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MILITARY HANDBOOK

ANTHROPOMETRY

OF

U.S. MILITARY PERSONNEL

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FOREWORD

1. This military handbook is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: Commander, U.S. Army Natick Research, Development and Engineering Center, ATTN: STRNC-IRT, Natick, MA 01760-5019 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

3. The purpose of this handbook is to present body size information on the military personnel of the United States in the form of anthropometric data. These data are suitable for human factors engineering applications in the design and development of military systems, equipment, and materiel and in the design and sizing of military clothing and personal equipment.

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1. INTRODUCTION

1.1 Uses of anthropometric data. Anthropometric data have been used for some years in order to provide body size information in military research and development. Knowledge of body size and proportions is essential for the design, sizing, and tariffing of military clothing, protective, and personal equipment. Of even greater importance is the fact that anthropometric data are required as a basic input in the human factors engineering of military equipment systems: aircraft, vehicles, tanks, submarines, and many other types of weapons systems. The anthropometric measurement of the military population provides a standard, statistical description of that population. In order to provide and adequate definition of a body dimension for a specific population, descriptive statistics such as mean, standard deviation, and standard error are used to describe the variation for that body dimension. Researchers and designers then use this information (anthropometric data) to achieve accommodations, compatibility, integration, safety, improved performance and logistic efficiency in human/equipment systems.

1.2 Background. Military anthropometry in the United States is not a new or even recent development, since anthropometric data on military personnel have been in use for at least 100 years or more. Some information on the body size of Civil War soldiers is available in the literature. During and immediately after World War I, many thousands of soldiers were measured and research in anthropometry was carried on. Efforts in anthropometry as a field of research were renewed in the early years of World War II. In the Army Air Forces, both men and women were measured as early as 1942 and the anthropometric data were utilized in human engineering. Following the end of World War II, the collection, analysis, and applications of anthropometric data have been carried on as an integral part of military research and development programs, and anthropometry has become a recognized part of human factors engineering. As a result, a great deal of body size information has been amassed on the military personnel of the United States, both men and women.

1.3 Importance of military anthropometry. The importance and relevance of military anthropometric data is emphasized by the lack of adequate and definitive data on the U.S. civilian population of men and women. This paucity of civilian data presents a serious problem for designers and human engineers who, in many cases, are forced to resort to the use of anthropometric data on the U.S. military population. Due to the lack of civilian data, there is no alternative. As one example, there are still virtually no adequate anthropometric data available on the heads and faces or on the hands and feet of the U.S. civilian population.

1.4 Availability of military anthropometric data. During the past 35 years, Army men, Army basic trainees, Army women, Army aviators, Marine Corps men, Navy aviators, Air Force flying personnel, Air Force basic trainees, and Air Force women all have been measured at least twice in major

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anthropometric surveys of the various components of the U.S. military population. The results of such surveys have been made available in a large number of technical reports published by the various Armed Forces. About 40 of the most revelant reports are included in the references listed in this handbook (see 3.1.3). Although military anthropometry thus is well-documented, it may be difficult to locate some types of anthropometric data for specific applications. The purpose of this handbook is to collate, synthesize, and present the most representative, significant, and current anthropometric data available for military personnel of the United States. Although more anthropometric data are available for men than for women, the increasing numbers and importance of women in the Armed Forces today emphasizes the need for anthropometric data on women. Consequently, the available anthropometric data for U.S. military women are included here. An important additional source of military anthropometric data is the AAMRL Center for Anthropometric Research Data (CARD), a comprehensive collection of information assembled and maintained by the Harry G. Armstrong Aerospace Medical Research Laboratory at Wright-Patterson Air Force Base, Ohio. The repository includes not just large scale survey data on military and civilian populations worldwide but numerous small but useful scale data sets. In addition, most of the large U.S. military data sets are now available on-line in a menu-driven data base system. The first version of the user's guide for this facility has been published. Basic summary statistics, including some multivariate statistics are available through this facility to all government agencies and contractors. The reference for the first version is as follows:

Robinson, Joyce C., Robinette, Kathleen M., and Sehner, Gregory F., "User's Guide to Accessing the Anthropometric Data Base at the Center for Anthropometric Research Data, AAMRL-TR-88-012, Armstrong Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, OH 1988.

The U.S. military anthropometric survey holdings in the AF AAMRL library include:

MEN	Sample Size	No. of Variables
1950 U.S. Air Force Flying Personnel	4,000	146
1959 U.S. Army Aviators	500	46
1964 U.S. Navy Aviators	1,529	98
1965 U.S. Air Force Ground Personnel	3,869	161
1966 U.S. Army Ground Personnel	6,682	73
1966 U.S. Marines	2,008	73
1966 U.S. Navy Recruits	4,095	73
1967 U.S. Air Force Flying Personnel	2,420	189
1970 U.S. Army Aviators	1,482	88
1988 U.S. Army Men	1,774	240

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WOMEN	Sample Size	No. of Variables
1946 U.S. Women's Army Corps	7,563	65
1968 U.S. Air Force Women	1,905	139
1977 U.S. Army Women	1,331	151
1988 U.S. Army Women	2,208	240

Magnetic computer tapes of most of the above anthropometric surveys are available from the National Technical Information Services, Springfield, VA 22161. Titles of these tapes, together with the accession numbers, are listed in 3.1.3.

1.5 Previous publications of anthropometric data. Two official Department of Defense standardization documents preceded the preparation and publication of this handbook: MIL-STD-1472, Human Engineering Design Criteria for Military Systems, Equipment and Facilities, and MIL-HDBK-759, Human Factors Engineering Design for Army Materiel. MIL-STD-1472 is a standardization document which is approved for use by all departments and agencies of the Department of Defense, while MIL-HDBK-759 is for informational use in the human factors engineering of Army materiel. The anthropometric data included in MIL-STD-1472 are limited to only the 5th and 95th percentile values for selected body dimensions, while the anthropometric data in MIL-HDBK-759 represent data on only U.S. Army personnel. This handbook is intended to serve as a supplement to both of the above documents as a source of anthropometric data. The main objective of this handbook is to present military anthropometric data in sufficient detail and in a format readily useable by those who require body size information for design, sizing, and human engineering purposes.

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2. SOURCES OF ANTHROPOMETRIC DATA

2.1 General. A large number of anthropometric surveys and studies have been carried out since the end of World War II in which body measurements have been taken on thousands of U.S. military men and women. From the many sources available, anthropometric data have been selected from fifteen major surveys and five studies of military personnel for inclusion in the collection of data presented in this handbook. These twenty series are from early anthropometric surveys of 1945-1950, later surveys carried out in the 1960's, the 1977 survey of Army women, and the most recent major survey of Army personnel in 1988. All of the U.S. Armed Forces from which anthropometric data are available are included here: Army, Marine Corps, Navy, and Air Force. The available anthropometric data collated here represent body measurements on a total of some 75,000 U.S. military personnel obtained in anthropometric surveys during the past 35 years. The anthropometric data provide body size information on several groups within the U.S. military population. Army, Navy, and Air Force aviation or flying personnel are largely officers who are generally older, taller and heavier than others in the Armed Forces. Ground troops, consisting of Army and Marine Corps personnel, are generally intermediate in body size. Army, Navy or Air Force basic trainees are characteristically young individuals just starting their military service. The increasing number of women now in military service emphasizes the need for anthropometric data on military women, since sizing requirements for equipment and materiel now include considerations of women in the development of design parameters for all military personnel. The measures taken in each anthropometric survey often differ slightly, therefore caution should be exercised when comparing across surveys. Before drawing any conclusions from such comparisons it is recommended that the reader consult the source documents.

2.2 Major anthropometric surveys. The fifteen surveys utilized here provide eleven data sets on men and five on women. Seven represent U.S. Army personnel: U.S. Army Men (1946), U.S. Army Men (1966), U.S. Army male basic trainees (1966), U.S. Army aviators (1970), U.S. Army women (1946), U.S. Army women (1977), and U.S. Army men and women (1988). A survey of U.S. Marine Corps men (1966) is included, as well as surveys of U.S. Navy aviators (1964) and U.S. Navy recruits (1966). Five surveys are from the U.S. Air Force: USAF flying personnel (1950), USAF male basic trainees (1965), USAF flying personnel (1967), USAF WAF female basic trainees (1952), and USAF women (1968). Brief summaries of these fifteen anthropometric surveys are given as follows.

2.2.1 United States Army.

2.2.1.1. U.S. Army men (1946). A major anthropometric survey of U.S. Army personnel was carried out by the Quartermaster Corps in 1946 at the end of World War II. In this survey, 105,062 men were measured at six Army separation centers. Of the total series, 96,381 men were World War II separates and 8,681 men were new inductees. Sixty-six body measurements were made on all individuals. This was the first extensive Army anthropometric

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survey to be conducted primarily to provide body size information for the design, sizing, and tariffing of military clothing and personal equipment. The tremendous volume of data accumulated in this survey proved difficult to process in detail with punched cards before the availability of high-speed computers and magnetic tapes. Consequently, data for a selected sample of approximately 25,000 men were utilized as a "working series" for the 1946 Army men. A large number of technical reports have been published on these data and their use and applications in clothing and human engineering. A report on the methodology of this survey by Randall and Baer was published in 1947; this was subsequently republished in 1951 in a revised edition by Newman and White. The 1946 data on Army men were published in 1951 in a report by Newman and White containing bivariate charts and regression tables.

References: Randall, R. E. and M. J. Baer; edited and revised by R. W. Newman and R. M. White 1951 Survey of Body Size of Army Personnel, Male and Female - Methodology. Report No. 122 (Revised), U.S. Army Quartermaster Climatic Research Laboratory, Lawrence, Massachusetts. (AD 149 458)

Newman, R. W., and R. M. White 1951 Reference Anthropometry of Army men, Report No. 180, U.S. Army Quartermaster Climatic Research Laboratory, Lawrence, Massachusetts. (AD 149 451)

White, R. M. 1978 United States Army Anthropometry: 1946-1977. Technical Report NATICK/TR-79/007, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A068 095)

2.2.1.2 U.S. Army men (1966). As a part of the U.S. Armed Forces anthropometric surveys of 1966, 6,682 Army men were measured. The Army series included 2,639 (40%) basic trainees, 3,429 (51%) infantrymen, 489 (7%) armored crewmen, and a small group of 125 (2%) Army aviation personnel. The men were measured at twelve Army installations between November, 1965 and April 1966. Seventy body measurements were taken on each man. The anthropometric data from this survey represent the first major updating of body size information on U.S. Army personnel since the Quartermaster survey of 1946. A report on the 1966 survey of Army men by White and Churchill was published in 1971. Changes in the body size of Army men between 1946 and 1966 were discussed in this report.

References: White, R. M., and E. Churchill 1971 The Body Size of Soldiers: U.S. Army Anthropometry-1966. Technical Report 72-51-CE, U.S. Army Natick Laboratories, Natick Massachusetts. (AD 743 465)

White, R. M. 1978 United States Army Anthropometry: 1946-1977. Technical Report NATICK/TR-79/007, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A068 095)

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2.2.1.3 U.S. Army basic trainees (1966). The 1966 anthropometric survey of U.S. Army men included the measurement of 2,639 basic trainees. Seventy body measurements were taken on each man. The basic trainees of 1966 consisted of both draftees and Regular Army enlistees. Since they were just beginning their Army training, this was a group of young men with less than one month of service. The anthropometric data on Army basic trainees are included in the technical report of the 1966 survey.

References: White, R. M., and E. Churchill 1971 The Body Size of Soldiers: U.S. Army Anthropometry-1966. Technical Report 72-51-CE, U.S. Army Natick Laboratory, Natick, Massachusetts. (AD 743 465)

White, R. M. 1978 United States Army Anthropometry: 1946-1977. Technical Report NATICK/TR-79/007, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A068 095)

2.2.1.4 U.S. Army Aviators (1970). An anthropometric survey of U.S. Army aviation personnel was carried out in 1970 in which 1,482 men were measured at Fort Rucker, Alabama. The series included enlisted men (crew chiefs, door gunners, mechanics), warrant officer and warrant officer candidate trainees, warrant officer rated pilots, commissioned trainees, and commissioned rated pilots. Both fixed-wing and rotary-wing pilots were represented. Eighty-five body measurements were made on each individual. A technical report on the anthropometric survey of U. S. Army aviators by Churchill, McConville, Laubach and White was published in 1971.

Reference: Churchill, E., J. T. McConville, L. L. Laubach and R. M. White 1971 Anthropometry of U.S. Army Aviators-1970. Technical Report 72-52-CE, U.S. Army Natick Laboratories, Natick, Massachusetts. (AD 743 528)

2.2.1.5 U.S. Army Women (1946). In the anthropometric survey of U.S. Army personnel carried out in 1946 by the Quartermaster Corps, 8,864 U.S. Army women were measured at three Army separation centers. The women included 5,216 Women's Army Corps (WAC) officers and enlisted women, and 3,648 Army nurses. Sixty-five body measurements were taken. A report by Randall on the methodology of this survey was published in 1947, while the data on women were published in 1949 in a report by Randall and Munro containing bivariate charts and regression tables. In the first publications of the data, all the measurements taken on the women were not analyzed. Consequently, the 1946 anthropometric data on Army women subsequently were transferred from punched cards to magnetic tape in 1972 and the data were edited through the use of computer programs. As a result, anthropometric data for all of the body measurements taken now are available on 8,100 women; The change in the total from 8,864 to 8,100 women was the result of the elimination of faulty data in the original punched cards.

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References: Randall, R. E. 1947 Survey of Body Size of Army Personnel, Male and Female; Report No. 1 - Methodology and General Considerations (Female). Report No. 123, U.S. Army Quartermaster Climatic Research Laboratory, Lawrence, Massachusetts. (AD 209 809)

Randall, F. E., and E. H. Munro 1949 Reference Anthropometry of Army women. Report No. 149, U.S. Army Quartermaster Climatic Research Laboratory, Lawrence, Massachusetts. (AD 209 837)

White, R. M. 1978 United States Army Anthropometry: 1946-1977. Technical Report NATICK/TR-79/007, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A068 095)

2,2.1.6 U.S. Army Women (1977). An anthropometric survey of U.S. Army women was conducted between November, 1976 and February, 1977, with women being measured at Fort Sam Houston, Texas; Fort McClellan, Alabama; Walter Reed Medical Center, Washington, D.C.; and Fort Jackson, South Carolina Anthropometric data for 69 basic body measurements were obtained on a sample of 1,331 women. An additional 28 body measurements were taken on 255 women, and 31 head and face measurements were made on 216 women. In addition to the conventional anthropometry, 14 workspace measurements were taken on 300 women, and nine static muscle strength measurements were made on 349 women. The 1,331 women measured included 49 (4%) WAC officers, 67 (5%) student officers, 228 (17%) Army nurses, and 987 (74%) enlisted women. The 1977 survey of women resulted in the first updating of body size information on Army women since the Quartermaster survey of 1946. The results of the anthropometric survey of Army women were published in a series of four reports by various authors.

References: Laubach, L. L., J. T. McConville, E. Churchill and R. M. White 1977 Anthropometry of Women of the U.S. Army-1977; Report No. 1 - Methodology and Survey Plan. Technical Report NATICK/TR-77/021, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A043 715)

Churchill, E., T. Churchill, J. T. McConville and R. M. White 1977 Anthropometry of Women of the U.S. Army-1977; Report No. 2 - The Basic Univariate Statistics. Technical Report NATICK/TR-77/024, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A044 806)

Churchill, T., E. Churchill, J. T. McConville and R. M. White 1977 Anthropometry of Women of the U.S. Army-1977; Report No. 3 - Bivariate Frequency Tables. Technical Report NATICK/TR-77/028, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A046 692)

Tebbetts, I., T. Churchill and J. T. McConville 1980 Anthropometry of Women of the U.S. Army-1977; Report No. 4 - Correlation Coefficients. Technical Report NATICK/TR-80/016, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A084 119)

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White, R. M. 1978 United States Army Anthropometry: 1946-1977. Technical Report NATICK/TR-79/007, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A068 095)

2.2.1.7 U.S. Army Men and Women (1988). A major anthropometric survey of military personnel was carried out in 1988. The survey included over 132 body measurements on 5499 men and 3485 women. Demographic groups projected to increase in the next several decades were over-sampled so that the working data bases can be reconfigured as Army demographics shift in the coming decades. The initial working data bases are subsets of the survey sample that exactly match the demographics of the June 1988 active Army. The male working data base includes measurements on 1774 men: 66.1% White, 25.8% Black, 3.8% Hispanic, and 4.3% a mix of other racial/ethnic groups. 30.4% are aged 31 and over, 25.2% are between 25 and 30, 26.6% between 21 and 24, and 16.4% are aged 20 and under. The female working data base includes 2208 subjects: 51.6% White, 41.8% Black, 2.6% Hispanic, and 3.9% divided among other racial/ethnic groups. This sample includes 480 (21.7%) subjects aged 31 or over, 706 (32.0%) between 25 and 30, 659 (29.8%) between 21 and 24, and 363 (16.4%) aged 20 and under. This survey is unique in that it provides the first data base with completely comparable data on men and women. It is also the first survey to utilize oversampling and statistical matching procedures to create working data bases that can represent today's Army, tomorrow's Army, and the armies of our allies. A technical report containing interim summary statistics for this survey has been published; the final statistics will be published during the summer of 1989.

References:

Gordon, C.C., T. Churchill, C.E. Clauser, B. Bradtmiller, J.T. McConville, I. Tebbetts and R.A. Walker. "1988 Anthropometric Survey of U.S. Army Personnel: Summary Statistics Interim Report". Technical Report NATICK/TR-89/027, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

Clauser, C., I. Tebbetts, B. Bradtmiller, J. McConville and C.C. Gordon. "Measurer's Handbook: U.S. Army Anthropometric Survey 1987-1988". Technical Report NATICK/TR-88/043, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

Clauser, C.E., J. McConville, C.C. Gordon, and I. Tebbetts. "Selection of Dimensions for an Anthropometric Data Base, Volume I: Rationale, Summary, and Conclusions." Technical Report NATICK/TR-86/053, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

Clauser, C.E., J. McConville, C.C. Gordon, and I. Tebbetts. "Selection of Dimensions for an Anthropometric Data Base, Volume II: Dimension Evaluation Sheets." Technical Report NATICK/TR-86/054, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

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Annis, J.F., and C.C. Gordon. 'The Development and Validation of an Automated Headboard Device for Measurement of Three Dimensional Coordinates of the Head and Face." Technical Report NATICK/TR-88/048, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

Zehner, G., V. Deason, C. Ervin, and C.C. Gordon. "A Photographic Device for the Collection of Anthropometric Data on the Hand." Technical Report NATICK/TR-87/044, U.S. Army Natick Research, Development & Engineering Center, Natick, Massachusetts.

2.2.2 United States Marines Corps.

2.2.2.1 U.S. Marine Corps men (1966). As a part of the U.S. Armed Forces anthropometric surveys of 1966, 2,008 U.S. Marine Corps men were measured. The sample included 1,003 men measured at Camp Lejeune, North Carolina, and 1,005 men measured at Camp Pendleton, California. Seventy body measurements were taken on each man. When the U.S. Marine Corps anthropometric data were compared with U.S. Army anthropometric data, it was found that Marine Corps personnel were very similar to Army personnel in body size and proportions. A report on the 1966 anthropometric survey of U.S. Marine Corps men by White and Churchill was published in 1977.

Reference: White, R. M., and E. Churchill 1977 United States Marine Corps Anthropometry. Technical Report NATICK/TR-78/021, U.S. Army Natick Research and Development Command, Natick, Massachusetts. (AD A073 824)

2.2.3 United States Navy.

2.2.3.1 U.S. Navy Aviators (1964). An anthropometric survey of U.S. Navy aviation personnel was carried out in 1964 in which 1,549 men were measured at ten Naval and Marine Corps air stations. The series included designated Naval and Marine Corps aviation officers (pilots, observers, and flight surgeons), as well as enlisted men permanently designated as aeronautical personnel. Ninety-six body measurements were made on each individual. A technical report on the anthropometric survey of U.S. Navy aviators by Gifford, provost and Lazo was published in 1965. Technical assistance in this survey was furnished by Milton Alexander and Edmund Churchill of the U.S. Air Force.

References: Gifford, E. C., J. R. Provost and J. Lazo 1965 Anthropometry of Naval Aviators-1964. Report NAEC-ACEL-533, Aerospace Crew Equipment Laboratory, U.S. Naval Air Engineering Center, Philadelphia, Pennsylvania* (AD 626 322)

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Moroney, W. F. 1971 Selected Bivariate Anthropometric Distributions Describing a Sample of Naval Aviators-1964. Report NAMRL-1130, Naval Aerospace Medical Research Laboratory, Naval Aerospace Medical Center, Pensacola, Florida. (AD 723 796)

Moroney, W. F., and M. J. Smith 1972 Intercorrelations and Selected Descriptive Statistics for 96 Anthropometric Measures on 1549 Naval Aviation Personnel. Report NAMRL-1165, Naval Aerospace Medical Research Laboratory, Naval Aerospace Medical Center, Pensacola, Florida. (AD 754 780)

2.2.3.2 U.S. Navy recruits (1966). As a part of the U.S. Armed Forces anthropometric surveys of 1966, 4,095 U.S. Navy recruits were measured. The sample included 2,042 men measured at the Naval Recruit Training Center, San Diego, California, and 2,053 men measured at the Naval Recruit Training Center, Great Lakes, Illinois. Seventy body measurements were taken on each man. Since they were just beginning their Navy training this was a group of young enlistees with less than one month of service. A technical report on the results of the anthropometric survey of U.S. Navy recruits in 1966 has not been published as yet.

2.2.4 United States Air Force.

2.2.4.1 U.S. Air Force flying personnel (1950). An anthropometric survey of U.S. Air Force flying personnel was conducted in 1950 in which 4,063 men were measured at fourteen Air Force bases. The series consisted of 2,498 (61%) officers, 606 (15%) cadets, and 959 (24%) enlisted airmen. The aero-ratings included pilots, bombardiers, navigators, observers, flight engineers, gunners, and radio operators. One hundred and thirty-two body measurements were taken, The anthropometric survey was the first major survey carried out by the U.S. Air Force; the technical report of the survey by Hertzberg, Daniels and Churchill, published in 1954, was widely used and referenced as a source of anthropometric data for many years. The data presented in the original report were analyzed prior to the availability of modern computer facilities. Subsequently, millimeter values recorded during the survey but not generally used in the original analyses, were added, the data were thoroughly edited, and some incomplete data were deleted. The “modernized” data are based on a series of 4,000 men.

References:

Hertzberg, H.T.E., G.S. Daniels, and E. Churchill 1954 Anthropometry of Flying Personnel-1950. WADC Technical Report 52-321, Aero Medical Laboratory, Wright-Patterson Air Force Base, Ohio. (AD 47 953)

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2.2.4.2 U.S. Air Force basic trainees (1965). An anthropometric survey of U.S. Air Force men was carried out in 1965 in which 3,869 men were measured. Over 500 officers and about 800 enlisted airmen were measured in the early stages of the survey. The major portion of the survey took place at Lackland Air Force Base near San Antonio, Texas, where 2,527 male basic trainees were measured. One hundred and fifty-seven body measurements and grip strength were measured. While a U.S. Air Force technical report on the survey itself has not been published, the data on the 1965 USAF basic trainees have been included in a 1978 report by Churchill, Kikta and Churchill.

Reference:

Churchill, E., P. Kikta and T. Churchill 1978 Intercorrelation of Anthropometric Measurements: A Source Book for USA Data. Technical Report AMRL-TR-77-2, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio. (AD A058 616)

2.2.4.3 U.S. Air Force flying personnel (1967). The second major anthropometric survey of U.S. Air Force personnel was conducted in 1967, some 17 years after the pioneering survey of flying personnel carried out in 1950. A sample of 2,420 men, all of whom were officers on active flying status, were measured at about 20 Air Force bases. Rated pilots made up 49% of the sample, student pilots 21%, rated navigators 21%, and student navigators 8%. One hundred and eighty-six body dimensions and grip strength were measured. A U.S. Air Force technical report has not been published on the results of this survey. However, the 1967 anthropometric data on USAF flying personnel have been included in a 1975 NATO-AGARD report, edited by Grunhofer and Kroh.

References:

Grunhofer, H. J., and G. Kroh (eds.) 1975 A Review of Anthropometric Data of German Air Force and United States Air Force Flying Personnel 1967-1968. AGARD-ograph No. 205, North Atlantic Treaty Organization, Advisory Group for Aerospace Research and Development (NAT-AGARD), Neuilly sur Seine, France. (AD A010 674)

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2.2.4.4 U.S. Air Force WAF basic trainees (1952). An anthropometric survey of USAF Women of the Air Force (WAF) was carried out in 1952 in which 852 women undergoing basic training were measured at Lackland Air Force Base, Texas. Sixty-four body measurements were taken. This represented a group of young women, with 65% of the subjects being under the age of 20 years. A technical report on this anthropometric survey by Daniels, Meyers and Worrall was published in 1953.

Reference: Daniels, G. S., H. C. Meyers, Jr. and S. H. Worrall 1953 Anthropometry of WAF Basic Trainees. Technical Report WADC-TR-53-12, Aero Medical Laboratory, Wright-Patterson Air Force Base, Ohio. (AD 20 542)

2.2.4.5 U.S. Air Force women (1968). An anthropometric survey of U.S. Air Force women was conducted in 1968, with women being measured at six Air Force bases. One hundred and twenty-three body dimensions and grip strength were measured on a sample of 1,905 women. Thirteen of the measurements were repeated on about-three-quarters of the survey sample with the subjects wearing foundation garments. The 1,905 women measured included 73 (3.8%) officers, 86 (4.5%) officer trainees, 389 (20.4%) USAF nurses, 333 (17.5%) basic trainees, and 1,024 (53.8%) enlisted women. This constituted the first major anthropometric survey of American women since the end of World War II. An extensive report on the anthropometric survey of U.S. Air Force women by Clauser and co-authors was published in 1972.

References: Clauser, C. E., P. Tucker, J. T. McConville, E. Churchill, L. L. Laubach and J. Reardon 1972 Anthropometric Survey of Air Force Women-1968. Technical Report AMRL-TR-70-5, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, "Ohio. (AD 743 113)

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2.3 Anthropometric studies. In addition to the basic surveys representing sources of body size information, anthropometric data from five specialized studies also have been included in the collation in order to supplement the data on the head and face, the hands, and the feet. These five studies are: the Chemical Warfare Service face study (1945), U.S. Air Force ear study (1957), U.S. Air Force studies of men's and women's hands (1968), and the Fort Knox foot study (1946). Brief summaries of these five studies are given as follows.

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2.3.1 Chemical Warfare Service face study (1945). In 1944, a project was initiated by the Army's Chemical Warfare Service Development Laboratory to obtain anthropometric data for use in designing and sizing gas mask facepieces. In this study, forty head and face measurements were made on 3,075 U.S. Army enlisted men at Camp Sibert, Alabama. Following detailed analyses of the data, a set of ten head forms was developed; these subsequently were reproduced in permanent form in bronze. The ten head forms consisted of: a) an average head (No. 3), representing the mean of all measurements for the entire group; b) four heads (Nos. 1, 2, 4, 5), forming a graded series based on the sum of face length, face breadth, and face depth, with other dimensions representing the average measurements associated with the various face sizes; and c) five heads (Nos. 6-10), representing certain disharmonic combinations of face length, breadth, and depth, intended to illustrate types of variation other than of total face size. The ten bronze head forms which resulted from this unique study are still in use in the development of military head and face protective items and equipment. The anthropometric data of this study are contained in two reports published by the Chemical Warfare Service Development Laboratory in 1945.

References: Brues, A. M. 1945 Study of Anthropometric Data. M.I.T. - M.R. No. 106, Chemical Warfare Service Development Laboratory, Massachusetts Institute of Technology, Cambridge, Massachusetts. (ATI 128 658) Chemical Warfare Service 1945 C.W.S. Anthropometric Data on Faces and Heads. C.W.S Pamphlet No. MIT 1, Chemical Warfare Service Development Laboratory, Massachusetts Institute of Technology, Cambridge, Massachusetts.

2.3.2 U.S. Air Force ear study (1957)* In 1957, 2,236 USAF male flying personnel were measured photographically, using the PhotoMetric system. A random sample of 500 slides were selected from the total series for a detailed analysis of ear dimensions. Fourteen measurements were made on left ears, including ear length, ear length above tragion, ear breadth, and eleven radii from the tragus. A technical report of the USAF ear study by Alexander and Laubach was published in 1968.

Reference: Alexander, M., and L. L. Laubach 1968 Anthropometry of the Human Ear (A Photogrammetric Study of USAF Flight Personnel). Technical Report AMRL-TR-67-203, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio. (AD 670 869)

2.3.3 U.S. Air Force men's hands (1968). In 1968, 56 anthropometric measurements were obtained on the right hands of 148 USAF male flying personnel. Most hand and finger measurements were made on a special measuring board; finger diameters were measured with sliding calipers and circumferences were measured with a steel tape. A technical report on the anthropometric data of USAF men's hands by Garrett was published in 1970.

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Reference: Garrett, J. W. 1970 Anthropometry of the Hands of Male Air Force Flight Personnel. Technical Report AMRL-TR-69-42, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio. (AD 709 883)

2.3.4 U.S. Air Force women's hands (1968). In 1968, 56 measurements were obtained on the right hands of 211 USAF female personnel. Most hand and finger measurements were made on a special measuring board; finger diameters were measured with sliding calipers and circumferences were measured with a steel tape. A technical report on the anthropometric data of USAF women's hands by Garrett was published in 1970.

Reference: Garrett, J. W. 1970 Anthropometry of the Air Force Female Hand. Technical Report AMRL-69-26, Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio. (AD 710 202)

2.3.5 Fort Knox foot study (1946). An anthropometric survey of the feet of U.S. Army men was carried out in 1945 at the Armored Medical Research Laboratory, Fort Knox, Kentucky. A total of 6,278 white subjects and 1,281 black subjects were examined in all. The white subjects were either in basic training or were members of the enlisted cadre at the Armored Replacement Training Center at Fort Knox. For the most part, those in basic training were in their third month of Army service. The black subjects were Army Air Corps personnel, principally ground enlisted men from Godman Field, adjacent to Fort Knox, who had been in the service from one to four years. All of these subjects were not included in the final study. Analyses were made on the data for 5,575 white and 1,200 black subjects. The subjects not a part of the final study were excluded because of practice runs, photographic failures, or clinical findings of gross physical "defects in the feet. Twenty-seven foot measurements were taken, together with height and weight. Most of the length and breadth measurements of the feet were obtained from photographic plates of the soles of the feet, enlarged to 8 x 10 inch size. Additional foot measurements were made with tapes, calipers, and various templates. Analyses of these foot data have been used extensively for many years in the development and sizing of military footwear. The Fort Knox study was a unique effort; such a foot survey has never been repeated. The results of the survey of the feet of U.S. Army men were presented in a report by Freedman and co-authors, published in 1946. Additional detailed analyses of the foot data were made by Randall and published in a report by Randall, Munro and White. A factorial analysis of the Fort Knox foot data was later carried out by Jeffery and Thurstone and published in a 1955 report.

References: Freedman, A., E. C. Huntington, G. C. Davis, R. B. Magee, V. M. Milstead and C. M. Kirkpatrick 1946 Foot Dimensions of Soldiers. Project No. T-13, Armored Medical Research Laboratory, Fort Knox, Kentucky. (AD 658 652)

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Randall, F. E., E. H. Munro and R. M. White 1951 Anthropometry of the Foot (U.S. Army white Male). Report No. 172, U.S. Army Quartermaster Climatic Research Laboratory, Lawrence, Massachusetts. (AD 103 423)
Jeffrey, T. E., and L. L. Thurstone 1955 A Factorial Analysis of Foot Measurements. (Contract Report, University of North Carolina, Chapel Hill, N.C.) Technical Report EP-10, U.S. Army Quartermaster Research and Development Center, Natick, Massachusetts. (AD 66 971)

2.4 Other anthropometric surveys and studies. A considerable amount of body size information of U.S. military personnel in the form of anthropometric data may be found in the reports of additional surveys or studies which have not been included in the basic collation of anthropometric data of this handbook. For the most part, these represent surveys of lesser importance, or earlier surveys which have been largely superseded by later and more representative surveys. These additional surveys and studies are briefly summarized as follows. Complete citations of the reports on these additional surveys may be found in the list of references.

2.4.1 United States Army.

2.4.1.1 World War I. A large volume of anthropometric data and statistics on World War I soldiers was published by the Medical Department of the U.S. Army. In this monumental work, Davenport and Love (1921) analyzed data on some 2,000,000 draft recruits of 1917-1918, and on 100,000 troops demobilized in 1919. While a large part of the material in this volume consists of medical or clinical information, it is significant that extensive analyses were made of the correlations between body size and clothing size. In fact, many of the procedures utilized today in applied military anthropometry may be traced to the work of Davenport and Love in 1921.

2.4.1.2 Infantry and armored crewmen (1966). The anthropometric survey of U.S. Army men carried out in 1966 included 70 measurements on 3,429 infantry personnel and 489 armored crewmen. Anthropometric data for these two series of Army men may be found in the technical report by White and Churchill (1971).

2.4.1.3 DRAGON missile (1967). A significant study combining anthropometry and human factors engineering in the development of the DRAGON XM-47 guided missile system was carried out in 1967 by anthropologists of the McDonnell Company. In this study, sixteen body measurements were made on 254 U.S. Army enlisted men at Fort Riley, Kansas. The results of this study may be found in a report by Collins, Jantz and Ellis (1967).

2.4.1.4 Basic trainees (1977). At the conclusion of the anthropometric survey of U.S. Army women in 1977, a small sample of 287 U.S. Army male basic trainees was measured at Fort Jackson, South Carolina, in order to obtain anthropometric, workspace, and strength data for Army men which would be

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directly comparable with the data obtained on Army women. The men's data were published in a technical report by McConville, Churchill, Churchill and White (1977).

2.4.1.5 Aviation personnel (1959 and 1968). The first anthropometric survey of U.S. Army aviation personnel was carried out in 1959 in which 500 Army aviators were measured at four Army posts; 40 body measurements were taken. This survey was reported by White (1961). In another study, nine body measurements were made on 1,640 U.S. Army warrant officer candidate flight trainees at Fort Rucker, Alabama, in 1967–1968, and reported by Schane, Littell and Moultrie (1969).

2.4.2 United States Marine Corps.

2.4.2.1 U.S. Marines (1949). Although an anthropometric survey of 2,000 U.S. Marine Corps men was carried out at Camp Lejeune, North Carolina, and Camp Pendleton, California, in 1949 by William J. Beer, a Marine Corps officer, the results were not published in report form.

2.4.2.2 U.S. Marines (1973). A study of the body size and body composition of U.S. Marine Corps men was carried out in 1973. The study included 35 anthropometric measurements on a sample of 297 Marines at Quantico, Virginia. A paper on this study by Wright and Wilmore was published in 1974.

2.4.3 United States Navy.

2.4.3.1 Navy pilots (1960). An anthropometric survey of 1,190 U.S. Navy pilots was conducted in 1957-1958, in which 25 body measurements were taken. This survey was reported by Gifford (1960). The data of this survey have been superseded by the 1964 survey of U.S. Navy aviators.

2.4.3.2 Navy divers (1971-1972). In 1971, 17 body measurements were made on 41 male divers at the Navy Experimental Diving Unit, Washington, D.C. in order to provide design and sizing data for diving equipment. The anthropometric data were reported by Beatty, Berghage and Chandler (1971). In a second study, 54 body measurements were made on a series of 100 U.S. Navy divers at the Naval School, Diving and Salvage, and the Experimental Diving Unit. The divers measured included divers first class, $He0_2$ diving officer students, and diver first class students. A report on the anthropometric data of this study was prepared by Beatty and Berghage (1972).

2.4.3.3 Navy Aviator students (1966-1969). A study was carried out in 1971 by the Naval Aerospace Medical Institute (NAMI) in which data on six body measurements were analyzed for a series of 6,534 Naval aviation personnel. The subjects consisted of student naval aviators and student naval flight officers who entered flight training between January 1966 and August 1969. The results of this study were reported by Moroney, Kennedy, Gifford and Provost (1971).

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2.4.4 United States Air Force.

2.4.4.1 Cadets and gunners (1942). In a 1942 Army Air Forces anthropometric survey, twenty-eight body measurements were taken on 2,961 Army Air Force cadets and 584 gunners, primarily for the purpose of developing design and sizing parameters for aircraft gun turrets. Data from this early anthropometric survey may be found in the report by Randall, Damon, Benton and Patt (1946).

2.4.4.2 Women pilots and nurses (1942). In another Army Air Forces anthropometric survey, thirty-one body measurements were made on 447 Women Army Service pilots (WASP) at the Army Air Forces Training Detachment (AAFTD), Avenger Field, Texas and 152 Army Air Forces flying nurses at the Army Air Forces School of Air Evacuation (AAFSAE), Bowman Field, Kentucky. Data from this early survey of women may be found in the report by Randall, Damon, Benton and Patt (1946).

2.4,4.3 Basic trainees (1952), In 1952, 3,331 U.S. Air Force male basic trainees were measured at Lackland, Parks, and Sampson Air Force Bases. Sixty anthropometric measurements were taken. The data from this survey are contained in a report by Daniels, Meyers and Churchill (1953).

2,4.5 United States Military Veterans.

2.4.5.1 Spanish-American War Veterans (1959). An anthropometric survey of a series of 130 Spanish-American War veterans was carried out in 1959. Forty-seven body measurements were made on men who ranged between 72 to 91 years of age, with a mean age of 81.6 years. This study was reported in a paper by Damon and Stoudt (1963).

2.4.5,2 VA normative aging study. Damon and Stoudt also participated in the initiation of a normative aging study of U.S. male veterans, being conducted by the Boston Outpatient Clinic of the Veterans Administration in Boston, Massachusetts. In the first round of the study, fifty-one body measurements were made on a series of 2,200 men who had an average age of 43 years, with a range in age between 22 to 82 years. Anthropometric data have been reported for the total series and for six age groupings in a paper by Damon, Seltzer, Stoudt and Bell (1972). This VA study is continuing and a second round of measurements has been made, but the results are not available as yet.

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3.1 Technical references. A total of 50 selected references are cited below, covering all of the anthropometric surveys and studies discussed in the previous section. For the most part, these represent technical reports published by the various Armed Forces. Additional detailed information regarding anthropometric data or the techniques and definitions of body measurements may be found in these original reports. Also included in the listed references are 10 magnetic tapes of anthropometric data prepared for the AMRL Data Bank Library which are available from the Defense Technical Information Center (DTIC).

3.1.2 Acquisition of technical reports. Copies of technical reports prepared and published by the Armed Forces are forwarded to the Defense Technical Information Center (DTIC) for cataloging and the assignment of an "AD" or accession number . Government agencies (and their contractors registered with DTIC) may obtain copies of reports from: Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22314. Others may request reports from: National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22951. The AD number should be cited when requesting reports.

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3.2 General bibliography. A general bibliography is included here in order to provide additional selected sources of information in the field of anthropometry.

3.2.1 Annotated bibliographies. Five annotated bibliographies are referenced. The first, and most recently published, is Volume III of the NASA Anthropometric Source Book. The annotated bibliography of anthropometry was compiled by the staff of the Anthropology Research Project and published in 1978. It includes 226 references covering U.S. military anthropometry, as well as references for anthropometry of many countries abroad. A second annotated bibliography is that prepared by White and published in 1977. This bibliography contains 123 references for U.S. Army publications in anthropology during the 30 years between 1947 and 1977. A third annotated bibliography prepared by Reid and published in 1976, consists of references to 153 U.S. Air Force Publications in anthropology during the 30 years between 1946 and 1976. An addendum has been issued for this bibliography, containing references to 15 additional reports published through July, 1978. Two older annotated bibliographies are more of historical interest. The bibliographical survey prepared “by Staples and published in Canada in 1964, contains many references on anthropometry and clothing. An annotated bibliography prepared by Hansen and Cornog and published by the U.S. Air Force in 1958, also contains anthropometric data, as well as references in applied physical anthropology.

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3.2.2 General reference publications. Other sources of information on anthropometry may be found in several general publications. The three-volume NASA Anthropometric Source Book, published in 1978, provides extensive and up-to—date information on the whole field of anthropometry. Volume I contains discussions of anthropometry and its applications, and Volume II consists of detailed anthropometric data. (Volume III - Annotated Bibliography of Anthropometry has been cited above). Another general reference is the Human Engineering Guide to Equipment Design. This volume, edited by Van Cott and Kinkade and published in 1972, is a revised edition of the earlier 1963 Human Engineering Guide. However, much of the anthropometric data in the newer edition unfortunately now is out of date. A third useful general publication is the two-volume Data-book for Human Factors Engineers, edited by Kubokawa and published by NASA in 1969. Volume I consists of human engineering data, while Volume II contains reference information on formulas, metrics, and definitions.

3.2.3 Textbooks. A textbook by Roebuck, Kroemer and Thomson (1975) on Engineering Anthropometry Methods represents a very useful source of general information on anthropometric techniques, methodology, and applications. Another, somewhat older textbook is that of Damon, Stoudt and McFarland (1966) on the Human Body in Equipment Design. While the anthropometric data of this volume now are dated, the book is still useful for its presentation of the subject.

3.2.4 References on anthropometry. In the specific area of anthropometry, the encyclopedia two-volume Collation of Anthropometry by Garrett and Kennedy (1971) is a valuable and useful source of technical information on anthropometry, particularly concerning measurement techniques, definitions of measurements, and comparability of dimensions, as well as anthropometric data. The book reporting on the NATO anthropometric surveys of Turkey, Greece and Italy by Hertzberg, Churchill, Dupertuis, White and Damon (1963) contains a presentation of the methodology and techniques of anthropometric surveys, as well as those of anthropometric measurements. A technical report by McConville and Churchill (1976) on Statistical Concepts in Design is a useful source of information on the technical and often difficult problems encountered in the statistical applications of anthropometric data. Finally, a paper by White (1978) on Anthropometry and Human Engineering consists of an extensive general review article summarizing the sources of anthropometric data and their applications in the field of human factors engineering.

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4. THE ANTHROPOMETRIC DATA

4.1 Anthropometric measurements. The main part of this handbook consists of a listing of anthropometric data derived from the body measurements of U.S. military personnel. The anthropometric data presented here represents body measurements made without clothing. Men were measured wearing only undershorts and women were measured wearing only bra and panties. Suitable allowances or overages should be added to these body measurements when the data are used for clothing design and sizing. Allowances for standard, protective, or environmental clothing and equipment should be added when the anthropometric data are utilized for human engineering purposes.

4.2 Metric measurements. Body measurements in virtually all anthropometric surveys are made in the metric system of measurement. All of the anthropometric data presented here are given in centimeters, except for age which is given in years, weight which is expressed in kilograms, and grip strength which is expressed in newtons. Metric measurements may be converted to English units by the following rules:

Centimeters	÷	2.54 = inches
Kilograms	x	2.205 = pounds
Newtons	x	4.448 = pounds of force

4.3 Format for table of anthropometric data. The anthropometric data are presented in a unique format in order to facilitate ready and convenient reference. The data for each body of measurement are given in tables on two facing pages. In table “a” on the upper page are shown the various statistical values, such as means, standard deviations, and ranges, while selected percentile values are presented in table “b” on the lower or facing page. In this way, all of the available data for any body dimension may be found in one place on the two facing pages. Anthropometric data for the men’s series are given first, followed by the data for the women’s series. They are arranged with the most recent data listed first.

4.4 Summary of body measurements. The collation of anthropometric data presented here consists of data for a total of 203 measurements. Age and weight are included. Thirty-two of the body measurements are height or length measurements, made with subjects standing erect (such as Stature, Crotch Height, or Functional Reach). Seventeen are measurements taken with subjects in a seated position (Sitting Height, Buttock-Knee Length). Eighteen are depth and breadth measurements of the body (Chest Depth, Shoulder Breadth). There are twelve circumferences representing body girths (Chest/Bust Circumference, Waist Circumference), nine circumferences of the arm (Biceps Circumference, Wrist Circumference), and eight circumferences of the leg (Thigh Circumference, Calf Circumference)” Twenty-two of the body measurements are surface measurements made with a steel tape lying along the surface of the body (Waist Back Length, Sleeve Length). There are 54 detailed measurements of the head and face, including circumferences, arcs, lengths, breadths, and heights, as well as measurements of the eyes, nose, mouth, and

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ears. Ten measurements of the hand are given, as well as eleven measurements of the foot. Also included in the collation are six measurements of skinfold thicknesses, and dynamometer grip strength. A listing of the body measurements arranged by the type of measurement may be found in the Appendix, Paragraph 10. Body measurements have been included in the collation of data only if they have been measured in at least two of the basic anthropometric surveys. Data for 133 body measurements made in only one survey have not been included. These measurements may be identified in the listings of body measurement terminology given in the Appendix, Paragraph 20; anthropometric data for these measurements may be found in the referenced technical reports.

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5. DEFINITIONS

5.1 Methods of measurement. A listing of brief definitions of the 203 body measurements included in the collation of anthropometric data is given here. Illustrations of the measurements are included on the pages facing the definitions. Definitions are necessary to identify the type of body measurement, the position of the subject when measured, and the location of the measurement on the body. Measurements usually are made on the right side of the body, the right arm or leg, or the right hand or foot.

5.1.1 Standing measurements. Standing measurements are taken with the subject standing erect, with the head level, the heels together, the weight equally distributed on both feet, and the arms hanging naturally. Most standing measurements are vertical distances measured from the floor to a specified point or landmark on the body. Some measurements taken with the subject standing represent segments of the arm, or reach measurements. Standing measurements are made with an anthropometer. NOTE: An anthropometer is a device used to measure the transverse diameters of the body and various heights. It typically consists of a rigid graduated rod with movable blades. It is usually graduated in 1 millimeter increments and is usually about 2 meters long.

5.1.2 Sitting measurements. Sitting measurements are taken with the subject sitting erect,. with the head level, the upper arms hanging relaxed, the forearms and hands' extended forward horizontally, the knees together, and the feet resting on a surface adjusted so that the knees are bent at right angles. Sitting measurements include vertical distances from the sitting surface to a specified point on the body and vertical or horizontal measurements of segments of the arm or leg. Sitting measurements are made with an anthropometer.

5.1.3 Depth and breadth measurements. Depth and breadth measurements represent horizontal diameters taken at various levels of the body. Depths are taken from front to back, while breadths are taken from side to side. Most depth and breadth measurements are taken while the subject is standing, although some are taken with the subject in a seated position. An anthropometer is used to take depth and breadth measurements.

5.1.4 Circumferences. Body circumferences are girth measurements taken with a steel tape held horizontally at various levels of the torso. Circumferences of the arm or leg are taken with the tape held in a plane perpendicular to the long axis of the limb.

5.1.5 Surface measurements. Surface measurements are made with a steel tape, with the tape lying along the surface of the body or arm. Most of the surface measurements have been derived from tailoring measurements which are used primarily in the development of clothing patterns.

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5.1.6 Head and face measurements. Detailed head and face measurements are used in the development and sizing of helmets and other headwear or protective equipment for the head and face (gas masks, respirators, goggles. Circumferences and arcs are taken with a steel tape. Other dimensions of the head and face are taken with spreading or sliding calipers. Some horizontal and vertical measurements of the head and face are made with the use of a headboard which consists of two boards rigidly fixed at a right angle. The headboard is fastened to a wall surface and may be raised or lowered. When making head measurements, the subject stands under the headboard which is then lowered so that the horizontal surface touches the top of the head and the vertical surface touches the back of the head. Horizontal head measurements are made from landmarks back to the vertical surface of the headboard (back of head) and vertical measurements are made from the landmarks up to the horizontal surface (top of head). In the 1988 U.S. Army survey, an automated headboard device was used to collect three-dimensional coordinates of the head and face (see Annis, J. F. and Gordon, C. C., 1988). Three-dimensional coordinates of the following 26 head and face landmarks were collected: right and left tragion, right and left infraorbitale, right and left alare, right and left cheilion, right and left gonion, right and left zygion, right and left ectoorbitale, right and left zygofrontale, right and left frontotemporale, crinion, glabella, sellion, Pronasale, subnasale, stomion, promenton, and menton. Many of the head and face dimensions in the 1988 survey were derived from the three-dimensional coordinates of these points.

5.1.7 Hand measurements. Hand measurements usually are taken with the hand held palm up and the fingers extended. Hand lengths and breadths are made with sliding calipers, while circumferences are taken with a tape.

5.1.8 Foot measurements. Foot measurements usually are made with the subject standing with the right foot aligned in a foot board and the weight equally distributed on both feet. Foot lengths and breadths are measured in the foot board, while circumferences are measured with a tape.

5.1.9 Skinfold thickness measurements. Skinfold thickness measurements are measured with special calipers at specified locations on the body. The skinfold thicknesses are used to calculate estimates of the amount or percentage of the subject's body fat.

5.1.10 Grip strength. Grip strength, usually measured on the right hand, is measured by the hand dynamometer.

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5.2 List of body measurement definitions. Brief definitions of 203 body measurements are arranged alphabetically below. Related illustrations are on the pages following the definitions.

1 Abdominal Depth, Sitting - the depth of the abdomen, with the subject sitting.

2 Acromion–Radiale Length - the length of the upper arm, from the tip of the shoulder (acromion) to the uppermost point of the lateral margin of the proximal end of the radius (radiale).

3+4 Age - age in years, as of the subject's last birthday. (Not illustrated)

5 Ankle Circumference – the minimum circumference of the lower leg, measured just above the ankle bones.

6 Ankle Height - the vertical distance from the floor to the level of the minimum circumference of the lower leg.

7 Anterior Neck Length - the surface distance from the lowest point in the notch at the upper edge of the breastbone (suprasternale) to the junction of the neck and lower jaw.

8 Axilla Height - the vertical distance from the floor to the armpit (axilla).

9 Axilla to Waist Length - the surface distance from the armpit (axilla) to the level of the waist (natural indentation).

10 Axillary Arm Circumference - the circumference of the upper arm, measured just below the armpit (axilla).

11 Back Curvature - Chest/Bust Level - the surface distance across the back at the level of the chest or bust, from the midaxillary line on the right side to the same point on the left side. (This is the back portion of Chest/Bust Circumference.)

12 Ball of Foot Circumference - the maximum circumference of the foot, measured over the medial and lateral balls of the foot (metatarsal-phalangeal joints).

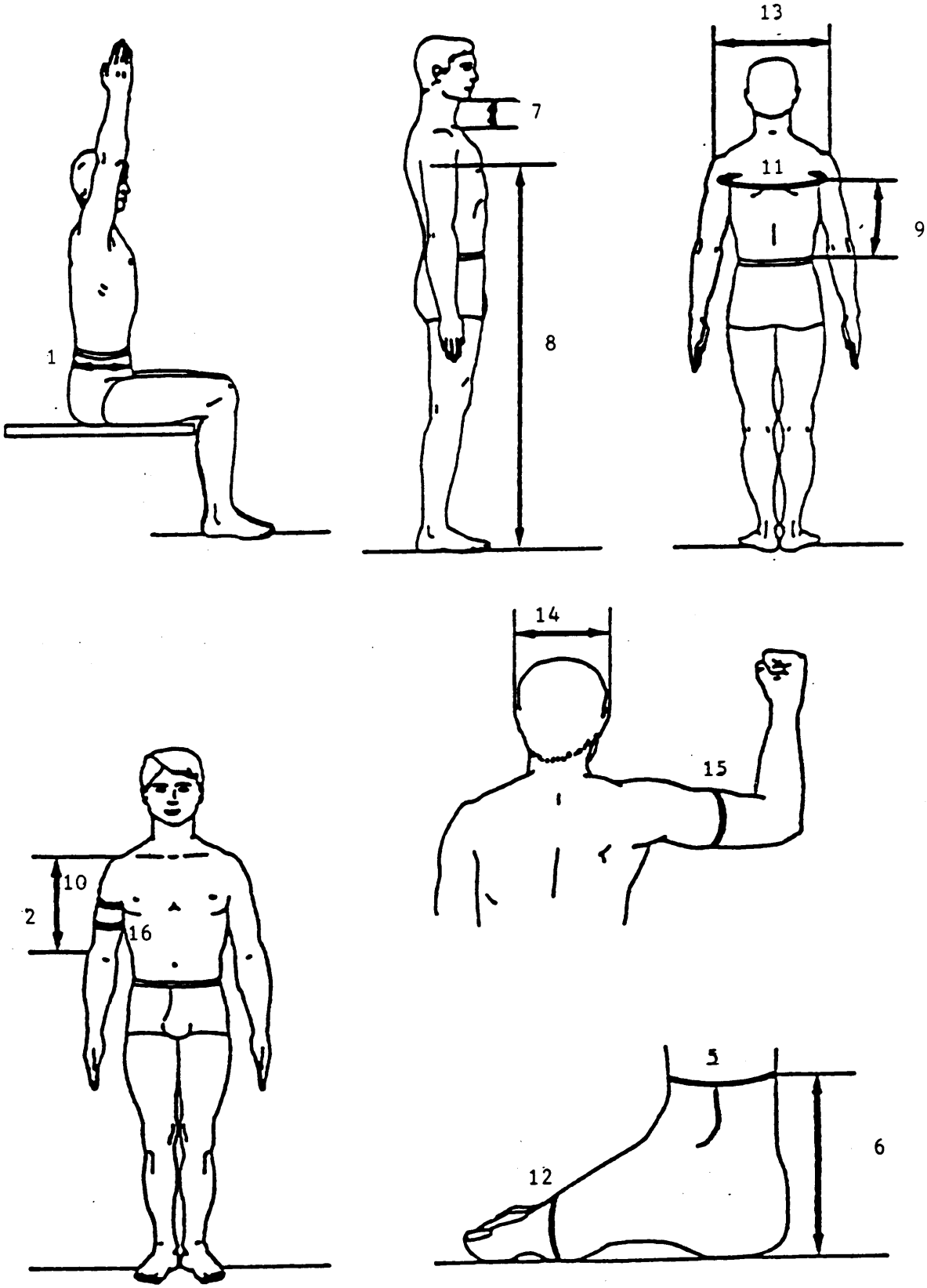
13 Biacromial Breadth - the breadth across the shoulders from the point of the right shoulder (acromion) to the point of the left shoulder.

