.70	166.02	172.48	172.73	175.35	171.15	lb
SD	29.08	19.63	22.31	20.60	22.28	23.84	lb
			B. Stature				
Mean	173.72	174.96	174.88	174.71	174.77	174.56	cm
SD	6.83	6.05	6.03	6.15	6.28	6.33	cm
Mean	68.39	68.88	68.85	68.78	68.81	68.72	in
SD	2.69	2.38	2.37	2.42	2.47	2.49	in
			C. Sitting Height				
Mean	90.28	90.95	91.26	91.00	91.26	90.93	cm
SD	3.35	2.97	3.18	3.31	3.17	3.23	cm
Mean	35.54	35.81	35.93	35.83	35.93	35.80	in
SD	1.32	1.17	1.25	1.30	1.25	1.27	in
			D. Chest Circumference				
Mean	98.33	96.56	98.78	98.76	99.75	98.44	cm
SD	8.30	5.74	6.51	5.63	6.43	6.87	cm
Mean	38.71	38.01	38.89	38.88	39.27	38.75	in
SD	3.27	2.26	2.56	2.22	2.53	2.71	in
			E. Subscapular Skinfold				
Mean	1.50	1.29	1.49	1.43	1.53	1.46	cm
SD	0.71	0.49	0.55	0.50	0.60	0.60	cm
Mean	0.59	0.51	0.58	0.56	0.60	0.57	in
SD	0.28	0.19	0.22	0.20	0.24	0.23	in
			F. Stature/Cube Root of Weight				
Mean	41.06	41.53	41.02	40.94	40.75	41.07	$cm/\sqrt[3]{kg}$
SD	2.20	1.45	1.81	1.64	1.59	1.83	
Mean	12.42	12.56	12.41	12.38	12.33	12.42	$in/\sqrt[3]{lb}$
SD	0.67	0.44	0.55	0.50	0.48	0.55	

II and III differ by about one-quarter as much as did the actual weights. The composite figure for the commissioned pilots (Groups IV and V combined) is only 2.6 pounds greater than that for the warrant pilots (Groups II and III combined), a difference only slightly more than a tenth of the total group standard deviation. The enlisted group mean falls an even smaller distance below the warrant pilots mean value. Similar analyses can be carried out on the data for chest circumference and the other fleshy dimensions with rather similar results.

The data in these tables clearly demonstrate that differences among the groups do exist - in age, in education, in birthplace, and in some, but not all, of the anthropometric measures. Equally clear, however, is the fact that, by and large, these differences are small.

It is apparent from the anthropometric data for the subgroups that most, if not all, design problems involving clothing, protective devices, or work space for the members of any one of these subgroups can be treated satisfactorily using the total group data. Consequently, we have not included extensive data summaries for the individual subgroups.

Brief statistical summaries for all the anthropometric measures are given in Table XVI. The statistics presented in this table include the means, standard deviations, measures of symmetry and kurtosis, and the 1st, 5th, 15th, 25th, 50th, 75th, 85th, 95th, and 99th percentiles. Values are given in metric units: kilograms, centimeters, and - for the skinfold measures - millimeters.

TABLE XVI

STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
1 AGE														
I	26.48	6.43	24.3	1.24	4.44	18.8	20.2	20.6	21.3	24.4	30.0	33.6	39.5	43.0
II	23.62	3.41	14.4	1.46	5.16	18.9	20.1	20.6	21.1	22.6	25.2	27.1	30.7	35.0
III	26.76	5.73	21.4	1.24	3.96	19.8	21.2	21.6	22.3	24.9	29.5	32.9	39.1	45.0
IV	25.80	2.86	11.1	1.50	6.43	21.3	22.3	23.3	23.9	25.2	27.0	28.2	31.2	36.2
V	27.53	5.23	19.0	1.70	5.97	20.9	22.5	23.3	23.8	25.8	29.6	32.4	38.2	45.3
2 WEIGHT														
I	76.98	13.19	17.1	0.55	3.20	53.0	57.8	63.3	67.2	75.6	85.4	91.1	100.8	110.9
II	75.31	8.90	11.8	0.32	2.61	56.5	62.0	66.2	68.8	74.5	81.2	85.1	91.4	96.4
III	78.23	10.12	12.9	0.09	2.57	57.6	61.7	67.1	70.8	78.1	85.4	89.2	95.3	101.4
IV	78.35	9.34	11.9	-0.43	2.49	57.6	61.0	67.5	71.9	79.6	85.6	88.1	91.6	95.9
V	79.54	10.10	12.7	0.05	2.51	57.5	63.4	68.8	72.3	79.3	86.8	90.8	96.8	101.3
3 STATURE														
I	173.72	6.83	3.9	0.25	3.00	159.9	163.1	166.6	168.9	173.5	178.2	180.8	185.3	190.6
II	174.96	6.05	3.5	0.14	2.92	161.4	165.3	168.8	170.9	174.8	178.9	181.2	185.3	190.4
III	174.88	6.03	3.4	-0.16	3.27	160.2	165.2	168.9	171.0	174.9	179.0	181.2	184.6	188.0
IV	174.71	6.15	3.5	0.18	3.06	160.9	164.8	168.4	170.6	174.6	178.6	180.9	185.1	190.6
V	174.77	6.28	3.6	0.01	3.05	160.5	163.8	168.0	170.6	175.0	178.9	181.0	185.0	191.9
4 CERVICALE HEIGHT														
I	149.13	6.48	4.3	0.18	2.75	136.1	138.8	142.1	144.4	149.0	153.6	156.1	160.1	164.1
II	149.66	5.61	3.7	0.26	3.13	137.6	140.4	143.8	145.9	149.7	153.2	155.1	159.0	165.5
III	150.03	5.67	3.8	-0.19	3.17	136.0	140.6	144.3	146.4	150.1	153.9	156.0	159.3	162.6
IV	149.77	5.78	3.9	0.15	3.03	137.0	140.0	143.6	145.8	149.8	153.4	155.4	159.2	165.1
V	149.71	6.06	4.0	0.10	2.98	136.6	139.5	143.3	145.6	149.8	153.6	155.7	159.6	166.2
5 SHOULDER HEIGHT														
I	142.46	6.34	4.5	0.11	2.86	129.6	132.3	135.7	137.9	142.3	146.8	149.1	152.9	157.0
II	143.13	5.82	4.1	0.21	2.93	130.9	134.0	137.1	139.1	142.9	146.9	149.2	153.2	158.3
III	143.39	5.65	3.9	-0.23	3.15	129.2	134.1	137.7	139.7	143.5	147.3	149.3	152.6	155.7
IV	143.17	5.62	3.9	0.21	3.12	130.7	134.0	137.4	139.4	143.1	146.6	148.6	152.5	158.3
V	143.23	5.93	4.1	0.03	2.80	130.3	133.2	136.9	139.2	143.4	147.3	149.3	153.[illegible]	158.3

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V [illegible] PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
6 WAIST HEIGHT														
I	105.56	5.52	5.2	0.21	2.97	94.7	96.9	99.7	101.6	105.4	109.3	111.4	114.9	118.6
II	106.45	4.83	4.5	0.25	3.06	96.4	98.7	101.4	103.1	106.4	109.5	111.2	114.4	119.1
III	106.25	4.80	4.5	-0.21	2.83	94.6	97.9	101.1	103.0	106.5	109.6	111.3	115.9	116.9
IV	106.17	4.68	4.4	0.04	2.89	95.0	98.2	101.2	102.9	106.2	109.3	111.1	114.0	117.5
V	105.90	5.09	4.8	0.07	3.03	94.3	97.3	100.5	102.5	105.9	109.2	111.0	114.2	119.1
7 CROTCH HEIGHT														
I	81.09	4.87	6.0	0.39	2.85	72.1	73.8	76.0	77.5	80.8	84.3	86.3	89.9	94.2
II	82.76	4.32	5.2	0.31	3.57	73.1	75.5	78.2	79.9	82.8	85.4	86.9	89.9	95.0
III	82.11	4.15	5.1	-0.09	2.97	72.9	75.1	77.7	79.3	82.3	85.0	86.4	88.7	91.7
IV	82.29	4.00	4.9	0.06	2.67	73.1	75.7	78.1	79.5	82.2	85.1	86.6	89.0	91.3
V	81.74	4.47	5.5	0.17	2.79	72.0	74.8	77.2	78.6	81.6	84.9	86.7	89.7	92.4
8 KNEECAP HEIGHT														
I	50.87	2.91	5.7	0.36	3.11	44.7	46.5	47.9	48.8	50.7	52.7	53.9	56.0	58.2
II	51.89	2.72	5.2	0.38	3.39	46.5	47.6	49.1	50.1	51.9	53.5	54.5	56.3	59.4
III	51.14	2.57	5.0	0.0	3.06	45.4	46.8	48.4	49.4	51.2	52.8	53.7	55.3	57.5
IV	51.47	2.45	4.8	0.01	2.59	45.9	47.5	48.9	49.8	51.4	53.2	54.1	55.7	57.2
V	50.94	2.64	5.2	0.0	2.75	45.0	46.4	48.0	49.1	51.0	52.6	53.7	55.2	57.0
9 CALF HEIGHT														
I	34.38	2.44	7.1	0.30	3.32	29.3	30.5	31.9	32.7	34.3	35.9	36.8	38.7	41.4
II	35.05	2.14	6.1	0.36	3.13	30.5	31.8	32.9	33.6	34.9	36.4	37.2	38.8	40.7
III	34.16	1.97	5.8	0.0	3.08	29.7	30.9	32.1	32.8	34.2	35.5	36.2	37.3	38.8
IV	34.83	2.02	5.8	0.38	3.22	30.9	31.8	32.8	33.4	34.7	36.1	36.9	38.2	40.0
V	34.09	2.12	6.2	0.02	3.14	29.3	30.5	31.8	32.7	34.2	35.5	36.2	37.4	39.0
10 SITTING HEIGHT														
I	90.28	3.35	3.7	0.07	2.93	83.2	84.9	86.8	88.0	90.2	92.5	93.7	95.9	98.6
II	90.95	2.97	3.3	0.14	2.87	84.3	86.2	87.8	88.9	90.8	92.9	94.1	96.0	97.9
III	91.26	3.18	3.5	0.07	3.54	84.0	86.4	88.2	89.2	91.1	93.3	94.5	96.7	99.2
IV	91.00	3.31	3.6	0.06	3.07	83.0	85.5	87.6	88.8	91.0	93.2	94.3	96.4	98.1
V	91.26	3.17	3.5	-0.31	3.17	82.8	85.7	88.0	89.3	91.5	93.4	94.4	96.2	98.3

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V [illegible]

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
11 EYE HEIGHT (SITTING)														
I	78.15	3.25	4.2	0.11	3.05	71.4	72.8	74.7	75.9	78.2	80.3	81.4	83.5	86.7
II	78.90	2.94	3.7	0.02	3.12	72.1	73.9	75.8	76.9	78.9	80.9	81.9	83.7	86.2
III	79.06	3.10	3.9	0.03	3.40	71.6	74.3	76.1	77.0	78.9	81.0	82.3	84.4	86.2
IV	78.92	3.21	4.1	0.07	3.41	70.5	73.8	75.9	76.9	78.8	80.9	82.1	84.4	87.3
V	79.13	3.15	4.0	-0.30	2.97	71.2	73.6	75.9	77.1	79.3	81.3	82.3	84.0	86.0
12 MID-SHOULDER HEIGHT (SITTING)														
I	62.67	2.81	4.5	0.07	3.04	56.1	58.0	59.8	60.8	62.7	64.5	65.5	67.4	70.1
II	62.61	2.72	4.3	0.05	2.83	56.3	58.2	59.8	60.8	62.6	64.4	65.5	67.2	69.1
III	63.21	2.72	4.3	-0.17	3.46	56.9	58.9	60.5	61.4	63.2	65.1	66.1	67.7	69.0
IV	62.82	2.77	4.4	0.05	2.82	56.1	58.2	59.9	60.9	62.8	64.7	65.7	67.4	69.0
V	63.09	2.81	4.5	-0.08	2.59	56.8	58.3	60.0	61.1	63.1	65.1	66.1	67.7	69.2
13 TRUNK HEIGHT (SITTING)														
I	57.96	2.69	4.6	0.11	2.92	52.9	53.6	55.0	56.0	58.0	59.8	60.8	62.4	64.8
II	58.17	2.51	4.3	0.13	2.81	52.6	54.0	55.5	56.4	58.1	59.8	60.8	62.4	64.5
III	58.66	2.56	4.4	-0.03	3.35	52.8	54.7	56.1	57.0	58.6	60.3	61.3	63.0	64.7
IV	58.53	2.64	4.5	0.04	3.18	51.6	54.2	55.9	56.8	58.4	60.2	61.2	63.0	64.7
V	58.69	2.73	4.7	-0.20	2.84	51.7	53.9	55.8	56.9	58.8	60.6	61.6	63.1	64.7
14 ELBOW REST HEIGHT (SITTING)														
I	22.80	2.81	12.3	-0.01	3.22	16.2	18.0	19.4	21.0	22.9	24.7	25.6	27.5	30.0
II	22.77	2.69	11.8	-0.03	3.02	15.3	18.2	20.2	21.2	22.8	24.4	25.3	27.2	29.8
III	23.37	2.40	10.3	-0.09	3.16	17.8	19.4	20.9	21.8	23.4	25.0	25.8	27.2	28.7
IV	23.12	2.64	11.4	0.03	2.75	17.1	18.9	20.4	21.2	23.0	24.9	26.0	27.7	29.2
V	23.44	2.62	11.2	0.11	2.91	17.5	19.7	20.7	21.6	23.4	25.2	26.2	27.9	29.8
15 THIGH CLEARANCE HEIGHT (SITTING)														
I	14.68	1.68	11.5	0.35	2.75	11.3	12.2	13.0	13.5	14.5	15.8	16.5	17.7	18.8
II	14.44	1.22	8.5	0.34	3.38	11.8	12.5	13.2	13.6	14.4	15.2	15.7	16.5	17.8
III	14.72	1.34	9.1	-0.08	2.70	11.9	12.4	13.3	13.8	14.7	15.7	16.2	16.8	17.4
IV	14.84	1.28	8.6	-0.67	3.44	11.3	12.4	13.5	14.1	15.0	15.8	16.1	16.6	17.5
V	14.98	1.24	8.3	-0.12	2.94	12.0	12.9	13.7	14.2	15.0	15.8	16.3	16.9	17.6

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V Co PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
16 KNEE HEIGHT (SITTING)														
I	53.07	2.77	5.2	0.36	3.05	47.3	48.9	50.3	51.1	52.8	54.8	56.0	58.0	60.1
II	52.57	2.57	4.9	0.45	3.81	46.9	48.5	50.0	50.9	52.5	54.1	55.0	56.9	59.9
III	53.17	2.45	4.6	-0.05	3.10	[illegible]	49.0	50.6	51.6	53.2	54.8	55.6	57.1	59.2
IV	52.94	2.29	4.3	0.16	3.47	[illegible]	49.4	50.8	51.5	52.8	54.3	55.2	56.9	59.2
V	53.18	2.57	4.8	0.09	2.89	[illegible]	48.9	50.5	51.4	53.2	54.9	55.8	57.4	59.5
17 POPLITEAL HEIGHT (SITTING)														
I	42.05	2.67	6.3	0.36	3.14	36.0	38.0	39.4	40.2	41.8	43.7	44.9	47.0	49.3
II	42.54	2.43	5.7	0.24	4.01	37.1	38.4	40.0	40.9	42.6	44.1	44.8	46.3	48.5
III	42.49	2.40	5.7	0.14	3.11	37.2	38.7	40.0	40.9	42.4	44.0	45.0	46.6	48.7
IV	42.42	2.27	5.3	0.04	2.74	37.2	38.9	40.1	40.8	42.3	44.0	44.9	46.3	47.2
V	42.28	2.39	5.7	-0.03	2.75	36.9	38.2	39.7	40.6	42.3	43.9	44.7	46.1	47.9
18 SHOULDER-ELBOW LENGTH														
I	36.76	1.92	5.2	0.29	3.03	32.6	33.7	34.8	35.4	36.7	38.0	38.7	40.1	42.1
II	36.61	1.71	4.7	0.27	3.41	33.0	33.8	34.8	35.4	36.6	37.7	38.3	39.5	41.4
III	36.85	1.79	4.9	-0.10	2.68	32.9	33.8	34.9	35.6	36.9	38.1	38.7	39.7	40.6
IV	36.54	1.64	4.5	0.29	3.26	32.8	34.0	34.9	35.5	36.5	37.6	38.2	39.4	40.7
V	36.63	1.67	4.6	-0.09	3.02	32.6	33.8	34.9	35.5	36.6	37.7	38.3	39.3	40.5
19 ELBOW-FINGERTIP LENGTH														
I	48.05	2.26	4.7	0.35	3.29	43.3	44.5	45.7	46.5	48.0	49.5	50.3	51.9	54.2
II	48.20	2.02	4.2	0.43	4.03	44.0	44.9	46.2	46.9	48.2	49.4	50.0	51.5	54.2
III	48.21	2.03	4.2	-0.10	3.12	43.2	44.8	46.1	46.9	48.3	49.6	50.3	51.5	53.0
IV	48.10	2.05	4.3	0.01	2.96	43.3	44.6	45.9	46.7	48.1	49.5	50.2	51.4	52.8
V	48.08	2.07	4.3	0.05	2.83	43.3	44.6	45.9	46.7	48.1	49.5	50.2	51.5	53.2
20 BUTTOCK-POPLITEAL LENGTH														
I	49.05	2.81	5.7	0.30	2.99	43.2	44.6	46.1	47.1	48.9	50.9	51.9	53.8	56.2
II	48.82	2.49	5.1	0.34	3.03	44.2	44.9	46.1	47.0	48.7	50.4	51.4	53.1	55.7
III	49.39	2.43	4.9	-0.13	2.59	44.0	45.2	46.7	47.7	49.5	51.2	52.0	53.2	54.6
IV	48.86	2.54	5.2	0.11	2.48	43.6	44.7	46.1	47.0	48.8	50.7	51.6	53.1	54.5
V	49.13	2.59	5.3	0.06	2.56	43.6	44.9	46.3	47.3	49.1	51.0	52.0	53.5	54.9

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO[illegible] LOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
21 BUTTOCK-KNEE LENGTH														
I	60.07	3.00	5.0	0.31	2.79	53.8	55.5	57.0	57.9	59.8	62.0	63.3	65.4	67.6
II	60.00	2.56	4.3	0.36	3.36	54.4	55.9	57.4	58.3	59.9	61.5	62.5	64.4	67.4
III	60.39	2.38	3.9	-0.23	2.77	54.3	56.2	57.8	58.8	60.5	62.1	62.9	64.1	65.2
IV	60.13	2.48	4.1	0.23	2.84	54.7	56.4	57.6	58.4	60.0	61.8	62.9	64.4	65.2
V	60.31	2.58	4.3	0.02	2.49	54.9	56.2	57.6	58.4	60.2	62.2	63.2	64.7	65.7
22 BUTTOCK-HEEL LENGTH														
I	111.80	5.48	4.9	0.24	2.79	101.2	103.1	105.9	107.8	111.6	115.5	117.6	121.2	125.6
II	112.25	4.75	4.2	0.20	3.25	102.6	104.3	107.2	109.1	112.4	115.3	116.8	119.7	124.9
III	112.53	4.72	4.2	-0.15	3.23	100.7	104.5	107.7	109.5	112.7	115.7	117.3	120.2	124.1
IV	112.06	4.68	4.2	0.21	2.93	101.0	104.5	107.2	108.8	111.8	115.0	116.9	120.1	123.7
V	112.15	5.02	4.5	-0.04	2.89	100.7	103.8	106.8	108.7	112.2	115.6	117.4	120.4	124.0
23 FUNCTIONAL REACH														
I	80.22	4.18	5.2	0.34	2.91	71.6	73.9	75.9	77.2	79.9	83.0	84.8	87.9	91.1
II	77.88	4.02	5.2	0.62	3.28	70.2	72.1	73.8	74.9	77.4	80.4	82.2	85.6	89.5
III	79.40	4.03	5.1	0.29	3.51	70.6	73.0	75.3	76.7	79.3	81.9	83.4	86.3	90.5
IV	78.84	3.72	4.7	0.28	3.67	70.6	72.8	75.0	76.4	78.8	81.2	82.5	84.8	88.0
V	79.72	4.08	5.1	0.48	3.82	72.3	73.5	75.4	76.7	79.4	82.3	84.0	87.1	91.2
24 VERTICAL REACH (SITTING)														
I	142.56	6.14	4.3	0.10	2.72	129.1	132.6	136.0	138.2	142.5	146.8	149.2	153.0	157.0
II	143.83	5.54	3.8	0.19	2.79	132.3	135.0	137.9	139.8	143.6	147.6	149.8	153.4	157.1
III	144.06	5.70	4.0	0.0	3.36	129.8	134.7	136.4	140.4	144.1	147.7	149.8	153.5	158.1
IV	143.46	5.68	4.0	0.24	2.96	131.6	134.4	137.5	139.4	143.3	147.2	149.4	153.1	157.3
V	143.57	5.63	3.9	0.03	2.81	130.4	134.1	137.6	139.7	143.6	147.4	149.5	153.0	157.3
25 SHOULDER BREADTH														
I	46.99	2.89	6.1	0.42	3.14	41.4	42.5	44.0	44.9	46.8	48.8	50.0	51.9	54.3
II	46.97	2.32	4.9	0.09	2.78	42.1	43.1	44.5	45.3	47.0	48.5	49.3	50.7	52.5
III	47.58	2.38	5.0	0.01	2.96	41.9	43.5	45.1	46.0	47.6	49.2	50.0	51.5	53.5
IV	47.12	2.24	4.7	-0.03	2.62	42.9	44.0	45.3	46.1	47.8	49.3	50.1	51.3	52.5
V	47.95	2.58	5.4	-0.08	2.69	41.8	43.8	45.3	46.2	47.9	49.8	50.8	52.2	53.1

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS.

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM KURT		PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
26 CHEST BREADTH														
I	34.1[illegible]	2.81	8.2	0.53	3.53	28.8	30.0	31.3	32.1	33.9	35.9	37.1	39.1	41.5
II	33.[illegible]	2.05	6.0	0.51	3.23	30.1	30.8	31.7	32.3	33.7	35.2	36.1	37.5	38.7
III	34.50	2.23	6.4	0.26	3.86	29.4	31.1	32.4	33.1	34.4	35.8	36.6	38.2	40.2
IV	34.79	2.13	6.1	-0.10	2.69	29.6	31.1	32.5	33.3	34.8	36.3	37.1	38.3	39.4
V	34.61	2.30	6.6	0.31	2.98	30.2	31.3	32.4	33.1	34.6	36.3	37.2	38.8	40.5
27 FOREARM-FOREARM BREADTH														
I	50.36	5.19	10.3	0.28	2.99	39.5	42.1	[illegible]	[illegible].6	50.0	53.7	55.7	59.3	63.6
II	49.71	4.00	8.1	-0.01	2.87	39.9	42.8	45.4	47.0	49.8	52.4	53.9	56.4	59.6
III	50.75	4.18	8.2	0.05	3.12	41.3	43.8	46.4	47.9	50.8	53.6	55.1	57.6	60.9
IV	50.66	4.08	8.0	-0.22	2.77	41.6	43.9	46.4	48.1	51.1	53.9	55.3	57.4	59.4
V	51.44	4.19	8.1	-0.05	2.71	41.8	44.6	47.0	48.5	51.4	54.3	55.9	58.4	60.7
28 HIP BREADTH (STANDING)														
I	34.64	2.46	7.1	0.32	2.94	29.6	31.0	32.3	33.1	34.7	36.4	37.4	39.2	41.2
II	34.92	2.00	5.7	0.29	2.84	30.7	31.8	32.8	33.5	34.[illegible]	36.2	37.0	38.4	40.1
III	35.25	2.08	5.9	0.18	2.82	31.1	32.0	33.0	33.8	35.2	36.7	37.5	38.7	40.1
IV	35.41	1.79	5.0	-0.07	2.71	31.1	32.4	33.5	34.2	35.4	36.6	37.3	38.4	39.3
V	35.34	1.94	5.5	0.10	2.69	31.3	32.1	33.2	34.0	35.4	36.7	37.3	38.5	40.2
29 HIP BREADTH (SITTING)														
I	37.27	3.18	8.5	0.43	2.95	31.3	32.4	33.9	34.9	37.0	39.4	[illegible].7	42.9	45.2
II	37.58	2.49	6.6	0.38	2.78	32.5	34.0	35.1	35.9	37.3	39.2	40.3	42.1	43.6
III	[illegible].09	[illegible].59	6.8	0.26	2.82	32.9	34.3	35.3	36.2	38.0	39.8	40.8	42.5	44.4
IV	38.11	2.31	6.1	-0.16	2.66	32.9	34.0	35.5	36.5	38.3	39.8	40.5	41.7	43.1
V	38.15	2.50	6.5	0.23	2.98	33.0	34.1	35.5	36.4	38.1	39.8	40.7	42.4	45.0
30 ELBOW BREADTH (BONE.														
I	7.16	0.36	5.0	0.11	3.35	6.3	6.6	6.8	6.9	7.1	7.4	7.5	7.8	8.1
II	7.12	0.33	4.7	-0.10	3.04	6.4	6.6	6.8	6.9	7.1	7.4	7.5	7.7	7.9
III	7.16	0.34	4.7	0.02	3.09	6.3	6.6	6.8	6.9	7.2	7.4	7.5	7.7	8.0
IV	7.15	0.32	4.4	0.14	3.18	6.4	6.6	6.8	6.9	7.2	7.4	7.5	7.7	8.0
V	7.21	0.34	4.7	-0.02	3.14	6.5	6.7	6.9	7.0	7.2	7.4	7.6	7.8	8.0

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS.

TABLE XVI

STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
31 KNEE BREADTH (BONE)														
I	9.37	0.44	4.7	0.26	2.99	8.4	8.6	8.9	9.1	9.4	9.7	9.8	10.1	10.6
II	9.37	0.42	4.5	-0.0	2.77	8.4	8.7	8.9	9.1	9.4	9.7	9.8	10.1	10.4
III	9.40	0.44	4.6	0.06	2.64	8.5	8.7	8.9	9.1	9.4	9.7	9.8	10.1	10.4
IV	9.45	0.43	4.6	0.01	2.71	8.4	8.7	9.0	9.2	9.4	9.7	9.9	10.1	10.4
V	9.41	0.45	4.7	-0.06	2.45	8.4	8.7	8.9	9.1	9.4	9.7	9.9	10.2	10.4
32 CHEST DEPTH														
I	24.16	2.57	10.6	0.33	3.11	18.9	20.2	21.5	22.3	24.1	25.9	26.9	28.6	30.2
II	23.29	1.92	8.2	0.16	2.64	19.3	20.2	21.2	21.9	23.2	24.6	25.4	26.6	27.6
III	24.20	2.26	9.3	0.05	2.94	19.1	20.4	21.8	22.6	24.2	25.8	26.5	27.8	29.2
IV	24.04	1.84	7.7	-0.27	2.57	19.8	20.7	22.0	22.8	24.2	25.4	26.0	26.9	28.0
V	24.44	2.09	8.5	0.16	2.54	20.4	21.0	22.1	22.9	24.4	25.9	26.7	28.0	29.0
33 NECK CIRCUMFERENCE														
I	37.86	2.29	6.0	0.20	2.95	32.7	34.2	35.5	36.3	37.8	39.4	40.3	41.8	43.6
II	37.49	1.62	4.4	0.01	3.00	32.9	34.7	35.6	36.1	37.1	38.3	39.0	40.1	40.8
III	37.80	1.96	5.2	0.05	2.69	33.6	34.6	35.7	36.4	37.8	39.2	39.9	41.1	42.2
IV	37.73	1.82	4.8	-0.23	3.08	32.8	34.6	35.9	36.6	37.8	39.0	39.6	40.7	41.5
V	38.16	1.96	5.1	0.17	3.03	34.0	35.1	36.1	36.8	38.1	39.5	40.2	41.5	43.0
34 SHOULDER CIRCUMFERENCE														
I	115.72	7.29	6.3	0.55	3.57	102.1	104.0	108.2	110.5	115.2	120.4	123.3	128.5	134.8
II	115.19	5.45	4.7	0.19	2.55	104.0	106.9	109.5	111.2	114.8	119.0	121.3	124.9	128.0
III	116.62	5.76	4.9	-0.03	2.89	102.9	106.8	110.6	112.8	116.7	120.5	122.5	126.0	130.4
IV	117.05	5.22	4.5	-0.29	2.69	103.9	107.7	111.4	113.5	117.4	120.9	122.5	125.0	127.4
V	117.54	6.29	5.4	0.06	2.63	102.8	107.6	111.1	113.1	117.2	121.9	124.5	128.6	131.4
35 CHEST CIRCUMFERENCE														
I	98.33	8.30	8.4	0.58	3.50	83.4	86.0	89.6	92.2	97.6	103.6	107.0	113.1	120.3
II	96.56	5.74	5.9	0.17	2.40	84.7	87.6	90.4	92.2	96.2	100.7	103.2	106.7	108.7
III	98.78	6.51	6.6	0.03	3.03	84.2	87.7	91.8	94.3	98.9	103.1	105.3	109.0	114.0
IV	98.76	5.63	5.7	-0.08	2.36	87.5	89.4	92.5	94.7	98.9	103.0	105.0	107.7	110.0
V	99.75	6.42	6.4	0.22	2.77	87.2	89.9	92.9	95.0	99.4	104.2	106.8	110.6	114.0

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V C[illegible] PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM PTRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
36 WAIST CIRCUMFERENCE														
I	87.29	10.59	12.1	0.42	2.70	68.3	71.8	76.0	79.2	85.3	94.4	99.0	106.3	112.5
II	84.45	7.08	8.4	0.39	2.51	71.1	74.3	77.1	79.0	83.6	89.3	92.5	97.4	100.5
III	87.77	8.06	9.2	0.10	2.57	71.7	74.3	78.7	81.8	87.8	93.6	96.5	100.9	105.8
IV	87.45	6.78	7.8	-0.56	2.72	72.7	74.8	79.6	82.9	88.5	92.7	94.4	96.6	99.8
V	88.27	8.12	9.2	0.07	2.66	72.2	74.9	79.4	82.5	88.3	93.8	96.6	101.5	108.0
37 HIP CIRCUMFERENCE														
I	97.65	7.89	8.1	0.38	2.65	83.0	85.6	89.2	91.8	97.1	102.9	106.1	111.5	117.8
II	96.47	5.55	5.7	0.26	2.63	85.2	87.9	90.6	92.4	96.1	100.2	102.5	106.2	109.7
III	97.97	6.10	6.2	0.02	2.50	85.7	87.8	91.3	93.6	98.0	102.3	104.5	108.0	111.5
IV	98.22	5.49	5.6	-0.41	2.53	84.8	87.9	91.9	94.5	98.9	102.5	104.0	106.1	108.4
V	98.77	5.97	6.0	-0.06	3.00	84.8	88.5	92.5	94.9	99.0	102.7	104.7	108.1	113.3
38 UPPER THIGH CIRCUMFERENCE														
I	58.18	6.30	10.8	0.19	2.69	45.4	48.1	51.4	53.6	58.0	62.5	64.9	69.0	73.7
II	57.46	4.49	7.8	0.12	2.78	46.9	50.3	52.9	54.4	57.3	60.5	62.3	65.3	68.4
III	58.59	5.09	8.7	-0.07	2.67	47.6	50.1	53.1	55.0	58.7	62.3	64.1	66.9	69.8
IV	59.05	4.49	7.6	-0.58	2.96	47.4	50.7	54.2	56.3	59.7	62.4	63.5	65.4	67.8
V	59.39	4.65	7.8	-0.26	3.10	47.1	51.4	54.7	56.5	59.6	62.5	64.1	66.8	69.7
39 LOWER THIGH CIRCUMFERENCE														
I	39.22	3.70	9.4	0.46	3.09	31.6	33.7	35.5	36.6	38.9	41.5	43.1	46.0	49.6
II	38.90	2.66	6.8	0.04	2.72	32.8	34.6	36.2	37.1	38.9	40.7	41.7	43.3	45.2
III	39.33	2.90	7.4	-0.12	2.53	32.7	34.5	36.2	37.3	39.4	41.5	42.5	44.0	45.0
IV	39.60	2.83	7.1	-0.48	2.80	33.0	34.5	36.5	37.8	40.0	41.7	42.5	43.6	45.2
V	39.74	2.87	7.2	-0.05	2.70	32.9	34.9	36.7	37.8	39.7	41.7	42.7	44.5	46.4
40 CALF CIRCUMFERENCE														
I	37.10	2.90	7.8	0.20	2.72	30.7	32.5	34.1	35.0	37.0	39.1	40.2	42.1	43.9
II	37.30	2.08	5.6	-0.05	2.55	31.9	33.9	35.3	36.0	37.3	38.6	39.4	40.7	42.3
III	37.18	2.21	5.9	-0.11	2.93	32.1	33.4	34.8	35.7	37.3	38.8	39.5	40.6	41.6
IV	37.64	2.31	6.1	-0.36	2.63	32.3	33.6	35.1	36.0	37.8	39.4	40.1	41.1	42.1
V	37.59	2.21	5.9	-0.12	2.65	32.4	33.9	35.2	36.0	37.6	39.2	40.0	41.2	42.3

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V [illegible]

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
41 ANKLE CIRCUMFERENCE														
I	22.00	1.41	6.4	0.07	2.63	18.8	19.7	20.5	21.0	22.0	23.0	23.6	24.5	25.1
II	21.99	1.14	5.2	-0.13	3.03	19.2	20.0	20.8	21.2	22.0	22.8	23.2	23.8	24.6
III	22.03	1.21	5.5	0.04	2.91	19.3	20.0	20.7	21.2	22.1	22.9	23.3	23.9	24.6
IV	22.19	1.21	5.5	-0.06	2.93	19.2	20.2	21.0	21.4	22.2	23.0	23.4	24.2	25.1
V	22.25	1.20	5.4	0.16	2.77	19.8	20.3	20.9	21.4	22.2	23.1	23.5	24.3	25.3
42 ARM SCYE CIRCUMFERENCE														
I	44.22	2.98	6.7	0.47	3.58	38.2	39.6	41.1	42.1	44.0	46.1	47.3	49.4	51.8
II	42.94	2.09	4.9	0.15	2.81	38.1	39.6	40.8	41.5	42.9	44.3	45.1	46.5	48.0
III	44.15	2.41	5.5	0.21	2.79	39.1	40.3	41.6	42.4	44.1	45.8	46.7	48.2	50.1
IV	43.88	2.45	5.6	-0.38	3.02	37.5	39.5	41.3	42.4	44.1	45.6	46.3	47.6	49.4
V	44.57	2.43	5.4	0.07	3.00	29.2	40.6	42.0	42.9	44.6	46.3	47.1	48.6	50.1
43 BICEPS CIRCUMFERENCE (RELAXED)														
I	30.67	3.20	10.4	0.35	2.95	24.2	25.6	27.3	28.4	30.5	32.8	34.0	36.2	39.1
II	29.61	2.20	7.4	0.12	3.05	24.3	26.0	27.3	28.1	29.6	31.1	32.0	33.3	34.4
III	30.62	2.60	8.5	-0.14	3.03	24.3	26.3	28.0	28.9	30.7	32.4	33.3	34.7	36.0
IV	30.69	2.61	8.5	-0.64	3.34	23.8	25.8	27.9	29.1	31.1	32.5	33.2	34.3	36.0
V	31.03	2.39	7.7	-0.25	2.85	24.7	27.1	28.6	29.5	31.1	32.7	33.6	35.0	35.7
44 BICEPS CIRCUMFERENCE (FLEXED)														
I	32.12	3.02	9.4	0.23	2.94	25.7	27.2	28.9	30.0	32.0	34.1	35.2	37.2	39.8
II	31.48	2.08	6.6	0.05	3.02	26.6	28.0	29.3	30.0	31.5	32.9	33.6	34.8	36.0
III	32.14	2.43	7.6	-0.15	3.22	26.6	28.2	29.6	30.5	32.2	33.8	34.6	36.1	37.7
IV	32.29	2.42	7.5	-0.00	3.22	25.7	27.8	29.7	30.7	32.5	34.1	34.8	35.8	36.8
V	32.52	2.23	6.8	-0.27	3.17	26.4	28.7	30.3	31.1	32.6	34.0	34.8	36.1	37.4
45 FOREARM CIRCUMFERENCE (FLEXED)														
I	29.38	2.01	6.8	0.26	2.91	25.2	26.3	27.3	28.0	29.3	30.7	31.5	32.8	34.4
II	28.74	1.54	5.4	0.14	2.87	25.4	26.2	27.1	27.7	28.7	29.8	30.3	31.3	32.6
III	29.14	1.73	5.9	0.01	3.06	25.4	26.3	27.3	28.0	29.2	30.3	30.9	32.0	33.5
IV	29.21	1.69	5.8	-0.21	2.99	25.2	26.2	27.4	28.1	29.3	30.4	30.9	31.7	32.7
V	29.48	1.63	5.5	-0.02	2.84	25.6	26.8	27.8	28.4	29.5	30.6	31.2	32.2	33.3

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
46 WRIST CIRCUMFERNCE														
I	17.11	1.11	6.5	0.28	3.00	14.5	15.4	16.0	16.3	17.0	17.8	18.3	19.1	19.9
II	16.46	0.85	5.2	0.21	3.11	14.6	15.2	15.6	15.9	16.4	17.0	17.4	17.9	18.5
III	16.88	0.98	5.8	0.39	3.19	14.8	15.4	15.9	16.2	16.8	17.5	17.9	18.6	19.5
IV	16.61	0.99	6.0	-0.10	2.80	14.5	14.9	15.5	15.9	16.6	17.3	17.6	18.2	18.8
V	17.02	1.03	6.1	0.34	2.97	15.0	15.4	15.9	16.3	17.0	17.7	18.1	18.8	19.8
47 VERTICAL TRUNK CIRCUMFERENCE (STANDING)														
I	169.46	8.81	5.2	0.28	2.96	151.4	155.6	160.3	163.3	169.1	175.1	178.3	184.6	193.2
II	167.96	6.60	3.9	0.14	2.60	153.1	157.6	161.1	163.2	167.6	172.5	175.3	179.6	182.9
III	169.83	7.04	4.1	-0.14	2.73	154.4	158.2	162.2	164.9	169.9	174.9	177.4	181.1	183.9
IV	168.84	7.04	4.2	-0.05	2.44	153.2	157.2	161.2	163.8	168.8	173.9	176.6	180.4	183.5
V	170.41	7.48	4.4	0.07	2.83	153.5	158.1	162.6	165.3	170.5	175.5	178.2	182.7	187.7
48 VERTICAL TRUNK CIRCUMFERENCE (SITTING)														
I	162.91	8.26	5.1	0.21	2.56	144.8	150.2	154.5	157.1	162.4	168.5	171.9	177.6	182.7
II	161.01	6.39	4.0	0.14	3.01	145.4	150.7	154.6	156.7	160.8	165.1	167.6	172.0	177.0
III	163.31	6.73	4.1	-0.15	2.78	148.3	152.2	156.1	158.6	163.4	168.3	170.7	174.4	177.0
IV	162.13	6.79	4.2	-0.14	2.74	145.3	150.2	154.8	157.5	162.4	167.0	169.3	173.1	177.3
V	163.84	6.98	4.3	0.20	2.99	149.6	152.8	156.5	158.9	163.7	168.5	171.1	175.8	181.6
49 SHOULDER LENGTH														
I	15.22	1.18	7.7	0.46	3.24	12.8	13.5	14.0	14.4	15.1	15.9	16.4	17.3	18.5
II	15.92	1.09	6.8	0.15	3.07	13.4	14.1	14.8	15.2	15.9	16.7	17.1	17.8	18.8
III	15.43	1.17	7.6	0.06	3.05	12.6	13.5	14.2	14.7	15.4	16.2	16.6	17.4	18.4
IV	15.67	1.13	7.2	-0.42	2.79	12.8	13.6	14.5	15.0	15.8	16.5	16.8	17.3	17.9
V	15.49	1.13	7.3	0.16	2.74	13.2	13.7	14.3	14.7	15.4	16.3	16.7	17.4	18.1
50 INTERSCYE														
I	39.30	3.07	7.8	0.19	2.92	32.8	34.2	36.0	37.2	39.3	41.3	42.3	44.4	47.6
II	39.30	2.82	7.2	-0.08	2.49	33.1	34.5	36.2	37.3	39.4	41.3	42.3	43.8	45.4
III	39.42	2.91	7.4	-0.02	3.16	32.2	34.7	36.5	37.5	39.3	41.3	42.4	44.3	46.4
IV	39.71	2.83	7.1	0.21	2.99	33.0	35.3	36.9	37.8	39.5	41.5	42.7	44.8	46.9
V	39.51	3.09	7.8	0.09	2.62	32.9	34.3	36.1	37.3	39.5	41.7	42.8	44.6	46.8

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V C. PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
51 INTERSCYE MAXIMUM														
I	55.43	3.74	6.7	0.10	3.08	46.5	49.3	51.6	52.8	55.3	57.9	59.3	61.8	64.4
II	55.74	2.98	5.4	0.22	2.70	49.7	51.1	52.5	53.5	55.5	57.8	59.0	61.0	62.9
III	55.98	3.46	6.2	-0.04	3.32	47.0	50.5	52.7	53.8	55.8	58.1	59.4	61.8	64.3
IV	55.97	3.12	5.6	-0.14	2.92	47.8	50.6	52.8	53.9	56.0	58.1	59.2	61.1	63.2
V	56.57	3.53	6.2	0.0	3.00	48.1	50.6	52.9	54.2	56.5	58.9	60.2	62.5	65.3
52 BACK CURVATURE														
I	51.11	3.93	7.7	0.38	3.10	42.9	45.2	47.1	48.3	50.8	53.6	55.2	58.1	61.4
II	50.18	3.17	6.3	0.16	2.91	43.5	44.9	46.8	48.0	50.2	52.3	53.4	55.4	58.6
III	51.43	3.09	6.0	0.04	3.34	44.4	46.5	48.2	49.3	51.4	53.5	54.6	56.5	58.2
IV	51.20	3.15	6.1	0.18	2.84	44.1	46.1	48.0	49.0	51.1	53.2	54.4	56.6	59.3
V	51.60	3.29	6.4	0.39	3.24	45.1	46.8	48.3	49.3	51.3	53.6	55.0	57.6	60.6
53 SLEEVE LENGTH														
I	88.23	3.95	4.5	0.21	2.94	79.7	81.8	84.0	85.5	88.2	90.8	92.3	94.9	98.3
II	88.67	3.56	4.0	0.25	2.80	81.6	83.0	84.9	86.1	88.6	91.0	92.4	94.9	98.4
III	88.84	3.69	4.2	0.03	2.95	80.3	82.7	85.0	86.3	88.8	91.4	92.8	95.1	97.5
IV	88.76	3.49	3.9	0.04	2.69	80.9	82.8	84.9	86.2	88.8	91.3	92.5	94.2	95.5
V	88.74	3.47	3.9	0.09	2.88	80.7	83.1	85.1	86.3	88.7	91.1	92.4	94.6	96.9
54 SLEEVE INSEAM LENGTH														
I	48.16	2.77	5.7	0.35	3.20	42.4	43.8	45.3	46.3	48.0	49.9	50.9	53.0	56.0
II	49.58	2.62	5.3	0.24	3.44	44.0	45.2	46.9	47.9	49.6	51.2	52.1	53.9	57.0
III	48.81	2.69	5.5	0.01	2.89	42.7	44.5	46.0	47.0	48.7	50.6	51.7	53.4	54.8
IV	48.55	2.54	5.2	-0.02	2.94	42.3	44.3	46.0	46.9	48.5	50.2	51.2	52.8	54.7
V	48.38	2.60	5.4	-0.03	2.61	42.8	44.2	45.6	46.5	48.4	50.3	51.2	52.7	53.7
55 WAIST FRONT														
I	39.52	2.53	6.4	0.38	3.31	33.6	35.8	37.1	37.8	39.3	41.1	42.2	44.3	46.5
II	38.73	2.06	5.3	0.42	3.81	34.1	35.5	36.7	37.3	38.6	40.0	40.8	42.3	43.8
III	39.36	2.20	5.6	0.32	3.29	34.9	35.9	37.1	37.8	39.3	40.8	41.6	43.1	45.2
IV	39.34	2.34	6.0	0.15	2.79	34.1	35.6	36.9	37.7	39.2	40.9	41.8	43.4	45.1
V	39.50	2.32	5.9	0.27	3.20	34.4	36.0	37.2	37.9	39.4	40.9	41.9	43.5	45.6

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO[illegible] PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	% (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
56 WAIST BACK														
I	46.91	2.67	5.7	0.05	2.80	40.8	42.4	44.0	45.1	46.9	48.7	49.7	51.3	53.3
II	45.77	2.62	4.9	0.29	2.97	41.1	42.3	43.4	44.1	45.6	47.3	48.2	49.6	50.8
III	46.92	2.39	5.1	-0.03	3.11	41.3	42.9	44.4	45.3	47.0	48.5	49.3	50.8	52.8
IV	46.72	2.52	5.4	0.12	2.88	41.2	42.4	44.0	45.0	46.7	48.3	49.2	50.6	53.3
V	46.78	2.67	5.7	-0.16	2.79	40.1	42.2	43.9	44.9	46.8	48.7	49.6	51.2	52.5
57 HEAD LENGTH														
I	19.63	0.69	3.5	-0.18	3.15	18.0	18.5	18.9	19.2	19.6	20.1	20.4	20.7	21.1
II	19.66	0.65	3.3	-0.43	3.76	17.7	18.5	19.0	19.3	19.7	20.1	20.3	20.7	21.0
III	19.69	0.67	3.4	-0.23	2.95	18.0	18.6	19.0	19.2	19.7	20.2	20.4	20.8	21.1
IV	19.72	0.66	3.3	-0.11	3.37	18.1	18.6	19.0	19.3	19.7	20.1	20.4	20.8	21.3
V	19.84	0.67	3.2	0.03	2.68	18.4	18.8	19.2	19.4	19.8	20.3	20.5	20.9	21.1
58 HEAD BREADTH														
I	15.23	0.55	3.6	0.24	3.20	14.1	14.3	14.7	14.9	15.2	15.6	15.8	16.1	16.6
II	15.20	0.54	3.6	0.24	3.20	14.0	14.3	14.6	14.8	15.2	15.5	15.8	16.1	16.6
III	15.28	0.55	3.6	0.28	3.24	14.1	14.4	14.7	14.9	15.3	15.6	15.8	16.2	16.8
IV	15.32	0.52	3.4	-0.04	2.79	14.1	14.4	14.8	15.0	15.3	15.7	15.9	16.1	16.5
V	15.36	0.53	3.4	-0.14	3.04	14.2	14.5	14.8	15.0	15.4	15.7	15.9	16.2	16.5
59 HEAD CIRCUMFERENCE														
I	56.04	1.60	2.9	0.05	2.80	52.2	53.5	54.4	55.0	56.0	57.1	57.8	58.8	59.7
II	56.29	1.48	2.5	-0.18	3.06	52.5	53.9	54.9	55.4	56.3	57.3	57.8	58.7	59.4
III	56.36	1.52	2.7	0.10	2.93	53.2	54.0	54.8	55.3	56.3	57.4	58.0	58.9	60.0
IV	56.40	1.55	2.8	-0.21	2.80	52.5	53.6	54.7	55.4	56.5	57.5	58.0	58.9	59.9
V	56.65	1.49	2.6	0.26	3.38	53.3	54.3	55.2	55.7	56.6	57.6	58.1	59.2	60.9
60 SAGITTAL ARC														
I	35.82	1.42	4.0	0.16	2.94	32.6	33.5	34.3	34.8	35.8	36.8	37.3	38.2	39.3
II	35.92	1.38	3.8	-0.21	2.78	32.5	33.6	34.5	35.0	36.0	36.9	37.4	38.2	38.8
III	35.81	1.53	4.3	-0.09	3.04	32.0	33.2	34.2	34.8	35.8	36.9	37.4	38.3	39.3
IV	35.79	1.43	4.0	-0.03	3.12	32.7	33.5	34.3	34.8	35.8	36.8	37.3	38.1	38.9
V	36.12	1.36	3.8	0.15	2.57	33.2	34.0	34.7	35.1	36.1	37.1	37.6	38.5	39.1

I ENLISTED II WAC & WI TRAINEES III WI PILOTS IV COMMISSIONED TRAINEES V [illegible] PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
61 BITRAGION CORONAL ARC														
I	35.40	1.24	3.5	0.10	2.94	32.5	33.4	34.1	34.6	35.4	36.2	36.7	37.5	38.3
II	35.33	1.19	3.4	0.01	2.92	32.7	33.4	34.1	34.5	35.3	36.2	36.6	37.3	37.9
III	35.52	1.22	3.4	-0.06	3.55	32.7	33.5	34.3	34.7	35.6	36.3	36.7	37.5	38.6
IV	35.58	1.18	3.3	0.11	4.18	32.9	33.7	34.4	34.8	35.6	36.3	36.7	37.6	39.0
V	35.78	1.22	3.4	0.17	3.27	33.3	33.8	34.5	34.9	35.7	36.6	37.0	37.9	38.9
62 FACE LENGTH (MENTON-NASAL ROOT)														
I	11.23	0.69	6.2	0.15	3.37	9.6	10.1	10.5	10.8	11.2	11.7	11.9	12.4	13.0
II	11.35	0.69	6.0	0.06	3.12	9.6	10.3	10.7	10.9	11.3	11.8	12.1	12.5	12.9
III	11.35	0.66	5.8	0.28	3.29	9.9	10.3	10.7	10.9	11.3	11.8	12.0	12.5	13.2
IV	11.32	0.64	5.6	0.37	3.13	10.0	10.3	10.7	10.9	11.3	11.7	12.0	12.4	13.1
V	11.43	0.64	5.6	0.16	3.23	10.0	10.4	10.8	11.0	11.4	11.8	12.1	12.5	13.0
63 BITRAGION BREADTH														
I	14.21	0.57	4.0	0.11	2.84	13.0	13.3	13.6	13.8	14.2	14.6	14.8	15.2	15.6
II	13.93	0.52	3.7	-0.03	2.76	12.7	13.1	13.4	13.6	13.9	14.3	14.5	14.8	15.1
III	14.22	0.56	3.9	-0.02	3.06	12.9	13.3	13.6	13.8	14.2	14.6	14.8	15.1	15.6
IV	14.15	0.54	3.8	0.22	2.95	12.9	13.3	13.6	13.8	14.1	14.5	14.7	15.1	15.5
V	14.29	0.56	3.9	-0.08	2.91	13.0	13.3	13.7	13.9	14.3	14.7	14.9	15.2	15.5
64 INTERPUPILLARY BREADTH														
I	5.93	0.41	6.9	0.26	3.09	5.0	5.3	5.5	5.6	5.9	6.2	6.3	6.6	7.0
II	5.86	0.34	5.8	0.09	3.16	5.1	5.3	5.5	5.7	5.9	6.1	6.2	6.4	6.8
III	5.91	0.34	5.7	0.21	3.25	5.1	5.4	5.6	5.7	5.9	6.1	6.3	6.5	6.8
IV	5.87	0.32	5.4	0.05	2.82	5.2	5.4	5.5	5.6	5.9	6.1	6.2	6.4	6.6
V	5.95	0.36	6.1	-0.16	3.05	5.0	5.3	5.6	5.7	6.0	6.2	6.3	6.5	6.7
65 FACE BREADTH (BIZYGOMATIC BREADTH)														
I	13.84	0.55	4.0	0.07	2.91	12.6	12.9	13.3	13.5	13.8	14.2	14.4	14.8	15.2
II	13.80	0.50	3.6	-0.03	2.99	12.6	13.0	13.3	13.5	13.8	14.1	14.3	14.6	15.0
III	13.87	0.52	3.7	0.19	3.38	12.7	13.0	13.3	13.5	13.9	14.2	14.4	14.7	15.3
IV	13.89	0.54	3.9	0.04	2.44	12.7	13.0	13.3	13.5	13.9	14.3	14.5	14.8	15.0
V	13.94	0.51	3.7	0.01	2.52	13.0	13.1	13.4	13.6	14.0	14.3	14.5	14.7	15.0

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
66 HEAD HEIGHT (TRAGION TO VERTEX)														
I	13.25	0.60	4.6	0.19	3.26	12.0	12.3	12.6	12.8	13.2	13.6	13.9	14.3	14.7
II	13.21	0.55	4.2	0.23	3.61	12.0	12.3	12.6	12.9	13.2	13.5	13.7	14.1	14.8
III	13.33	0.56	4.2	-0.11	3.07	11.9	12.4	12.7	13.0	13.3	13.7	13.9	14.2	14.7
IV	13.30	0.55	4.1	-0.21	3.44	11.7	12.4	12.8	13.0	13.3	13.7	13.9	14.2	14.5
V	13.38	0.59	4.4	0.04	3.09	12.2	12.5	12.8	13.0	13.4	13.8	14.0	14.4	14.8
67 GLABELLA TO VERTEX HEIGHT														
I	8.54	0.97	11.4	0.13	3.02	6.3	7.0	7.6	7.9	8.5	9.2	9.5	10.2	11.0
II	8.80	0.90	10.3	0.43	3.58	7.0	7.4	7.9	8.2	8.8	9.3	9.7	10.3	11.3
III	8.59	0.91	10.6	0.04	2.91	6.4	7.1	7.7	8.0	8.6	9.2	9.6	10.1	10.7
IV	8.73	0.96	11.0	0.08	2.79	6.6	7.2	7.7	8.0	8.7	9.4	9.8	10.3	10.8
V	8.70	0.88	10.2	-0.09	2.72	6.5	7.3	7.8	8.1	8.7	9.3	9.7	10.2	10.5
68 TRAGION TO WALL														
I	10.36	0.75	7.2	0.12	3.12	8.6	9.2	9.6	9.9	10.3	10.8	11.1	11.6	12.2
II	10.18	0.67	6.6	-0.27	3.39	8.3	9.0	9.5	9.8	10.2	10.6	10.8	11.2	11.7
III	10.36	0.68	6.6	0.10	3.58	8.5	9.3	9.7	9.9	10.3	10.8	11.0	11.5	12.1
IV	10.31	0.59	5.7	-0.07	3.14	8.8	9.3	9.7	9.9	10.3	10.7	10.9	11.3	11.8
V	10.38	0.66	6.4	0.22	3.04	9.0	9.3	9.7	9.9	10.4	10.8	11.1	11.5	12.1
69 EXTERNAL CANTHUS TO WALL														
I	17.32	0.76	4.4	0.18	3.11	15.6	16.1	16.5	16.8	17.3	17.8	18.	18.6	19.4
II	17.11	0.65	3.8	-0.37	3.73	15.2	16.0	16.5	16.7	17.1	17.6	17.8	18.2	18.5
III	17.33	0.76	4.4	0.06	3.54	15.3	16.1	16.6	16.8	17.3	17.8	18.1	18.6	19.2
IV	17.27	0.63	3.6	-0.08	2.98	15.7	16.2	16.6	16.8	17.3	17.7	17.9	18.3	18.8
V	17.42	0.65	3.7	0.11	2.78	16.1	16.3	16.7	17.0	17.4	17.8	18.1	18.5	19.1
70 NASAL ROOT TO WALL														
I	19.96	0.71	3.6	-0.10	3.38	18.1	18.8	19.3	19.5	20.0	20.4	20.6	21.1	21.7
II	19.88	0.64	3.2	-0.18	3.30	18.2	18.8	19.2	19.5	19.9	20.3	20.5	20.9	21.4
III	20.00	0.69	3.5	0.12	3.06	18.5	18.9	19.3	19.5	20.0	20.4	20.7	21.2	21.8
IV	19.94	0.67	3.4	-0.06	2.90	18.4	18.8	19.2	19.5	20.0	20.4	20.6	21.0	21.7
V	20.12	0.64	3.2	0.04	2.69	18.7	19.1	19.5	19.7	20.1	20.6	20.8	21.2	21.6

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V COMMISSIONED PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
71 PRONASALE TO WALL														
I	22.66	0.84	3.7	-0.22	3.36	20.3	21.3	21.9	22.2	22.6	23.2	23.5	24.1	24.4
II	22.43	0.72	3.2	0.02	2.91	20.6	21.2	21.7	21.9	22.4	22.9	23.2	23.6	24.0
III	22.74	0.77	3.4	0.30	3.45	21.2	21.5	21.9	22.2	22.7	23.2	23.5	24.1	24.8
IV	22.60	0.76	3.3	-0.17	2.62	20.9	21.3	21.8	22.1	22.7	23.2	23.4	23.8	24.3
V	22.83	0.77	3.4	-0.12	3.15	20.9	21.5	22.0	22.3	22.9	23.3	23.6	24.1	24.7
72 HAND LENGTH														
I	19.27	0.93	4.9	0.31	3.08	17.3	17.8	18.3	18.6	19.2	19.9	20.2	20.9	21.7
II	19.13	0.83	4.3	0.19	3.30	17.4	17.8	18.3	18.6	19.1	19.6	19.9	20.5	21.5
III	19.19	0.84	4.4	0.03	3.41	17.1	17.8	18.3	18.6	19.2	19.7	20.1	20.6	21.2
IV	19.18	0.82	4.3	0.03	2.87	17.2	17.8	18.3	18.6	19.2	19.8	20.1	20.6	21.1
V	19.20	0.93	4.8	-0.09	3.07	17.0	17.6	18.2	18.6	19.2	19.8	20.1	20.7	21.5
73 PALM LENGTH														
I	10.99	0.59	5.4	0.50	3.59	9.8	10.1	10.4	10.6	10.9	11.3	11.6	12.0	12.7
II	10.95	0.55	5.0	0.35	2.88	9.9	10.1	10.4	10.5	10.9	11.3	11.5	11.9	12.4
III	10.92	0.54	4.9	0.22	3.06	9.7	10.1	10.4	10.5	10.9	11.3	11.5	11.8	12.3
IV	11.00	0.51	4.7	0.01	2.50	9.9	10.2	10.4	10.6	11.0	11.4	11.6	11.8	11.9
V	10.96	0.56	5.1	-0.12	3.01	9.6	10.0	10.4	10.6	11.0	11.3	11.6	11.9	12.3
74 HAND BREADTH														
I	8.91	0.45	5.0	0.17	2.89	7.9	8.2	8.4	8.6	8.9	9.2	9.4	9.7	10.0
II	8.79	0.38	4.4	0.37	3.22	8.0	8.2	8.4	8.5	8.8	9.0	9.2	9.4	9.9
III	8.83	0.40	4.6	0.21	2.93	7.9	8.2	8.4	8.5	8.8	9.1	9.3	9.5	9.8
IV	8.81	0.41	4.7	-0.10	2.52	7.9	8.1	8.3	8.5	8.8	9.1	9.3	9.5	9.7
V	8.89	0.40	4.5	-0.09	2.49	8.1	8.2	8.4	8.6	8.9	9.2	9.3	9.5	9.7
75 HAND CIRCUMFERENCE														
I	21.30	1.07	5.0	0.15	2.80	19.0	19.6	20.2	20.5	21.3	22.0	22.5	23.2	23.9
II	21.07	0.94	4.5	0.12	2.95	18.9	19.5	20.1	20.4	21.0	21.7	22.0	22.7	23.3
III	21.12	0.96	4.5	0.10	2.88	19.0	19.6	20.1	20.5	21.1	21.8	22.1	22.7	23.4
IV	21.12	0.98	4.6	-0.19	2.82	18.6	19.4	20.1	20.5	21.2	21.8	22.2	22.7	23.1
V	21.25	0.97	4.6	0.19	2.95	19.3	19.7	20.2	20.6	21.3	21.9	22.2	22.6	23.9

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMM ETRY	KURT OSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
76 FOOT LENGTH														
I	26.54	1.33	5.0	-0.04	3.38	23.5	24.4	25.2	25.7	26.6	27.4	27.9	28.7	29.9
II	26.37	1.20	4.9	0.04	2.70	23.4	24.3	25.0	25.4	26.3	27.3	27.8	28.6	29.6
III	26.49	1.20	4.5	-0.02	2.96	23.5	24.5	25.3	25.7	26.5	27.3	27.7	28.5	29.2
IV	26.42	1.18	4.5	0.0	2.71	23.8	24.6	25.2	25.6	26.4	27.2	27.7	28.4	29.0
V	26.62	1.29	4.8	0.10	2.76	23.8	24.5	25.3	25.7	26.6	27.5	28.0	28.7	29.4
77 INSTEP LENGTH														
I	19.26	1.10	5.7	-0.11	3.00	16.5	17.4	18.1	18.5	19.3	20.0	20.4	21.1	21.7
II	19.01	1.04	5.5	-0.0	2.71	16.6	17.3	17.9	18.3	1 .0	19.7	20.1	20.7	21.3
III	19.13	0.99	5.2	0.09	3.09	16.9	17.6	18.1	18.4	19.1	19.8	20.2	20.8	21.5
IV	19.07	0.93	4.9	-0.05	2.58	16.9	17.6	18.1	18.4	19.1	19.7	20.1	20.6	20.9
V	19.29	1.06	5.5	0.26	2.85	17.1	17.6	18.1	18.5	19.3	20.0	20.4	21.1	21.9
78 FOOT BREADTH														
I	9.93	0.65	6.6	0.44	3.48	8.7	8.9	9.3	9.5	9.9	10.3	10.6	11.0	11.6
II	9.94	0.58	5.8	0.07	2.68	8.7	9.0	9.3	9.5	9.9	10.3	10.6	10.9	11.2
III	10.02	0.58	5.8	0.07	3.03	8.7	9.1	9.4	9.6	10.0	10.4	10.6	11.0	11.5
IV	10.04	0.60	5.9	0.24	2.89	8.9	9.1	9.4	9.6	10.0	10.4	10.6	11.0	11.6
V	10.04	0.60	6.0	0.23	2.73	8.9	9.1	9.4	9.6	10.0	10.5	10.7	11.1	11.5
79 HEEL BREADTH														
I	4.48	0.41	9.2	0.07	3.30	3.5	3.8	4.1	4.2	4.5	4.7	4.9	5.2	5.5
II	4.59	0.36	7.8	0.34	3.15	3.9	4.0	4.2	4.3	4.6	4.8	5.0	5.2	5.5
III	4.55	0.39	8.5	0.24	3.12	3.6	4.0	4.2	4.3	4.5	4.8	5.0	5.3	5.5
IV	4.61	0.38	8.3	0.30	4.22	3.6	4.0	4.3	4.4	4.6	4.8	5.0	5.3	5.8
V	4.57	0.37	8.0	0.30	3.12	3.8	4.0	4.2	4.3	4.6	4.8	5.0	5.2	5.5
80 FOOT CIRCUMFERENCE														
I	24.58	1.31	5.3	0.35	2.98	21.8	22.6	23.3	23.7	24.5	25.4	26.0	26.9	27.9
II	24.32	1.05	4.3	0.09	2.67	22.1	22.7	23.2	23.6	24.3	25.1	25.5	26.1	26.6
III	24.50	1.15	4.7	0.06	2.62	22.0	22.6	23.3	23.7	24.5	25.3	25.8	26.4	27.0
IV	24.41	1.20	4.9	0.14	2.92	21.7	22.5	23.2	23.6	24.4	25.2	25.7	26.5	27.4
V	24.70	1.22	5.0	-0.06	2.90	21.6	22.7	23.5	23.9	24.7	25.5	26.0	26.8	27.3

I ENLISTED II WOC & WO TRAINEES III WO PILOTS IV COMMISSIONED TRAINEES V CO PILOTS

TABLE XVI
STATISTICAL SUMMARIES FOR SUBGROUPS

SUB-GROUP	MEAN	STD DEV	V (%)	SYMMETRY	KURTOSIS	PERCENTILES 1ST	5TH	15TH	25TH	50TH	75TH	85TH	95TH	99TH
81 INSTEP CIRCUMFERENCE														
I	27.33	1.51	5.5	0.01	3.29	23.7	24.8	25.8	26.4	27.4	28.3	28.8	29.8	31.0
II	26.85	1.17	4.4	0.19	2.86	24.2	25.0	25.7	26.1	26.8	27.6	28.1	28.9	29.8
III	26.96	1.25	4.7	0.26	2.96	24.4	25.0	25.7	26.1	26.9	27.8	28.3	29.1	29.9
IV	27.09	1.20	4.4	0.22	2.87	24.8	25.2	25.8	26.2	27.1	27.9	28.4	29.2	30.2
V	27.15	1.33	4.9	0.45	3.05	24.5	25.2	25.8	26.2	27.0	28.0	28.6	29.6	30.6
82 HEEL-ANKLE CIRCUMFERENCE														
I	33.59	1.78	5.4	-0.14	2.94	28.9	30.3	31.3	32.0	33.2	34.4	35.1	36.1	37.0
II	33.37	1.44	4.3	-0.07	2.66	30.2	30.9	31.8	32.4	33.4	34.4	34.9	35.7	36.4
III	33.28	1.55	4.7	0.05	2.96	29.9	30.7	31.6	32.2	33.3	34.3	34.9	35.8	37.0
IV	33.41	1.40	4.2	-0.14	2.91	29.7	31.1	32.0	32.5	33.4	34.4	34.9	35.8	36.4
V	33.43	1.55	4.6	-0.20	2.90	29.6	30.7	31.8	32.4	33.5	34.5	35.0	35.9	36.9
83 TRICEPS SKINFOLD														
I	11.09	5.50	49.6	0.90	3.59	3.3	3.9	5.5	6.8	10.1	14.2	16.8	21.5	27.4
II	11.02	4.79	43.5	0.69	3.14	3.6	4.4	5.9	7.2	10.3	14.0	16.1	19.8	23.6
III	12.18	4.87	40.0	0.28	2.39	3.5	4.7	6.7	8.3	11.8	15.6	17.6	20.6	23.1
IV	12.18	4.96	40.8	0.20	2.17	3.3	4.4	6.5	8.2	11.8	15.7	17.7	20.8	23.1
V	12.23	4.92	40.3	0.65	3.24	3.4	5.1	7.1	8.5	11.5	15.1	17.3	21.3	26.5
84 SUBSCAPULAR SKINFOLD														
I	15.00	7.07	47.1	1.14	4.37	5.8	6.8	8.2	9.5	13.4	19.0	22.6	28.9	35.4
II	12.91	4.91	38.1	0.87	3.24	5.9	6.9	8.1	9.2	12.0	15.7	18.1	22.5	27.4
III	14.86	5.53	37.2	0.71	3.14	6.8	7.3	9.1	10.5	14.1	18.4	20.8	25.1	29.5
IV	14.29	5.02	35.1	0.57	3.31	4.7	7.3	9.4	10.7	13.7	17.4	19.7	23.8	28.5
V	15.28	6.00	39.2	0.84	3.23	5.4	7.9	9.4	10.7	14.1	19.0	22.1	27.3	31.1
85 SUPRAILIAC SKINFOLD														
I	22.95	11.88	51.8	0.45	2.57	5.4	5.5	9.8	13.6	21.9	31.0	35.9	43.9	52.7
II	23.71	9.99	42.1	0.28	2.55	5.6	7.9	12.8	16.3	23.3	30.4	34.2	40.6	48.5
III	25.83	10.07	39.0	0.11	2.46	7.1	9.1	14.5	18.4	26.0	33.0	36.5	42.0	48.7
IV	26.31	10.06	38.2	-0.16	2.44	5.7	8.4	14.7	19.1	27.1	33.8	36.9	41.6	48.0
V	26.06	10.37	39.8	0.23	3.02	5.3	9.0	14.9	18.8	26.0	32.9	36.6	43.6	54.0

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each page.