14 Biauricular Breadth - the distance from the most lateral point of the right ear to the same point of the left ear.

15 Biceps Circumference, Flexed - the maximum circumference of the biceps muscle of the upper arm, measured with the arm bent, fist clenched, and muscles flexed.

16 Biceps Circumference, Relaxed - the circumference of the upper arm midway between the shoulder and the elbow, measured with the arm hanging relaxed.

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17 Bigional Breadth - the breadth of the lower jaws between the genial angles at the back of the jaws.

18 Bi-iliocristale Breadth - the breadth of the torso between the upper outer edges of the hip bones (iliac crests).

19 Bimalleolar Breadth - the breadth between the protrusions of the medial and lateral ankle bones (medial and lateral malleoli).

20 Biocular Breadth - the distance between the outer corners of the eyes (right and left ectocanthi).

21 Bitragion Breadth - the breadth of the head from the right tragion to the left. (Tragion is the cartilaginous notch at the front of the ear).

22 Bitragion-Coronal Arc-- the distance from right to left tragion, measured with the tape passing over the the top of the head. (Tragion is the cartilaginous notch at the front of the ear).

23 Bitragion-Inion Arc - the distance from right to left tragion, measured with the tape passing over inion at the back of the head. (Tragion is the cartilaginous notch at the front of the ear).

24 Bitragion-Menton Arc - the distance from right to left tragion, measured with the tape passing over the tip of the chin (menton). (Tragion is the cartilaginous notch at the front of the ear).

25 Bitragion-Minimum Frontal Arc - the distance from right to left tragion, measured with the tape passing over the forehead (temporal crests). (Tragion is the cartilaginous notch at the front of the ear.)

26 Bitragion-Posterior Arc - the distance from right to left tragion, measured with the tape passing over the base of the skull at the back of the head. (Tragion is the cartilaginous notch at the front of the ear.)

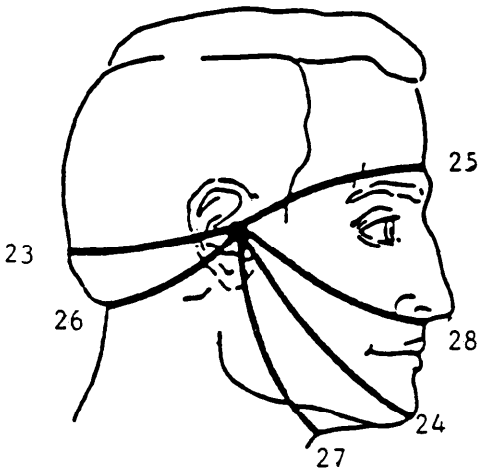
27 Bitragion-Submandibular Arc - the distance from right to left tragion, measured with the tape passing under the genial angles of the jaw. (Tragion is the cartilaginous notch at the front of the ear.)

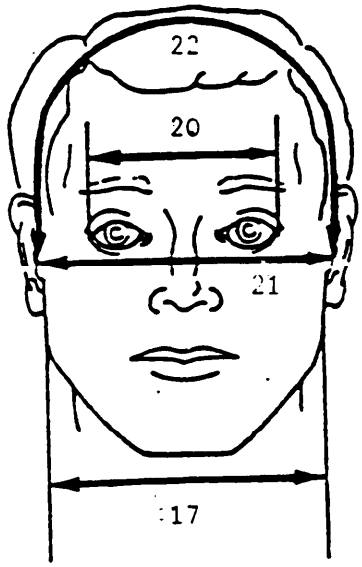
28 Bitragion-Subnasale Arc - the distance from right to left tragion, measured with the tape passing just below the nose (subnasale). (Tragion is the cartilaginous notch at the front of the ear.)

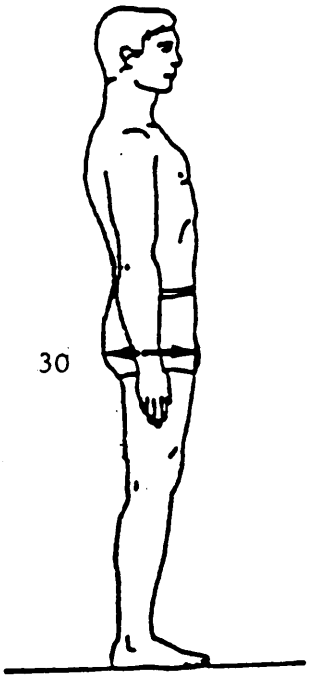
29 Bustpoint-Bustpoint Breadth - the distance between the points of the bra (nipples) l

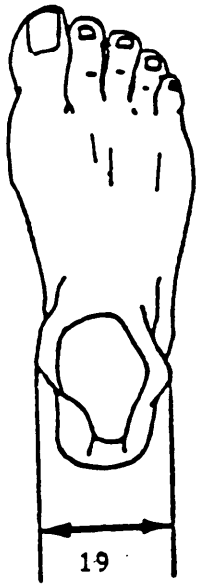
30 Buttock Depth - the depth of the torso, measured at the level of the maximum protrusion of the buttocks.

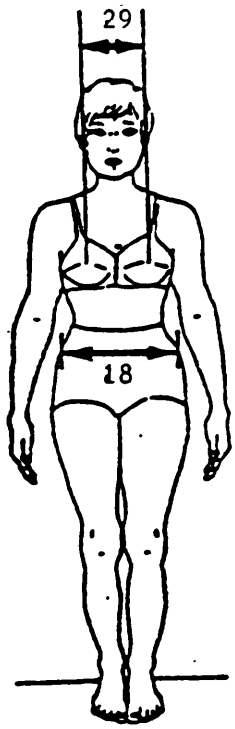
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31 Buttock Height - the vertical distance from the floor to the maximum posterior protrusion of the buttock.

32 Buttock-Knee Length - the horizontal distance from the back of the buttock to the front of the knee, measured with the subject sitting.

33 Buttock-Popliteal Length - the horizontal distance from the back of the buttock to the back of the lower leg just below the knee, measured with the subject sitting.

34 Calf Circumference - the maximum circumference of the lower leg.

35 Calf Height - the vertical distance from the floor to the level of the maximum circumference of the lower leg.

36 Cervicale Height - the vertical distance from the floor to the cervicale, the tip of the spine of the seventh cervical vertebra at the base of the neck.

37 Chest Breadth - the breadth of the torso measured at the level of the nipples.

38 Chest/Bust Circumference - the circumference of the torso measured at the level of the nipples.

39 Chest/Bust Depth - the depth of the torso measured at the level of the nipples.

40 Chest/Bustpoint Height - the vertical distance from the floor to the center of the nipple or the point of the bra.

41 Chest Circumference at Scye - the circumference of the torso measured just below the armpits.

42 Chest Circumference below Bust - the circumference of the torso measured below the cups of the bra.

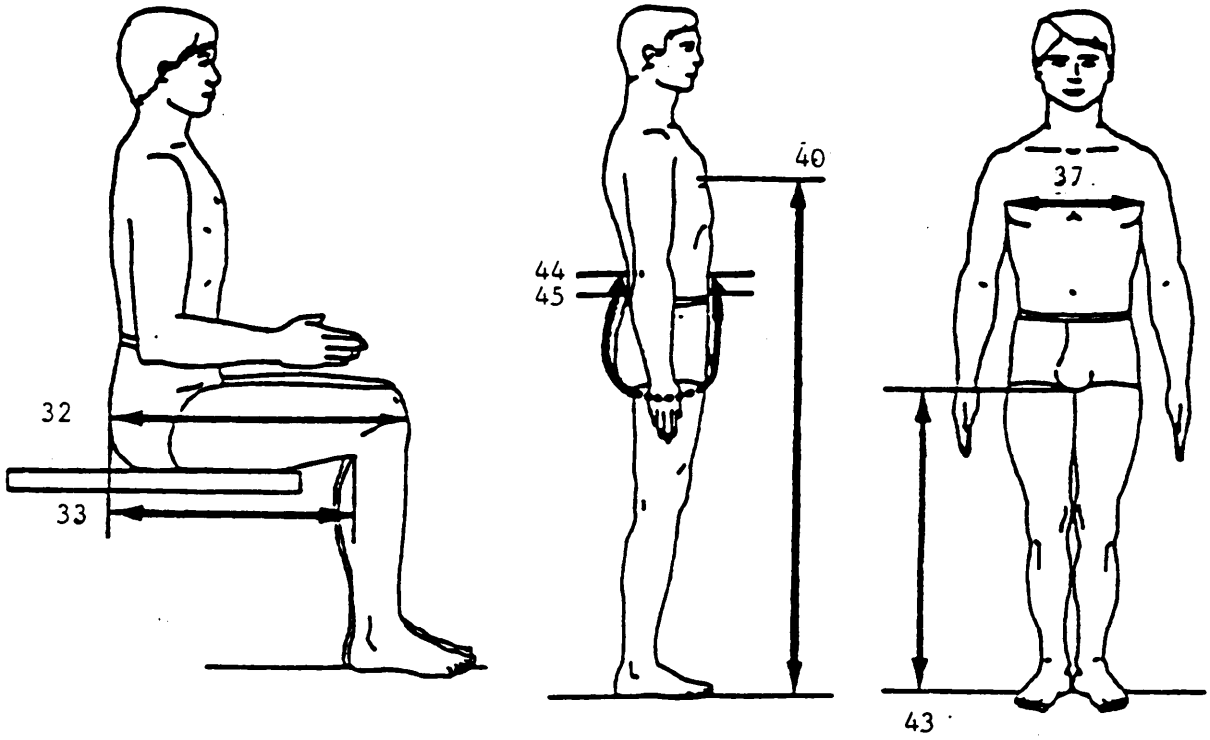
43 Crotch Height - the vertical distance from the floor to the midpoint of the crotch.

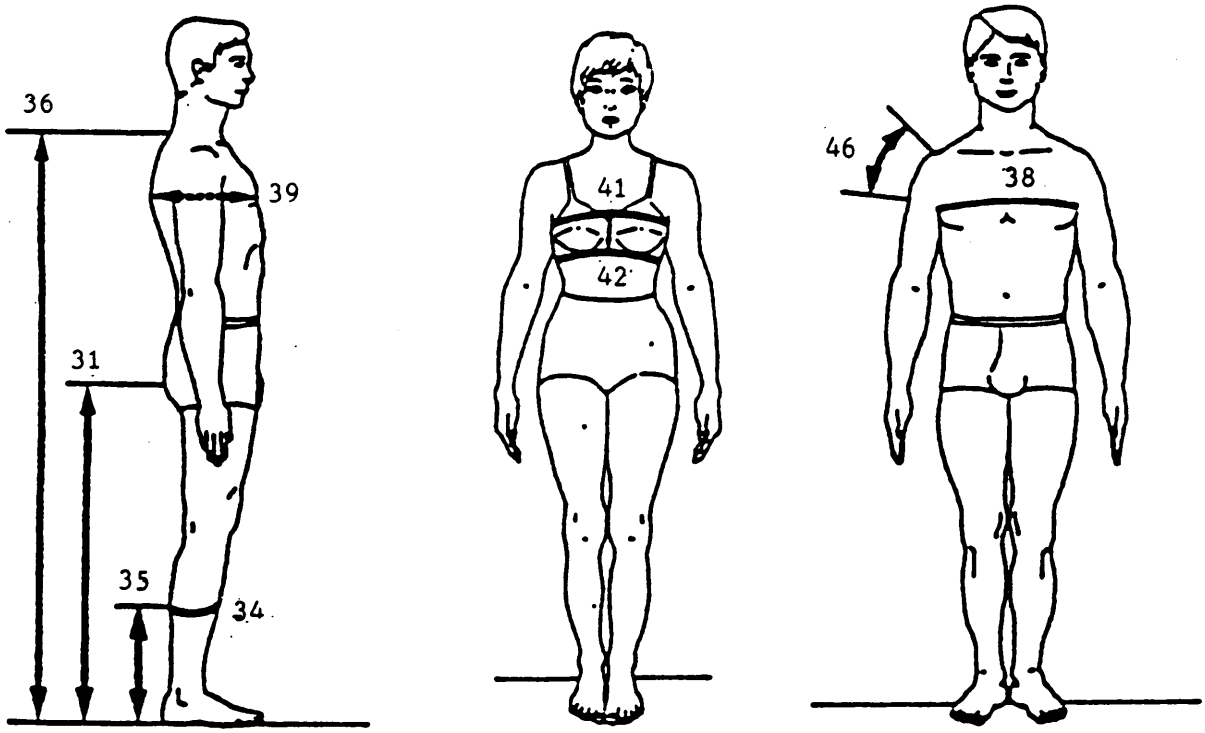
44 Crotch Length (Natural Indentation) - the surface distance from the anterior midpoint of the waist at the level of the natural indentation of the waist to the same level on the back, measured With the tape passing through the crotch and over the maximum protrusion of the buttocks.

45 Crotch Length (Omphalion) - the surface distance from the anterior midpoint of the waist at the level of the navel (omphalion) to the same level on the back, measured with the tape passing through the crotch and over the maximum protrusion of the buttocks.

46 Deltoid Arc - the surface distance over the bulge of the deltoid muscle in the upper arm, measured from the point of the shoulder (acromion) to the point where the muscle disappears into the arm.

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47 Ear Breadth - the breadth of the ear, measured perpendicular to its vertical axis.

48 Ear Length - the maximum length of the ear, measured along its vertical axis.

49 Ear Length above Tragion - the distance along the vertical axis of the ear from tragion to the top of the ear. (Tragion is the cartilaginous notch at the front of the ear.)

50 Ear Protrusion - the horizontal distance from the bony point just behind the ear to the most lateral protrusion of the ear.

51 Ectocanthus to back of head - the horizontal distance from the outer corner of the eye (ectocanthus) to the back of the head, measured with a headboard.

52 Ectocanthus to top of head - the vertical distance from the outer corner of the eye (ectocanthus) to the level of the top of the head, measured with a headboard.

53 Elbow Circumference, Flexed - the circumference of the elbow, measured with the tape passing over the tip and through the crotch of the elbow, with the arm bent, the upper arm horizontal, and the fist clenched.

54 Elbow Circumference, Relaxed - the circumference of the elbow, measured with the tape passing over the tip of the elbow, and with the arm hanging relaxed.

55 Elbow-Fingertip Length - the horizontal distance from the back of the elbow to the tip of the middle finger, with the hand extended.

56 Elbow-Grip Length - the horizontal distance from the back of the elbow to the center of the clenched fist,

57 Elbow (Humeral) Breadth - the breadth across the epicondyles of the humerus, measured with firm pressure.

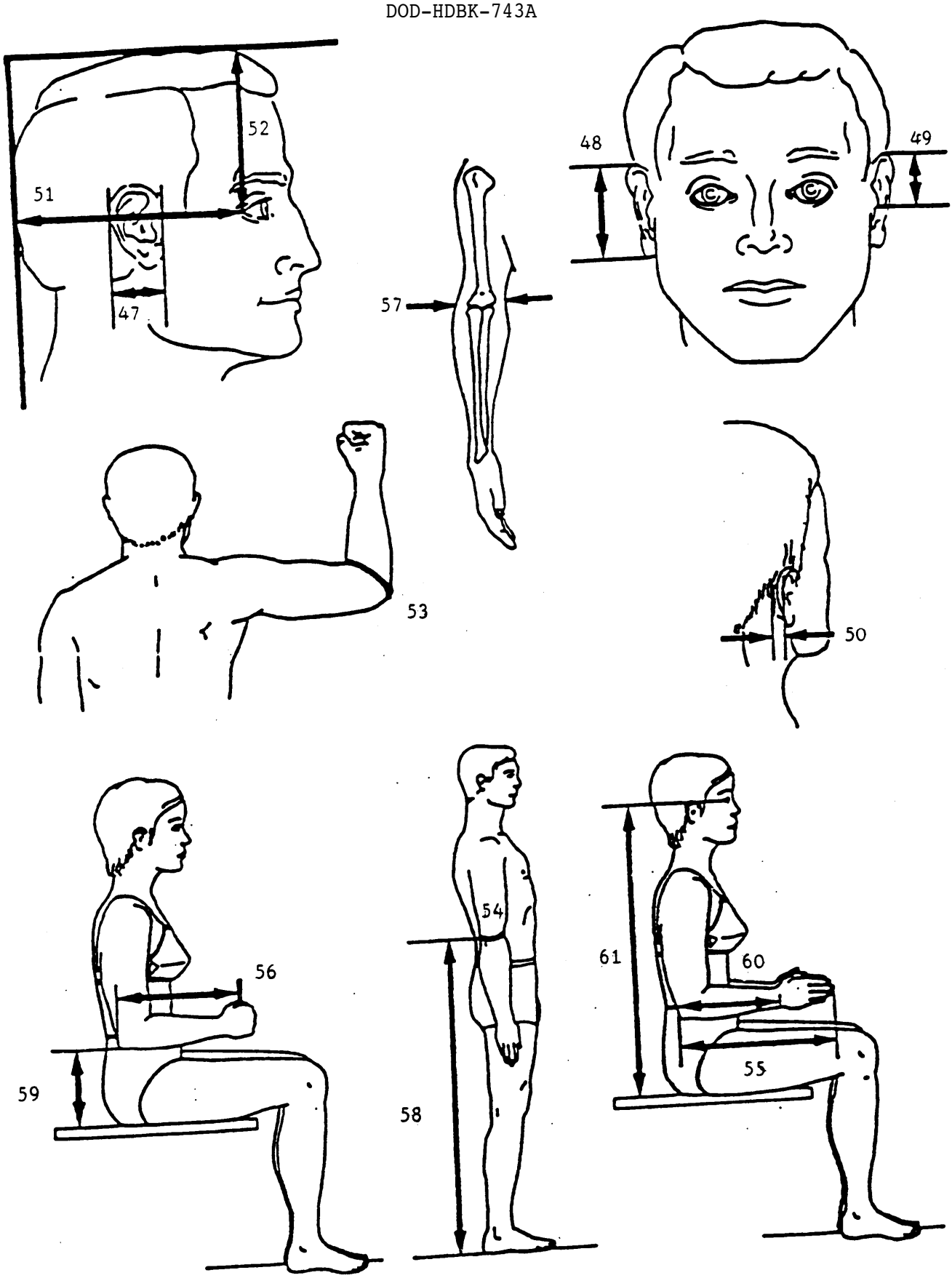
58 Elbow (Radiale) Height - the vertical distance from the floor to the elbow, measured with the arm hanging relaxed. The measurement is made to radiale, the uppermost point on the lateral margin of the proximal end of the radius.

59 Elbow Rest Height - the vertical distance from the sitting surface to the bottom of the tip of the elbow, measured with the subject sitting and the forearm held horizontally.

60 Elbow - Wrist Length - the horizontal distance from the back of the elbow to the tip of the styloid process of the radius.

61 Eye Height, Sitting - the vertical distance from the sitting surface to the outer corner of the eye (ectocanthus), measured with the subject sitting.

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62 Face Breadth (Bizygomatic) - the breadth of the face, measured across the most lateral projections of the cheek bones (zygomatic arches).

63 Face Length (Menton-Sellion) - the vertical distance from the tip of the chin (menton) to the deepest point of the nasal root depression between the eyes (sellion).

64 Finger Diameter - the diameter of the largest joint of the middle finger.

65 Fingertip (Dactylion) Height - the vertical distance from the floor to the tip of the middle finger (dactylion), with the arm hanging relaxed and the hand and fingers extended.

66 Fist Circumference - the circumference of the clenched fist (with the thumb lying across the end of the fist), measured with the tape passing over the thumb and the knuckles.

67 Foot Breadth - the maximum breadth of the foot, measured at right angles to its long axis.

68 Foot Length - the length of the foot from the heel to the tip of the longest toe.

69 Forearm Circumference, Flexed - the maximum circumference of the forearm, measured with the arm bent, the upper arm held horizontally, the fist clenched, and the muscles flexed.

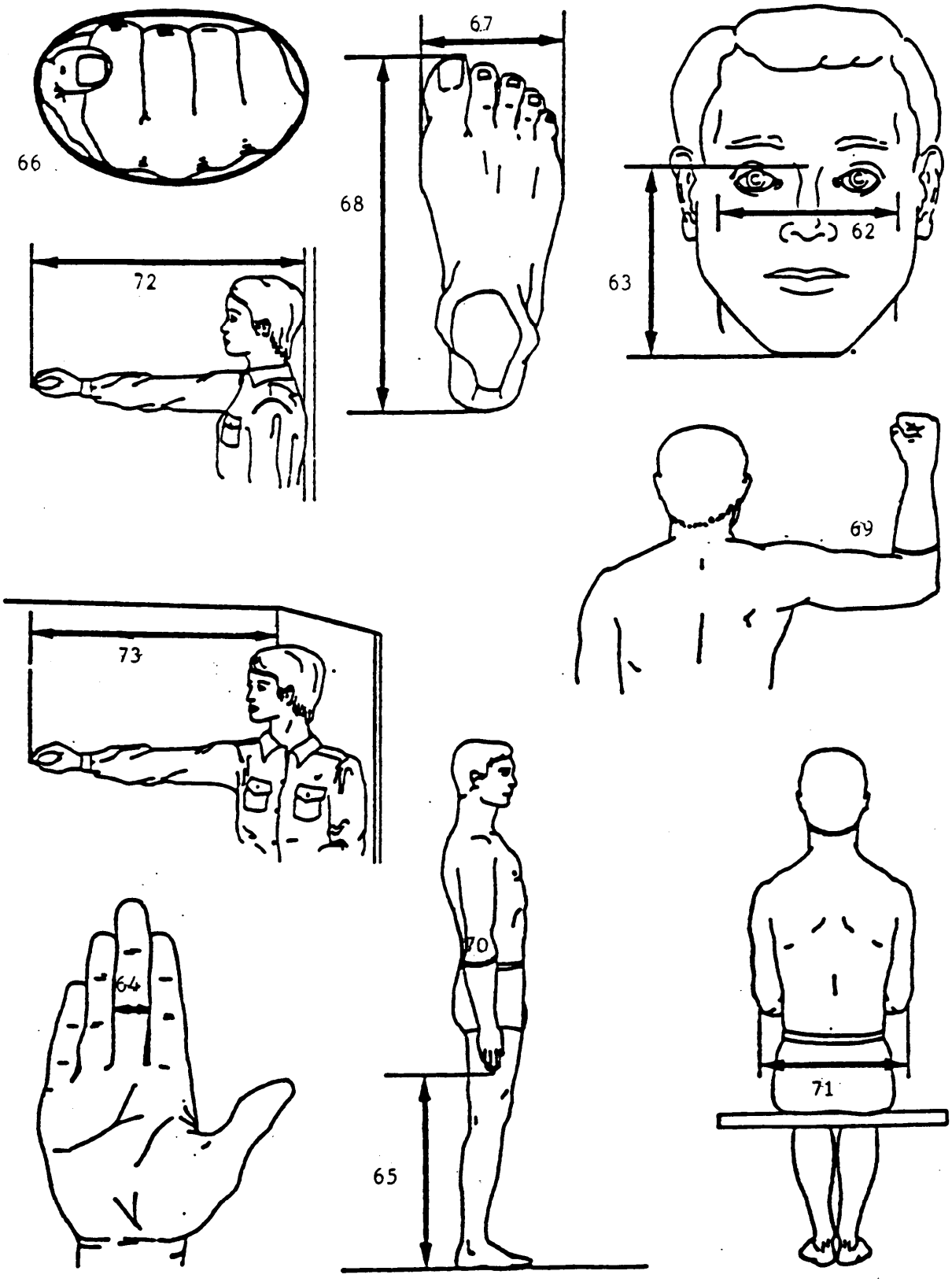
70 Forearm Circumference, Relaxed - the maximum circumference of the forearm, measured with the arm hanging relaxed.

71 Forearm-Forearm Breadth,Sitting - the horizontal distance across the body between the outer surfaces of the forearms, measured with the forearms flexed and held against the body.

72 Functional (Thumb-Tip) Reach - the horizontal distance from the wall to the tip of the thumb, measured with the subject's shoulders against the wall, the arm extended forward, and the index finger touching the tip of the thumb.

73 Functional (Thumb-Tip) Reach, Extended - measured similarly to Functional (Thumb-Tip) Reach, except that the right shoulder is extended forward as far as possible, while the left shoulder is kept pressed firmly against the wall.

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74 Glabella to back of head- the horizontal distance from the most anterior point of the forehead between the brow-ridges (glabella) to the back of the head, measured with the headboard.

75 Glabella to top of head- the vertical distance from the most anterior point of the forehead between the brow-ridges (glabella) to the level of the top of the head, measured with a headboard.

76 Gluteal Arc - the surface distance over the buttock, measured from the level of the waist down to the gluteal furrow.

77 Gluteal Furrow Height -the vertical distance from the floor to the furrow where the curve of the buttock intersects the thigh.

78 Grip Strength - the grip strength of the hand, as measured with the hand dynamometer. (Not illustrated)

79 Hand Breadth - the breadth of the hand, measured across the ends of the metacarpal bones (metacarpal-phalangeal joints).

80 Hand Breadth at Thumb - the breadth of the hand, measured around the middle of the joint of the thumb.

81 Hand Circumference - the circumference of the hand, measured around the knuckles (metacarpal-phalangeal joints).

82 Hand Circumference at Thumb - the circumference of the hand, measured with the tape passing over the base of the thumb.

83 Hand Length - the distance from the base of the hand at the wrist crease to the tip of the middle finger.

84 Hand Thickness - the thickness of the knuckle of the middle finger (metacarpal-phalangeal joint).

85 Head Breadth - the maximum breadth of the head, usually above and behind the ears.

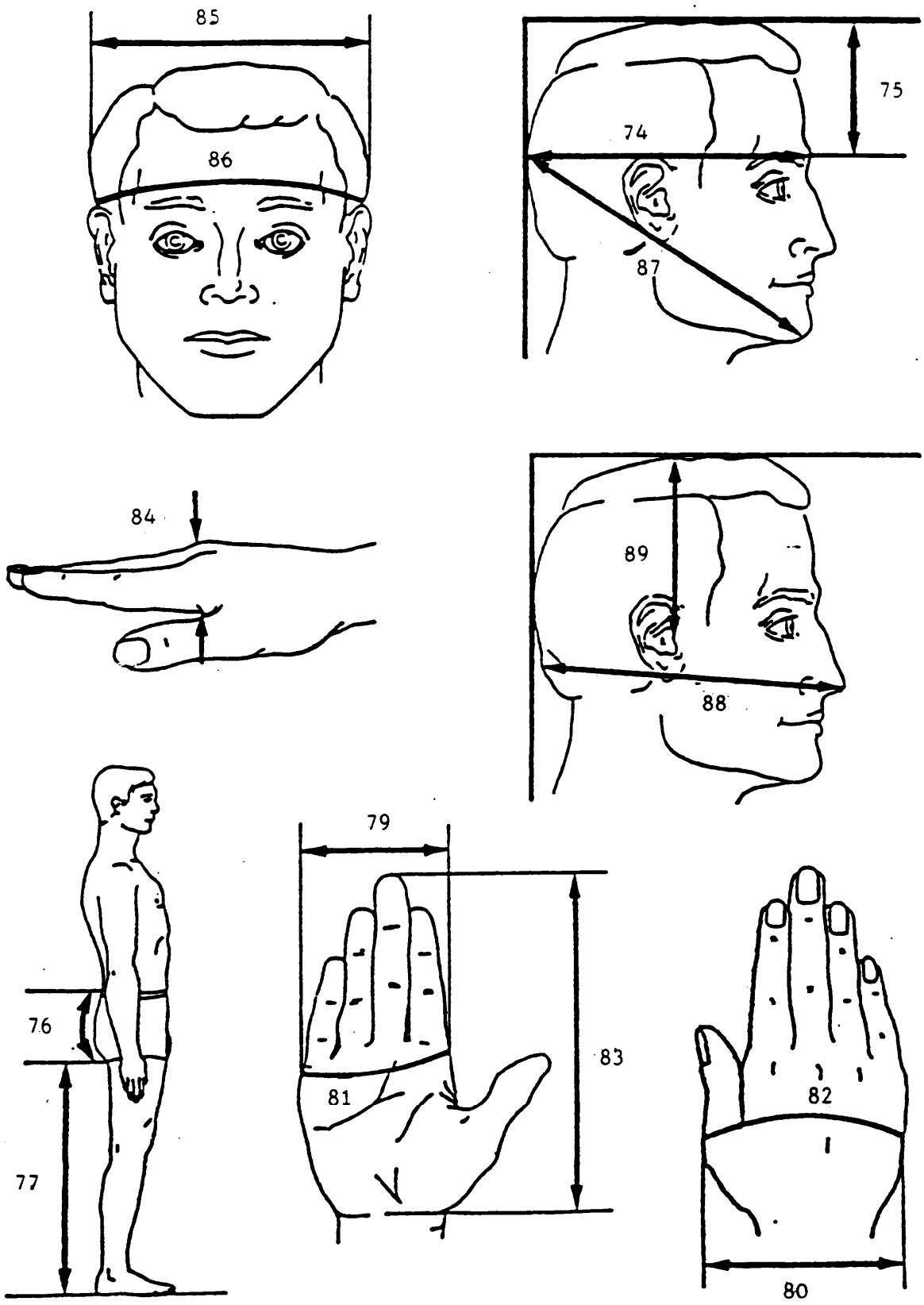
86 Head Circumference - the maximum horizontal circumference of the head, measured with the tape passing above the brow-ridges and the ears.

87 Head Diagonal: Menton to Occiput - the diagonal distance from the chin (menton) to the back of the head (occiput).

88 Head Diagonal: Nuchale to Pronasale - the diagonal distance from the base of the skull (nuchale) to the tip of the nose (pronasale).

89 Head Height (Tragion to top of head) - the vertical distance from tragion to the level of the top of the head, measured with a headboard. (Tragion is the cartilaginous notch at the front of the ear.)

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90 Head Length - the maximum length of the head, measured from the most anterior point of the forehead between the brow-ridges (glabella) to the back of the head (occiput).

91 Heel-Ankle Circumference - the girth around the foot, measured with the tape passing under the tip of the heel and over the instep at the junction of the foot and the leg.

92 Heel Breadth - the maximum breadth of the heel, measured behind the projections of the ankle bones (malleoli).

93 Hip Breadth, Sitting - the breadth of the body, measured across the widest part of the hips, with the subject sitting.

94 Hip Breadth, Standing - the maximum breadth across the hips, measured with the subject standing.

95 Hip (Buttock) Circumference, Sitting - the circumference of the hips, measured with the subject sitting, and with the tape passing under the buttocks and diagonally up across the lap.

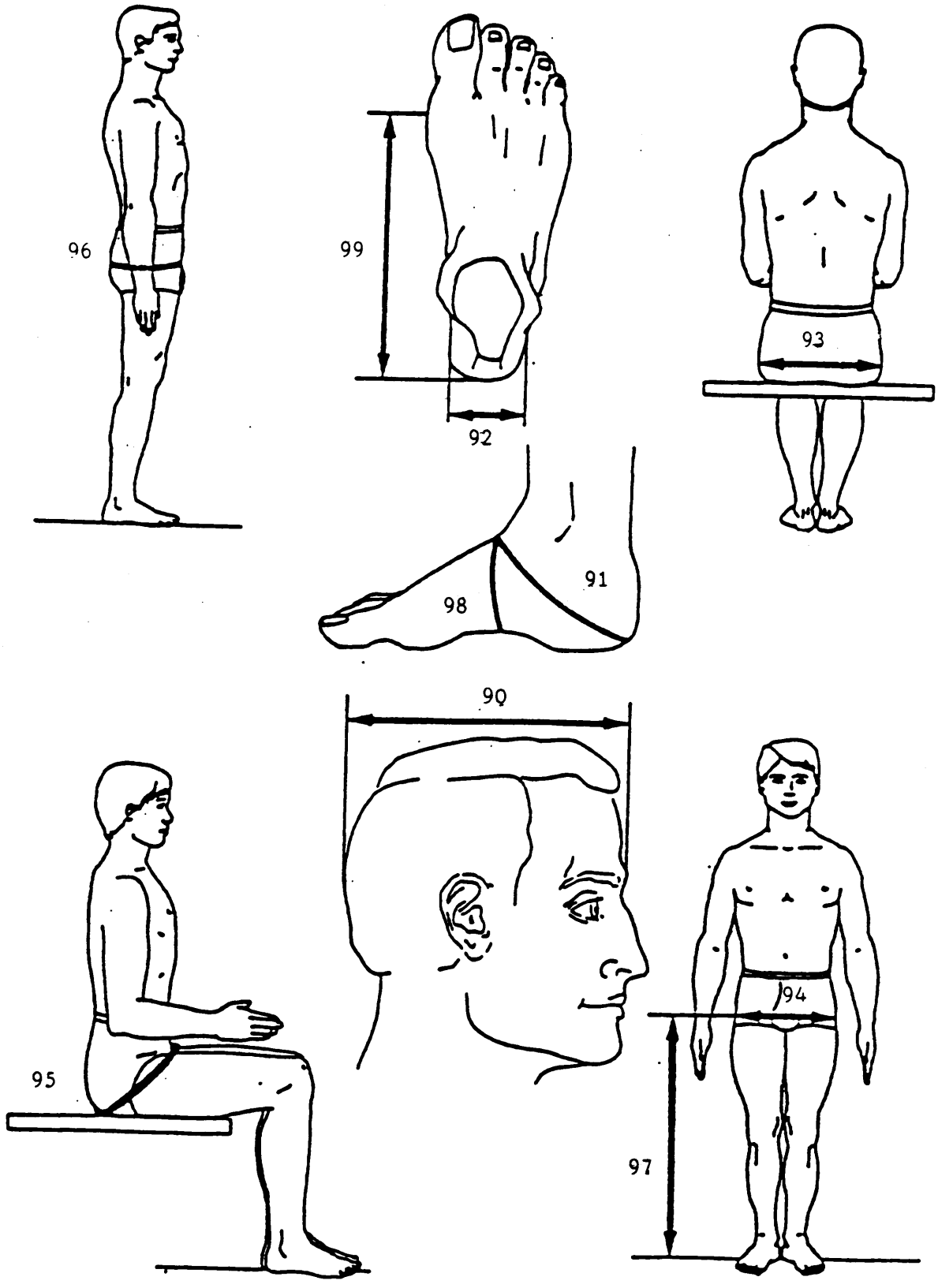
96 Hip (Buttock) Circumference, Standing - the circumference of the hips, at the level of the maximum posterior protrusion of the buttocks, measured with the subject standing.

97 Hip (Trochanteric) Height - the vertical distance from the floor to the level of the maximum posterior protrusion of the greater trochanter of the femur (trochanterion).

98 Instep Circumference - the vertical girth of the foot, measured with the tape passing under the foot and over the junction of the foot and the leg.

99 Instep Length - the distance from the heel to the center of the inner ball of the foot (first metatarsal-phalangeal joint).

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100 Interocular Breadth - the distance between the inner corners of the eyes.

101 Interpupillary Breadth - the distance between the centers of the pupils of the eyes (The eyes are looking straight ahead).

102 Interscye, Back - the surface distance across the back between the posterior axillary folds.

103 Interscye, Maximum - the surface distance across the back between the scye points, measured with the subject's arms extended forward.

104 Juxta-Nipple Skinfold Thickness - the thickness of the skinfold picked up diagonally just above the nipple.

105 Knee Circumference, Sitting - the maximum circumference of the knee, measured with the subject sitting, and with the tape passing under the popliteal area and over the tip of the knee.

106 Knee Circumference, Standing - the circumference of the knee, measured with the subject standing, and with the tape passing over the midpoint of the kneecap (patella).

107 Knee (Femoral) Breadth - the breadth across the epicondyles of the femur, measured with firm pressure.

108 Knee Height, Midpatella - the vertical distance between a standing surface and the center of the right knee.

109 Knee Height, Sitting - the vertical distance from the footrest surface to the top of the knee, measured with the subject sitting.

110 Kneecap (Patella) Height - the vertical distance from the floor to the top of the kneecap (patella).

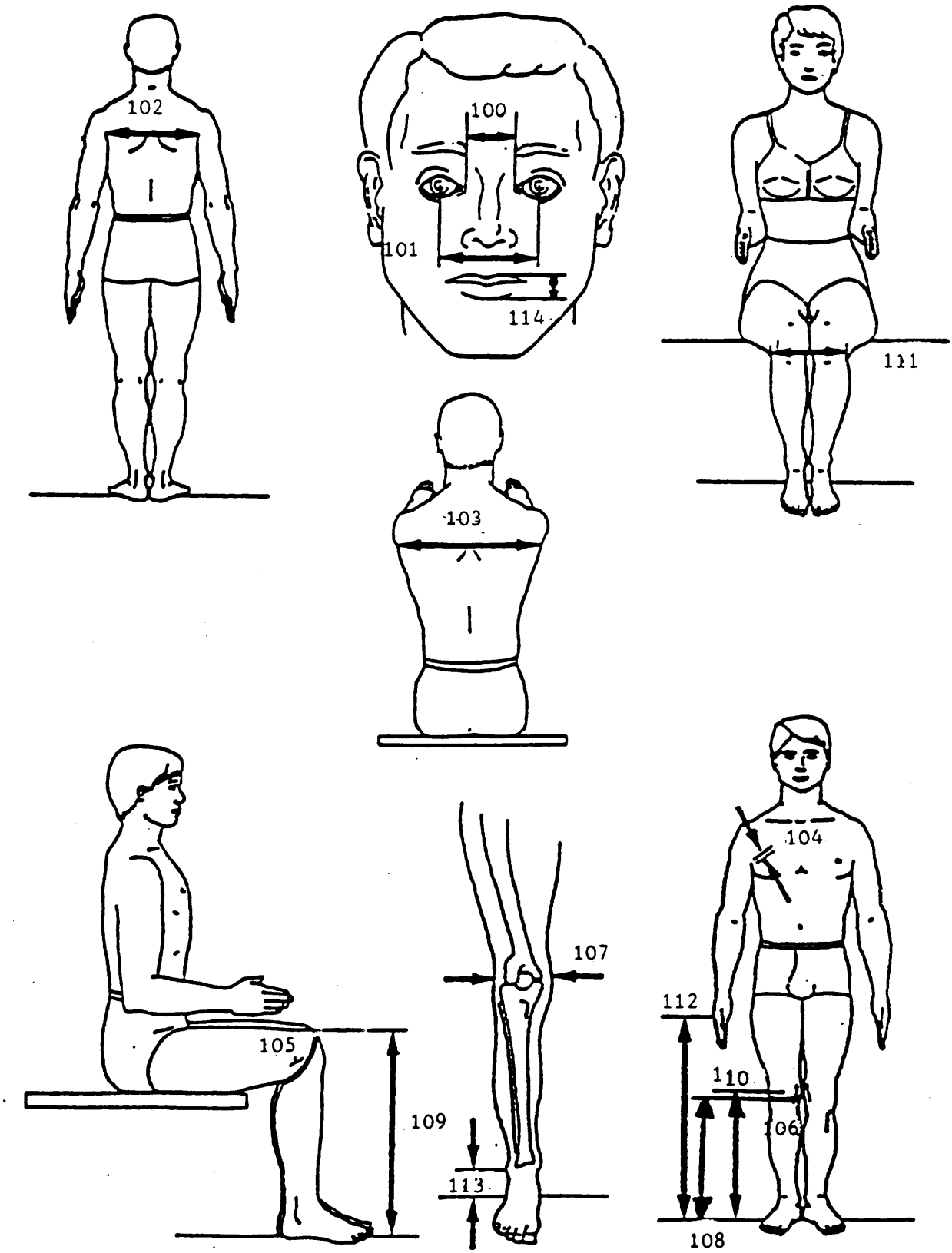
111 Knee-to-Knee Breadth, Sitting - the maximum breadth across the knees. measured with the subject sitting and the knees held together.

112 Knuckle (Metacarpal III) Height - the vertical distance from the floor to the knuckle of the middle finger (Metacarpal III).

113 Lateral Malleolus Height - the vertical distance from the floor to the midpoint of the outer ankle bone (lateral malleolus).

114 Lip-to-Lip Length - the distance from the lower margin of the lower lip to the upper margin of the upper lip.

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115 Lip Protrusion to back of head - the horizontal distance from the most anterior point of the lips to the back of the head, measured with a headboard.

116 Lower Thigh Circumference - the circumference of the upper leg, measured just above the knee.

117 Maximum Frontal Breadth - the breadth of the forehead measured between the maximum bulges of the brow-ridges at the ends of the eyebrows.

118 Medial Calf Skinfold Thickness - the thickness of the skinfold picked up on the medial surface of the lower leg at the level of the maximum circumference of the calf.

119 Medial Malleolus Height - the vertical distance from the floor to the midpoint of the inner ankle bone (medial malleolus).

120 Menton to back of head - the horizontal distance from the tip of the chin (menton) to the back of the head, measured with a headboard.

121 Menton to top of head - the vertical distance from the tip of the chin (menton) to the level of the top of the head, measured with a headboard.

122 Menton-Crinion Length - the vertical distance from the bottom of the chin (menton) to the midpoint of the hairline (crinion).

123 Menton-Subnasale Length - the distance from the bottom of the chin (menton) to the base of the nasal septum (subnasale).

124 Mid-Axillary Line at Xiphoid Level Skinfold Thickness - the thickness of a skinfold picked up on the side of the body (mid-axillary line) at the level of the bottom of the breastbone (xiphoid).

125 Mid-Shoulder Height, Sitting - the vertical distance from the sitting surface to the surface of the shoulder halfway between the neck and the point of the shoulder, measured with the subject sitting.

126 Mid-Thigh Circumference - the circumference of the upper leg, halfway between the crotch and the knee.

127 Minimum Frontal Arc - the minimum surface distance across the forehead between the temporal crests.

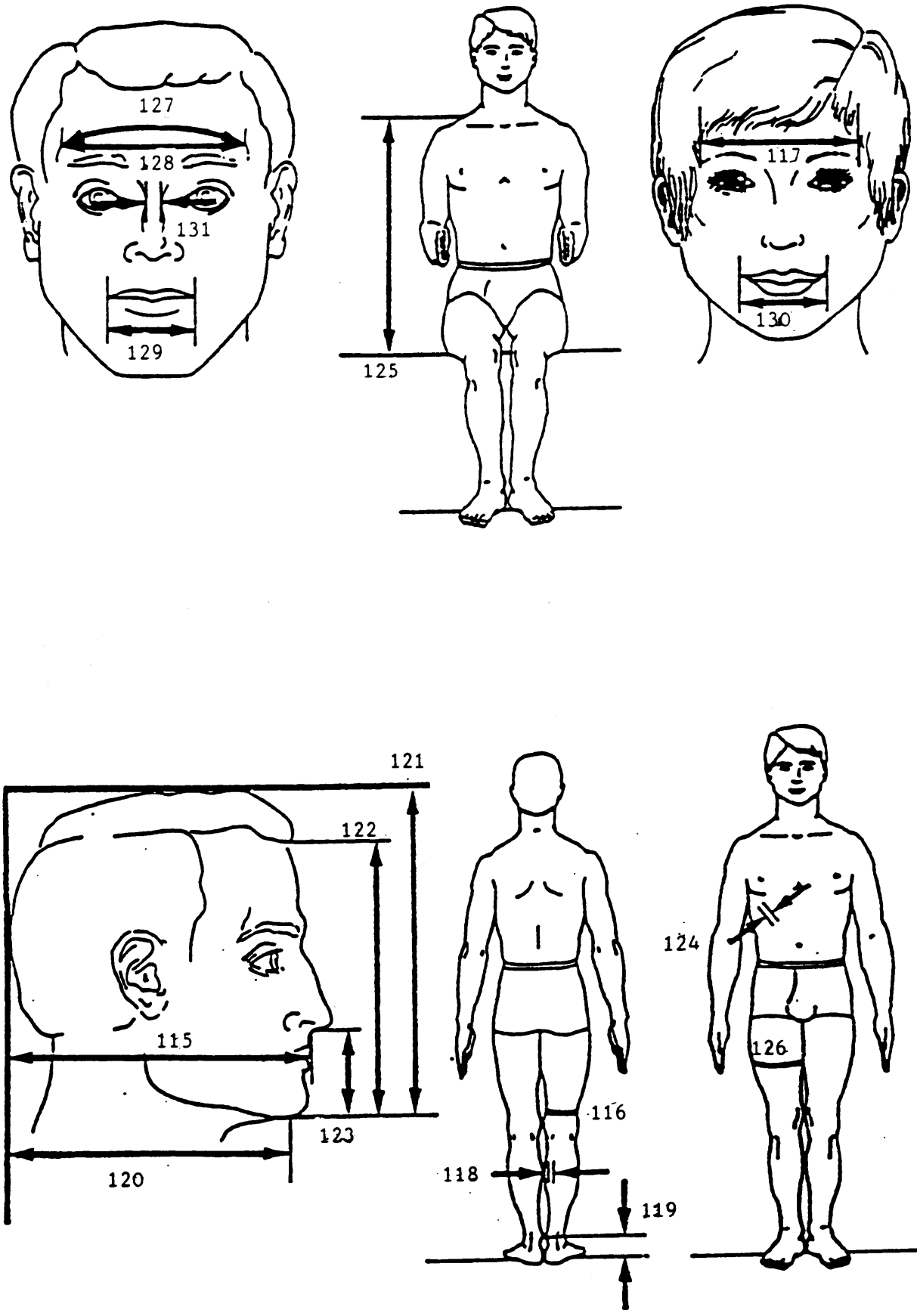
128 Minimum Frontal Breadth - the minimum breadth of the forehead between the temporal crests at the points of greatest indentation.

129 Mouth Breadth - the distance between the corners of the mouth.

130 Mouth Breadth, Smiling - the distance between the corners of the mouth, measured with the subject smiling broadly.

131 Nasal Root Breadth - the minimum breadth of the base of the nose between the eyes.

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132 Neck–Bustpoint Length - the surface distance from the intersection of the neck and shoulder down to the tip of the bra.

133 Neck Circumference - the circumference of the neck at the level of the Adam's Apple (thyroid cartilage).

134 Neck Circumference, Base - the circumference of the neck at the level of the base of the neck.

135 Nose Breadth - the maximum breadth of the nose.

136 Nose Length (Subnasale-Sellion) - the length of the nose, measured from the base of the nasal septum (subnasale) to the nasal root depression between the eyes (sellion).

137 Nose Protrusion - the maximum anterior protrusion of the nose.

138 Palm Length- the distance from the base of the hand at the wrist crease to the base of the middle finger.

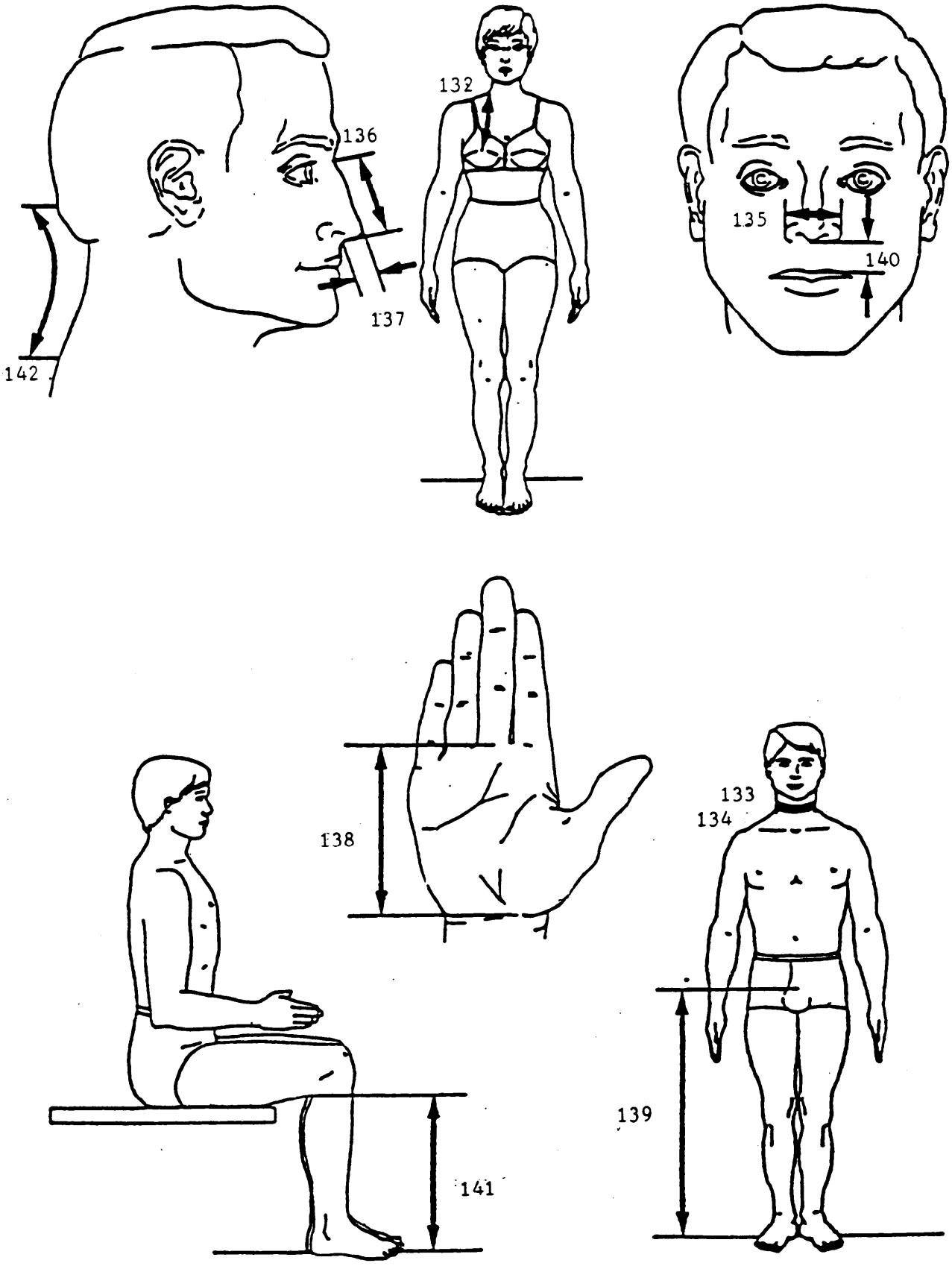
139 Penale Height - the vertical distance from the floor to the upper edge of the junction of the penis with the abdomen.

140 Philtrum Length - the distance from the upper edge of the lip to the base of the nasal septum (subnasale).

141 Popliteal Height, Sitting - the vertical distance from the footrest surface to the underside of the lower leg, measured with the subject sitting.

142 Posterior Neck Length - the surface distance from nuchale at the base of the skull to cervicale, the tip of the spine of the seventh cervical vertebra at the base of the neck.

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143 Pronasale to back of head - the horizontal distance from the tip of the nose (pronasale) to the back of the head, measured with a headboard"

144 Pronasale to top of head - the vertical distance from the tip of the nose (pronasale) to the level of the top of the head, measured with a headboard.

145 Radiale-Stylion Length - the length of the lower arm, from the upper most point on the lateral margin of the proximal end of the radius (radiale) to the most distal point on the styloid process of the radius (stylion).

146 Sagg ital Arc - the surface distance over the top of the head from glabella, between the brow-ridges, to nuchale, at the base of the skull.

147 Scye Circumference - the vertical circumference of the scye (sleeve hole area), measured with the tape passing under the armpit and over the point of the shoulder (acromion).

148 Sellion to back of head - the horizontal distance from the nasal root depression between the eyes (sellion), to the back of the head, measured with a headboard.

149 Sellion to top of head - the vertical distance from the nasal root depression between the eyes (sellion) to the level of the top of the head, measured with a headboard.

150 Shoulder (Acromiale) Height, Standing - the vertical distance from the floor to the point of the shoulder (acromion), measured with the subject standing.

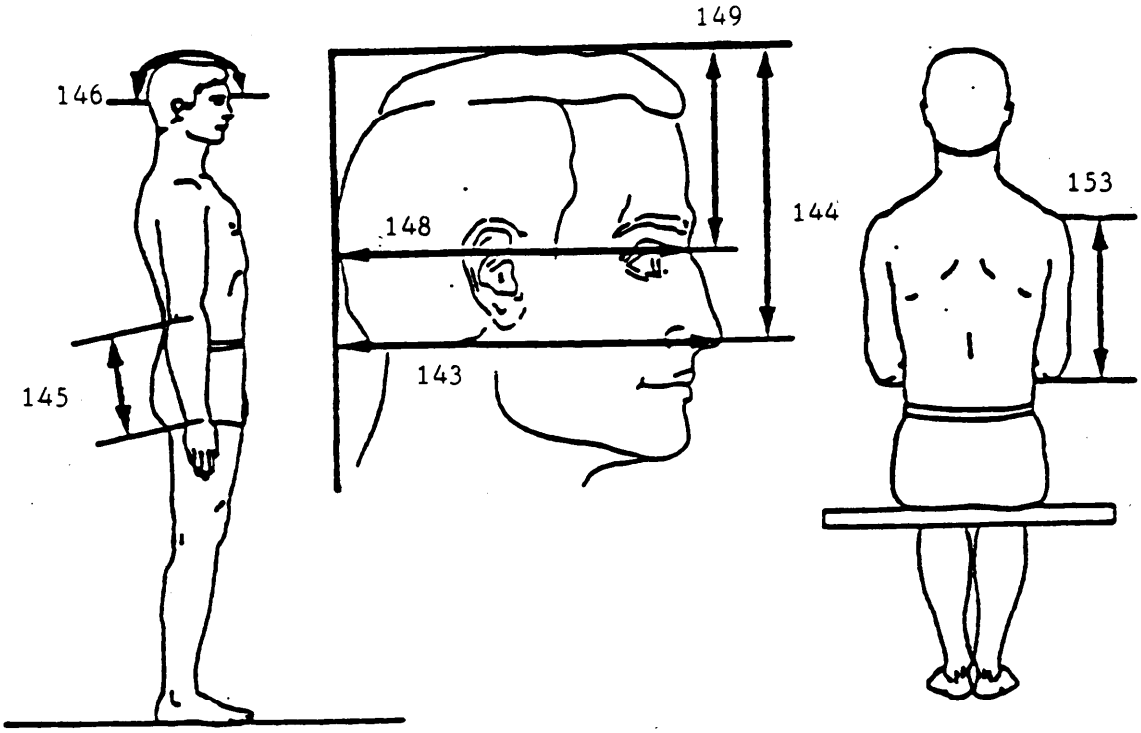
151 Shoulder (Bideltoid) Breadth - the horizontal distance across the upper arms between the maximum bulges of the deltoid muscles; the arms are hanging relaxed.

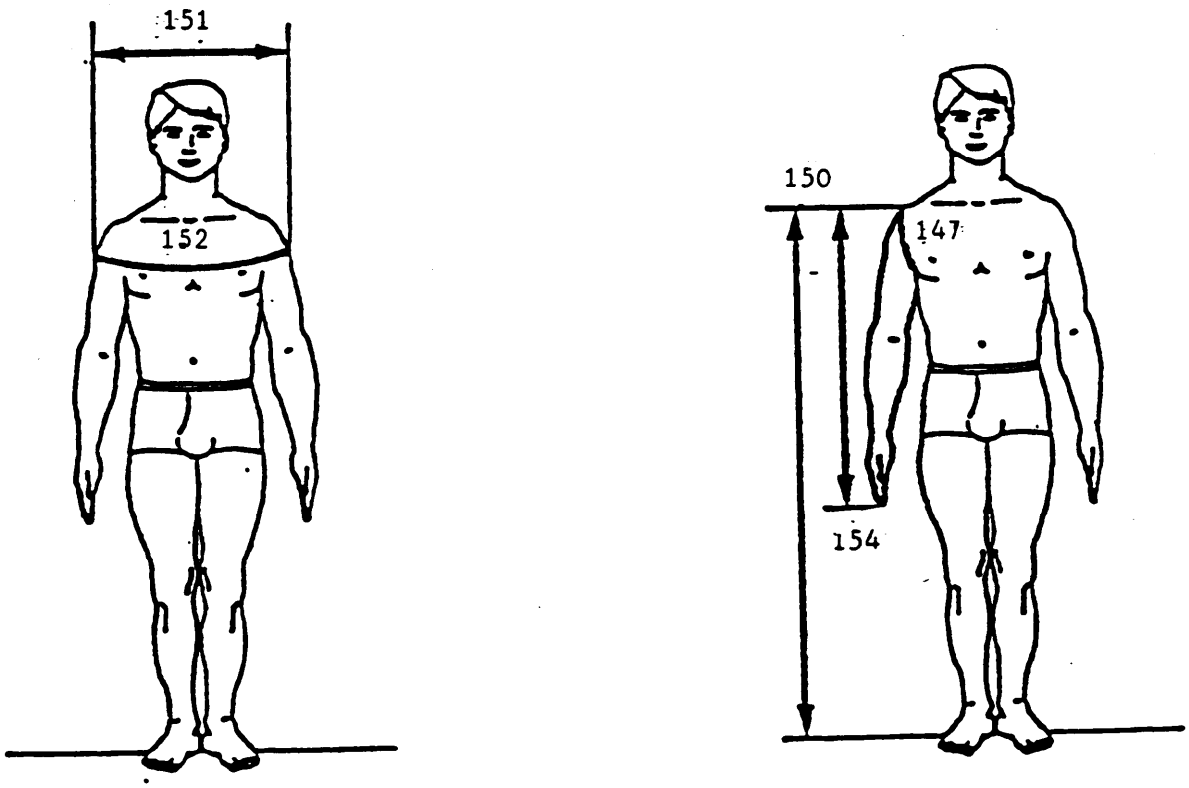
152 Shoulder Circumference - the circumference of the shoulders, measured with the tape passing horizontally over the maximum bulges of the deltoid muscles; the arms are hanging relaxed.

153 Shoulder-Elbow Length - the vertical length of the upper arm from the Point of the shoulder (acromion) to the bottom of the elbow, measured with the elbow bent and the lower arm held horizontally.

154 Shoulder-Fingertip Length (Acromion-Dactylion) - the length of the arm and hand from the point of the shoulder (acromion) to the tip of the middle finger (dactylion), measured with the arm hanging relaxed.

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155 Shoulder (Acromiale) Height, Sitting - the vertical distance from the sitting surface to the point of the shoulder (acromion), measured with the subject sitting.

156 Shoulder Length - the surface distance along the top of the shoulder from the junction of the neck and shoulder to the point of the shoulder (acromion).

157 Sitting Height - the vertical distance from the sitting surface to the top of the head, measured with the subject sitting.

158 Sleeve Inseam Length - the surface distance along the inner surface of the arm from the anterior edge of the armpit to the wrist.

159 Sleeve Length: Spine to Elbow - the surface distance along the outer surface of the arm, measured from the spine (middle of the back) to the tip of the elbow; the arms are held horizontally with the fists pressed together in front of the body.

160 Sleeve Length: Spine to Scye - the surface distance across the back, measured from the spine (middle of the back) to the scye point at the edge of the armpit; the arms are held horizontally with the fists pressed together in front of the body.

161 Sleeve Length: Spine to Wrist - the surface distance along the outer surface of the arm, measured from the spine (middle of the back) over the elbow and down to the styloid process of the ulna, just above the wrist; the arms are held horizontally with the fists pressed together in front of the body.

162 Sphyrion Height - the vertical distance from the floor to sphyrion, the most distal point of the tibia on the medial side of the foot.

163 Stature - the vertical distance from the floor to the top of the head.

164 Stature., as reported by subject - height, as given by the subject. (Not illustrated)

165 Stomion to top of head - the vertical distance from the midpoint of the lips (stomion) to the level of the top of the head, measured with a headboard.

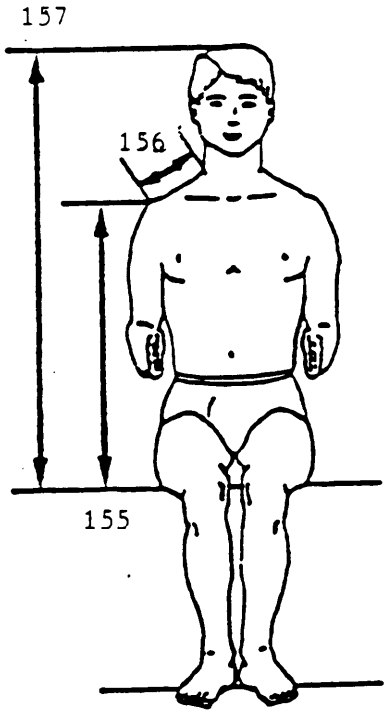
166 Strap Length - the surface distance from one bra tip to the other, measured with the tape passing over the back of the neck.

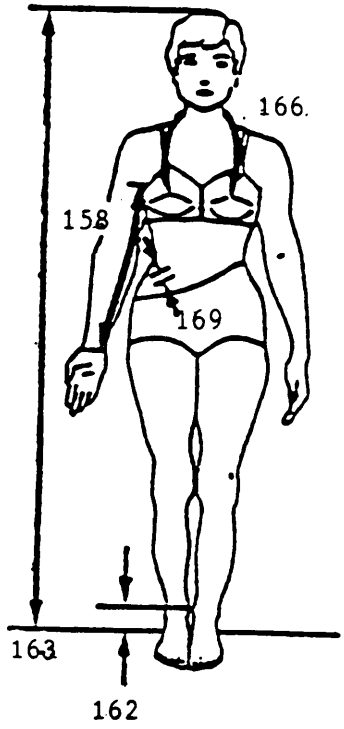
167 Subnasale to back of head - the horizontal distance from the base of the nasal septum (subnasale) to the back of the head, measured with a headboard.

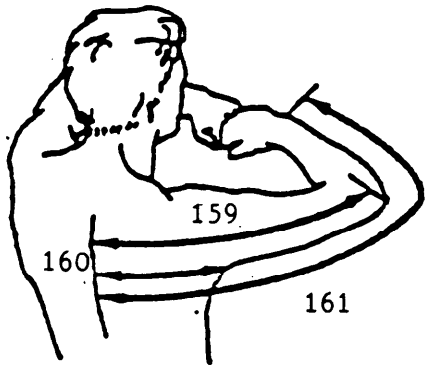
168 Subnasale to top of head - the vertical distance from the base of the nasal septum (subnasale) to the level of the top of the head, measured with a headboard.

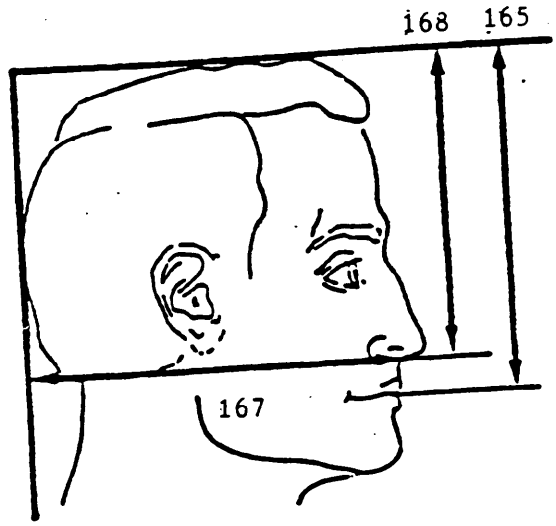
169 Suprailiac Skinfold Thickness - the thickness of a skinfold picked up on the side of the body (mid-axillary line) at the level of the top of the hip bone (crest of the ilium).

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170 Subscapular Skinfold Thickness - the thickness of a skinfold picked up just below the inferior angle of the shoulder-blade (scapula) and parallel to the tension lines of the skin.

171 Substernale Height - the vertical distance from the floor to the mid-point of the lower edge of the breast bone (substernale).

172 Sleeve Outseam - the straight-line distance between the tip of the right shoulder (acromion) and the right wrist (stylion).

173 Suprasternale Height - the vertical distance from the floor to the lowest point of the notch in the upper edge of the breast bone (suprasternale).

174 Thigh Clearance - the vertical distance from the sitting surface to the highest point of the thigh, measured with the subject sitting.

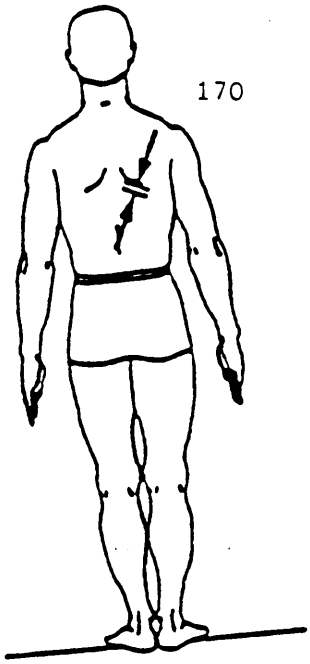
175 Thumb Crotch Length - the distance from the skinfold at the base of the extended thumb to the notch between the first and second fingers, measured parallel to the long axis of the hand.

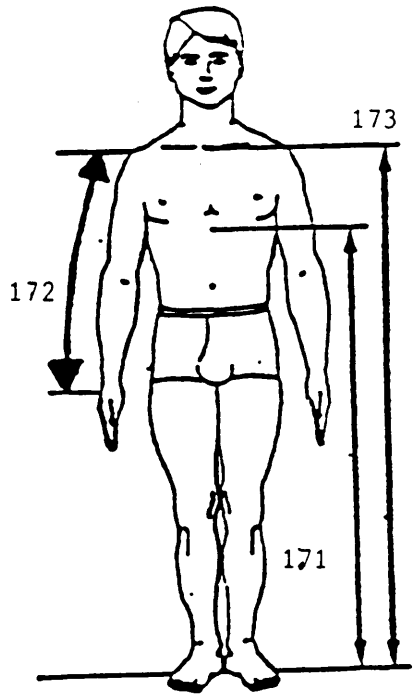
176 Tibiale Height - the vertical distance from the floor to the proximal medial margin of the tibia.

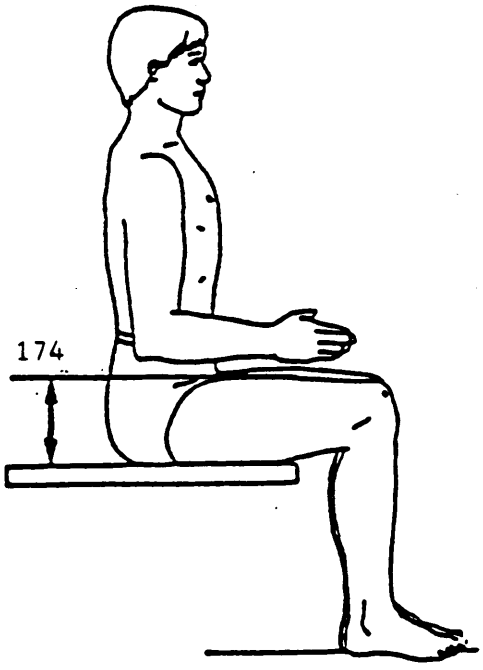
177 Tragion Height, Standing - the vertical distance from the floor to tragion, the cartilaginous notch at the front of the ear.

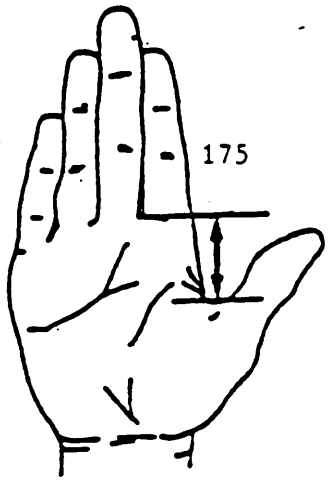
178 Upper Thigh Circumference, Standing - the circumference of the upper leg, measured with the tape as high in the crotch as possible, and with the subject standing.

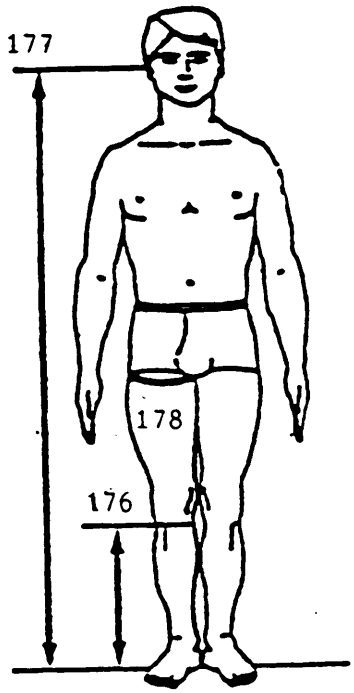
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179 Triceps Skinfold Thickness - the thickness of a skinfold picked up on the back of the upper arm halfway between the shoulder and the elbow.

180 Trunk (Suprasternale) Height, Sitting - the vertical distance from the sitting surface to the lowest point of the notch in the upper edge of the breast bone (suprasternale), measured with the subject sitting.

181 Upper Thigh Circumference, Sitting - the circumference of the upper leg, measured with the tape as high in the crotch as possible, with the subject sitting.

182 Tragion to back of head - the horizontal distance from tragion to the back of the head, measured with a headboard. (Tragion is the cartilaginous notch at the front of the ear.)

183 Vertical Reach, Sitting - the vertical distance from the sitting surface to the tip of the middle finger, measured with the subject sitting and the arm, hand and fingers extended vertically.

184 Waist Back Length (Natural Indentation) - the surface distance along the back, from cervicale (the tip of the spine of the seventh cervical vertebra at the base of the neck) down to the level of the natural indentation of the waist.

185 Waist Back Length (Omphalion) - the surface distance along the back, from cervicale (the tip of the spine of the seventh cervical vertebra at the base of the neck) down to the level of the navel (omphalion).

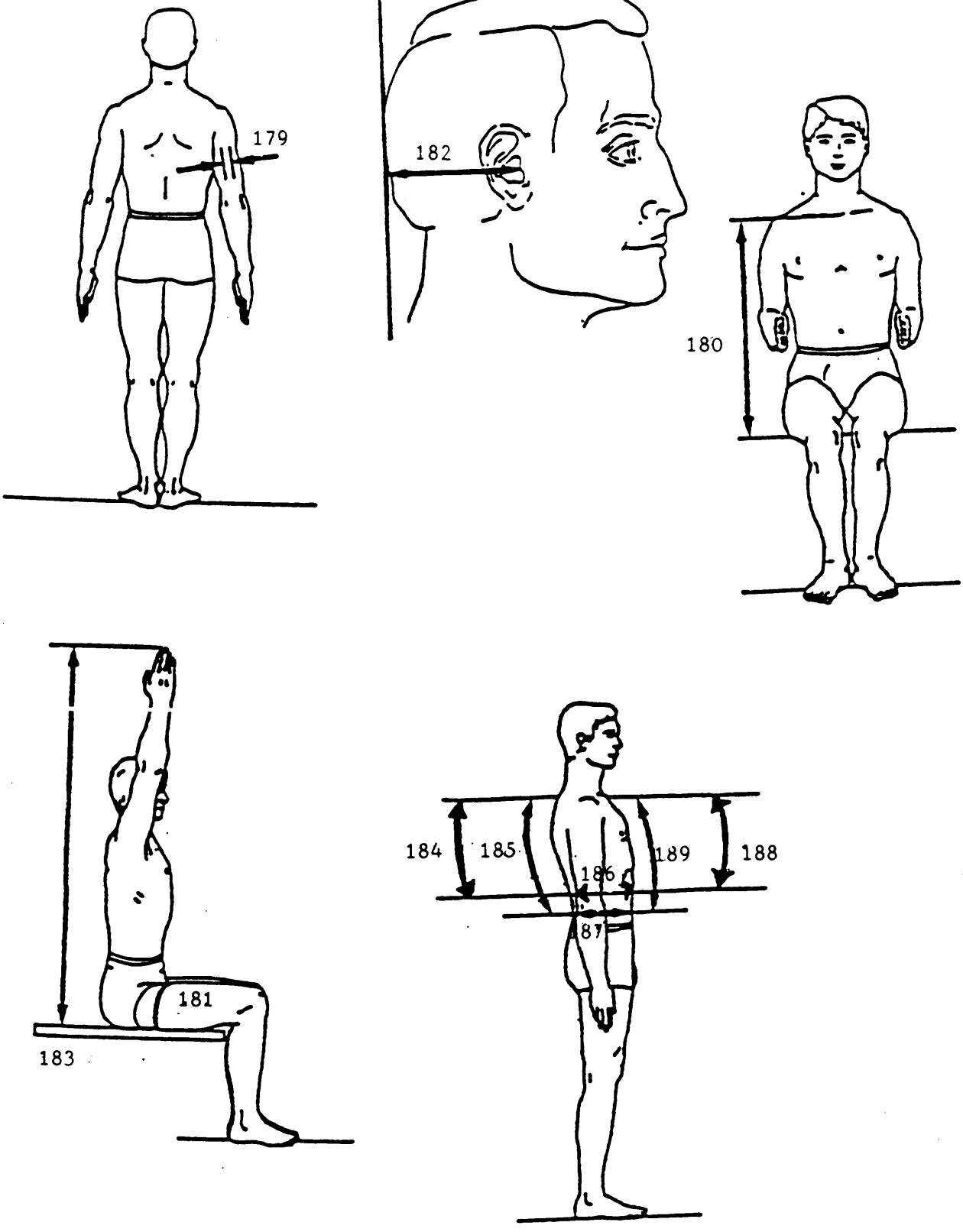
186 Waist Depth (Natural Indentation) - the depth of the torso at the level of the natural indentation of the waist.

187 Waist Depth (Omphalion) - the depth of the torso at the level of the navel (omphalion).

188 Waist Front Length (Natural Indentation) - the surface distance along the front of the torso from the suprasternale (the lowest point of the notch in the upper edge of the breast bone) or the base of the neck to the level of the natural indentation of the waist.

189 Waist Front Length (Omphalion) - the surface distance along the front of the torso from the suprasternale (the lowest point of the notch in the upper edge of the breast bone) or the base of the neck to the level of the navel (omphalion).

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190 Vertical Trunk Circumference, Sitting - the vertical circumference of the torso, measured with the tape passing diagonally across the front of the body from the midpoint of the shoulder down to the crotch, through the crotch, up over the posterior protuberance of the buttock and along the small of the back, with the subject sitting.

191 Vertical Trunk Circumference, Standing - the vertical circumference of the torso, measured with the tape passing diagonally across the front of the body from the midpoint of the shoulder down to the crotch, through the crotch, up over the posterior protuberance of the buttock and along the small of the back, with the subject standing.

192 Waist Breadth (Natural Indentation) - the breadth of the torso at the level of the natural indentation of the waist.

193 Waist Breadth (Onmhalion) - the breadth of the torso at the level of the navel (omphalion).

194 Waist Circumference (Natural Indentation) - the horizontal circumference of the torso at the level of the natural indentation of the waist.

195 Waist Circumference (Omphalion) - the horizontal circumference of the torso at the level of the navel (omphalion).

196 Waist Height (Iliocristale) - the vertical distance from the floor to the top of the hip bone (iliac crest).

197 Waist Height (Natural Indentation) - the vertical distance from the floor to the level of the natural indentation of the waist.

198 Waist Height (Omphalion) - the vertical distance from the floor to the level of the navel (omphalion).

199 Waist Height, Sitting - the vertical distance from the sitting surface to the level of the waist (natural indentation), measured with the subject sitting.

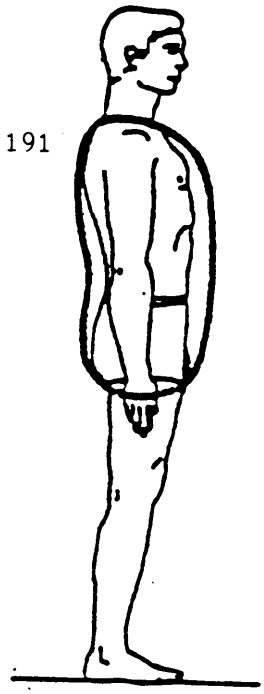
200 Weight - the nude, or essentially nude, weight of the body. (Not illustrated).

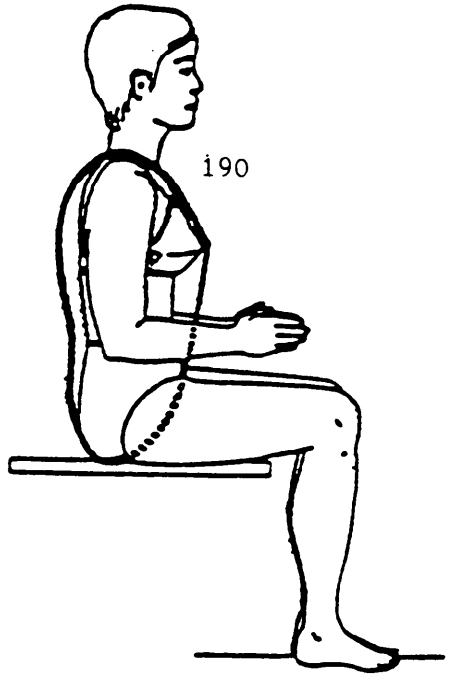
201 Weight, as reported by subject - body weight as given by the subject. (Not illustrated)

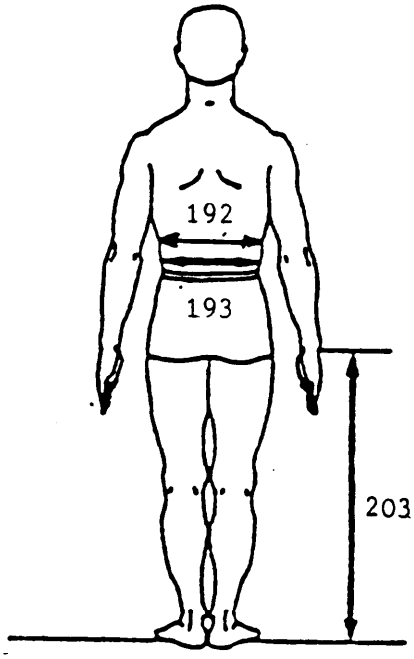
202 Wrist Circumference - the circumference of the wrist at the level of the tip of the styloid process of the radius.

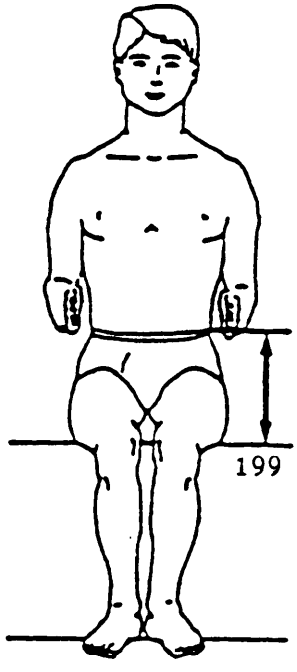
203 Wrist (stylion) Height - the vertical distance from the floor to the wrist, measured to the most distal point on the styloid process of the radius (stylion).

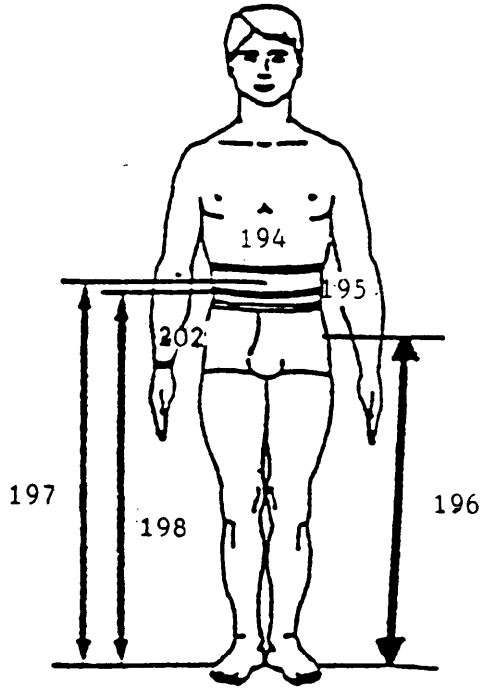
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6. STATISTICS

6.1 Use of statistics for anthropometric data. Variation in height, weight, and protrusions is a biological characteristic of the human body. Although minimum and maximum allowable limits of height and weight are used in the selection of military personnel, a considerable variation in body size is encountered in the military population, Anthropometric data are used to depict this range of variation in body size in order to provide military personnel with suitable clothing or with compatible equipment. Since most military anthropometric data are based on relatively large series of individuals, it is necessary to utilize some statistical procedures in order to reduce the large volume of data on a large number of body measurements into some logical and coherrent form for presentation. The reduction and processing of anthropometric data, as well as the utilization and application of these data, thus involves the use of some statistics.

6.2 Body size information for the group. The underlying concept regarding anthropometric data is the presentation of body size information for the group or population, rather than for the individual. While the fit or accommodation of the individual is desirable, the particular requirements for any one individual with respect to body size actually are secondary. Logistical economy and efficiency are such that it is impractical to fit absolutely all individuals; this is particularly evident in the case of extremely small or unusually large individuals. In most sizing systems it is virtually impossible to fit every single individual. (Exceptions may be found in extreme cases, of course, such as the NASA astronauts whose equipment is individually custom-fitted.) When two or more dimensions are to be used simultaneously as design criteria, it is important to hold in mind that percentile values are not additive between different dimensions (see Robinette, K.M. and J.T. McConville, 1982). There is no such thing as the “fifth percentile soldier”, i.e., a soldier with measurements in the fifth percentile in every dimension. Percentiles are provided to give the user some information about the variability of body sizes in a population. For design and evaluation, multivariate statistics and methods should be used.

6.3 Statistical values. The statistical measures utilized in the presentation of anthropometric data in the “a” tables in Section 7 are summarized below.

6.3.1 The number of individuals. The number of individuals measured in each-of the series of military personnel is indicated in the tables by N. The series included here represent from one to several thousand individuals.

6.3.2 The mean. The mean as used here is the arithmetic mean for a body dimension. This is the most widely used form of the “average” value.

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6.3.3 The standard deviation. The standard deviation, indicated in the tables by S.D. , is a statistical measure of variability. By definition, the standard deviation is the square root of the average of the squared deviations from the mean value. If most of the data tend to fall close to their mean value, the standard deviation will be small, while if many of the data are either much smaller or much larger than the mean, the standard deviation will be large. The mean of the body dimension minus one standard deviation and plus one standard deviation usually will indicate a range for that dimension which will include about two-thirds of the data for that dimension. About 95 percent of the data will have values ranging from approximately two standard deviations below the mean to two standard deviations above it. Practically all of the data will fall within the range from three standard deviations below the mean to three standard deviations above the mean.

6.3.4 The standard errors of the mean and standard deviation. The standard error of the mean, shown as SE(M), and the standard error of the standard deviation, shown as SE(SD) in the tables, represent estimates of the magnitude of the sampling error. The standard error of the mean is computed by dividing the standard deviation by the square root of the sample size. The standard error of the standard deviation is obtained by dividing the standard deviation by the square root of twice the sample size. The standard errors for large samples of individuals will be small, while those for small samples will be relatively large.

6.3.5 The coefficient of variation. The coefficient of variation, indicated in the tables by V(%), is a restatement of the standard deviation in which the standard deviation is expressed as a percentage of the mean value.

6.3.6 The range. The range in the tables of data is indicated by a minimum value (the smallest measurement), a “maximum value (the largest measurement), and the total range or the minimum value subtracted from the maximum value. The minimum and maximum values are the extreme values for that body dimension, representing only two individuals - the smallest and the largest.

6.4 Percentile values. Selected percentile values shown in the “b” tables in Section 7 are the lst, 2nd, 5th, 10th, 25th, 50th, 75th, 90th, 95th, 98th, and 99th percentiles. The 50th percentile is equivalent to the median value, indicating that half of the data fall below and half of the data are above this “value for a body measurement. The range in the tables of percentile values is merely the 1st percentile subtracted from the 99th percentile, thus indicating the spread for 98 percent of the sample. The percentile values for a body measurement represent a useful presentation of the range of variation for that dimension. The range indicated by the 25th to the 75th percentile values covers the middle half of the sample. The 5th percentile value for a body measurement shows that 5 percent of the individuals in that sample are smaller than that value, while the 95th percentile indicates that 5 percent are larger than that value for that measurement. It should be emphasized that the percentile values presented in the tables of anthropometric data are the specific,values for a particular body measurement, and that they pertain to

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that body measurement alone. Furthermore, the percentile values for several body measurements may not be arbitrarily combined in order to describe the body size of a “small,” “medium,” or “large” individual in terms of several collective percentile values. An individual with a sitting height corresponding to the 95 percentile value of sitting height for a population sample does not necessarily have arm or leg lengths for example, corresponding to the 95th percentile values of arm or leg lengths for that sample. Finally, there is no such thing as a “5th percentile woman,” a “50th percentile woman,” or a “95th percentile man”; just as there is no “average man” or “average woman”. No individual is “average” in all his or her body dimensions, and there is no individual whose body measurements correspond to the 5th, 50th, or 95th percentile values for all of his or her body dimensions.

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7. TABLES OF ANTHROPOMETRIC DATA

Statistical and percentile values of the anthropometric data for 203 body measurements are given in tables la through 203b.

TABLE 1a. STATISTICAL VALUES FOR ABDOMINAL DEPTH, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	23.91	0.07	2.83	0.05	11.8	16.8	35.0	18.2
2	USAF Basic Trainees (1965)	2527	22.34	0.04	2.18	0.03	9.76	17.2	34.2	17.0
3	US Army Women (1988)	2208	22.23	0.06	2.63	0.04	11.9	15.3	31.6	16.3
4	US Army Women (1977)	255	21.91	0.16	2.59	0.11	11.83	17.5	31.6	14.1

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TABLE 1b. PERCENTILE VALUES FOR ADOMINAL DEPTH, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	18.6	19.1	19.9	20.5	21.8	23.6	25.7	27.8	29.1	30.5	31.4	12.7
2	USAF Basic Trainees (1965)	18.7	19.1	19.6	20.1	20.9	21.9	23.3	25.1	26.5	28.5	30.0	11.3
3	US Army Women (1988)	17.3	17.8	18.5	19.1	20.3	21.9	23.9	25.8	27.1	28.5	29.5	12.1
4	US Army Women (1977)	17.7	17.9	18.4	19.0	20.1	21.5	23.2	25.3	26.9	29.2	31.1	13.4

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TABLE 2a. STATISTICAL VALUES FOR ACROMION-RADIALE LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	34.08	0.04	1.72	0.03	5.0	27.1	41.5	14.4
2	USAF Flying Pers. (1967)	2420	32.95	0.03	1.70	0.02	5.16	27.2	39.3	12.1
3	US Army Men (1946)	24,348	33.35	0.01	1.90	0.00	5.70	23.5	40.5	17.0
4	US Army Women (1988)	2208	31.19	0.04	1.67	0.03	5.3	26.2	37.0	10.8
5	US Army Women (1977)	255	30.85	0.10	1.67	0.07	5.41	26.6	37.2	10.6
6	USAF Women (1968)	1905	31.01	0.04	1.63	0.03	5.26	25.3	36.5	11.2

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TABLE 2b. PERCENTILE VALUES FOR ACROMION-RADIALE LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	30.2	30.7	31.3	31.9	32.9	34.1	35.2	36.3	37.0	37.7	38.2	8.0
2	USAF Flying Pers. (1967)	29.1	29.5	30.2	30.8	31.8	32.9	34.1	35.1	35.8	36.5	37.0	7.9
3	US Army Men (1946)	29.0	29.5	30.2	30.7	32.0	33.3	34.5	35.8	36.6	37.3	37.8	8.8
4	US Army Women (1988)	27.4	27.8	28.5	29.1	30.0	31.1	32.3	33.4	34.0	34.7	35.2	7.8
5	US Army Women (1977)	27.3	27.5	28.1	28.7	29.8	30.9	31.9	32.8	33.4	34.3	35.1	7.8
6	USAF Women (1968)	27.4	27.7	28.3	28.9	29.9	31.0	32.1	33.1	33.6	34.3	34.7	7.3

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TABLE 3a. STATISTICAL VALUES FOR AGE (MEN)

Values in Years

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	27.22	0.16	6.82	0.11	25.0	17.0	51.0	34.0
2	US Army Aviators (1970)	1482	26.21	0.14	5.51	0.10	21.02	17.0	58.0	41.0
3	USAF Men's Hands (1968)	148	31.50	0.60	7.10	0.40	22.50	20.0	49.0	29.0
4	USAF Flying Pers. (1967)	2420	30.03	0.13	6.30	0.09	20.99	21.0	50.0	29.0
5	US Army Men (1966)	6682	22.17	0.06	4.64	0.04	20.92	17.0	55.0	38.0
6	US Marine Corps (1966)	2008	20.88	0.06	2.87	0.05	13.74	17.0	43.0	26.0
7	USA Basic Trainees (1966)	2639	20.18	0.03	1.48	0.02	7.35	17.0	31.0	14.0
8	US Navy Recruits (1966)	4095	19.86	0.02	1.47	0.02	7.39	17.0	33.0	16.0
9	USAF Basic Trainees (1965)	2527	19.32	0.03	1.31	0.02	6.78	17.0	27.0	10.0
10	US Navy Aviators (1964)	1545	29.62	0.13	5.24	0.09	17.69	20.0	47.0	27.0
11	USAF Ear Study (1957)	500	28.32	0.27	6.06	0.19	21.40			
12	USAF Flying Pers. (1950)	4000	27.89	0.07	4.22	0.05	15.13	18.0	54.0	36.0
13	US Army Men (1946)	24,502	24.28	0.03	4.94	0.02	20.35	15.0	57.0	42.0
14	Ft. Knox Foot Study (1946)	5562	22.84	0.07	5.03	0.05	22.02	17.0	38.0	21.0
15	CWS Face Study (1945)	3047	25.52	0.10	5.79	0.07	22.68	16.0	39.0	23.0

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Values in Years

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Women (1988)	2208	26.19	0.12	5.70	0.09	21.8	18.00	50.00	32.00
2	US Army Women (1977)	1331	23.10	0.15	5.40	0.13	23.38	17.0	60.0	43.0
3	USAF Women's Hands (1968)	211	24.68	0.49	7.16	0.35	29.01	18.0	56.0	38.0
4	USAF Women (1968)	1905	23.43	0.15	6.45	0.10	27.53	18.0	56.0	38.0
5	USAF WAF Trainees (1952)	852	19.79	0.09	2.71	0.07	13.70	18.0	34.0	16.0
6	US Army Women (1946)	8118	27.30	0.06	5.57	0.04	20.40	16.0	52.0	36.0

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TABLE 4b. PERCENTILE VALUES FOR AGE (WOMEN)

No.	Series	Percentiles in Years											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Women (1988)	18.0	18.0	19.0	20.0	22.0	25.0	30.0	34.0	37.0	40.0	42.9	24.9
2	US Army Women (1977)	17.2	17.4	17.7	18.0	19.1	22.0	25.1	29.3	33.6	40.0	45.7	28.5
3	USAF Women (1968)	18.1	18.1	18.3	18.6	19.4	21.0	24.5	33.0	38.9	43.8	46.5	28.4
4	USAF WAF Trainees (1952)	18.0	18.0	18.1	18.2	18.6	19.3	20.7	22.9	25.0	28.8	30.0	12.0
5	US Army Women (1946)	21.1	22.0	22.7	23.0	23.7	25.9	30.2	35.8	39.7	44.3	47.2	26.1

Note: Percentile values for age are not available for USAF Women's Hands (1968).

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TABLE 5a. STATISTICAL VALUES FOR ANKLE CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	22.17	0.03	1.30	0.02	5.9	17.7	26.7	9.0
2	US Army Aviators (1970)	1482	22.07	0.03	1.26	0.02	5.71	17.5	26.8	9.3
3	USAF Flying Pers. (1967)	2420	22.41	0.03	1.26	0.02	5.64	18.2	26.7	8.5
4	US Navy Recruits (1966)	4095	23.24	0.02	1.58	0.02	6.78	18.8	30.0	11.2
5	USA Basic Trainees (1966)	2639	22.71	0.03	1.43	0.02	6.29	18.0	27.9	9.9
6	US Army Men (1966)	6682	22.69	0.02	1.44	0.01	6.34	18.1	30.4	12.3
7	US Marine Corps (1966)	2008	22.66	0.03	1.34	0.02	5.93	18.5	28.0	9.5
8	USAF Basic Trainees (1965)	2527	22.71	0.03	1.43	0.02	6.30	17.8	28.5	10.7
9	US Navy Aviators (1964)	1549	22.58	0.03	1.25	0.02	5.53	18.2	27.4	9.2
10	USAF Flying Pers. (1950)	4000	22.56	0.02	1.31	0.01	5.81	18.4	29.1	10.7
11	US Army Women (1988)	2208	20.53	0.03	1.21	0.02	5.9	15.9	24.9	9.0
12	US Army Women (1977)	1331	20.73	0.03	1.25	0.02	6.02	16.7	24.9	8.2
13	USAF Women (1968)	1905	21.09	0.03	1.29	0.02	6.12	17.5	25.6	8.1
14	USAF WAF Trainees (1952)	848	21.51	0.04	1.23	0.03	5.71	18.0	26.0	8.0

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TABLE 5b. PERCENTILE VALUES FOR ANKLE CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	19.3	19.6	20.0	20.5	21.3	22.2	23.1	23.8	24.3	24.8	25.2	5.8
2	US Army Aviators (1970)	19.2	19.5	20.0	20.4	21.2	22.1	22.9	23.7	24.2	24.7	25.0	5.8
3	USAF Flying Pers. (1967)	19.7	20.0	20.4	20.8	21.6	22.4	23.2	24.1	24.6	25.2	25.6	5.9
4	US Navy Recruits (1966)	19.9	20.3	20.8	21.3	22.2	23.2	24.2	25.3	26.0	26.8	27.4	7.5
5	USA Basic Trainees (1966)	19.7	20.0	20.5	20.9	21.7	22.6	23.6	24.6	25.2	25.9	26.4	6.7
6	US Army Men (1966)	19.7	20.0	20.5	20.9	21.7	22.6	23.6	24.6	25.2	25.9	26.4	6.7
7	US Marine Corps (1966)	19.7	20.1	20.6	21.0	21.7	22.6	23.5	24.4	25.0	25.8	26.3	6.6
8	USAF Basic Trainees (1965)	19.7	20.0	20.5	20.9	21.7	22.6	23.6	24.6	25.2	26.0	26.5	6.8
9	US Navy Aviators (1964)	19.8	20.1	20.6	21.0	21.7	22.5	23.4	24.2	24.8	25.3	25.7	5.9
10	USAF Flying Pers. (1950)	19.6	20.0	20.5	20.9	21.7	22.5	23.4	24.3	24.8	25.4	25.8	6.2
11	US Army Women (1988)	18.0	18.2	18.6	19.0	19.7	20.5	21.3	22.1	22.6	23.2	23.6	5.7
12	US Army Women (1977)	17.9	18.2	18.7	19.2	19.9	20.7	21.6	22.4	22.8	23.4	23.7	5.8
13	USAF Women (1968)	18.3	18.6	19.0	19.5	20.2	21.0	22.0	22.8	23.3	24.0	24.4	6.1
14	USAF WAF Trainees (1952)	19.1	19.4	19.7	20.1	20.7	21.4	22.2	23.0	23.5	24.1	24.5	5.4

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TABLE 6a. STATISTICAL VALUES FOR ANKLE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	13.72	0.02	1.15	0.02	8.36	10.4	18.0	7.6
2	USAF Basic Trainees (1965)	2527	11.88	0.03	1.36	0.02	11.45	8.8	19.2	10.4
3	US Army Women (1977)	1331	10.86	0.03	1.02	0.02	9.37	8.0	14.9	6.9
4	USAF Women (1968)	1905	11.19	0.03	1.35	0.02	12.06	7.6	16.0	8.4

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TABLE 6b. PERCENTILE VALUES FOR ANKLE HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	11.4	11.7	12.0	12.3	12.9	13.6	14.5	15.3	15.8	16.3	16.6	5.2
2	USAF Basic Trainees (1965)	9.6	9.8	10.1	10.4	10.9	11.6	12.7	13.8	14.5	15.2	15.5	5.9
3	US Army Women (1977)	8.7	8.9	9.2	9.6	10.2	10.8	11.5	12.1	12.6	13.2	13.7	5.0
4	USAF Women (1968)	8.7	8.9	9.2	9.5	10.2	11.1	12.1	13.0	13.6	14.3	14.7	6.0

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TABLE 7a. STATISTICAL VALUES FOR ANTERIOR NECK LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	8.43	0.03	1.68	0.02	19.99	2.1	13.8	11.7
2	USAF Basic Trainees (1965)	2527	9.51	0.03	1.46	0.02	15.35	4.4	15.5	11.1
3	USAF Flying Pers. (1950)	4000	8.66	0.03	1.61	0.02	18.59	3.5	13.7	10.2

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TABLE 7b. PERCENTILE VALUES FOR ANTERIOR NECK LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	4.0	4.6	5.5	6.2	7.4	8.5	9.6	10.5	11.1	11.7	12.1	8.1
2	USAF Basic Trainees (1965)	6.3	6.6	7.1	7.6	8.5	9.5	10.5	11.4	11.9	12.6	13.0	6.7
3	USAF Flying Pers. (1950)	4.8	5.2	5.9	6.5	7.6	8.7	9.8	10.7	11.3	12.0	12.5	7.7

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TABLE 8a. STATISTICAL VALUES FOR AXILLA HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	132.09	0.14	5.80	0.10	4.4	107.1	157.7	50.6
2	USAF WAF Trainees (1952)	851	123.81	0.19	5.65	0.14	4.56	109.0	142.0	33.0
3	US Army Women (1988)	2208	123.36	0.12	5.43	0.08	4.4	105.1	145.2	40.1
4	US Army Women (1977)	1331	123.25	0.15	5.58	0.11	4.53	104.5	142.1	37.6

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TABLE 8b. PERCENTILE VALUES FOR AXILLA HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	118.5	120.2	122.7	124.7	128.2	132.0	136.0	139.6	141.8	144.1	145.5	27.1
2	USAF WAF Trainees (1952)	112.0	113.0	114.7	116.4	120.0	123.9	128.1	131.6	133.6	135.8	137.1	25.1
3	US Army Women (1988)	110.7	112.4	114.8	116.6	119.7	123.2	127.0	130.5	132.6	134.9	136.2	25.5
4	US Army Women (1977)	110.8	112.2	114.3	116.2	119.4	123.1	127.1	130.7	132.8	134.9	136.2	25.4

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TABLE 9a. STATISTICAL VALUES FOR AXILLA TO WAIST LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.38	0.05	2.00	0.03	10.3	13.4	27.4	14.0
2	US Army Women (1988)	2208	17.71	0.05	2.15	0.03	12.1	10.5	26.8	16.3
3	US Army Women (1977)	1331	23.10	0.07	2.52	0.05	10.89	16.3	35.1	18.8
4	US Army Women (1946)	8113	23.14	0.03	2.66	0.02	11.73	10.0	35.0	25.0

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TABLE 9b. PERCENTILE VALUES FOR AXILLA TO WAIST LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	14.7	15.3	16.1	16.8	18.0	19.4	20.8	22.0	22.7	23.4	23.9	9.2
2	US Army Women (1988)	13.2	13.7	14.4	15.1	16.2	17.6	19.1	20.6	21.5	22.4	23.0	9.8
3	US Army Women (1977)	18.1	18.5	19.3	20.1	21.4	22.9	24.5	26.3	27.6	29.3	30.6	12.5
4	US Army Women (1946)	17.3	18.0	19.1	20.0	20.4	23.0	24.8	26.5	27.6	29.0	30.0	12.7

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TABLE 10a. STATISTICAL VALUES FOR AXILLARY ARM CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	33.50	0.06	2.71	0.05	8.1	24.5	45.3	20.8
2	US Navy Aviators (1964)	1549	33.02	0.06	2.48	0.04	7.51	23.8	40.8	17.0
3	USAF Flying Pers. (1950)	4000	31.74	0.04	2.62	0.03	8.25	24.3	42.6	18.3
4	US Army Men (1946)	24,729	30.83	0.01	2.71	0.00	8.79	21.2	40.2	19.0
5	US Army Women (1988)	2208	29.16	0.05	2.44	0.04	8.4	22.3	37.7	15.4
6	US Army Women (1977)	255	27.63	0.16	2.59	0.11	9.37	22.5	36.9	14.4
7	USAF Women (1968)	1905	27.44	0.05	2.34	0.04	8.53	20.5	39.1	18.6
8	USAF WAF Trainees (1952)	850	27.90	0.08	2.40	0.06	8.61	21.0	36.0	15.0

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TABLE 10b. PERCENTILE VALUES FOR AXILLARY ARM CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	27.6	28.2	29.2	30.1	31.7	33.4	35.2	37.0	38.1	39.4	40.3	12.8
2	US Navy Aviators (1964)	27.2	27.9	28.9	29.8	31.4	33.1	34.7	36.2	37.1	38.2	38.9	11.7
3	USAF Flying Pers. (1950)	26.3	26.8	27.6	28.4	29.9	31.6	33.5	35.2	36.3	37.4	38.1	11.8
4	US Army Men (1946)	25.1	25.7	26.7	27.4	29.0	30.7	32.5	34.3	35.6	37.1	38.1	13.0
5	US Army Women (1988)	23.9	24.5	25.4	26.2	27.4	29.0	30.7	32.4	33.5	34.7	35.5	11.6
6	US Army Women (1977)	22.7	23.0	23.6	24.4	25.8	27.5	29.3	31.0	32.2	33.7	34.9	12.2
7	USAF Women (1968)	22.8	23.2	23.9	24.6	25.8	27.3	28.9	30.5	31.5	32.7	33.6	10.8
8	USAF WAF Trainees (1952)	22.9	23.4	24.2	24.9	26.2	27.7	29.4	31.0	32.1	33.5	34.3	11.4

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TABLE 11a. STATISTICAL VALUES FOR BACK CURVATURE - CHEST/BUST LEVEL

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Aviators (1970)	1482	51.13	0.09	3.41	0.06	6.67	40.5	63.7	23.2
2	US Army Women (1977)	1331	41.97	0.09	3.17	0.06	7.55	30.6	62.5	31.9
3	USAF Women (1968)	1905	42.15	0.07	3.05	0.05	7.24	34.0	53.5	19.5

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TABLE 11b. PERCENTILE VALUES FOR BACK CURVATURE - CHEST/BUST LEVEL

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	43.6	44.5	45.8	46.9	48.8	51.0	53.3	55.5	56.9	58.7	60.0	16.4
2	US Army Women (1977)	35.3	36.0	37.0	38.1	39.8	41.8	43.9	46.0	47.4	49.2	50.6	15.3
3	USAF Women (1968)	35.8	36.5	37.6	38.5	40.0	41.9	44.0	46.2	47.6	49.2	50.3	14.5

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TABLE 12a. STATISTICAL VALUES FOR BALL OF FOOT CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	24.85	0.03	1.23	0.02	4.9	21.0	30.0	9.0
2	US Army Aviators (1970)	1482	24.51	0.03	1.20	0.02	4.91	21.1	28.8	7.7
3	USAF Flying Pers. (1967)	2420	24.84	0.03	1.23	0.02	4.95	21.2	29.4	8.2
4	USA Basic Trainees (1966)	2639	25.18	0.03	1.42	0.02	5.65	19.8	30.2	10.4
5	US Marine Corps (1966)	2008	25.12	0.03	1.31	0.02	5.20	20.5	29.4	8.9
6	US Army Men (1966)	6682	25.02	0.02	1.48	0.01	5.92	18.6	31.3	12.7
7	US Navy Recruits (1966)	4094	24.64	0.03	1.71	0.02	6.93	18.6	30.3	11.7
8	USAF Basic Trainees (1965)	2527	25.34	0.03	1.27	0.02	5.01	20.6	30.2	9.6
9	USAF Flying Pers. (1950)	4000	24.45	0.02	1.20	0.01	4.91	20.5	29.3	8.8
10	Ft. Knox Foot Study (1946)	5575	25.18	0.02	1.16	0.01	4.61	20.9	29.9	9.0
11	US Army Men (1946)	24,468	24.63	0.00	1.28	0.00	5.20	20.0	30.0	10.0
12	US Army Women (1988)	2208	22.35	0.02	1.13	0.02	5.1	18.5	26.2	7.7
13	US Army Women (1977)	1331	22.61	0.03	1.14	0.02	5.06	19.5	27.2	7.7
14	USAF WAF Trainees (1952)	848	23.30	0.04	1.23	0.03	5.30	19.0	28.0	9.0
15	US Army Women (1946)	8108	21.89	0.01	1.15	0.01	5.24	18.5	26.3	7.8