The information given on the odd-numbered pages is the same in both tables, but the content and arrangement of the even-numbered pages differs between the two tables. In Table XVII the first four entries on both of each pair of lines are the mean value, the standard error of the mean, the standard deviation, and the standard error of the standard deviation, expressed both in centimeters and inches. The remaining four statistics: the coefficient of variation, the sample size, and the measures of symmetry and kurtosis, are dimensionless and each of these is listed only once. The coefficient of variation and the measure of symmetry appear on the upper line, while the sample size and the measure of kurtosis are given in the lower line. In Table XVIII the entries are, in order, the mean value, the standard error of the mean, the standard deviation, the coefficient of variation, and the measures of symmetry and kurtosis. The standard error of the standard deviation and the sample size have been omitted from this table. The reader can, if he wishes, approximate the standard error of the standard deviation as 7/10 of the standard error of the mean. The sample size is, in all cases, 1482.

TABLE XVII
SUMMARY STATISTICS FOR COMPUTED VARIABLES

	VARIABLE	MEAN	SE (M)	STD DEV	SE (SD)	V(%) -N-	SYMM KURT
101	STATURE MINUS CERVICALE HEIGHT	24.90	0.04	1.37	0.03	5.5	0.17
		9.80	0.01	0.54	0.01	1482	3.17
102	STATURE MINUS SHOULDER HEIGHT	31.50	0.05	1.77	0.03	5.6	0.05
		12.40	0.02	0.70	0.01	1482	2.97
103	STATURE MINUS WAIST HEIGHT	68.52	0.07	2.80	0.05	4.1	0.00
		26.98	0.03	1.10	0.02	1482	3.11
104	STATURE MINUS CROTCH HEIGHT	92.64	0.09	3.55	0.07	3.8	0.02
		36.47	0.04	1.40	0.03	1482	3.16
105	STATURE MINUS KNEECAP HEIGHT	123.35	0.11	4.24	0.08	3.4	0.00
		48.56	0.04	1.67	0.03	1482	3.11
106	STATURE MINUS CALF HEIGHT	140.11	0.13	4.98	0.09	3.6	0.02
		55.16	0.05	1.96	0.04	1482	3.09
107	CERVICALE HEIGHT MINUS SHOULDER HEIGHT	6.60	0.04	1.48	0.03	22.5	0.04
		2.60	0.02	0.58	0.01	1482	3.02
108	CERVICALE HEIGHT MINUS WAIST HEIGHT	43.62	0.06	2.27	0.04	5.2	0.05
		17.17	0.02	0.89	0.02	1482	3.00
109	CERVICALE HEIGHT MINUS CROTCH HEIGHT	67.74	0.08	3.25	0.06	4.8	0.07
		26.67	0.03	1.28	0.02	1482	3.13
110	CERVICALE HEIGHT MINUS KNEECAP HEIGHT	98.45	0.10	3.84	0.07	3.9	0.00
		38.76	0.04	1.51	0.03	1482	3.01
111	CERVICALE HEIGHT MINUS CALF HEIGHT	115.21	0.12	4.60	0.08	4.0	0.02
		45.36	0.05	1.81	0.03	1482	3.03
112	SHOULDER HEIGHT MINUS WAIST HEIGHT	37.02	0.06	2.46	0.05	6.7	-0.05
		14.57	0.03	0.97	0.02	1482	2.80
113	SHOULDER HEIGHT MINUS CROTCH HEIGHT	61.14	0.08	3.25	0.06	5.3	0.06
		24.07	0.03	1.28	0.02	1482	2.95
114	SHOULDER HEIGHT MINUS KNEECAP HEIGHT	91.85	0.10	3.83	0.07	4.2	-0.06
		36.16	0.04	1.51	0.03	1482	2.86
115	SHOULDER HEIGHT MINUS CALF HEIGHT	108.61	0.12	4.59	0.08	4.2	-0.03
		42.76	0.05	1.81	0.03	1482	2.87

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SELECTED PERCENTILES FOR COMPUTED VARIABLES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
21.8	22.7	23.5	24.0	24.3	24.9	25.4	25.8	26.3	27.2	28.3	101
8.6	8.9	9.3	9.4	9.6	9.8	10.0	10.2	10.4	10.7	11.1	
27.5	28.6	29.7	30.3	30.8	31.5	32.2	32.7	33.3	34.4	35.8	102
10.8	11.3	11.7	11.9	12.1	12.4	12.7	12.9	13.1	13.6	14.1	
62.3	63.9	65.6	66.6	67.4	68.5	69.6	70.4	71.4	73.1	75.0	103
24.5	25.2	25.8	26.2	26.5	27.0	27.4	27.7	28.1	28.8	29.5	
84.1	86.8	89.0	90.3	91.3	92.6	94.0	95.0	96.3	98.6	101.1	104
33.1	34.2	35.0	35.5	35.9	36.5	37.0	37.4	37.9	38.8	39.8	
113.7	116.4	119.0	120.5	121.8	123.4	125.0	126.2	127.7	130.3	133.4	105
44.8	45.8	46.8	47.4	47.9	48.6	49.2	49.7	50.3	51.3	52.5	
128.8	131.9	134.9	136.8	138.2	140.1	142.0	143.5	145.3	148.3	151.9	106
50.7	51.9	53.1	53.8	54.4	55.2	55.9	56.5	57.2	58.4	59.8	
3.2	4.2	5.1	5.6	6.0	6.6	7.2	7.6	8.1	9.0	10.2	107
1.3	1.6	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.6	4.0	
38.4	39.9	41.3	42.1	42.7	43.6	44.5	45.1	46.0	47.4	48.9	108
15.1	15.7	16.2	16.6	16.8	17.2	17.5	17.8	18.1	18.7	19.3	
60.3	62.5	64.4	65.5	66.4	67.7	68.9	69.9	71.1	73.1	75.1	109
23.8	24.6	25.4	25.8	26.2	26.6	27.1	27.5	28.0	28.8	29.6	
89.7	92.1	94.4	95.8	97.0	98.5	100.0	101.1	102.4	104.8	107.5	110
35.3	36.2	37.2	37.7	38.2	38.8	39.4	39.8	40.3	41.3	42.3	
104.8	107.6	110.4	112.1	113.5	115.2	117.0	118.3	119.9	122.8	126.4	111
41.3	42.4	43.5	44.1	44.7	45.4	46.1	46.6	47.2	48.3	49.8	
31.5	33.0	34.4	35.3	36.1	37.0	38.0	38.7	39.6	41.0	42.4	112
12.4	13.0	13.6	13.9	14.2	14.6	15.0	15.3	15.6	16.2	16.7	
53.6	55.9	57.8	58.9	59.8	61.1	62.4	63.3	64.6	66.6	68.6	113
21.1	22.0	22.7	23.2	23.6	24.1	24.6	24.9	25.4	26.2	27.0	
83.1	85.5	87.8	89.2	90.2	91.9	93.4	94.6	96.0	98.2	100.3	114
32.7	33.7	34.6	35.1	35.6	36.2	36.8	37.2	37.8	38.7	39.5	
98.2	101.0	103.7	105.4	106.8	108.6	110.5	111.8	113.5	116.3	119.3	115
38.7	39.7	40.8	41.5	42.0	42.8	43.5	44.0	44.7	45.8	47.0	

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SUMMARY STATISTICS FOR COMPUTED VARIABLES

	VARIABLE	MEAN	SE (M)	STD DEV	SE (SD)	V(%) -N-	SYMM KURT
116	WAIST HEIGHT MINUS	24.12	0.06	2.33	0.04	9.7	0.13
	CROTCH HEIGHT	9.50	0.02	0.92	0.02	1482	3.09
117	WAIST HEIGHT MINUS	54.83	0.07	2.87	0.05	5.2	-0.09
	KNEECAP HEIGHT	21.59	0.03	1.13	0.02	1482	2.99
118	WAIST HEIGHT MINUS	71.59	0.10	3.66	0.07	5.1	0.02
	CALF HEIGHT	28.19	0.04	1.44	0.03	1482	.86
119	CROTCH HEIGHT MINUS	30.71	0.06	2.45	0.04	.0	-0.03
	KNEECAP HEIGHT	12.09	0.03	0.96	0.02	1482	2.91
120	CROTCH HEIGHT MINUS	47.47	0.08	3.15	0.06	6.6	0.04
	CALF HEIGHT	18.69	0.03	1.24	0.02	1482	2.87
121	KNEECAP HEIGHT MINUS	16.76	0.04	1.61	0.03	9.6	0.04
	CALF HEIGHT	6.60	0.02	0.63	0.01	1482	2.85
122	SITTING HEIGHT MINUS	12.13	0.02	0.91	0.02	7.5	0.02
	EYE HEIGHT (SITTING)	4.77	0.01	0.36	0.01	1482	3.18
123	SITTING HEIGHT MINUS	28.02	0.04	1.55	0.03	5.5	0.01
	MIDSHOULDER HEIGHT	11.03	0.02	0.61	0.01	1482	2.90
124	SITTING HEIGHT MINUS	32.53	0.04	1.39	0.03	4.3	-0.08
	TRUNK HEIGHT	12.81	0.01	0.55	0.01	1482	3.10
125	SITTING HEIGHT MINUS	67.32	0.07	2.75	0.05	4.1	0.05
	ELBOW REST HEIGHT	26.70	0.03	1.08	0.02	1482	3.21
126	EYE HEIGHT (SITTING) MINUS	15.90	0.04	1.62	0.03	10.2	0.03
	MIDSHOULDER HEIGHT	6.26	0.02	0.64	0.01	1482	3.13
127	EYE HEIGHT (SITTING) MINUS	20.40	0.04	1.38	0.03	6.8	-0.02
	TRUNK HEIGHT	8.03	0.01	0.54	0.01	1482	2.90
128	EYE HEIGHT (SITTING) MINUS	55.70	0.07	2.71	0.05	4.9	0.04
	ELBOW REST HEIGHT	21.93	0.03	1.07	0.02	1482	3.18
129	MIDSHOULDER HEIGHT MINUS	4.51	0.04	1.42	0.03	31.6	0.10
	TRUNK HEIGHT	1.78	0.01	0.56	0.01	1482	2.87
130	MIDSHOULDER HEIGHT MINUS	39.80	0.05	2.02	0.04	5.1	0.08
	ELBOW REST HEIGHT	15.67	0.02	0.79	0.01	1482	3.15

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SELECTED PERCENTILES FOR COMPUTED VARIABLES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
18.8	20.3	21.7	22.5	23.2	24.1	25.0	25.7	26.5	28.1	29.9	116
7.4	8.0	8.5	8.9	9.1	9.5	9.8	10.1	10.4	11.1	11.8	
48.1	49.9	51.8	52.9	53.8	54.9	56.0	56.8	57.8	59.4	61.2	117
18.9	19.7	20.4	20.8	21.2	21.6	22.1	22.4	22.8	23.4	24.1	
63.4	65.4	67.7	69.1	70.2	71.7	73.1	74.1	75.4	77.6	80.5	118
24.9	25.8	26.7	27.2	27.6	28.2	28.8	29.2	29.7	30.5	31.7	
24.7	26.6	28.2	29.1	29.8	30.7	31.7	32.4	33.2	34.7	36.3	119
9.7	10.5	11.1	11.4	11.7	12.1	12.5	12.7	13.1	13.7	14.3	
40.2	42.2	44.2	45.3	46.2	47.5	48.7	49.6	50.7	52.7	54.9	120
15.8	16.6	17.4	17.8	18.2	18.7	19.2	19.5	20.0	20.7	21.6	
13.0	14.2	15.1	15.7	16.1	16.7	17.4	17.8	18.5	19.5	20.5	121
5.1	5.6	5.9	6.2	6.3	6.6	6.8	7.0	7.3	7.7	8.1	
10.0	10.6	11.2	11.5	11.8	12.1	12.5	12.7	13.1	13.6	14.4	122
3.9	4.2	4.4	4.5	4.6	4.8	4.9	5.0	5.1	5.4	5.7	
24.5	25.5	26.4	27.0	27.4	28.0	28.6	29.1	29.6	30.6	31.7	123
9.6	10.0	10.4	10.6	10.8	11.0	11.3	11.4	11.7	12.1	12.5	
29.3	30.1	31.1	31.6	32.1	32.6	33.1	33.5	33.9	34.7	35.9	124
11.5	11.9	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.7	14.1	
61.3	63.3	65.0	66.0	66.8	67.8	68.9	69.6	70.6	72.3	74.2	125
24.1	24.9	25.6	26.0	26.3	26.7	27.1	27.4	27.8	28.5	29.2	
12.1	13.3	14.2	14.8	15.3	15.9	16.5	17.0	17.6	18.6	19.8	126
4.8	5.2	5.6	5.8	6.0	6.3	6.5	6.7	6.9	7.3	7.8	
17.2	18.1	19.0	19.5	19.9	20.4	20.9	21.3	21.8	22.7	23.7	127
6.8	7.1	7.5	7.7	7.8	8.0	8.2	8.4	8.6	8.9	9.3	
49.2	51.2	52.9	53.9	54.7	55.7	56.7	57.5	58.5	60.2	62.1	128
19.4	20.2	20.8	21.2	21.5	21.9	22.3	22.6	23.0	23.7	24.5	
1.4	2.2	3.0	3.5	3.9	4.5	5.1	5.5	6.0	6.9	8.0	129
0.6	0.9	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.7	3.1	
35.1	36.5	37.7	38.4	39.0	39.8	40.6	41.2	41.9	43.1	44.5	130
13.8	14.4	14.8	15.1	15.4	15.7	16.0	16.2	16.5	17.0	17.5	

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SUMMARY STATISTICS FOR COMPUTED VARIABLES

	VARIABLE	MEAN	SE (M)	STD DEV	SE (SD)	V(%) -N-	SYMM KURT
131	TRUNK HEIGHT MINUS	35.29	0.06	2.24	0.04	6.3	0.01
	ELBOW REST HEIGHT	13.89	0.02	0.88	0.02	1482	3.27
132	TRUNK HEIGHT MINUS	43.68	0.07	2.60	0.05	5.9	0.08
	THIGH CLEARANCE	17.20	0.03	1.02	0.02	1482	3.20
133	SHOULDER HEIGHT (SITTING)-I	59.42	0.08	2.94	0.05	5.0	-0.06
	(SIT HGT-(STAT-SHOULDER HGT))	23.40	0.03	1.16	0.02	1482	2.86
134	SHOULDER HEIGHT (SITTING)-II	59.81	0.08	2.98	0.05	5.0	-0.05
	(SHLDR ELBOW + ELBOW REST HT)	23.55	0.03	1.17	0.02	1482	3.03
135	SHOULDER-ELBOW LENGTH PLUS	84.85	0.10	3.66	0.07	4.3	0.16
	ELBOW-FINGERTIP LENGTH	33.41	0.04	1.34	0.03	1482	3.18
136	ELBOW-FINGERTIP LENG MINUS	28.94	0.04	1.44	0.03	5.0	0.10
	HAND LENGTH	11.39	0.01	0.57	0.01	1482	3.24
137	VERTICAL REACH MINUS	52.55	0.11	4.21	0.08	8.0	0.18
	SITTING HEIGHT	20.69	0.04	1.66	0.03	1482	3.22
138	HAND LENGTH MINUS PALM LENGTH	8.24	0.01	0.49	0.01	5.9	-0.04
		3.25	0.00	0.19	0.00	1482	3.26
139	FOOT LENGTH MINUS	7.34	0.01	0.52	0.01	7.1	0.06
	INSTEP LENGTH	2.89	0.01	0.20	0.00	1482	3.09
140	FRONT CURVATURE (CHEST CIRCUM-	47.31	0.12	4.58	0.08	9.7	0.38
	FERENCE MINUS BACK CURVATURE)	18.62	0.05	1.80	0.03	1482	3.39
141	SHOULDER CIRCUMFERENCE MINUS	17.90	0.08	3.22	0.06	18.0	-0.27
	CHEST CIRCUMFERENCE	7.05	0.03	1.27	0.02	1482	3.38
142	SHOULDER CIRCUMFERENCE MINUS	29.21	0.14	5.43	0.10	18.6	-0.28
	WAIST CIRCUMFERENCE	11.50	0.06	2.14	0.04	1482	3.06
143	SHOULDER CIRCUMFERENCE MINUS	18.55	0.10	4.01	0.07	21.6	-0.07
	HIP CIRCUMFERENCE	7.30	0.04	1.58	0.03	1482	3.08
144	CHEST CIRCUMFERENCE MINUS	11.31	0.11	4.36	0.08	38.5	-0.04
	WAIST CIRCUMFERENCE	4.45	0.04	1.71	0.03	1482	2.89
145	CHEST CIRCUMFERENCE MINUS	0.65	0.10	3.90	0.07	6199	0.11
	HIP CIRCUMFERENCE	0.26	0.04	1.53	0.03	1482	3.21

UNITS...UPPER LINES--CENTIMETERS. .LOWER LINES--INCHES

TABLE XVII
SELECTED PERCENTILES FOR COMPUTED VARIABLES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
30.0	31.7	33.0	33.8	34.4	35.3	36.1	36.8	37.6	39.0	40.5	131
11.8	12.5	13.0	13.3	13.6	13.9	14.2	14.5	14.8	15.4	16.0	
37.6	39.5	41.1	42.0	42.7	43.6	44.6	45.4	46.3	48.0	50.0	132
14.8	15.6	16.2	16.5	16.8	17.2	17.6	17.9	18.2	18.9	19.7	
52.3	54.6	56.4	57.4	58.3	59.4	60.6	61.4	62.6	64.3	65.9	133
20.6	21.5	22.2	22.6	22.9	23.4	23.8	24.2	24.6	25.3	26.0	
52.6	55.0	56.8	57.8	58.7	59.8	60.9	61.8	62.9	64.8	66.7	134
20.7	21.6	22.4	22.8	23.1	23.5	24.0	24.3	24.8	25.5	26.3	
76.6	78.8	81.0	82	3.5	84.8	86.2	87.2	88.4	90.9	94.4	135
30.2	31.0	31.9	3.	9	33.4	33.9	34.3	34.8	35.8	37.2	
25.7	26.5	27.4	28.0	4	28.9	29.5	29.9	30.4	31.3	32.6	136
10.1	10.5	10.8	11.0	11.2	11.4	11.6	11.8	12.0	12.3	12.8	
43.3	45.7	48.2	49.6	50.9	52.5	54.1	55.4	56.9	59.4	62.2	137
17.0	18.0	19.0	19.5	20.0	20.7	21.3	21.8	22.4	23.4	24.5	
7.1	7.5	7.8	7.9	8.1	8.2	8.4	8.6	8.7	9.0	9.4	138
2.8	2.9	3.1	3.1	3.2	3.2	3.3	3.4	3.4	3.6	3.7	
6.1	6.5	6.8	7.0	7.1	7.3	7.5	7.7	7.9	8.2	8.6	139
2.4	2.6	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.4	
38.1	40.2	42.5	44.0	45.3	47.1	48.9	50.3	52.0	55.2	59.1	140
15.0	15.8	16.7	17.3	17.8	18.5	19.2	19.8	20.5	21.7	23.3	
9.6	12.3	14.6	15.9	16.9	18.1	19.3	20.1	21.1	22.8	25.0	141
3.8	4.8	5.8	6.3	6.6	7.1	7.6	7.9	8.3	9.0	9.8	
15.7	19.8	23.5	25.7	27.3	29.5	31.6	33.1	34.8	37.6	40.5	142
6.2	7.8	9.3	10.1	10.8	11.6	12.4	13.0	13.7	14.8	16.0	
8.7	11.9	14.5	15.9	17.1	18.6	20.1	21.2	22.7	25.1	27.9	143
3.4	4.7	5.7	6.3	6.7	7.3	7.9	8.4	8.9	9.9	11.0	
1.1	4.1	6.8	8.3	9.6	11.3	13.0	14.3	15.9	18.5	21.1	144
0.4	1.6	2.7	3.3	3.8	4.5	5.1	5.6	6.3	7.3	8.3	
-8.7	-5.7	-3.3	-2.0	-0.9	0.5	2.0	3.2	4.6	7.2	10.2	145
-3.4	-2.2	-1.3	-0.8	-0.4	0.2	0.8	1.2	1.8	2.8	4.0	

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SUMMARY STATISTICS FOR COMPUTED VARIABLES

	VARIABLE	MEAN	SE (M)	STD DEV	SE (SD)	V(%) -N-	SYMM KURT
146	WAIST CIRCUMFERENCE MINUS	-10.66	0.11	4.12	0.08	-38.6	0.24
	HIP CIRCUMFERENCE	-4.20	0.04	1.62	0.03	1482	2.91
147	UPPER THIGH CIRCUMFERENCE MIN-	19.14	0.07	2.82	0.05	14.7	-0.03
	US LOWER THIGH CIRCUMFERENCE	7.54	0.03	1.11	0.02	1482	3.01
148	LOWER THIGH CIRCUMFERENCE	2.03	0.05	1.75	0.03	86.5	0.14
	MINUS CALF CIRCUMFERENCE	0.80	0.02	0.69	0.01	1482	3.11
149	CALF CIRCUMFERENCE MINUS	15.23	0.04	1.59	0.03	10.4	0.06
	ANKLE CIRCUMFERENCE	6.00	0.02	0.62	0.01	1482	3.05
150	ARM SCYE CIRCUMFERENCE MINUS	13.46	0.04	1.72	0.03	12.8	-0.14
	BICEPS CIRCUMFERENCE(RELAXED)	5.30	0.02	0.68	0.01	1482	3.10
151	BICEPS CIRCUMFERENCE(FLEXED)	1.57	0.02	0.74	0.01	47.2	0.08
	MINUS BICEPS CIRCUM(RELAXED)	0.62	0.01	0.29	0.01	1482	3.08
152	BICEPS CIRCUMFER(FLEXED) MINUS	2.91	0.03	1.34	0.02	46.3	-0.01
	FOREARM CIRCUMFERENCE(FLEXED)	1.14	0.01	0.53	0.01	1482	3.03
153	BICEPS CIRCUMFERENCE(FLEXED)	15.25	0.05	1.97	0.04	12.9	-0.03
	MINUS WRIST CIRCUMFERENCE	6.00	0.02	0.78	0.01	1482	3.29
154	FOREARM CIRCUMFERENCE(FLEXED)	12.34	0.03	1.22	0.02	9.9	0.20
	MINUS WRIST CIRCUMFERENCE	4.86	0.01	0.48	0.01	1482	3.21
155	INTERSCYE MAXIMUM MINUS	16.47	0.07	2.65	0.05	16.3	0.17
	INTERSCYE	6.49	0.03	1.06	0.02	1482	3.03
156	WAIST BACK MINUS WAIST FRONT	7.35	0.06	2.18	0.04	29.7	0.03
		2.89	0.02	0.86	0.02	1482	3.01
157	SLEEVE LENGTH MINUS	29.96	0.07	2.62	0.05	8.6	0.07
	SLEEVE INSEAM	15.73	0.03	1.03	0.02	1482	2.80
158	HIP BREADTH (SITTING) MINUS	2.68	0.03	1.27	0.02	47.3	0.25
	HIP BREADTH (STANDING)	1.05	0.01	0.50	0.01	1482	3.04
159	VERTICAL TRUNK CIRCUMFER MINUS	6.63	0.07	2.85	0.05	42.9	0.03
	VERTICAL TRUNK CIRC (SITTING)	2.61	0.03	1.12	0.02	1482	3.31
160	HEAD HEIGHT MINUS	4.64	0.02	0.86	0.02	18.6	-0.06
	GLABELLA TO VERTEX	1.83	0.01	0.34	0.01	1482	3.06

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SELECTED PERCENTILES FOR COMPUTED VARIABLES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
-19.4	-17.1	-15.0	-13.6	-12.5	-10.9	-9.2	-7.9	-6.2	-3.5	-0.6	146
-7.6	-6.7	-5.9	-5.4	-4.9	-4.3	-3.6	-3.1	-2.5	-1.4	-0.2	
12.4	14.4	16.2	17.3	18.1	19.2	20.3	21.1	22.0	23.6	25.6	147
4.9	5.7	6.4	6.8	7.1	7.6	8.0	8.3	8.7	9.3	10.1	
-2.0	-0.8	0.2	0.8	1.3	2.0	2.7	3.2	3.8	5.0	6.2	148
-0.3	-0.3	0.1	0.3	0.5	0.8	1.0	1.3	1.5	2.0	2.5	
11.5	12.6	13.6	14.1	14.6	15.2	15.8	16.3	16.9	17.8	19.0	149
4.5	5.0	5.3	5.6	5.8	6.0	6.2	6.4	6.6	7.0	7.5	
9.2	10.6	11.7	12.3	12.8	13.5	14.2	14.6	15.2	16.2	17.3	150
3.6	4.2	4.6	4.9	5.1	5.3	5.6	5.8	6.0	6.4	6.8	
-0.1	0.4	0.8	1.1	1.3	1.6	1.8	2.1	2.3	2.8	3.4	151
-0.0	0.1	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1	1.3	
-0.3	0.7	1.5	2.0	2.4	2.9	3.4	3.8	4.3	5.1	6.0	152
-0.1	0.3	0.6	0.8	0.9	1.1	1.3	1.5	1.7	2.0	2.4	
10.5	12.0	13.2	14.0	14.5	15.3	16.0	16.6	17.3	18.5	19.8	153
4.1	4.7	5.2	5.5	5.7	6.0	6.3	6.5	6.8	7.3	7.8	
9.6	10.4	11.1	11.5	11.8	12.3	12.8	13.1	13.6	14.4	15.4	154
3.8	4.1	4.4	4.5	4.7	4.8	5.0	5.2	5.4	5.7	6.1	
10.5	12.2	13.7	14.6	15.4	16.4	17.4	18.2	19.3	21.1	23.2	155
4.1	4.8	5.4	5.8	6.1	6.5	6.9	7.2	7.6	8.3	9.1	
2.0	3.8	5.1	5.9	6.5	7.3	8.2	8.8	9.6	11.0	12.4	156
0.8	1.5	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.3	4.9	
34.2	35.5	37.2	38.1	38.9	40.0	41.0	41.8	42.7	44.3	46.2	157
13.5	14.0	14.6	15.0	15.3	15.7	16.1	16.4	16.8	17.4	18.2	
-0.1	0.7	1.4	1.8	2.2	2.6	3.1	3.5	4.0	4.9	6.0	158
-0.1	0.3	0.5	0.7	0.8	1.0	1.2	1.4	1.6	1.9	2.4	
-0.1	2.0	3.8	4.8	5.6	6.6	7.7	8.5	9.5	11.4	13.6	159
-0.0	0.8	1.5	1.9	2.2	2.6	3.0	3.3	3.7	4.5	5.4	
2.5	3.2	3.8	4.1	4.3	4.6	5.0	5.2	5.6	6.1	6.6	160
1.0	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.4	2.6	

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SUMMARY STATISTICS FOR COMPUTED VARIABLES

	VARIABLE	MEAN	SE (M)	STD DEV	SE (SD)	V(%) -N-	SYMM KURT
161	PRONASALE TO WALL MINUS	2.68	0.01	0.43	0.01	16.1	0.22
	NASAL ROOT TO WALL	1.06	0.00	0.17	0.00	1482	3.97
162	PRONASALE TO WALL MINUS	5.37	0.01	0.56	0.01	10.5	-0.16
	EXTERNAL CANTHUS TO WALL	2.11	0.01	0.22	0.00	1482	3.03
163	PRONASALE TO WALL MINUS	12.34	0.02	0.62	0.01	5.0	-0.09
	TRAGION TO WALL	4.86	0.01	0.24	0.00	1482	3.11
164	NASAL ROOT TO WALL MINUS	2.68	0.01	0.47	0.01	17.7	-0.23
	EXTERNAL CANTHUS TO WALL	1.06	0.00	0.19	0.00	1482	3.46
165	NASAL ROOT TO WALL MINUS	9.65	0.02	0.59	0.01	6.1	-0.10
	TRAGION TO WALL	3.80	0.01	0.23	0.00	1482	3.33
166	EXTERNAL CANTHUS TO WALL MINUS	6.97	0.01	0.47	0.01	6.7	0.11
	TRAGION TO WALL	2.74	0.00	0.18	0.00	1482	3.12
167	HEAD BREADTH MINUS	1.10	0.01	0.49	0.01	44.5	0.02
	BITRAGION BREADTH	0.43	0.01	0.19	0.00	1482	3.27
168	HEAD BREADTH MINUS	1.41	0.01	0.47	0.01	33.7	0.05
	FACE BREADTH	0.55	0.00	0.19	0.00	1482	3.35
169	HEAD LENGTH MINUS	2.40	0.01	0.50	0.01	20.8	-0.37
	EXTERNAL CANTHUS TO WALL	0.95	0.01	0.20	0.00	1482	4.15
170	HEAD LENGTH MINUS	-0.28	0.01	0.34	0.01	GT99	-0.57
	NASAL ROOT TO WALL	-0.11	0.00	0.13	0.00	1482	4.98
171	HEAD LENGTH MINUS	9.37	0.02	0.64	0.01	6.8	-0.23
	TRAGION TO WALL	3.69	0.01	0.25	0.00	1482	3.39
172	KNEE HEIGHT (SITTING) MINUS	10.67	0.04	1.41	0.03	13.2	0.26
	POPLITEAL HEIGHT	4.20	0.01	0.56	0.01	1482	2.85
173	VERTICAL REACH MINUS SHOULDER	84.05	0.12	4.56	0.08	5.4	0.18
	HEIGHT (SITTING)-I	33.09	0.05	1.80	0.03	1482	3.07

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVII
SELECTED PERCENTILES FOR COMPUTED VARIABLES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
1.7	2.0	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.4	3.7	161
0.7	0.8	0.9	0.9	1.0	1.1	1.1	1.2	1.2	1.3	1.4	
3.9	4.4	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.3	6.6	162
1.5	1.7	1.9	2.0	2.0	2.1	2.2	2.3	2.3	2.5	2.6	
10.8	11.3	11.7	11.9	12.1	12.3	12.6	12.8	13.0	13.3	13.7	163
4.3	4.5	4.6	4.7	4.8	4.9	5.0	5.0	5.1	5.3	5.4	
1.5	1.9	2.2	2.4	2.5	2.7	2.9	3.0	3.2	3.4	3.8	164
0.6	0.7	0.9	0.9	1.0	1.1	1.1	1.2	1.2	1.4	1.5	
8.3	8.7	9.1	9.3	9.4	9.7	9.9	10.0	10.3	10.6	11.0	165
3.3	3.4	3.6	3.6	3.7	3.8	3.9	4.0	4.0	4.2	4.3	
5.9	6.2	6.5	6.7	6.8	7.0	7.1	7.3	7.5	7.7	8.1	166
2.3	2.4	2.6	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.2	
-0.0	0.3	0.6	0.8	0.9	1.1	1.3	1.4	1.6	1.9	2.3	167
-0.0	0.1	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.8	0.9	
0.3	0.6	0.9	1.1	1.2	1.4	1.6	1.7	1.9	2.2	2.5	168
0.1	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.9	1.0	
1.1	1.6	1.9	2.1	2.2	2.4	2.6	2.7	2.9	3.2	3.5	169
0.4	0.6	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.3	1.4	
-1.3	-0.9	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	0.0	0.2	0.5	170
-0.5	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.0	0.0	0.1	0.2	
7.7	8.3	8.7	9.0	9.2	9.4	9.6	9.8	10.0	10.4	10.8	171
3.0	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.9	4.1	4.3	
7.8	8.5	9.2	9.6	10.0	10.6	11.2	11.6	12.2	13.1	14.1	172
3.1	3.3	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.2	5.6	
73.9	76.7	79.3	80.9	82.2	83.9	85.7	87.0	88.7	91.7	95.3	173
29.1	30.2	31.2	31.9	32.4	33.0	33.7	34.3	34.9	36.1	37.5	

UNITS...UPPER LINES--CENTIMETERS...LOWER LINES--INCHES

TABLE XVIII
SUMMARY STATISTICS FOR INDICES

	VARIABLE		MEAN	SE (M)	STD DEV	V (%)	SYMM ETRY	KURT OSIS
201	PONDERAL INDEX	(METRIC)	41.07	0.05	1.83	4.5	0.17	3.00
		(ENGLISH)	12.42	0.01	0.55	4.5	0.17	3.00
202	CERVICALE HEIGHT/STATURE		85.73	0.02	0.77	0.9	-0.10	3.07
203	SHOULDER HEIGHT/STATURE		81.94	0.03	0.99	1.2	-0.09	3.23
204	WAIST HEIGHT/STATURE		60.72	0.05	1.31	2.2	-0.14	3.05
205	CROTCH HEIGHT/STATURE		46.91	0.04	1.45	3.1	-0.05	3.06
206	KNEECAP HEIGHT/STATURE		29.33	0.02	0.84	2.9	0.06	2.99
207	CALF HEIGHT/STATURE		19.73	0.02	0.88	4.5	0.10	3.33
208	SITTING HEIGHT/STATURE		52.10	0.03	1.24	2.4	-0.06	3.48
209	EYE HEIGHT(SITTING)/STATURE		45.15	0.03	1.22	2.7	-0.05	3.42
210	MIDSHOULDER HEIGHT/STATURE		36.04	0.03	1.16	3.2	0.04	3.21
211	TRUNK HEIGHT/STATURE		33.46	0.03	1.15	3.4	-0.05	3.32
212	ELBOW REST HEIGHT/STATURE		13.24	0.04	1.51	11.4	-0.02	3.21
213	THIGH CLEARANCE/STATURE		8.43	0.02	0.80	9.5	0.08	2.98
214	KNEE HEIGHT(SITTING)/STATURE		30.36	0.02	0.73	2.4	0.09	3.02
215	POPLITEAL HEIGHT/STATURE		24.25	0.02	0.87	3.6	0.05	3.15
216	SHOULDER-ELBOW LENGTH/STATURE		21.03	0.02	0.65	3.1	0.07	3.11
217	ELBOW-FINGERTIP LENGTH/STATURE		27.58	0.02	0.71	2.6	0.28	3.64
218	BUTTOCK-POPLITEAL LGTH/STATURE		28.12	0.03	1.08	3.9	0.16	3.12
219	BUTTOCK-KNEE LENGTH/STATURE		34.48	0.02	0.90	2.6	0.26	3.07
220	BUTTOCK-HEEL LENGTH/STATURE		64.25	0.03	1.26	2.0	0.04	3.09
221	FUNCTIONAL LENGTH/STATURE		45.46	0.05	1.85	4.1	0.42	3.18
222	VERTICAL REACH/STATURE		82.20	0.04	1.70	2.1	0.00	3.05

UNITS..NO. 201-CM/CUBE RT(KG) OR IN./CUBE RT(LB)..OTHERS ARE PERCENTS

TABLE XVIII
SELECTED PERCENTILES FOR INDICES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
36.9	38.2	39.2	39.8	40.3	40.9	41.7	42.3	43.0	44.3	45.5	201
11.2	11.6	11.9	12.0	12.2	12.4	12.6	12.8	13.0	13.4	13.8	
83.8	84.4	84.9	85.2	85.4	85.7	86.0	86.3	86.5	87.0	87.5	202
79.5	80.3	80.9	81.3	81.6	82.0	82.3	82.6	82.9	83.5	84.3	203
57.6	58.5	59.3	59.8	60.2	60.8	61.3	61.6	62.1	62.8	63.6	204
43.4	44.4	45.4	45.9	46.4	46.9	47.5	47.9	48.4	49.3	50.3	205
27.3	28.0	28.5	28.8	29.0	29.3	29.6	29.9	30.2	30.7	31.3	206
17.6	18.3	18.8	19.1	19.4	19.7	20.0	20.3	20.6	21.2	22.0	207
49.0	50.0	50.9	51.3	51.6	52.1	52.6	52.9	53.4	54.2	55.1	208
42.2	43.2	43.9	44.4	44.7	45.2	45.6	46.0	46.4	47.1	48.0	209
33.3	34.1	34.9	35.3	35.6	36.0	36.5	36.8	37.2	38.0	38.8	210
30.8	31.6	32.3	32.7	33.0	33.5	33.9	34.2	34.6	35.3	36.1	211
9.6	10.7	11.7	12.2	12.7	13.3	13.8	14.2	14.8	15.7	16.8	212
6.7	7.1	7.6	7.9	8.1	8.4	8.7	9.0	9.3	9.8	10.4	213
28.7	29.2	29.6	29.9	30.1	30.3	30.6	30.9	31.1	31.6	32.1	214
22.2	22.8	23.3	23.7	23.9	24.2	24.6	24.8	25.1	25.7	26.3	215
19.5	20.0	20.3	20.6	20.8	21.0	21.3	21.5	21.7	22.1	22.6	216
26.0	26.5	26.9	27.1	27.3	27.6	27.8	28.0	28.3	28.8	29.5	217
25.7	26.4	27.0	27.4	27.7	28.1	28.5	28.8	29.2	30.0	30.9	218
32.6	33.1	33.5	33.8	34.1	34.5	34.8	35.1	35.4	36.0	36.8	219
61.4	62.2	63.0	63.4	63.8	64.2	64.7	65.1	65.6	66.4	67.3	220
41.7	42.7	43.6	44.1	44.6	45.3	46.0	46.6	47.4	48.6	50.3	221
78.2	79.2	80.4	81.0	81.6	82.2	82.9	83.4	83.9	85.0	86.3	222

UNITS..NOS 201-CM/CUBE RT(KG) OR IN./CUBE RT(LB)..OTHERS ARE PERCENTS

TABLE XVIII
SUMMARY STATISTICS FOR INDICES

	VARIABLE	MEAN	SE (M)	STD DEV	V (%)	SYMM ETRY	KURT OSIS
223	SHOULDER CIRCUMFERENCE/STATURE	66.70	0.10	3.68	5.5	0.27	3.49
224	CHEST CIRCUMFERENCE/STATURE	56.44	0.11	4.06	7.2	0.36	3.66
225	WAIST CIRCUMFERENCE/STATURE	49.95	0.13	4.95	9.9	0.32	3.05
226	HIP CIRCUMFERENCE/STATURE	56.05	0.09	3.66	6.5	0.25	3.00
227	VERTICAL TRUNK CIRCUM/STATURE	97.08	0.10	3.76	3.9	0.21	3.00
228	SLEEVE LENGTH/STATURE	50.73	0.04	1.41	2.8	-0.02	3.01
229	SLEEVE INSEAM/STATURE	27.88	0.03	1.09	3.9	0.03	3.07
230	WAIST FRONT/STATURE	22.54	0.03	1.24	5.5	0.47	3.50
231	WAIST BACK/STATURE	26.75	0.03	1.22	4.5	0.10	3.13
232	HAND LENGTH/STATURE	11.00	0.01	0.38	3.5	0.13	3.71
233	FOOT LENGTH/STATURE	15.18	0.01	0.52	3.4	-0.03	3.17
234	EYE HEIGHT(SITTING)/SITTING HT	86.65	0.03	1.01	1.2	-0.05	3.18
235	MIDSHOULDER HEIGHT/SITTING HGT	69.17	0.04	1.48	2.1	-0.07	3.12
236	TRUNK HEIGHT/SITTING HEIGHT	44.21	0.03	1.28	2.0	0.00	2.97
237	ELBOW REST HEIGHT/SITTING HGT	25.38	0.07	2.51	9.9	-0.10	3.17
238	CEPHALIC INDEX (HEAD BRTH/LGT)	77.61	0.10	3.71	4.8	0.44	3.05
239	HEAD LENGTH/HEAD CIRCUMFERENCE	34.98	0.02	0.87	2.5	-0.09	3.48
240	HEAD BRDTH/HEAD CIRCUMFERENCE	27.12	0.02	0.92	3.4	0.15	2.68
241	PALM LENGTH/HAND LENGTH	57.08	0.04	1.49	2.6	0.06	3.86
242	INSTEP LENGTH/FOOT LENGTH	72.31	0.04	1.57	2.2	-0.08	3.22
243	SITTING HEIGHT/CROTCH HEIGHT	111.23	0.15	5.64	5.1	0.15	3.24
244	SHOULDER-FINGERTIP L/CROTCH HT	103.69	0.09	3.28	3.2	0.14	2.89

TABLE XVIII
SELECTED PERCENTILES FOR INDICES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
58.7	60.7	62.9	64.2	65.3	66.7	68.0	69.1	70.4	72.8	76.0	223
48.0	49.9	52.2	53.7	54.8	56.4	57.9	59.0	60.4	63.1	67.2	224
40.2	42.1	44.7	46.4	47.8	49.8	51.7	53.2	55.1	58.4	62.4	225
48.5	50.2	52.2	53.5	54.6	56.0	57.4	58.4	59.8	62.2	65.5	226
89.0	91.1	93.2	94.5	95.5	97.0	98.4	99.6	101.0	103.5	106.6	227
47.6	48.4	49.3	49.8	50.3	50.8	51.3	51.7	52.2	53.1	54.1	228
25.3	26.1	26.8	27.1	27.4	27.9	28.3	28.6	29.0	29.7	30.4	229
20.0	20.7	21.3	21.7	22.0	22.5	22.9	23.3	23.8	24.7	25.9	230
24.0	24.8	25.5	25.9	26.3	26.7	27.2	27.6	28.0	28.8	29.7	231
10.1	10.4	10.6	10.8	10.9	11.0	11.1	11.2	11.4	11.6	12.0	232
13.9	14.3	14.7	14.8	15.0	15.2	15.4	15.5	15.7	16.0	16.4	233
84.3	85.0	85.6	86.0	86.3	86.7	87.0	87.3	87.7	88.3	89.0	234
65.5	66.7	67.6	68.2	68.6	69.2	69.7	70.2	70.7	71.6	72.5	235
61.2	62.1	62.9	63.3	63.7	64.2	64.7	65.1	65.5	66.3	67.2	236
19.4	21.1	22.8	23.7	24.5	25.5	26.4	27.1	27.9	29.4	31.3	237
70.3	72.1	73.8	74.9	75.9	77.3	78.8	80.0	81.5	84.2	87.0	238
32.8	33.5	34.1	34.4	34.7	35.0	35.3	35.5	35.9	36.4	37.0	239
25.1	25.7	26.2	26.5	26.7	27.1	27.5	27.7	28.1	28.7	29.3	240
53.2	54.6	55.6	56.1	56.5	57.0	57.6	58.0	58.5	59.6	60.8	241
68.5	69.7	70.7	71.3	71.7	72.3	72.9	73.4	73.9	74.9	75.9	242
98.6	102.2	105.5	107.4	109.0	111.1	113.2	114.9	117.0	120.8	125.5	243
96.3	98.4	100.3	101.4	102.3	103.6	104.9	105.8	107.1	109.3	111.8	244

TABLE XVIII
SUMMARY STATISTICS FOR INDICES

	VARIABLE	MEAN	SE (M)	STD DEV	V (%)	SYMM ETRY	KURT OSIS
245	WAIST FRONT/WAIST BACK	84.33	0.11	4.28	5.1	0.15	3.13
246	V.T.C.(SITTING)/V.T.C.(STAND)	96.10	0.04	1.64	1.7	0.06	3.32
247	BICEPS C-RELAX/BICEPS C-FLEXED	95.07	0.06	2.37	2.5	-0.10	2.93
248	HIP BRTH(SIT)/HIP BRDTH(STAND)	107.61	0.09	3.52	3.3	0.20	3.08
249	CHEST C/(CHEST BR+DEPTH/2)	336.99	0.22	8.35	2.5	0.13	3.04
250	SHOULDER CIRCUM/CHEST CIRCUM	118.37	0.10	3.95	3.3	-0.09	3.14
251	WAIST CIRCUMFERENCE/CHEST CIRC	88.41	0.12	4.59	5.2	0.00	2.83
252	CHEST CIRCUMFERENCE/HIP CIRCUM	100.72	0.10	3.96	3.9	0.17	3.07
253	WAIST CIRCUMFERENCE/HIP CIRCUM	88.97	0.12	4.44	5.0	0.16	2.73
254	LOWER THIGH CIRC/UPPER THIGH C	67.38	0.07	2.70	4.0	0.30	3.32
255	ELBOW-WRIST L/SHOULDER-ELBOW L	78.87	0.07	2.69	3.4	0.19	3.21
256	BUTTOCK-POPLITEAL/BUTTOCK KNEE	81.56	0.06	2.24	2.8	-0.07	3.22
257	#173(REACH OVER SHOULD)/FUNC R	106.05	0.13	5.12	4.8	-0.04	2.92
258	ELBOW BREADTH/KNEE BREADTH	76.30	0.09	3.56	4.7	0.27	3.08
259	CHEST BREADTH/SHOULDER BRDTH	72.57	0.08	3.07	4.2	0.23	3.48
260	SHOULDER BRDTH/FOREARM-FOREARM	94.13	0.16	6.00	6.4	0.46	3.28
261	CHEST BREADTH/FOREARM-FOREARM	68.24	0.11	4.24	6.2	0.47	3.38
262	HIP BREADTH/CHEST BREADTH	102.32	0.15	5.70	5.6	0.02	2.80
263	CHEST DEPTH/CHEST BREADTH	69.96	0.12	4.73	6.8	0.07	2.99
264	FRONT CURVATURE/BACK CURVATURE	92.65	0.21	8.17	8.8	0.40	3.58
265	BITRAGION BREADTH/HEAD BREADTH	92.83	0.08	3.11	3.4	0.08	3.24
266	FACE BREADTH/HEAD BREADTH	90.84	0.08	2.97	3.3	0.05	3.34

TABLE XVIII
SELECTED PERCENTILES FOR INDICES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
74.5	77.4	80.0	81.5	82.6	84.2	85.8	87.0	88.7	91.6	95.5	245
92.1	93.4	94.5	95.0	95.5	96.1	96.7	97.2	97.8	98.8	100.1	246
89.4	9..1	92.6	93.5	94.2	95.1	96.0	96.7	97.6	98.9	100.3	247
99.9	102.0	104.0	105.2	106.2	107.5	108.8	109.9	111.2	113.6	116.5	248
318.1	323.7	328.4	331.2	333.5	336.7	340.0	342.5	345.8	351.4	357.5	249
108.8	111.6	114.2	115.7	117.0	118.5	120.0	121.1	122.4	124.6	127.4	250
78.0	80.8	83.5	85.2	86.6	88.4	90.2	91.6	93.2	95.9	98.9	251
91.5	94.4	96.7	98.0	99.1	100.6	102.1	103.3	104.8	107.6	110.7	252
79.5	81.8	84.2	85.8	87.1	88.8	90.7	92.0	93.8	96.6	99.3	253
61.5	63.2	64.7	65.5	66.2	67.2	68.2	69.1	70.1	72.1	74.4	254
72.6	74.6	76.2	77.1	77.8	78.1	79.8	80.6	81.6	83.5	85.6	255
76.1	77.8	79.3	80.1	80.7	81.6	82.4	83.1	83.8	85.2	86.8	256
94.2	97.6	100.7	102.5	104.0	106.1	108.1	109.6	111.4	114.4	117.6	257
66.6	70.8	72.7	73.8	74.8	76.1	77.5	78.6	80.0	82.6	85.5	258
65.7	67.7	69.5	70.5	71.3	72.5	73.6	74.5	75.7	77.8	80.5	259
81.7	85.2	88.1	89.9	91.4	93.6	95.9	97.9	100.4	104.8	109.6	260
59.7	62.0	64.0	65.3	66.3	67.8	69.5	70.8	72.6	75.9	80.0	261
89.6	92.9	96.3	98.3	100.0	102.3	104.6	106.3	108.4	111.8	115.6	262
59.4	62.1	65.0	66.7	68.1	70.0	71.8	73.2	74.8	77.8	81.4	263
75.3	79.9	84.4	87.2	89.4	92.3	95.3	97.6	100.7	106.6	115.2	264
85.6	87.8	89.7	90.8	91.6	92.8	94.0	94.9	96.0	97.9	100.3	265
83.8	86.0	87.8	88.9	89.8	90.8	91.9	92.7	93.8	95.7	98.4	266

TABLE XVIII
SUMMARY STATISTICS FOR INDICES

	VARIABLE	MEAN	SE (M)	STD DEV	V (%)	SYMM ETRY	KURT OSIS
267	INTERPUPILLARY BRDTH/HEAD BRDH	38.75	0.06	2.45	6.3	0.20	3.31
268	FACE BREADTH/BITRAGION BRD	97.89	0.07	2.75	2.8	0.17	3.10
269	INTERPUPILLARY BR/BITRAGION BR	41.76	0.07	2.64	6.3	0.23	3.20
270	INTERPUPILLARY BR/FACE BREADTH	42.67	0.07	2.50	5.9	0.27	3.41
271	HAND BREADTH/HAND CIRCUMFERENCE	41.80	0.03	1.13	2.7	0.20	3.59
272	FOOT BREADTH/FOOT CIRCUMFERENCE	49.76	0.05	1.81	4.4	0.42	3.47
273	INSTEP CIRC/FOOT CIRCUMFERENCE	110.59	0.11	4.29	3.9	0.28	3.24
274	HEEL-ANKLE CIRCUM/FOOT CIRCUM	136.04	0.14	5.43	4.0	-0.04	2.95
275	MEDIAL CALF SKFD/SUPRAILIAC SF	42.02	0.47	18.27	43.5	1.27	5.48
276	TRICEPS SKFD/SUPRAILIAC SKFD	50.90	0.48	18.53	36.4	1.20	5.48
277	SUBSCAPULAR SKFD/SUPRAILIAC SF	64.30	0.60	23.95	35.7	1.59	7.08
278	MEDIAL CALF SF/SUBSCAPULAR SF	68.49	0.72	27.81	40.6	1.04	4.73
279	TRICEPS SKFD/SUBSCAPULAR SF	83.17	0.73	28.13	33.8	0.85	4.10
280	MEDIAL CALF SKFD/TRICEPS SKFD	85.68	0.84	32.17	37.6	1.53	7.68

TABLE XVIII
SELECTED PERCENTILES FOR INDICES

PERCENTILES											VAR
1ST	5TH	15TH	25TH	35TH	50TH	65TH	75TH	85TH	95TH	99TH	NO.
33.2	34.8	36.2	37.1	37.8	38.7	39.6	40.3	41.2	42.8	44.9	267
91.8	93.4	95.0	96.0	96.8	97.9	99.0	99.8	100.8	102.5	104.7	268
35.9	37.5	39.0	39.9	40.7	41.7	42.7	43.4	44.5	46.3	48.5	269
37.1	38.7	40.1	41.0	41.7	42.6	43.5	44.2	45.2	46.9	49.3	270
39.2	40.0	40.7	41.1	41.4	41.8	42.2	42.5	42.9	43.7	44.8	271
36.9	38.1	39.0	39.5	39.9	40.6	41.3	41.9	42.7	44.0	45.3	272
101.4	103.9	106.2	107.6	108.8	110.4	112.0	113.3	115.0	118.0	121.8	273
123.4	126.9	130.3	132.4	134.0	136.1	138.2	139.8	141.7	144.9	148.6	274
13.7	18.9	25.0	29.3	33.1	38.7	45.2	50.8	59.1	77.0	105.3	275
20.4	26.1	33.5	38.3	42.4	48.1	54.5	59.8	67.7	85.1	114.9	276
28.7	37.6	44.4	48.8	52.7	59.1	67.1	74.4	85.4	109.6	146.3	277
21.7	31.6	41.7	48.6	54.8	64.0	74.6	83.5	96.1	120.8	154.6	278
33.9	43.8	55.3	63.2	69.9	79.6	90.4	99.1	111.3	135.2	169.0	279
33.7	42.7	56.4	65.1	72.0	81.3	91.1	99.5	112.2	143.9	206.2	280

Chapter VIII

THE CORRELATION COEFFICIENTS

The solution of many design problems requires, in addition to dimensional data of the type already presented in this report, a knowledge of the relationship or correlation between various pairs of body size measurements. The most common statistical measure of such relationships is the Pearsonian product-moment correlation coefficient. In Table XIX we present the complete correlation matrix for 88 variables: age, the 85 measured anthropometric variables, plus weight and stature as reported by the subjects.

Most users of this report will be well acquainted with the general nature of the correlation coefficient. For those who are not, a brief summary of the characteristics of this statistic may be useful. The correlation coefficient varies, in numerical value, from 0.0 to 1.0. Values of 0.0 indicate no relationship and those of 1.0 indicate perfect relationships. Positive values of these coefficients indicate that large values of one member of a pair of variables tend to occur simultaneously with large values of the other, and that small values of one tend to occur along with small values of the other. Negative values indicate the reverse: small values of one variable being associated, in general, with large values of the other. The degree of association is independent of the sign of the coefficient; a correlation of -0.50 and one of +0.50 represent the same intensity of relationship. A simple statement of how 'close' a relationship is indicated by a particular value of the correlation coefficient is not easy to give. One approximate relationship which may be of value is that, by and large, when the correlation between two variables X and Y is some number r, about:

$$\frac{1}{2}(1+r) \pm 100\%$$

of those individuals who are above average on X will also be above average on Y. Thus, for example, for the present sample, since the correlation between stature and weight is 0.44, and

$$\frac{1}{2}(1+.44) * 100\% = 72\%$$

we can expect that about 72% of the men in the sample who are above average in stature will also be above average in weight. By the same reasoning, we may conclude that about 72% of those above average in weight will be above average in stature and that 72% of those below average in either measurement will be below average in the other as well.

The correlation coefficient is designed to measure only that relationship between two variables which can be associated with a linear or straight line relationship.[1] A number of studies have indicated, however, that, for physically selected groups of healthy adults of the same sex - such as the present sample, the relationships between body size measurements tend to be essentially linear in form. In addition, because of the small coefficients of variation for the variables with which we are concerned in this report, many more complex forms of relationship will be almost indistinguishable from a linear relationship over the effective range of values of these variables.

The correlation coefficient provides in practice, far more than simply a measure of the degree of relationship between two variables. A knowledge of the correlation coefficients - along with that of the means and standard deviations - makes it possible for one to derive a wide range of statistics without additional recourse to the basic data. Among these statistics are:

a) regression equations for predicting or estimating one variable from another (e.g., weight in terms of stature), and the standard errors of estimate associated with these equations;

b) multiple correlation coefficients which express the degree of relationship between a single variable and the combination of two or more other variables;

c) multiple regression equations for predicting or estimating values of one variable from those of two or more other variables and the standard errors of estimate associated with these equations. The predictor variables may be specified in advance, or an analytic procedure (stepwise regression) can be used to systematically select the groups of 2, 3, 4, etc. variables which provide the most accurate predictions, and derive the corresponding equations;

d) partial correlation coefficients, which provide estimates of the degree of relationship which one would expect to find between pairs of variables when the values of one or more other variables are held constant;

---

[1] There is, however, no truth in the sometimes made statement that the derivation of the correlation coefficient assumes a linear relationship.

e) the means, standard deviations, and correlation coefficients for computed variables which are linear functions of the original ones, plus reasonably accurate estimates of these statistics for the most commonly used non-linear functions,

f) general analyses of the overall patterns of the interrelationships among the totality of the variables by means of such techniques as factor analysis.

To the extent that our variables share a multivariable normal distribution - and the distribution of the anthropometric measures appears to closely approximate this model - the correlation coefficients, along with the means and standard deviations, completely determine the distribution. This fact makes it possible - again, using only these basic statistics - to estimate any numerical characteristic of the population. Thus, for example, one could from the data provided here estimate such things as:

a) the distribution of the area of the torso silhouette defined, perhaps, as trunk height multiplied by the average of shoulder, chest, and hip breadths;

b) the proportion of the population which falls within specified ranges of two or more variables;

c) equations for the equal-probability ellipses or ellipsoids which separate the (say) 95% of the combinations of values of two or more variables which are most likely to occur from those of the remaining 5%.

These various uses of the correlation coefficient are discussed in the usual statistics texts. The reader is also referred to relevant discussions in the Anthropometric Survey of Air Force Women-1968 in Churchill's chapter in Human Development and his New York Academy of Science paper, and in Artificial Bivariates and Constant Probability Ellipses: Their Uses in Physical Anthropology.

For the user's convenience, the correlation coefficient for each pair of variables is listed twice in Table XIX, once as X with Y, and also as Y with X. To save space, the few negative coefficients are listed without decimal points, i.e., as -026. The minus sign should be interpreted as representing both itself and a decimal point. The diagonal entries, that is, the correlations of each variable with itself, have been left blank; the correlation of a variable with itself is, by definition, equal to 1.0.

Like all the other statistics, the correlation coefficient is subject to sampling variation. Because of the

non-symmetric distribution of the correlation coefficient, it is conventional to associate a standard error to a function (Fisher's Z transformation) of the coefficient rather than to the coefficient itself. The following table provides the results of [illegible]ing this transformation and its standard error for seve[illegible]alues of the correlation coefficient based on a sample [illegible]. The 95% confidence range corresponds to the 1.96 [illegible]ange, the 99% confidence range to the 2.58 SE range. The 'L' and 'U' values in this table are to be subtracted and added, respectively, to the computed coefficient to obtain the desired range. For negative coefficients, one can find the range for the positive coefficient of the same size and reverse the signs of the result.

Correlation Coefficient	95% Confidence		99% Confidence	
	L	U	L	U
0.00	0.051	0.051	0.067	0.067
0.10	0.051	0.050	0.067	0.066
0.20	0.049	0.048	0.065	0.063
0.30	0.047	0.046	0.062	0.060
0.40	0.044	0.042	0.058	0.055
0.50	0.039	0.037	0.052	0.049
0.60	0.034	0.032	0.045	0.041
0.70	0.027	0.025	0.036	0.033
0.80	0.019	0.018	0.025	0.023
0.90	0.010	0.009	0.014	0.012
0.95	0.005	0.005	0.007	0.006

Thus, to find confidence limits for the stature-weight correlation of 0.442, we interpolate between the values given in the table for correlations of 0.40 and 0.50 and get values of L and U of 0.042 and 0.040 for the 95%, and of 0.055 and 0.052 for the 99% confidence range, giving confidence limits of from 0.400 to 0.482 and from 0.387 to 0.494.

It should be remembered, however, that the reservations made in Chapter II about the interpretation of standard errors based on non-randomly selected samples apply equally cogently to these confidence ranges.

TABLE XIX
THE CORRELATION MATRIX

		1	2	3	4	5	6	7	8	9
1	AGE		.196	-024	.005	.027	-035	-084	-030	-054
2	WEIGHT	.196		.442	.482	.479	.396	.252	.367	.344
3	STATURE	-024	.442		.977	.960	.903	.839	.858	.726
4	CERVICALE HEIGHT	.005	.482	.977		.969	.929	.845	.872	.737
5	SHOULDER HEIGHT	.027	.479	.960	.969		.911	.840	.863	.725
6	WAIST HEIGHT	-035	.396	.903	.929	.911		.887	.898	.761
7	CROTCH HEIGHT	-084	.252	.839	.845	.840	.887		.878	.755
8	KNEECAP HEIGHT	-030	.367	.858	.872	.863	.898	.878		.806
9	CALF HEIGHT	-054	.344	.726	.737	.725	.761	.755	.806	
10	SITTING HEIGHT	-003	.434	.778	.726	.704	.537	.426	.477	.398
11	EYE HEIGHT,SITTING	.009	.411	.753	.702	.685	.518	.417	.461	.386
12	MIDSHOULDER HT,SIT	.081	.516	.694	.694	.715	.513	.383	.447	.375
13	TRUNK HEIGHT	.068	.486	.663	.630	.620	.443	.320	.375	.328
14	ELBOW REST HEIGHT	.087	.309	.180	.168	.225	-018	-113	-048	-047
15	THIGH CLEARANCE	.093	.828	.196	.238	.239	.186	.053	.170	.198
16	KNEE HEIGHT,SITING	.014	.460	.878	.898	.885	.903	.848	.904	.768
17	POPLITEAL HEIGHT	-084	.090	.808	.803	.789	.832	.856	.841	.696
18	SHOULDER-ELBOW LTH	.049	.351	.768	.784	.792	.791	.738	.729	.607
19	ELBOW-FINGERTIP L	.012	.380	.807	.816	.801	.820	.792	.805	.694
20	BUTTOCK-POPLIT'L L	.033	.397	.684	.705	.698	.737	.724	.669	.581
21	BUTTOCK-KNEE LNGTH	.030	.582	.801	.829	.820	.844	.796	.771	.681
22	BUTTOCK-HEEL LNGTH	-030	.397	.903	.912	.903	.919	.889	.874	.762
23	FUNCTIONAL REACH	.090	.336	.627	.626	.624	.608	.581	.576	.482
24	VERTICAL REACH-SIT	-033	.469	.860	.855	.849	.787	.729	.740	.623
25	SHOULDER BREADTH	.120	.784	.289	.311	.293	.232	.136	.242	.219
26	CHEST BREADTH	.206	.769	.179	.217	.215	.164	.054	.153	.148
27	FOREARM-FOREARM BR	.178	.715	.119	.154	.171	.094	.011	.100	.112
28	HIP BREADTH(STAND)	.142	.852	.362	.402	.397	.337	.196	.282	.301
29	HIP BREADTH (SIT)	.172	.873	.331	.364	.368	.289	.165	.254	.254
30	ELBOW BRDTH (BONE)	.076	.511	.441	.446	.434	.380	.304	.350	.328
31	KNEE BREADTH(BONE)	.032	.512	.471	.466	.459	.413	.329	.401	.363
32	CHEST DEPTH	.330	.797	.149	.206	.207	.177	.035	.141	.135
33	NECK CIRCUMFERENCE	.184	.735	.170	.207	.200	.140	.010	.132	.107
34	SHOULDER CIRCUMFER	.139	.865	.292	.324	.306	.253	.141	.248	.234
35	CHEST CIRCUMFERNCE	.282	.878	.198	.244	.255	.193	.067	.178	.174
36	WAIST CIRCUMFERNCE	.316	.890	.180	.236	.240	.171	.030	.150	.161
37	HIP CIRCUMFERENCE	.181	.933	.303	.340	.341	.261	.107	.234	.240
38	UPPER THIGH CIRCUM	.092	.893	.192	.234	.232	.175	.032	.147	.162
39	LOWER THIGH CIRCUM	.099	.865	.227	.260	.257	.190	.048	.167	.182
40	CALF CIRCUMFERENCE	.032	.809	.209	.239	.228	.183	.061	.135	.160
41	ANKLE CIRCUMFERNCE	.021	.721	.332	.354	.346	.285	.159	.277	.199
42	ARM SCYE CIRCUMFER	.248	.835	.367	.409	.430	.329	.184	.297	.254
43	BICEPS CIR,RELAXED	.195	.629	.104	.145	.146	.079	-046	.056	.092
44	BICEPS CIRC,FLEXED	.157	.808	.134	.170	.160	.106	-006	.087	.120
45	FOREARM CIR,FLEXED	.143	.780	.238	.271	.263	.209	.090	.201	.201

TABLE XIX
THE CORRELATION MATRIX

		1	2	3	4	5	6	7	8	9
46	WRIST CIRCUMFERNCE	.191	.709	.264	.289	.281	.192	.039	.170	.124
47	VERTICAL TRK,STAND	.224	.830	.559	.581	.603	.428	.259	.381	.323
48	VERTICAL TRK C,SIT	.212	.794	.572	.591	.610	.427	.250	.372	.321
49	SHOULDER LENGTH	-091	.174	.318	.305	.214	.259	.269	.286	.222
50	INTERSCYE	.092	.504	.174	.200	.158	.157	.068	.158	.142
51	INTERSCYE MAXIMUM	.222	.647	.247	.279	.279	.216	.109	.208	.147
52	BACK CURVATURE	.166	.728	.200	.222	.216	.169	.072	.169	.166
53	SLEEVE LENGTH	.061	.530	.756	.768	.743	.746	.692	.723	.608
54	SLEEVE INSEAM LGT	-106	.137	.711	.705	.692	.743	.777	.730	.611
55	WAIST FRONT	.261	.615	.427	.422	.418	.268	.136	.238	.211
56	WAIST BACK	.157	.505	.560	.620	.562	.463	.295	.376	.314
57	HEAD LENGTH	.123	.293	.286	.263	.260	.221	.191	.240	.196
58	HEAD BREADTH	.095	.272	.065	.077	.081	.035	.005	.033	.029
59	HEAD CIRCUMFERENCE	.063	.355	.265	.250	.255	.202	.174	.231	.201
60	SAGITTAL ARC	-016	.134	.215	.181	.174	.137	.115	.159	.101
61	BITRAGION-CORONAL	-053	.245	.242	.220	.213	.165	.141	.174	.149
62	FACE LENGTH	.050	.194	.274	.268	.268	.236	.217	.258	.193
63	BITRAGION BREADTH	.162	.432	.183	.210	.218	.159	.075	.128	.108
64	INTERPUPILLARY BRD	.063	.182	.148	.159	.154	.150	.144	.147	.126
65	FACE BREADTH	.152	.450	.179	.200	.205	.147	.095	.142	.138
66	HEAD HEIGHT	-034	.155	.212	.176	.166	.108	.088	.113	.075
67	GLABELLA-VERTEX	-105	-080	-044	-096	-102	-123	-102	-090	-104
68	TRAGION TO WALL	.129	.243	.211	.227	.216	.184	.153	.191	.159
69	EX-CANTHUS TO WALL	.145	.317	.264	.270	.256	.229	.191	.244	.216
70	NASAL ROOT TO WALL	.114	.333	.297	.290	.291	.254	.205	.260	.218
71	PRONASALE TO WALL	.166	.402	.396	.403	.403	.359	.289	.340	.288
72	HAND LENGTH	.049	.339	.661	.664	.651	.648	.608	.638	.570
73	PALM LENGTH	.016	.298	.585	.586	.575	.574	.538	.576	.520
74	HAND BREADTH	.108	.423	.411	.420	.414	.383	.316	.381	.308
75	HAND CIRCUMFERENCE	.128	.510	.392	.403	.395	.356	.289	.354	.323
76	FOOT LENGTH	.046	.432	.695	.701	.683	.677	.609	.653	.570
77	INSTEP LENGTH	.082	.426	.632	.644	.625	.621	.546	.598	.516
78	FOOT BREADTH	-051	.395	.336	.334	.326	.286	.243	.269	.247
79	HEEL BREADTH	.159	.449	.200	.218	.213	.200	.142	.216	.193
80	FOOT CIRCUMFERENCE	.057	.582	.420	.432	.420	.370	.284	.362	.315
81	INSTEP CIRCUMFER	.066	.651	.451	.474	.466	.419	.308	.414	.385
82	HEEL-ANKLE CIRCUMF	.091	.632	.596	.611	.599	.568	.482	.580	.484
83	TRICEPS SKINFOLD	.111	.575	.054	.084	.096	.044	-037	.012	.072
84	SUBSCAPULAR SKINFD	.230	.676	-000	.035	.047	-024	-105	-017	.019
85	SUPRAILIAC SKINFLD	.054	.691	.051	.091	.096	.071	-061	.034	.078
86	MEDIAL CALF SKINFD	.017	.517	.054	.068	.089	.014	-037	.018	.084
87	STATURE-REPORTED	-037	.427	.943	.931	.914	.866	.814	.821	.706
88	WEIGHT AS REPORTED	.171	.965	.486	.522	.519	.443	.301	.414	.385