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TABLE 12b. PERCENTLE VALUES FOR BALL OF FOOT CIRCUMFERENCE

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	22.0	22.4	22.9	23.3	24.0	24.8	25.7	26.5	26.9	27.5	27.8	5.7
2	US Army Aviators (1970)	21.9	22.2	22.6	23.0	23.7	24.5	25.3	26.1	26.6	27.1	27.4	5.5
3	USAF Flying Pers. (1967)	22.1	22.4	22.9	23.3	24.0	24.8	25.6	26.5	27.0	27.6	28.0	5.9
4	USA Basic Trainees (1966)	21.6	22.1	22.8	23.4	24.2	25.2	26.1	27.0	27.5	28.1	28.4	6.8
5	US Marine Corps (1966)	22.2	22.5	23.0	23.4	24.2	25.1	26.0	26.8	27.3	27.9	28.3	6.1
6	US Army Men (1966)	21.3	21.8	22.5	23.1	24.1	25.1	26.0	26.9	27.4	28.0	28.4	7.1
7	US Navy Recruits (1966)	20.3	20.8	21.7	22.4	23.6	24.7	25.8	26.7	27.3	28.0	28.4	8.1
8	USAF Basic Trainees (1965)	22.5	22.8	23.3	23.7	24.5	25.3	26.2	27.0	27.5	28.1	28.4	5.9
9	USAF Flying Pers. (1950)	21.7	22.1	22.5	23.0	23.6	24.4	25.2	26.0	26.5	27.0	27.4	5.7
10	Ft. Knox Foot Study (1946)	22.6	22.9	23.3	23.7	24.4	25.2	26.0	26.7	27.1	27.6	28.0	5.4
11	US Army Men (1946)	21.7	22.0	22.6	23.0	23.8	24.6	25.5	26.3	26.8	27.4	27.7	6.0
12	US Army Women (1988)	19.8	20.1	20.5	20.9	21.6	22.3	23.1	23.8	24.2	24.8	25.1	5.4
13	US Army Women (1977)	20.1	20.4	20.8	21.1	21.8	22.6	23.4	24.1	24.5	25.1	25.6	5.5
14	USAF WAF Trainees (1952)	20.5	20.8	21.3	21.7	22.4	23.3	24.2	25.0	25.5	26.2	26.6	6.1
15	US Army Women (1946)	19.4	19.7	20.1	20.5	21.1	21.8	22.6	23.4	23.9	24.4	24.8	5.4

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TABLE 13a. STATISTICAL VALUES FOR BIACROMIAL BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	39.70	0.04	1.80	0.03	4.5	33.0	45.1	12.1
2	USAF Flying Pers. (1967)	2420	40.73	0.04	1.94	0.03	4.77	34.0	47.4	13.4
3	USAF Basic Trainees (1965)	2526	39.68	0.04	1.91	0.03	4.81	33.0	45.3	12.3
4	USAF Flying Pers. (1950)	4000	40.01	0.03	1.83	0.02	4.57	33.5	47.6	14.1
5	US Army Women (1988)	2208	36.26	0.04	1.74	0.03	4.8	30.1	41.7	11.6
6	US Army Women (1977)	255	35.71	0.10	1.61	0.07	4.51	30.6	39.6	9.0
7	USAF Women (1968)	1905	35.84	0.04	1.64	0.03	4.58	30.8	41.6	10.8

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TABLE 13b. PERCENTILE VALUES FOR BIACROMIAL BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	35.6	36.0	36.7	37.4	38.5	39.7	40.9	42.0	42.6	43.4	43.9	8.3
2	USAF Flying Pers. (1967)	36.0	36.6	37.5	38.2	39.5	40.8	42.0	43.1	43.8	44.7	45.3	9.3
3	USAF Basic Trainees (1965)	34.7	35.5	36.4	37.2	38.5	39.5	41.0	42.1	42.8	43.5	43.9	9.2
4	USAF Flying Pers. (1950)	35.6	36.1	37.0	37.7	38.8	40.0	41.2	42.4	43.0	43.7	44.2	8.6
5	US Army Women (1988)	31.8	32.5	33.3	34.0	35.1	36.3	37.5	38.5	39.1	39.7	40.0	8.2
6	US Army Women (1977)	32.2	32.5	33.0	33.6	34.6	35.7	36.8	37.8	38.3	39.1	39.6	7.4
7	USAF Women (1968)	31.9	32.5	33.2	33.8	34.8	35.8	36.9	37.9	38.6	39.3	39.8	7.9

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TABLE 14a. STATISTICAL VALUES FOR BIAURICULAR BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	18.83	0.02	0.81	0.01	4.29	16.2	21.5	5.3
2	USAF Basic Trainees (1965)	2527	18.29	0.02	0.93	0.01	5.08	15.4	21.9	6.5
3	USAF Women (1968)	1905	15.83	0.02	0.95	0.02	6.00	13.3	20.1	6.8

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TABLE 14b. PERCENTILE VALUES FOR BIAURICULAR BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	17.0	17.2	17.5	17.8	18.3	18.8	19.4	19.9	20.2	20.6	20.8	3.8
2	USAF Basic Trainees (1965)	16.1	16.4	16.8	17.1	17.7	18.3	18.9	19.5	19.8	20.2	20.4	4.3
3	USAF Women (1968)	13.9	14.0	14.2	14.6	15.2	15.8	16.5	17.1	17.4	17.8	18.0	4.1

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TABLE 15a. STATISTICAL VALUES FOR BICEPS CIRCUMFERENCE, FLEXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	33.75	0.06	2.71	0.05	8.0	25.9	43.7	17.8
2	US Army Aviators (1970)	1482	32.10	0.07	2.53	0.05	7.89	22.9	41.3	18.4
3	USAF Flying Pers. (1967)	2420	32.74	0.05	2.26	0.03	6.90	25.4	40.8	15.4
4	US Marine Corps (1966)	2008	32.42	0.05	2.42	0.04	7.45	24.4	42.5	18.1
5	US Army Men (1966)	6682	32.27	0.03	2.75	0.02	8.52	22.9	45.2	22.3
6	USA Basic Trainees (1966)	2639	31.81	0.05	2.75	0.04	8.63	22.8	43.7	20.9
7	US Navy Recruits (1966)	4095	31.79	0.04	2.72	0.03	8.55	21.3	41.3	20.0
8	USAF Basic Trainees (1965)	2526	30.39	0.05	2.72	0.04	8.95	23.0	40.2	17.2
9	US Navy Aviators (1964)	1549	32.93	0.06	2.41	0.04	7.33	25.4	40.2	14.8
10	USAF Flying Pers. (1950)	4000	32.41	0.04	2.56	0.03	7.90	24.5	41.8	17.3
11	US Army Women (1988)	2208	28.13	0.05	2.27	0.03	8.1	21.3	37.1	15.8
12	US Army Women (1977)	1331	26.87	0.06	2.29	0.04	8.54	20.8	39.3	18.5
13	USAF Women (1968)	1905	26.79	0.05	2.32	0.04	8.66	20.6	39.0	18.4
14	USAF WAF Trainees (1952)	846	26.67	0.08	2.24	0.05	8.40	20.0	37.0	17.0

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TABLE 15b. PERCENTILE VALUES FOR BICEPS CIRCUMFERENCE, FLEXED

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	27.7	28.5	29.6	30.5	31.9	33.6	35.4	37.3	38.5	40.0	41.0	13.4
2	US Army Aviators (1970)	26.1	26.8	27.8	28.8	30.4	32.1	33.8	35.3	36.2	37.3	38.2	12.1
3	USAF Flying Pers. (1967)	27.6	28.2	29.1	29.9	31.2	32.7	34.2	35.7	36.6	37.6	38.3	10.7
4	US Marine Corps (1966)	27.3	27.8	28.7	29.4	30.8	32.3	34.0	35.6	36.6	37.8	38.7	11.4
5	US Army Men (1966)	26.5	27.1	28.0	28.9	30.4	32.1	34.0	35.9	37.0	38.4	39.4	12.9
6	USA Basic Trainees (1966)	26.1	26.7	27.6	28.4	29.9	31.7	33.6	35.5	36.6	38.0	38.8	12.7
7	US Navy Recruits (1966)	26.0	26.7	27.6	28.4	29.9	31.6	33.6	35.4	36.6	37.8	38.5	12.5
8	USAF Basic Trainees (1965)	24.8	25.4	26.3	27.1	28.4	30.2	32.1	34.1	35.3	36.6	37.4	12.6
9	US Navy Aviators (1964)	27.6	28.1	28.9	29.8	31.3	32.9	34.5	36.0	36.9	38.1	39.0	11.4
10	USAF Flying Pers. (1950)	27.1	27.6	28.4	29.2	30.6	32.3	34.1	35.8	36.9	38.1	38.9	11.8
11	US Army Women (1988)	23.1	23.8	24.6	25.4	26.6	28.0	29.6	31.1	32.1	33.2	34.0	10.8
12	US Army Women (1977)	21.9	22.4	23.2	24.0	25.3	26.8	28.3	29.7	30.7	32.0	33.0	11.1
13	USAF Women (1968)	22.2	22.6	23.3	24.0	25.2	26.6	28.1	29.7	30.8	32.1	33.2	11.0
14	USAF WAF Trainees (1952)	22.3	22.7	23.4	24.1	25.2	26.6	28.0	29.4	30.4	31.8	32.8	10.5

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TABLE 16a. STATISTICAL VALUES FOR BICEPS CIRCUMFERENCE, RELAXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	30.53	0.07	2.72	0.05	8.89	21.4	40.8	19.4
2	USAF Flying Pers. (1967)	2420	30.79	0.05	2.34	0.03	7.59	23.2	38.8	15.6
3	US Marine Corps (1966)	2008	29.69	0.05	2.37	0.04	7.98	22.8	39.7	16.9
4	US Army Men (1966)	6682	29.44	0.03	2.74	0.02	9.29	21.0	44.2	23.2
5	USA Basic Trainees (1966)	2639	29.01	0.05	2.77	0.04	9.53	20.8	38.7	17.9
6	US Navy Recruits (1966)	4095	28.93	0.04	2.88	0.03	9.95	20.8	39.1	18.3
7	USAF Basic Trainees (1965)	2526	27.26	0.05	2.56	0.04	9.39	20.2	37.8	17.6
8	US Army Men (1946)	24,446	28.06	0.01	2.36	0.00	8.41	20.2	39.2	19.0
9	US Army Women (1977)	255	25.89	0.16	2.56	0.11	9.89	20.2	34.4	14.2
10	USAF Women (1968)	1905	25.61	0.05	2.29	0.04	8.94	19.5	37.4	17.9
11	US Army Women (1946)	8116	25.62	0.03	2.73	0.02	10.83	18.0	40.0	23.0

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TABLE 16b. PERCENTILE VALUES FOR BICEPS CIRCUMFERENCE, RELAXED

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	24.3	25.0	26.0	27.0	28.7	30.6	32.3	33.9	34.9	36.2	37.1	12.8
2	USAF Flying Pers. (1967)	25.5	26.1	27.0	27.8	29.2	30.8	32.3	33.8	34.7	35.8	36.7	11.2
3	US Marine Corps (1966)	24.7	25.2	26.0	26.7	28.0	29.6	31.2	32.8	33.8	35.0	36.0	11.3
4	US Army Men (1966)	23.9	24.4	25.3	26.1	27.5	29.2	31.2	33.1	34.2	35.6	36.6	12.7
5	USA Basic Trainees (1966)	23.4	24.0	24.9	25.6	27.0	28.8	30.8	32.8	34.0	35.2	36.0	12.6
6	US Navy Recruits (1966)	23.2	23.7	24.6	25.4	26.9	28.7	30.8	32.8	34.1	35.4	36.3	13.1
7	USAF Basic Trainees (1965)	22.3	22.8	23.6	24.2	25.4	27.0	28.9	30.8	31.9	33.2	34.0	11.7
8	US Army Men (1946)	23.1	23.6	24.3	25.1	26.4	27.9	29.5	31.2	32.3	33.5	34.3	11.2
9	US Army Women (1977)	21.0	21.3	21.5	22.4	24.1	25.9	27.4	28.8	30.3	32.6	33.5	12.5
10	USAF Women (1968)	21.1	21.5	22.2	22.9	24.0	25.4	27.0	28.6	29.7	30.9	31.8	10.7
11	US Army Women (1946)	20.4	20.9	21.7	22.4	23.7	25.3	27.3	29.4	30.7	32.2	33.2	12.8

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TABLE 17a. STATISTICAL VALUES FOR BIGONIAL BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	11.89	0.02	0.79	0.01	6.6	8.8	15.4	6.7
2	USAF Flying Pers. (1967)	2420	11.73	0.01	0.69	0.01	5.88	9.5	14.2	4.7
3	USAF Basic Trainees (1965)	2527	10.64	0.01	0.52	0.01	4.89	8.8	12.6	3.8
4	US Navy Aviators (1964)	1549	11.91	0.02	0.85	0.02	7.16	9.4	14.4	5.0
5	USAF Flying Pers. (1950)	4000	10.86	0.01	0.55	0.01	5.06	9.1	12.8	3.7
6	US Army Men (1946)	24,432	10.76	0.00	0.60	0.00	5.58	8.0	14.5	6.5
7	CWS Face Study (1945)	3075	10.47	0.01	0.56	0.01	5.34	8.6	12.7	4.1
8	US Army Women (1988)	2208	10.83	0.02	0.71	0.01	6.6	8.7	14.4	5.7
9	USAF Women (1968)	1905	10.19	0.01	0.56	0.01	5.50	8.1	12.2	4.1

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TABLE 17b. PERCENTILE VALUES FOR BIGONIAL BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	10.1	10.4	10.7	10.9	11.4	11.9	12.4	12.9	13.2	13.6	13.8	3.6
2	USAF Flying Pers. (1967)	10.2	10.4	10.6	10.9	11.3	11.7	12.2	12.7	12.9	13.2	13.4	3.2
3	USAF Basic Trainees (1965)	9.5	9.6	9.8	10.0	10.3	10.6	11.0	11.3	11.5	11.8	12.0	2.5
4	US Navy Aviators (1964)	10.2	10.4	10.6	10.8	11.3	11.9	12.5	13.1	13.4	13.6	13.8	3.6
5	USAF Flying Pers. (1950)	9.6	9.8	10.0	10.2	10.5	10.9	11.2	11.6	11.8	12.0	12.2	2.6
6	US Army Men (1946)	9.4	9.5	9.8	10.0	10.4	10.7	11.2	11.5	11.7	12.1	12.3	2.9
7	CWS Face Study (1945)	9.3	9.3	9.5	9.7	10.0	10.4	10.7	11.1	11.3	11.5	11.6	2.3
8	US Army Women (1988)	9.3	9.4	9.7	9.9	10.3	10.8	11.3	11.8	12.0	12.4	12.6	3.3
9	USAF Women (1968)	8.9	9.0	9.3	9.5	9.8	10.2	10.6	10.9	11.1	11.4	11.6	2.7

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TABLE 18a. STATISTICAL VALUES FOR BI-ILIOCRISTALE BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	27.92	0.04	2.04	0.03	7.32	20.0	35.2	15.2
2	USAF Basic Trainees (1965)	2527	28.61	0.05	2.58	0.04	9.02	22.6	40.9	18.3
3	US Army Men (1946)	24,518	29.10	0.01	2.02	0.00	6.94	22.5	40.5	18.0
4	US Army Women (1946)	8120	24.61	0.03	2.32	0.02	9.60	16.0	35.0	19.0

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TABLE 18b. PERCENTILE VALUES FOR BI-ILIOCRISTALE BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th
1	USAF Flying Pers. (1967)	22.6	23.4	24.4	25.3	26.6	28.0	29.2	30.5	31.2	32.2	32.9	10.3
2	USAF Basic Trainees (1965)	24.0	24.6	25.3	25.8	26.8	28.1	30.0	32.1	33.6	35.4	36.7	12.7
3	US Army Men (1946)	24.6	25.1	26.2	26.7	27.7	29.0	30.5	31.8	32.5	33.8	34.5	9.9
4	US Army Women (1946)	19.2	19.9	20.9	21.8	23.1	24.6	26.1	27.6	28.5	29.7	30.5	11.3

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TABLE 19a. STATISTICAL VALUES FOR BIMALLEOLAR BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	7.28	0.01	0.39	0.01	5.4	6.1	8.6	2.5
2	USAF Flying Pers. (1967)	2420	7.33	0.01	0.38	0.01	5.22	5.8	8.9	3.1
3	USAF Basic Trainees (1965)	2527	7.44	0.01	0.39	0.01	5.24	6.0	8.8	2.8
4	USAF Flying Pers. (1950)	4000	7.49	0.01	0.38	0.00	5.07	6.2	8.8	2.6
5	US Army Women (1988)	2208	6.44	0.01	0.31	0.00	4.9	5.2	7.6	2.4

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TABLE 19b. PERCENTILE VALUES FOR BIMALLEOLAR BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	6.4	6.5	6.7	6.8	7.0	7.3	7.6	7.8	7.9	8.1	8.2	1.8
2	USAF Flying Pers. (1967)	6.5	6.6	6.7	6.9	7.1	7.3	7.6	7.8	8.0	8.2	8.3	1.8
3	USAF Basic Trainees (1965)	6.6	6.7	6.8	7.0	7.2	7.4	7.7	8.0	8.1	8.3	8.4	1.8
4	USAF Flying Pers. (1950)	6.6	6.7	6.9	7.0	7.2	7.5	7.7	8.0	8.1	8.3	8.4	1.8
5	US Army Women (1988)	5.7	5.8	5.9	6.1	6.2	6.4	6.7	6.9	7.0	7.1	7.2	1.5

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TABLE 20a. STATISTICAL VALUES FOR BIOCULAR BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	12.18	0.01	0.54	0.01	4.5	10.3	14.7	4.4
2	USAF Flying Pers. (1967)	2420	9.17	0.01	0.49	0.01	5.29	7.8	10.8	3.0
3	USAF Basic Trainees (1965)	2525	9.29	0.01	0.49	0.01	5.27	7.6	10.9	3.3
4	US Navy Aviators (1964)	1549	9.43	0.01	0.41	0.01	4.30	8.2	11.2	3.0
5	USAF Flying Pers. (1950)	4000	9.59	0.01	0.44	0.00	4.59	8.1	11.3	3.2
6	US Army Men (1946)	24,361	9.22	0.00	0.51	0.00	5.53	7.0	12.0	5.0
7	CWS Face Study (1945)	3075	9.15	0.01	0.42	0.00	4.54	7.0	10.8	3.8
8	US Army Women (1988)	2208	11.96	0.01	0.55	0.01	4.6	10.2	14.4	4.2
9	US Army Women (1977)	216	9.62	0.03	0.50	0.02	5.20	8.2	11.0	2.8
10	USAF Women (1968)	1905	9.67	0.01	0.49	0.01	5.07	8.0	11.2	3.2
11	US Army Women (1946)	8116	9.03	0.01	0.46	0.00	5.05	7.5	11.0	3.5

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TABLE 21a. STATISTICAL VALUES FOR BITRAGION BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	14.48	0.01	0.60	0.01	4.1	10.7	16.6	5.9
2	US Army Aviators (1970)	1482	14.17	0.01	0.57	0.01	3.99	12.4	16.1	3.7
3	USAF Flying Pers. (1967)	2420	14.25	0.01	0.56	0.01	3.90	12.4	16.1	3.7
4	US Army Men (1966)	6682	13.50	0.01	0.56	0.00	4.18	11.4	15.6	4.2
5	USA Basic Trainees (1966)	2639	13.46	0.01	0.55	0.01	4.10	11.8	15.5	3.7
6	US Marine Corps (1966)	2008	13.46	0.01	0.55	0.01	4.09	11.3	15.4	4.1
7	US Navy Recruits (1966)	4095	13.38	0.01	0.53	0.01	3.94	11.6	15.5	3.9
8	USAF Basic Trainees (1965)	2527	13.67	0.01	0.58	0.01	4.24	11.8	16.0	4.2
9	US Navy Aviators (1964)	1549	13.99	0.01	0.52	0.01	3.73	12.0	15.8	3.8
10	USAF Flying Pers. (1950)	4000	14.22	0.01	0.53	0.01	3.73	12.2	16.0	3.8
11	CWS Face Study (1945)	3075	14.15	0.01	0.57	0.01	3.93	12.1	16.8	4.7
12	US Army Women (1988)	2208	13.64	0.01	0.52	0.01	3.8	11.5	15.7	4.2
13	US Army Women (1977)	216	12.98	0.04	0.53	0.03	4.11	11.5	14.6	3.1
14	USAF Women (1968)	1905	12.89	0.01	0.50	0.01	3.88	11.4	15.2	3.8

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TABLE 22a. STATISTICAL VALUES FOR BITRAGION-CORONAL ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	35.33	0.03	1.29	0.02	3.7	29.9	39.5	9.6
2	US Army Aviators (1970)	1482	35.50	0.03	1.23	0.02	3.45	30.8	39.6	8.8
3	USAF Flying Pers. (1967)	2420	35.76	0.03	1.26	0.02	3.52	32.1	40.2	8.1
4	USAF Basic Trainees (1965)	2527	34.86	0.03	1.34	0.02	3.84	30.4	40.0	9.6
5	US Navy Aviators (1964)	1549	35.52	0.03	1.32	0.02	3.72	29.2	40.6	11.4
6	USAF Flying Pers. (1950)	4000	35.05	0.02	1.24	0.01	3.54	31.3	39.3	8.0
7	US Army Women (1988)	2208	33.64	0.03	1.29	0.02	3.8	29.8	39.2	9.4
8	US Army Women (1977)	216	33.22	0.09	1.27	0.06	3.84	30.2	38.3	8.1
9	USAF Women (1968)	1905	33.92	0.03	1.40	0.02	4.13	29.0	39.2	10.2
10	USAF WAF Trainees (1952)	845	35.95	0.05	1.57	0.04	4.36	30.0	41.0	11.0

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TABLE 22b. PERCENTILE VALUES FOR BITRAGION-CORONAL ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	32.3	32.7	33.2	33.7	34.5	35.3	36.2	37.0	37.5	38.1	38.5	6.2
2	US Army Aviators (1970)	32.8	33.0	33.5	34.0	34.7	35.5	36.3	37.0	37.5	38.2	38.6	5.8
3	USAF Flying Pers. (1967)	32.8	33.2	33.7	34.1	34.9	35.8	36.6	37.4	37.9	38.4	38.8	6.0
4	USAF Basic Trainees (1965)	31.9	32.2	32.7	33.1	34.0	34.9	35.8	36.6	37.1	37.7	38.1	6.2
5	US Navy Aviators (1964)	32.4	32.8	33.4	33.8	34.6	35.5	36.4	37.2	37.7	38.2	38.5	6.1
6	USAF Flying Pers. (1950)	32.3	32.6	33.1	33.5	34.2	35.0	35.9	36.7	37.1	37.7	38.0	5.7
7	US Army Women (1988)	30.8	31.1	31.6	32.0	32.8	33.6	34.5	35.3	35.8	36.4	36.9	6.1
8	US Army Women (1977)	30.5	30.8	31.3	31.7	32.4	33.2	34.0	34.9	35.4	36.0	36.4	5.9
9	USAF Women (1968)	30.8	31.1	31.7	32.1	33.0	33.9	34.8	35.7	36.3	37.0	37.5	6.7
10	USAF WAF Trainees (1952)	32.3	32.6	33.3	33.9	34.8	35.9	26.9	38.0	38.6	39.4	39.8	7.5

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TABLE 23a. STATISTICAL VALUES FOR BITRAGION-INION ARC

Values in Centimeters

No.	Series	N	Mean	SE M)	S.D.	SE(SD)	V(%)	g Min.	g Max.	g Total
1	US Navy Aviators (964)	1549	31.44	0.05	2.09	0.04	6.65	25.8	39.0	13.2
2	USAF Flying Pers. (950	4000	29.37	0.02	1.34	0.0	4.56	25.0	34.0	9.0

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TABLE 23b. PERCENTILE VALUES FOR BITRAGION-INION ARC

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Navy Aviators (1964)	27.6	27.9	28.4	28.9	29.8	31.2	32.9	34.4	35.2	35.9	36.2	8.6
2	USAF Flying Pers. (1950)	26.6	26.9	27.3	27.7	28.4	29.3	30.3	31.2	31.7	32.3	32.7	6.1

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TABLE 24a. STATISTICAL VALUES FOR BITRAGION-MENTON ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	32.58	0.03	1.34	0.02	4.1	27.8	37.2	9.4
2	USAF Flying Pers. (1967)	2420	32.65	0.03	1.24	0.02	3.79	28.2	36.7	8.5
3	USAF Basic Trainees (1965)	2527	31.08	0.03	1.37	0.02	4.41	26.4	36.4	10.0
4	US Navy Aviators (1964)	1549	32.21	0.03	1.27	0.02	3.95	26.2	36.8	10.6
5	USAF Flying Pers. (1950)	4000	32.33	0.02	1.23	0.01	3.8	28.0	37.5	9.5
6	US Army Women (1988)	2208	30.29	0.03	1.32	0.02	4.4	26.1	35.	8.9
7	US Army Women (1977)	216	29.36	0.09	1.31	0.06	4.47	25.9	33.4	7.5

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TABLE 24b. PERCENTILE VALUES FOR BITRAGION-MENTON ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	29.5	29.9	30.4	30.9	31.7	32.6	33.5	34.3	34.8	35.4	35.8	6.3
2	USAF Flying Pers. (1967)	29.9	30.2	30.6	31.0	31.8	32.6	33.5	34.3	34.7	35.2	35.4	5.5
3	USAF Basic Trainees (1965)	28.0	28.3	28.9	29.4	30.1	31.0	32.0	32.9	33.4	34.1	34.5	6.5
4	US Navy Aviators (1964)	29.0	29.5	30.1	30.6	31.4	32.2	33.0	33.8	34.3	34.8	35.2	6.1
5	USAF Flying Pers. (1950)	29.5	29.9	30.4	30.8	31.5	32.3	33.2	33.9	34.4	34.9	35.3	5.8
6	US Army Women (1988)	27.4	27.7	28.2	28.6	29.4	30.3	31.2	32.1	32.6	33.1	33.4	6.0
7	US Army Women (1977)	26.3	26.7	27.3	27.7	28.5	29.3	30.2	31.1	31.6	32.3	32.7	6.4

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TABLE 25a. STATISTICAL VALUES FOR BITRAGION-MINIMUM FRONTAL ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	30.43	0.03	1.06	0.02	3.5	27.1	34.8	7.7
2	USAF Flying Pers. (1967)	2420	30.81	0.02	1.00	0.01	3.25	27.3	34.9	7.6
3	USAF Basic Trainees (1965)	2527	30.36	0.02	1.09	0.02	3.59	27.0	34.3	7.3
4	US Navy Aviators (1964)	1549	30.20	0.03	1.08	0.02	3.59	26.6	34.0	7.4
5	USAF Flying Pers. (1950)	4000	30.48	0.02	1.05	0.01	3.44	27.0	34.0	7.0
6	US Army Women (1988)	2208	28.79	0.02	0.99	0.01	3.4	25.0	32.0	7.0
7	US Army Women (1977)	216	28.40	0.07	1.03	0.05	3.62	25.7	31.2	5.5

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TABLE 25b. PERCENTILE VALUES FOR BITRAGION-MINIMUM FRONTAL ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	28.2	28.4	28.7	29.1	29.7	30.4	31.2	31.8	32.2	32.7	33.0	4.8
2	USAF Flying Pers. (1967)	28.5	28.8	29.2	29.5	30.1	30.8	31.5	32.1	32.4	32.9	33.2	4.7
3	USAF Basic Trainees (1965)	27.9	28.2	28.6	29.0	29.6	30.4	31.1	31.8	32.2	32.7	33.1	5.2
4	US Navy Aviators (1964)	27.8	28.0	28.4	28.8	29.5	30.2	30.9	31.6	32.0	32.6	33.0	5.2
5	USAF Flying Pers. (1950)	28.1	28.4	28.8	29.1	29.8	30.5	31.2	31.8	32.2	32.7	33.0	4.9
6	US Army Women (1988)	26.5	26.7	27.2	27.5	28.1	28.8	29.4	30.1	30.5	30.9	31.3	4.8
7	US Army Women (1977)	26.1	26.3	26.7	27.0	27.7	28.4	29.1	29.7	30.1	30.6	31.0	4.9

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TABLE 26a. STATISTICAL VALUES FOR BITRAGION-POSTERIOR ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	29.45	0.03	1.49	0.02	5.08	25.3	35.4	10.1
2	USAF Basic Trainees (1965)	2527	25.03	0.02	1.21	0.02	4.83	21.0	29.7	8.7
3	USAF Flying Pers. (1950)	4000	27.09	0.02	1.17	0.01	4.32	23.0	31.8	8.8

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TABLE 26b. PERCENTILE VALUES FOR BITRAGION-POSTERIOR ARC

No.	Series	Percentiles in Centimeters											
							Median						Range
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Flying Pers. (1967)	26.4	26.7	27.2	27.6	28.4	29.3	30.4	31.5	32.1	33.1	33.3	6.9
2	USAF Basic Trainees (1965)	22.3	22.7	23.1	23.5	24.2	25.0	25.8	26.6	27.1	27.6	28.1	5.8
3	USAF Flying Pers. (1950)	24.5	24.8	25.2	25.6	26.3	27.1	27.8	28.6	29.1	29.6	30.0	5.5

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TABLE 27a. STATISTICAL VALUES FOR BITRAGION-SUBMANDIBULAR ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	30.42	0.03	1.45	0.02	4.8	26.1	37.3	11.2
2	USAF Flying Pers. (1967)	2420	30.98	0.03	1.58	0.02	5.09	25.9	36.7	10.8
3	USAF Basic Trainees (1965)	2527	28.77	0.03	1.45	0.02	5.04	24.0	34.4	10.4
4	US Navy Aviators (1964)	1549	31.22	0.04	1.41	0.03	4.53	23.8	35.4	11.6
5	USAF Flying Pers. (1950)	4000	30.62	0.02	1.54	0.02	5.03	24.5	37.7	13.2
6	US Army Women (1988)	2208	27.60	0.03	1.28	0.02	4.6	23.5	32.9	9.4
7	US Army Women (1977)	216	26.49	0.09	1.34	0.06	5.07	23.2	30.5	7.3

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TABLE 27b. PERCENTILE VALUES FOR BITRAGION-SUBMANDIBULAR ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	27.2	27.5	28.1	28.6	29.4	30.4	31.4	32.3	32.9	33.6	34.0	6.9
2	USAF Flying Pers. (1967)	27.5	27.8	28.4	28.9	29.9	31.0	32.1	33.0	33.6	34.3	34.8	7.3
3	USAF Basic Trainees (1965)	25.6	25.9	26.4	26.9	27.8	28.7	29.7	30.6	31.2	31.9	32.5	6.9
4	US Navy Aviators (1964)	27.9	28.3	28.9	29.4	30.3	31.2	32.2	33.1	33.5	34.0	34.3	6.4
5	USAF Flying Pers. (1950)	27.2	27.6	28.1	28.7	29.6	30.6	31.6	32.6	33.2	33.9	34.4	7.2
6	US Army Women (1988)	24.8	25.1	25.6	26.0	26.7	27.6	28.4	29.2	29.7	30.3	30.7	5.9
7	US Army Women (1977)	23.5	23.9	24.5	24.9	25.5	26.4	27.4	28.4	28.9	29.3	29.5	6.0

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TABLE 28a. STATISTICAL VALUES FOR BITRAGION-SUBNASALE ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	29.20	0.03	1.11	0.02	3.8	25.5	32.8	7.3
2	USAF Flying Pers. (1967)	2420	29.31	0.02	1.02	0.01	3.49	26.0	32.8	6.8
3	USAF Basic Trainees (1965)	2525	28.54	0.02	1.14	0.02	3.99	24.4	32.4	8.0
4	US Navy Aviators (1964)	1549	28.68	0.03	1.06	0.02	3.71	23.6	32.0	8.4
5	USAF Flying Pers. (1950)	4000	28.98	0.02	1.07	0.01	3.69	25.6	33.0	7.4
6	US Army Women (1988)	2208	27.62	0.02	1.17	0.02	4.2	24.2	31.5	7.3

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TABLE 28b. PERCENTILE VALUES FOR BITRAGION-SUBNASALE ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	26.7	27.0	27.4	27.8	28.4	29.2	29.9	30.6	31.1	31.6	31.9	5.2
2	USAF Flying Pers. (1967)	27.0	27.2	27.6	28.0	28.6	29.3	30.0	30.6	31.0	31.4	31.7	4.7
3	USAF Basic Trainees (1965)	26.1	26.3	26.7	27.1	27.7	28.5	29.3	30.0	30.5	31.0	31.5	5.4
4	US Navy Aviators (1964)	26.2	26.5	27.0	27.4	28.0	28.6	29.4	30.1	30.5	31.0	31.3	5.1
5	USAF Flying Pers. (1950)	26.6	26.9	27.3	27.6	28.3	29.0	29.7	30.4	30.8	31.2	31.5	4.9
6	US Army Women (1988)	25.1	25.4	25.8	26.1	26.8	27.6	28.4	29.2	29.6	30.1	30.4	5.3

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TABLE 29a. STATISTICAL VALUES FOR BUSTPOINT-BUSTPOINT BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	21.59	0.04	1.89	0.03	8.8	16.5	28.5	12.0
2	US Army Women (1988)	2208	18.48	0.03	1.62	0.02	8.8	12.8	24.1	11.3
3	USAF Women (1968)	1905	18.53	0.04	1.55	0.03	8.36	13.1	24.6	11.5
4	USAF WAF Trainees (1952)	850	19.37	0.05	1.57	0.04	8.10	15.0	28.0	13.0
5	US Army Women (1946)	8116	19.28	0.02	2.15	0.02	11.44	11.0	34.0	23.0

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TABLE 29b. PERCENTILE VALUES FOR BUSTPOINT-BUSTPOINT BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	17.4	17.8	18.5	19.2	20.3	21.5	22.8	24.0	24.8	25.8	26.5	9.1
2	US Army Women (1988)	14.9	15.3	15.9	16.4	17.4	18.5	19.6	20.6	21.2	21.9	22.4	7.5
3	USAF Women (1968)	15.0	15.5	16.1	16.6	17.5	18.5	19.5	20.5	21.2	22.0	22.5	7.5
4	USAF WAF Trainees (1952)	16.0	16.3	16.9	17.4	18.2	19.2	20.3	21.4	22.1	23.0	23.5	7.5
5	US Army Women (1946)	14.5	15.1	16.0	16.7	17.8	19.2	20.6	22.0	23.0	24.2	25.0	10.5

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TABLE 30a. STATISTICAL VALUES FOR BUTTOCK DEPTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	24.86	0.05	2.07	0.03	8.3	19.3	35.6	16.3
2	USAF Flying Pers. (1967)	2420	23.97	0.04	2.05	0.03	8.56	17.1	33.8	16.7
3	USAF Basic Trainees (1965)	2527	22.95	0.04	2.09	0.03	9.11	17.8	33.8	16.0
4	US Navy Aviators (1964)	1549	24.13	0.05	1.87	0.03	7.74	18.4	31.2	12.8
5	USAF Flying Pers. (1950)	4000	22.35	0.03	2.04	0.02	9.13	16.7	30.6	13.9
6	US Army Women (1988)	2208	22.71	0.04	2.10	0.03	9.2	16.9	33.4	16.5
7	USAF Women (1968)	1905	21.15	0.04	1.79	0.03	8.46	16.2	30.6	14.4

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TABLE 30b. PERCENTILE VALUES FOR BUTTOCK DEPTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	20.4	20.9	21.6	22.3	23.4	24.8	26.2	27.6	28.4	29.4	30.0	9.5
2	USAF Flying Pers. (1967)	19.4	20.0	20.7	21.4	22.5	23.9	25.3	26.7	27.5	28.3	28.8	9.4
3	USAF Basic Trainees (1965)	19.0	19.5	20.1	20.6	21.4	22.6	24.1	25.8	26.9	28.3	29.2	10.2
4	US Navy Aviators (1964)	19.8	20.4	21.1	21.8	22.9	24.1	25.4	26.5	27.3	28.2	28.8	9.0
5	USAF Flying Pers. (1950)	18.2	18.6	19.2	19.8	20.9	22.2	23.7	25.1	25.9	26.9	27.6	9.4
6	US Army Women (1988)	18.5	18.9	19.6	20.2	21.3	22.5	23.9	25.4	26.5	27.9	29.0	10.5
7	USAF Women (1968)	17.4	17.8	18.4	19.0	19.9	21.0	22.2	23.5	24.3	25.4	26.2	8.8

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TABLE 31a. STATISTICAL VALUES FOR BUTTOCK HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	88.74	0.11	4.71	0.08	5.3	71.5	111.4	39.9
2	USAF Flying Pers. (1967)	2420	90.11	0.09	4.39	0.06	4.87	76.8	109.8	33.0
3	USAF Basic Trainees (1965)	2527	90.22	0.09	4.71	0.07	5.22	73.8	109.7	35.9
4	US Army Women (1988)	2208	83.83	0.10	4.52	0.07	5.4	65.3	102.2	36.9
5	US Army Women (1977)	1331	83.80	0.13	4.67	0.09	5.57	70.4	103.3	32.9
6	USAF Women (1968)	1905	82.21	0.10	4.16	0.07	5.06	65.5	96.6	31.1

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TABLE 31b. PERCENTILE VALUES FOR BUTTOCK HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	78.4	79.7	81.5	83.0	85.5	88.5	91.8	94.9	96.9	99.1	100.5	22.0
2	USAF Flying Pers. (1967)	80.2	81.4	83.1	84.6	87.1	90.0	93.0	95.8	97.5	99.5	100.9	20.7
3	USAF Basic Trainees (1965)	79.8	81.0	82.8	84.4	87.1	90.1	93.2	96.3	98.3	100.9	102.9	23.1
4	US Army Women (1988)	73.9	75.0	76.7	78.2	80.7	83.7	86.8	89.7	91.5	93.5	94.9	21.0
5	US Army Women (1977)	74.0	74.8	76.4	77.9	80.5	83.6	86.8	89.8	91.8	94.1	95.9	21.9
6	USAF Women (1968)	73.3	74.1	75.4	76.8	79.3	82.1	85.0	87.6	89.2	90.9	92.1	18.8

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TABLE 32a. STATISTICAL VALUES FOR BUTTOCK-KNEE LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	61.64	0.07	2.99	0.05	4.8	50.6	72.3	21.7
2	US Army Aviators (1970)	1482	60.19	0.07	2.63	0.05	4.37	52.9	69.4	16.5
3	USAF Flying Pers. (1967)	2420	60.40	0.05	2.70	0.04	4.47	51.8	69.6	17.8
4	US Marine Corps (1966)	2008	59.51	0.06	2.72	0.04	4.57	51.7	68.2	16.5
5	US Army Men (1966)	6682	59.47	0.03	2.85	0.02	4.80	50.1	70.9	20.8
6	USA Basic Trainees (1966)	2639	59.24	0.05	2.77	0.04	4.68	50.2	70.2	20.0
7	US Navy Recruits (1966)	4095	59.21	0.04	2.74	0.03	4.63	50.1	69.7	19.6
8	USAF Basic Trainees (1965)	2527	60.28	0.06	2.92	0.04	4.84	48.8	71.2	22.4
9	US Navy Aviators (1964)	1549	61.20	0.06	2.54	0.05	4.15	52.6	70.6	18.0
10	USAF Flying Pers. (1950)	4000	59.99	0.04	2.67	0.03	4.45	50.7	70.2	19.5
11	US Army Men (1946)	24,244	59.43	0.02	2.85	0.01	4.80	49.0	71.0	22.0
12	US Army Women (1988)	2208	58.89	0.06	2.96	0.04	5.0	49.1	69.1	20.0
13	US Army Women (1977)	1331	57.85	0.08	3.06	0.06	5.29	48.7	68.5	19.8
14	USAF Women (1968)	1905	57.43	0.06	2.63	0.04	4.58	48.6	66.4	17.8
15	US Army Women (1946)	8117	56.81	0.03	2.95	0.02	5.23	45.0	67.0	22.0

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TABLE 32b. PERCENTILE VALUES FOR BUTTOCK-KNEE LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	55.1	55.8	56.9	57.9	59.6	61.5	63.7	65.6	66.7	68.0	68.7	13.6
2	US Army Aviators (1970)	54.3	54.9	55.9	56.8	58.4	60.2	61.9	63.6	64.6	65.8	66.6	12.3
3	USAF Flying Pers. (1967)	54.3	55.0	56.1	57.0	58.6	60.3	62.1	63.9	65.0	66.3	67.3	13.0
4	US Marine Corps (1966)	53.5	54.2	55.2	56.1	57.6	59.4	61.3	63.2	64.2	65.3	66.0	12.5
5	US Army Men (1966)	52.9	53.7	54.9	55.9	57.5	59.4	61.3	63.2	64.3	65.6	66.5	13.6
6	USA Basic Trainees (1966)	53.2	53.8	54.8	55.7	57.3	59.2	61.1	62.8	63.9	65.3	66.2	13.0
7	US Navy Recruits (1966)	53.1	53.8	54.8	55.7	57.4	59.2	61.0	62.7	63.8	65.0	65.9	12.8
8	USAF Basic Trainees (1965)	53.8	54.6	55.7	56.6	58.3	60.2	62.1	64.0	65.2	66.6	67.5	13.7
9	US Navy Aviators (1964)	55.3	56.1	57.2	58.0	59.5	61.1	62.8	64.5	65.5	66.6	67.4	12.1
10	USAF Flying Pers. (1950)	53.9	54.6	55.6	56.6	58.2	60.0	61.8	63.4	64.4	65.7	66.5	12.6
11	US Army Men (1946)	52.6	53.3	54.6	55.6	57.4	59.4	61.5	63.0	64.0	65.3	66.0	13.4
12	US Army Women (1988)	52.2	53.0	54.2	55.2	56.9	58.8	60.9	62.8	64.0	65.2	66.0	13.8
13	US Army Women (1977)	51.1	51.9	53.1	54.0	55.7	57.7	59.9	62.0	63.2	64.5	65.3	14.2
14	USAF Women (1968)	51.8	52.3	53.2	54.1	55.6	57.3	59.2	60.9	61.9	63.0	63.7	11.9
15	US Army Women (1946)	50.0	50.8	52.0	53.1	54.8	56.8	58.7	60.6	61.7	63.2	64.3	14.3

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TABLE 33a. STATISTICAL VALUES FOR BUTTOCK-POPLITEAL LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	50.04	0.06	2.66	0.04	5.3	40.1	59.7	19.6
2	US Army Aviators (1970)	1482	49.09	0.07	2.59	0.05	5.28	42.7	58.9	16.2
3	USAF Flying Pers. (1967)	2420	50.37	0.05	2.58	0.04	5.12	42.5	59.8	17.3
4	US Marine Corps (1966)	2008	50.11	0.06	2.54	0.04	5.08	43.0	58.8	15.8
5	US Army Men (1966)	6682	49.82	0.03	2.50	0.02	5.02	41.2	58.7	17.5
6	USA Basic Trainees (1966)	2629	49.51	0.05	2.52	0.03	5.09	42.0	58.7	16.7
7	US Navy Recruits (1966)	4095	48.95	0.04	2.34	0.03	4.78	41.0	58.9	17.9
8	USAF Basic Trainees (1965)	2525	49.36	0.05	2.65	0.04	5.37	37.2	59.2	22.0
9	US Navy Aviators (1964)	1549	50.26	0.06	2.52	0.05	5.01	40.6	59.0	18.4
10	US Army Women (1988)	2208	48.17	0.06	2.66	0.04	5.5	39.4	57.8	18.4
11	USAF Women (1968)	1905	47.71	0.06	2.76	0.04	5.78	39.1	58.5	19.4

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TABLE 33b. PERCENTILE VALUES FOR BUTTOCK-POPLITEAL LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	44.1	44.8	45.8	46.7	48.2	50.0	51.8	53.5	54.6	55.7	56.4	12.3
2	US Army Aviators (1970)	43.7	44.1	44.9	45.7	47.2	49.1	50.9	52.5	53.4	54.4	55.0	11.3
3	USAF Flying Pers. (1967)	44.6	45.2	46.1	47.0	48.6	50.4	52.1	53.6	54.6	55.8	56.6	12.0
4	US Marine Corps (1966)	44.6	45.2	46.1	46.9	48.3	50.0	51.8	53.5	54.5	55.6	56.2	11.6
5	US Army Men (1966)	44.0	44.7	45.8	46.6	48.1	49.8	51.5	53.1	54.0	55.1	55.8	11.8
6	USA Basic Trainees (1966)	43.7	44.4	45.4	46.3	47.8	49.5	51.2	52.8	53.7	54.9	55.6	11.9
7	US Navy Recruits (1966)	43.8	44.3	45.2	46.0	47.3	48.9	50.5	52.0	52.9	53.9	54.6	10.8
8	USAF Basic Trainees (1965)	43.6	44.2	45.2	46.1	47.5	49.3	51.1	52.8	53.9	55.2	56.2	12.6
9	US Navy Aviators (1964)	44.6	45.2	46.2	47.1	48.5	50.2	51.9	53.5	54.5	55.6	56.3	11.7
10	US Army Women (1988)	42.1	42.9	44.0	44.9	46.3	48.1	49.9	51.7	52.8	53.9	54.5	12.4
11	USAF Women (1968)	42.0	42.5	53.5	44.3	45.8	47.5	49.5	51.4	52.6	54.0	55.0	13.0

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TABLE 34a. STATISTICAL VALUES FOR CALF CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	37.81	0.06	2.54	0.04	6.7	30.4	47.0	16.6
2	US Army Aviators (1970)	1482	37.30	0.06	2.41	0.04	6.47	30.3	45.4	15.1
3	USAF Flying Pers. (1967)	2420	37.19	0.05	2.27	0.03	6.10	30.2	45.2	15.0
4	US Marine Corps (1966)	2008	37.16	0.05	2.35	0.04	6.32	29.3	45.4	16.1
5	US Army Men (1966)	6682	36.60	0.03	2.67	0.02	7.29	28.3	50.3	22.0
6	US Navy Recruits (1966)	4095	36.51	0.04	2.73	0.03	7.47	29.0	46.5	17.5
7	USA Basic Trainees (1966)	2639	36.28	0.05	2.74	0.04	7.56	28.2	45.7	17.5
8	USAF Basic Trainees (1965)	2527	36.16	0.05	2.65	0.04	7.33	27.8	47.2	19.4
9	US Navy Aviators (1964)	1549	37.49	0.06	2.20	0.04	5.88	28.4	45.4	17.0
10	USAF Flying Pers. (1950)	4000	36.53	0.04	2.37	0.03	6.49	28.8	44.8	16.0
11	US Army Men (1946)	24,686	35.76	0.01	2.38	0.00	6.66	27.2	47.2	20.0
12	US Army Women (1988)	2208	35.24	0.05	2.32	0.03	6.6	28.5	45.9	17.4
13	US Army Women (1977)	1331	35.09	0.07	2.51	0.05	7.15	27.9	47.6	19.7
14	USAF Women (1968)	1905	34.14	0.05	2.25	0.04	6.59	26.8	44.5	17.7
15	USAF WAF Trainees (1952)	846	34.08	0.09	2.48	0.06	7.29	27.0	42.0	15.0

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TABLE 34b. PERCENTILE VALUES FOR CALF CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	32.1	32.7	33.6	34.5	36.1	37.8	39.5	41.1	42.1	43.2	44.0	11.8
2	US Army Aviators (1970)	31.7	32.3	33.3	34.2	35.7	37.3	38.9	40.4	41.2	42.2	42.8	11.1
3	USAF Flying Pers. (1967)	32.0	32.6	33.5	34.3	35.7	37.2	38.7	40.1	41.0	42.0	42.6	10.6
4	US Marine Corps (1966)	32.0	32.5	33.4	34.2	35.6	37.1	38.7	40.2	41.1	42.2	43.1	11.1
5	US Army Men (1966)	30.8	31.4	32.4	33.2	34.7	36.5	38.3	40.1	41.2	42.5	43.4	12.6
6	US Navy Recruits (1966)	30.7	31.3	32.2	33.1	34.5	36.3	38.3	40.2	41.2	42.4	43.1	12.4
7	USA Basic Trainees (1966)	30.4	31.1	32.0	32.9	34.3	36.1	38.0	39.9	41.1	42.4	43.2	12.8
8	USAF Basic Trainees (1965)	30.8	31.3	32.1	32.9	34.3	36.0	37.8	39.6	40.8	42.3	43.4	12.6
9	US Navy Aviators (1964)	32.4	33.1	34.0	34.8	36.0	37.5	39.0	40.4	41.3	42.3	43.0	10.6
10	USAF Flying Pers. (1950)	31.3	31.8	32.7	33.5	34.9	36.5	38.1	39.6	40.6	41.6	42.4	11.1
11	US Army Men (1946)	30.5	31.0	32.0	32.8	34.0	35.6	37.1	38.9	39.6	41.1	41.9	11.4
12	US Army Women (1988)	30.1	30.6	31.5	32.3	33.7	35.2	36.8	38.2	39.1	40.2	41.0	10.9
13	US Army Women (1977)	29.8	30.2	31.0	31.9	33.4	35.0	36.7	38.3	39.2	40.4	41.3	11.5
14	USAF Women (1968)	29.4	29.9	30.6	31.3	32.6	34.1	35.6	37.1	37.9	39.0	39.7	10.3
15	USAF WAF Trainees (1952)	28.7	29.1	29.8	30.5	31.9	33.6	35.3	37.0	38.0	39.1	39.9	11.2

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TABLE 35a. STATISTICAL VALUES FOR CALF HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	35.34	0.06	2.37	0.04	6.7	27.1	44.2	17.1
2	US Army Aviators (1970)	1482	34.45	0.06	2.19	0.04	6.36	27.0	42.2	15.2
3	USAF Flying Pers. (1967)	2420	35.55	0.05	2.22	0.03	6.25	29.3	44.7	15.4
4	US Navy Recruits (1966)	4094	36.11	0.04	2.67	0.03	7.38	25.2	44.5	19.3
5	US Marine Corps (1966)	2008	36.04	0.06	2.69	0.04	7.47	28.1	44.2	16.1
6	US Army Men (1966)	6682	35.42	0.03	2.70	0.02	7.62	23.9	47.3	23.4
7	USA Basic Trainees (1966)	2639	35.45	0.05	2.53	0.03	7.14	23.8	44.7	20.9
8	USAF Basic Trainees (1965)	2527	36.11	0.05	2.37	0.03	6.56	28.6	45.0	16.4
9	US Army Women (1988)	2208	31.61	0.05	2.40	0.04	7.6	23.6	41.3	17.7
10	US Army Women (1977)	1331	32.55	0.06	2.30	0.04	7.07	25.3	40.4	15.1
11	USAF WAF Trainees (1952)	851	33.09	0.09	2.71	0.07	8.19	26.0	49.0	23.0

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TABLE 35b. PERCENTILE VALUES FOR CALF HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	30.2	30.8	31.6	32.3	33.7	35.3	36.9	38.5	39.4	40.5	41.2	10.9
2	US Army Aviators (1970)	29.7	30.1	30.9	31.6	33.0	34.4	35.8	37.1	38.0	39.3	40.3	10.6
3	USAF Flying Pers. (1967)	30.7	31.2	32.0	32.7	34.0	35.5	37.1	38.5	39.3	40.2	40.7	10.0
4	US Navy Recruits (1966)	29.8	30.6	31.7	32.7	34.4	36.1	37.9	39.5	40.5	41.6	42.5	12.7
5	US Marine Corps (1966)	29.9	30.6	31.6	32.6	34.2	36.0	37.9	39.6	40.6	41.7	42.4	12.5
6	US Army Men (1966)	29.3	30.0	31.1	32.0	33.6	35.4	37.2	38.9	40.0	41.2	41.9	12.6
7	USA Basic Trainees (1966)	30.0	30.6	31.5	32.3	33.7	35.4	37.1	38.8	39.8	40.9	41.7	11.7
8	USAF Basic Trainees (1965)	30.8	31.4	32.3	33.1	34.5	36.1	37.6	39.1	40.1	41.3	42.2	11.4
9	US Army Women (1988)	26.5	27.0	27.8	28.6	30.0	31.5	33.2	34.7	35.7	36.9	37.8	11.3
10	US Army Women (1977)	27.8	28.2	29.0	29.7	30.9	32.4	34.1	35.6	36.6	37.6	38.3	10.5
11	USAF WAF Trainees (1952)	27.4	28.0	29.3	30.0	31.5	33.1	34.6	36.1	37.1	38.9	42.9	15.5

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TABLE 36a. STATISTICAL VALUES FOR CERVICALE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	151.94	0.15	6.27	0.11	4.1	126.7	177.6	50.9
2	US Army Aviators (1970)	1482	149.66	0.16	5.97	0.11	3.99	130.3	169.5	39.2
3	USAF Flying Pers. (1967)	2420	152.06	0.12	5.82	0.08	3.83	134.7	170.2	35.5
4	US Navy Recruits (1966)	4095	149.63	0.10	6.32	0.07	4.22	125.1	172.3	47.2
5	US Marine Corps (1966)	2008	149.59	0.14	6.10	0.10	4.08	131.8	169.0	37.2
6	US Army Men (1966)	6682	149.56	0.08	6.34	0.05	4.24	127.9	172.8	44.9
7	USA Basic Trainees (1966)	2639	149.44	0.12	6.17	0.08	4.13	127.8	171.7	43.9
8	USAF Basic Trainees (1965)	2527	149.52	0.12	6.14	0.09	4.11	128.2	172.2	44.0
9	US Navy Aviators (1964)	1549	151.16	0.14	5.54	0.10	3.67	133.8	170.6	36.8
10	USAF Flying Pers. (1950)	4000	150.11	0.09	5.81	0.06	3.87	128.2	170.7	42.5
11	US Army Men (1946)	21,141	149.20	0.04	6.05	0.03	4.05	127.0	175.0	48.0
12	US Army Women (1988)	2208	140.80	0.13	5.92	0.09	4.2	121.2	164.3	43.1
13	US Army Women (1977)	255	140.28	0.38	6.02	0.27	4.29	126.3	161.9	35.6
14	USAF Women (1968)	1905	139.20	0.13	5.52	0.09	3.97	121.2	156.8	35.6
15	USAF WAF Trainees (1952)	852	138.18	0.20	5.92	0.14	4.29	122.0	159.0	37.0
16	US Army Women (1946)	8121	138.26	0.06	5.63	0.04	4.09	121.0	159.0	38.0

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TABLE 36b. PERCENTILE VALUES FOR CERVICALE HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	137.4	139.2	141.8	144.0	147.6	151.8	156.2	160.2	162.4	164.8	166.1	28.7
2	US Army Aviators (1970)	136.4	137.6	139.8	141.9	145.6	149.7	153.7	157.2	159.5	162.3	164.3	27.9
3	USAF Flying Pers. (1967)	138.2	140.0	142.5	144.6	148.1	152.0	155.9	159.6	161.8	164.3	166.0	27.8
4	US Navy Recruits (1966)	135.3	137.1	139.6	141.8	145.4	149.5	153.9	158.0	160.4	163.1	164.7	29.4
5	US Marine Corps (1966)	136.3	137.7	139.9	141.9	145.3	149.4	153.7	157.6	160.0	162.6	164.3	28.0
6	US Army Men (1966)	134.4	136.5	139.3	141.6	145.3	149.5	153.8	157.8	160.2	162.6	164.1	29.7
7	USA Basic Trainees (1966)	134.8	136.7	139.4	141.7	145.3	149.4	153.6	157.5	159.8	162.1	163.5	28.7
8	USAF Basic Trainees (1965)	135.2	136.8	139.4	141.6	145.4	149.5	153.6	157.3	159.6	162.3	164.2	29.0
9	US Navy Aviators (1964)	139.4	140.6	142.4	144.1	147.2	150.9	155.0	158.6	160.7	162.8	164.1	24.7
10	USAF Flying Pers. (1950)	136.5	138.1	140.5	142.7	146.2	150.1	154.0	157.5	159.7	162.2	163.9	27.4
11	US Army Men (1946)	135.1	136.7	139.2	141.5	145.0	149.1	153.2	157.0	159.3	161.8	163.6	28.5
12	US Army Women (1988)	127.3	129.0	131.4	133.4	136.7	140.6	144.7	148.5	150.8	153.3	154.8	27.5
13	US Army Women (1977)	126.9	127.8	130.0	132.3	136.4	140.5	155.0	147.3	149.8	153.5	156.9	30.0
14	USAF Women (1968)	127.6	128.6	130.3	132.1	135.3	139.1	142.9	146.3	148.4	150.8	152.5	24.9
15	USAF WAF Trainees (1952)	125.7	127.1	129.2	131.0	134.0	137.6	142.0	145.8	147.9	150.8	153.3	27.6
16	US Army Women (1946)	125.5	127.0	129.2	131.1	134.4	138.1	142.0	145.5	147.7	150.2	151.9	26.4

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TABLE 37a. STATISTICAL VALUES FOR CHEST BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	32.15	0.06	2.55	0.04	7.9	25.7	42.2	16.5
2	US Army Aviators (1970)	1482	34.40	0.06	2.39	0.04	6.94	27.2	46.1	18.9
3	USAF Flying Pers. (1967)	2420	32.78	0.04	2.12	0.03	6.46	26.0	41.5	15.5
4	US Marine Corps (1966)	2008	30.74	0.04	1.88	0.03	6.13	25.6	38.2	12.6
5	US Army Men (1966)	6682	30.57	0.03	2.15	0.02	7.02	24.5	41.5	17.0
6	USA Basic Trainees (1966)	2639	30.45	0.04	2.12	0.03	6.95	24.4	39.2	14.8
7	US Navy Recruits (1966)	4095	30.16	0.03	2.06	0.02	6.82	23.9	39.2	15.3
8	USAF Basic Trainees (1965)	2525	30.81	0.05	2.29	0.03	7.43	24.6	44.2	19.6
9	US Navy Aviators (1964)	1549	32.72	0.05	2.07	0.04	6.32	26.0	41.2	15.2
10	USAF Flying Pers. (1950)	4000	30.53	0.03	2.00	0.02	6.55	24.4	38.9	14.5
11	US Army Men (1946)	24,574	28.29	0.01	1.96	0.00	6.93	20.5	38.5	18.0
12	US Army Women (1988)	2208	27.96	0.04	1.97	0.03	7.1	22.2	37.5	15.3
13	US Army Women (1977)	1331	28.25	0.05	1.86	0.04	6.57	23.5	40.8	17.3
14	USAF Women (1968)	1905	27.99	0.04	1.91	0.03	6.82	22.3	35.9	13.6
15	USAF WAF Trainees (1952)	834	25.25	0.05	1.40	0.03	5.55	21.0	31.0	10.0
16	US Army Women (1946)	8118	28.43	0.03	2.38	0.02	8.52	20.0	42.0	22.0

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TABLE 37b. PERCENTILE VALUES FOR CHEST BREADTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	27.1	27.6	28.3	29.0	30.3	31.9	33.8	35.6	36.7	38.0	38.8	11.8
2	US Army Aviators (1970)	29.4	29.8	30.7	31.4	32.8	34.3	35.9	37.4	38.5	39.8	40.8	11.4
3	USAF Flying Pers. (1967)	28.3	28.7	29.5	30.1	31.3	32.7	34.1	35.6	36.5	37.6	38.4	10.1
4	US Marine Corps (1966)	26.9	27.2	27.8	28.4	29.4	30.6	32.0	33.2	34.0	34.9	35.6	8.7
5	US Army Men (1966)	26.1	26.6	27.3	28.0	29.1	30.4	31.9	33.4	34.4	35.5	36.4	10.3
6	USA Basic Trainees (1966)	26.0	26.5	27.2	27.8	29.0	30.3	31.8	33.2	34.1	35.3	36.1	10.1
7	US Navy Recruits (1966)	26.0	26.4	27.0	27.6	28.7	30.0	31.5	32.9	33.8	34.9	35.7	9.7
8	USAF Basic Trainees (1965)	26.2	26.8	27.5	28.1	29.2	30.6	32.1	33.8	35.0	36.4	37.3	11.1
9	US Navy Aviators (1964)	28.4	28.8	29.5	30.2	31.3	32.6	34.0	35.4	36.3	37.3	38.0	9.6
10	USAF Flying Pers. (1950)	26.2	26.7	27.5	28.1	29.2	30.4	31.8	33.2	34.1	35.1	35.7	9.5
11	US Army Men (1946)	23.6	24.4	25.4	25.9	26.9	28.2	29.5	30.7	31.5	32.5	33.5	9.9
12	US Army Women (1988)	24.0	24.4	25.0	25.6	26.6	27.8	29.2	30.6	31.5	32.6	33.4	9.4
13	US Army Women (1977)	24.5	24.8	25.4	26.0	27.0	28.2	29.4	30.6	31.4	32.4	33.2	8.7
14	USAF Women (1968)	24.0	24.4	25.1	25.7	26.6	27.8	29.2	30.5	31.4	32.5	33.2	9.2
15	USAF WAF Trainees (1952)	22.5	22.7	23.1	23.4	24.1	25.1	26.1	27.2	27.6	28.3	28.7	6.2
16	US Army Women (1946)	23.6	24.1	24.8	25.6	26.8	28.2	29.8	31.5	32.6	34.1	35.2	11.6

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TABLE 38a. STATISTICAL VALUES FOR CHEST/BUST CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	99.14	0.16	6.90	0.12	7.0	77.5	128.1	50.6
2	US Army Aviators (1970)	1482	98.44	0.18	6.87	0.13	6.98	80.2	134.3	54.1
3	USAF Flying Pers. (1967)	2420	98.55	0.13	6.35	0.09	6.44	77.7	121.4	43.7
4	US Marine Corps (1966)	2008	94.26	0.13	5.83	0.09	6.19	80.4	124.4	44.0
5	US Army Men (1966)	6682	93.77	0.08	6.69	0.06	7.13	72.0	124.2	52.2
6	US Navy Recruits (1966)	4095	93.05	0.10	6.65	0.07	7.14	74.7	118.4	43.7
7	USA Basic Trainees (1966)	2639	92.79	0.13	6.46	0.09	6.97	71.8	122.7	50.9
8	USAF Basic Trainees (1965)	2527	91.77	0.13	6.53	0.09	7.12	69.8	126.7	56.9
9	US Navy Aviators (1964)	1549	98.85	0.15	5.78	0.10	5.85	78.2	121.6	43.4
10	USAF Flying Pers. (1950)	4000	98.48	0.10	6.04	0.07	6.13	81.2	123.4	42.7
11	US Army Men (1946)	24,470	92.41	0.04	5.96	0.02	6.45	71.0	123.0	52.0
	BUST CIRCUMFERENCE:									
12	US Army Women (1988)	2208	90.71	0.14	6.35	0.10	7.0	71.1	117.6	46.5
13	US Army Women (1977)	1331	88.21	0.18	6.43	0.12	7.28	68.9	128.4	59.5
14	USAF Women (1968)	1905	89.73	0.13	5.70	0.09	6.35	75.0	113.9	38.9
15	USAF WAF Trainees (1952)	851	85.59	0.18	5.15	0.12	6.01	68.0	104.0	36.0
16	US Army Women (1946)	8115	88.91	0.09	7.68	0.06	8.68	68.0	128.0	60.0

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TABLE 38b. PERCENTILE VALUES FOR CHEST/BUST CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	84.5	86.2	88.6	90.7	94.3	98.7	103.6	108.3	111.3	114.6	116.8	32.3
2	US Army Aviators (1970)	84.5	85.5	87.5	89.6	93.6	98.2	102.9	107.2	109.9	113.3	115.9	31.4
3	USAF Flying Pers. (1967)	84.8	86.3	88.6	90.6	94.1	98.3	102.7	106.8	109.4	112.4	114.4	29.6
4	US Marine Corps (1966)	82.5	83.7	85.5	87.2	90.2	93.8	97.8	101.9	104.6	107.9	110.2	27.7
5	US Army Men (1966)	80.9	82.2	84.1	85.9	89.1	93.0	97.7	102.6	105.9	109.9	112.8	31.9
6	US Navy Recruits (1966)	79.9	81.2	83.2	85.0	88.3	92.4	97.2	102.0	105.2	108.9	111.4	31.5
7	USA Basic Trainees (1966)	80.0	81.3	83.2	85.0	88.2	92.2	96.7	101.4	104.5	108.2	110.8	30.8
8	USAF Basic Trainees (1965)	79.1	80.4	82.4	84.1	87.2	91.1	95.6	100.4	103.7	107.8	110.8	31.7
9	US Navy Aviators (1964)	85.6	87.1	89.4	91.6	95.0	98.8	102.5	106.1	108.5	111.7	114.2	28.6
10	USAF Flying Pers. (1950)	86.1	87.3	89.2	91.0	94.2	98.1	102.4	106.5	109.1	111.9	113.7	27.6
11	US Army Men (1946)	80.3	81.5	83.6	85.3	88.4	91.9	96.0	100.1	102.9	106.4	109.2	28.9
	BUST CIRCUMFERENCE:												
12	US Army Women (1988)	78.1	79.5	81.4	83.1	86.2	90.1	94.7	99.3	102.2	105.5	107.7	29.6
13	US Army Women (1977)	76.2	76.8	78.3	80.2	83.7	87.9	92.1	96.2	99.0	102.8	105.8	29.6
14	USAF Women (1968)	78.7	79.9	81.6	83.1	85.7	89.0	93.0	97.3	100.2	103.9	106.6	27.9
15	USAF WAF Trainees (1952)	73.8	75.4	77.5	79.4	82.4	85.4	88.8	92.0	93.9	96.2	97.9	24.1
16	US Army Women (1946)	74.6	76.1	78.2	80.0	83.4	87.9	93.4	99.4	103.3	107.8	110.9	36.3

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TABLE 39a. STATISTICAL VALUES FOR CHEST/BUST DEPTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	24.32	0.05	2.15	0.04	8.8	18.5	32.2	13.7
2	US Army Aviators (1970)	1482	24.06	0.06	2.25	0.04	9.35	17.9	34.1	16.2
3	USAF Flying Pers. (1967)	2420	24.52	0.04	1.93	0.03	7.87	19.1	31.6	12.5
4	US Marine Corps (1966)	2008	23.27	0.04	1.76	0.03	7.57	18.3	30.2	11.9
5	US Army Men (1966)	6682	23.18	0.02	1.99	0.02	8.61	16.5	33.9	17.4
6	US Navy Recruits (1966)	4095	22.79	0.03	1.90	0.02	8.32	17.3	31.4	14.1
7	USA Basic Trainees (1966)	2639	22.76	0.04	1.88	0.03	8.24	16.8	30.0	13.2
8	USAF Basic Trainees (1965)	2527	21.91	0.04	2.10	0.03	9.58	15.2	31.1	15.9
9	US Navy Aviators (1964)	1549	23.85	0.05	1.79	0.03	7.53	18.8	30.2	11.4
10	USAF Flying Pers. (1950)	4000	23.00	0.03	1.87	0.02	8.13	17.2	30.5	13.3
11	US Army Men (1946)	24,558	21.16	0.01	1.90	0.00	8.98	13.5	32.5	19.0
	BUST DEPTH:									
12	US Army Women (1988)	2208	23.94	0.04	2.11	0.03	8.8	17.0	32.5	15.5
13	US Army Women (1977)	1331	22.92	0.06	2.23	0.04	9.71	15.5	33.2	17.7
14	USAF Women (1968)	1905	23.64	0.04	1.93	0.03	8.16	18.4	32.3	13.9

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TABLE 39b. PERCENTILE VALUES FOR CHEST/BUST DEPTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	19.7	20.2	21.0	21.6	22.8	24.2	25.7	27.2	28.0	29.0	29.6	9.9
2	US Army Aviators (1970)	19.3	19.7	20.4	21.1	22.5	24.0	25.6	27.0	27.8	28.8	29.6	10.3
3	USAF Flying Pers. (1967)	20.3	20.7	21.3	22.0	23.2	24.5	25.8	27.0	27.7	28.6	29.2	8.9
4	US Marine Corps (1966)	19.5	19.9	20.6	21.2	22.1	23.1	24.4	25.6	26.4	27.3	28.0	8.5
5	US Army Men (1966)	19.2	19.6	20.2	20.8	21.8	23.0	24.4	25.8	26.7	27.9	28.8	9.6
6	US Navy Recruits (1966)	18.9	19.3	20.0	20.5	21.5	22.6	24.0	25.3	26.2	27.2	27.8	8.9
7	USA Basic Trainees (1966)	18.9	19.3	19.9	20.5	21.4	22.6	23.9	25.2	26.1	27.1	27.9	9.0
8	USAF Basic Trainees (1965)	17.9	18.3	18.8	19.4	20.5	21.7	23.2	24.7	25.7	27.0	27.9	10.0
9	US Navy Aviators (1964)	19.8	20.3	21.0	21.6	22.6	23.8	25.0	26.2	26.9	27.6	28.2	8.4
10	USAF Flying Pers. (1950)	19.2	19.6	20.2	20.7	21.7	22.9	24.2	25.5	26.3	27.2	27.8	8.6
11	US Army Men (1946)	17.3	17.5	18.3	18.8	19.8	21.1	22.4	23.6	24.4	25.7	26.7	9.4
	BUST DEPTH:												
12	US Army Women (1988)	19.7	20.2	20.9	21.4	22.4	23.7	25.3	26.8	27.8	28.9	29.5	9.8
13	US Army Women (1977)	18.6	19.0	19.6	20.2	21.4	22.7	24.3	25.8	26.8	28.1	29.1	10.5
14	USAF Women (1968)	19.9	20.3	20.9	21.4	22.3	23.4	24.8	26.2	27.2	28.3	29.0	9.1

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TABLE 40a. STATISTICAL VALUES FOR CHEST/BUSTPOINT HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Total
1	US Army Men (1988)	1774	127.59	0.13	5.61	0.09	4.4	103.5	151.2	47.7
2	USAF Flying Pers. (1967)	2420	129.24	0.11	5.24	0.08	4.05	113.6	147.4	33.8
3	USAF Basic Trainees (1965)	2527	127.93	0.11	5.50	0.08	4.30	108.8	149.7	40.9
4	US Navy Aviators (1964)	1549	129.75	0.13	5.14	0.09	3.96	113.2	145.2	32.0
5	USAF Flying Pers. (1950)	4000	128.10	0.08	5.22	0.06	4.07	107.9	145.5	37.6
	BUSTPOINT HEIGHT:									
6	US Army Women (1988)	2208	117.44	0.12	5.50	0.08	4.7	99.6	140.2	40.6
7	US Army Women (1977)	1331	118.30	0.15	5.63	0.11	4.76	98.9	135.9	37.0
8	USAF Women (1968)	1905	118.32	0.12	5.21	0.08	4.40	100.7	136.3	35.6

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TABLE 40b. PERCENTILE VALUES FOR CHEST/BUSTPOINT HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	114.7	116.3	118.6	120.5	123.8	127.5	131.3	134.9	137.0	139.2	140.5	25.7
2	USAF Flying Pers. (1967)	117.1	118.6	120.8	122.6	125.6	129.1	132.7	136.1	138.1	140.2	141.6	24.5
3	USAF Basic Trainees (1965)	115.4	117.0	119.2	121.1	124.2	127.8	131.5	135.1	137.2	139.7	141.3	25.9
4	US Navy Aviators (1964)	119.2	120.0	121.5	123.1	126.0	129.6	133.4	136.6	138.5	140.4	141.6	22.4
5	USAF Flying Pers. (1950)	116.4	117.6	119.5	121.4	124.5	128.1	131.6	134.8	136.7	139.0	140.6	24.2
	BUSTPOINT HEIGHT:												
6	US Army Women (1988)	105.1	106.7	108.9	110.7	113.7	117.2	121.1	124.7	126.9	129.2	130.5	25.4
7	US Army Women (1977)	106.0	107.3	109.3	111.1	114.4	118.2	122.1	125.7	127.8	130.1	131.5	25.5
8	USAF Women (1968)	106.8	108.1	110.0	111.7	114.7	118.1	121.8	125.2	127.3	129.6	131.1	24.3

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TABLE 41a. STATISTICAL VALUES FOR CHEST CIRCUMFERENCE AT SCYE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	102.32	0.16	6.53	0.11	6.4	80.7	129.8	49.1
2	USAF Flying Pers. (1967)	2420	102.26	0.12	6.07	0.09	5.93	79.4	124.3	44.9
3	US Army Women (1988)	2208	88.70	0.11	5.32	0.08	6.0	75.3	112.1	36.8
4	US Army Women (1977)	1331	85.55	0.14	5.19	0.10	6.07	71.8	120.7	48.9
5	USAF Women (1968)	1905	84.25	0.11	4.96	0.08	5.89	71.5	103.5	32.0
6	USAF WAF Trainees (1952)	852	82.16	0.14	4.23	0.10	5.14	68.0	97.0	29.0

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TABLE 41b. PERCENTILE VALUES FOR CHEST CIRCUMFERENCE AT SCYE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	88.5	88.9	92.1	94.1	97.7	102.0	106.6	110.9	113.4	116.3	118.1	29.6
2	USAF Flying Pers. (1967)	88.6	90.1	92.5	94.6	98.1	102.1	106.2	110.1	112.4	115.1	117.0	28.4
3	US Army Women (1988)	77.6	79.0	80.8	82.4	85.0	88.2	92.0	95.8	98.3	101.2	103.1	25.5
4	US Army Women (1977)	75.2	76.0	77.5	79.1	82.0	85.3	88.7	92.1	94.3	97.2	99.4	24.2
5	USAF Women (1968)	74.3	75.4	77.0	78.4	80.8	83.7	87.1	90.7	93.2	96.4	98.8	24.5
6	USAF WAF Trainees (1952)	72.8	74.0	75.7	77.2	79.5	82.2	84.9	87.6	89.5	91.4	92.8	20.0

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TABLE 42a. STATISTICAL VALUES FOR CHEST CIRCUMFERENCE BELOW BUST

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	92.61	0.16	6.54	0.11	7.1	72.3	121.1	48.8
2	US Army Women (1988)	2208	76.97	0.11	5.10	0.08	6.6	64.0	98.8	34.8
3	US Army Women (1977)	1331	74.82	0.14	5.02	0.10	6.71	62.4	107.4	45.0
4	USAF Women (1968)	1905	74.33	0.11	4.87	0.08	6.55	61.0	97.0	36.0
5	USAF WAF Trainees (1952)	850	75.11	0.16	4.69	0.11	6.24	61.0	92.0	31.0
6	US Army Women (1946)	8115	77.31	0.07	6.13	0.05	7.98	60.0	117.0	57.0

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TABLE 42b. PERCENTILE VALUES FOR CHEST CIRCUMFERENCE BELOW BUST

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	78.9	80.4	82.6	84.6	88.0	92.2	96.8	101.3	104.1	107.3	109.4	30.5
2	US Army Women (1988)	67.1	68.1	69.6	71.0	73.4	76.4	80.0	83.8	86.3	89.3	91.3	24.2
3	US Army Women (1977)	66.0	66.3	67.4	68.7	71.3	74.5	77.8	81.0	83.4	86.6	89.2	23.2
4	USAF Women (1968)	65.0	65.8	67.2	68.6	70.9	73.8	77.1	80.7	83.1	86.2	88.5	23.5
5	USAF WAF Trainees (1952)	64.7	65.8	67.5	69.0	71.5	74.5	77.7	81.0	83.3	85.8	87.8	23.1
6	US Army Women (1946)	65.9	67.0	68.6	70.2	73.0	76.5	80.8	85.5	88.7	92.7	95.6	29.7

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TABLE 43a. STATISTICAL VALUES FOR CROTCH HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	83.72	0.11	4.62	0.08	5.5	67.5	106.7	39.2
2	US Army Aviators (1970)	1482	81.92	0.12	4.45	0.08	5.43	68.7	99.6	30.9
3	USAF Flying Pers. (1967)	2420	85.07	0.08	4.15	0.06	4.88	71.7	103.5	31.8
4	USA Basic Trainees (1966)	2639	84.41	0.09	4.57	0.06	5.41	65.8	100.7	34.9
5	US Marine Corps (1966)	2008	83.95	0.10	4.62	0.07	5.51	67.6	98.6	31.0
6	US Army Men (1966)	6682	83.94	0.06	4.67	0.04	5.57	64.9	101.5	36.6
7	US Navy Recruits (1966)	4095	83.17	0.07	4.59	0.05	5.51	66.5	100.7	34.2
8	USAF Basic Trainees (1965)	2527	83.38	0.09	4.48	0.06	5.37	68.2	100.2	32.0
9	US Navy Aviators (1964)	1549	84.36	0.10	4.12	0.07	4.88	71.2	99.2	28.0
10	USAF Flying Pers. (1950)	4000	83.39	0.07	4.33	0.05	5.19	68.7	97.7	29.0
11	US Army Men (1946)	24,497	83.42	0.03	4.45	0.02	5.33	65.0	101.0	36.0
12	US Army Women (1988)	2208	77.14	0.09	4.41	0.07	5.7	59.4	94.8	35.4
13	US Army Women (1977)	1331	76.37	0.12	4.38	0.08	5.73	62.4	92.0	29.6
14	USAF Women (1968)	1905	74.50	0.09	4.03	0.07	5.41	60.7	87.5	26.8
15	USAF WAF Trainees (1952)	851	76.99	0.14	4.15	0.10	5.39	66.0	91.0	25.0
16	US Army Women (1946)	8113	72.83	0.04	4.03	0.03	5.57	58.0	89.0	31.0

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TABLE 43b. PERCENTILE VALUES FOR CROTCH HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	73.2	74.6	76.4	78.0	80.5	83.5	86.8	89.8	91.6	93.5	94.6	21.5
2	US Army Aviators (1970)	72.6	73.3	74.7	76.2	78.8	81.9	85.0	87.7	89.4	91.4	92.8	20.2
3	USAF Flying Pers. (1967)	75.6	76.7	78.3	79.8	82.2	85.0	87.8	90.5	92.0	93.8	94.9	19.3
4	USA Basic Trainees (1966)	73.7	75.0	77.0	78.7	81.4	84.4	87.4	90.3	92.0	94.0	95.4	21.7
5	US Marine Corps (1966)	73.3	74.6	76.5	78.1	80.8	83.8	87.0	90.0	91.8	93.7	95.0	21.7
6	US Army Men (1966)	72.8	74.2	76.3	78.0	80.8	83.9	87.0	89.9	91.7	93.7	95.1	22.3
7	US Navy Recruits (1966)	72.6	73.9	75.9	77.5	80.1	83.1	86.2	89.1	91.0	93.1	94.6	22.0
8	USAF Basic Trainees (1965)	73.5	74.5	76.1	77.7	80.3	83.3	86.3	89.1	90.9	93.0	94.5	21.0
9	US Navy Aviators (1964)	75.4	76.4	77.8	79.2	81.4	84.2	87.2	89.9	91.4	93.0	93.9	18.5
10	USAF Flying Pers. (1950)	73.2	74.5	76.3	77.9	80.5	83.4	86.3	89.0	90.6	92.4	93.5	20.3
11	US Army Men (1946)	73.2	74.4	76.2	77.7	80.5	83.3	86.4	89.2	90.9	93.0	94.5	21.3
12	US Army Women (1988)	67.0	68.2	70.0	71.6	74.2	77.0	80.0	82.8	84.6	86.7	88.1	21.1
13	US Army Women (1977)	66.8	67.9	69.5	70.9	73.3	76.1	79.3	82.2	83.9	85.7	86.8	20.0
14	USAF Women (1968)	65.8	66.7	68.1	69.4	71.7	74.4	77.2	79.8	81.4	83.1	84.3	18.5
15	USAF WAF Trainees (1952)	69.2	69.9	71.1	72.2	74.2	76.8	79.8	82.2	84.0	85.6	87.2	18.0
16	US Army Women (1946)	63.2	64.5	66.2	67.7	70.1	72.8	75.5	78.0	79.6	81.4	82.7	19.5

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TABLE 44a. STATISTICAL VALUES FOR CROTCH LENGTH (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	76.67	0.13	5.55	0.09	7.2	60.1	98.2	38.1
2	US Army Men (1946)	24,434	72.32	0.04	5.70	0.02	7.88	51.0	99.0	48.0
3	USAF Flying Pers. (1950)	4000	71.50	0.08	4.84	0.05	6.77	55.3	89.0	33.7
4	US Army Women (1988)	2208	75.43	0.12	5.57	0.08	7.4	59.0	95.3	36.3
5	US Army Women (1977)	1331	72.93	0.15	5.46	0.11	7.49	52.6	100.2	47.6
6	USAF WAF Trainees (1952)	848	69.64	0.17	4.99	0.12	7.17	50.0	84.0	34.0
7	US Army Women (1946)	7778	70.05	0.07	5.77	0.05	8.29	46.0	99.0	53.0

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TABLE 44b. PERCENTILE VALUES FOR CROTCH LENGTH (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	65.0	66.2	68.1	69.8	72.8	76.3	80.2	84.0	86.3	89.0	90.7	25.8
2	US Army Men (1946)	59.9	61.2	63.5	65.3	68.3	71.9	75.7	79.5	82.0	86.4	90.2	30.3
3	USAF Flying Pers. (1950)	60.8	61.9	63.8	65.4	68.2	71.3	74.6	77.7	79.8	82.3	84.2	23.4
4	US Army Women (1988)	63.5	64.8	66.7	68.5	71.5	75.1	79.1	82.9	85.1	87.7	89.3	25.8
5	US Army Women (1977)	58.1	60.5	63.7	66.2	69.7	73.1	76.5	79.6	81.5	83.8	85.3	27.2
6	USAF WAF Trainees (1952)	56.5	58.3	60.8	63.0	66.8	70.2	73.2	75.9	77.5	79.4	80.4	23.9
7	US Army Women (1946)	57.5	59.1	61.4	63.2	66.2	69.6	73.4	77.4	80.2	83.8	86.5	29.0

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TABLE 45a. STATISTICAL VALUES FOR CROTCH LENGTH (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	64.01	0.10	4.32	0.07	6.8	51.1	79.1	28.0
2	USAF Flying Pers. (1967)	2420	70.61	0.09	4.43	0.06	6.27	56.9	85.7	28.8
3	USAF Basic Trainees (1965)	2527	66.71	0.09	4.30	0.06	6.45	53.2	84.2	31.0
4	US Army Women (1988)	2208	60.67	0.08	3.94	0.06	6.5	48.7	76.3	27.6

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TABLE 45b. PERCENTILE VALUES FOR CROTCH LENGTH (OMPHALION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	54.3	55.4	57.1	58.6	61.1	63.9	66.8	69.6	71.4	73.5	75.0	20.6
2	USAF Flying Pers. (1967)	61.3	62.2	63.6	65.0	67.5	70.4	73.5	76.4	78.2	80.3	81.7	20.4
3	USAF Basic Trainees (1965)	57.9	58.8	60.2	61.5	63.8	66.4	69.3	72.3	74.4	77.0	78.9	21.0
4	US Army Women (1988)	51.6	52.8	54.4	55.8	58.0	60.5	63.3	65.9	67.5	69.2	70.3	18.7

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TABLE 46a. STATISTICAL VALUES FOR DELTOID ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	15.91	0.03	1.33	0.02	8.35	11.8	20.6	8.8
2	USAF Basic Trainees (1965)	2527	15.75	0.02	1.19	0.02	7.56	12.2	21.3	9.1

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TABLE 46b. PERCENTILE VALUES FOR DELTOID ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	13.2	13.4	13.9	14.3	15.0	15.8	16.7	17.6	18.3	19.1	19.7	6.5
2	USAF Basic Trainees (1965)	13.1	13.4	13.9	14.3	15.0	15.7	16.5	17.3	17.8	18.4	18.8	5.7

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TABLE 47a. STATISTICAL VALUES FOR EAR BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	3.77	0.01	0.27	0.00	7.2	2.7	5.1	2.4
2	USAF Flying Pers. (1967)	2420	3.80	0.01	0.30	0.00	7.91	2.7	4.9	2.2
3	USAF Basic Trainees (1965)	2527	3.46	0.01	0.32	0.00	9.25	2.2	4.5	2.3
4	US Navy Aviators (1964)	1549	3.57	0.01	0.33	0.01	9.31	2.4	5.2	2.8
5	USAF Ear Study (1957)	500	3.45	0.01	0.29	0.01	8.41	2.7	4.3	1.6
6	USAF Flying Pers. (1950)	4000	3.66	0.00	0.27	0.00	7.38	2.8	4.6	1.8
7	US Army Women (1988)	2208	3.48	0.01	0.25	0.00	7.2	2.7	4.4	1.7
8	USAF Women (1968)	1905	2.98	0.01	0.33	0.01	11.07	2.0	4.2	2.2

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TABLE 47b. PERCENTILE VALUES FOR EAR BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	3.2	3.2	3.3	3.4	3.6	3.8	3.9	4.1	4.2	4.4	4.5	1.3
2	USAF Flying Pers. (1967)	3.1	3.2	3.3	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.6	1.5
3	USAF Basic Trainees (1965)	2.6	2.8	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.1	4.2	1.6
4	US Navy Aviators (1964)	2.8	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.1	4.2	4.3	1.5
5	USAF Ear Study (1957)	2.8	2.9	3.0	3.1	3.2	3.4	3.6	3.8	3.9	4.1	4.2	1.4
6	USAF Flying Pers. (1950)	3.1	3.1	3.2	3.3	3.5	3.7	3.8	4.0	4.1	4.2	4.3	1.2
7	US Army Women (1988)	2.9	3.0	3.1	3.2	3.3	3.5	3.7	3.8	3.9	4.0	4.1	1.1
8	USAF Women (1968)	2.1	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.5	3.6	3.7	1.6

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TABLE 48a. STATISTICAL VALUES FOR EAR LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	6.47	0.01	0.43	0.01	6.7	5.1	8.0	2.9
2	USAF Flying Pers. (1967)	2420	6.60	0.01	0.43	0.01	6.46	4.9	8.3	3.4
3	USAF Basic Trainees (1965)	2527	6.23	0.01	0.42	0.01	6.74	4.6	7.7	3.1
4	US Navy Aviators (1964)	1549	6.53	0.01	0.40	0.01	6.19	5.2	7.8	2.6
5	USAF Ear Study (1957)	500	6.71	0.02	0.45	0.01	6.71	5.4	8.0	2.6
6	USAF Flying Pers. (1950)	4000	6.27	0.01	0.41	0.00	6.54	4.7	8.0	3.3
7	CWS Face Study (1945)	3075	6.39	0.01	0.40	0.00	6.22	4.9	7.8	2.9
8	US Army Women (1988)	2208	5.98	0.01	0.38	0.01	6.3	4.5	7.2	2.7
9	USAF Women (1968)	1905	5.24	0.01	0.44	0.01	8.40	3.5	6.9	3.4

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TABLE 48b. PERCENTILE VALUES FOR EAR LENGTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	5.4	5.6	5.8	5.9	6.2	6.5	6.7	7.0	7.2	7.4	7.6	2.1
2	USAF Flying Pers. (1967)	5.6	5.8	5.9	6.1	6.3	6.6	6.9	7.1	7.3	7.5	7.7	2.1
3	USAF Basic Trainees (1965)	5.3	5.4	5.5	5.7	5.9	6.2	6.5	6.8	6.9	7.1	7.2	1.9
4	US Navy Aviators (1964)	5.6	5.7	5.9	6.0	6.2	6.5	6.8	7.0	7.2	7.4	7.5	1.9
5	USAF Ear Study (1957)	5.8	5.9	6.0	6.1	6.4	6.7	7.0	7.3	7.5	7.7	7.8	2.0
6	USAF Flying Pers. (1950)	5.3	5.4	5.6	5.8	6.0	6.3	6.5	6.8	6.9	7.1	7.3	2.0
7	CWS Face Study (1945)	5.4	5.4	5.6	5.8	6.0	6.3	6.5	6.8	7.0	7.2	7.3	1.9
8	US Army Women (1988)	5.1	5.2	5.4	5.5	5.7	6.0	6.2	6.5	6.6	6.8	6.9	1.8
9	USAF Women (1968)	4.2	4.3	4.5	4.7	5.0	5.2	5.5	5.8	6.0	6.1	6.3	2.1

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TABLE 49a. STATISTICAL VALUES FOR EAR LENGTH ABOVE TRAGION

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	3.19	0.01	0.25	0.00	7.8	2.4	4.2	1.8
2	USAF Flying Pers. (1967)	2420	2.94	0.01	0.29	0.00	9.98	2.1	4.1	2.0
3	USAF Basic Trainees (1965)	2527	2.82	0.01	0.30	0.00	10.64	1.6	3.9	2.3
4	USAF Ear Study (1957)	500	3.20	0.01	0.25	0.01	7.81	2.5	3.8	1.3
5	USAF Flying Pers. (1950)	4000	2.97	0.00	0.28	0.00	9.43	2.0	4.1	2.1
6	US Army Women (1988)	2208	2.87	0.00	0.23	0.00	8.1	2.0	3.8	1.8

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TABLE 49b. PERCENTILE VALUES FOR EAR LENGTH ABOVE TRAGION

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	2.6	2.7	2.8	2.9	3.0	3.2	3.4	3.5	3.6	3.7	3.8	1.3
2	USAF Flying Pers. (1967)	2.3	2.4	2.5	2.6	2.7	2.9	3.1	3.3	3.5	3.6	3.7	1.4
3	USAF Basic Trainees (1965)	2.2	2.2	2.3	2.5	2.6	2.8	3.0	3.2	3.3	3.4	3.5	1.3
4	USAF Ear Study (1957)	2.6	2.7	2.8	2.8	3.0	3.2	3.4	3.5	3.6	3.7	3.7	1.1
5	USAF Flying Pers. (1950)	2.3	2.4	2.5	2.6	2.8	3.0	3.2	3.3	3.4	3.5	3.6	1.3
6	US Army Women (1988)	2.3	2.4	2.5	2.6	2.7	2.9	3.0	3.2	3.3	3.4	3.4	1.1

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TABLE 50a. STATISTICAL VALUES FOR EAR PROTRUSION

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	2.42	0.01	0.36	0.01	14.7	1.3	4.0	2.7
2	USAF Flying Pers. (1967)	2420	2.16	0.01	0.34	0.00	15.54	1.2	3.3	2.1
3	USAF Basic Trainees (1965)	2527	2.06	0.01	0.37	0.01	17.96	1.0	3.6	2.6
4	US Navy Aviators (1964)	1549	2.19	0.01	0.35	0.01	15.81	1.0	3.8	2.8
5	USAF Flying Pers. (1950)	4000	2.15	0.01	0.36	0.00	16.74	1.1	3.9	2.8
6	US Army Women (1988)	2208	2.18	0.01	0.30	0.00	13.9	1.4	3.3	1.9

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TABLE 50b. PERCENTILE VALUES FOR EAR PROTRUSION

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	1.7	1.7	1.9	2.0	2.2	2.4	2.7	2.9	3.0	3.2	3.3	1.7
2	USAF Flying Pers. (1967)	1.4	1.5	1.7	1.8	1.9	2.1	2.4	2.6	2.8	2.9	3.0	1.6
3	USAF Basic Trainees (1965)	1.3	1.4	1.5	1.6	1.8	2.0	2.3	2.6	2.7	2.9	3.0	1.7
4	US Navy Aviators (1964)	1.4	1.5	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.1	1.7
5	USAF Flying Pers. (1950)	1.4	1.5	1.6	1.7	1.9	2.1	2.4	2.6	2.8	3.0	3.1	1.7
6	US Army Women (1988)	1.6	1.6	1.7	1.8	2.0	2.2	2.4	2.6	2.7	2.9	3.0	1.4

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TABLE 51a. STATISTICAL VALUES FOR ECTOCANTHUS TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	17.30	0.02	0.72	0.01	4.14	14.7	19.8	5.1
2	USAF Flying Pers. (1967)	2420	17.79	0.01	0.66	0.01	3.73	15.6	20.3	4.7
3	US Marine Corps (1966)	2008	17.34	0.02	0.97	0.02	5.60	14.2	20.0	5.8
4	US Army Men (1966)	6682	17.24	0.01	0.98	0.01	5.67	13.9	20.8	6.9
5	US Navy Recruits (1966)	4095	17.19	0.02	1.06	0.01	6.17	14.0	20.5	6.5
6	USA Basic Trainees (1966)	2639	17.02	0.02	0.90	0.01	5.26	13.8	20.2	6.4
7	USAF Basic Trainees (1965)	2527	17.04	0.01	0.70	0.01	4.11	14.8	19.5	4.7
8	US Navy Aviators (1964)	1549	17.78	0.02	0.70	0.01	3.94	13.8	21.0	7.2
9	USAF Flying Pers. (1950)	4000	17.21	0.01	0.79	0.01	4.59	14.0	20.1	6.1
10	US Army Women (1977)	216	17.17	0.06	0.93	0.04	5.43	14.8	20.9	6.1
11	USAF Women (1968)	1905	16.37	0.02	0.97	0.02	5.93	13.5	21.2	7.7

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TABLE 51b. PERCENTILE VALUES FOR ECTOCANTHUS TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	15.6	15.8	16.1	16.4	16.8	17.3	17.8	18.2	18.5	18.8	19.1	3.5
2	USAF Flying Pers. (1967)	16.2	16.4	16.7	16.9	17.4	17.8	18.2	18.6	18.9	19.1	19.3	3.1
3	US Marine Corps (1966)	15.2	15.4	15.8	16.1	16.6	17.3	18.0	18.6	19.0	19.3	19.6	4.4
4	US Army Men (1966)	15.1	15.3	15.7	16.0	16.6	17.2	17.9	18.6	18.9	19.3	19.4	4.3
5	US Navy Recruits (1966)	15.0	15.2	15.5	15.8	16.4	17.2	18.0	18.6	19.0	19.3	19.5	4.5
6	USA Basic Trainees (1966)	15.0	15.3	15.6	15.9	16.4	17.0	17.6	18.2	18.6	19.0	19.2	4.2
7	USAF Basic Trainees (1965)	15.4	15.6	15.9	16.1	16.6	17.1	17.5	17.9	18.2	18.5	18.8	3.4
8	US Navy Aviators (1964)	16.1	16.4	16.7	17.0	17.4	17.8	18.2	18.6	18.9	19.3	19.5	3.4
9	USAF Flying Pers. (1950)	15.3	15.5	15.9	16.2	16.7	17.2	17.7	18.2	18.5	18.9	19.1	3.8
10	US Army Women (1977)	15.3	15.5	15.8	16.1	16.5	17.1	17.7	18.4	18.8	19.5	20.0	4.7
11	USAF Women (1968)	14.4	14.6	14.9	15.2	15.7	16.3	16.9	17.6	18.1	18.7	19.1	4.7

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TABLE 52a. STATISTICAL VALUES FOR ECTOCANTHUS TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	11.95	0.02	0.77	0.01	6.44	9.2	14.7	5.5
2	USAF Basic Trainees (1965)	2527	11.66	0.01	0.63	0.01	5.40	9.0	14.0	5.0
3	US Army Women (1977)	216	12.13	0.05	0.80	0.04	6.61	9.9	16.0	6.1
4	USAF Women (1968)	1905	11.76	0.02	0.92	0.01	7.82	9.0	15.7	6.7

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TABLE 52b. PERCENTILE VALUES FOR ECTOCANTHUS TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	10.2	10.4	10.7	11.0	11.4	11.9	12.5	13.0	13.2	13.6	13.8	3.6
2	USAF Basic Trainees (1965)	10.1	10.3	10.6	10.9	11.3	11.7	12.1	12.5	12.7	13.0	13.1	3.0
3	US Army Women (1977)	10.2	10.5	10.8	11.1	11.6	12.1	12.7	13.1	13.4	13.6	13.7	3.5
4	USAF Women (1968)	9.9	10.1	10.4	10.6	11.1	11.7	12.4	13.0	13.4	13.9	14.2	4.3

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TABLE 53a. STATISTICAL VALUES FOR ELBOW CIRCUMFERENCE, FLEXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	31.24	0.04	1.75	0.03	5.59	25.9	36.9	11.0
2	USAF Basic Trainees (1965)	2527	30.74	0.04	2.02	0.03	6.57	24.6	39.5	14.9
3	USAF Flying Pers. (1950)	4000	31.05	0.03	1.93	0.02	6.22	25.0	38.3	13.3
4	US Army Women (1977)	1331	25.98	0.04	1.62	0.03	6.25	21.5	33.0	11.5
5	USAF Women (1968)	1905	26.98	0.04	1.78	0.03	6.60	21.5	35.8	14.3
6	USAF WAF Trainees (1952)	849	28.49	0.09	2.73	0.07	9.57	20.0	39.0	19.0

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TABLE 53b. PERCENTILE VALUES FOR ELBOW CIRCUMFERENCE, FLEXED

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Flying Pers. (1967)	27.4	27.8	28.5	29.0	30.0	31.2	32.4	33.5	34.2	35.0	35.6	8.2
2	USAF Basic Trainees (1965)	26.3	26.8	27.6	28.2	29.4	30.7	32.0	33.4	34.2	35.2	35.8	9.5
3	USAF Flying Pers. (1950)	27.0	27.4	28.0	28.6	29.7	31.0	32.3	33.5	34.3	35.3	36.0	9.0
4	US Army Women (1977)	22.5	22.9	23.5	24.0	24.9	25.9	27.0	28.1	28.8	29.7	30.3	7.8
5	USAF Women (1968)	23.0	23.5	24.2	24.7	25.7	26.9	28.1	29.3	30.0	30.9	31.5	8.5
6	USAF WAF Trainees (1952)	22.6	23.4	24.4	25.2	26.5	28.1	30.0	32.0	33.3	35.0	36.0	13.4

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TABLE 54a. STATISTICAL VALUES FOR ELBOW CIRCUMFERENCE, RELAXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	27.71	0.04	1.53	0.03	5.5	21.9	33.9	12.0
2	USAF Flying Pers. (1967)	2420	27.67	0.03	1.43	0.02	5.18	23.3	32.2	8.9
3	USAF Basic Trainees (1965)	2527	25.74	0.03	1.59	0.02	6.18	20.2	31.8	11.6
4	US Army Women (1988)	2208	23.83	0.03	1.34	0.02	5.6	20.1	29.2	9.1

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TABLE 54b. PERCENTLE VALUES FOR ELBOW CIRCUMFERENCE, RELAXED

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	24.3	24.7	25.3	25.8	26.7	27.7	28.7	29.7	30.0	31.0	31.5	7.2
2	USAF Flying Pers. (1967)	24.6	24.9	25.4	25.8	26.7	27.6	28.6	29.6	30.1	30.7	31.1	6.5
3	USAF Basic Trainees (1965)	22.2	22.6	23.3	23.8	24.7	25.7	26.8	27.8	28.5	29.3	29.8	7.6
4	US Army Women (1988)	21.0	21.3	21.8	22.2	22.9	23.8	24.7	25.6	26.2	26.9	27.4	6.5

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TABLE 55a. STATISTICAL VALUES FOR ELBOW-FINGERTIP LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	48.40	0.06	2.33	0.04	4.8	38.6	57.8	19.2
2	US Army Aviators (1970)	1482	48.14	0.05	2.10	0.04	4.37	42.1	56.5	14.4
3	US Army Men (1966)	6682	47.96	0.03	2.31	0.02	4.81	39.3	57.4	18.1
4	USA Basic Trainees (1966)	2639	47.94	0.04	2.19	0.03	4.57	40.4	56.4	16.0
5	US Marine Corps (1966)	2008	47.82	0.05	2.22	0.04	4.64	39.9	55.7	15.8
6	US Navy Recruits (1966)	4095	47.66	0.03	2.14	0.02	4.48	40.6	55.1	14.5
7	US Navy Aviators (1964)	1549	48.46	0.05	1.90	0.03	3.92	42.0	55.8	13.8
8	USAF Flying Pers. (1950)	4000	47.88	0.03	2.03	0.02	4.24	39.6	54.8	15.2
9	US Army Men (1946)	24,354	47.58	0.01	2.23	0.00	4.69	37.5	59.5	22.0
10	US Army Women (1988)	2208	44.29	0.05	2.34	0.04	5.3	32.4	54.6	22.2
11	US Army Women (1977)	1331	43.52	0.06	2.28	0.04	5.25	37.1	51.0	13.9
12	US Army Women (1946)	8118	42.36	0.02	2.09	0.02	4.98	33.0	52.0	19.0

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TABLE 55b. PERCENTILE VALUES FOR ELBOW-FINGERTIP LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	43.4	44.0	44.8	45.5	46.8	48.3	49.9	51.5	52.4	53.5	54.2	10.8
2	US Army Aviators (1970)	43.4	43.9	44.7	45.4	46.7	48.1	49.5	50.8	51.6	52.7	53.5	10.1
3	US Army Men (1966)	42.7	43.4	44.3	45.1	46.4	47.9	49.4	51.0	51.9	53.0	53.8	11.1
4	USA Basic Trainees (1966)	42.8	43.4	44.4	45.2	46.5	47.9	49.4	50.7	51.6	52.6	53.3	10.5
5	US Marine Corps (1966)	42.9	43.5	44.4	45.1	46.3	47.7	49.2	50.8	51.7	52.7	53.4	10.5
6	US Navy Recruits (1966)	42.9	43.4	44.2	45.0	46.2	47.6	49.1	50.4	51.3	52.4	53.1	10.2
7	US Navy Aviators (1964)	44.4	44.8	45.4	46.0	47.1	48.4	49.8	51.0	51.7	52.4	52.9	8.5
8	USAF Flying Pers. (1950)	43.2	43.7	44.6	45.3	46.5	47.9	49.3	50.5	51.2	52.1	52.6	9.4
9	US Army Men (1946)	42.2	42.9	43.9	44.7	46.0	47.5	49.0	50.3	51.1	52.1	52.8	10.6
10	US Army Women (1988)	39.1	39.7	40.6	41.4	42.7	44.2	45.8	47.4	48.3	49.2	49.8	10.7
11	US Army Women (1977)	38.7	39.2	40.0	40.7	41.9	43.4	45.0	46.6	47.5	48.5	49.2	10.5
12	US Army Women (1946)	37.3	37.9	38.9	39.7	41.0	42.4	43.7	44.9	45.7	46.7	47.4	10.1

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TABLE 56a. STATISTICAL VALUES FOR ELBOW-GRIP LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	36.00	0.04	1.79	0.03	5.0	29.3	43.6	14.3
2	USAF Flying Pers. (1967)	2420	35.20	0.03	1.62	0.02	4.59	29.7	40.5	10.8
3	US Army Women (1988)	2208	32.88	0.04	1.77	0.03	5.4	23.7	41.3	17.6
4	US Army Women (1977)	255	32.25	0.11	1.76	0.08	5.46	27.7	37.7	10.0

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TABLE 56b. PERCENTILE VALUES FOR ELBOW-GRIP LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	32.3	32.6	33.2	33.8	34.8	35.9	37.2	38.4	39.1	39.8	40.3	8.1
2	USAF Flying Pers. (1967)	31.7	32.0	32.6	33.1	34.1	35.2	36.3	37.3	37.9	38.7	39.1	7.4
3	US Army Women (1988)	28.9	29.4	30.0	30.6	31.7	32.8	34.0	35.2	35.8	36.6	37.2	8.3
4	US Army Women (1977)	28.4	28.9	29.6	30.1	31.0	32.1	33.4	34.6	35.4	36.3	36.8	8.4

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TABLE 57a. STATISTICAL VALUES FOR ELBOW (HUMERAL) BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Aviators (1970)	1482	7.16	0.01	0.34	0.01	4.76	6.0	8.3	2.3
2	USAF Flying Pers. (1967)	2420	7.08	0.01	0.36	0.01	5.09	5.9	8.3	2.4
3	USAF Basic Trainees (1965)	2527	7.20	0.01	0.44	0.01	6.11	5.6	8.8	3.3
4	USAF Women (1968)	1905	6.13	0.01	0.31	0.01	5.06	5.2	7.5	2.3

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TABLE 57b. PERCENTILE VALUES FOR ELBOW (HUMERAL) BREADTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	6.4	6.5	6.6	6.7	6.9	7.2	7.4	7.6	7.7	7.9	8.0	1.6
2	USAF Flying Pers. (1967)	6.2	6.3	6.5	6.6	6.8	7.1	7.3	7.5	7.7	7.8	7.9	1.7
3	USAF Basic Trainees (1965)	6.2	6.3	6.5	6.7	6.9	7.2	7.5	7.8	7.9	8.1	8.2	2.0
4	USAF Women (1968)	5.4	5.5	5.6	5.8	5.9	6.1	6.3	6.5	6.6	6.8	6.9	1.5

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TABLE 58a. STATISTICAL VALUES FOR ELBOW (RADIALE) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	Range V(%)	Range Min.	Range Max.	Total
1	US Army Men (1988)	1774	110.17	0.12	4.89	0.08	4.4	91.1	128.9	37.8
2	USAF Flying Pers. (1967)	2420	112.29	0.09	4.57	0.07	4.07	99.1	127.9	28.8
3	USAF Basic Trainees (1965)	2527	109.57	0.10	4.87	0.07	4.44	94.8	128.7	33.9
4	USAF Flying Pers. (1950)	4000	110.51	0.07	4.48	0.05	4.05	93.4	125.2	31.8
5	US Army Women (1988)	2208	102.17	0.10	4.56	0.07	4.5	87.7	121.8	34.1
6	US Army Women (1977)	255	102.56	0.30	4.80	0.21	4.68	90.0	118.8	28.8

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TABLE 58b. PERCENTILE VALUES FOR ELBOW (RADIALE) HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	99.0	100.4	102.2	104.0	106.8	110.2	113.4	116.4	118.4	120.0	121.8	22.8
2	USAF Flying Pers. (1967)	101.4	102.8	104.8	106.5	109.2	112.2	115.4	118.3	120.0	121.9	123.0	21.6
3	USAF Basic Trainees (1965)	98.1	99.5	101.6	103.4	106.3	109.5	112.9	115.9	117.8	119.7	121.0	22.9
4	USAF Flying Pers. (1950)	100.5	101.5	103.1	104.7	107.5	110.5	113.5	116.3	117.9	119.9	121.3	20.8
5	US Army Women (1988)	91.8	92.9	95.0	96.5	98.9	102.0	105.3	108.1	109.9	111.7	113.2	21.4
6	US Army Women (1977)	92.9	93.6	94.9	96.4	99.1	102.4	105.8	108.9	110.7	112.7	114.1	21.2

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TABLE 59a. STATISTICAL VALUES FOR ELBOW REST HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	23.06	0.06	2.72	0.05	11.8	14.0	31.1	17.1
2	US Army Aviators (1970)	1482	23.10	0.07	2.65	0.05	11.45	14.8	31.9	17.1
3	USAF Flying Pers. (1967)	2420	25.16	0.05	2.61	0.04	10.36	15.7	35.1	19.4
4	USAF Basic Trainees (1965)	2527	23.55	0.06	2.78	0.04	11.80	14.2	33.8	19.6
5	US Navy Aviators (1964)	1549	23.50	0.06	2.52	0.05	10.71	15.2	33.0	17.8
6	USAF Flying Pers. (1950)	4000	23.17	0.04	2.59	0.03	11.18	13.4	33.0	19.6
7	US Army Women (1988)	2208	22.05	0.06	2.68	0.04	12.1	12.4	30.2	17.8
8	US Army Women (1977)	255	20.73	0.17	2.74	0.12	13.20	11.1	28.0	16.9
9	USAF Women (1968)	1905	22.71	0.06	2.46	0.04	10.83	15.1	29.5	14.4