TABLE XIX
THE CORRELATION MATRIX

		10	11	12	13	14	15	16	17	18
1	AGE	-003	.009	.081	.068	.087	.093	.014	-086	.049
2	WEIGHT	.434	.411	.516	.486	.309	.828	.460	.090	.351
3	STATURE	.778	.753	.694	.683	.180	.196	.878	.808	.768
4	CERVICALE HEIGHT	.726	.702	.694	.630	.168	.236	.898	.803	.784
5	SHOULDER HEIGHT	.704	.685	.715	.620	.225	.239	.885	.789	.792
6	WAIST HEIGHT	.537	.518	.513	.443	-018	.186	.903	.832	.791
7	CROTCH HEIGHT	.426	.417	.383	.320	-113	.053	.848	.856	.738
8	KNEECAP HEIGHT	.477	.461	.447	.375	-048	.170	.904	.841	.729
9	CALF HEIGHT	.398	.386	.375	.328	-047	.198	.768	.696	.607
10	SITTING HEIGHT		.960	.878	.907	.579	.227	.507	.435	.472
11	EYE HEIGHT,SITTING	.960		.860	.902	.577	.212	.488	.418	.453
12	MIDSHOULDER HT,SIT	.878	.860		.863	.724	.322	.494	.364	.486
13	TRUNK HEIGHT	.907	.902	.863		.642	.301	.420	.316	.384
14	ELBOW REST HEIGHT	.579	.577	.724	.642		.246	-020	-122	-138
15	THIGH CLEARANCE	.227	.212	.322	.301	.246		.244	-121	.129
16	KNEE HEIGHT,SITING	.507	.488	.494	.420	-020	.244		.843	.766
17	POPLITEAL HEIGHT	.435	.418	.364	.316	-122	-121	.843		.710
18	SHOULDER-ELBOW LTH	.472	.453	.486	.384	-138	.129	.766	.710	
19	ELBOW-FINGERTIP L	.483	.471	.463	.393	-065	.160	.836	.773	.773
20	BUTTOCK-POPLIT'L L	.310	.295	.294	.242	-141	.236	.718	.619	.637
21	BUTTOCK-KNEE LNGTH	.429	.410	.430	.368	-061	.397	.826	.653	.732
22	BUTTOCK-HEEL LNGTH	.538	.517	.503	.447	-024	.176	.900	.843	.780
23	FUNCTIONAL REACH	.362	.342	.359	.304	-097	.162	.675	.574	.667
24	VERTICAL REACH-SIT	.705	.688	.678	.638	.171	.227	.770	.694	.781
25	SHOULDER BREADTH	.298	.280	.312	.341	.160	.639	.303	.043	.238
26	CHEST BREADTH	.197	.186	.269	.275	.201	.612	.217	-060	.156
27	FOREARM-FOREARM BR	.137	.132	.216	.214	.232	.589	.161	-112	.049
28	HIP BREADTH(STAND)	.403	.388	.469	.455	.317	.715	.344	.030	.281
29	HIP BREADTH (SIT)	.373	.355	.445	.436	.321	.721	.319	-006	.241
30	ELBOW BRDTH (BONE)	.394	.386	.407	.387	.173	.369	.443	.271	.355
31	KNEE BREADTH(BONE)	.431	.413	.418	.414	.181	.340	.450	.328	.374
32	CHEST DEPTH	.154	.152	.257	.248	.189	.680	.230	-096	.158
33	NECK CIRCUMFERENCE	.223	.202	.321	.271	.235	.631	.219	-067	.133
34	SHOULDER CIRCUMFER	.296	.281	.348	.352	.188	.716	.331	.020	.256
35	CHEST CIRCUMFERNCE	.195	.186	.298	.285	.215	.728	.272	-072	.193
36	WAIST CIRCUMFERNCE	.214	.198	.332	.306	.263	.775	.338	-133	.156
37	HIP CIRCUMFERENCE	.351	.330	.437	.427	.318	.833	.322	-057	.224
38	UPPER THIGH CIRCUM	.245	.227	.342	.333	.281	.883	.236	-146	.120
39	LOWER THIGH CIRCUM	.283	.267	.360	.358	.291	.811	.271	-124	.134
40	CALF CIRCUMFERENCE	.266	.244	.325	.324	.257	.729	.241	-077	.129
41	ANKLE CIRCUMFERNCE	.371	.342	.415	.396	.287	.594	358	.070	.223
42	ARM SCYE CIRCUMFER	.361	.344	.477	.405	.278	.683	.403	.082	.388
43	BICEPS CIR,RELAXED	.172	.159	.278	.275	.273	.777	.164	-197	.052
44	BICEPS CIRC,FLEXED	.191	.181	.276	.277	.237	.751	.186	-145	.074
45	FOREARM CIR,FLEXED	.254	.238	.340	.310	.221	.690	.305	-019	.192

TABLE XIX
THE CORRELATION MATRIX

		10	11	12	13	14	15	16	17	18
46	WRIST CIRCUMFERNCE	.341	.316	.406	.372	.288	.575	.296	-004	.209
47	VERTICAL TRK,STAND	.644	.628	.739	.686	.531	.661	.464	.161	.389
48	VERTICAL TRK C,SIT	.695	.678	.789	.728	.575	.618	.461	.170	.402
49	SHOULDER LENGTH	.271	.268	.167	.212	-092	.076	.265	.255	.191
50	INTERSCYE	.206	.192	.220	.216	.139	.385	.192	.024	.116
51	INTERSCYE MAXIMUM	.280	.276	.335	.310	.235	.506	.237	.021	.200
52	BACK CURVATURE	.211	.199	.264	.263	.180	.584	.254	-013	.156
53	SLEEVE LENGTH	.498	.484	.472	.434	-071	.287	.762	.647	.802
54	SLEEVE INSEAM LGT	.381	.375	.327	.276	-215	-046	.702	.755	.781
55	WAIST FRONT	.558	.553	.570	.654	.427	.456	.294	.067	.239
56	WAIST BACK	.650	.623	.674	.598	.402	.318	.447	.275	.416
57	HEAD LENGTH	.270	.233	.217	.225	.077	.168	.258	.170	.226
58	HEAD BREADTH	.106	.077	.142	.109	.116	.194	.060	-033	.057
59	HEAD CIRCUMFERENCE	.25	.206	.227	.226	.108	.241	.244	.130	.195
60	SAGITTAL ARC	.252	.184	.170	.181	.079	.050	.159	.131	.148
61	BITRAGION-CORONAL	.262	.177	.201	.178	.095	.138	.204	.128	.163
62	FACE LENGTH	.230	.235	.214	.159	.038	.103	.259	.222	.269
63	BITRAGION BREADTH	.195	.173	.271	.204	.179	.331	.216	.036	.183
64	INTERPUPILLARY BRD	.082	.060	.104	.051	-000	.116	.186	.109	.168
65	FACE BREADTH	.201	.187	.274	.209	.161	.352	.183	.027	.179
66	HEAD HEIGHT	.272	.174	.177	.187	.128	.051	.145	.084	.097
67	GLABELLA-VERTEX	.067	-020	-048	.018	.039	-062	-120	-092	-110
68	TRAGION TO WALL	.160	.146	.166	.128	.044	.158	.235	.134	.183
69	EX-CANTHUS TO WALL	.204	.170	.199	.164	.043	.207	.296	.166	.234
70	NASAL ROOT TO WALL	.252	.214	.230	.208	.065	.214	.298	.189	.257
71	PRONASALE TO WALL	.318	.298	.325	.270	.091	.249	.410	.272	.367
72	HAND LENGTH	.442	.421	.420	.360	-001	.144	.691	.612	.602
73	PALM LENGTH	.388	.374	.362	.308	-018	.127	.612	.540	.536
74	HAND BREADTH	.331	.316	.349	.295	.105	.286	.448	.293	.369
75	HAND CIRCUMFERENCE	.339	.327	.369	.323	.142	.357	.420	.249	.343
76	FOOT LENGTH	.497	.472	.462	.408	.054	.219	.713	.603	.594
77	INSTEP LENGTH	.434	.406	.402	.351	.021	.232	.667	.536	.556
78	FOOT BREADTH	.314	.308	.324	.302	.161	.284	.327	.204	.229
79	HEEL BREADTH	.182	.172	.210	.215	.131	.374	.227	.061	.143
80	FOOT CIRCUMFERENCE	.375	.350	.402	.370	.191	.436	.453	.237	.322
81	INSTEP CIRCUMFER	.377	.353	.420	.386	.174	.498	.514	.247	.374
82	HEEL-ANKLE CIRCUMF	.487	.461	.488	.460	.167	.434	.618	.427	.489
83	TRICEPS SKINFOLD	.127	.112	.200	.211	.231	.605	.065	-202	.002
84	SUBSCAPULAR SKINFD	.080	.066	.182	.201	.227	.630	.052	-241	-017
85	SUPRAILIAC SKINFLD	.126	.106	.219	.225	.241	.697	.074	-223	.011
86	MEDIAL CALF SKINFD	.108	.096	.162	.177	.191	.530	.076	-195	-018
87	STATURE-REPORTED	.724	.701	.647	.611	.159	.190	.851	.779	.731
88	WEIGHT AS REPORTED	.459	.437	.531	.501	.303	.797	.497	.143	.384

TABLE XIX
THE CORRELATION MATRIX

		19	20	21	22	23	24	25	26	27
1	AGE	.012	.033	.030	-030	.090	-033	.120	.206	.178
2	WEIGHT	.380	.397	.582	.397	.336	.469	.784	.769	.715
3	STATURE	.807	.684	.801	.903	.627	.860	.289	.179	.119
4	CERVICALE HEIGHT	.816	.705	.829	.912	.626	.855	.311	.217	.154
5	SHOULDER HEIGHT	.801	.698	.820	.903	.624	.849	.293	.215	.171
6	WAIST HEIGHT	.820	.737	.844	.919	.608	.787	.232	.164	.094
7	CROTCH HEIGHT	.792	.724	.796	.889	.581	.729	.136	.054	.011
8	KNEECAP HEIGHT	.805	.669	.771	.874	.576	.740	.242	.153	.100
9	CALF HEIGHT	.694	.581	.681	.762	.482	.623	.219	.148	.112
10	SITTING HEIGHT	.488	.310	.429	.538	.362	.705	.298	.197	.137
11	EYE HEIGHT,SITTING	.471	.295	.410	.517	.342	.688	.280	.186	.132
12	MIDSHOULDER HT,SIT	.463	.294	.430	.503	.359	.678	.312	.269	.216
13	TRUNK HEIGHT	.393	.242	.368	.447	.304	.638	.341	.275	.214
14	ELBOW REST HEIGHT	-065	-141	-061	-023	-097	.171	.160	.201	.232
15	THIGH CLEARANCE	.160	.236	.397	.176	.162	.227	.639	.612	.589
16	KNEE HEIGHT,SITING	.836	.718	.826	.900	.675	.770	.303	.217	.161
17	POPLITEAL HEIGHT	.773	.619	.653	.843	.574	.694	.043	-060	-112
18	SHOULDER-ELBOW LTH	.773	.637	.732	.780	.667	.781	.238	.156	.049
19	ELBOW-FINGERTIP L		.643	.747	.822	.694	.801	.267	.170	.100
20	BUTTOCK-POPLIT'L L	.643		.853	.749	.538	.597	.243	.205	.151
21	BUTTOCK-KNEE LNGTH	.747	.853		.860	.610	.710	.387	.334	.269
22	BUTTOCK-HEEL LNGTH	.822	.749	.860		.639	.789	.254	.173	.105
23	FUNCTIONAL REACH	.694	.538	.610	.639		.610	.239	.163	.124
24	VERTICAL REACH-SIT	.801	.597	.710	.789	.610		.382	.252	.167
25	SHOULDER BREADTH	.267	.243	.387	.254	.239	.382		.791	.715
26	CHEST BREADTH	.170	.205	.334	.173	.163	.251	.791		.727
27	FOREARM-FOREARM BR	.100	.151	.269	.105	.124	.167	.715	.727	
28	HIP BREADTH(STAND)	.300	.341	.480	.313	.204	.400	.625	.630	.569
29	HIP BREADTH (SIT)	.260	.316	.453	.279	.216	.371	.659	.663	.627
30	ELBOW BRDTH (BONE)	.436	.297	.415	.392	.351	.432	.427	.356	.330
31	KNEE BREADTH(BONE)	.429	.287	.419	.429	.310	.433	.403	.330	.334
32	CHEST DEPTH	.143	.223	.352	.154	.176	.203	.621	.697	.650
33	NECK CIRCUMFERENCE	.162	.150	.278	.136	.186	.213	.650	.649	.586
34	SHOULDER CIRCUMFER	.277	.284	.434	.266	.271	.392	.912	.830	.730
35	CHEST CIRCUMFERNCE	.196	.249	.397	.198	.229	.272	.790	.862	.776
36	WAIST CIRCUMFERNCE	.145	.258	.387	.158	.183	.225	.686	.742	.692
37	HIP CIRCUMFERENCE	.238	.319	.477	.258	.226	.343	.714	.741	.672
38	UPPER THIGH CIRCUM	.147	.236	.396	.165	.150	.244	.691	.681	.665
39	LOWER THIGH CIRCUM	.179	.203	.376	.186	.165	.259	.648	.633	.630
40	CALF CIRCUMFERENCE	.186	.155	.334	.180	.127	.265	.627	.602	.582
41	ANKLE CIRCUMFERNCE	.288	.194	.365	.285	.214	.341	.524	.500	.486
42	ARM SCYE CIRCUMFER	.350	.323	.484	.324	.337	.422	.713	.702	.652
43	BICEPS CIR,RELAXED	.104	.163	.301	.077	.128	.159	.698	.700	.707
44	BICEPS CIRC,FLEXED	.146	.163	.307	.108	.145	.188	.707	.687	.685
45	FOREARM CIR,FLEXED	.261	.201	.361	.214	.232	.277	.663	.630	.615

TABLE XIX
THE CORRELATION MATRIX

		19	20	21	22	23	24	25	26	27
46	WRIST CIRCUMFERNCE	.255	.171	.307	.196	.248	.294	.599	.548	.531
47	VERTICAL TRK,STAND	.388	.351	.513	.421	.338	.559	.617	.587	.551
48	VERTICAL TRK C,SIT	.386	.336	.492	.418	.352	.574	.573	.553	.505
49	SHOULDER LENGTH	.306	.223	.252	.279	.199	.341	.314	.163	.030
50	INTERSCYE	.157	.132	.227	.159	.164	.217	.528	.661	.491
51	INTERSCYE MAXIMUM	.211	.210	.313	.195	.203	.308	.666	.702	.577
52	BACK CURVATURE	.195	.221	.346	.198	.248	.249	.730	.780	.653
53	SLEEVE LENGTH	.790	.615	.735	.753	.657	.793	.510	.399	.291
54	SLEEVE INSEAM LGT	.783	.595	.643	.747	.579	.715	.063	-042	-094
55	WAIST FRONT	.248	.255	.332	.223	.262	.398	.433	.417	.393
56	WAIST BACK	.392	.303	.406	.363	.326	.527	.333	.306	.264
57	HEAD LENGTH	.267	.184	.244	.253	.223	.247	.237	.213	.161
58	HEAD BREADTH	.047	.040	.069	.023	.040	.097	.253	.269	.232
59	HEAD CIRCUMFERENCE	.239	.176	.240	.226	.170	.252	.321	.294	.222
60	SAGITTAL ARC	.165	.078	.115	.163	.137	.165	.113	.087	.044
61	BITRAGION-CORONAL	.188	.134	.174	.185	.142	.226	.211	.193	.142
62	FACE LENGTH	.277	.185	.240	.252	.234	.271	.182	.121	.097
63	BITRAGION BREADTH	.177	.145	.201	.144	.179	.219	.383	.362	.335
64	INTERPUPILLARY BRD	.198	.157	.189	.162	.147	.150	.169	.143	.086
65	FACE BREADTH	.187	.146	.213	.138	.147	.209	.406	.381	.331
66	HEAD HEIGHT	.118	.073	.112	.136	.096	.162	.100	.112	.083
67	GLABELLA-VERTEX	-117	-134	-138	-113	-130	-081	-037	-033	-067
68	TRAGION TO WALL	.202	.188	.224	.210	.172	.201	.175	.157	.144
69	EX-CANTHUS TO WALL	.269	.219	.279	.251	.234	.240	.239	.217	.179
70	NASAL ROOT TO WALL	.295	.224	.291	.283	.265	.276	.262	.233	.194
71	PRONASALE TO WALL	.397	.311	.396	.383	.359	.378	.305	.264	.236
72	HAND LENGTH	.844	.477	.583	.657	.586	.668	.248	.167	.103
73	PALM LENGTH	.746	.415	.504	.574	.523	.587	.219	.140	.077
74	HAND BREADTH	.479	.277	.387	.391	.351	.430	.328	.284	.248
75	HAND CIRCUMFERENCE	.463	.258	.384	.371	.329	.401	.415	.369	.342
76	FOOT LENGTH	.761	.509	.629	.676	.538	.662	.310	.229	.169
77	INSTEP LENGTH	.686	.490	.599	.619	.518	.594	.302	.236	.169
78	FOOT BREADTH	.315	.211	.312	.312	.231	.338	.323	.296	.246
79	HEEL BREADTH	.204	.179	.273	.198	.103	.209	.347	.344	.294
80	FOOT CIRCUMFERENCE	.405	.278	.416	.387	.321	.417	.456	.401	.382
81	INSTEP CIRCUMFER	.432	.394	.484	.438	.375	.437	.489	.437	.402
82	HEEL-ANKLE CIRCUMF	.602	.421	.567	.560	.404	.582	.474	.403	.350
83	TRICEPS SKINFOLD	.008	.131	.213	.027	.042	.076	.404	.409	.422
84	SUBSCAPULAR SKINFD	-034	.113	.207	-014	.059	.049	.536	.561	.545
85	SUPRAILIAC SKINFLD	.007	.120	.230	.023	.031	.102	.544	.554	.554
86	MEDIAL CALF SKINFD	-002	.124	.191	.025	.088	.057	.333	.315	.368
87	STATURE-REPORTED	.777	.663	.779	.875	.607	.821	.281	.186	.130
88	WEIGHT AS REPORTED	.424	.423	.603	.439	.358	.508	.766	.743	.685

TABLE XIX
THE CORRELATION MATRIX

		28	29	30	31	32	33	34	35	36
1	AGE	.142	.172	.078	.032	.330	.184	.139	.282	.316
2	WEIGHT	.832	.872	.511	.512	.797	.735	.865	.878	.890
3	STATURE	.362	.331	.441	.471	.149	.170	.292	.198	.180
4	CERVICALE HEIGHT	.402	.364	.446	.466	.206	.207	.324	.244	.236
5	SHOULDER HEIGHT	.397	.368	.434	.459	.207	.200	.306	.255	.240
6	WAIST HEIGHT	.337	.289	.390	.413	.177	.140	.253	.193	.171
7	CROTCH HEIGHT	.196	.165	.304	.325	.035	.010	.141	.067	.030
8	KNEECAP HEIGHT	.282	.254	.390	.401	.141	.132	.248	.178	.150
9	CALF HEIGHT	.301	.254	.328	.363	.135	.107	.234	.174	.161
10	SITTING HEIGHT	.403	.373	.394	.431	.154	.223	.296	.195	.214
11	EYE HEIGHT,SITTING	.388	.355	.386	.413	.152	.202	.281	.186	.198
12	MIDSHOULDER HT,SIT	.469	.445	.407	.418	.257	.321	.348	.298	.332
13	TRUNK HEIGHT	.455	.436	.387	.414	.248	.271	.352	.285	.306
14	ELBOW REST HEIGHT	.317	.321	.173	.181	.189	.235	.188	.215	.263
15	THIGH CLEARANCE	.715	.721	.369	.340	.680	.631	.716	.728	.775
16	KNEE HEIGHT,SITING	.344	.319	.443	.450	.230	.219	.331	.272	.238
17	POPLITEAL HEIGHT	.030	-006	.271	.328	-096	-067	.020	-072	-133
18	SHOULDER-ELBOW LTH	.281	.241	.355	.374	.158	.135	.256	.193	.156
19	ELBOW-FINGERTIP L	.300	.260	.436	.429	.143	.162	.277	.196	.145
20	BUTTOCK-POPLITEAL L	.341	.316	.297	.287	.223	.150	.284	.249	.258
21	BUTTOCK-KNEE LNGTH	.480	.453	.415	.419	.352	.278	.434	.397	.387
22	BUTTOCK-HEEL LNGTH	.313	.279	.392	.429	.154	.136	.266	.198	.158
23	FUNCTIONAL REACH	.204	.216	.351	.310	.176	.186	.271	.229	.183
24	VERTICAL REACH-SIT	.400	.371	.432	.433	.203	.213	.392	.272	.225
25	SHOULDER BREADTH	.625	.659	.427	.403	.621	.650	.912	.790	.686
26	CHEST BREADTH	.630	.663	.356	.330	.697	.649	.830	.862	.742
27	FOREARM-FOREARM BR	.569	.627	.330	.334	.650	.586	.730	.776	.692
28	HIP BREADTH(STAND)		.891	.429	.454	.641	.516	.687	.706	.769
29	HIP BREADTH (SIT)	.891		.394	.429	.691	.561	.723	.765	.840
30	ELBOW BRDTH (BONE)	.429	.394		.513	.347	.395	.453	.406	.353
31	KNEE BREADTH(BONE)	.454	.429	.513		.313	.307	.409	.368	.334
32	CHEST DEPTH	.641	.691	.347	.313		.637	.733	.872	.806
33	NECK CIRCUMFERENCE	.516	.561	.395	.307	.637		.722	.726	.633
34	SHOULDER CIRCUMFER	.687	.723	.453	.409	.733	.722		.883	.778
35	CHEST CIRCUMFERNCE	.706	.763	.406	.368	.872	.726	.883		.865
36	WAIST CIRCUMFERNCE	.769	.840	.353	.334	.806	.683	.778	.865	
37	HIP CIRCUMFERENCE	.889	.913	.434	.442	.757	.681	.802	.831	.889
38	UPPER THIGH CIRCUM	.807	.858	.385	.374	.739	.667	.780	.803	.856
39	LOWER THIGH CIRCUM	.759	.801	.427	.480	.701	.666	.733	.760	.792
40	CALF CIRCUMFERENCE	.687	.714	.399	.450	.635	.605	.699	.686	.686
41	ANKLE CIRCUMFERNCE	.597	.626	.451	.535	.517	.546	.587	.581	.567
42	ARM SCYE CIRCUMFER	.648	.675	.485	.437	.709	.690	.773	.783	.732
43	BICEPS CIR,RELAXED	.674	.719	.421	.346	.737	.729	.782	.808	.787
44	BICEPS CIRC,FLEXED	.645	.690	.439	.361	.706	.736	.786	.784	.723
45	FOREARM CIR,FLEXED	.580	.606	.501	.412	.642	.755	.755	.731	.663

TABLE XIX
THE CORRELATION MATRIX

		28	29	30	31	32	33	34	35	36
46	WRIST CIRCUMFERENCE	.512	.548	.507	.489	.570	.636	.651	.632	.600
47	VERTICAL TRK,STAND	.701	.730	.478	.473	.626	.621	.687	.692	.706
48	VERTICAL TRK C,SIT	.684	.698	.481	.474	.601	.568	.663	.658	.668
49	SHOULDER LENGTH	.139	.131	.172	.183	.019	.050	.300	.117	.073
50	INTERSCYE	.376	.388	.284	.259	.462	.459	.655	.588	.447
51	INTERSCYE MAXIMUM	.525	.541	.387	.324	.583	.571	.703	.700	.586
52	BACK CURVATURE	.555	.598	.377	.347	.690	.642	.781	.809	.682
53	SLEEVE LENGTH	.419	.392	.452	.451	.310	.298	.524	.409	.306
54	SLEEVE INSEAM LGT	.125	.085	.224	.249	-053	-044	.082	-024	-058
55	WAIST FRONT	.528	.559	.353	.326	.479	.402	.489	.503	.576
56	WAIST BACK	.451	.459	.259	.350	.375	.333	.365	.363	.402
57	HEAD LENGTH	.180	.208	.209	.238	.199	.280	.240	.229	.186
58	HEAD BREADTH	.200	.223	.151	.167	.212	.330	.255	.269	.222
59	HEAD CIRCUMFERENCE	.234	.268	.219	.244	.235	.366	.318	.272	.235
60	SAGITTAL ARC	.050	.063	.101	.141	.032	.145	.105	.073	.035
61	BITRAGION-CORONAL	.163	.179	.127	.194	.133	.262	.212	.176	.151
62	FACE LENGTH	.132	.156	.167	.199	.090	.143	.164	.133	.087
63	BITRAGION BREADTH	.333	.344	.311	.285	.347	.442	.393	.408	.377
64	INTERPUPILLARY BRD	.133	.137	.166	.129	.117	.171	.165	.144	.117
65	FACE BREADTH	.355	.384	.299	.289	.346	.464	.414	.421	.381
66	HEAD HEIGHT	.105	.130	.092	.140	.067	.150	.107	.106	.090
67	GLABELLA-VERTEX	-084	-065	.008	-018	-141	-044	-059	-088	-090
68	TRAGION TO WALL	.143	.159	.123	.136	.214	.204	.190	.201	.169
69	EX-CANTHUS TO WALL	.183	.204	.228	.216	.262	.276	.251	.262	.220
70	NASAL ROOT TO WALL	.205	.221	.200	.248	.256	.319	.274	.271	.224
71	PRONASALE TO WALL	.278	.263	.259	.310	.317	.348	.322	.321	.278
72	HAND LENGTH	.254	.214	.396	.416	.126	.201	.250	.183	.131
73	PALM LENGTH	.207	.162	.340	.378	.121	.167	.217	.162	.115
74	HAND BREADTH	.300	.285	.476	.433	.280	.378	.351	.333	.236
75	HAND CIRCUMFERENCE	.378	.364	.534	.493	.360	.441	.440	.418	.327
76	FOOT LENGTH	.345	.314	.466	.498	.232	.261	.321	.275	.217
77	INSTEP LENGTH	.334	.311	.438	.456	.252	.264	.320	.291	.237
78	FOOT BREADTH	.318	.305	.279	.377	.223	.293	.340	.297	.252
79	HEEL BREADTH	.383	.403	.229	.321	.375	.309	.368	.390	.398
80	FOOT CIRCUMFERENCE	.462	.467	.421	.494	.388	.467	.474	.454	.400
81	INSTEP CIRCUMFER	.496	.501	.470	.529	.471	.487	.530	.526	.489
82	HEEL-ANKLE CIRCUMF	.527	.522	.512	.589	.406	.427	.501	.466	.430
83	TRICEPS SKINFOLD	.580	.636	.160	.171	.476	.368	.462	.509	.638
84	SUBSCAPULAR SKINFD	.555	.638	.187	.175	.656	.547	.622	.686	.773
85	SUPRAILIAC SKINFLD	.644	.701	.220	.217	.615	.497	.609	.649	.781
86	MEDIAL CALF SKINFD	.516	.591	.152	.169	.411	.297	.394	.440	.569
87	STATURE-REPORTED	.349	.311	.422	.457	.159	.161	.287	.204	.179
88	WEIGHT AS REPORTED	.810	.840	.530	.519	.771	.705	.844	.847	.848

TABLE XIX
THE CORRELATION MATRIX

		37	38	39	40	41	42	43	44	45
1	AGE	.181	.092	.099	.032	.021	.248	.195	.157	.143
2	WEIGHT	.931	.893	.865	.809	.721	.835	.829	.808	.780
3	STATURE	.303	.192	.227	.209	.332	.367	.104	.134	.238
4	CERVICALE HEIGHT	.340	.234	.260	.239	.354	.409	.145	.170	.271
5	SHOULDER HEIGHT	.341	.232	.257	.228	.346	.430	.146	.160	.263
6	WAIST HEIGHT	.261	.175	.190	.183	.285	.329	.079	.106	.209
7	CROTCH HEIGHT	.107	.032	.048	.061	.159	.184	-046	-006	.090
8	KNEECAP HEIGHT	.224	.147	.167	.175	.277	.297	.056	.087	.201
9	CALF HEIGHT	.240	.182	.182	.160	.199	.254	.091	.120	.201
10	SITTING HEIGHT	.351	.245	.283	.266	.371	.361	.172	.191	.254
11	EYE HEIGHT,SITTING	.330	.227	.267	.244	.342	.344	.159	.181	.238
12	MIDSHOULDER HT,SIT	.437	.342	.360	.325	.415	.477	.278	.276	.340
13	TRUNK HEIGHT	.427	.333	.358	.324	.396	.405	.275	.277	.310
14	ELBOW REST HEIGHT	.318	.281	.291	.257	.287	.278	.273	.237	.221
15	THIGH CLEARANCE	.833	.883	.811	.729	.594	.683	.777	.751	.690
16	KNEE HEIGHT,SITING	.322	.236	.271	.241	.358	.403	.164	.186	.305
17	POPLITEAL HEIGHT	-057	-146	-124	-077	.070	.082	-197	-145	-019
18	SHOULDER-ELBOW LTH	.224	.120	.134	.129	.223	.388	.052	.074	.192
19	ELBOW-FINGERTIP L	.238	.147	.179	.186	.288	.350	.104	.146	.261
20	BUTTOCK-POPLIT L L	.319	.236	.203	.165	.194	.323	.163	.163	.201
21	BUTTOCK-KNEE LNGTH	.477	.396	.376	.334	.365	.484	.301	.307	.361
22	BUTTOCK-HEEL LNGTH	.258	.165	.186	.180	.285	.324	.077	.108	.214
23	FUNCTIONAL REACH	.226	.150	.165	.127	.214	.337	.128	.145	.232
24	VERTICAL REACH-SIT	.343	.244	.259	.265	.341	.422	.159	.188	.277
25	SHOULDER BREADTH	.714	.691	.648	.627	.524	.713	.698	.707	.663
26	CHEST BREADTH	.711	.681	.633	.602	.500	.702	.700	.687	.630
27	FOREARM-FOREARM BR	.672	.665	.630	.582	.486	.652	.707	.685	.615
28	HIP BREADTH(STAND)	.869	.807	.759	.687	.597	.698	.674	.645	.580
29	HIP BREADTH (SIT)	.913	.858	.801	.714	.626	.673	.719	.680	.606
30	ELBOW BRDTH (BONE)	.434	.385	.427	.399	.451	.485	.421	.439	.501
31	KNEE BREADTH(BONE)	.442	.374	.480	.450	.535	.437	.346	.361	.412
32	CHEST DEPTH	.757	.739	.701	.635	.517	.709	.757	.700	.642
33	NECK CIRCUMFERENCE	.681	.667	.666	.605	.546	.690	.724	.736	.755
34	SHOULDER CIRCUMFER	.802	.780	.793	.699	.587	.773	.782	786	.755
35	CHEST CIRCUMFERNCE	.831	.803	.760	.686	.581	.783	.808	.784	.731
36	WAIST CIRCUMFERNCE	.889	.856	.792	.686	.567	.732	.787	.729	.663
37	HIP CIRCUMFERENCE		.934	.879	.780	.681	.746	.814	.778	.730
38	UPPER THIGH CIRCUM	.934		.898	.804	.662	.706	.842	.810	.736
39	LOWER THIGH CIRCUM	.879	.898		.825	.738	.669	.799	.774	.746
40	CALF CIRCUMFERENCE	.780	.804	.825		.804	.633	.735	.727	.714
41	ANKLE CIRCUMFERNCE	.681	.662	.738	.804		.580	.605	.598	.636
42	ARM SCYE CIRCUMFER	.746	.706	.669	.633	.580		.790	.764	.747
43	BICEPS CIR,RELAXED	.814	.842	.799	.735	.605	.790		.963	.836
44	BICEPS CIRC,FLEXED	.778	.810	.774	.727	.598	.764	.963		.863
45	FOREARM CIR,FLEXED	.730	.736	.746	.714	.636	.747	.836	.863	