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TABLE 59b. PERCENTILE VALUES FOR ELBOW REST HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	16.8	17.4	18.4	19.4	21.2	23.2	25.0	26.5	27.4	28.4	29.2	12.4
2	US Army Aviators (1970)	16.5	17.4	18.7	19.8	21.4	23.1	24.8	26.4	27.4	28.6	29.4	12.9
3	USAF Flying Pers. (1967)	19.1	19.9	20.9	21.9	23.4	25.1	26.9	28.5	29.5	30.7	31.5	12.4
4	USAF Basic Trainees (1965)	16.8	17.6	18.8	19.9	21.7	23.7	25.4	27.0	28.0	29.1	30.0	13.2
5	US Navy Aviators (1964)	17.8	18.4	19.4	20.3	21.8	23.5	25.2	26.7	27.7	28.9	29.8	12.0
6	USAF Flying Pers. (1950)	17.0	17.8	18.9	19.9	21.5	23.2	24.9	26.5	27.4	28.4	29.0	12.0
7	US Army Women (1988)	15.8	16.5	17.6	18.6	20.2	22.1	23.9	25.5	26.4	27.5	28.2	12.4
8	US Army Women (1977)	14.7	15.2	16.1	17.1	18.9	20.8	22.6	24.1	25.0	26.2	27.0	12.3
9	USAF Women (1968)	17.3	17.9	18.7	19.5	21.0	22.7	24.4	25.9	26.9	28.0	28.8	11.5

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TABLE 60a. STATISTICAL VALUES FOR ELBOW-WRIST LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	29.03	0.04	1.54	0.03	5.3	22.6	35.0	12.4
2	USAF Flying Pers. (1967)	2420	29.99	0.03	1.41	0.02	4.71	25.6	34.7	9.1
3	USAF Basic Trainees (1965)	2527	28.79	0.03	1.49	0.02	5.18	23.2	34.8	11.6
4	US Army Women (1988)	2208	26.25	0.03	1.54	0.02	5.9	17.0	33.4	16.4

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TABLE 60b. PERCENTILE VALUES FOR ELBOW-WRIST LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	25.8	26.1	26.6	27.1	28.0	29.0	30.0	31.0	31.6	32.3	32.8	7.1
2	USAF Flying Pers. (1967)	26.7	27.1	27.7	28.2	29.0	30.0	30.9	31.8	32.4	33.0	33.4	6.7
3	USAF Basic Trainees (1965)	25.4	25.8	26.4	26.9	27.8	28.8	29.7	30.7	31.3	32.1	32.6	7.2
4	US Army Women (1988)	22.9	23.3	23.8	24.3	25.2	26.2	27.3	28.3	28.8	29.5	29.9	7.0

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TABLE 61a. STATISTICAL VALUES FOR EYE HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	79.20	0.08	3.42	0.06	4.3	67.3	90.3	23.0
2	US Army Aviators (1970)	1482	78.80	0.08	3.16	0.06	4.02	67.6	88.8	21.2
3	USAF Flying Pers. (1967)	2420	80.95	0.06	3.02	0.04	3.73	68.5	91.0	22.5
4	US Navy Recruits (1966)	4095	79.88	0.05	3.17	0.03	3.96	67.5	90.8	23.2
5	USA Basic Trainees (1966)	2639	79.12	0.07	3.39	0.05	4.29	66.8	90.7	23.9
6	US Army Men (1966)	6682	78.72	0.04	3.57	0.03	4.53	65.9	92.1	26.2
7	US Marine Corps (1966)	2008	78.64	0.07	3.34	0.05	4.25	68.2	88.5	20.3
8	USAF Basic Trainees (1965)	2527	79.77	0.07	3.30	0.05	4.14	66.8	90.7	23.9
9	US Navy Aviators (1964)	1549	80.18	0.08	3.01	0.05	3.75	71.2	90.6	19.4
10	USAF Flying Pers. (1950)	4000	79.96	0.05	3.19	0.04	3.99	67.0	93.7	26.7
11	US Army Women (1988)	2208	73.87	0.07	3.32	0.05	4.5	64.0	86.4	22.4
12	US Army Women (1977)	1331	73.64	0.09	3.46	0.07	4.71	62.5	84.1	21.6
13	USAF Women (1968)	1905	73.70	0.07	3.06	0.05	4.15	64.0	83.1	19.1

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TABLE 61b. PERCENTILE VALUES FOR EYE HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	71.2	72.1	73.5	74.8	76.9	79.2	81.6	83.6	84.8	86.1	86.9	15.8
2	US Army Aviators (1970)	71.3	72.2	73.6	74.8	76.7	78.8	80.9	82.8	84.0	85.5	86.5	15.2
3	USAF Flying Pers. (1967)	74.1	74.9	76.2	77.2	78.9	80.9	82.9	84.9	86.1	87.5	88.3	14.2
4	US Navy Recruits (1966)	72.6	73.5	74.8	75.9	77.7	79.8	82.0	84.1	85.3	86.6	87.4	14.8
5	USA Basic Trainees (1966)	71.2	72.1	73.4	74.7	76.8	79.2	81.4	83.5	84.7	86.2	87.2	16.0
6	US Army Men (1966)	70.1	71.2	72.8	74.1	76.4	78.8	81.2	83.3	84.6	86.1	87.0	16.9
7	US Marine Corps (1966)	70.7	71.6	72.9	74.2	76.4	78.8	81.0	82.9	84.0	85.2	86.1	15.4
8	USAF Basic Trainees (1965)	71.9	72.8	74.2	75.4	77.6	79.9	82.1	84.0	85.1	86.5	87.4	15.5
9	US Navy Aviators (1964)	73.2	74.1	75.4	76.5	78.2	80.1	82.1	84.1	85.4	86.8	87.7	14.5
10	USAF Flying Pers. (1950)	72.4	73.3	74.7	75.9	77.8	80.0	82.1	84.0	85.2	86.5	87.4	15.0
11	US Army Women (1988)	66.4	67.2	68.5	69.6	71.6	73.8	76.1	78.2	79.4	80.8	81.6	15.2
12	US Army Women (1977)	65.3	66.2	67.7	69.1	71.4	73.8	76.0	77.9	79.1	80.6	81.6	16.3
13	USAF Women (1968)	66.9	67.6	68.7	69.8	71.6	73.7	75.7	77.7	78.8	80.2	81.1	14.2

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TABLE 62a. STATISTICAL VALUES FOR FACE BREADTH (BIZYGOMATIC)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	14.05	0.01	0.56	0.01	4.0	11.8	16.1	4.3
2	US Army Aviators (1970)	1482	13.87	0.01	0.53	0.01	3.80	12.2	15.6	3.4
3	USAF Flying Pers. (1967)	2420	14.23	0.01	0.52	0.01	3.62	12.4	15.9	3.5
4	US Army Men (1966)	6681	13.99	0.01	0.56	0.00	4.00	12.0	16.3	4.3
5	US Marine Corps (1966)	2008	13.97	0.01	0.54	0.01	3.86	12.2	15.9	3.7
6	USA Basic Trainees (1966)	2638	13.94	0.01	0.54	0.01	3.90	12.2	15.7	3.5
7	US Navy Recruits (1966)	4095	13.94	0.01	0.55	0.01	3.95	12.0	16.3	4.3
8	USAF Basic Trainees (1965)	2527	13.89	0.01	0.55	0.01	3.96	12.2	15.7	3.5
9	US Navy Aviators (1964)	1549	13.62	0.02	0.71	0.01	5.19	11.4	16.0	4.6
10	USAF Flying Pers. (1950)	4000	14.09	0.01	0.50	0.01	3.55	12.4	15.7	3.3
11	US Army Men (1946)	24,389	13.90	0.00	0.60	0.00	4.32	11.0	16.5	5.5
12	CWS Face Study (1945)	3075	13.98	0.01	0.53	0.01	3.82	12.2	15.9	3.7
13	US Army Women (1988)	2208	13.13	0.01	0.50	0.01	3.8	11.7	15.	3.3
14	US Army Women (1977)	216	13.20	0.04	0.53	0.03	4.00	11.6	14.5	2.9
15	USAF Women (1968)	1905	12.90	0.01	0.58	0.01	4.50	10.9	14.9	4.0 .080
16	US Army Women (1946)	8117	13.07	0.01	0.54	0.00	4.15	11.0	15.2	4.2

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TABLE 62b. PERCENTILE VALUES FOR FACE BREADTH (BIZYGOMATIC)

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	12.8	13.0	13.2	13.4	13.7	14.0	14.4	14.8	15.0	15.3	15.4	2.6
2	US Army Aviators (1970)	12.7	12.8	13.0	13.2	13.5	13.9	14.2	14.5	14.7	15.0	15.1	2.4
3	USAF Flying Pers. (1967)	13.0	13.2	13.4	13.6	13.9	14.2	14.6	14.9	15.1	15.3	15.5	2.5
4	US Army Men (1966)	12.7	12.9	13.1	13.3	13.6	14.0	14.4	14.7	14.9	15.2	15.4	2.7
5	US Marine Corps (1966)	12.7	12.9	13.1	13.3	13.6	14.0	14.3	14.6	14.9	15.1	15.3	2.6
6	USA Basic Trainees (1966)	12.7	12.8	13.1	13.3	13.6	13.9	14.3	14.6	14.9	15.1	15.3	2.6
7	US Navy Recruits (1966)	12.7	12.8	13.0	13.2	13.6	13.9	14.3	14.6	14.9	15.1	15.3	2.6
8	USAF Basic Trainees (1965)	12.7	12.8	13.0	13.2	13.5	13.9	14.3	14.6	14.8	15.1	15.2	2.5
9	US Navy Aviators (1964)	11.9	12.1	12.4	12.7	13.2	13.7	14.1	14.5	14.7	15.0	15.2	3.3
10	USAF Flying Pers. (1950)	13.0	13.1	13.3	13.5	13.8	14.1	14.4	14.7	14.9	15.1	15.3	2.3
11	US Army Men (1946)	12.4	12.6	12.9	13.1	13.5	13.9	14.3	14.7	14.9	15.1	15.3	2.9
12	CWS Face Study (1945)	12.9	12.9	13.0	13.2	13.5	13.8	14.2	14.6	14.8	15.0	15.2	2.3
13	US Army Women (1988)	12.1	12.2	12.3	12.5	12.8	13.1	13.5	13.8	14.0	14.2	14.4	2.4
14	US Army Women (1977)	11.9	12.0	12.3	12.5	12.9	13.2	13.6	13.8	14.0	14.3	14.6	2.7
15	USAF Women (1968)	11.4	11.6	11.9	12.2	12.5	12.9	13.3	13.6	13.8	14.1	14.2	2.8
16	US Army Women (1946)	11.7	11.9	12.2	12.4	12.7	13.1	13.4	13.7	13.9	14.2	14.3	2.6

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TABLE 63a. STATISTICAL VALUES FOR FACE LENGTH (MENTON-SELLION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	12.19	0.02	0.65	0.01	5.3	10.1	14.8	4.7
2	US Army Aviators (1970)	1482	11.33	0.02	0.67	0.01	5.91	9.4	13.7	4.3
3	USAF Flying Pers. (1967)	2420	12.03	0.01	0.61	0.01	5.05	9.8	14.3	4.5
4	US Army Men (1966)	6681	12.03	0.01	0.66	0.01	5.50	9.7	14.6	4.9
5	US Marine Corps (1966)	2008	12.02	0.01	0.65	0.01	5.39	9.8	14.3	4.5
6	USA Basic Trainees (1966)	2639	11.98	0.01	0.66	0.01	5.49	9.6	14.6	5.0
7	US Navy Recruits (1966)	4095	11.95	0.01	0.60	0.01	5.05	10.1	14.5	4.4
8	USAF Basic Trainees (1965)	2527	11.98	0.01	0.67	0.01	5.59	9.6	14.6	5.0
9	US Army Men (1946)	24,494	12.50	0.00	0.71	0.00	5.68	10.0	16.0	6.0
10	CWS Face Study (1945)	3075	12.38	0.01	0.67	0.01	5.42	10.1	15.1	5.0
11	US Army Women (1988)	2208	11.35	0.01	0.60	0.01	5.3	9.5	13.4	3.9
12	US Army Women (1977)	216	10.69	0.04	0.57	0.03	5.31	9.5	12.3	2.8
13	USAF Women (1968)	1905	10.63	0.01	0.61	0.01	5.74	8.7	12.8	4.1
14	US Army Women (1946)	8120	11.14	0.01	0.72	0.01	6.42	8.9	15.0	6.1

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TABLE 63b. PERCENTILE VALUES FOR FACE LENGTH (MENTON-SELLION)

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	10.8	10.9	11.2	11.4	11.7	12.2	12.6	13.0	13.3	13.6	13.7	3.0
2	US Army Aviators (1970)	9.8	10.0	10.2	10.5	10.9	11.3	11.8	12.2	12.5	12.8	13.0	3.2
3	USAF Flying Pers. (1967)	10.7	10.8	11.0	11.3	11.6	12.0	12.4	12.8	13.0	13.3	13.5	2.8
4	US Army Men (1966)	10.5	10.7	11.0	11.2	11.6	12.0	12.5	12.9	13.1	13.4	13.6	3.1
5	US Marine Corps (1966)	10.5	10.7	11.0	11.2	11.6	12.0	12.5	12.8	13.1	13.3	13.5	3.0
6	USA Basic Trainees (1966)	10.5	10.7	10.9	11.2	11.5	12.0	12.4	12.8	13.1	13.4	13.6	3.1
7	US Navy Recruits (1966)	10.6	10.7	11.0	11.2	11.5	11.9	12.4	12.7	13.0	13.2	13.4	2.8
8	USAF Basic Trainees (1965)	10.5	10.6	10.9	11.1	11.5	12.0	12.4	12.8	13.1	13.4	13.6	3.1
9	US Army Men (1946)	10.8	11.0	11.4	11.6	12.0	12.5	13.0	13.4	13.7	14.0	14.2	3.4
10	CWS Face Study (1945)	10.7	10.8	11.1	11.4	11.8	12.2	12.7	13.1	13.4	13.7	13.8	3.1
11	US Army Women (1988)	10.1	10.2	10.4	10.6	10.9	11.3	11.7	12.1	12.4	12.7	12.9	2.8
12	US Army Women (1977)	9.5	9.7	9.9	10.0	10.3	10.6	11.1	11.5	11.8	12.0	12.1	2.6
13	USAF Women (1968)	9.2	9.4	9.6	9.9	10.2	10.6	11.0	11.4	11.7	11.9	12.1	2.8
14	US Army Women (1946)	9.7	9.8	10.0	10.3	10.7	11.1	11.5	12.0	12.3	12.9	13.4	3.7

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TABLE 64a. STATISTICAL VALUES FOR FINGER DIAMETER

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Men's Hands (1968)	148	2.18	0.01	0.14	0.01	6.32			
2	USAF Flying Pers. (1950)	4000	2.13	0.00	0.12	0.00	5.63	1.9	2.5	0.6
3	USAF Women's Hands (1968)	211	1.83	0.01	0.10	0.00	5.18			

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TABLE 64b. PERCENTILE VALUES FOR FINGER DIAMETER

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Men's Hands (1968)			2.0	2.0	2.1	2.2	2.3	2.4	2.4			
2	USAF Flying Pers. (1950)	1.9	2.0	2.0	2.0	2.1	2.2	2.3	2.3	2.4	2.4	2.4	0.5
3	USAF Women's Hands (1968)	1.6	1.6	1.7	1.7	1.8	1.8	1.9	2.0	2.0	2.1	2.1	0.5

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TABLE 65a. STATISTICAL VALUES FOR FINGERTIP (DACTYLION) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	65.28	0.09	3.79	0.06	5.8	52.5	78.9	26.4
2	USAF Flying Pers. (1967)	2420	67.18	0.07	3.51	0.05	5.23	56.9	78.8	21.9
3	USAF Basic Trainees (1965)	2527	65.69	0.07	3.61	0.05	5.50	55.2	79.7	24.5
4	US Army Women (1988)	2208	60.99	0.08	3.58	0.05	5.9	49.2	74.7	25.5

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TABLE 65b. PERCENTILE VALUES FOR FINGERTIP (DACTYLION) HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	56.2	57.4	59.1	60.5	62.7	65.2	67.9	70.2	71.6	73.1	74.0	17.7
2	USAF Flying Pers. (1967)	58.9	60.0	61.5	62.8	64.8	67.1	69.5	71.8	73.2	74.7	75.6	16.7
3	USAF Basic Trainees (1965)	57.3	58.3	59.8	61.1	63.3	65.6	68.1	70.3	71.8	73.4	74.5	17.2
4	US Army Women (1988)	53.2	53.9	55.1	56.3	58.5	60.9	63.4	65.6	67.0	68.5	69.5	16.4

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TABLE 66a. STATISTICAL VALUES FOR FIST CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Men's Hands (1968)	148	29.61	0.11	1.35	0.08	4.54	26.3	33.0	6.7
2	USAF Flying Pers. (1950)	4000	29.32	0.02	1.36	0.02	4.64	25.0	34.1	9.1
3	USAF Women's Hands (1968)	211	24.83	0.09	1.31	0.06	5.27	21.8	29.1	7.3
4	USAF WAF Trainees (1952)	851	25.08	0.05	1.32	0.02	5.27	21.0	29.0	8.0

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TABLE 66b. PERCENTILE VALUES FOR FIST CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Men's Hands (1968)			27.3	27.8	28.7	29.6	30.5	31.4	31.9			
2	USAF Flying Pers. (1950)	26.2	26.6	27.1	27.6	28.4	29.3	30.2	31.1	31.6	32.2	32.5	6.3
3	USAF Women's Hands (1968)	22.1	22.4	22.9	23.2	23.9	24.7	25.7	26.6	27.2	27.8	28.1	6.0
4	USAF WAF Trainees (1952)	22.1	22.4	23.0	23.4	24.2	25.1	26.0	26.7	27.2	27.7	28.1	6.0

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TABLE 67a. STATISTICAL VALUES FOR FOOT BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	10.06	0.01	0.53	0.01	5.2	8.0	12.2	4.2
2	US Army Aviators (1970)	1482	9.99	0.02	0.61	0.01	6.07	8.2	12.8	4.6
3	USAF Flying Pers. (1967)	2420	9.77	0.01	0.50	0.01	5.07	8.4	11.7	3.3
4	US Navy Recruits (1966)	4095	9.76	0.01	0.53	0.01	5.40	8.2	12.1	3.9
5	US Marine Corps (1966)	2008	9.80	0.01	0.52	0.01	5.32	8.2	11.8	3.6
6	US Army Men (1966)	6682	9.84	0.01	0.55	0.00	5.56	8.0	12.2	4.2
7	USA Basic Trainees (1966)	2639	9.92	0.01	0.54	0.01	5.48	8.2	11.9	3.7
8	USAF Basic Trainees (1965)	2527	9.83	0.01	0.55	0.01	5.60	8.0	12.0	4.0
9	US Navy Aviators (1964)	1549	10.24	0.02	0.77	0.01	7.54	8.4	13.0	4.6
10	USAF Flying Pers. (1950)	4000	9.65	0.01	0.47	0.01	4.87	8.1	11.6	3.5
11	US Army Men (1946)	24,466	9.82	0.00	0.63	0.00	6.42	6.5	13.0	6.5
12	Ft. Knox Foot Study (1946)	5561	9.80	0.01	0.52	0.00	5.31	8.0	11.6	3.6
13	US Army Women (1988)	2208	8.97	0.01	0.49	0.01	5.5	7.3	10.9	3.6
14	US Army Women (1977)	1331	8.87	0.01	0.52	0.01	5.81	7.5	10.8	3.3
15	USAF Women (1968)	1905	8.87	0.01	0.50	0.01	5.64	7.0	11.0	4.0
16	USAF WAF Trainees (1952)	849	9.09	0.02	0.53	0.01	5.82	7.6	11.0	3.4
17	US Army Women (1946)	3324	9.05	0.01	0.57	0.01	6.27	7.3	11.2	3.9

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TABLE 67b. PERCENTILE VALUES FOR FOOT BREADTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	8.9	9.0	9.2	9.4	9.7	10.1	10.4	10.7	11.0	11.2	11.4	2.5
2	US Army Aviators (1970)	8.7	8.8	9.0	9.2	9.6	10.0	10.4	10.8	11.0	11.3	11.5	2.8
3	USAF Flying Pers. (1967)	8.7	8.8	9.0	9.2	9.4	9.8	10.1	10.4	10.6	10.9	11.0	2.3
4	US Navy Recruits (1966)	8.6	8.8	8.9	9.1	9.4	9.7	10.1	10.4	10.7	10.9	11.1	2.5
5	US Marine Corps (1966)	8.6	8.7	9.0	9.2	9.4	9.8	10.1	10.5	10.7	10.9	11.1	2.5
6	US Army Men (1966)	8.6	8.8	9.0	9.2	9.5	9.8	10.2	10.6	10.8	11.0	11.2	2.6
7	USA Basic Trainees (1966)	8.8	8.9	9.1	9.2	9.6	9.9	10.3	10.6	10.8	11.1	11.3	2.5
8	USAF Basic Trainees (1965)	8.6	8.8	9.0	9.1	9.5	9.8	10.2	10.6	10.8	11.0	11.2	2.6
9	US Navy Aviators (1964)	8.8	8.9	9.1	9.3	9.7	10.2	10.7	11.3	11.6	12.0	12.3	3.5
10	USAF Flying Pers. (1950)	8.6	8.7	8.9	9.1	9.3	9.6	10.0	10.3	10.4	10.7	10.8	2.2
11	US Army Men (1946)	8.3	8.5	8.8	9.0	9.4	9.8	10.2	10.6	10.8	11.1	11.3	3.0
12	Ft. Knox Foot Study (1946)	8.6	8.7	9.0	9.1	9.4	9.8	10.2	10.4	10.6	10.8	11.0	2.4
13	US Army Women (1988)	7.9	8.0	8.2	8.3	8.6	9.0	9.3	9.6	9.8	10.0	10.2	2.3
14	US Army Women (1977)	7.7	7.8	8.0	8.2	8.5	8.8	9.2	9.5	9.7	10.0	10.2	2.5
15	USAF Women (1968)	7.7	7.8	8.0	8.2	8.5	8.9	9.2	9.6	9.8	10.0	10.2	2.5
16	USAF WAF Trainees (1952)	7.9	8.0	8.2	8.4	8.8	9.1	9.5	9.8	9.9	10.1	10.2	2.3
17	US Army Women (1946)	7.8	7.9	8.2	8.3	8.7	9.0	9.4	9.8	10.0	10.3	10.4	2.6

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TABLE 68a. STATISTICAL VALUES FOR FOOT LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	26.97	0.03	1.31	0.02	4.9	22.8	31.0	8.2
2	US Army Aviators (1970)	1482	26.49	0.03	1.27	0.02	4.78	21.5	30.7	9.2
3	USAF Flying Pers. (1967)	2420	27.05	0.02	1.19	0.02	4.40	23.2	31.3	8.1
4	USA Basic Trainees (1966)	2639	26.85	0.02	1.26	0.02	4.70	22.2	31.8	9.6
5	US Army Men (1966)	6682	26.78	0.02	1.30	0.01	4.86	21.4	32.3	10.9
6	US Marine Corps (1966)	2008	26.70	0.03	1.29	0.02	4.84	22.5	31.3	8.8
7	US Navy Recruits (1966)	4095	26.51	0.02	1.29	0.01	4.87	22.1	31.3	9.2
8	USAF Basic Trainees (1965)	2527	26.78	0.03	1.29	0.02	4.82	22.6	31.7	9.1
9	US Navy Aviators (1964)	1549	26.62	0.03	1.20	0.02	4.52	23.0	30.4	7.4
10	USAF Flying Pers. (1950)	4000	26.68	0.02	1.15	0.01	4.31	22.5	31.1	8.6
11	Ft. Knox Foot Study (1946)	5574	26.84	0.02	1.16	0.01	4.32	22.9	31.5	8.6
12	US Army Men (1946)	24,372	26.51	0.00	1.21	0.00	4.74	21.0	30.5	9.5
13	US Army Women (1988)	2208	24.44	0.03	1.22	0.02	5.0	20.3	29.0	8.7
14	US Army Women (1977)	1331	24.32	0.03	1.25	0.02	5.14	20.9	29.8	8.9
15	USAF Women (1968)	1905	24.07	0.03	1.13	0.02	4.69	21.0	27.6	6.6
16	USAF WAF Trainees (1952)	850	23.94	0.04	1.17	0.03	4.89	20.3	29.0	8.7
17	US Army Women (1946)	3321	23.93	0.02	1.11	0.01	4.62	20.0	27.9	7.9

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TABLE 68b. PERCENTILE VALUES FOR FOOT LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	U.S. Army Men (1988)	24.0	24.4	24.9	25.3	26.1	26.9	27.8	28.7	29.2	29.8	30.2	6.2
2	US Army Aviators (1970)	23.6	23.9	24.4	24.9	25.6	26.5	27.4	28.1	28.6	29.1	29.4	5.8
3	USAF Flying Pers. (1967)	24.3	24.7	25.1	25.5	26.2	27.0	27.8	28.6	29.0	29.6	29.9	5.6
4	USA Basic Trainees (1966)	24.0	24.3	24.8	25.2	26.0	26.8	27.7	28.4	29.0	29.6	30.1	6.1
5	US Army Men (1966)	23.8	24.2	24.7	25.1	25.9	26.7	27.6	28.4	29.0	29.6	30.0	6.2
6	US Marine Corps (1966)	23.9	24.2	24.6	25.1	25.8	26.7	27.5	28.4	28.9	29.5	30.0	6.1
7	US Navy Recruits (1966)	23.6	23.9	24.4	24.8	25.6	26.5	27.4	28.2	28.7	29.3	29.7	6.1
8	USAF Basic Trainees (1965)	23.8	24.1	24.7	25.1	25.9	26.8	27.6	28.4	28.9	29.5	29.9	6.1
9	US Navy Aviators (1964)	24.0	24.3	24.7	25.1	25.8	26.6	27.4	28.2	28.7	29.2	29.5	5.5
10	USAF Flying Pers. (1950)	24.1	24.3	24.8	25.2	25.9	26.7	27.4	28.1	28.6	29.1	29.5	5.4
11	Ft. Knox Foot Study (1946)	24.2	24.5	25.0	25.4	26.1	26.9	27.7	28.4	28.8	29.3	29.6	5.4
12	US Army Men (1946)	23.6	24.0	24.5	24.9	25.7	26.5	27.4	28.1	28.6	29.0	29.3	5.7
13	US Army Women (1988)	21.7	22.0	22.4	22.9	23.6	24.4	25.3	26.0	26.5	26.9	27.2	5.5
14	US Army Women (1977)	21.6	21.9	22.3	22.8	23.4	24.3	25.1	26.0	26.5	27.1	27.5	5.9
15	USAF Women (1968)	21.5	21.8	22.2	22.6	23.3	24.1	24.8	25.6	26.0	26.5	26.8	5.3
16	USAF WAF Trainees (1952)	21.4	21.7	22.2	22.6	23.2	24.0	24.7	25.4	25.8	26.3	26.6	5.2
17	US Army Women (1946)	21.5	21.8	22.2	22.6	23.2	23.9	24.6	25.4	25.8	26.4	26.7	5.2

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TABLE 69a. STATISTICAL VALUES FOR FOREARM CIRCUMFERENCE, FLEXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	30.35	0.04	1.88	0.03	6.2	23.3	37.2	13.9
2	US Army Aviators (1970)	1482	29.20	0.05	1.77	0.03	6.07	24.0	35.9	11.9
3	USAF Flying Pers. (1967)	2420	29.77	0.03	1.58	0.02	5.30	24.2	35.4	11.2
4	US Army Men (1966)	6682	29.43	0.03	2.15	0.02	7.31	22.7	41.1	18.4
5	US Marine Corps (1966)	2008	29.41	0.04	1.89	0.03	6.41	23.1	37.0	13.9
6	USA Basic Trainees (1966)	2639	29.22	0.04	2.04	0.03	6.99	22.6	37.4	14.8
7	US Navy Recruits (1966)	4095	28.56	0.03	1.97	0.02	6.90	21.3	35.8	14.5
8	USAF Basic Trainees (1965)	2527	28.42	0.04	1.93	0.03	6.79	23.2	35.5	12.3
9	US Navy Aviators (1964)	1549	30.06	0.04	1.76	0.03	5.85	24.4	36.8	12.4
10	USAF Flying Pers. (1950)	4000	29.16	0.03	1.79	0.02	6.14	23.0	35.6	12.6
11	US Army Women (1988)	2208	25.37	0.03	1.51	0.02	5.9	21.0	32.5	11.5
12	US Army Women (1977)	1331	24.63	0.04	1.53	0.03	6.23	20.2	33.0	12.8
13	USAF Women (1968)	1905	24.98	0.03	1.52	0.02	6.08	20.5	32.8	12.3
14	USAF WAF Trainees (1952)	845	24.10	0.07	2.09	0.05	8.68	15.0	33.0	18.0

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TABLE 69b. PERCENTILE VALUES FOR FOREARM CIRCUMFERENCE, FLEXED

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	26.3	26.8	27.5	28.1	29.1	30.2	31.6	32.8	33.6	34.5	35.0	8.7
2	US Army Aviators (1970)	25.3	25.7	26.3	26.9	28.0	29.2	30.4	31.5	32.2	33.0	33.6	8.3
3	USAF Flying Pers. (1967)	26.3	26.6	27.2	27.8	28.7	29.7	30.8	31.8	32.4	33.2	33.7	7.4
4	US Army Men (1966)	24.8	25.3	26.1	26.8	28.0	29.3	30.8	32.2	33.1	34.3	35.1	10.3
5	US Marine Corps (1966)	25.5	25.9	26.5	27.0	28.1	29.3	30.6	31.9	32.6	33.5	34.0	8.5
6	USA Basic Trainees (1966)	24.8	25.3	26.0	26.6	27.8	29.1	30.6	31.9	32.7	33.6	34.2	9.4
7	US Navy Recruits (1966)	24.2	24.7	25.4	26.1	27.2	28.5	29.8	31.1	31.9	32.8	33.5	9.3
8	USAF Basic Trainees (1965)	24.4	24.7	25.4	26.0	27.1	28.4	29.7	30.9	31.7	32.6	33.2	8.8
9	US Navy Aviators (1964)	26.2	26.7	27.3	27.9	28.8	30.0	31.2	32.3	33.1	33.9	34.6	8.4
10	USAF Flying Pers. (1950)	25.2	25.7	26.4	26.9	27.9	29.1	30.3	31.5	32.2	33.0	33.5	8.3
11	US Army Women (1988)	22.0	22.4	23.0	23.5	24.4	25.3	26.3	27.3	27.9	28.7	29.3	7.3
12	US Army Women (1977)	21.2	21.6	22.2	22.7	23.6	24.6	25.6	26.6	27.1	27.8	28.3	7.1
13	USAF Women (1968)	21.7	22.0	22.6	23.0	23.9	24.9	25.9	26.9	27.5	28.3	28.9	7.2
14	USAF WAF Trainees (1952)	18.9	19.8	21.0	21.8	23.0	24.0	25.2	26.5	27.3	28.3	29.6	10.7

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TABLE 70a. STATISTICAL VALUES FOR FOREARM CIRCUMFERENCE, RELAXED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	28.16	0.03	1.46	0.02	5.19	23.5	32.7	9.2
2	USAF Basic Trainees (1965)	2527	26.55	0.03	1.63	0.02	6.14	22.0	32.8	10.8
3	US Army Men (1946)	24,491	26.76	0.01	1.64	0.00	6.13	20.2	34.2	14.0
4	US Army Women (1977)	255	23.28	0.09	1.50	0.07	6.43	20.4	28.7	8.3
5	USAF Women (1968)	1905	23.48	0.03	1.38	0.02	5.88	19.7	30.0	10.3
6	US Army Women (1946)	8110	22.53	0.02	1.66	0.01	7.38	17.2	30.1	12.9

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TABLE 70b. PERCENTILE VALUES FOR FOREARM CIRCUMFERENCES, RELAXED

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Flying Pers. (1967)	24.9	25.2	25.8	26.3	27.2	28.1	29.1	30.1	30.6	31.3	31.7	6.8
2	USAF Basic Trainees (1965)	23.1	23.5	24.0	24.5	25.4	26.5	27.6	28.7	29.4	30.3	30.9	7.8
3	US Army Men (1946)	22.9	23.4	24.1	24.6	25.7	26.7	27.7	28.7	29.5	30.2	30.7	7.8
4	US Army Women (1977)	20.5	20.6	21.0	21.4	22.2	23.2	24.3	25.3	25.9	26.6	27.0	6.5
5	USAF Women (1968)	20.6	20.8	21.3	21.7	22.5	23.4	24.3	25.2	25.8	26.5	27.0	6.4
6	US Army Women (1946)	19.0	19.4	20.0	20.5	21.4	22.4	23.5	24.7	25.5	26.4	27.1	8.1

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TABLE 71a. STATISTICAL VALUES FOR FOREARM FOREARM BREADTH, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	54.61	0.10	4.36	0.07	8.0	39.9	72.5	32.6
2	US Army Aviators (1970)	1482	50.58	0.12	4.46	0.08	8.82	37.7	66.0	28.0
3	USAF Flying Pers. (1967)	2420	54.32	0.08	3.78	0.05	6.97	41.0	70.8	29.8
4	US Army Men (1966)	6682	45.98	0.05	4.22	0.04	9.17	33.5	66.0	32.5
5	US Marine Corps (1966)	2008	45.66	0.08	3.65	0.06	7.98	36.3	65.0	28.7
6	US Navy Recruits (1966)	4094	45.53	0.07	4.57	0.05	10.03	33.6	63.4	29.8
7	USA Basic Trainees (1966)	2639	45.17	0.08	4.08	0.06	9.03	33.2	64.2	31.0
8	USAF Basic Trainees (1965)	2527	47.70	0.10	4.80	0.07	10.06	33.2	65.2	32.0
9	USAF Flying Pers. (1950)	4000	43.90	0.06	3.55	0.04	8.09	34.3	58.3	24.0
10	US Army Men (1946)	24,590	44.54	0.02	3.90	0.01	8.76	34.5	61.5	27.0
11	US Army Women (1988)	2208	46.85	0.07	3.47	0.05	7.4	37.3	60.9	23.6
12	US Army Women (1946)	8116	38.20	0.04	3.67	0.03	9.72	27.0	64.0	37.0

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TABLE 71b. PERCENTILE VALUE FOR FOREARM-FOREARM BREADTH, SITTING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	45.1	46.2	47.7	49.2	51.6	54.5	57.5	60.3	62.1	64.0	65.3	20.2
2	US Army Aviators (1970)	40.4	41.5	43.2	44.8	47.5	50.6	53.6	56.3	58.0	59.9	61.2	20.8
3	USAF Flying Pers. (1967)	45.8	46.7	48.2	49.5	51.7	54.2	56.9	59.3	60.7	62.3	63.3	17.5
4	US Army Men (1966)	37.9	38.6	39.8	40.9	43.0	45.6	48.6	51.6	53.6	55.9	57.6	19.7
5	US Marine Corps (1966)	38.2	39.0	40.2	41.2	43.2	45.4	47.8	50.3	52.0	54.2	55.8	17.6
6	US Navy Recruits (1966)	36.9	37.8	39.0	40.1	42.2	45.0	48.4	51.8	53.9	56.2	57.7	20.8
7	USA Basic Trainees (1966)	37.3	38.1	39.2	40.3	42.2	44.8	47.8	50.7	52.6	54.6	55.8	18.5
8	USAF Basic Trainees (1965)	38.7	39.5	40.7	41.9	44.1	47.1	50.7	54.3	56.5	58.9	60.3	21.6
9	USAF Flying Pers. (1950)	37.0	37.6	38.6	39.5	41.3	43.6	46.2	48.7	50.2	52.0	53.2	16.2
10	US Army Men (1946)	36.6	37.3	38.9	39.9	41.9	44.2	46.7	49.5	51.6	52.6	55.4	18.8
11	US Army Women (1988)	39.4	40.2	41.5	42.6	44.5	46.7	49.0	51.3	52.8	54.7	56.0	16.5
12	US Army Women (1946)	31.2	32.0	33.0	34.0	35.6	37.7	40.3	43.1	44.9	47.1	48.6	17.4

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TABLE 72a. STATISTICAL VALUES FOR FUNCTIONAL (THUMB-TIP) REACH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	80.08	0.09	3.92	0.07	4.9	66.2	98.0	31.8
2	US Army Aviators (1970)	1482	79.34	0.11	4.12	0.08	5.20	66.7	94.3	27.6
3	USAF Flying Pers. (1967)	2420	80.31	0.08	3.98	0.06	4.96	66.6	95.8	29.2
4	US Army Men (1966)	6680	82.60	0.06	4.85	0.04	5.87	65.6	100.2	34.6
5	USA Basic Trainees (1966)	2638	82.25	0.09	4.65	0.06	5.66	65.2	100.2	35.0
6	US Navy Recruits (1966)	4089	81.49	0.07	4.66	0.05	5.71	66.5	97.5	32.0
7	US Marine Corps (1966)	2008	80.33	0.11	4.79	0.08	5.97	66.5	96.4	29.9
8	USAF Basic Trainees (1965)	2527	79.20	0.08	4.21	0.06	5.32	65.8	93.7	27.9
9	US Navy Aviators (1964)	1549	80.03	0.09	3.61	0.06	4.51	69.2	92.2	23.0
10	USAF Flying Pers. (1950)	4000	82.05	0.06	4.03	0.04	4.91	68.3	95.1	26.8
11	US Army Women (1988)	2208	73.46	0.08	3.64	0.05	5.0	60.5	89.8	29.3
12	USAF Women (1968)	1905	74.13	0.09	3.88	0.06	5.23	62.4	87.2	24.8

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TABLE 72b. PERCENTILE VALUES FOR FUNCTIONAL (THUMB-TIP) REACH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	72.0	72.7	73.9	75.1	77.4	80.0	82.7	85.2	86.7	88.5	89.7	17.7
2	US Army Aviators (1970)	70.9	71.8	73.1	74.3	76.4	79.1	82.0	84.9	86.8	89.0	90.5	19.6
3	USAF Flying Pers. (1967)	71.2	72.3	73.9	75.3	77.6	80.2	82.9	85.4	87.0	89.0	90.3	19.1
4	US Army Men (1966)	71.9	73.1	74.9	76.5	79.3	82.4	85.8	89.0	90.9	93.1	94.6	22.7
5	USA Basic Trainees (1966)	71.7	72.9	74.7	76.4	79.1	82.2	85.3	88.2	90.1	92.3	93.8	22.1
6	US Navy Recruits (1966)	70.9	72.1	74.0	75.6	78.3	81.4	84.5	87.5	89.3	91.4	92.8	21.9
7	US Marine Corps (1966)	69.6	70.9	72.7	74.3	77.0	80.2	83.5	86.6	88.6	90.8	92.3	22.7
8	USAF Basic Trainees (1965)	69.4	70.6	72.4	73.9	76.4	79.1	81.9	84.6	86.4	88.5	90.0	20.6
9	US Navy Aviators (1964)	72.5	73.3	74.5	75.6	77.4	79.8	82.4	84.9	86.5	88.1	89.2	16.7
10	USAF Flying Pers. (1950)	73.1	74.0	75.5	76.9	79.3	82.0	84.7	87.2	88.8	90.7	92.1	19.0
11	US Army Women (1988)	65.8	66.5	67.7	68.8	70.9	73.4	75.9	78.3	79.7	81.3	82.4	16.6
12	USAF Women (1968)	65.3	66.2	67.7	69.1	71.5	74.2	76.7	79.1	80.5	82.1	83.3	18.0

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TABLE 73a. STATISTICAL VALUES FOR FUNCTIONAL (THUMB-TIP) REACH, EXTENDED

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	87.28	0.10	4.16	0.07	4.8	73.4	104.6	31.2
2	USAF Flying Pers. (1967)	2420	89.59	0.09	4.51	0.06	5.03	75.4	104.9	29.5
3	US Army Women (1988)	2208	79.69	0.08	3.85	0.06	4.8	66.7	97.7	31.0
4	USAF Women (1968)	1905	83.83	0.11	4.88	0.08	5.82	71.5	100.0	28.5

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TABLE 73b. PERCENTILE VALUES FOR FUNCTIONAL (THUMB-TIP) REACH, EXTENDED

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	77.9	78.9	80.5	82.0	84.5	87.3	90.0	92.5	94.2	96.2	97.7	19.8
2	USAF Flying Pers. (1967)	79.1	80.4	82.3	83.9	86.5	89.4	92.5	95.5	97.3	99.3	100.7	21.6
3	US Army Women (1988)	71.2	72.1	73.5	74.8	77.0	79.6	82.3	84.7	86.2	87.9	89.0	17.8
4	USAF Women (1968)	73.2	74.3	76.0	77.6	80.4	83.7	87.1	90.3	92.3	94.6	96.1	22.9

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TABLE 74a. STATISTICAL VALUES FOR GLABELLA TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.97	0.02	0.72	0.01	3.6	17.8	22.3	4.5
2	USAF Flying Pers. (1967)	2420	20.35	0.01	0.67	0.01	3.31	18.0	22.9	4.9
3	USAF Basic Trainees (1965)	2527	19.75	0.01	0.72	0.01	3.65	17.0	22.6	5.6
4	US Army Women (1988)	2208	19.10	0.01	0.66	0.01	3.5	16.2	21.1	5.0
5	US Army Women (1977)	216	19.25	0.07	0.98	0.05	5.11	16.4	22.8	6.4

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TABLE 74b. PERCENTILE VALUES FOR GLABELLA TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	18.3	18.5	18.8	19.0	19.5	20.0	20.4	20.9	21.1	21.5	21.7	3.5
2	USAF Flying Pers. (1967)	18.8	19.0	19.3	19.5	19.9	20.3	20.8	21.2	21.5	21.8	22.0	3.2
3	USAF Basic Trainees (1965)	18.1	18.3	18.6	18.9	19.3	19.7	20.2	20.7	21.0	21.3	21.4	3.3
4	US Army Women (1988)	17.5	17.7	18.0	18.2	18.7	19.1	19.5	19.9	20.2	20.5	20.7	3.1
5	US Army Women (1977)	17.1	17.5	17.9	18.2	18.6	19.1	19.8	20.6	21.1	21.7	22.2	5.1

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TABLE 75a. STATISTICAL VALUES FOR GLABELLA TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	9.62	0.02	0.73	0.01	7.6	7.4	12.3	4.9
2	US Army Aviators (1970)	1482	8.65	0.02	0.93	0.02	10.78	5.8	12.1	6.3
3	USAF Flying Pers. (1967)	2420	9.27	0.02	0.97	0.01	10.46	5.8	12.5	6.7
4	USAF Basic Trainees (1965)	2527	9.30	0.01	0.75	0.01	8.06	6.4	12.0	5.6
5	US Army Women (1988)	2208	8.83	0.01	0.69	0.01	7.8	6.7	11.6	5.0
6	US Army Women (1977)	216	8.44	0.06	0.87	0.04	10.28	6.4	12.7	6.3

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TABLE 75b. PERCENTILE VALUES FOR GLABELLA TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	7.9	8.1	8.4	8.7	9.1	9.6	10.1	10.6	10.8	11.1	11.3	3.4
2	US Army Aviators (1970)	6.5	6.8	7.2	7.5	8.0	8.6	9.3	9.9	10.2	10.6	10.8	4.3
3	USAF Flying Pers. (1967)	7.2	7.4	7.7	8.0	8.6	9.3	9.9	10.5	10.9	11.4	11.7	4.5
4	USAF Basic Trainees (1965)	7.5	7.7	8.1	8.4	8.8	9.3	9.8	10.3	10.6	10.9	11.1	3.6
5	US Army Women (1988)	7.3	7.5	7.7	8.0	8.4	8.8	9.3	9.7	10.0	10.4	10.6	3.3
6	US Army Women (1977)	6.7	6.8	7.1	7.4	7.8	8.4	9.0	9.5	9.9	10.3	10.6	3.9

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TABLE 76a. STATISTICAL VALUES FOR GLUTEAL ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Navy Aviators (1964)	1549	27.71	0.05	1.99	0.04	7.19	22.0	34.8	12.8
2	USAF Flying Pers. (1950)	4000	29.55	0.03	1.99	0.02	6.73	22.8	36.4	13.6
3	USAF WAF Trainees (1952)	839	29.08	0.08	2.34	0.06	8.04	22.0	39.0	17.0

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TABLE 76b. PERCENTILE VALUES FOR GLUTEAL ARC

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Navy Aviators (1964)	23.2	23.7	24.5	25.2	26.3	27.7	29.1	30.3	31.1	31.9	32.4	9.2
2	USAF Flying Pers. (1950)	24.8	25.5	26.3	27.0	28.2	29.5	30.9	32.2	32.9	33.8	34.2	9.4
3	USAF WAF Trainees (1952)	24.3	24.8	25.7	26.4	27.6	29.0	30.5	32.1	33.2	34.7	35.9	11.6

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TABLE 77a. STATISTICAL VALUES FOR GLUTEAL FURROW HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	81.44	0.11	4.56	0.08	5.6	64.9	102.5	37.6
2	USAF Flying Pers. (1967)	2420	81.11	0.08	4.01	0.06	4.94	68.6	98.6	30.0
3	USAF Basic Trainees (1965)	2527	80.78	0.09	4.37	0.06	5.41	66.8	98.7	31.9
4	US Navy Aviators (1964)	1549	81.30	0.10	4.00	0.07	4.92	68.8	93.6	24.8
5	USAF Flying Pers. (1950)	4000	80.18	0.06	4.09	0.05	5.10	66.3	94.2	27.9
6	US Army Women (1988)	2208	74.43	0.09	4.30	0.06	5.8	56.8	91.6	34.8
7	US Army Women (1977)	255	74.13	0.25	4.06	0.18	5.48	62.3	87.9	25.6
8	USAF Women (1968)	1905	72.70	0.09	3.96	0.06	5.45	59.7	86.4	26.7
9	USAF WAF Trainees (1952)	848	74.29	0.14	4.00	0.10	5.39	63.0	89.0	26.0

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TABLE 77b. PERCENTILE VALUES FOR GLUTEAL FURROW HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	71.3	72.5	74.3	75.8	78.3	81.2	84.5	87.5	89.2	91.1	92.2	20.8
2	USAF Flying Pers. (1967)	71.7	72.9	74.6	76.0	78.4	81.0	83.8	86.3	87.9	89.7	90.8	19.1
3	USAF Basic Trainees (1965)	71.2	72.3	73.9	75.3	77.8	80.6	83.6	86.5	88.3	90.5	92.1	20.9
4	US Navy Aviators (1964)	72.6	73.5	74.9	76.2	78.4	81.2	84.0	86.6	88.1	89.6	90.6	18.0
5	USAF Flying Pers. (1950)	70.8	71.9	73.5	75.0	77.4	80.2	82.9	85.5	87.0	88.9	90.2	19.4
6	US Army Women (1988)	64.8	65.9	67.5	69.0	71.5	74.3	77.3	80.0	81.7	83.7	85.0	20.3
7	US Army Women (1977)	65.6	66.5	67.9	69.2	71.4	73.9	76.6	79.3	81.0	83.1	84.6	19.0
8	USAF Women (1968)	64.2	65.1	66.4	67.7	69.9	72.6	75.3	77.9	79.4	81.1	82.2	18.0
9	USAF WAF Trainees (1952)	65.8	66.8	68.2	69.5	71.6	74.0	76.6	79.4	81.0	83.1	85.0	19.2

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TABLE 78a. STATISTICAL VALUES FOR GRIP STRENGTH

Values in Newtons

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Women (1968)	1905	133.0	0.6	25.4	0.4	19.10	44.0	236.0	192.0
2	USAF Flying Pers. (1967)	2420	250.8	0.7	33.8	0.5	13.48	147.0	383.0	236.0
3	USAF Basic Trainees (1965)	2527	215.1	0.6	31.6	0.4	14.69	109.0	340.0	231.0

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TABLE 78b. PERCENTILE VALUES FOR GRIP STRENGTH

No.	Series	Percentiles in Newtons											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Women (1968)	80	85	93	101	116	132	149	165	176	189	199	119
2	USAF Flying Pers. (1967)	177	185	198	209	228	250	273	295	310	327	340	163
3	USAF Basic Trainees (1965)	149	156	166	177	193	214	235	256	270	286	297	148

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TABLE 79a. STATISTICAL VALUES FOR HAND BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	9.04	0.01	0.42	0.01	4.7	7.7	10.6	2.9
2	US Army Aviators (1970)	1482	8.85	0.01	0.42	0.01	4.71	7.7	10.3	2.6
3	USAF Men's Hands (1968)	148	8.96	0.03	0.40	0.02	4.51	7.6	10.0	2.4
4	USAF Flying Pers. (1967)	2420	8.90	0.01	0.41	0.01	4.66	7.6	10.2	2.6
5	US Navy Recruits (1966)	4095	8.96	0.01	0.58	0.01	6.49	7.1	10.9	3.8
6	US Army Men (1966)	6681	8.90	0.01	0.49	0.00	5.52	7.1	10.7	3.6
7	USA Basic Trainees (1966)	2629	8.88	0.01	0.46	0.01	5.18	7.2	10.7	3.5
8	US Marine Corps (1966)	2008	8.86	0.01	0.44	0.01	4.98	7.7	10.9	3.2
9	USAF Basic Trainees (1965)	2527	8.86	0.01	0.48	0.01	5.42	7.4	10.5	3.1
10	US Navy Aviators (1964)	1549	8.96	0.01	0.43	0.01	4.75	7.6	10.2	2.6
11	USAF Flying Pers. (1950)	4000	8.83	0.01	0.41	0.00	4.64	7.6	10.2	2.6
12	US Army Men (1946)	24,488	8.67	0.00	0.48	0.00	5.54	6.0	11.0	5.0
13	US Army Women (1988)	2208	7.94	0.01	0.38	0.01	4.7	6.6	9.8	3.2
14	US Army Women (1977)	1331	7.82	0.01	0.39	0.01	4.97	6.6	9.1	2.5
15	USAF Women's Hands (1968)	211	7.71	0.03	0.38	0.02	4.87	6.9	8.7	1.8
16	USAF Women (1968)	1905	7.55	0.01	0.39	0.01	5.17	6.1	8.8	2.7
17	USAF WAF Trainees (1952)	851	7.66	0.02	0.49	0.01	6.42	6.3	9.6	3.3
18	US Army Women (1946)	8113	7.69	0.01	0.51	0.00	6.57	6.3	9.9	3.6

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TABLE 79b. PERCENTILE VALUES FOR HAND BREADTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	8.1	8.2	8.4	8.5	8.8	9.0	9.3	9.6	9.8	9.9	10.0	2.0
2	US Army Aviators (1970)	8.0	8.0	8.2	8.3	8.6	8.8	9.1	9.4	9.5	9.7	9.9	1.9
3	USAF Men's Hands (1968)			8.3	8.5	8.7	8.9	9.2	9.5	9.7			
4	USAF Flying Pers. (1967)	8.0	8.1	8.2	8.4	8.6	8.9	9.2	9.4	9.6	9.8	9.9	1.9
5	US Navy Recruits (1966)	7.7	7.9	8.1	8.2	8.5	8.9	9.4	9.7	10.0	10.2	10.3	2.6
6	US Army Men (1966)	7.8	7.9	8.1	8.3	8.6	8.9	9.2	9.5	9.7	10.0	10.1	2.3
7	USA Basic Trainees (1966)	7.9	8.0	8.2	8.3	8.6	8.9	9.2	9.5	9.7	9.9	10.0	2.1
8	US Marine Corps (1966)	7.9	8.0	8.2	8.3	8.6	8.8	9.2	9.4	9.6	9.8	9.9	2.0
9	USAF Basic Trainees (1965)	7.7	7.9	8.1	8.2	8.5	8.9	9.2	9.5	9.7	9.8	10.0	2.3
10	US Navy Aviators (1964)	8.0	8.1	8.2	8.4	8.7	9.0	9.2	9.5	9.7	9.8	10.0	2.0
11	USAF Flying Pers. (1950)	7.9	8.0	8.2	8.3	8.6	8.8	9.1	9.4	9.5	9.7	9.8	1.9
12	US Army Men (1946)	7.5	7.6	7.8	8.0	8.3	8.7	9.0	9.3	9.5	9.7	9.9	2.4
13	US Army Women (1988)	7.1	7.2	7.3	7.5	7.7	7.9	8.2	8.4	8.6	8.7	8.9	1.8
14	US Army Women (1977)	7.0	7.0	7.2	7.3	7.6	7.8	8.1	8.3	8.5	8.6	8.7	1.7
15	USAF Women's Hands (1968)	6.8	6.9	7.1	7.2	7.4	7.7	8.0	8.2	8.3	8.5	8.6	1.8
16	USAF Women (1968)	6.7	6.8	6.9	7.1	7.3	7.6	7.8	8.1	8.2	8.4	8.5	1.8
17	USAF WAF Trainees (1952)	6.6	6.7	6.9	7.0	7.3	7.6	8.0	8.3	8.5	8.8	9.0	2.4
18	US Army Women (1946)	6.7	6.8	7.0	7.1	7.3	7.6	8.0	8.4	8.6	9.0	9.2	2.5