TABLE XIX
THE CORRELATION MATRIX

		37	38	39	40	41	42	43	44	45
46	WRIST CIRCUMFERENCE	.646	.604	.660	.625	.698	.725	.700	.686	.742
47	VERTICAL TRK,STAND	.790	.717	.706	.615	.615	.743	.653	.631	.643
48	VERTICAL TRK C,SIT	.752	.569	.648	.577	.586	.727	.605	.577	.598
49	SHOULDER LENGTH	.115	.081	.085	.144	.147	.042	.020	.071	.091
50	INTERSCYE	.437	.423	.388	.412	.351	.451	.426	.403	.442
51	INTERSCYE MAXIMUM	.577	.550	.512	.491	.427	.629	.572	.571	.557
52	BACK CURVATURE	.670	.649	.614	.572	.487	.657	.669	.586	.624
53	SLEEVE LENGTH	.380	.295	.294	.317	.358	.511	.252	.262	.368
54	SLEEVE INSEAM LGT	.034	-.041	-.010	-.007	.075	.071	-.159	-.101	.022
55	WAIST FRONT	.576	.499	.495	.414	.385	.533	.489	.461	.431
56	WAIST BACK	.421	.340	.351	.311	.359	.471	.304	.295	.334
57	HEAD LENGTH	.225	.175	.207	.213	.232	.261	.177	.188	.233
58	HEAD BREADTH	.228	.225	.239	.206	.207	.265	.248	.245	.247
59	HEAD CIRCUMFERENCE	.284	.259	.283	.264	.284	.316	.251	.255	.284
60	SAGITTAL ARC	.079	.058	.081	.089	.150	.111	.041	.046	.088
61	BITRAGION-CORONAL	.185	.168	.197	.184	.215	.191	.144	.146	.180
62	FACE LENGTH	.139	.096	.114	.123	.176	.196	.077	.091	.160
63	BITRAGION BREADTH	.380	.351	.366	.308	.329	.452	.386	.372	.380
64	INTERPUPILLARY LRD	.142	.125	.122	.125	.145	.169	.113	.114	.151
65	FACE BREADTH	.404	.366	.384	.334	.353	.428	.351	.390	.393
66	HEAD HEIGHT	.123	.095	.126	.113	.168	.095	.076	.071	.078
67	GLABELLA-VERTEX	-.076	-.059	-.055	-.011	.006	-.091	-.069	-.069	-.074
68	TRAGION TO WALL	.189	.162	.185	.158	.165	.233	.175	.177	.230
69	EX-CANTHUS TO WALL	.248	.210	.243	.222	.237	.305	.215	.219	.282
70	NASAL ROOT TO WALL	.259	.212	.249	.249	.265	.305	.215	.226	.278
71	PRONASALE TO WALL	.318	.253	.295	.267	.301	.382	.249	.254	.327
72	HAND LENGTH	.221	.132	.179	.184	.295	.337	.128	.168	.293
73	PALM LENGTH	.187	.116	.166	.176	.262	.297	.112	.150	.251
74	HAND BREADTH	.339	.277	.330	.362	.476	.454	.339	.379	.504
75	HAND CIRCUMFERENCE	.411	.359	.411	.431	.521	.521	.430	.475	.574
76	FOOT LENGTH	.315	.226	.275	.293	.443	.385	.191	.220	.338
77	INSTEP LENGTH	.325	.241	.285	.292	.427	.389	.217	.239	.345
78	FOOT BREADTH	.337	.251	.351	.380	.434	.339	.286	.306	.335
79	HEEL BREADTH	.413	.383	.428	.368	.397	.362	.344	.334	.346
80	FOOT CIRCUMFERENCE	.517	.464	.518	.544	.622	.522	.444	.461	.528
81	INSTEP CIRCUMFER	.580	.533	.590	.595	.654	.573	.501	.509	.587
82	HEEL-ANKLE CIRCUMF	.527	.452	.513	.529	.665	.524	.400	.423	.510
83	TRICEPS SKINFOLD	.640	.664	.611	.468	.370	.426	.583	.508	.382
84	SUBSCAPULAR SKINFD	.703	.694	.624	.509	.388	.560	.652	.588	.496
85	SUPRAILIAC SKINFLD	.736	.779	.681	.572	.425	.527	.662	.606	.504
86	MEDIAL CALF SKINFD	.381	.617	.595	.450	.390	.333	.497	.433	.328
87	STATURE-REPORTED	.288	.188	.217	.203	.318	.357	.105	.133	.224
88	WEIGHT AS REPORTED	.699	.653	.832	.780	.710	.816	.794	.775	.755

TABLE XIX
THE CORRELATION MATRIX

		46	47	48	49	50	51	52	53	54
1	AGE	.091	.224	.212	-091	.092	.222	.166	.061	-106
2	WEIGHT	.709	.830	.794	.174	.504	.647	.728	.530	.137
3	STATURE	.264	.559	.572	.318	.174	.247	.200	.756	.711
4	CERVICALE HEIGHT	.289	.581	.591	.305	.200	.279	.222	.768	.705
5	SHOULDER HEIGHT	.281	.603	.610	.214	.198	.279	.216	.743	.692
6	WAIST HEIGHT	.199	.428	.427	.259	.157	.216	.169	.746	.743
7	CROTCH HEIGHT	.039	.259	.250	.269	.068	.109	.072	.692	.777
8	KNEECAP HEIGHT	.170	.381	.372	.286	.158	.208	.169	.723	.730
9	CALF HEIGHT	.124	.323	.321	.222	.142	.147	.166	.608	.611
10	SITTING HEIGHT	.341	.644	.695	.271	.206	.280	.211	.498	.381
11	EYE HEIGHT,SITTING	.316	.628	.678	.268	.192	.276	.199	.484	.375
12	MIDSHOULDER HT,SIT	.408	.739	.785	.167	.220	.335	.264	.472	.327
13	TRUNK HEIGHT	.372	.686	.728	.212	.216	.310	.263	.434	.276
14	ELBOW REST HEIGHT	.298	.531	.575	-092	.139	.235	.180	-071	-215
15	THIGH CLEARANCE	.575	.661	.618	.076	.385	.506	.584	.287	-046
16	KNEE HEIGHT,SITING	.296	.464	.461	.265	.192	.237	.254	.762	.702
17	POPLITEAL HEIGHT	-004	.161	.170	.255	.024	.021	-013	.647	.755
18	SHOULDER-ELBOW LTH	.209	.309	.402	.191	.116	.200	.156	.802	.781
19	ELBOW-FINGERTIP L	.255	.388	.386	.306	.157	.211	.195	.790	.783
20	BUTTOCK-POPLITEAL L	.171	.351	.336	.223	.132	.210	.221	.615	.595
21	BUTTOCK-KNEE LNGTH	.307	.613	.492	.252	.227	.313	.346	.735	.643
22	BUTTOCK-HEEL LNGTH	.196	.421	.418	.279	.159	.195	.198	.753	.747
23	FUNCTIONAL REACH	.248	.338	.352	.199	.164	.203	.248	.657	.579
24	VERTICAL REACH-SIT	.294	.559	.574	.341	.217	.308	.249	.793	.715
25	SHOULDER BREADTH	.599	.617	.573	.314	.628	.666	.730	.510	.063
26	CHEST BREADTH	.048	.587	.553	.163	.661	.702	.780	.399	-042
27	FOREARM-FOREARM BR	.531	.551	.505	.030	.491	.577	.653	.291	-094
28	HIP BREADTH(STAND)	.512	.701	.684	.139	.376	.525	.556	.410	.125
29	HIP BREADTH (SIT)	.548	.730	.698	.131	.388	.541	.598	.392	.085
30	ELBOW BRDTH (BONE)	.507	.478	.481	.172	.284	.387	.377	.452	.224
31	KNEE BREADTH(BONE)	.459	.473	.474	.183	.259	.324	.347	.451	.249
32	CHEST DEPTH	.570	.626	.601	.019	.462	.583	.690	.310	-053
33	NECK CIRCUMFERENCE	.636	.621	.568	.050	.459	.571	.642	.298	-044
34	SHOULDER CIRCUMFER	.651	.682	.643	.300	.655	.703	.781	.524	.082
35	CHEST CIRCUMFERNCE	.632	.692	.658	.117	.588	.700	.809	.409	-024
36	WAIST CIRCUMFERNCE	.600	.706	.668	.073	.447	.586	.682	.305	-058
37	HIP CIRCUMFERENCE	.646	.790	.752	.115	.437	.577	.670	.320	.034
38	UPPER THIGH CIRCUM	.606	.717	.669	.081	.423	.550	.648	.295	-041
39	LOWER THIGH CIRCUM	.660	.706	.648	.085	.388	.512	.614	.294	-010
40	CALF CIRCUMFERENCE	.625	.615	.577	.144	.412	.491	.572	.317	-007
41	ANKLE CIRCUMFERNCE	.698	.615	.586	.147	.351	.427	.487	.358	.075
42	ARM SCYE CIRCUMFER	.725	.743	.727	.042	.451	.629	.657	.511	.051
43	BICEPS CIR,RELAXED	.700	.653	.605	.020	.426	.572	.668	.252	-159
44	BICEPS CIRC,FLEXED	.688	.631	.577	.071	.443	.571	.662	.292	-101
45	FOREARM CIR,FLEXED	.742	.643	.598	.091	.442	.557	.624	.368	.022

TABLE XIX
THE CORRELATION MATRIX

		46	47	48	49	50	51	52	53	54
46	WRIST CIRCUMFERNCE		.638	.626	.074	.412	.506	.551	.356	-049
47	VERTICAL TRK,STAND	.638		.927	.144	.370	.563	.549	.485	.175
48	VERTICAL TRK C,SIT	.626	.927		.145	.378	.551	.539	.490	.162
49	SHOULDER LENGTH	.074	.144	.145		.238	.175	.153	.413	.333
50	INTERSCYE	.412	.370	.378	.238		.659	.726	.346	.010
51	INTERSCYE MAXIMUM	.506	.563	.55.	.175	.659		.675	.420	.047
52	BACK CURVATURE	.551	.549	.539	.153	.726	.675		.377	-013
53	SLEEVE LENGTH	.356	.485	.490	.413	.346	.420	.377		.706
54	SLEEVE INSEAM LGT	-049	.175	.162	.333	.010	.047	-013	.706	
55	WAIST FRONT	.464	.700	.696	.124	.211	.390	.365	.315	.073
56	WAIST BACK	.400	.650	.669	.158	.286	.372	.304	.433	.228
57	HEAD LENGTH	.234	.260	.260	.080	.171	.170	.225	.288	.152
58	HEAD BREADTH	.216	.222	.193	.008	.133	.210	.207	.113	-041
59	HEAD CIRCUMFERENCE	.256	.307	.2:2	.065	.181	.228	.266	.270	.117
60	SAGITTAL ARC	.101	.138	.142	.039	.094	.071	.110	.159	.103
61	BITRAGION-CORONAL	.151	.201	.193	.060	.118	.138	.174	.196	.097
62	FACE LENGTH	.155	.204	.164	.136	.134	.202	.152	.259	.227
63	BITRAGION BREADTH	.417	.393	.382	.008	.223	.338	.332	.247	-004
64	INTERPUPILLARY BRD	.134	.146	.106	.069	.092	.125	.128	.191	.131
65	FACE BREADTH	.391	.396	.365	.084	.230	.347	.345	.261	.047
66	HEAD HEIGHT	.104	.147	.153	.025	.096	.074	.102	.123	.055
67	GLABELLA-VERTEX	-058	-075	-072	-007	.008	-045	-069	-099	-117
68	TRAGION TO WALL	.205	.224	.232	.045	.126	.131	.172	.218	.126
69	EX-CANTHUS TO WALL	.27.	.279	.275	.055	.166	.178	.234	.278	.132
70	NASAL ROOT TO WALL	.281	.289	.291	.063	.172	.192	.253	.310	.165
71	PRONASALE TO WALL	.328	.376	.384	.108	.195	.249	.302	.404	.256
72	HAND LENGTH	.305	.357	.362	.252	.144	.205	.190	.627	.574
73	PALM LENGTH	.2?1	.312	.318	.242	.123	.175	.161	.557	.510
74	HAND BREADTH	.533	.414	.411	.152	.221	.324	.298	.444	.255
75	HAND CIRCUMFERENCE	.609	.460	.452	.168	.285	.379	.384	.462	.222
76	FOOT LENGTH	.346	.445	.448	.269	.182	.272	.247	.629	.529
77	INSTEP LENGTH	.351	.423	.426	.227	.190	.270	.258	.585	.472
78	FOOT BREADTH	.350	.364	.348	.200	.203	.261	.282	.330	.169
79	HEEL BREADTH	.349	.366	.336	.121	.213	.282	.301	.239	.072
80	FOOT CIRCUMFERENCE	.554	.535	.509	.168	.282	.367	.394	.421	.190
81	INSTEP CIRCUMFER	.610	.587	.569	.166	.291	.379	.431	.461	.209
82	HEEL-ANKLE CIRCUMF	.528	.579	.550	.256	.302	.402	.405	.589	.407
83	TRICEPS SKINFOLD	.353	.453	.419	-028	.152	.282	.353	.092	-107
84	SUBSCAPULAR SKINFD	.471	.514	.474	-023	.302	.394	.536	.116	-189
85	SUPRAILIAC SKINFLD	.418	.518	.488	.011	.310	.400	.501	.144	-124
86	MEDIAL CALF SKINFD	.319	.395	.368	-015	.117	.226	.318	.067	-076
87	STATURE-REPORTED	.258	.522	.540	.295	.186	.237	.210	.727	.672
88	WEIGHT AS REPORTED	.692	.820	.788	.200	.504	.633	.708	.557	.180

TABLE XIX
THE CORRELATION MATRIX

		55	56	57	58	59	60	61	62	63
1	AGE	.261	.157	.123	.095	.063	-016	-053	.050	.162
2	WEIGHT	.515	.505	.293	.272	.355	.134	.245	.194	.432
3	STATURE	.427	.560	.286	.065	.265	.215	.242	.274	.183
4	CERVICALE HEIGHT	.422	.620	.263	.077	.250	.181	.220	.268	.210
5	SHOULDER HEIGHT	.418	.562	.260	.081	.255	.174	.213	.268	.218
6	WAIST HEIGHT	.268	.463	.221	.035	.202	.137	.165	.236	.159
7	CROTCH HEIGHT	.136	.295	.191	.005	.174	.115	.141	.217	.075
8	KNEECAP HEIGHT	.238	.376	.240	.033	.231	.159	.174	.258	.128
9	CALF HEIGHT	.211	.314	.196	.029	.201	.101	.149	.193	.108
10	SITTING HEIGHT	.558	.650	.270	.108	.257	.252	.262	.230	.195
11	EYE HEIGHT,SITTING	.553	.623	.233	.077	.206	.184	.177	.235	.173
12	MIDSHOULDER HT,SIT	.570	.674	.217	.142	.227	.170	.201	.214	.271
13	TRUNK HEIGHT	.654	.598	.225	.109	.226	.181	.176	.159	.204
14	ELBOW REST HEIGHT	.427	.402	.077	.116	.108	.079	.095	.038	.179
15	THIGH CLEARANCE	.456	.318	.168	.194	.241	.050	.138	.103	.331
16	KNEE HEIGHT,SITING	.294	.447	.258	.060	.244	.159	.204	.259	.216
17	POPLITEAL HEIGHT	.067	.275	.170	-033	.130	.131	.128	.222	.036
18	SHOULDER-ELBOW LTH	.239	.416	.226	.057	.195	.143	.163	.269	.183
19	ELBOW-FINGERTIP L	.248	.392	.267	.047	.239	.165	.188	.277	.177
20	BUTTOCK-POPLIT'L L	.255	.303	.184	.040	.176	.078	.134	.185	.145
21	BUTTOCK-KNEE LNGTH	.332	.406	.244	.069	.240	.115	.174	.240	.201
22	BUTTOCK-HEEL LNGTH	.223	.363	.253	.023	.226	.163	.185	.252	.144
23	FUNCTIONAL REACH	.242	.326	.223	.040	.170	.137	.142	.234	.179
24	VERTICAL REACH-SIT	.398	.527	.247	.097	.252	.165	.226	.271	.219
25	SHOULDER BREADTH	.433	.333	.237	.253	.321	.113	.211	.162	.383
26	CHEST BREADTH	.417	.306	.213	.269	.294	.087	.193	.121	.362
27	FOREARM-FOREARM CR	.393	.264	.161	.232	.222	.044	.142	.097	.335
28	HIP BREADTH(STAND)	.528	.451	.180	.200	.234	.050	.163	.132	.333
29	HIP BREADTH (SIT)	.559	.409	.208	.223	.268	.068	.179	.156	.344
30	ELBOW BRDTH (BONE)	.353	.359	.209	.131	.219	.101	.127	.167	.311
31	KNEE BREADTH(BONE)	.326	.350	.238	.167	.244	.141	.194	.199	.285
32	CHEST DEPTH	.479	.375	.199	.212	.235	.032	.133	.090	.347
33	NECK CIRCUMFERENCE	.402	.333	.280	.330	.366	.145	.262	.143	.442
34	SHOULDER CIRCUMFER	.489	.365	.240	.255	.318	.105	.212	.164	.393
35	CHEST CIRCUMFERNCE	.503	.363	.229	.269	.292	.073	.176	.133	.406
36	WAIST CIRCUMFERNCE	.576	.402	.186	.222	.235	.035	.151	.087	.377
37	HIP CIRCUMFERENCE	.576	.421	.225	.228	.284	.079	.185	.139	.380
38	UPPER THIGH CIRCUM	.499	.340	.175	.225	.259	.058	.168	.096	.351
39	LOWER THIGH CIRCUM	.495	.355	.207	.239	.283	.081	.197	.114	.366
40	CALF CIRCUMFERENCE	.414	.311	.213	.206	.264	.089	.184	.123	.308
41	ANKLE CIRCUMFERNCE	.385	.355	.232	.207	.284	.150	.215	.176	.329
42	ARM SCYE CIRCUMFER	.534	.471	.261	.255	.316	.111	.191	.196	.452
43	BICEPS CIR.RELAXED	.489	.306	.177	.248	.251	.041	.144	.077	.386
44	BICEPS CIRC.FLEXED	.461	.295	.188	.245	.255	.046	.146	.091	.372
45	FOREARM CIR,FLEXED	.431	.334	.233	.248	.284	.088	.160	.160	.380

TABLE XIX
THE CORRELATION MATRIX

		55	56	57	58	59	60	61	62	63
46	WRIST CIRCUMFERNCE	.464	.400	.234	.216	.256	.101	.151	.155	.417
47	VERTICAL TRK,STAND	.700	.630	.260	.223	.307	.138	.201	.204	.393
48	VERTICAL TRK C,SIT	.696	.669	.260	.193	.292	.142	.193	.184	.382
49	SHOULDER LENGTH	.124	.158	.080	.008	.065	.039	.060	.136	.008
50	INTERSCYE	.211	.286	.171	.133	.181	.094	.118	.134	.223
51	INTERSCYE MAXIMUM	.390	.372	.170	.210	.228	.071	.138	.202	.338
52	BACK CURVATURE	.365	.304	.225	.207	.266	.110	.174	.152	.332
53	SLEEVE LENGTH	.315	.433	.288	.113	.270	.159	.196	.259	.247
54	SLEEVE INSEAM LGT	.073	.225	.152	-041	.117	.103	.097	.227	-004
55	WAIST FRONT		.602	.199	.149	.213	.079	.134	.117	.268
56	WAIST BACK	.602		.164	.149	.172	.093	.194	.170	.287
57	HEAD LENGTH	.199	.164		.066	.694	.605	.276	.211	.145
58	HEAD BREADTH	.149	.149	.066		.443	.159	.516	.108	.610
59	HEAD CIRCUMFERENCE	.213	.172	.694	.443		.563	.529	.201	.320
60	SAGITTAL ARC	.079	.093	.605	.159	.563		.489	.128	.107
61	BITRAGION-CORONAL	.134	.194	.276	.516	.529	.489		.198	.252
62	FACE LENGTH	.117	.170	.211	.108	.201	.128	.198		.112
63	BITRAGION BREADTH	.268	.287	.145	.610	.320	.107	.252	.112	
64	INTERPUPILLARY BRD	.082	.095	.186	.229	.252	.119	.222	.085	.273
65	FACE BREADTH	.257	.244	.157	.607	.347	.088	.302	.159	.742
66	HEAD HEIGHT	.113	.162	.280	.286	.350	.449	.704	.173	.132
67	GLABELLA-VERTEX	-023	-097	.198	.080	.193	.378	.248	-043	.035
68	TRAGION TO WALL	.146	.214	.557	-016	.404	.364	.140	.149	.062
69	EX-CANTHUS TO WALL	.202	.231	.743	.064	.563	.441	.219	.231	.196
70	NASAL ROOT TO WALL	.097	.186	.877	.026	.641	.547	.277	.242	.138
71	PRONASALE TO WALL	.246	.310	.721	.044	.532	.414	.241	.287	.196
72	HAND LENGTH	.238	.361	.261	.064	.222	.162	.191	.258	.189
73	PALM LENGTH	.205	.321	.206	.052	.175	.112	.161	.209	.179
74	HAND BREADTH	.225	.295	.267	.166	.249	.162	.164	.205	.286
75	HAND CIRCUMFERENCE	.267	.312	.274	.186	.257	.192	.163	.212	.303
76	FOOT LENGTH	.300	.425	.279	.121	.249	.184	.215	.289	.258
77	INSTEP LENGTH	.283	.306	.248	.121	.225	.152	.199	.275	.24
78	FOOT BREADTH	.233	.243	.197	.071	.204	.139	.165	.143	.13
79	HEEL BREADTH	.262	.191	.176	.151	.216	.060	.126	.111	.217
80	FOOT CIRCUMFERENCE	.344	.358	.282	.203	.311	.180	.239	.202	.309
81	INSTEP CIRCUMFER	.389	.390	.262	.158	.266	.145	.195	.172	.315
82	HEEL-ANKLE CIRCUMF	.386	.425	.327	.176	.330	.216	.244	.296	.287
83	TRICEPS SKINFOLD	.377	.177	.082	.132	.135	.016	.077	-004	.199
84	SUBSCAPULAR SKINFD	.458	.187	.112	.163	.176	.034	.103	.011	.265
85	SUPRAILIAC SKINFLD	.407	.219	.068	.137	.144	.019	.104	.012	.235
86	MEDIAL CALF SKINFD	.341	.130	.065	.093	.124	.027	.060	-011	.154
87	STATURE-REPORTED	.387	.537	.255	.056	.232	.187	.216	.260	.188
88	WEIGHT AS REPORTED	.608	.514	.301	.248	.357	.137	.253	.214	.409

TABLE XIX
THE CORRELATION MATRIX

		64	65	66	67	68	69	70	71	72
1	AGE	.063	.152	-034	-105	.129	.145	.114	.166	.049
2	WEIGHT	.182	.450	.155	-080	.243	.317	.333	.402	.339
3	STATURE	.148	.179	.212	-044	.211	.264	.297	.396	.661
4	CERVICALE HEIGHT	.159	.200	.176	-096	.227	.270	.290	.403	.664
5	SHOULDER HEIGHT	.154	.205	.166	-102	.216	.266	.291	.403	.651
6	WAIST HEIGHT	.150	.147	.108	-123	.184	.229	.254	.359	.648
7	CROTCH HEIGHT	.144	.095	.088	-102	.153	.191	.205	.289	.609
8	KNEECAP HEIGHT	.147	.142	.113	-090	.191	.244	.260	.340	.638
9	CALF HEIGHT	.126	.138	.075	-104	.159	.216	.218	.288	.570
10	SITTING HEIGHT	.082	.201	.272	.067	.166	.204	.252	.318	.442
11	EYE HEIGHT,SITTING	.060	.187	.174	-020	.146	.170	.214	.298	.421
12	MIDSHOULDER HT,SIT	.104	.274	.177	-048	.166	.199	.230	.325	.420
13	TRUNK HEIGHT	.051	.209	.187	.018	.128	.164	.208	.270	.360
14	ELBOW REST HEIGHT	-000	.161	.128	.039	.044	.043	.065	.091	-001
15	THIGH CLEARANCE	.116	.352	.051	-062	.158	.207	.214	.249	.144
16	KNEE HEIGHT,SITTING	.166	.183	.145	-120	.235	.296	.298	.410	.691
17	POPLITEAL HEIGHT	.109	.027	.084	-092	.134	.166	.189	.272	.612
18	SHOULDER-ELBOW LTH	.168	.179	.097	-110	.183	.234	.257	.367	.602
19	ELBOW-FINGERTIP L	.198	.187	.118	-117	.202	.269	.295	.397	.844
20	BUTTOCK-POPLITEAL L	.157	.146	.073	-134	.188	.219	.224	.311	.477
21	BUTTOCK-KNEE LNGTH	.189	.213	.112	-138	.224	.279	.291	.396	.583
22	BUTTOCK-HEEL LNGTH	.162	.138	.136	-113	.210	.261	.283	.383	.657
23	FUNCTIONAL REACH	.147	.147	.096	-130	.172	.234	.265	.359	.586
24	VERTICAL REACH-SIT	.150	.209	.162	-081	.201	.240	.276	.378	.668
25	SHOULDER BREADTH	.169	.406	.100	-037	.175	.239	.262	.305	.248
26	CHEST BREADTH	.143	.381	112	-033	.157	.217	.253	.264	.187
27	FOREARM-FOREARM BR	.086	.331	.083	-067	.144	.179	.194	.236	.103
28	HIP BREADTH(STAND)	.133	.355	.105	-084	.143	.183	.205	.278	.254
29	HIP BREADTH (SIT)	.137	.384	.130	-065	.159	.204	.221	.280	.214
30	ELBOW BREADTH (BONE)	.166	.299	.092	.008	.123	.228	.200	.259	.396
31	KNEE BREADTH(BONE)	.129	.289	.140	-018	.136	.216	.248	.310	.416
32	CHEST DEPTH	.117	.346	.067	-141	.214	.262	.256	.317	.126
33	NECK CIRCUMFERENCE	.171	.464	.150	-044	.204	.276	.319	.348	.201
34	SHOULDER CIRCUMFER	.165	.414	.107	-059	.190	.251	.274	.329	.250
35	CHEST CIRCUMFERNCE	.144	.421	.106	-088	.201	.262	.271	.321	.183
36	WAIST CIRCUMFERNCE	.117	.381	.090	-090	.169	.220	.224	.278	.131
37	HIP CIRCUMFERENCE	.142	.404	.123	-076	.189	.248	.259	.318	.221
38	UPPER THIGH CIRCUM	.125	.366	.095	-059	.162	.210	.212	.253	.132
39	LOWER THIGH CIRCUM	.122	.384	.126	-055	.185	.243	.249	.295	.179
40	CALF CIRCUMFERENCE	.125	.334	.113	-011	.158	.222	.245	.267	.184
41	ANKLE CIRCUMFERNCE	.145	.353	.168	.006	.165	.237	.265	.301	.295
42	ARM SCYE CIRCUMFER	.169	.428	.095	-091	.235	.305	.305	.382	.337
43	BICEPS CIR,RELAXED	.113	.391	.076	-069	.175	.216	.215	.249	.128
44	BICEPS CIRC,FLEXED	.114	.390	.071	-069	.177	.219	.226	.253	.168
45	FOREARM CIR,FLEXED	.151	.393	.076	-074	.230	.282	.278	.327	.293

TABLE XIX
THE CORRELATION MATRIX

		64	65	66	67	68	69	70	71	72
46	WRIST CIRCUMFERNCE	.134	.391	.104	-056	.205	.276	.281	.328	.305
47	VERTICAL TRK,STAND	.146	.396	.147	-075	.224	.279	.289	.376	.357
48	VERTICAL TRK C,SIT	.106	.365	.153	-072	.232	.275	.291	.384	.362
49	SHOULDER LENGTH	.069	.084	.025	-007	.045	.055	.069	.108	.252
50	INTERSCYE	.092	.230	.096	.008	.126	.166	.172	.195	.144
51	INTERSCYE MAXIMUM	.125	.347	.074	-045	.131	.178	.192	.249	.205
52	BACK CURVATURE	.128	.345	.102	-069	.172	.234	.253	.302	.190
53	SLEEVE LENGTH	.191	.261	.123	-099	.218	.278	.310	.404	.627
54	SLEEVE INSEAM LGT	.131	.047	.055	-117	.126	.132	.165	.256	.574
55	WAIST FRONT	.082	.257	.118	-023	.146	.202	.197	.246	.238
56	WAIST BACK	.095	.244	.162	-097	.214	.231	.186	.310	.361
57	HEAD LENGTH	.186	.157	.280	.198	.557	.743	.877	.721	.261
58	HEAD BREADTH	.229	.607	.286	.080	-016	.064	.026	.044	.064
59	HEAD CIRCUMFERENCE	.252	.347	.350	.193	.404	.563	.641	.532	.222
60	SAGITTAL ARC	.119	.088	.449	.378	.364	.441	.547	.414	.162
61	BITRAGION-CORONAL	.222	.309	.704	.248	.140	.219	.277	.241	.191
62	FACE LENGTH	.085	.159	.173	-043	.149	.231	.242	.287	.258
63	BITRAGION BREADTH	.273	.742	.132	.035	.062	.196	.138	.196	.189
64	INTERPUPILLARY BRD		.375	.133	.037	.039	.175	.145	.118	.189
65	FACE BREADTH	.275		.155	-004	.008	.174	.129	.171	.195
66	HEAD HEIGHT	.133	.155		.424	.099	.186	.230	.154	.125
67	GLABELLA-VERTEX	.037	-004	.424		-100	.076	.059	-199	-103
68	TRAGION TO WALL	.039	.008	.099	-100		.780	.634	.659	.197
69	EX-CANTHUS TO WALL	.175	.174	.186	.076	.780		.771	.725	.257
70	NASAL ROOT TO WALL	.145	.129	.230	.059	.634	.771		.837	.295
71	PRONASALE TO WALL	.118	.171	.154	-199	.659	.725	.837		.386
72	HAND LENGTH	.189	.195	.125	-103	.197	.257	.295	.386	
73	PALM LENGTH	.186	.188	.100	-120	.155	.207	.245	.338	.859
74	HAND BREADTH	.188	.291	.131	-005	.192	.291	.268	.312	.527
75	HAND CIRCUMFERENCE	.162	.333	.135	-009	.188	.287	.277	.318	.511
76	FOOT LENGTH	.207	.254	.163	-057	.195	.284	.309	.394	.764
77	INSTEP LENGTH	.194	.234	.143	-067	.198	.267	.290	.365	.676
78	FOOT BREADTH	.087	.156	.101	-092	.155	.140	.244	.281	.349
79	HEEL BREADTH	.174	.259	.026	-071	.129	.153	.203	.222	.180
80	FOOT CIRCUMFERENCE	.174	.300	.148	-050	.213	.264	.319	.364	.449
81	INSTEP CIRCUMFER	.157	.311	.103	-090	.220	.289	.323	.333	.465
82	HEEL-ANKLE CIRCUMF	.203	.331	.185	-015	.217	.304	.354	.400	.572
83	TRICEPS SKINFOLD	.063	.226	.067	-018	.076	.097	.084	.105	-018
84	SUBSCAPULAR SKINFD	.075	.277	.064	-044	.115	.138	.144	.150	-035
85	SUPRAILIAC SKINFLD	.047	.269	.067	-030	.055	.079	.095	.106	-024
86	MEDIAL CALF SKINFD	.010	.155	.053	-023	.081	.086	.072	.089	-031
87	STATURE-REPORTED	.142	.174	.184	-052	.195	.246	.271	.378	.636
88	WEIGHT AS REPORTED	.191	.432	.160	-077	.248	.321	.343	.407	.370

TABLE XIX
THE CORRELATION MATRIX

		73	74	75	76	77	78	79	80	81
1	AGE	.016	.108	.128	.046	.082	-051	.159	.057	.066
2	WEIGHT	.298	.423	.510	.432	.426	.395	.449	.582	.651
3	STATURE	.585	.411	.392	.695	.632	.336	.200	.420	.451
4	CERVICALE HEIGHT	.586	.420	.403	.701	.644	.334	.218	.432	.474
5	SHOULDER HEIGHT	.575	.414	.395	.683	.625	.326	.213	.420	.466
6	WAIST HEIGHT	.574	.383	.356	.677	.621	.286	.200	.370	.419
7	CROTCH HEIGHT	.538	.316	.289	.609	.546	.243	.142	.284	.308
8	KNEECAP HEIGHT	.576	.381	.354	.653	.598	.269	.216	.362	.414
9	CALF HEIGHT	.520	.308	.323	.570	.516	.247	.193	.315	.385
10	SITTING HEIGHT	.388	.331	.339	.497	.434	.314	.182	.375	.377
11	EYE HEIGHT,SITTING	.374	.316	.327	.472	.406	.308	.172	.350	.353
12	MIDSHOULDER HT,SIT	.362	.349	.369	.462	.402	.324	.210	.402	.420
13	TRUNK HEIGHT	.308	.295	.323	.408	.351	.302	.215	.370	.386
14	ELBOW REST HEIGHT	-018	.105	.142	.054	.021	.161	.131	.191	.174
15	THIGH CLEARANCE	.127	.286	.357	.219	.232	.284	.374	.436	.498
16	KNEE HEIGHT,SITING	.612	.448	.420	.713	.667	.327	.227	.453	.514
17	POPLITEAL HEIGHT	.540	.293	.249	.603	.536	.204	.061	.237	.247
18	SHOULDER-ELBOW LTH	.536	.369	.343	.594	.556	.229	.143	.322	.374
19	ELBOW-FINGERTIP L	.746	.479	.463	.761	.686	.315	.204	.405	.432
20	BUTTOCK-POPLITEL L	.415	.277	.258	.509	.490	.211	.179	.278	.334
21	BUTTOCK-KNEE LNGTH	.504	.387	.384	.629	.599	.312	.273	.416	.484
22	BUTTOCK-HEEL LNGTH	.574	.391	.371	.676	.619	.312	.198	.387	.438
23	FUNCTIONAL REACH	.523	.351	.329	.538	.518	.231	.103	.321	.375
24	VERTICAL REACH-SIT	.587	.420	.401	.662	.594	.338	.209	.417	.437
25	SHOULDER BREADTH	.219	.328	.415	.310	.302	.323	.347	.456	.489
26	CHEST BREADTH	.146	.284	.369	.229	.236	.296	.344	.401	.437
27	FOREARM-FOREARM BR	.077	.248	.342	.169	.169	.246	.294	.382	.402
28	HIP BREADTH(STAND)	.207	.300	.378	.345	.334	.318	.383	.462	.496
29	HIP BREADTH (SIT)	.182	.285	.364	.314	.311	.305	.403	.467	.501
30	ELBOW BRDTH (BONE)	.340	.476	.534	.466	.438	.279	.229	.421	.470
31	KNEE BREADTH(BONE)	.378	.433	.493	.498	.456	.377	.321	.494	.529
32	CHEST DEPTH	.121	.280	.360	.232	.252	.229	.375	.388	.471
33	NECK CIRCUMFERENCE	.167	.378	.441	.261	.264	.293	.309	.467	.487
34	SHOULDER CIRCUMFER	.217	.351	.440	.321	.320	.340	.368	.474	.530
35	CHEST CIRCUMFERNCE	.162	.333	.418	.275	.291	.297	.390	.454	.526
36	WAIST CIRCUMFERNCE	.115	.236	.327	.217	.237	.252	.398	.400	.489
37	HIP CIRCUMFERENCE	.187	.339	.411	.315	.325	.337	.413	.517	.580
38	UPPER THIGH CIRCUM	.116	.277	.359	.226	.241	.291	.383	.464	.533
39	LOWER THIGH CIRCUM	.166	.330	.411	.275	.285	.351	.428	.518	.596
40	CALF CIRCUMFERENCE	.176	.362	.431	.293	.292	.380	.388	.544	.595
41	ANKLE CIRCUMFERNCE	.262	.470	.521	.442	.427	.434	.397	.622	.654
42	ARM SCYE CIRCUMFER	.297	.454	.521	.385	.389	.339	.362	.522	.573
43	BICEPS CIR,RELAXED	.112	.339	.430	.191	.217	.286	.344	.444	.501
44	BICEPS CIRC,FLEXED	.150	.379	.475	.220	.239	.306	.334	.461	.509
45	FOREARM CIR,FLEXED	.261	.504	.574	.338	.345	.335	.346	.528	.587

TABLE XIX
THE CORRELATION MATRIX

		73	74	75	76	77	78	79	80	81
46	WRIST CIRCUMFERNCE	.271	533	.609	.346	.351	.350	.349	.554	.610
47	VERTICAL TRK,STAND	.312	.414	.460	.445	.423	.364	.366	.535	.587
48	VERTICAL TRK C,SIT	.318	.411	.452	.448	.426	.348	.336	.509	.569
49	SHOULDER LENGTH	.242	.152	.168	.269	.227	.200	.121	.168	.166
50	INTERSCYE	.123	.221	.285	.182	.190	.203	.213	.282	.291
51	INTERSCYE MAXIMUM	.175	.324	.379	.272	.270	.261	.282	.367	.379
52	BACK CURVATURE	.161	.298	.384	.247	.258	.282	.301	.394	.421
53	SLEEVE LENGTH	.557	.444	.462	.629	.585	.330	.239	.421	.461
54	SLEEVE INSEAM LGT	.510	.255	.222	.529	.472	.169	.072	.190	.209
55	WAIST FRONT	.205	.225	.267	.300	.283	.233	.262	.344	.389
56	WAIST BACK	.321	.295	.312	.425	.406	.243	.191	.358	.390
57	HEAD LENGTH	.206	.267	.274	.279	.248	.197	.176	.282	.262
58	HEAD BREADTH	.052	.166	.186	.121	.121	.071	.151	.203	.158
59	HEAD CIRCUMFERENCE	.175	.249	.257	.249	.225	.204	.216	.311	.266
60	SAGITTAL ARC	.112	.162	.152	.184	.152	.139	.060	.180	.145
61	BITRAGION-CORONAL	.161	.164	.163	.215	.199	.165	.126	.239	.195
62	FACE LENGTH	.209	.206	.212	.289	.275	.143	.111	.202	.172
63	BITRAGION BREADTH	.179	.286	.303	.256	.247	.138	.217	.309	.315
64	INTERPUPILLARY BRD	.186	.188	.162	.207	.194	.087	.174	.174	.157
65	FACE BREADTH	.188	.291	.333	.254	.234	.156	.259	.300	.311
66	HEAD HEIGHT	.100	.131	.135	.163	.143	.101	.026	.148	.103
67	GLABELLA-VERTEX	-120	-095	-009	-057	-067	-092	-071	-050	-090
68	TRACION TO WALL	.155	.192	.188	.195	.198	.155	.129	.213	.220
69	EX-CANTHUS TO WALL	.207	.291	.287	.284	.267	.140	.153	.264	.289
70	NASAL ROOT TO WALL	.245	.268	.277	.309	.290	.244	.203	.319	.323
71	PRONASALE TO WALL	.338	.312	.318	.394	.365	.261	.222	.364	.383
72	HAND LENGTH	.859	.527	.511	.764	.676	.349	.180	.449	.465
73	PALM LENGTH		.439	.418	.675	.607	.295	.168	.378	.430	
74	HAND BREADTH	.439		.837	.532	.507	.380	.233	.579	.527
75	HAND CIRCUMFERENCE	.418	.837		.518	.472	.400	.287	.597	.574
76	FOOT LENGTH	.675	.532	.518		.917	.325	.207	.517	.542
77	INSTEP LENGTH	.607	.507	.472	.917		.216	.199	.455	.517
78	FOOT BREADTH	.295	.380	.400	.325	.216		.253	.692	.477
79	HEEL BREADTH	.168	.233	.287	.207	.199	.253		.414	.379
80	FOOT CIRCUMFERENCE	.378	.579	.597	.517	.455	.692	.414		.689
81	INSTEP CIRCUMFER	.430	.527	.574	.542	.517	.477	.379	.689	
82	HEEL-ANKLE CIRCUMF	.499	.565	.612	.716	.670	.461	.435	.659	.687
83	TRICEPS SKINFOLD	-031	.063	.110	.029	.045	.111	.272	.189	.257
84	SUBSCAPULAR SKINFD	-033	.079	.170	.020	.041	.130	.306	.236	.315
85	SUPRAILIAC SKINFLD	-009	.060	.152	.046	.060	.133	.319	.224	.295
86	MEDIAL CALF SKINFD	-012	.019	.078	.026	.046	.094	.253	.162	.255
87	STATURE-REPORTED	.565	.394	.376	.680	.617	.325	.182	.398	.445
88	WEIGHT AS REPORTED	.333	.435	.520	.464	.456	.400	.443	.584	.654

TABLE XIX
THE CORRELATION MATRIX

		82	83	84	85	86	87	88
1	AGE	.091	.111	.230	.064	.017	-037	.171
2	WEIGHT	.632	.575	.676	.691	.517	.427	.965
3	STATURE	.596	.054	-000	.051	.054	.943	.486
4	CERVICALE HEIGHT	.611	.084	.035	.091	-068	.931	.522
5	SHOULDER HEIGHT	.599	.096	.047	.096	.089	.914	.519
6	WAIST HEIGHT	.568	.044	-024	.071	.014	.866	.443
7	CROTCH HEIGHT	.482	-037	-105	-061	-037	.814	.301
8	KNEECAP HEIGHT	.580	.012	-017	.034	.018	.821	.414
9	CALF HEIGHT	.484	.072	.019	.078	.084	.706	.385
10	SITTING HEIGHT	.487	.127	.080	.136	.108	.724	.459
11	EYE HEIGHT,SITTING	.461	.112	.066	.106	.096	.701	.437
12	MIDSHOULDER HT,SIT	.488	.200	.182	.219	.162	.647	.531
13	TRUNK HEIGHT	.460	.211	.201	.225	.177	.611	.501
14	ELBOW REST HEIGHT	.167	.231	.227	.241	.191	.159	.303
15	THIGH CLEARANCE	.434	.605	.630	.697	.530	.190	.797
16	KNEE HEIGHT,SITING	.618	.065	.052	.074	.076	.851	.497
17	POPLITEAL HEIGHT	.427	-202	-241	-223	-195	.779	.143
18	SHOULDER-ELBOW LTH	.489	.002	-017	.011	-018	.731	.384
19	ELBOW-FINGERTIP L	.602	.006	-034	.007	-002	.777	.424
20	BUTTOCK-POPLIT'L L	.421	.131	.112	.120	.124	.663	.423
21	BUTTOCK-KNEE LNGTH	.567	.213	.207	.230	.191	.779	.603
22	BUTTOCK-HEEL LNGTH	.560	.027	-014	.023	.025	.875	.439
23	FUNCTIONAL REACH	.404	.042	.069	.031	.088	.607	.358
24	VERTICAL REACH-SIT	.582	.076	.049	.102	.05[illegible]	.821	.508
25	SHOULDER BREADTH	.474	.404	.536	.544	.333	.281	.766
26	CHEST BREADTH	.403	.409	.561	.554	.315	.186	.743
27	FOREARM-FOREARM BR	.350	.422	.545	.554	.368	.130	.685
28	HIP BREADTH(STAND)	.527	.580	.555	.644	.516	.349	.810
29	HIP BREADTH (SIT)	.522	.636	.638	.701	.591	.311	.840
30	ELBOW BRDTH (BONE)	.512	.160	.187	.220	.152	.422	.520
31	KNEE BREADTH&BONE=	.589	.173	.175	.217	.159	.457	.519
32	CHEST DEPTH	.408	.476	.656	.615	.411	.159	.771
33	NECK CIRCUMFERENCE	.427	.368	.547	.497	.297	.161	.705
34	SHOULDER CIRCUMFER	.501	.462	.622	.609	.394	.287	.844
35	CHEST CIRCUMFERNCE	.466	.509	.686	.649	.440	.204	.847
36	WAIST CIRCUMFERNCE	.430	.638	.773	.781	.569	.179	.848
37	HIP CIRCUMFERENCE	.527	.640	.703	.736	.581	.288	.899
38	UPPER THIGH CIRCUM	.452	.664	.694	.779	.617	.188	.853
39	LOWER THIGH CIRCUM	.518	.611	.626	.681	.595	.217	.832
40	CALF CIRCUMFERENCE	.529	.463	.509	.572	.450	.203	.780
41	ANKLE CIRCUMFERNCE	.665	.370	.388	.425	.390	.318	.710
42	ARM SCYE CIRCUMFER	.524	.426	.560	.527	.233	.357	.816
43	BICEPS CIR,RELAXED	.400	.583	.652	.662	.497	.105	.794
44	BICEPS CIRC,FLEXED	.423	.508	.588	.606	.433	.133	.775
45	FOREARM CIR,FLEXED	.510	.382	.496	.504	.328	.226	.755

TABLE XIX
THE CORRELATION MATRIX

		82	83	84	85	86	87	88
46	WRIST CIRCUMFERNCE	.528	.353	.471	.418	.319	.258	.692
47	VERTICAL TRK,STAND	.579	.453	.514	.518	.335	.522	.820
48	VERTICAL TRK C,SIT	.550	.419	.474	.488	.368	.540	.788
49	SHOULDER LENGTH	.256	-028	-023	.011	-015	.295	.200
50	INTERSCYE	.302	.152	.302	.310	.117	.186	.504
51	INTERSCYE MAXIMUM	.402	.282	.394	.400	.226	.237	.633
52	BACK CURVATURE	.405	.353	.536	.501	.318	.210	.708
53	SLEEVE LENGTH	.589	.092	.116	.144	.067	.727	.557
54	SLEEVE INSEAM LGT	.407	-107	-189	-124	-076	.672	.180
55	WAIST FRONT	.386	.377	.458	.407	.341	.387	.606
56	WAIST BACK	.425	.177	.187	.219	.130	.537	.514
57	HEAD LENGTH	.327	.082	.112	.068	.065	.255	.301
58	HEAD BREADTH	.176	.132	.163	.137	.093	.056	.248
59	HEAD CIRCUMFERENCE	.330	.135	.178	.144	.124	.232	.357
60	SAGITTAL ARC	.216	.016	.034	.019	.027	.187	.137
61	BITRAGION-CORONAL	.244	.077	.103	.104	.060	.216	.253
62	FACE LENGTH	.296	-004	.011	.012	-011	.260	.214
63	BITRAGION BREADTH	.287	.199	.265	.235	.154	.188	.409
64	INTERPUPILLARY BRD	.203	.063	.075	.047	.010	.142	.191
65	HEAD BREADTH	.331	.226	.277	.269	.155	.174	.432
66	HEAD HEIGHT	.185	.067	.064	.067	.053	.184	.160
67	GLABELLA-VERTEX	-015	.018	-044	-030	-023	-052	-077
68	TRAGION TO WALL	.217	.076	.115	.055	.081	.193	.248
69	EX-CANTHUS TO WALL	.204	.097	.138	.079	.086	.246	.321
70	NASAL ROOT TO WALL	.254	.084	.144	.095	.072	.271	.343
71	PRONASALE TO WALL	.400	.105	.150	.106	.089	.378	.407
72	HAND LENGTH	.572	-018	-035	-024	-031	.636	.370
73	PALM LENGTH	.499	-031	-033	-009	-012	.565	.335
74	HAND BREADTH	.565	.063	.079	.060	.019	.394	.435
75	HAND CIRCUMFERENCE	.612	.110	.170	.152	.078	.376	.520
76	FOOT LENGTH	.716	.029	.020	.046	.026	.680	.464
77	INSTEP LENGTH	.670	.045	.041	.060	.046	.617	.456
78	FOOT BREADTH	.461	.111	.130	.133	.094	.325	.400
79	HEEL BREADTH	.435	.272	.306	.319	.253	.182	.443
80	FOOT CIRCUMFERENCE	.659	.189	.236	.224	.162	.398	.584
81	INSTEP CIRCUMFER	.687	.257	.315	.295	.255	.445	.654
82	HEEL-ANKLE CIRCUMF		.210	.223	.243	.195	.573	.646
83	TRICEPS SKINFOLD	.210		.672	.703	.708	.051	.540
84	SUBSCAPULAR SKINFD	.223	.672		.754	.582	.007	.635
85	SUPRAILIAC SKINFLD	.243	.703	.754		.610	.047	.652
86	MEDIAL CALF SKINFD	.195	.708	.582	.610		.068	.486
87	STATURE-REPORTED	.573	.051	.007	.047	.048		.470
88	WEIGHT AS REPORTED	.646	.540	.635	.652	.486	.470	

Chapter IX

COMPARATIVE ANTHROPOMETRIC DATA

U.S. Army Aviators - 1970 and 1959

For the past ten years, the standard reference for body size information on U.S. Army aviators has been White's 1961 report on the anthropometry of Army aviators (Technical Report EP-150). This now will be superseded by the publication of the present report. For this reason, it will be of interest to compare the 1959 anthropometric data on Army aviators with the present 1970 data.

The series measured in 1959 consisted of 500 Army aviators, including 141 (28 percent) warrant officers and 359 (72 percent) commissioned officers; all were rated Army aviators, since no enlisted aircrew or flight trainees were measured at that time. The 1970 series consisted of 1482 men, including 388 (26 percent) enlisted aircrewmen, 259 (17 percent) warrant officer candidate flight trainees, 186 (13 percent) commissioned flight trainees, 410 (28 percent) warrant officers, and 234 (16 percent) commissioned officers. (Five civilian instructors also were measured in the total series of 1482 men.) This series thus was composed of 26 percent enlisted aircrew, 30 percent flight trainees, and 44 percent rated pilots; or 26 percent enlisted aircrew, 17 percent warrant officer candidates, 28 percent warrant officers, and 29 percent commissioned officers. The 1970 series, then, provides a more representative sampling of the various segments making up the U.S. Army aviation population.

The mean age of the 1959 series was 30.25 years, and the standard deviation was 4.58 years. Mean age of the 1970 series was 26.21 years, with a standard deviation of 5.51 years. The average age of the 1970 series thus was about four years younger, primarily due to the inclusion of the generally younger group of warrant officer candidates.

Forty-four body measurements were taken in 1959, while in 1970, 85 measurements were taken; 36 measurements were taken in both surveys and thus are available as a basis of comparison. Statistical values for the 36 measurements taken in both 1970 and 1959 are shown in Table XX, while percentile values for the same measurements are given in Table XXI.

Army aviators measured in 1970 had a mean weight of 171.15 pounds, while mean weight of the 1959 series was 165.77 pounds, giving a difference of 5.38 pounds. However, the 1959

aviators were about three-quarters of an inch taller; mean stature was 69.50 inches in 1959 and 68.72 inches in 1970.

Critical design dimensions such as sitting height and eye height, sitting are slightly higher for the 1970 aviators. Body breadths and circumferences are higher for the 1970 series, as a reflection of the higher body weight. A slightly different but more accurate technique was utilized in measuring the buttock-heel dimension in 1970, accounting for the difference in value from 1959. The marked difference in the values for sleeve length also is due to a change in the method of measuring. In 1959, the right arm was merely positioned at an angle from the body, while in 1970, both fists were pressed together in front of the body, giving a more accurate measurement of the sleeve length dimension. Detailed comparisons of either statistical or percentile data for all of the body measurements may be made by reference to Tables XX and XXI.

In summary, the series of U.S. Army aviators of 1970 are four years younger, about five pounds heavier, and three-quarters of an inch shorter than the aviators measured in 1959. The higher body weight of 1970 aviators is reflected in larger body breadths and greater body circumferences. The 1970 series of aviators is more representative of the Army aviation population both in number and in the groups sampled than in 1959. The anthropometric data of the 1970 survey are more accurate and reliable, due to better measuring techniques and computer editing procedures.

Warrant Officer Trainees - 1970 and 1968

The results of a survey of 1640 Army warrant officer candidate flight trainees measured at Fort Rucker were published by Schane, Littell, and Moultrie in 1969 (USAARL Report No. 69-2). Nine anthropometric measurements were made on these men. Since a sample of 258 warrant officer candidate flight trainees was included in the 1970 anthropometric survey, a comparison of these two sources of data may be made. Statistical values for the nine measurements taken on trainees in 1970 and in 1968 are given in Table XXII, while percentile values for the same measurements are shown in Table XXIII.

The warrant officer trainees of 1970 had a mean age of 23.62 years and a standard deviation of 3.41 years, while the 1968 trainees were slightly younger, with a mean age of 22.00 years and a standard deviation of 2.20 years. The mean body weight of the 1970 trainees was 166.06 pounds, while the 1968 trainees were two pounds lighter, with a mean weight of 164 pounds.

The warrant officer trainees of 1968 had higher mean values for stature, functional reach, sitting height, sitting

eye height, and buttock-knee length, as shown in Table XXII. The percentile values of these measurements also were higher for the 1968 group, as indicated in Table XXIII. The mean value for the buttock-heel length measurement is higher for the 1970 trainees, due to the fact that this measurement was taken diagonally from the hip to the floor in 1970, rather than with the leg extended on the sitting surface as in 1968. The measurement of shoulder breadth was similar for the two groups, while hip breadth, sitting was higher for the 1970 warrant officer trainees.

U.S. Army Aviators - 1970 and U.S. Army - 1966

Recent anthropometric data on a series of 6682 U.S. Army men have been presented and discussed in a new report by White and Churchill (Technical Report 72-51-CE). This report also includes some of the present data on U.S. Army aviators, permitting a general comparison of the body size of Army aviators with that of Air Force and Navy flyers.

In the utilization and application of anthropometric data both in the area of human engineering as well as in clothing and personal equipment, it is important to compare the body size data on Army aviators with that of the Army in general. Consequently, statistical values for seven selected body measurements on Army aviators and on the large Army series are given in Table XXIV, while percentile values for the same measurements are shown in Table XXV.

The Army aviators of 1970 are about four years older than the Army series of 1966; mean age of the aviators is 26.21 years, while the Army series had a mean age of 22.17 years. The stature of the two series is the same; mean stature for the aviators is 68.72 inches and mean stature for the Army is 68.71 inches. The outstanding difference between the Army aviators and the series representing the rest of the Army is indicated by the data on body weight. The aviators have a mean weight of 171.15 pounds, while the mean weight of the Army series is 159.10 pounds; thus the aviators are twelve pounds heavier on the average. This marked difference in body weight is in turn reflected in the differences in body breadths and circumferences which are correlated with body weight. The mean shoulder breadth of aviators is .50 inches greater, and the mean hip breadth, sitting is 1.43 inches greater than the Army series. In chest circumference, the mean value for aviators is 38.75 inches, while the Army value is 36.92 inches, so that the aviators are 1.83 inches larger in chest girth. The mean waist circumference of the aviators is 34.30 inches, while the Army value is 31.61 inches; thus the aviators are 2.69 inches larger in waist girth than the rest of the Army.

The percentile values for these selected measurements, given in Table XXV, show similar comparisons. In stature, as well as in sitting height, the aviators are similar to the Army. However, in weight, shoulder and hip broadths, and chest and waist circumferences, the percentile values for the aviators are markedly higher than those for the Army series.

U.S. Army Aviation Standards for Height and Weight

Physical standards of height, weight, and body build for military service are published in Army Regulations: Medical Services - Standards of Medical Fitness (AR 40-501). The current standards applicable for selection of personnel for Army aviator training are shown in Change 24, AR 40-501, Appendix III, dated 10 November 1969. Table III in this Change gives the acceptable weights as related to age and height for Army aviation.

With a few minor exceptions, personnel being considered for selection for Army aviator training must not be below 64 inches or above 76 inches in height. (In 1968, maximum acceptable height for appointment in the Army or for enlistment or induction in the Army and Air Force was raised from 78 inches to 80 inches.) Minimum acceptable weight for Army aviation (regardless of age) is 105 pounds for 64 inches in height up to 147 pounds for 76 inches in height. Maximum acceptable weight is scaled by both height and age, so that the overall range for Army aviation varies from 159 pounds at 64 inches in the 16-20 year age bracket up to 212 pounds at 76 inches for men 41 years of age or over. Prior to the 1969 change, maximum acceptable weight for Army aviation was 200 pounds.

The data from the present survey of Army aviators show 1st and 99th percentile values for stature of 63.2 and 74.9 inches, with minimum and maximum values of 59.9 and 77.7 inches for stature. The 1st and 99th percentile values for weight are 122 and 230 pounds, while minimum and maximum values for weight are 104 and 281 pounds. Direct comparison of these data with the minimum and maximum acceptable standards for Army aviation discussed above is complicated by the fact that the present series of Army aviators included enlisted aircrewmen as well as rated pilots. Data are not available as yet to make a direct comparison between the minimum and maximum values of height and weight for enlisted aircrewmen with the comparable values for rated pilots. However, the data do show that the enlisted aircrewmen have higher standard deviations for height and weight than any of the other groups of either flight trainees or rated pilots.

TABLE XX

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	Age (years)									
	Aviators (1970)	1482	26.21	0.14	5.51	0.10	21.02	17.0	58.0	41.0
	Aviators (1959)	500	30.25	0.20	4.58	0.14	15.14	20.0	47.0	27.0
1	Weight (pounds)									
	Aviators (1970)	1482	171.15	0.62	23.84	0.44	13.93	104	281	177
	Aviators (1959)	500	165.77	0.85	18.90	0.60	11.40	110	229	119
	STANDING MEASUREMENTS									
2	Stature									
	Aviators (1970)	1482	68.72	0.06	2.49	0.05	3.63	59.9	77.7	17.8
	Aviators (1959)	500	69.50	0.10	2.25	0.07	3.24	62.7	76.0	13.3
3	Waist Height									
	Aviators (1970)	1482	41.75	0.05	1.99	0.04	4.76	35.1	48.9	13.8
	Aviators (1959)	500	41.66	0.08	1.79	0.06	4.30	36.3	48.0	11.7
4	Crotch Height									
	Aviators (1970)	1482	32.25	0.05	1.75	0.03	5.43	26.9	39.5	12.6
	Aviators (1959)	500	31.69	0.07	1.64	0.05	5.18	26.0	37.0	11.0
5	Kneecap Height									
	Aviators (1970)	1482	20.16	0.03	1.07	0.02	5.29	16.9	24.5	7.6
	Aviators (1959)	500	20.85	0.05	1.12	0.04	5.37	16.5	24.3	7.8

TABLE XX (continued)

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	SITTING MEASUREMENTS									
6	Vert. Arm Reach, Sitting									
	Aviators (1970)	1482	56.49	0.06	2.29	0.04	4.05	48.9	64.3	15.4
	Aviators (1959)	500	54.05	0.09	2.05	0.06	3.79	48.1	59.8	11.7
7	Sitting Height									
	Aviators (1970)	1482	35.80	0.03	1.27	0.02	3.56	31.0	40.1	9.1
	Aviators (1959)	500	35.61	0.06	1.27	0.04	3.57	31.5	40.1	8.6
8	Eye Height, Sitting									
	Aviators (1970)	1482	31.02	0.03	1.25	0.02	4.02	26.5	35.1	8.6
	Aviators (1959)	500	30.90	0.06	1.28	0.04	4.14	27.6	36.2	8.6
9	Shoulder-Elbow Length									
	Aviators (1970)	1482	14.45	0.02	0.70	0.01	4.85	12.5	16.8	4.3
	Aviators (1959)	500	14.99	0.03	0.70	0.02	4.67	12.2	17.3	5.1
10	Elbow-Fingertip Length									
	Aviators (1970)	1482	18.95	0.02	0.83	0.02	4.37	16.6	22.3	5.7
	Aviators (1959)	500	19.03	0.04	0.86	0.03	4.52	14.2	22.0	7.8
11	Buttock-Knee Length									
	Aviators (1970)	1482	23.70	0.03	1.04	0.02	4.37	20.8	27.5	6.7
	Aviators (1959)	500	23.82	0.05	1.08	0.03	4.53	20.5	28.3	7.8
12	Buttock-Heel Length									
	Aviators (1970)	1482	44.16	0.05	1.96	0.04	4.45	37.5	51.3	13.8
	Aviators (1959)	500	44.92	0.07	1.64	0.05	3.65	39.4	48.8	9.4

TABLE XX (continued)

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	BREADTH MEASUREMENTS									
13	Chest Depth									
	Aviators (1970)	1482	9.47	0.02	0.69	0.02	9.35	7.0	13.5	6.5
	Aviators (1959)	500	9.01	0.04	0.79	0.02	8.77	6.7	12.6	5.9
14	Shoulder Breadth									
	Aviators (1970)	1482	18.66	0.03	1.01	0.02	5.39	15.6	23.1	7.5
	Aviators (1959)	500	18.27	0.04	0.88	0.03	4.82	15.0	22.0	7.0
15	Hip Breadth, Sitting									
	Aviators (1970)	1482	14.88	0.03	1.07	0.02	7.19	12.1	19.2	7.1
	Aviators (1959)	500	14.19	0.04	0.87	0.03	6.13	11.8	17.3	5.5
	CIRCUMFERENCE AND SURFACE MEASUREMENTS									
16	Neck Circumference									
	Aviators (1970)	1482	14.87	0.02	0.79	0.01	5.31	12.5	17.7	5.2
	Aviators (1959)	500	15.11	0.03	0.76	0.02	5.03	12.6	17.7	5.1
17	Shoulder Circumference									
	Aviators (1970)	1482	45.80	0.06	2.45	0.05	5.35	39.1	58.0	18.9
	Aviators (1959)	500	45.41	0.10	2.24	0.07	4.93	39.4	53.5	14.1
18	Chest Circumference									
	Aviators (1970)	1482	38.75	0.07	2.71	0.05	6.98	31.4	53.2	21.8
	Aviators (1959)	500	37.72	0.09	2.07	0.07	5.49	32.3	43.2	10.9

TABLE XX (continued)

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	CIRCUMFERENCES (cont.)									
19	Waist Circumference									
	Aviators (1970)	1482	34.30	0.09	3.39	0.06	9.89	25.9	47.7	21.8
	Aviators (1959)	500	32.70	0.11	2.49	0.08	7.61	26.0	40.1	14.1
20	Hip Circumference									
	Aviators (1970)	1482	38.50	0.07	2.55	0.05	6.63	31.6	49.7	18.1
	Aviators (1959)	500	38.18	0.09	2.06	0.07	5.40	31.5	45.6	14.1
21	Waist Back Length									
	Aviators (1970)	1482	18.38	0.03	1.20	0.02	6.44	15.5	21.6	6.1
	Aviators (1959)	500	18.17	0.05	1.17	0.04	6.44	14.2	22.0	7.8
22	Sleeve Length									
	Aviators (1970)	1482	34.89	0.04	1.45	0.03	4.17	30.6	39.7	9.1
	Aviators (1959)	500	31.32	0.08	1.69	0.05	5.40	24.4	37.7	13.3
	HEAD AND FACE MEASUREMENTS									
23	Head Circumference									
	Aviators (1970)	1482	22.17	0.02	0.61	0.01	2.74	20.30	24.23	3.93
	Aviators (1959)	500	22.49	0.03	0.54	0.02	2.40	20.87	23.62	2.75
24	Sagittal Arc									
	Aviators (1970)	1482	14.13	0.01	0.57	0.01	4.02	12.26	16.12	3.86
	Aviators (1959)	500	13.78	0.02	0.52	0.02	3.77	11.93	15.43	3.50
25	Bitragion-Coronal Arc									
	Aviators (1970)	1482	13.98	0.01	0.48	0.01	3.45	12.11	15.65	3.54
	Aviators (1959)	500	13.91	0.02	0.45	0.01	3.24	12.32	15.24	2.92

TABLE XX (continued)

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	HEAD AND FACE MEASUREMENTS (continued)									
26	Head Length									
	Aviators (1970)	1482	7.76	0.01	0.26	0.00	3.39	6.67	8.56	1.89
	Aviators (1959)	500	7.77	0.01	0.27	0.01	3.47	6.81	8.74	1.93
37	Head Breadth									
	Aviators (1970)	1482	6.01	0.01	0.21	0.00	3.54	5.26	6.79	1.53
	Aviators (1959)	500	6.12	0.01	0.21	0.01	3.43	5.43	7.17	1.74
28	Head Height									
	Aviators (1970)	1482	5.23	0.01	0.23	0.00	4.35	4.35	6.04	1.69
	Aviators (1959)	500	4.99	0.01	0.25	0.01	5.01	4.06	6.13	2.12
29	Face Length									
	Aviators (1970)	1482	4.46	0.01	0.26	0.00	5.91	3.68	5.41	1.73
	Aviators (1959)	500	4.67	0.01	0.24	0.01	5.14	4.09	5.47	1.38
30	Face Breadth									
	Aviators (1970)	1482	5.46	0.01	0.21	0.00	3.80	4.78	6.16	1.38
	Aviators (1959)	500	5.57	0.01	0.20	0.01	3.59	4.96	6.26	1.30

TABLE XX (concluded)

STATISTICAL VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Value in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	HAND MEASUREMENTS									
31	Hand Length									
	Aviators (1970)	1482	7.56	0.01	0.34	0.01	4.55	6.40	8.84	2.44
	Aviators (1959)	500	7.47	0.02	0.34	0.01	4.55	6.42	8.54	2.12
32	Hand Breadth									
	Aviators (1970)	1482	3.48	0.00	0.16	0.00	4.71	3.01	4.07	1.06
	Aviators (1959)	500	3.48	0.01	0.16	0.00	4.60	2.99	3.98	0.99
33	Hand Circumference									
	Aviators (1970)	1482	8.34	0.01	0.39	0.01	4.70	7.18	9.55	2.37
	Aviators (1959)	500	8.45	0.02	0.38	0.01	4.50	7.40	9.72	2.32
	FOOT MEASUREMENTS									
34	Foot Length									
	Aviators (1970)	1432	10.43	0.01	0.50	0.01	4.78	8.44	12.15	3.71
	Aviators (1959)	500	10.66	0.02	0.49	0.02	4.60	8.58	12.28	3.70
35	Ball of Foot Breadth									
	Aviators (1970)	1482	3.93	0.01	0.24	0.00	6.07	3.21	5.02	1.81
	Aviators (1959)	500	3.99	0.01	0.21	0.01	5.26	3.39	4.68	1.29
36	Ball of Foot Circumference									
	Aviators (1970)	1482	9.65	0.01	0.47	0.01	4.91	8.33	11.40	3.07
	Aviators (1959)	500	9.80	0.03	0.62	0.02	6.33	8.19	11.89	3.70

TABLE XXI

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

No.	Measurements	Percentiles in Inches										Range
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
1	Weight (pounds)												
	Aviators (1970)	122	126	133	140	154	171	187	202	212	223	230	107
	Aviators (1959)	124	128	136	142	153	166	180	193	200	208	212	88
	STANDING MEASURMENTS												
2	Stature												
	Aviators (1970)	63.2	63.7	64.6	65.5	67.0	68.7	70.4	71.9	72.8	74.0	74.9	11.7
	Aviators (1959)	64.4	65.0	65.8	66.6	67.9	69.4	71.1	72.5	73.3	74.2	74.8	10.4
3	Waist Height												
	Aviators (1970)	37.3	37.7	38.4	39.1	40.4	41.8	43.1	44.3	45.0	45.9	46.5	9.2
	Aviators (1959)	47.3	37.9	38.8	39.5	40.4	41.7	42.8	44.0	44.8	45.6	46.2	8.9
4	Crotch Height												
	Aviators (1970)	28.6	28.9	29.4	30.0	31.0	32.2	33.4	34.5	35.2	36.0	36.5	7.9
	Aviators (1959)	27.8	28.2	28.9	29.6	30.6	31.6	32.8	33.8	34.6	35.4	35.9	8.1
5	Kneecap Height												
	Aviators (1970)	17.8	18.1	18.4	18.8	19.4	20.1	20.9	21.5	21.9	22.4	22.7	4.9
	Aviators (1959)	17.9	18.3	18.9	19.4	20.1	20.8	21.6	22.4	22.8	23.2	23.5	5.7