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TABLE 80a. STATISTICAL VALUES FOR HAND BREADTH AT THUMB

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	10.19	0.01	0.50	0.01	4.86	8.6	12.3	3.7
2	US Navy Aviators (1964)	1549	10.66	0.01	0.49	0.01	4.63	8.8	12.2	3.4
3	USAF Flying Pers. (1950)	4000	10.35	0.01	0.53	0.01	5.12	8.5	12.1	3.6
4	USAF WAF Trainees (1952)	844	9.18	0.02	0.59	0.01	6.39	7.5	10.7	3.2

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TABLE 80b. PERCENTILE VALUES FOR HAND BREADTH AT THUMB

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	9.1	9.2	9.4	9.6	9.9	10.2	10.5	10.8	11.0	11.2	11.4	2.3
2	US Navy Aviators (1964)	9.5	9.6	9.8	10.0	10.3	10.6	11.0	11.3	11.5	11.7	11.8	2.3
3	USAF Flying Pers. (1950)	9.1	9.3	9.5	9.7	10.0	10.3	10.7	11.0	11.2	11.5	11.6	2.5
4	USAF WAF Trainees (1952)	7.8	8.0	8.2	8.4	8.8	9.2	9.6	9.9	10.1	10.4	10.5	2.7

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TABLE 81a. STATISTICAL VALUES FOR HAND CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	21.38	0.02	0.97	0.02	4.5	18.2	24.7	6.5
2	US Army Aviators (1970)	1482	21.18	0.03	1.00	0.02	4.70	18.3	24.1	5.8
3	USAF Men's Hands (1968)	148	21.59	0.07	0.90	0.05	4.17	19.7	24.4	4.7
4	USAF Flying Pers. (1967)	2420	21.55	0.02	0.94	0.01	4.34	18.4	24.7	6.3
5	US Marine Corps (1966)	2008	21.68	0.02	1.11	0.02	5.10	18.1	25.6	7.5
6	US Army Men (1966)	6682	21.61	0.01	1.14	0.01	5.26	17.8	26.3	8.5
7	USA Basic Trainees (1966)	2639	21.60	0.02	1.12	0.02	5.19	18.2	26.1	7.9
8	US Navy Recruits (1966)	4095	21.42	0.02	1.08	0.01	5.04	18.0	25.5	7.5
9	USAF Basic Trainees (1965)	2527	21.45	0.02	1.03	0.01	4.80	17.2	25.5	8.3
10	US Navy Aviators (1964)	1549	21.38	0.03	1.00	0.02	4.69	17.2	25.0	7.8
11	US Army Women (1988)	2208	18.62	0.02	0.85	0.01	4.5	15.8	23.0	7.2
12	US Army Women (1977)	1331	18.45	0.02	0.86	0.02	4.64	15.8	21.2	5.4
13	USAF Women (1968)	1905	18.32	0.02	0.91	0.01	4.97	15.0	21.5	6.5
14	USAF Women's Hands (1968)	211	18.71	0.06	0.83	0.04	4.43	16.7	21.1	4.4
15	USAF WAF Trainees (1952)	851	18.99	0.04	1.17	0.03	6.14	14.0	27.0	13.0

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TABLE 81b. PERCENTILE VALUES FOR HAND CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	19.2	19.5	19.9	20.2	20.7	21.3	22.0	22.6	23.0	23.5	23.7	4.6
2	US Army Aviators (1970)	18.9	19.2	19.6	19.9	20.5	21.2	21.8	22.5	22.9	23.3	23.7	4.8
3	USAF Men's Hands (1968)			20.0	20.5	21.0	21.5	22.2	22.8	23.1			
4	USAF Flying Pers. (1967)	19.4	19.7	20.0	20.4	20.9	21.5	22.2	22.8	23.1	23.5	23.8	4.4
5	US Marine Corps (1966)	19.3	19.5	19.9	20.3	20.9	21.7	22.4	23.1	23.5	24.0	24.3	5.0
6	US Army Men (1966)	19.1	19.4	19.8	20.2	20.8	21.6	22.3	23.1	23.6	24.1	24.5	5.4
7	USA Basic Trainees (1966)	19.2	19.5	19.9	20.2	20.8	21.5	22.3	23.1	23.6	24.1	24.4	5.2
8	US Navy Recruits (1966)	19.1	19.3	19.7	20.0	20.7	21.4	22.1	22.8	23.2	23.8	24.2	5.1
9	USAF Basic Trainees (1965)	19.2	19.4	19.8	20.1	20.8	21.5	22.1	22.8	23.2	23.6	24.0	4.8
10	US Navy Aviators (1964)	19.0	19.3	19.7	20.1	20.7	21.4	22.0	22.6	23.0	23.4	23.7	4.7
11	US Army Women (1988)	16.7	16.9	17.3	17.6	18.0	18.6	19.2	19.7	20.0	20.4	20.7	4.0
12	US Army Women (1977)	16.5	16.7	17.0	17.3	17.8	18.4	19.0	19.6	19.9	20.2	20.4	3.9
13	USAF Women (1968)	16.3	16.5	16.8	17.1	17.7	18.3	18.9	19.5	19.8	20.3	20.6	4.3
14	USAF Women's Hands (1968)	16.9	17.1	17.4	17.7	18.1	18.6	19.2	19.8	20.1	20.5	20.8	3.9
15	USAF WAF Trainees (1952)	16.7	17.0	17.4	17.7	18.4	19.0	19.6	20.3	20.7	21.3	21.8	5.1

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TABLE 82a. STATISTICAL VALUES FOR HAND CIRCUMFERENCE AT THUMB

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	25.75	0.02	1.08	0.02	4.19	21.9	29.9	8.0
2	USAF Basic Trainees (1965)	2527	25.12	0.02	1.24	0.02	4.94	21.4	29.3	7.9
3	US Navy Aviators (1964)	1549	25.46	0.03	1.12	0.02	4.41	22.0	29.2	7.2

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TABLE 82b. PERCENTILE VALUES FOR HAND CIRCUMFERENCE AT THUMB

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Flying Pers. (1967)	23.4	23.7	24.0	24.4	25.0	25.7	26.5	27.2	27.6	28.1	28.3	4.9
2	USAF Basic Trainees (1965)	22.3	22.6	23.1	23.6	24.3	25.1	26.0	26.7	27.2	27.7	28.1	5.8
3	US Navy Aviators (1964)	22.9	23.2	23.6	24.0	24.7	25.4	26.2	26.9	27.4	27.8	28.1	5.2

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TABLE 83a. STATISTICAL VALUES FOR HAND LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.38	0.02	0.98	0.02	5.1	16.0	23.3	7.3
2	US Army Aviators (1970)	1482	19.20	0.02	0.87	0.02	4.55	16.3	22.3	6.0
3	USAF Men's Hands (1968)	148	19.72	0.08	0.93	0.05	4.73	17.3	22.8	5.5
4	USAF Flying Pers. (1967)	2420	19.11	0.02	0.82	0.01	4.29	16.7	22.2	5.5
5	USA Basic Trainees (1966)	2639	19.05	0.02	0.91	0.01	4.79	16.4	23.5	7.1
6	US Army Men (1966)	6682	19.03	0.01	0.96	0.01	5.06	15.5	23.5	8.0
7	US Marine Corps (1966)	2008	18.94	0.02	0.93	0.01	4.91	15.2	22.2	7.0
8	US Navy Recruits (1966)	4095	18.90	0.01	0.90	0.01	4.78	15.3	22.0	6.7
9	USAF Basic Trainees (1965)	2527	19.68	0.02	1.01	0.01	5.13	16.0	23.8	7.8
10	US Navy Aviators (1964)	1549	19.12	0.02	0.86	0.02	4.50	16.4	22.8	6.4
11	USAF Flying Pers. (1950)	4000	19.02	0.01	0.85	0.01	4.47	14.9	22.2	7.3
12	US Army Men (1945)	24,487	19.25	0.00	0.93	0.00	4.83	15.0	23.0	8.0
13	US Army Women (1988)	2208	18.05	0.02	0.97	0.01	5.4	14.9	21.5	6.6
14	US Army Women (1977)	1331	17.44	0.02	0.90	0.02	5.17	14.9	20.4	5.5
15	USAF Women (1968)	1905	18.38	0.02	0.96	0.02	5.22	15.3	22.0	6.7
16	USAF Women's Hands (1968)	211	17.93	0.06	0.86	0.04	4.79	15.7	20.5	4.8
17	USAF WAF Trainees (1952)	851	17.17	0.03	0.88	0.02	5.10	14.9	20.7	5.8
18	US Army Women (1946)	8113	17.49	0.01	0.82	0.01	4.70	14.7	20.8	6.1

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TABLE 83b. PERCENTILE VALUES FOR HAND LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	17.3	17.5	17.9	18.2	18.7	19.3	20.0	20.6	21.1	21.6	21.9	4.6
2	US Army Aviators (1970)	17.2	17.4	17.8	18.1	18.6	19.2	19.8	20.3	20.7	21.1	21.5	4.3
3	USAF Men's Hands (1968)			18.3	18.6	19.1	19.6	20.4	21.0	21.2			
4	USAF Flying Pers. (1967)	17.3	17.5	17.8	18.1	18.5	19.1	19.7	20.2	20.5	20.9	21.1	3.8
5	USA Basic Trainees (1966)	17.0	17.2	17.6	17.9	18.4	19.0	19.7	20.2	20.6	21.0	21.3	4.3
6	US Army Men (1966)	16.9	17.2	17.5	17.8	18.4	19.0	19.6	20.3	20.7	21.1	21.4	4.5
7	US Marine Corps (1966)	16.8	17.1	17.5	17.8	18.3	18.9	19.5	20.2	20.6	21.0	21.3	4.5
8	US Navy Recruits (1966)	16.8	17.1	17.4	17.8	18.3	18.9	19.5	20.1	20.4	20.9	21.2	4.4
9	USAF Basic Trainees (1965)	17.4	17.6	18.0	18.4	19.0	19.7	20.3	21.0	21.4	21.9	22.3	4.9
10	US Navy Aviators (1964)	17.3	17.4	17.7	18.0	18.5	19.1	19.7	20.2	20.6	20.9	21.1	3.8
11	USAF Flying Pers. (1950)	17.1	17.3	17.6	17.9	18.4	19.0	19.6	20.1	20.5	20.8	21.0	3.9
12	US Army Men (1946)	17.1	17.4	17.8	18.1	18.6	19.2	19.8	20.4	20.8	21.2	21.5	4.4
13	US Army Women (1988)	15.9	16.1	16.5	16.8	17.4	18.0	18.7	19.3	19.7	20.2	20.5	4.6
14	US Army Women (1977)	15.5	15.7	16.1	16.3	16.8	17.4	18.0	18.7	19.0	19.4	19.6	4.1
15	USAF Women (1968)	16.4	16.6	16.9	17.2	17.7	18.3	19.0	19.7	20.1	20.5	20.8	4.4
16	USAF Women's Hands (1968)	16.2	16.3	16.5	16.8	17.3	17.9	18.6	19.1	19.3	19.5	19.6	3.4
17	USAF WAF Trainees (1952)	15.3	15.5	15.8	16.0	16.5	17.2	17.8	18.3	18.6	19.0	19.4	4.1
18	US Army Women (1946)	15.5	15.8	16.1	16.4	16.9	17.5	18.0	18.6	18.9	19.3	19.6	4.1

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TABLE 84a. STATISTICAL VALUES FOR HAND THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Men's Hands (1968)	148	3.29	0.02	0.20	0.01	5.99	2.8	3.7	0.9
2	USAF Flying Pers. (1967)	2420	2.77	0.00	0.21	0.00	7.56	2.0	3.6	1.6
3	USAF Basic Trainees (1965)	2527	2.96	0.00	0.21	0.00	7.09	2.2	3.8	1.6
4	US Navy Aviators (1964)	1549	3.11	0.01	0.21	0.00	6.69	2.2	4.0	1.8
5	USAF Flying Pers. (1950)	4000	2.97	0.00	0.17	0.00	5.72	2.4	3.6	1.2
6	USAF Women's Hands (1968)	211	2.76	0.01	0.18	0.01	6.41	2.4	3.3	0.9
7	USAF WAF Trainees (1952)	850	2.48	0.01	0.24	0.01	9.60	1.9	3.6	1.7

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TABLE 84b. PERCENTILE VALUES FOR HAND THICKNESS

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Men's Hands (1968)			3.0	3.0	3.1	3.3	3.4	3.5	3.6			
2	USAF Flying Pers. (1967)	2.2	2.3	2.4	2.5	2.6	2.8	2.9	3.0	3.1	3.2	3.3	1.1
3	USAF Basic Trainees (1965)	2.5	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.5	1.0
4	US Navy Aviators (1964)	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.4	3.5	3.6	3.7	1.0
5	USAF Flying Pers. (1950)	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.4	0.9
6	USAF Women's Hands (1968)	2.4	2.4	2.5	2.5	2.6	2.8	2.9	3.0	3.0	3.1	3.2	0.8
7	USAF WAF.Trainees (1952)	2.0	2.1	2.1	2.2	2.3	2.4	2.6	2.8	2.9	3.0	3.1	1.1

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TABLE 85a. STATISTICAL VALUES FOR HEAD BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	15.17	0.01	0.54	0.01	3.6	12.8	17.3	4.5
2	US Army Aviators (1970)	1482	15.27	0.01	0.54	0.01	3.54	13.4	17.2	3.8
3	USAF Flying Pers. (1967)	2420	15.60	0.01	0.54	0.01	3.48	13.9	17.6	3.7
4	US Marine Corps (1966)	2008	15.28	0.01	0.57	0.01	3.74	13.0	17.4	4.4
5	USA Basic Trainees (1966)	2639	15.27	0.01	0.57	0.01	3.70	13.2	17.4	4.2
6	US Army Men (1966)	6682	15.27	0.01	0.59	0.01	3.83	12.9	17.4	4.5
7	US Navy Recruits (1966)	4095	15.23	0.01	0.57	0.01	3.76	13.3	17.3	4.0
8	USAF Basic Trainees (1965)	2527	15.21	0.01	0.57	0.01	3.75	13.4	17.4	4.0
9	US Navy Aviators (1964)	1549	15.57	0.01	0.53	0.01	3.39	13.6	17.2	3.6
10	USAF Flying Pers. (1950)	4000	15.41	0.01	0.51	0.01	3.31	13.6	17.2	3.6
11	US Army Men (1946)	24,447	15.21	0.01	0.59	0.00	3.88	12.5	18.0	5.5
12	CWS Face Study (1945)	3075	15.28	0.01	0.56	0.01	3.68	13.4	17.5	4.1
13	US Army Women (1988)	2208	14.44	0.01	0.49	0.01	3.4	12.6	16.7	4.1
14	US Army Women (1977)	1331	14.61	0.01	0.54	0.01	3.69	13.0	16.5	3.5
15	USAF Women (1968)	1905	14.52	0.01	0.59	0.01	4.06	12.7	17.1	4.4
16	USAF WAF Trainees (1952)	847	14.49	0.02	0.50	0.01	3.45	13.1	16.4	3.3
17	US Army Women (1946)	8118	14.56	0.01	0.55	0.00	3.76	12.4	16.7	4.3

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TABLE 85b. PERCENTILE VALUES FOR HEAD BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	13.9	14.1	14.3	14.5	14.8	15.2	15.5	15.9	16.1	16.3	16.5	2.6
2	US Army Aviators (1970)	14.1	14.2	14.4	14.6	14.9	15.3	15.6	16.0	16.2	16.4	16.6	2.5
3	USAF Flying Pers. (1967)	14.4	14.5	14.7	14.9	15.2	15.6	16.0	16.3	16.5	16.8	16.9	2.5
4	US Marine Corps (1966)	14.0	14.1	14.4	14.6	14.9	15.3	15.6	16.0	16.2	16.5	16.6	2.6
5	USA Basic Trainees (1966)	14.0	14.1	14.4	14.6	14.9	15.3	15.6	16.0	16.2	16.5	16.7	2.7
6	US Army Men (1966)	13.9	14.1	14.3	14.6	14.9	15.2	15.6	16.0	16.3	16.5	16.7	2.8
7	US Navy Recruits (1966)	14.0	14.1	14.3	14.5	14.8	15.2	15.6	16.0	16.2	16.5	16.6	2.6
8	USAF Basic Trainees (1965)	14.0	14.1	14.3	14.5	14.8	15.2	15.6	16.0	16.2	16.4	16.6	2.6
9	US Navy Aviators (1964)	14.3	14.5	14.7	14.9	15.2	15.6	15.9	16.2	16.4	16.6	16.8	2.5
10	USAF Flying Pers. (1950)	14.3	14.4	14.6	14.8	15.1	15.4	15.7	16.1	16.3	16.5	16.7	2.4
11	US Army Men (1946)	13.8	14.0	14.3	14.5	14.8	15.2	15.6	16.0	16.2	16.5	16.7	2.9
12	CWS Face Study (1945)	13.8	14.0	14.2	14.4	14.8	15.1	15.5	15.8	16.1	16.4	16.6	2.8
13	US Army Women (1988)	13.3	13.5	13.7	13.8	14.1	14.4	14.8	15.1	15.3	15.5	15.7	2.4
14	US Army Women (1977)	13.4	13.6	13.8	13.9	14.2	14.6	15.0	15.3	15.6	15.8	16.1	2.7
15	USAF Women (1968)	13.1	13.3	13.5	13.8	14.1	14.5	14.9	15.3	15.5	15.8	16.0	2.9
16	USAF WAF Trainees (1952)	13.4	13.5	13.7	13.8	14.1	14.5	14.8	15.2	15.4	15.6	15.8	2.4
17	US Army Women (1946)	13.2	13.4	13.7	13.9	14.2	14.6	14.9	15.2	15.4	15.7	15.9	2.7

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TABLE 86a. STATISTICAL VALUES FOR HEAD CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	56.77	0.04	1.54	0.03	2.7	51.4	62.7	11.3
2	US Army Aviators (1970)	1482	56.32	0.04	1.54	0.03	2.74	51.6	61.5	19.9
3	USAF Flying Pers. (1967)	2420	57.52	0.03	1.43	0.02	2.48	52.7	62.0	9.3
4	US Marine Corps (1966)	2008	56.13	0.03	1.54	0.02	2.74	51.1	61.5	10.4
5	US Army Men (1966)	6682	56.11	0.02	1.61	0.01	2.86	51.0	63.7	12.7
6	US Navy Recruits (1966)	4095	55.94	0.02	1.56	0.02	2.79	51.0	62.4	11.4
7	USA Basic Trainees (1966)	2639	55.90	0.03	1.56	0.02	2.79	51.0	61.7	10.7
8	USAF Basic Trainees (1965)	2527	55.88	0.03	1.57	0.02	2.81	50.4	61.8	11.4
9	US Navy Aviators (1964)	1549	57.54	0.04	1.40	0.03	2.44	53.4	62.6	9.2
10	USAF Flying Pers. (1950)	4000	57.03	0.02	1.53	0.02	2.68	51.8	62.5	10.7
11	US Army Men (1946)	24,466	56.65	0.01	1.58	0.00	2.79	49.5	63.5	14.0
12	CWS Face Study (1945)	3075	56.42	0.03	1.55	0.02	2.76	50.4	61.7	11.3
13	US Army Women (1988)	2208	54.62	0.03	1.46	0.02	2.7	50.0	61.1	11.1
14	US Army Women (1977)	1331	54.92	0.04	1.64	0.03	2.98	49.7	61.2	11.5
15	USAF Women (1968)	1905	54.87	0.04	1.62	0.03	2.95	50.2	61.7	11.5
16	USAF WAF Trainees (1952)	847	54.59	0.06	1.73	0.04	3.17	49.0	63.0	14.0
17	US Army Women (1946)	8112	55.15	0.02	1.55	0.01	2.82	50.0	61.0	11.0

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TABLE 86b. PERCENTILE VALUES FOR HEAD CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	53.3	53.7	54.3	54.8	55.7	56.8	57.8	58.7	59.4	60.1	60.7	7.3
2	US Army Aviators (1970)	52.6	53.1	53.8	54.4	55.3	56.3	57.4	58.3	58.9	59.5	60.0	7.4
3	USAF Flying Pers. (1967)	54.4	54.7	55.2	55.7	56.5	57.5	58.5	59.4	59.9	60.6	61.0	6.6
4	US Marine Corps (1966)	52.6	53.0	53.6	54.1	55.1	56.1	57.2	58.1	58.7	59.4	59.9	7.3
5	US Army Men (1966)	52.4	52.9	53.5	54.1	55.0	56.1	57.2	58.2	58.8	59.5	60.0	7.6
6	US Navy Recruits (1966)	52.3	52.8	53.4	54.0	54.9	55.9	57.0	58.0	58.6	59.2	59.6	7.3
7	USA Basic Trainees (1966)	52.2	52.7	53.4	53.9	54.9	55.9	56.9	57.9	58.5	59.2	59.7	7.5
8	USAF Basic Trainees (1965)	52.4	52.7	53.3	53.9	54.8	55.9	56.9	57.9	58.5	59.2	59.7	7.3
9	US Navy Aviators (1964)	54.2	54.6	55.2	55.8	56.6	57.5	58.5	59.3	59.9	60.5	61.0	6.8
10	USAF Flying Pers. (1950)	53.4	53.9	54.5	55.1	56.0	57.0	58.1	59.0	59.6	60.2	60.6	7.2
11	US Army Men (1946)	53.0	53.5	54.1	54.6	55.6	56.6	57.7	58.7	59.3	60.1	60.6	7.6
12	CWS Face Study (1945)	53.2	53.3	53.6	54.1	55.1	56.1	57.2	58.2	58.8	59.4	59.8	6.6
13	US Army Women (1988)	51.3	51.7	52.3	52.8	53.7	54.6	55.6	56.5	57.1	57.8	58.4	7.1
14	US Army Women (1977)	51.4	51.8	52.3	52.9	53.8	54.9	56.0	57.0	57.7	58.6	59.2	7.8
15	USAF Women (1968)	51.2	51.6	52.3	52.8	53.7	54.8	55.9	57.0	57.6	58.3	58.8	7.6
16	USAF WAF Trainees (1952)	50.8	51.2	51.8	52.1	53.2	54.4	55.6	56.9	57.6	58.5	59.2	8.4
17	US Army Women (1946)	51.5	52.0	52.6	53.2	54.1	55.1	56.2	57.2	57.8	58.5	59.0	7.5

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TABLE 87a. STATISTICAL VALUES FOR HEAD DIAGONAL: MENTON TO OCCIPUT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	25.60	0.02	0.76	0.01	2.96	23.2	28.4	5.2
2	USAF Basic Trainees (1965)	2527	25.03	0.02	0.85	0.01	3.40	22.2	28.0	5.8

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TABLE 87b. PERCENTILE VALUES FOR HEAD DIAGONAL: MENTON TO OCCIPUT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	23.9	24.1	24.4	24.7	25.1	25.6	26.1	26.6	26.9	27.2	27.4	3.5
2	USAF Basic Trainees (1965)	23.2	23.3	23.7	23.9	24.4	25.0	25.6	26.1	26.5	26.8	27.0	3.8

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TABLE 88a. STATISTICAL VALUES FOR HEAD DIAGONAL: NUCHALE TO PRONASALE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	21.94	0.02	1.01	0.01	4.62	18.8	25.6	6.8
2	USAF Basic Trainees (1965)	2527	19.26	0.01	0.75	0.01	3.89	17.0	21.8	4.8

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TABLE 88b. PERCENTILE VALUES FOR HEAD DIAGONAL: NUCHALE TO PRONASALE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	19.6	19.8	20.2	20.6	21.3	22.0	22.6	23.2	23.6	24.0	24.3	4.7
2	USAF Basic Trainees (1965)	17.6	17.8	18.1	18.3	18.7	19.2	19.8	20.3	20.6	20.9	21.1	3.5

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TABLE 89a. STATISTICAL VALUES FOR HEAD HEIGHT (TRAGION TO TOP OF HEAD)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	13.10	0.01	0.57	0.01	4.3	11.2	15.1	3.9
2	US Army Aviators (1970)	1482	13.29	0.02	0.58	0.01	4.35	11.1	15.3	4.2
3	USAF Flying Pers. (1967)	2420	13.45	0.01	0.61	0.01	4.54	11.5	15.5	4.0
4	US Navy Recruits (1966)	4095	13.54	0.01	0.85	0.01	6.30	10.8	16.6	5.8
5	US Marine Corps (1966)	2008	13.38	0.02	0.68	0.01	5.10	10.9	15.5	4.6
6	USA Basic Trainees (1966)	2639	13.25	0.02	0.79	0.01	5.99	10.0	15.8	5.8
7	US Army Men (1966)	6682	13.23	0.01	0.79	0.01	5.99	10.1	16.0	5.9
8	USAF Basic Trainees (1965)	2527	13.19	0.01	0.61	0.01	4.62	11.0	15.3	4.3
9	US Navy Aviators (1964)	1549	13.11	0.02	0.64	0.01	4.91	10.6	15.4	4.8
10	USAF Flying Pers. (1950)	4000	12.97	0.01	0.75	0.01	5.78	10.4	15.5	5.1
11	US Army Men (1946)	24,630	13.11	0.00	0.60	0.00	4.58	10.0	16.0	6.0
12	US Army Women (1988)	2208	12.35	0.01	0.55	0.01	4.5	10.6	14.5	3.9
13	US Army Women (1977)	216	13.19	0.05	0.67	0.03	5.08	11.2	15.6	4.2
14	USAF Women (1968)	1905	12.73	0.02	0.76	0.01	5.97	10.5	16.1	5.6
15	US Army Women (1946)	8114	13.15	0.01	0.90	0.01	6.82	10.0	16.4	6.4

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TABLE 89b. PERCENTILE VALUES FOR HEAD HEIGHT (TRAGION TO TOP OF HEAD)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	11.8	11.9	12.2	12.4	12.7	13.1	13.5	13.8	14.0	14.3	14.5	2.7
2	US Army Aviators (1970)	12.0	12.1	12.4	12.6	12.9	13.3	13.7	14.0	14.2	14.5	14.7	2.7
3	USAF Flying Pers. (1967)	12.0	12.2	12.4	12.7	13.0	13.5	13.9	14.2	14.5	14.7	14.9	2.9
4	US Navy Recruits (1966)	11.6	11.8	12.1	12.4	12.9	13.6	14.2	14.6	14.9	15.2	15.4	3.8
5	US Marine Corps (1966)	11.8	12.0	12.3	12.5	12.9	13.4	13.8	14.3	14.5	14.8	15.0	3.2
6	USA Basic Trainees (1966)	11.3	11.5	11.9	12.2	12.7	13.3	13.8	14.2	14.5	14.8	15.0	3.7
7	US Army Men (1966)	11.3	11.6	11.9	12.2	12.7	13.2	13.8	14.2	14.5	14.8	15.0	3.7
8	USAF Basic Trainees (1965)	11.7	11.9	12.2	12.4	12.8	13.2	13.6	14.0	14.2	14.4	14.6	2.9
9	US Navy Aviators (1964)	11.4	11.7	12.0	12.3	12.7	13.1	13.5	13.9	14.2	14.4	14.6	3.2
10	USAF Flying Pers. (1950)	11.2	11.4	11.7	12.0	12.5	13.0	13.5	13.9	14.2	14.5	14.7	3.5
11	US Army Men (1946)	11.6	11.8	12.1	12.3	12.7	13.1	13.5	13.9	14.2	14.5	14.7	3.1
12	US Army Women (1988)	11.0	11.2	11.4	11.7	12.0	12.4	12.7	13.0	13.3	13.5	13.7	2.8
13	US Army Women (1977)	11.8	11.9	12.1	12.3	12.7	13.2	13.6	14.0	14.3	14.6	14.8	3.0
14	USAF Women (1968)	11.1	11.3	11.6	11.8	12.2	12.7	13.2	13.8	14.1	14.4	14.7	3.6
15	US Army Women (1946)	11.0	11.2	11.6	12.0	12.6	13.2	13.8	14.3	14.6	15.0	15.4	4.4

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TABLE 90a. STATIST CAL VALUES FOR HEAD LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.71	0.02	0.71	0.01	3.6	17.3	22.0	4.7
2	US Army Aviators (1970)	1482	19.70	0.02	0.67	0.01	3.39	17.0	21.7	4.7
3	USAF Flying Pers. (1967)	2420	19.87	0.01	0.67	0.01	3.39	17.5	22.6	5.1
4	US Army Men (1966)	6682	19.47	0.01	0.73	0.01	3.77	16.7	22.3	5.6
5	US Marine Corps (1966)	2008	19.43	0.02	0.72	0.01	3.73	16.9	22.1	5.2
6	US Navy Recruits (1966)	4095	19.42	0.01	0.72	0.01	3.71	16.8	21.9	5.1
7	USA Basic Trainees (1966)	2639	19.41	0.01	0.72	0.01	3.69	16.6	21.8	5.2
8	USAF Basic Trainees (1965)	2527	19.53	0.01	0.72	0.01	3.69	17.0	22.2	5.2
9	US Navy Aviators (1964)	1549	19.83	0.02	0.66	0.01	3.32	17.8	22.0	4.2
10	USAF Flying Pers. (1950)	4000	19.70	0.01	0.64	0.01	3.25	17.5	22.3	4.8
11	US Army Men (1946)	24,471	19.47	0.00	0.70	0.00	3.60	15.5	23.0	7.5
12	CWS Face Study (1945)	3075	19.50	0.01	0.69	0.01	3.55	16.5	21.8	5.3
13	US Army Women (1988)	2208	18.72	0.01	0.64	0.01	3.4	15.8	21.1	5.3
14	US Army Women (1977)	1331	18.71	0.02	0.67	0.01	3.58	16.2	20.8	4.6
15	USAF Women (1968)	1905	18.41	0.02	0.68	0.01	3.69	16.4	20.7	4.3
16	USAF WAF Trainees (1952)	847	17.38	0.03	0.75	0.02	4.31	15.1	19.8	4.7
17	US Army Women (1946)	8118	18.36	0.01	0.65	0.01	3.54	15.8	20.5	4.7

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TABLE 90b. PERCENTILE VALUES FOR HEAD LENGTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	18.0	18.2	18.5	18.8	19.3	19.7	20.2	20.6	20.9	21.1	21.3	3.3
2	US Army Aviators (1970)	18.0	18.3	18.6	18.8	19.3	19.7	20.2	20.6	20.8	21.0	21.1	3.1
3	USAF Flying Pers. (1967)	18.3	18.5	18.8	19.0	19.4	19.9	20.3	20.7	21.0	21.3	21.5	3.2
4	US Army Men (1966)	17.8	18.0	18.2	18.5	19.0	19.5	20.0	20.4	20.7	21.0	21.2	3.4
5	US Marine Corps (1966)	17.8	18.0	18.2	18.5	18.9	19.4	19.9	20.4	20.6	20.9	21.1	3.3
6	US Navy Recruits (1966)	17.7	17.9	18.2	18.5	18.9	19.4	19.9	20.4	20.6	20.9	21.1	3.4
7	USA Basic Trainees (1966)	17.7	17.9	18.2	18.5	18.9	19.4	19.9	20.3	20.6	20.9	21.1	3.4
8	USAF Basic Trainees (1965)	17.9	18.1	18.4	18.6	19.0	19.5	20.0	20.5	20.7	21.0	21.2	3.3
9	US Navy Aviators (1964)	18.3	18.5	18.8	19.0	19.4	19.8	20.3	20.7	20.9	21.2	21.4	3.1
10	USAF Flying Pers. (1950)	18.2	18.4	18.7	18.9	19.3	19.7	20.1	20.5	20.8	21.0	21.2	3.0
11	US Army Men (1946)	17.8	18.0	18.3	18.6	19.0	19.5	20.0	20.4	20.6	20.9	21.2	3.4
12	CWS Face Study (1945)	17.7	17.9	18.2	18.5	18.9	19.4	19.8	20.2	20.5	20.8	20.9	3.2
13	US Army Women (1988)	17.2	17.4	17.6	17.9	18.3	18.7	19.2	19.5	19.8	20.0	20.2	3.0
14	US Army Women (1977)	17.1	17.3	17.6	17.9	18.3	18.7	19.2	19.6	19.8	20.1	20.3	3.2
15	USAF Women (1968)	16.8	17.0	17.3	17.5	18.0	18.4	18.9	19.3	19.5	19.8	20.0	3.2
16	USAF WAF Trainees (1952)	15.5	15.8	16.2	16.5	16.9	17.4	17.9	18.4	18.6	18.8	19.0	3.5
17	US Army Women (1946)	16.9	17.0	17.3	17.5	17.9	18.4	18.8	19.2	19.4	19.7	19.9	3.0

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TABLE 91a. STATISTICAL VALUES FOR HEEL-ANKLE CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	33.90	0.04	1.63	0.03	4.8	28.8	40.2	11.4
2	US Army Aviators (1970)	1482	33.31	0.04	1.58	0.03	4.75	26.6	37.8	11.2
3	USAF Flying Pers. (1967)	2420	33.95	0.03	1.41	0.02	4.16	29.2	39.6	10.4
4	US Navy Recruits (1966)	4095	34.21	0.03	1.71	0.02	5.01	28.7	41.8	13.1
5	US Marine Corps (1966)	2007	34.13	0.04	1.61	0.03	4.71	28.8	40.0	11.2
6	US Army Men (1966)	6682	34.11	0.02	1.66	0.01	4.86	28.2	40.5	12.3
7	USA Basic Trainees (1966)	2639	34.08	0.03	1.63	0.02	4.78	28.8	40.4	11.6
8	USAF Basic Trainees (1965)	2527	34.22	0.03	1.56	0.02	4.56	28.8	39.9	11.1
9	Ft. Knox Foot Study (1946)	5575	34.41	0.02	1.55	0.01	4.50	29.2	39.8	10.6
10	US Army Women (1988)	2208	30.48	0.03	1.49	0.02	4.9	25.7	36.5	10.8
11	US Army Women (1977)	1331	30.79	0.04	1.46	0.03	4.73	26.8	36.1	9.3

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TABLE 91b. PERCENTILE VALUES FOR HEEL-ANKLE CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	30.3	30.7	31.3	31.8	32.8	33.9	35.0	36.0	36.7	37.5	38.0	7.7
2	US Army Aviators (1970)	29.5	30.0	30.7	31.3	32.2	33.3	34.4	35.4	35.9	36.5	36.8	7.3
3	USAF Flying Pers. (1967)	30.7	31.1	31.7	32.2	33.0	33.9	34.9	35.8	36.3	36.9	37.3	6.6
4	US Navy Recruits (1966)	30.4	30.8	31.4	32.0	33.0	34.2	35.3	36.4	37.0	37.8	38.4	8.0
5	US Marine Corps (1966)	30.6	31.0	31.6	32.1	33.0	34.1	35.2	36.2	36.9	37.6	38.1	7.5
6	US Army Men (1966)	30.3	30.8	31.4	32.0	33.0	34.1	35.2	36.3	36.9	37.7	38.2	7.9
7	USA Basic Trainees (1966)	30.3	30.8	31.4	32.0	33.0	34.0	35.1	36.2	36.8	37.6	38.1	7.8
8	USAF Basic Trainees (1965)	30.7	31.1	31.7	32.3	33.2	34.2	35.3	36.2	36.8	37.5	38.0	7.3
9	Ft. Knox Foot Study (1946)	30.9	31.3	31.9	32.4	33.3	34.4	35.4	36.4	37.0	37.6	38.1	7.2
10	US Army Women (1988)	27.3	27.6	28.1	28.6	29.5	30.4	31.4	32.4	33.0	33.8	34.3	7.1
11	US Army Women (1977)	27.7	28.0	28.5	29.0	29.8	30.7	31.7	32.7	33.3	34.0	34.6	6.9

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TABLE 92a. STATISTICAL VALUES FOR HEEL BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	7.01	0.01	0.53	0.01	7.5	5.5	9.0	3.5
2	US Army Men (1966)	6682	6.86	0.01	0.47	0.00	6.84	5.1	9.0	3.9
3	USA Basic Trainees (1966)	2639	6.84	0.01	0.45	0.01	6.56	5.2	9.0	3.8
4	US Marine Corps (1966)	2008	6.82	0.01	0.44	0.01	6.42	5.2	8.6	3.4
5	US Navy Recruits (1966)	4095	6.72	0.01	0.43	0.00	6.42	5.0	8.7	3.7
6	USAF Flying Pers. (1950)	4000	6.69	0.01	0.37	0.00	5.53	5.4	8.3	2.9
7	US Army Men (1946)	24,341	6.70	0.00	0.53	0.00	7.91	4.0	10.0	6.0
8	Ft. Knox Foot Study (1946)	5561	6.96	0.00	0.34	0.00	4.88	4.9	8.7	3.8
9	US Army Women (1988)	2208	6.30	0.01	0.48	0.01	7.7	5.0	8.4	3.4
10	US Army Women (1977)	1331	6.09	0.01	0.41	0.01	6.75	5.0	7.6	2.6
11	USAF WAF Trainees (1952)	847	5.72	0.02	0.57	0.01	10.02	3.9	7.5	3.6
12	US Army Women (1946)	3319	5.94	0.01	0.44	0.01	7.39	4.5	7.9	3.4

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TABLE 92b. PERCENTILE VALUES FOR HEEL BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	6.0	6.1	6.2	6.4	6.6	7.0	7.3	7.7	8.0	8.2	8.5	2.5
2	US Army Men (1966)	5.9	6.0	6.2	6.3	6.5	6.8	7.2	7.5	7.7	7.9	8.1	2.2
3	USA Basic Trainees (1966)	5.9	6.0	6.2	6.3	6.5	6.8	7.1	7.4	7.6	7.8	8.0	2.1
4	US Marine Corps (1966)	5.9	6.0	6.2	6.3	6.5	6.8	7.1	7.4	7.6	7.8	8.0	2.1
5	US Navy Recruits (1966)	5.7	5.9	6.0	6.2	6.4	6.7	7.0	7.3	7.4	7.6	7.8	2.1
6	USAF Flying Pers. (1950)	5.9	6.0	6.1	6.2	6.4	6.7	7.0	7.2	7.3	7.5	7.6	1.7
7	US Army Men (1946)	5.4	5.6	5.8	6.0	6.3	6.7	7.1	7.4	7.6	8.0	8.2	2.8
8	Ft. Knox Foot Study (1946)	6.2	6.3	6.4	6.5	6.7	7.0	7.2	7.4	7.5	7.7	7.8	1.6
9	US Army Women (1988)	5.3	5.4	5.6	5.7	6.0	6.3	6.6	6.9	7.1	7.4	7.6	2.2
10	US Army Women (1977)	5.2	5.3	5.5	5.6	5.8	6.1	6.4	6.6	6.8	7.0	7.2	2.0
11	USAF WAF Trainees (1952)	4.0	4.3	4.7	5.0	5.4	5.8	6.1	6.4	6.6	6.8	6.9	2.9
12	US Army Women (1946)	5.0	5.1	5.3	5.4	5.6	5.9	6.2	6.5	6.7	7.0	7.1	2.1

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TABLE 93a. STATISTICAL VALUES FOR HIP BREADTH, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	36.68	0.06	2.52	0.04	6.9	29.9	48.4	18.5
2	US Army Aviators (1970)	1482	37.80	0.07	2.72	0.05	7.19	30.8	48.5	17.7
3	USAF Flying Pers. (1967)	2420	37.79	0.05	2.30	0.03	6.09	31.2	47.8	16.6
4	US Marine Corps (1966)	2008	34.16	0.04	2.02	0.03	5.90	28.8	43.1	14.3
5	US Army Men (1966)	6682	34.16	0.03	2.38	0.02	6.97	26.6	60.0	23.4
6	USA Basic Trainees (1966)	2639	33.92	0.05	2.36	0.03	6.95	27.8	47.7	19.9
7	US Navy Recruits (1966)	4094	33.85	0.04	2.36	0.03	6.97	27.5	45.2	17.7
8	USAF Basic Trainees (1965)	2527	35.27	0.05	2.52	0.04	7.14	28.4	45.9	17.5
9	US Navy Aviators (1964)	1549	36.80	0.06	2.17	0.04	5.90	30.4	45.4	15.0
10	USAF Flying Pers. (1950)	4000	35.46	0.03	2.15	0.02	6.06	29.3	44.6	15.3
11	US Army Men (1946)	24,575	35.44	0.01	2.28	0.00	6.43	28.5	50.5	22.0
12	US Army Women (1988)	2208	38.45	0.06	2.72	0.04	7.1	30.8	49.3	18.5
13	US Army Women (1977)	255	38.27	0.20	3.27	0.14	8.54	30.1	47.8	17.7
14	USAF Women (1968)	1905	38.19	0.07	2.86	0.05	7.49	29.1	50.2	21.1
15	US Army Women (1946)	8120	36.92	0.03	2.83	0.02	7.76	27.0	50.0	23.0

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TABLE 93b. PERCENTILE VALUES FOR HIP BREADTH, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	31.2	31.9	32.9	33.6	34.9	36.5	38.3	40.1	41.2	42.3	43.0	11.9
2	US Army Aviators (1970)	32.1	32.6	33.5	34.4	35.9	37.7	39.6	41.4	42.4	43.7	44.5	12.4
3	USAF Flying Pers. (1967)	32.7	33.3	34.2	34.9	36.2	37.7	39.3	40.8	41.8	42.9	43.8	11.1
4	US Marine Corps (1966)	30.0	30.4	31.1	31.8	32.8	34.0	35.4	36.8	37.7	38.8	39.7	9.7
5	US Army Men (1966)	29.5	30.0	30.7	31.4	32.5	33.9	35.6	37.3	38.4	39.8	40.7	11.2
6	USA Basic Trainees (1966)	29.2	29.7	30.4	31.1	32.2	33.7	35.4	37.1	38.2	39.4	40.1	10.9
7	US Navy Recruits (1966)	29.3	29.8	30.5	31.1	32.2	33.6	35.3	37.0	38.2	39.5	40.3	11.0
8	USAF Basic Trainees (1965)	30.5	31.0	31.8	32.4	33.5	34.9	36.7	38.7	40.1	41.7	42.9	12.4
9	US Navy Aviators (1964)	32.2	32.6	33.3	34.0	35.3	36.8	38.2	39.6	40.4	41.4	42.2	10.0
10	USAF Flying Pers. (1950)	30.9	31.4	32.1	32.8	34.0	35.4	36.9	38.3	39.2	40.3	41.0	10.1
11	US Army Men (1946)	31.0	31.5	32.3	32.8	34.0	35.3	36.8	38.4	39.4	41.1	42.4	11.4
12	US Army Women (1988)	32.7	33.3	34.3	35.1	36.5	38.3	40.2	42.1	43.2	44.5	45.3	12.6
13	US Army Women (1977)	31.6	32.1	33.0	34.0	36.0	38.2	40.4	42.5	43.9	45.7	47.1	15.5
14	USAF Women (1968)	32.1	32.8	33.8	34.7	36.2	38.0	40.0	42.0	43.3	44.8	45.9	13.8
15	US Army Women (1946)	31.1	31.7	32.7	33.5	35.0	36.7	38.6	40.6	42.0	43.6	44.9	13.8

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TABLE 94a. STATISTICAL VALUES FOR HIP BREADTH, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	34.18	0.05	2.03	0.03	5.9	28.2	41.6	13.4
2	US Army Aviators (1970)	1482	35.12	0.06	2.13	0.04	6.06	29.1	42.3	13.2
3	USAF Flying Pers. (1967)	2420	35.27	0.04	1.88	0.03	5.34	28.7	44.6	15.9
4	US Army Men (1966)	6682	33.20	0.02	2.01	0.02	6.05	27.0	44.7	17.7
5	US Marine Corps (1966)	2008	33.19	0.04	1.75	0.03	5.26	28.3	39.8	11.5
6	US Navy Recruits (1966)	4094	33.07	0.03	2.04	0.02	6.17	26.2	42.1	15.9
7	USA Basic Trainees (1966)	2639	33.05	0.04	1.98	0.03	6.00	27.2	44.8	17.6
8	USAF Basic Trainees (1965)	2527	33.73	0.04	2.10	0.03	6.23	28.2	42.9	14.7
9	US Navy Aviators (1964)	1549	34.99	0.05	1.78	0.03	5.10	28.6	41.4	12.8
10	USAF Flying Pers. (1950)	4000	33.47	0.03	1.76	0.02	5.26	17.2	30.5	13.3
11	US Army Women (1988)	2208	34.27	0.05	2.24	0.03	6.5	27.0	42.0	15.0
12	US Army Women (1977)	1331	35.37	0.07	2.47	0.05	6.98	28.5	49.1	20.6
13	USAF Women (1968)	1905	34.97	0.05	2.22	0.04	6.35	28.6	44.1	15.5
14	USAF WAF Trainees (1952)	850	35.05	0.08	2.41	0.06	6.88	25.0	47.0	22.0

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TABLE 94b. PERCENTILE VALUES FOR HIP BREADTH, STANDING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	29.6	30.2	31.0	31.7	32.8	34.1	35.5	36.8	37.7	38.6	39.3	9.7
2	US Army Aviators (1970)	30.4	30.9	31.7	32.4	33.6	35.0	36.5	37.9	38.8	39.7	40.3	9.9
3	USAF Flying Pers. (1967)	31.0	31.5	32.3	32.9	34.0	35.2	36.4	37.7	38.5	39.5	40.2	9.2
4	US Army Men (1966)	29.1	29.5	30.2	30.8	31.8	33.0	34.4	35.8	36.7	37.8	38.6	9.5
5	US Marine Corps (1966)	29.5	29.9	30.5	31.0	32.0	33.1	34.3	35.5	36.2	37.2	37.8	8.3
6	US Navy Recruits (1966)	28.9	29.4	30.0	30.6	31.6	32.9	34.4	35.8	36.7	37.8	38.4	9.5
7	USA Basic Trainees (1966)	29.0	29.4	30.0	30.6	31.7	32.9	34.3	35.6	36.5	37.6	38.4	9.4
8	USAF Basic Trainees (1965)	29.5	30.0	30.7	31.3	32.3	33.5	34.9	36.5	37.6	39.0	40.0	10.5
9	US Navy Aviators (1964)	30.8	31.3	32.0	32.6	33.8	35.0	36.2	37.3	37.9	38.6	39.0	8.2
10	USAF Flying Pers. (1950)	29.7	30.1	30.7	31.3	32.2	33.4	34.6	35.8	36.5	37.3	37.8	8.1
11	US Army Women (1988)	29.6	30.1	30.8	31.5	32.7	34.2	35.7	37.2	38.2	39.2	40.0	10.4
12	US Army Women (1977)	30.1	30.7	31.5	32.3	33.7	35.2	36.9	38.5	39.5	40.9	41.9	11.8
13	USAF Women (1968)	30.2	30.8	31.6	32.3	33.4	34.8	36.3	37.9	38.8	40.1	40.9	10.7
14	USAF WAF Trainees (1952)	31.0	31.4	31.8	32.2	33.1	34.4	36.0	37.8	39.2	41.0	42.9	11.9

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TABLE 95a. STATISTICAL VALUES FOR HIP (BUTTOCK) CIRCUMFERENCE, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	107.64	0.14	6.74	0.10	6.27	86.8	141.1	54.3
2	USAF Basic Trainees (1965)	2527	100.49	0.15	7.60	0.11	7.56	81.2	130.7	49.5
3	US Navy Aviators (1964)	1549	106.44	0.15	5.83	0.10	5.47	89.8	131.6	41.8
4	USAF Flying Pers. (1950)	4000	105.88	0.11	7.01	0.08	6.62	85.6	133.5	47.9
5	US Army Women (1977)	255	98.10	0.43	6.83	0.30	6.96	81.8	125.3	43.5
6	USAF Women (1968)	1905	100.00	0.14	6.09	0.10	6.09	85.5	128.4	42.9
7	USAF WAF Trainees (1952)	848	99.62	0.19	5.66	0.14	5.68	83.0	122.0	39.0

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TABLE 95b. PERCENTILE VALUES FOR HIP (BUTTOCK) CIRCUMFERENCE, SITTING

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	93.1	94.7	97.1	99.2	103.0	107.4	112.0	116.5	119.3	122.5	124.6	31.5
2	USAF Basic Trainees (1965)	86.6	88.2	90.3	92.0	95.0	99.3	104.8	111.0	115.2	120.3	123.8	37.2
3	US Navy Aviators (1964)	93.2	94.7	97.0	99.0	102.5	106.3	110.2	113.9	116.3	119.1	121.2	28.0
4	USAF Flying Pers. (1950)	91.6	93.0	95.0	97.2	100.9	105.3	110.2	115.1	118.2	121.8	124.4	32.8
5	US Army Women (1977)	85.1	86.0	87.7	89.6	93.3	97.7	102.4	106.9	109.8	113.3	115.9	30.8
6	USAF Women (1968)	87.4	88.8	90.8	92.7	95.9	99.5	103.5	107.7	110.8	114.9	118.0	30.6
7	USAF WAF Trainees (1952)	87.4	89.1	91.3	93.1	96.0	99.4	102.9	106.5	109.3	113.4	115.8	28.4

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TABLE 96a. STATISTICAL VALUES FOR HIP (BUTTOCK) CIRCUMFERENCE, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	98.37	0.15	6.22	0.10	6.3	80.5	123.9	43.4
2	US Army Aviators (1970)	1482	97.79	0.17	6.48	0.12	6.63	80.8	125.4	44.6
3	USAF Flying Pers. (1967)	2420	98.62	0.11	5.51	0.08	5.59	81.4	124.4	43.0
4	US Marine Corps (1966)	2008	94.85	0.12	5.23	0.08	5.52	80.0	115.9	35.9
5	US Army Men (1966)	6682	94.21	0.08	6.25	0.05	6.63	77.4	132.9	55.5
6	US Navy Recruits (1966)	4095	93.62	0.10	6.39	0.07	6.82	77.4	124.3	46.9
7	USA Basic Trainees (1966)	2639	93.45	0.12	6.37	0.09	6.81	77.2	125.2	48.0
8	USAF Basic Trainees (1965)	2525	92.03	0.12	6.07	0.09	6.60	74.2	118.2	44.0
9	US Navy Aviators (1964)	1549	98.03	0.13	5.07	0.09	5.17	81.8	116.6	34.8
10	USAF Flying Pers. (1950)	4000	95.96	0.09	5.67	0.06	5.91	80.4	119.4	39.0
11	US Army Men (1946)	24,500	93.14	0.04	5.70	0.02	6.12	67.0	127.0	60.0
12	US Army Women (1988)	2208	96.69	0.13	6.02	0.09	6.2	78.7	118.9	40.2
13	US Army Women (1977)	1331	95.52	0.18	6.39	0.12	6.69	77.4	134.6	57.2
14	USAF Women (1968)	1905	95.27	0.14	6.02	0.10	6.32	77.2	120.1	42.9
15	USAF WAF Trainees (1952)	847	93.73	0.19	5.40	0.13	5.76	79.0	114.0	35.0
16	US Army Women (1946)	8113	95.09	0.07	6.70	0.05	7.08	74.0	126.0	52.0

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TABLE 96b. PERCENTILE VALUES FOR HIP (BUTTOCK) CIRCUMFERENCE, STANDING

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	84.8	86.3	88.6	90.6	94.1	98.1	102.5	106.5	109.0	111.8	113.6	28.8
2	US Army Aviators (1970)	84.4	85.2	87.1	89.3	93.2	97.8	102.2	106.0	108.4	111.4	113.7	29.3
3	USAF Flying Pers. (1967)	86.4	87.7	89.7	91.6	94.8	98.5	102.2	105.7	107.9	110.5	112.3	25.9
4	US Marine Corps (1966)	84.1	85.2	86.9	88.5	91.3	94.5	98.0	101.6	104.0	107.1	109.4	25.3
5	US Army Men (1966)	82.0	83.3	85.1	86.8	89.8	93.6	97.9	102.5	105.5	109.3	112.0	30.0
6	US Navy Recruits (1966)	81.2	82.7	84.5	86.1	88.9	92.8	97.6	102.5	105.5	108.7	110.5	29.3
7	USA Basic Trainees (1966)	81.0	82.4	84.3	85.9	88.9	92.7	97.4	102.2	105.2	108.7	110.9	29.9
8	USAF Basic Trainees (1965)	80.6	82.1	83.9	85.4	87.7	91.0	95.4	100.4	103.8	107.7	110.4	29.8
9	US Navy Aviators (1964)	86.3	87.5	89.5	91.4	94.7	98.2	101.4	104.3	106.2	108.6	110.4	24.1
10	USAF Flying Pers. (1950)	84.3	85.5	87.3	89.0	92.0	95.6	99.7	103.7	106.0	108.6	110.2	25.9
11	US Army Men (1946)	80.5	82.0	84.6	86.4	89.2	92.7	96.5	100.3	102.9	106.2	108.7	28.2
12	US Army Women (1988)	84.1	85.3	87.2	89.1	92.5	96.5	100.6	104.5	107.0	110.1	112.5	28.3
13	US Army Women (1977)	81.6	83.1	85.5	87.7	91.3	95.3	99.4	103.4	106.1	109.6	112.2	30.6
14	USAF Women (1968)	82.0	83.5	85.8	87.9	91.3	95.0	98.8	102.8	105.6	109.3	112.1	30.1
15	USAF WAF Trainees (1952)	81.0	84.2	85.9	87.4	90.1	93.3	96.7	100.3	102.4	104.8	107.0	26.0
16	US Army Women (1946)	82.3	83.5	85.4	87.2	90.4	94.4	99.0	103.9	107.3	111.5	114.7	32.4