TABLE XXI (continued)

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
	SITTING MEASUREMENTS												
6	Vert. Arm Reach, Sitting												
	Aviators (1970)	51.2	51.8	52.8	53.6	54.9	56.5	58.0	59.5	60.3	61.3	61.9	10.7
	Aviators (1959)	49.6	50.0	50.5	51.2	52.7	54.1	55.4	56.7	57.4	58.3	58.8	9.2
7	Sitting Height												
	Aviators (1970)	32.8	33.2	33.7	34.2	35.0	35.8	36.6	37.4	37.9	38.5	38.8	6.0
	Aviators (1959)	32.5	32.9	33.5	34.0	34.8	35.6	36.5	37.3	37.8	38.3	38.7	6.2
8	Eye Height, Sitting												
	Aviators (1970)	28.0	28.4	29.0	29.4	30.2	31.0	31.8	32.6	33.1	33.7	34.1	6.1
	Aviators (1959)	28.1	28.4	28.8	29.3	30.0	30.9	31.8	32.6	33.1	34.0	34.5	6.4
9	Shoulder-Elbow Length												
	Aviators (1970)	12.9	13.0	13.3	13.6	14.0	14.4	14.9	15.3	15.6	16.0	16.2	3.3
	Aviators (1959)	13.4	13.6	13.8	14.1	14.5	15.0	15.5	15.9	16.1	16.4	16.5	3.1
10	Elbow-Fingertip Length												
	Aviators (1970)	17.1	17.3	17.6	17.9	18.4	19.0	19.5	20.0	20.3	20.8	21.1	4.0
	Aviators (1959)	17.1	17.4	17.6	18.1	18.5	19.1	19.6	20.2	20.4	81.0	21.5	4.4
11	Buttock-Knee Length												
	Aviators (1970)	21.4	21.6	22.0	22.4	23.0	23.7	24.4	25.0	25.4	25.9	26.2	4.8
	Aviators (1959)	21.4	21.7	22.1	22.4	23.1	23.8	24.5	25.2	25.8	26.3	26.7	5.3
12	Buttock-Heel Length												
	Aviators (1970)	39.8	40.2	40.9	41.6	42.8	44.2	45.5	46.7	47.4	48.3	49.0	9.2
	Aviators (1959)	40.8	41.3	42.1	42.8	43.8	44.9	46.1	47.1	47.6	48.0	48.3	7.5

TABLE XXI (continued)

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
	BREADTH MEASUREMENTS												
13	Chest Depth												
	Aviators (1970)	7.6	7.9	8.0	8.3	8.8	9.5	10.1	10.6	11.0	11.4	11.6	4.0
	Aviators (1959)	7.4	7.6	7.9	8.0	8.4	8.9	9.4	10.1	10.4	10.8	11.0	3.6
14	Shoulder Breadth												
	Aviators (1970)	16.5	16.7	17.0	17.4	18.0	18.7	19.3	20.0	20.3	20.8	21.0	3.5
	Aviators (1959)	16.0	16.3	16.8	17.2	17.6	18.2	18.8	19.5	20.0	20.3	20.5	4.5
15	Hip Breadth, Sitting												
	Aviators (1970)	12.6	12.8	13.2	13.5	14.1	14.8	15.6	16.3	16.7	17.2	17.5	4.9
	Aviators (1959)	12.4	12.5	12.8	13.1	13.5	14.2	14.8	15.4	15.7	16.1	16.3	3.9
	CIRCUMFERENCES AND SURFACE MEASUREMENTS												
16	Neck Circumference												
	Aviators (1970)	13.0	13.3	13.6	13.9	14.3	14.8	15.4	15.9	16.2	16.6	16.8	3.8
	Aviators (1959)	13.4	13.6	13.8	14.1	14.6	15.1	15.6	16.0	16.3	16.7	16.9	3.5
17	Shoulder Circumference												
	Aviators (1970)	40.4	41.0	41.8	42.6	44.1	45.8	47.4	48.9	49.9	51.0	51.8	11.4
	Aviators (1959)	39.9	40.6	41.8	42.7	43.8	45.3	47.0	48.4	49.0	50.2	50.0	11.0
18	Chest Circumference												
	Aviators (1970)	33.3	33.6	34.4	35.3	36.9	38.7	40.5	42.2	43.3	44.6	45.6	12.3
	Aviators (1959)	33.3	33.6	34.3	34.9	36.2	37.7	39.2	40.5	41.2	42.1	42.6	9.3

TABLE XXI (continued)

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
	CIRCUMFERENCES (Cont.)												
19	Waist Circumference												
	Aviators (1970)	27.9	28.1	28.9	29.9	31.8	34.2	36.6	38.7	40.0	41.7	42.9	15.0
	Aviators (1959)	27.2	27.6	28.6	29.5	30.9	32.7	34.4	36.0	37.0	38.1	38.6	11.4
20	Hip Circumference												
	Aviators (1970)	33.2	33.6	34.3	35.1	36.7	38.5	40.2	41.7	42.7	43.9	44.8	11.6
	Aviators (1959)	33.3	34.0	34.9	35.6	36.9	38.2	39.5	40.7	41.5	42.9	43.8	10.5
21	Waist Back Length												
	Aviators (1970)	16.1	16.3	16.7	17.1	17.7	18.4	19.0	19.7	20.0	20.5	20.8	4.7
	Aviators (1959)	14.7	15.3	16.1	16.7	17.4	18.2	19.0	19.6	20.0	20.5	20.9	6.2
22	Sleeve Length												
	Aviators (1970)	31.6	32.0	32.5	33.0	33.9	34.9	35.9	36.8	37.3	38.0	38.5	6.9
	Aviators (1959)	26.2	27.2	28.8	29.4	30.2	31.3	32.2	33.4	34.2	35.3	36.1	9.9
	HEAD AND FACE MEASUREMENTS												
23	Head Circumference												
	Aviators (1970)	20.72	20.91	21.18	21.41	21.77	22.17	22.58	22.95	23.18	23.44	23.61	2.89
	Aviators (1959)	21.36	21.44	21.58	21.76	22.10	22.48	22.85	23.23	23.44	23.65	23.77	2.41
24	Sagittal Arc												
	Aviators (1970)	12.81	12.96	13.19	13.39	13.74	14.13	14.52	14.86	15.06	15.27	15.40	2.59
	Aviators (1959)	12.53	12.68	12.92	13.07	13.44	13.79	14.13	14.44	14.62	14.81	14.96	2.43
25	Bitragion-Coronal Arc												
	Aviators (1970)	12.89	13.01	13.19	13.37	13.66	13.98	14.29	14.58	14.77	15.02	15.21	2.32
	Aviators (1959)	12.81	12.95	13.14	13.30	13.60	13.92	14.24	14.47	14.68	14.80	14.91	2.10

TABLE XXI (continued)

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
	HEAD AND FACE MEASUREMENTS (continued)												
26	Head Length												
	Aviators (1970)	7.10	7.19	7.32	7.42	7.58	7.76	7.94	8.09	8.18	8.26	8.31	1.21
	Aviators (1959)	7.19	7.23	7.30	7.41	7.59	7.77	7.96	8.13	8.22	8.37	8.46	1.27
27	Head Breadth												
	Aviators (1970)	5.54	5.59	5.67	5.74	5.87	6.01	6.15	6.28	6.37	6.47	6.54	1.00
	Aviators (1959)	5.63	5.67	5.75	5.84	5.98	6.11	6.25	6.39	6.51	6.65	6.76	1.13
28	Head Height												
	Aviators (1970)	4.72	4.77	4.86	4.94	5.08	5.23	5.38	5.52	5.61	5.71	5.78	1.06
	Aviators (1959)	4.45	4.48	4.55	4.65	4.83	4.98	5.16	5.34	5.41	5.53	5.61	1.16
29	Face Length												
	Aviators (1970)	3.84	3.92	4.04	4.13	4.29	4.45	4.63	4.80	4.91	5.03	5.12	1.28
	Aviators (1959)	4.14	4.20	4.28	4.36	4.50	4.66	4.84	4.99	5.11	5.20	5.24	1.10
30	Face Breadth												
	Aviators (1970)	4.99	5.04	5.12	5.19	5.32	5.46	5.60	5.73	5.80	5.89	5.95	0.96
	Aviators (1959)	5.12	5.16	5.23	5.30	5.42	5.58	5.71	5.83	5.87	5.96	6.02	0.90

TABLE XXI (concluded)

PERCENTILE VALUES FOR U. S. ARMY AVIATORS - 1970 and 1959

No.	Measurements	Percentiles in Inches											Range
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
	HAND MEASUREMENTS												
31	Hand Length												
	Aviators (1970)	6.76	6.85	7.00	7.12	7.33	7.56	7.78	8.00	8.14	8.32	8.45	1.69
	Aviators (1959)	6.66	6.75	6.88	7.01	7.22	7.46	7.70	7.94	8.07	8.23	8.33	1.67
32	Hand Breadth												
	Aviators (1970)	3.14	3.16	3.22	3.27	3.37	3.48	3.59	3.69	3.76	3.83	3.89	0.75
	Aviators (1959)	3.14	3.17	3.21	3.27	3.36	3.49	3.60	3.70	3.75	3.82	3.85	0.71
33	Hand Circumference												
	Aviators (1970)	7.45	7.55	7.71	7.84	8.07	8.33	8.60	8.85	9.01	9.19	9.32	1.87
	Aviators (1959)	7.55	7.65	7.82	7.95	8.20	8.42	8.71	8.95	9.09	9.23	9.33	1.78
	FOOT MEASUREMENTS												
34	Foot Length												
	Aviators (1970)	9.27	9.41	9.62	9.80	10.09	10.42	10.77	11.07	11.25	11.45	11.57	2.30
	Aviators (1959)	9.48	9.65	9.89	10.05	10.34	10.65	10.99	11.27	11.45	11.75	11.91	2.43
35	Ball of Foot Breadth												
	Aviators (1970)	3.44	3.48	3.56	3.62	3.76	3.92	4.09	4.24	4.33	4.44	4.52	1.08
	Aviators (1959)	3.50	3.57	3.66	3.73	3.85	3.98	4.13	4.28	4.36	4.44	4.49	0.99
36	Ball of Foot Circumference												
	Aviators (1970)	8.61	8.73	8.91	9.06	9.32	9.63	9.96	10.27	10.46	10.65	10.77	2.16
	Aviators (1959)	8.48	8.60	8.81	9.00	9.37	9.78	10.21	10.66	10.84	11.15	11.32	2.84

TABLE XXII

STATISTICAL VALUES FOR U. S. ARMY AVIATOR WARRANT OFFICER TRAINEES - 1970 and 1968

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
	Age (years)									
	W.O. Trainees (1970)	258	23.62	0.21	3.41	0.15	14.44			
	W.O. Trainees (1968)	1640	22.00	0.07	2.90	0.05	13.18	17.3	38.0	21.0
1	Weight (pounds)									
	W.O. Trainees (1970)	258	156.06	1.22	19.62	0.86	11.82			
	W.O. Trainees (1968)	1640	164.00	0.48	18.70	0.33	11.40	110.0	229.3	119.3
2	Stature									
	W.O. Trainees (1970)	258	68.88	0.15	2.38	0.10	3.46			
	W.O. Trainees (1968)	1640	69.70	0.06	2.40	0.04	3.44	61.5	77.0	15.5
3	Functional Reach									
	W.O. Trainees (1970)	258	30.66	0.10	1.58	0.07	5.15			
	W.O. Trainees (1968)	1640	31.40	0.04	1.50	0.02	4.76	26.8	38.0	11.2
4	Sitting Height									
	W.O. Trainees (1970)	258	35.81	0.07	1.17	0.05	3.27			
	W.O. Trainees (1968)	1640	36.20	0.03	1.30	0.02	3.59	31.9	40.5	8.6
5	Eye Height, Sitting									
	W.O. Trainees (1970)	258	31.06	0.07	1.16	0.05	3.73			
	W.O. Trainees (1968)	1640	31.40	0.03	1.20	0.02	3.82	27.0	36.5	9.5

TABLE XXII (continued)

STATISTICAL VALUES FOR U. S. ARMY AVIATOR WARRANT OFFICER TRAINEES - 1970 and 1968

Values in Inches

No.	Measurements	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range MAX.	Total
6	Buttock-Knee Length									
	W.O. Trainees (1970)	258	23.62	0.06	1.01	0.04	4.28			
	W.O. Trainees (1963)	1640	23.80	0.03	1.10	0.02	4.62	20.2	28.1	7.9
7	Buttock-Heel Length									
	W.O. Trainees (1970)	258	44.19	0.12	1.87	0.08	4.23			
	W.O. Trainees (1968)	1640	43.80	0.05	2.00	0.03	4.57	37.0	50.4	13.4
8	Shoulder Breadth									
	W.O. Trainees (1970)	258	18.49	0.06	0.91	0.04	4.92			
	W.O. Trainees (1968)	1640	18.50	0.02	0.90	0.01	4.86	15.4	21.7	6.3
9	Hip Breadth, Sitting									
	W.O. Trainees (1970)	258	14.80	0.06	0.98	0.04	6.62			
	W.O. Trainees (1968)	1640	13.90	0.02	0.80	0.01	5.76	11.6	17.4	5.8

TABLE XXIII

PERCENTILE VALUES FOR U. S. ARMY AVIATOR WARRANT OFFICER TRAINEES - 1970 and 1968

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	Weight (pounds)												
	W.O. Trainees (1970)	125	130	137	143	152	164	179	192	202	209	213	88
	W.O. Trainees (1968)	124	129	135	141	150	162	177	190	197	204	210	86
2	Stature												
	W.O. Trainees (1970)	63.5	64.2	65.1	65.9	67.3	68.8	70.4	72.0	73.0	74.2	75.0	11.5
	W.O. Trainees (1968)	64.2	64.8	65.6	66.4	68.0	69.7	71.3	72.8	73.6	74.7	75.4	11.2
3	Functional Reach												
	W.O. Trainees (1970)	27.6	27.9	28.4	28.8	29.5	30.5	31.7	32.8	33.7	34.6	35.2	7.6
	W.O. Trainees (1968)	27.8	28.2	28.9	29.5	30.4	31.4	32.4	33.3	34.0	34.8	35.2	7.4
4	Sitting Height												
	W.O. Trainees (1970)	33.2	33.5	33.9	34.3	35.0	35.7	36.6	37.3	37.8	38.2	38.5	5.3
	W.O. Trainees (1968)	33.0	33.3	34.0	34.5	35.4	36.2	37.0	37.8	38.2	38.8	39.1	6.1
5	Eye Height, Sitting												
	W.O. Trainees (1970)	28.4	28.7	29.1	29.6	30.3	31.1	31.8	32.6	33.0	33.5	33.9	5.5
	W.O. Trainees (1968)	28.5	28.9	29.4	29.8	30.6	31.4	32.2	32.9	33.3	34.0	34.3	5.8

TABLE XXIII (continued)

PERCENTILE VALUES FOR U. S. ARMY AVIATOR WARRANT OFFICER TRAINEES - 1970 and 1968

Percentiles in Inches

No.	Measurements	1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
6	Buttock-Knee Length												
	W.O. Trainees (1970)	21.4	21.6	22.0	22.4	23.0	23.6	24.2	25.0	25.4	26.0	26.5	5.1
	W.O. Trainees (1968)	21.5	21.7	22.1	22.4	23.0	23.7	24.5	25.2	25.6	26.0	26.4	4.9
7	Buttock-Heel Length												
	W.O. Trainees (1970)	40.4	40.7	41.1	41.8	43.0	44.3	45.4	46.4	47.1	48.4	49.2	8.8
	W.O. Trainees (1968)	39.1	39.7	40.4	41.2	42.5	43.8	45.2	46.4	47.2	48.2	48.8	9.7
8	Shoulder Breadth												
	W.O. Trainees (1970)	16.6	16.7	17.0	17.3	17.8	18.5	19.1	19.7	20.0	20.4	20.7	4.1
	W.O. Trainees (1968)	16.3	16.7	17.0	17.3	17.9	18.5	19.1	19.8	20.1	20.6	20.8	4.5
9	Hip Breadth, Sitting												
	W.O. Trainees (1970)	12.8	13.0	13.4	13.6	14.1	14.7	15.4	16.1	16.6	16.9	17.2	4.4
	W.O. Trainees (1968)	12.0	12.4	12.6	12.9	13.3	13.9	14.4	15.0	15.4	15.7	15.9	3.9

TABLE XXIV

SELECTED STATISTICAL VALUES FOR U. S. ARMY AVIATORS (1970) and U. S. ARMY (1966)

Values in Inches

No.	Measurements		N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
	Age (years)										
	U.S. Army Aviators	(1970)	1482	26.31	0.14	5.51	0.10	21.02	17.0	68.0	41.0
	U.S. Army	(1966)	6682	22.17	0.06	4.64	0.04	20.92	17.0	55.0	38.0
1	Weight (pounds)										
	U.S. Army Aviators	(1970)	1482	171.15	0.62	23.84	0.44	13.93	104.2	280.6	176.4
	U.S. Army	(1966)	6677	159.10	0.29	23.35	0.20	14.68	99.5	283.5	184.0
2	Stature										
	U.S. Army Aviators	(1970)	1482	68.72	0.06	2.49	0.05	3.63	59.9	77.7	17.8
	U.S. Army	(1966)	6682	68.71	0.03	2.60	0.02	3.79	59.7	78.6	18.9
3	Sitting Height										
	U.S. Army Aviators	(1970)	1482	35.80	0.03	1.27	0.02	3.56	31.0	40.1	9.1
	U.S. Army	(1966)	6682	35.70	0.02	1.44	0.01	4.04	30.4	40.6	10.2
4	Shoulder Breadth										
	U.S. Army Aviators	(1970)	1482	18.66	0.03	1.01	0.02	5.39	15.6	23.1	7.5
	U.S. Army	(1966)	6682	17.86	0.01	1.00	0.01	5.59	14.3	23.1	8.8
5	Hip Breadth, Sitting										
	U.S. Army Aviators	(1970)	1482	14.88	0.03	1.07	0.02	7.19	12.1	19.2	7.1
	U.S. Army	(1966)	6682	13.45	0.01	0.94	0.01	6.97	10.3	19.8	9.5
6	Chest Circumference										
	U.S. Army Aviators	(1970)	1482	38.75	0.07	2.71	0.05	6.98	31.4	53.2	21.8
	U.S. Army	(1966)	6682	36.92	0.03	2.63	0.02	7.13	28.2	46.9	20.7
7	Waist Circumference										
	U.S. Army Aviators	(1970)	1482	34.30	0.09	3.39	0.06	9.89	25.9	47.7	21.8
	U.S. Army	(1966)	6682	31.61	0.04	3.22	0.03	10.19	23.1	50.3	27.2

TABLE XXV

SELECTED PERCENTILE VALUES FOR U. S. ARMY AVIATORS (1970) and U. S. ARMY (1966)

No.	Measurements		Percentiles in Inches 1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	Weight (pounds)													
	U.S. Army Aviators	(1970)	122	126	133	140	154	171	187	202	212	223	230	107
	U.S. Army	(1966)	116	120	126	132	143	156	173	190	202	216	227	111
2	Stature													
	U.S. Army Aviators	(1970)	63.2	63.7	64.6	65.3	67.0	68.7	70.4	71.9	72.8	74.0	74.9	11.7
	U.S. Army	(1966)	62.6	63.4	64.5	65.4	67.0	68.7	70.4	72.1	73.1	74.2	74.9	12.3
3	Sitting Height													
	U.S. Army Aviators	(1970)	32.8	33.2	33.7	34.2	35.0	35.8	36.6	37.4	37.9	38.5	38.8	6.0
	U.S. Army	(1966)	32.3	32.7	33.3	33.8	34.7	35.7	36.7	37.6	38.1	38.6	39.0	6.7
4	Shoulder Breadth													
	U.S. Army Aviators	(1970)	16.5	16.7	17.0	17.4	18.0	18.7	19.3	20.0	20.3	20.8	21.0	3.5
	U.S. Army	(1966)	15.7	16.0	16.3	16.6	17.2	17.8	18.5	19.2	19.6	20.1	20.5	4.8
5	Hip Breadth, Sitting													
	U.S. Army Aviators	(1970)	12.6	12.8	13.2	13.5	14.1	14.8	15.6	16.3	16.7	17.2	17.5	4.9
	U.S. Army	(1966)	11.6	11.8	12.1	12.3	12.8	13.4	14.0	14.7	15.1	15.6	16.0	4.4
6	Chest Circumference													
	U.S. Army Aviators	(1970)	33.3	33.6	34.4	35.3	36.9	38.7	40.5	42.2	43.3	44.6	45.6	12.3
	U.S. Army	(1966)	31.8	32.4	33.1	33.8	35.1	36.6	38.5	40.4	41.7	43.3	44.4	12.6
7	Waist Circumference													
	U.S. Army Aviators	(1970)	27.9	28.1	28.9	29.9	31.8	34.2	36.6	38.7	40.0	41.7	42.9	15.0
	U.S. Army	(1966)	26.1	26.7	27.4	28.1	29.3	31.0	33.4	36.0	37.8	40.0	41.6	15.5

ACKNOWLEDGEMENTS

The conduct of the survey and the preparation of this report required the cooperation and active participation of a large number of people. The survey was initiated by Robert M. White of the Clothing and Personal Life Support Equipment Laboratory, U.S. Army Natick Laboratories. As Project Officer, Mr. White played an active role in the planning and organization of the survey and has shared in the design of this report.

Colonel R. W. Bailey, Lieutenant Colonel D. E. Littell, and their associates of the U.S. Army Aeromedical Research Laboratory at Fort Rucker provided invaluable assistance in the setting up and conduct of the survey. Captain Robert A. Frank made a tremendous contribution as liaison officer and in his diligent efforts in the recruiting of survey subjects. In these activities, in the briefing of the subjects, and in the multitude of other tasks for which local cooperation was imperative, Captain Frank was joined by Lieutenants F. J. Mann and G. L. White, CW3 J. H. Fusey, and WO1 W. E. Cizewski, E. L. Gott, and C. W. Pierson.

The members of the measuring team: Larry Carra, Stan Cuykendall, John Day, Brendan Doyle, Dave Estroff, Charles Laven, Craig Patterson, and Michael Stein, performed their tasks skillfully and cooperatively.

The preparation of the report itself has been enhanced by PFC John Huggins of the Central Photo Laboratory at Fort Rucker who took the photographs which illustrate the measuring techniques, by Mrs. M. J. Kennedy who prepared the illustrations, and Mrs. Elizabeth Newman, of the Anthropology Research Project staff, who helped prepare the manuscript.

Responsibility for the organization and conduct of the survey, for the analysis of the data, and for the preparation of the report was shared by Dr. John McConville, Dr. Lloyd Laubach, and Mr. Edmund Churchill of the Anthropology Research Project. Drs. McConville and Laubach prepared the training manual and trained the measuring team. Dr. Laubach supervised the field work at Fort Rucker. Dr. McConville wrote the measuring technique descriptions and supervised the preparation of the drawings and photographs. Mr. Churchill directed the computational and statistical aspects of the study. All three participated in the writing of the report.

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APPENDIX A

THE DATA SHEET

1970 U.S. ARMY AVIATORS ANTHROPOMETRIC SURVEY

(PLEASE PRINT ALL REQUESTED INFORMATION)

DATE _____

Name _____ (Last) (First) (Middle) Rank _____ Serial No. _____

Location _____ Organization _____ Age _____ (Last Birthday) Date of Birth _____ (Day Month Year)

Birthplace _____ (State/Country) Education _____ (Highest Grade Attended) Handedness R-L-A Glasses Y N

Qualified Parachutist Y N Estimated Nude Height _____ (Feet & Inches) Nude Weight _____ (Pounds) USA MOS _____

Aeronautical Designation		Qualification	Flight Time	Combat Flight Hrs.	Mission
Army Aviator	____	Fixed Wing			
Senior Aviator	____	Rotary Wing			
Master Aviator	____	Dual Rated			
Trainee	____	Multi-engine			
Not Rated (Check One)	____				
Other (Specify)	____				

Remarks _____

1. Weight _____ □□□
2. SKF: Triceps _____ □□□
3. SKF: Subscapular _____ □□□
4. SKF: Suprailiac _____ □□□
5. SKF: Medial Calf _____ □□□
6. Stature _____ □□□
7. Cervicale Height _____ □□□
8. Acromiale Height _____ □□□
9. Waist Height _____ □□□
10. Back Curvature _____ □□□
11. Interscye Breadth _____ □□□
12. Interscye Brd. Max _____ □□□
13. Waist Back _____ □□□
14. Waist Front _____ □□□
15. Calf Circumference _____ □□□
16. Crotch Height _____ □□□
17. Kneecap Height _____ □□□
18. Calf Height _____ □□□
19. Chest Depth _____ □□□
20. Chest Breadth _____ □□□
21. Hip Breadth _____ □□□
22. Functional Reach _____ □□□

- card 2 -

23. Vertical Reach (S) _____ □□□
24. Sitting Height _____ □□□
25. Eye Height (S) _____ □□□
26. Mid-Shoulder Ht _____ □□□
27. Trunk Height _____ □□□
28. Elbow Rest Height _____ □□□
29. Thigh Clear _____ □□□
30. Knee Height (S) _____ □□□
31. Popliteal Ht (S) _____ □□□
32. Buttock - Knee _____ □□□
33. Buttock - Popliteal _____ □□□
34. Shoulder Breadth _____ □□□
35. Max Brd Forearm _____ □□□
36. Hip Breadth (S) _____ □□□
37. Knee Brd (Bone) _____ □□□
38. Buttock - Heel _____ □□□
39. Shoulder - Elbow _____ □□□
40. Elbow - Finger _____ □□□

41. Neck Circumference _____ □□□
42. Shoulder Circ _____ □□□
43. Chest Circ _____ □□□
44. Waist Circ _____ □□□

- card 3 -

45. Arm Scye Circ _____ □□□
46. Biceps C (Relaxed) _____ □□□
47. Biceps C (Flexed) _____ □□□
48. Forearm C (Flexed) _____ □□□
49. Wrist Circ _____ □□□
50. Shoulder Length _____ □□□
51. Sleeve Length _____ □□□
52. Sleeve Inseam _____ □□□
53. Hip Circ - Max _____ □□□
54. Upper Thigh Circ _____ □□□
55. Lower Thigh Circ _____ □□□
56. Ankle Circ _____ □□□
57. Vertical Trunk C _____ □□□
58. Vertical Trunk C (S) _____ □□□

59. Tragion to Vertex _____ □□□
60. Glabella to Vertex _____ □□□
61. Tragion to Wall _____ □□□
62. Ext Cant to Wall _____ □□□
63. Nasal Root to Wall _____ □□□
64. Pronasale to Wall _____ □□□
65. Head Circumference _____ □□□
66. Sagittal Curvature _____ □□□

- card 4 -

67. Bitragion - Coronal _____ □□□
68. Head Length _____ □□□
69. Head Breadth _____ □□□
70. Bitragion Breadth _____ □□□
71. Bizygomatic Brd _____ □□□
72. Interpupillary Brd _____ □□□
73. Menton - Nasal Root _____ □□□
74. Elbow Brd (Bone) _____ □□□
75. Hand Length _____ □□□
76. Palm Length _____ □□□
77. Hand Breadth _____ □□□
78. Hand Circumference _____ □□□
79. Foot Length _____ □□□
80. Instep Length _____ □□□
81. Foot Breadth _____ □□□
82. Heel Breadth _____ □□□
83. Foot Circumference _____ □□□
84. Instep Circ _____ □□□
85. Heel Ankle Circ _____ □□□
86. _____ □□□
87. _____ □□□
88. _____ □□□

Appendix B

GLOSSARY OF ANTHROPOMETRIC TERMS

Abduct--To move from the axis of the body or one of its parts.

Acromion--The most lateral point of the lateral edge of the acromial process of the scapula (shoulder blade).

Ankle Level--The level of the minimum circumference of the ankle as established by measuring. Proximal to the malleoli (rounded bony prominences on either side of ankle).

Anterior--Pertaining to the front of the body; as opposed to posterior.

Axilla--The arm pit.

Bi--A prefix denoting connection with or relation to each of two symmetrically paired parts.

Biceps Brachii--The large muscle on the anterior surface of the upper arm.

Biceps Femoris--A large posterior muscle of the thigh.

Brow Ridges--The bony ridges of the anterior forehead which lie above the orbits of the eye.

Buttock Protrusion--The maximum posterior protrusion of the right buttock.

Calcaneus--The heel bone.

Calf Level--The level of the maximum circumference of the calf as established by measurement.

Cervicale--The protrusion of the spinal column at the base of the neck caused by the tip of the spine of the 7th cervical vertebra.

Coronal Plane--Any vertical plane at right angles to the midsagittal plane.

Dactylion--The tip of the middle finger.

Deltoid Muscle--The large muscle on the lateral border of the upper arm in the shoulder region.

Distal--The end of a body segment farthest from the head; opposed to proximal.

Epicondyle--Bony eminence at the distal end of the humerus, radius and femur.

External Canthus--The outside corner or angle formed by the meeting of the eyelids.

Extend--To move adjacent segments so that the angle between them is increased as when the leg is straightened; opposite of flex.

Femoral Epicondyles--The bony projections on either side of the distal end of the femur.

Femur--The thigh bone.

Frankfort Plane--The standard horizontal plane or orientation of the head. The plane is established by a line passing through the right tragion and the lowest point of the right orbit (eye socket).

Glabella--The most anterior point of the forehead between the brow ridges in the midsagittal plane.

Gluteal Furrow--The furrow at the juncture of the buttock and thigh.

Humeral Epicondyles--The bony projections on either side of the distal end of the humerus.

Humerus--The upper arm bone.

Hyperextend--To overextend a limb or part of the body.

Iliac Crest--The superior rim of the pelvic bone.

Inferior--Below in relation to another structure; lower.

Inseam--A term used in tailoring to indicate the inside length of a sleeve or trouser leg. It is measured on the medial side of the arm or leg.

Lateral--Lying near or toward the sides of the body; opposed to medial.

Medial--Lying near or toward the midline of the body; opposed to lateral.

Metacarpal--Pertaining to the long bones of the hand between the carpus and the phalanges.

Metatarsal--Pertaining to the long bones of the foot between the tarsus and the phalanges.

Menton--The point of the tip of the chin in the midsagittal plane.

Midaxillary Line--A vertical line passing through the center of the axilla.

Midsagittal Plane--The vertical plane which divides the body into right and left halves.

Midshoulder--A point one-half the distance between the right neck landmark and the right acromion.

Nasal Root Depression--The area of greatest indentation where the bridge of the nose meets the forehead.

Nuchale--The lowest point in the midsagittal plane of the occiput that can be palpated among the muscles in the posterior-superior part of the neck. This point is often visually obscured by hair.

Occiput--A bone forming the posterior base of the skull.

Olecranon--The proximal end of the ulna (the medial forearm bone).

Omphalion--The center point of the navel.

Patella--The kneecap.

Phalanges--The bones of the fingers and toes.

Plantar--Pertaining to the sole of the foot.

Popliteal--Relating to the popliteal ligament or the back of the knee.

Pronasale--The most anterior point on the nose.

Posterior--Pertaining to the back of the body; as opposed to anterior.

Proximal--The end of a body segment nearest the head; opposed to distal.

Scapula--The shoulder blade.

Scye--A tailoring term to designate the armhole of a garment. Refers here to landmarks which approximate the lower level of the axilla.

Sellion--The point of greatest indentation of the nasal root depression.

Spinous Process (of vertebrae)--The posterior prominences of the vertebrae.

Sub--Prefix designating below or under.

Superior--Above in relation to another structure; higher

Supra--Prefix designating above or upon.

Suprasternale--The lowest point in the notch in the upper edge of the breast bone.

Surface Distance--A measurement that follows the general contours of the surface of the body.

Thyroid Cartilage--The bulge of cartilage on the anterior surface of the throat--the Adam's Apple.

Tragion--The point located at the notch just above the tragus of the ear.

Tragus--The small cartilaginous flap of flesh in front of the ear hole.

Triceps--The muscle mass of the posterior upper arm.

Ulna--One of the bones of the forearm on the little finger side of the arm.

Wrist Level--The level of the extension of the radial stylion point across the anterior surface of the forearm perpendicular to the long axis of the forearm.

Zygomatic Arch--The bony arch extending horizontally along the side of the head from the cheekbone nearly to the external ear.

INDEX

This index is a combined general index and measurement index. In addition to the basic entry for each measurement variable, there are several sets of cross references to these measurements based on anatomic landmarks and measurement categories.

The basic listing for each anthropometric measurement includes, in sequence, the measurement's Visual Index number, the location of the statistical summaries for the total group and for the subgroups, the numbers and locations of the statistics for all computed variables involving this measurement, and the numbers and locations of the corresponding indices. Thus, for example, the entry

Shoulder-Elbow Length, #18,80-81,233; #134,#135, 256; #216,262; #244,264; #255,266

indicates that the description and statistical summaries for shoulder-elbow length, variable 18, appear on pages 80 and 81, and its subgroup statistics are given on page 233. This variable was used in computing variables 134 and 135, summaries for which appear on page 256, and in computing indices 216, 244, and 255 whose summaries are given on pages 262, 264, and 266.

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    Foot Circumference
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