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TABLE 97a. STATISTICAL VALUES FOR HIP (TROCHANTERIC) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	92.83	0.11	4.77	0.08	5.1	75.0	116.2	41.2
2	USAF Flying Pers. (1967)	2420	93.96	0.09	4.35	0.06	4.64	79.0	111.9	32.9
3	USAF Basic Trainees (1965)	2527	92.20	0.09	4.65	0.07	5.04	76.8	109.7	32.9
4	US Army Women (1988)	2208	86.16	0.10	4.52	0.07	5.3	67.3	106.2	38.9
5	US Army Women (1977)	255	85.91	0.28	4.43	0.20	5.15	76.0	101.9	25.9
6	USAF Women (1968)	1905	82.67	0.10	4.27	0.07	5.17	70.1	96.5	26.4
7	US Army Women (1946)	8120	81.70	0.05	4.29	0.03	5.28	67.0	100.0	33.0

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TABLE 97b. PERCENTILE VALUES FOR HIP (TROCHANTERIC) HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	82.1	83.4	85.3	86.9	89.5	92.7	96.0	99.1	100.9	102.8	104.0	21.9
2	USAF Flying Pers. (1967)	84.0	85.1	86.9	88.4	91.0	93.9	96.9	99.6	101.3	103.1	104.3	20.3
3	USAF Basic Trainees (1965)	82.0	83.2	84.9	86.4	89.0	92.0	95.2	98.3	100.2	102.4	103.9	21.9
4	US Army Women (1988)	76.1	77.2	78.9	80.5	83.1	86.0	89.1	91.9	93.8	96.0	97.5	21.5
5	US Army Women (1977)	77.1	77.6	78.7	80.1	82.7	85.8	88.9	91.5	93.2	95.1	96.6	19.5
6	USAF Women (1968)	73.2	74.2	75.7	77.2	79.7	82.6	85.5	88.2	89.8	91.7	92.9	19.7
7	US Army Women (1946)	72.1	73.2	74.8	86.3	78.8	81.6	84.5	87.2	88.9	91.0	92.3	20.2

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TABLE 98a. STATISTICAL VALUES FOR INSTEP CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	27.08	0.03	1.33	0.02	4.91	23.0	32.2	9.2
2	USAF Flying Pers. (1967)	2420	25.69	0.02	1.21	0.02	4.70	22.4	30.6	8.2
3	USA Basic Trainees (1966)	2639	26.83	0.03	1.65	0.02	6.13	20.8	32.4	11.6
4	US Army Men (1966)	6682	26.56	0.02	1.65	0.01	6.21	20.5	36.0	15.5
5	US Marine Corps (1966)	2008	26.33	0.03	1.44	0.02	5.47	21.2	31.1	9.9
6	US Navy Recruits (1966)	4095	25.60	0.02	1.39	0.02	5.45	21.0	31.7	10.7
7	USAF Basic Trainees (1965)	2527	27.31	0.03	1.37	0.02	5.02	22.8	32.4	9.6
8	Ft. Knox Foot Study (1946)	5574	25.83	0.02	1.14	0.01	4.41	21.8	30.5	8.7
9	US Army Women (1977)	1331	23.48	0.03	1.26	0.02	5.38	20.1	27.7	7.6

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TABLE 98b. PERCENTILE VALUES FOR INSTEP CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	24.2	24.5	25.0	25.4	26.2	27.0	28.0	28.8	29.4	30.0	30.5	6.3
2	USAF Flying Pers. (1967)	23.1	23.4	23.8	24.2	24.9	25.6	26.5	27.3	27.8	28.4	28.8	5.7
3	USA Basic Trainees (1966)	23.1	23.5	24.1	24.7	25.7	26.8	27.9	29.0	29.6	30.3	30.7	7.6
4	US Army Men (1966)	22.8	23.3	24.0	24.5	25.4	26.5	27.6	28.7	29.4	30.1	30.6	7.8
5	US Marine Corps (1966)	23.0	23.4	24.0	24.5	25.4	26.3	27.3	28.2	28.8	29.3	29.6	6.6
6	US Navy Recruits (1966)	22.4	22.8	23.4	23.9	24.7	25.6	26.5	27.4	28.0	28.7	29.2	6.8
7	USAF Basic Trainees (1965)	24.3	24.6	25.1	25.6	26.4	27.3	28.2	29.1	29.6	30.3	30.7	6.5
8	Ft. Knox Foot Study (1946)	23.3	23.6	24.0	24.4	25.1	25.8	26.6	27.3	27.7	28.2	28.6	5.3
9	US Army Women (1977)	20.8	21.1	21.5	21.9	22.6	23.4	24.3	25.1	25.7	26.3	26.8	6.0

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TABLE 99a. STATISTICAL VALUES FOR INSTEP LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.60	0.02	1.05	0.02	5.3	16.6	23.7	7.1
2	US Army Aviators (1970)	1482	19.16	0.03	1.04	0.02	5.42	15.6	22.8	7.2
3	USAF Flying Pers. (1967)	2420	19.79	0.02	0.95	0.01	4.81	16.5	23.4	6.9
4	USA Basic Trainees (1966)	2639	19.66	0.02	1.00	0.01	5.11	16.4	23.5	7.1
5	US Army Men (1966)	6682	19.64	0.01	1.05	0.01	5.32	16.2	24.5	8.3
6	US Marine Corps (1966)	2008	19.58	0.02	1.06	0.02	5.41	15.6	23.3	7.7
7	US Navy Recruits (1966)	4095	19.36	0.02	1.04	0.01	5.40	15.3	22.9	7.6
8	USAF Basic Trainees (1965)	2527	19.41	0.02	1.00	0.01	5.15	16.0	23.6	7.6
9	USAF Flying Pers. (1950)	4000	19.40	0.01	0.86	0.01	4.43	16.3	22.5	6.2
10	US Army Men (1946)	24,475	19.33	0.00	1.12	0.00	5.79	14.0	24.5	10.5
11	Ft. Knox Foot Study (1946)	5575	19.26	0.01	0.90	0.01	4.67	16.1	22.6	6.5
12	US Army Women (1988)	2208	17.94	0.02	0.96	0.01	5.3	14.8	21.2	6.4
13	US Army Women (1977)	1331	17.85	0.03	0.99	0.02	5.52	15.0	21.5	6.5
14	USAF WAF Trainees (1952)	847	17.32	0.03	0.82	0.02	4.72	14.0	20.6	6.6
15	US Army Women (1946)	1883	17.73	0.02	0.90	0.01	5.08	14.8	20.7	5.9

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TABLE 99b. PERCENTILE VALUES FOR INSTEP LENGTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	17.3	17.5	17.9	18.3	18.9	19.6	20.3	21.0	21.4	21.9	22.2	5.0
2	US Army Aviators (1970)	16.8	17.1	17.5	17.8	18.4	19.1	19.9	20.5	20.9	21.3	21.6	4.8
3	USAF Flying Pers. (1967)	17.6	17.9	18.3	18.6	19.2	19.8	20.4	21.0	21.4	21.8	22.1	4.5
4	USA Basic Trainees (1966)	17.3	17.6	18.0	18.4	19.0	19.6	20.3	20.9	21.3	21.8	22.2	4.9
5	US Army Men (1966)	17.2	17.5	17.9	18.3	18.9	19.6	20.3	21.0	21.4	21.9	22.3	5.1
6	US Marine Corps (1966)	17.1	17.4	17.8	18.2	18.9	19.6	20.3	20.9	21.4	21.9	22.2	5.1
7	US Navy Recruits (1966)	17.0	17.3	17.6	18.0	18.6	19.3	20.1	20.7	21.1	21.6	21.9	4.9
8	USAF Basic Trainees (1965)	17.1	17.4	17.8	18.1	18.7	19.4	20.1	20.7	21.1	21.5	21.8	4.7
9	USAF Flying Pers. (1950)	17.5	17.7	18.0	18.3	18.8	19.4	20.0	20.5	20.8	21.2	21.5	4.0
10	US Army Men (1946)	16.6	17.0	17.5	17.9	18.6	19.4	20.1	20.8	21.2	21.7	22.0	5.4
11	Ft. Knox Foot Study (1946)	17.2	17.4	17.8	18.1	18.7	19.3	19.9	20.4	20.8	21.1	21.4	4.2
12	US Army Women (1988)	15.8	16.0	16.4	16.7	17.3	17.9	18.6	19.2	19.5	20.0	20.2	4.5
13	US Army Women (1977)	15.7	15.9	16.3	16.6	17.2	17.8	18.5	19.1	19.6	20.0	20.4	4.7
14	USAF WAF Trainees (1952)	15.4	15.6	16.0	16.3	16.7	17.3	17.9	18.3	18.6	18.9	19.1	3.7
15	US Army Women (1946)	15.6	15.9	16.3	16.6	17.1	17.7	18.3	18.9	19.2	19.6	19.9	4.3

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TABLE 100a. STATISTICAL VALUES FOR INTEROCULAR BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	3.33	0.01	0.28	0.00	8.33	2.3	4.4	2.1
2	USAF Basic Trainees (1965)	2527	3.15	0.01	0.28	0.00	8.89	2.4	4.2	1.8
3	US Navy Aviators (1964)	1549	3.21	0.01	0.29	0.01	9.00	2.0	4.4	2.4
4	USAF Flying Pers. (1950)	4000	3.17	0.00	0.25	0.00	7.89	2.2	4.0	1.8
5	US Army Men (1946)	24,359	3.24	0.00	0.31	0.00	9.57	2.0	4.8	2.8
6	CWS Face Study (1945)	3075	3.18	0.00	0.27	0.00	8.35	2.0	4.3	2.3
7	US Army Women (1946)	8116	3.16	0.00	0.30	0.00	9.65	2.0	4.4	2.4

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TABLE 100b. PERCENTILE VALUES FOR INTEROCULAR BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	2.7	2.8	2.9	3.0	3.1	3.3	3.5	3.7	3.8	3.9	4.0	1.3
2	USAF Basic Trainees (1965)	2.6	2.6	2.7	2.8	3.0	3.1	3.3	3.5	3.6	3.8	3.9	1.3
3	US Navy Aviators (1964)	2.5	2.6	2.7	2.8	3.0	3.2	3.4	3.6	3.7	3.8	3.9	1.4
4	USAF Flying Pers. (1950)	2.6	2.7	2.8	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.8	1.2
5	US Army Men (1946)	2.5	2.7	2.8	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.1	1.6
6	CWS Face Study (1945)	2.5	2.5	2.7	2.7	2.9	3.1	3.3	3.4	3.6	3.6	3.7	1.2
7	US Army Women (1946)	2.4	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.7	3.8	3.9	1.5

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TABLE 101a. STATISTICAL VALUES FOR INTERPUPILLARY BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1771	6.47	0.01	0.37	0.01	5.7	5.2	7.8	2.6
2	US Army Aviators (1970)	1482	5.91	0.01	0.36	0.01	6.09	4.9	7.2	2.3
3	USAF Flying Pers. (1967)	2420	6.27	0.01	0.36	0.01	5.77	5.1	7.7	2.6
4	US Army Men (1966)	6680	6.13	0.00	0.40	0.00	6.51	4.8	7.9	3.1
5	US Navy Recruits (1966)	4095	6.11	0.01	0.33	0.00	5.34	5.0	7.7	2.7
6	USA Basic Trainees (1966)	2638	6.10	0.01	0.41	0.01	6.69	4.8	7.7	2.9
7	US Marine Corps (1966)	2008	6.08	0.01	0.39	0.01	6.38	4.8	7.3	2.5
8	USAF Basic Trainees (1965)	2527	6.15	0.01	0.38	0.01	6.18	4.8	7.4	2.6
9	US Navy Aviators (1964)	1549	6.51	0.01	0.28	0.01	4.32	5.4	7.6	2.2
10	USAF Flying Pers. (1950)	4000	6.33	0.01	0.36	0.00	5.69	5.1	7.6	2.5
11	CWS Face Study (1945)	3075	6.28	0.01	0.38	0.00	6.11	4.7	7.9	3.2
12	US Army Women (1988)	2205	6.23	0.01	0.36	0.01	5.8	5.2	7.6	2.4
13	US Army Women (1977)	216	5.82	0.03	0.44	0.02	7.58	4.5	7.0	2.5

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TABLE 101b. PERCENTILE VALUES FOR INTERPUPILLARY BREADTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	5.7	5.8	5.9	6.0	6.2	6.5	6.7	7.0	7.1	7.3	7.4	1.7
2	US Army Aviators (1970)	5.1	5.2	5.3	5.5	5.7	5.9	6.1	6.4	6.5	6.7	6.9	1.8
3	USAF Flying Pers. (1967)	5.5	5.6	5.7	5.8	6.0	6.3	6.5	6.7	6.9	7.1	7.2	1.7
4	US Army Men (1966)	5.2	5.3	5.5	5.6	5.9	6.1	6.4	6.6	6.8	7.0	7.1	1.9
5	US Navy Recruits (1966)	5.4	5.4	5.6	5.7	5.9	6.1	6.3	6.5	6.6	6.8	6.9	1.5
6	USA Basic Trainees (1966)	5.2	5.3	5.4	5.6	5.8	6.1	6.4	6.6	6.8	7.0	7.1	1.9
7	US Marine Corps (1966)	5.2	5.3	5.4	5.6	5.8	6.1	6.4	6.6	6.7	6.9	7.0	1.8
8	USAF Basic Trainees (1965)	5.4	5.4	5.5	5.7	5.9	6.1	6.4	6.7	6.8	7.0	7.1	1.7
9	US Navy Aviators (1964)	5.9	6.0	6.1	6.2	6.3	6.5	6.7	6.9	7.0	7.1	7.3	1.4
10	USAF Flying Pers. (1950)	5.6	5.6	5.8	5.9	6.1	6.3	6.6	6.8	6.9	7.1	7.2	1.6
11	CWS Face Study (1945)	5.3	5.4	5.5	5.6	5.9	6.1	6.4	6.6	6.8	7.0	7.1	1.8
12	US Army Women (1988)	5.5	5.5	5.7	5.8	6.0	6.2	6.5	6.7	6.9	7.0	7.1	1.7
13	US Army Women (1977)	4.9	4.9	5.1	5.2	5.5	5.8	6.1	6.4	6.5	6.7	6.9	2.0

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TABLE 102a. STATISTICAL VALUES FOR INTERSCYE, BACK

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	40.15	0.07	3.14	0.05	7.8	28.5	54.1	25.6
2	US Army Aviators (1970)	1482	39.42	0.08	2.96	0.05	7.52	30.1	48.6	18.5
3	USAF Flying Pers. (1967)	2420	38.76	0.08	3.76	0.05	9.71	27.1	50.4	23.3
4	US Navy Recruits (1966)	4095	39.26	0.05	3.26	0.04	8.29	27.7	52.2	25.0
5	US Army Men (1966)	6682	39.10	0.04	3.16	0.03	8.07	27.5	51.4	23.9
6	USA Basic Trainees (1966)	2639	38.93	0.06	3.12	0.04	8.00	27.8	50.7	22.9
7	US Marine Corps (1966)	2008	38.72	0.07	3.04	0.05	7.85	29.6	52.8	23.2
8	USAF Basic Trainees (1965)	2527	37.30	0.06	2.91	0.04	7.80	27.2	49.2	22.0
9	US Navy Aviators (1964)	1549	41.13	0.08	3.04	0.05	7.38	30.8	53.6	22.8
10	US Army Men (1946)	24,432	37.63	0.02	3.00	0.01	7.97	24.5	50.5	26.0
11	US Army Women (1988)	2208	35.20	0.06	2.65	0.04	7.5	26.6	44.5	17.9
12	US Army Women (1977)	1331	37.86	0.06	2.35	0.05	6.22	30.5	47.7	17.2
13	USAF Women (1968)	1905	35.06	0.06	2.44	0.04	6.96	27.5	44.2	16.7
14	US Army Women (1946)	8120	34.40	0.03	2.75	0.02	8.11	23.0	45.0	22.0

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TABLE 102b. PERCENTILE VALUES FOR INTERSCYE, BACK

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	33.2	34.0	35.2	36.2	38.0	40.0	42.3	44.3	45.6	46.9	47.8	14.5
2	US Army Aviators (1970)	32.7	33.4	34.5	35.6	37.3	39.4	41.4	43.2	44.4	45.6	46.5	13.8
3	USAF Flying Pers. (1967)	29.8	30.9	32.5	33.9	36.2	38.8	41.4	43.7	45.0	46.5	47.5	17.7
4	US Navy Recruits (1966)	31.8	32.6	33.9	35.1	37.1	39.2	41.3	43.3	44.6	46.4	47.7	15.9
5	US Army Men (1966)	31.9	32.7	33.9	35.1	37.0	39.1	41.1	43.0	44.2	45.7	46.7	14.8
6	USA Basic Trainees (1966)	31.9	32.6	33.8	34.9	36.8	38.9	41.0	42.9	44.0	45.3	46.1	14.2
7	US Marine Corps (1966)	31.9	32.6	33.8	34.8	36.6	38.7	40.7	42.6	43.8	45.1	46.0	14.1
8	USAF Basic Trainees (1965)	31.1	31.7	32.8	33.7	35.3	37.2	39.2	41.1	42.3	43.7	44.7	13.6
9	US Navy Aviators (1964)	34.4	35.0	36.1	37.2	39.0	41.1	43.2	45.1	46.2	47.6	48.6	14.2
10	US Army Men (1946)	30.7	31.5	32.8	33.8	35.6	37.6	39.6	41.4	42.7	43.9	45.0	14.3
12	US Army Women (1977)	32.4	33.0	33.4	34.8	36.3	37.9	39.4	40.8	41.7	42.8	43.6	11.2
11	US Army Women (1988)	29.4	30.0	31.0	31.9	33.4	35.1	37.0	38.7	39.8	41.0	41.8	12.4
13	USAF Women (1968)	29.7	30.3	31.2	32.0	33.4	35.0	36.6	38.2	39.2	40.3	41.0	11.3
14	US Army Women (1946)	28.4	29.0	30.0	30.9	32.5	34.3	36.2	38.0	39.1	40.4	41.3	12.9

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TABLE 103a. STATISTICAL VALUES FOR INTERSCYE, MAXIMUM

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	55.89	0.09	3.45	0.06	6.17	44.5	67.8	23.3
2	USAF Flying Pers. (1967)	2420	61.54	0.06	3.02	0.04	4.90	49.5	71.3	21.8
3	US Navy Recruits (1966)	4095	53.46	0.06	3.79	0.04	7.09	40.7	67.5	26.8
4	US Army Men (1966)	6682	52.64	0.05	3.70	0.03	7.03	40.5	67.1	26.6
5	USA Basic Trainees (1966)	2639	52.41	0.07	3.47	0.05	6.61	40.8	65.7	24.9
6	US Marine Corps (1966)	2008	51.81	0.08	3.40	0.05	6.56	40.0	64.9	24.9
7	USAF Basic Trainees (1965)	2527	52.22	0.07	3.36	0.05	6.43	42.2	64.2	22.0
8	US Navy Aviators (1964)	1549	54.31	0.09	3.45	0.06	6.35	43.2	70.2	27.0
9	USAF Flying Pers. (1950)	4000	57.88	0.05	3.35	0.04	5.79	45.2	69.5	24.3
10	USAF Women (1968)	1905	49.39	0.08	3.29	0.05	6.66	37.4	60.5	23.1
11	USAF WAF Trainees (1952)	852	47.78	0.11	3.12	0.08	6.53	37.0	58.0	21.0

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TABLE 103b. PERCENTILE VALUES FOR INTERSCYE, MAXIMUM

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	47.5	48.7	50.3	51.6	53.6	55.8	58.1	60.4	61.7	63.3	64.2	16.7
2	USAF Flying Pers. (1967)	54.0	55.1	56.6	57.8	59.6	61.5	63.5	65.4	66.6	67.8	68.7	14.7
3	US Navy Recruits (1966)	44.8	46.0	47.5	48.8	50.9	53.3	55.9	58.4	59.9	61.5	62.5	17.7
4	US Army Men (1966)	43.7	44.8	46.4	47.9	50.1	52.6	55.0	57.3	58.7	60.4	61.6	17.9
5	USA Basic Trainees (1966)	44.4	45.4	46.8	48.1	50.1	52.3	54.7	56.9	58.3	59.9	60.9	16.5
6	US Marine Corps (1966)	43.9	44.8	46.2	47.4	49.5	51.8	54.1	56.1	57.4	58.9	59.8	15.9
7	USAF Basic Trainees (1965)	44.8	45.6	46.8	48.0	49.9	52.1	54.4	56.5	57.9	59.6	60.8	16.0
8	US Navy Aviators (1964)	46.6	47.4	48.6	49.8	51.9	54.3	56.7	58.8	60.0	61.2	62.1	15.5
9	USAF Flying Pers. (1950)	50.2	51.1	52.5	53.7	55.6	57.8	60.1	62.2	63.5	64.9	65.9	15.7
10	USAF Women (1968)	41.4	42.4	43.9	45.2	47.2	49.4	51.6	53.5	54.7	56.0	56.9	15.5
11	USAF WAF Trainees (1952)	39.8	41.1	42.7	44.0	46.0	48.2	50.3	52.2	53.3	54.6	55.4	15.6

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TABLE 104a. STATISTICAL VALUES FOR JUXTA-NIPPLE SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	1.36	0.01	0.67	0.01	49.24	0.3	4.4	4.1
2	USAF Basic Trainees (1965)	2527	0.66	0.00	0.25	0.00	37.88	0.2	2.5	2.4
3	US Navy Aviators (1964)	1549	1.18	0.01	0.49	0.01	41.73	0.2	2.9	2.7

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TABLE 104b. PERCENTILE VALUES FOR JUXTA-NIPPLE SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	0.37	0.38	0.45	0.56	0.83	1.26	1.79	2.30	2.61	2.94	3.13	2.76
2	USAF Basic Trainees (1965)	0.28	0.31	0.36	0.40	0.49	0.61	0.77	0.98	1.13	1.32	1.47	1.19
3	US Navy Aviators (1964)	0.39	0.40	0.47	0.57	0.80	1.13	1.51	1.86	2.08	2.32	2.48	2.09

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TABLE 105a. STATISTICAL VALUES FOR KNEE CIRCUMFERENCE, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	39.30	0.04	2.12	0.03	5.40	33.5	48.6	15.1
2	USAF Basic Trainees (1965)	2527	38.12	0.05	2.37	0.03	6.22	32.0	48.7	16.7
3	USAF Flying Pers. (1950)	4000	39.05	0.04	2.25	0.03	5.76	32.3	47.8	15.5
4	USAF WAF Trainees (1952)	850	37.29	0.09	2.69	0.06	7.21	28.0	49.0	21.0

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TABLE 105b. PERCENTILE VALUES FOR KNEE CIRCUMFERENCE, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	34.8	35.2	36.0	36.7	37.8	39.2	40.7	42.1	43.0	44.0	44.7	9.9
2	USAF Basic Trainees (1965)	33.7	34.1	34.7	35.3	36.5	37.9	39.5	41.2	42.4	43.9	45.0	11.3
3	USAF Flying Pers. (1950)	34.3	34.8	35.5	36.2	37.5	38.9	40.5	42.0	43.0	44.1	44.9	10.6
4	USAF WAF Trainees (1952)	31.7	32.6	33.6	34.3	35.5	37.0	38.8	40.8	42.2	43.9	45.3	13.6

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TABLE 106a. STATISTICAL VALUES FOR KNEE CIRCUMFERENCE, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	38.64	0.05	2.21	0.04	5.7	31.7	46.4	14.7
2	USAF Flying Pers. (1967)	2420	38.68	0.04	2.07	0.03	5.36	31.5	48.2	16.7
3	USAF Basic Trainees (1965)	2527	37.41	0.04	2.21	0.03	5.91	30.4	47.1	16.7
4	US Army Women (1988)	2208	36.52	0.05	2.33	0.04	6.4	30.2	46.1	15.9
5	US Army Women (1977)	1331	34.83	0.06	2.26	0.04	6.49	28.8	45.6	16.8
6	USAF Women (1968)	1905	36.30	0.05	2.27	0.04	6.25	30.6	45.7	15.1

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TABLE 106b. PERCENTILE VALUES FOR KNEE CIRCUMFERENCE, STANDING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	33.7	34.2	35.1	35.8	37.1	38.6	40.1	41.5	42.4	43.4	44.1	10.4
2	USAF Flying Pers. (1967)	34.0	34.6	35.4	36.1	37.3	38.6	40.0	41.4	42.2	43.2	43.8	9.8
3	USAF Basic Trainees (1965)	33.2	33.6	34.2	34.8	35.9	37.2	38.7	40.3	41.4	42.8	43.9	10.7
4	US Army Women (1988)	31.6	32.1	32.9	33.7	34.9	36.4	37.9	39.5	40.6	42.0	43.0	11.4
5	US Army Women (1977)	30.2	30.6	31.2	32.0	33.3	34.7	36.2	37.7	38.7	40.0	41.0	10.8
6	USAF Women (1968)	31.7	32.1	32.8	33.5	34.7	36.2	37.7	39.3	40.2	41.4	42.3	10.6

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TABLE 107a. STATISTICAL VALUES FOR KNEE (FEMORAL) BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Aviators (1970)	1482	9.40	0.01	0.44	0.01	4.65	8.3	10.8	2.5
2	USAF Flying Pers. (1967)	2420	9.98	0.01	0.45	0.01	4.51	8.5	11.6	3.1
3	USAF Basic Trainees (1965)	2527	9.63	0.01	0.49	0.01	5.09	8.1	12.1	4.1
4	USAF Women (1968)	1905	8.12	0.01	0.45	0.01	5.54	6.7	9.9	3.2

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TABLE 107b. PERCENTILE VALUES FOR KNEE (FEMORAL) BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	8.4	8.5	8.7	8.8	9.1	9.4	9.7	10.0	10.1	10.3	10.4	2.0
2	USAF Flying Pers. (1967)	9.0	9.1	9.3	9.4	9.7	10.0	10.3	10.6	10.7	11.0	11.1	2.1
3	USAF Basic Trainees (1965)	8.6	8.7	8.9	9.0	9.3	9.6	9.9	10.3	10.5	10.7	10.9	2.3
4	USAF Women (1968)	7.0	7.2	7.4	7.6	7.8	8.1	8.4	8.7	8.9	9.1	9.2	2.2

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TABLE 108a. STATISTICAL VALUES FOR KNEE HEIGHT, MIDPATELLA

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	50.48	0.07	2.76	0.05	5.5	40.6	62.0	21.4
2	USAF Flying Pers. (1967)	2420	49.65	0.05	2.49	0.04	4.7	41.6	58.6	17.0
3	US Army Women (1988)	2208	45.87	0.06	2.61	0.04	5.7	35.8	58.4	22.6

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TABLE 108b. PERCENTILE VALUES FOR KNEE HEIGHT, MIDPATELLA

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	44.3	45.1	46.1	47.0	48.6	50.4	52.3	54.1	55.2	56.2	56.8	12.5
2	USAF Flying Pers. (1967)	44.0	44.7	45.7	46.5	48.0	49.6	51.3	52.9	53.9	55.0	55.7	11.7
3	US Army Women (1988)	39.9	40.6	41.7	42.6	44.1	45.8	47.6	49.2	50.3	51.5	52.3	12.3

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TABLE 109a. STATISTICAL VALUES FOR KNEE HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	55.88	0.07	2.79	0.05	5.0	45.4	67.5	22.1
2	US Army Aviators (1970)	1482	53.01	0.07	2.57	0.05	4.84	45.6	62.5	16.9
3	USAF Flying Pers. (1967)	2420	55.76	0.05	2.49	0.04	4.47	47.7	64.2	16.5
4	US Marine Corps (1966)	2008	54.23	0.06	2.63	0.04	4.84	45.8	63.7	17.9
5	US Army Men (1966)	6682	54.06	0.03	2.73	0.02	5.05	44.3	64.5	20.2
6	USA Basic Trainees (1966)	2639	54.02	0.05	2.63	0.04	4.87	46.2	64.2	18.0
7	US Navy Recruits (1966)	4095	53.68	0.04	2.64	0.03	4.92	44.4	63.5	19.1
8	USAF Basic Trainees (1965)	2527	55.36	0.05	2.63	0.04	4.75	46.0	64.7	18.7
9	US Navy Aviators (1964)	1549	55.48	0.06	2.48	0.04	4.47	48.2	63.8	15.6
10	USAF Flying Pers. (1950)	4000	55.04	0.04	2.48	0.03	4.51	45.7	63.7	18.0
11	US Army Men (1946)	24,419	54.91	0.02	2.76	0.01	5.03	39.0	69.0	30.0
12	US Army Women (1988)	2208	51.54	0.06	2.63	0.04	5.1	40.6	63.3	22.7
13	US Army Women (1977)	1331	50.99	0.07	2.60	0.05	5.11	43.4	60.7	17.3
14	US Army Women (1946)	8117	47.67	0.03	2.39	0.02	5.07	38.0	57.0	19.0

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TABLE 109b. PERCENTILE VALUES FOR KNEE HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	49.7	50.4	51.4	52.4	54.0	55.8	57.8	59.5	60.6	61.7	62.3	12.7
2	US Army Aviators (1970)	47.2	47.9	48.9	49.8	51.3	52.9	54.6	56.3	57.4	58.7	59.7	12.5
3	USAF Flying Pers. (1967)	50.1	50.8	51.7	52.6	54.1	55.7	57.4	59.0	59.9	61.1	61.9	11.8
4	US Marine Corps (1966)	48.4	49.0	50.0	50.8	52.4	54.2	56.0	57.7	58.6	59.6	60.3	11.8
5	US Army Men (1966)	47.7	48.5	49.7	50.7	52.2	54.0	55.9	57.6	58.7	59.9	60.6	12.9
6	USA Basic Trainees (1966)	48.0	48.8	49.8	50.8	52.2	53.9	55.8	57.5	58.6	59.7	60.4	12.4
7	US Navy Recruits (1966)	47.8	48.5	49.5	50.4	51.9	53.6	55.4	57.1	58.2	59.4	60.2	12.4
8	USAF Basic Trainees (1965)	49.4	50.1	51.2	52.1	53.6	55.3	57.1	58.7	59.8	61.1	62.0	12.6
9	US Navy Aviators (1964)	50.1	50.6	51.5	52.3	53.7	55.4	57.2	58.8	59.7	60.7	61.4	11.3
10	USAF Flying Pers. (1950)	49.5	50.1	51.0	51.9	53.4	55.0	56.7	58.2	59.1	60.2	60.9	11.4
11	US Army Men (1946)	48.3	49.0	50.3	51.3	53.1	54.9	56.9	58.7	59.7	61.0	61.7	13.4
12	US Army Women (1988)	45.5	46.3	47.4	48.3	49.8	51.4	53.3	55.0	56.0	57.1	57.8	12.3
13	US Army Women (1977)	45.5	46.0	46.9	47.7	49.2	50.9	52.7	54.4	55.5	56.6	57.3	11.8
14	US Army Women (1946)	42.2	42.7	43.7	44.6	46.1	47.7	49.2	50.7	51.6	52.8	53.6	11.4

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TABLE 110a. STATISTICAL VALUES FOR KNEECAP (PATELLA) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	51.21	0.07	2.71	0.05	5.29	43.2	61.7	18.5
2	USAF Flying Pers. (1967)	2420	52.62	0.05	2.56	0.04	4.86	44.1	61.2	17.1
3	USA Basic Trainees (1966)	2639	53.00	0.06	3.14	0.04	5.93	42.8	64.2	21.4
4	US Navy Recruits (1966)	4095	52.87	0.05	3.08	0.03	5.83	43.2	64.5	21.3
5	US Army Men (1966)	6682	52.86	0.04	3.25	0.03	6.14	43.2	63.9	20.7
6	US Marine Corps (1966)	2008	52.78	0.08	3.36	0.05	6.38	42.9	64.1	21.2
7	USAF Basic Trainees (1965)	2527	52.58	0.06	2.78	0.04	5.29	42.2	63.7	21.5
8	US Navy Aviators (1964)	1549	53.28	0.07	2.66	0.05	5.00	45.8	62.6	16.8
9	USAF Flying Pers. (1950)	4000	51.34	0.04	2.58	0.03	5.03	41.6	59.3	17.7
10	US Army Women (1977)	1331	47.90	0.07	2.65	0.05	5.53	39.4	58.1	18.7
11	USAF WAF Trainees (1952)	847	48.76	0.12	3.43	0.08	7.03	32.0	62.0	30.0

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TABLE 110b. PERCENTILE VALUES FOR KNEECAP (PATELLA) HEIGHT

No.	Series	Percentiles in Centimeters											
							Median						Range
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	45.3	45.9	46.8	47.8	49.3	51.2	53.0	54.7	55.7	56.9	57.7	12.4
2	USAF Flying Pers. (1967)	46.8	47.5	48.5	49.4	50.9	52.6	54.3	55.9	56.9	58.1	58.9	12.1
3	USA Basic Trainees (1966)	45.9	46.7	47.9	49.0	50.8	53.0	55.1	57.1	58.2	59.6	60.5	14.6
5	US Army Men (1966)	45.5	46.4	47.6	48.7	50.6	52.8	55.0	57.1	58.4	59.8	60.7	15.2
4	US Navy Recruits (1966)	45.9	46.8	48.0	49.0	50.8	52.8	54.9	57.0	58.2	59.5	60.3	14.4
6	US Marine Corps (1966)	45.6	46.3	47.5	48.5	50.4	52.6	55.0	57.3	58.6	60.1	61.1	15.5
7	USAF Basic Trainees (1965)	46.4	47.0	48.1	49.1	50.7	52.5	54.3	56.1	57.2	58.8	59.9	13.5
8	US Navy Aviators (1964)	47.5	48.0	49.0	49.8	51.4	53.2	55.1	56.8	57.8	58.9	59.7	12.2
9	USAF Flying Pers. (1950)	45.6	46.2	47.2	48.1	49.6	51.3	53.1	54.7	55.7	56.9	57.6	12.0
10	US Army Women (1977)	42.1	42.8	43.8	44.6	46.0	47.8	49.7	51.5	52.5	53.6	54.2	12.1
11	USAF WAF Trainees (1952)	38.6	40.6	43.0	44.8	47.0	49.0	51.0	52.8	54.2	55.8	57.2	18.6

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TABLE 111a. STATISTICAL VALUES FOR KNEE-TO-KNEE BREADTH, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Basic Trainees (1965)	2527	21.35	0.04	1.82	0.03	8.52	17.2	29.1	11.9
2	USAF Flying Pers. (1950)	4000	20.11	0.02	1.25	0.01	6.22	16.5	26.1	9.6

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TABLE 111b. PERCENTILE VALUES FOR KNEE-TO-KNEE BREADTH, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Basic Trainees (1965)	18.2	18.5	18.9	19.3	20.1	21.1	22.4	23.8	24.8	26.1	27.0	8.8
2	USAF Flying Pers. (1950)	17.6	17.9	18.3	18.6	19.2	20.0	20.9	21.8	22.4	23.1	23.6	6.0

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TABLE 112a. STATISTICAL VALUES FOR KNUCKLE (METACARPALE III) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1950)	4000	76.32	0.06	3.64	0.04	4.77	63.8	89.7	25.9
2	US Army Women (1977)	255	70.99	0.25	3.97	0.18	5.59	58.8	83.5	24.7

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TABLE 112b. PERCENTILE VALUES FOR KNUCKLE (METACARPALE III) HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1950)	68.1	69.0	70.4	71.6	73.8	76.3	78.8	81.0	82.3	83.9	84.9	16.8
2	US Army Women (1977)	61.9	63.0	64.6	66.0	68.3	70.9	73.7	76.1	77.5	78.8	79.5	17.6

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TABLE 113a. STATISTICAL VALUES FOR LATERAL MALLEOLUS HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	6.71	0.01	0.55	0.01	8.1	5.2	9.3	4.1
2	USAF Flying Pers. (1967)	2420	7.04	0.01	0.54	0.01	7.68	5.4	8.9	3.5
3	USAF Basic Trainees (1965)	2527	7.16	0.01	0.63	0.01	8.80	5.0	10.0	5.0
4	USAF Flying Pers. (1950)	4000	6.94	0.01	0.56	0.01	8.07	5.1	9.0	3.9
5	US Army Women (1988)	2208	6.06	0.01	0.53	0.01	8.8	4.2	8.3	4.1
6	USAF Women (1968)	1905	6.77	0.01	0.59	0.01	8.71	4.9	8.7	3.8

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TABLE 113b. PERCENTILE VALUES FOR LATERAL MALLEOLUS HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	5.5	5.6	5.8	6.0	6.3	6.7	7.1	7.4	7.6	7.9	8.1	2.6
2	USAF Flying Pers. (1967)	5.8	5.9	6.2	6.4	6.7	7.0	7.4	7.7	8.0	8.2	8.4	2.6
3	USAF Basic Trainees (1965)	5.7	5.9	6.1	6.3	6.7	7.1	7.6	8.0	8.2	8.5	8.7	3.0
4	USAF Flying Pers. (1950)	5.7	5.9	6.0	6.2	6.6	6.9	7.3	7.7	7.9	8.2	8.4	2.7
5	US Army Women (1988)	5.0	5.1	5.2	5.4	5.7	6.0	6.4	6.8	7.0	7.2	7.4	2.4
6	USAF Women (1968)	5.3	5.5	5.8	6.0	6.4	6.8	7.2	7.6	7.8	8.1	8.3	3.0

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TABLE 114a. STATISTICAL VALUES FOR LIP-TO-LIP LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	1.73	0.01	0.38	0.01	22.12	0.3	3.2	2.9
2	USAF Basic Trainees (1965)	2527	1.92	0.01	0.40	0.01	20.83	0.6	3.4	2.8
3	US Navy Aviators (1964)	1549	1.66	0.01	0.36	0.01	21.79	0.6	2.8	2.2
4	USAF Flying Pers. (1950)	4000	1.62	0.00	0.31	0.00	19.14	0.4	2.8	2.4

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TABLE 114b. PERCENTILE VALUES FOR LIP-TO-LIP LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	0.7	0.9	1.1	1.2	1.5	1.8	2.0	2.2	2.3	2.5	2.6	1.9
2	USAF Basic Trainees (1965)	1.1	1.2	1.4	1.5	1.6	1.9	2.2	2.5	2.7	2.9	3.1	2.0
3	US Navy Aviators (1964)	0.8	0.9	1.0	1.2	1.4	1.7	1.9	2.1	2.2	2.4	2.5	1.7
4	USAF Flying Pers. (1950)	0.9	1.0	1.1	1.2	1.4	1.6	1.8	2.0	2.1	2.3	2.3	1.4

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TABLE 115a. STATISTICAL VALUES FOR LIP PROTRUSION TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	21.16	0.02	0.86	0.01	4.05	18.6	24.0	5.4
2	USAF Basic Trainees (1965)	2527	20.45	0.02	0.90	0.01	4.40	17.6	24.1	6.5
3	US Army Women (1977)	216	20.10	0.08	1.15	0.06	5.75	17.5	24.2	6.7
4	USAF Women (1968)	1905	19.30	0.02	1.06	0.02	5.49	16.8	24.1	7.3

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TABLE 115b. PERCENTILE VALUES FOR LIP PROTRUSION TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	19.1	19.4	19.7	20.0	20.6	21.2	21.8	22.3	22.5	22.8	23.0	3.9
2	USAF Basic Trainees (1965)	18.4	18.7	19.0	19.3	19.8	20.4	21.1	21.6	22.0	22.4	22.6	4.2
3	US Army Women (1977)	18.0	18.2	18.5	18.8	19.3	20.0	20.8	21.6	22.2	23.0	23.7	5.7
4	USAF Women (1968)	17.1	17.4	17.7	18.0	18.6	19.2	19.9	20.7	21.2	21.8	22.3	5.2

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TABLE 116a. STATISTICAL VALUES FOR LOWER THIGH CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	39.18	0.06	2.71	0.05	6.9	30.1	49.0	18.9
2	US Army Aviators (1970)	1482	39.32	0.08	3.09	0.06	7.85	30.6	50.4	19.8
3	US Navy Recruits (1966)	4095	41.49	0.07	4.23	0.05	10.19	29.7	56.6	26.9
4	US Army Men (1966)	6682	40.36	0.05	3.87	0.03	9.58	29.1	56.2	27.1
5	US Marine Corps (1966)	2008	40.05	0.07	3.20	0.05	8.00	30.5	53.2	22.7
6	USA Basic Trainees (1966)	2639	39.38	0.07	3.78	0.05	9.61	28.8	52.7	23.9
7	USAF Basic Trainees (1965)	2527	41.27	0.07	3.66	0.05	8.87	30.8	54.7	23.9
8	US Navy Aviators (1964)	1549	40.57	0.08	2.97	0.05	7.32	31.2	52.2	21.0
9	USAF Flying Pers. (1950)	4000	43.95	0.05	3.46	0.04	7.87	33.2	56.5	23.3
10	US Army Men (1946)	24,711	37.40	0.01	2.68	0.00	7.16	29.2	50.2	21.0
11	US Army Women (1988)	2208	37.75	0.06	2.76	0.04	7.3	30.3	49.2	18.9
12	USAF WAF Trainees (1952)	849	37.57	0.09	2.69	0.07	7.15	31.0	47.0	16.0

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TABLE 116b. PERCENTILE VALUES FOR LOWER THIGH CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	33.1	33.8	34.8	35.7	37.3	39.2	41.0	42.7	43.7	44.9	45.7	12.6
2	US Army Aviators (1970)	32.5	33.2	34.3	35.4	37.2	39.3	41.4	43.2	44.4	45.9	46.9	14.4
3	US Navy Recruits (1966)	33.3	34.0	35.2	36.3	38.4	41.1	44.2	47.2	49.1	51.2	52.6	19.3
4	US Army Men (1966)	32.7	33.4	34.4	35.5	37.5	40.1	43.0	35.6	47.2	48.9	49.9	17.2
5	US Marine Corps (1966)	33.7	34.3	35.3	36.2	37.8	39.8	42.0	44.2	45.7	47.7	49.1	15.4
6	USA Basic Trainees (1966)	32.0	32.8	33.9	34.8	36.6	39.0	41.8	44.6	46.3	48.1	49.2	17.2
7	USAF Basic Trainees (1965)	34.1	34.9	35.9	36.9	38.6	40.9	43.5	46.3	48.0	50.0	51.4	17.3
8	US Navy Aviators (1964)	34.2	34.8	35.9	36.8	38.5	40.5	52.5	44.4	45.6	46.9	47.8	13.6
9	USAF Flying Pers. (1950)	36.2	37.0	38.3	39.5	41.6	43.9	46.3	48.4	49.8	51.4	52.5	16.3
10	US Army Men (1946)	31.8	32.3	33.3	34.0	35.6	37.3	39.1	40.9	42.2	43.7	44.7	12.9
11	US Army Women (1988)	31.9	32.5	33.5	34.3	35.9	37.6	39.5	41.3	42.5	44.0	45.1	13.2
12	USAF WAF Trainees (1952)	32.1	32.6	33.5	34.2	35.7	37.4	39.3	41.0	42.2	43.4	44.4	12.3

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TABLE 117a. STATISTICAL VALUES FOR MAXIMUM FRONTAL BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	11.33	0.01	0.52	0.01	4.6	9.5	13.4	3.9
2	USAF Flying Pers. (1967)	2420	11.60	0.01	0.46	0.01	3.93	9.6	13.1	3.5
3	USAF Basic Trainees (1965)	2527	11.45	0.01	0.48	0.01	4.19	9.6	13.1	3.1
4	US Navy Aviators (1964)	1549	12.26	0.02	0.72	0.01	5.86	10.2	15.2	5.0
5	USAF Flying Pers. (1950)	4000	11.96	0.01	0.50	0.01	4.18	10.2	13.9	3.7
6	US Army Women (1988)	2208	11.13	0.01	0.54	0.01	4.8	9.2	13.4	4.2

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TABLE 117b. PERCENTILE VALUES FOR MAXIMUM FRONTAL BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	10.2	10.3	10.5	10.7	11.0	11.3	11.7	12.0	12.2	12.5	12.7	2.5
2	USAF Flying Pers. (1967)	10.5	10.7	10.9	11.0	11.3	11.6	11.9	12.2	12.4	12.6	12.7	2.2
3	USAF Basic Trainees (1965)	10.3	10.5	10.7	10.8	11.1	11.4	11.8	12.1	12.3	12.4	12.6	2.3
4	US Navy Aviators (1964)	10.9	11.0	11.2	11.4	11.7	12.2	12.7	13.2	13.6	14.0	14.2	3.3
5	USAF Flying Pers. (1950)	10.8	11.0	11.2	11.3	11.6	12.0	12.3	12.6	12.8	13.0	13.2	2.4
6	US Army Women (1988)	9.9	10.0	10.3	10.5	10.8	11.1	11.5	11.8	12.0	12.3	12.4	2.6

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TABLE 118a. STATISTICAL VALUES FOR MEDIAL CALF SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	0.96	0.01	0.46	0.01	47.89	0.1	3.4	3.3
2	USAF Women (1968)	1905	1.59	0.01	0.52	0.01	32.70	0.2	3.7	3.6

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TABLE 118b. PERCENTILE VALUES FOR MEDIAL CALF SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters											
							Median						Range
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	0.28	0.30	0.35	0.43	0.61	0.89	1.24	1.59	1.82	2.07	2.24	1.96
2	USAF Women (1968)	0.24	0.46	0.74	0.95	1.26	1.57	1.90	2.24	2.46	2.72	2.90	2.66

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TABLE 119a. STATISTICAL VALUES FOR MEDIAL MALLEOLUS HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	8.57	0.01	0.57	0.01	6.62	6.8	10.4	3.6
2	USAF Basic Trainees (1965)	2527	8.32	0.01	0.61	0.01	7.33	5.8	10.9	5.1
3	USAF Flying Pers. (1950)	4000	8.78	0.01	0.53	0.01	6.04	6.9	10.9	4.0
4	USAF WAF Trainees (1952)	845	6.03	0.01	0.39	0.01	6.52	4.5	7.2	2.7

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TABLE 119b. PERCENTILE VALUES FOR MEDIAL MALLEOLUS HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	7.3	7.4	7.6	7.8	8.2	8.6	9.0	9.3	9.5	9.7	9.9	2.6
2	USAF Basic Trainees (1965)	7.0	7.1	7.3	7.5	7.9	8.3	8.7	9.1	9.3	9.6	9.8	2.8
3	USAF Flying Pers. (1950)	7.6	7.7	7.9	8.1	8.4	8.8	9.1	9.5	9.7	9.9	10.1	2.5
4	USAF WAF Trainees (1952)	5.0	5.2	5.4	5.5	5.8	6.1	6.3	6.5	6.6	6.9	7.1	2.1

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TABLE 120a. STATISTICAL VALUES FOR MENTON TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	18.24	0.02	1.05	0.02	5.7	14.3	21.3	7.0
2	USAF Flying Pers. (1967)	2420	20.47	0.02	1.05	0.02	5.11	17.0	24.0	7.0
3	USAF Basic Trainees (1965)	2527	18.43	0.02	1.07	0.02	5.81	14.4	22.5	8.1
4	US Army Women (1988)	2208	17.33	0.02	0.98	0.01	5.6	14.1	21.0	6.9
5	US Army Women (1977)	216	19.47	0.07	1.10	0.05	5.65	17.0	22.8	5.8
6	USAF Women (1968)	1905	18.23	0.03	1.14	0.02	6.25	15.0	22.9	7.9

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TABLE 120b. PERCENTILE VALUES FOR MENTON TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	15.7	16.1	16.5	16.9	17.6	18.2	18.9	19.6	20.0	20.4	20.7	5.0
2	USAF Flying Pers. (1967)	18.0	18.3	18.7	19.1	19.8	20.5	21.2	21.8	22.2	22.6	22.9	4.9
3	USAF Basic Trainees (1965)	16.0	16.2	16.7	17.1	17.7	18.5	19.1	19.8	20.2	20.7	21.0	5.0
4	US Army Women (1988)	15.2	15.4	15.8	16.1	16.7	17.3	18.0	18.6	18.9	19.3	19.6	4.4
5	US Army Women (1977)	17.2	17.4	17.8	18.2	18.7	19.4	20.2	20.9	21.4	22.0	22.4	5.2
6	USAF Women (1968)	15.8	16.1	16.5	16.9	17.5	18.2	18.9	19.7	20.2	20.8	21.2	5.4

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TABLE 12la. STATISTICAL VALUES FOR MENTON TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	23.20	0.02	0.88	0.01	3.8	20.6	26.6	6.0
2	USAF Flying Pers. (1967)	2420	22.77	0.02	1.02	0.01	4.49	19.1	26.0	6.9
3	USAF Basic Trainees (1965)	2527	22.79	0.02	0.92	0.01	4.04	19.2	26.6	7.4
4	US Navy Aviators (1964)	1549	22.18	0.03	1.02	0.02	4.61	18.4	25.4	7.0
5	US Army Women (1988)	2208	21.76	0.02	0.85	0.01	3.9	18.7	24.5	5.8
6	US Army Women (1977)	216	20.88	0.07	1.02	0.05	4.88	18.5	25.1	6.6
7	USAF Women (1968)	1905	21.91	0.03	1.14	0.02	5.20	18.4	26.8	8.4

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TABLE 121b. PERCENTILE VALUES FOR MENTON TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	21.2	21.4	21.8	22.1	22.6	23.2	23.8	24.3	24.7	25.1	25.5	4.3
2	USAF Flying Pers. (1967)	20.4	20.7	21.1	21.4	22.1	22.8	23.5	24.1	24.5	24.9	25.1	4.7
3	USAF Basic Trainees (1965)	20.7	20.9	21.3	21.6	22.2	22.8	23.4	24.0	24.4	24.8	25.0	4.3
4	US Navy Aviators (1964)	19.7	20.0	20.5	20.9	21.5	22.2	22.9	23.5	23.9	24.2	24.5	4.8
5	US Army Women (1988)	19.8	20.0	20.4	20.7	21.2	21.8	22.3	22.8	23.2	23.5	23.8	4.0
6	US Army Women (1977)	18.7	18.9	19.3	19.6	20.2	20.8	21.6	22.2	22.6	23.0	23.3	4.6
7	USAF Women (1968)	19.2	19.6	20.1	20.5	21.2	21.9	22.6	23.4	23.8	24.3	24.6	5.4

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TABLE 122a. STATISTICAL VALUES FOR MENTON-CRINION LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1747	19.08	0.03	1.05	0.02	5.5	15.6	22.3	6.8
2	USAF Flying Pers. (1950)	3437	18.68	0.02	0.90	0.01	4.82	15.7	21.7	6.0
3	CWS Face Study (1945)	3075	18.54	0.02	0.93	0.01	5.00	15.2	23.1	7.9
4	US Army Women (1988)	2206	17.65	0.02	0.96	0.01	5.4	14.4	20.8	6.4
5	US Army Women (1977)	216	17.58	0.06	0.83	0.04	4.71	15.2	20.2	5.0

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TABLE 122b. PERCENTILE VALUES FOR MENTON-CRINION LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	16.6	16.9	17.4	17.8	18.4	19.1	19.8	20.5	20.9	21.3	21.6	5.0
2	USAF Flying Pers. (1950)	16.7	16.9	17.2	17.5	18.1	18.7	19.3	19.8	20.2	20.6	20.9	4.2
3	CWS Face Study (1945)	16.1	16.4	16.7	17.1	17.7	18.3	18.9	19.5	19.8	20.2	20.4	4.3
4	US Army Women (1988)	15.5	15.7	16.1	16.4	17.0	17.7	18.3	18.9	19.2	19.6	19.9	4.4
5	US Army Women (1977)	15.7	15.9	16.2	16.5	17.0	17.6	18.1	18.6	19.0	19.3	19.5	3.8

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TABLE 123a. STATISTICAL VALUES FOR MENTON-SUBNASALE LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	7.35	0.01	0.56	0.01	7.6	5.6	9.7	4.1
2	USAF Flying Pers. (1967)	2420	6.90	0.01	0.53	0.01	7.63	5.3	8.9	3.6
3	USAF Basic Trainees (1965)	2527	7.08	0.01	0.60	0.01	8.47	4.8	9.5	4.7
4	US Navy Aviators (1964)	1549	7.02	0.02	0.59	0.01	8.42	5.2	9.0	3.8
5	USAF Flying Pers. (1950)	4000	6.67	0.01	0.69	0.01	10.34	4.6	8.9	4.3
6	CWS Face Study (1945)	3075	7.15	0.01	0.59	0.01	8.26	3.9	9.8	5.9
7	US Army Women (1988)	2208	6.88	0.01	0.54	0.01	7.8	4.8	8.8	4.0
8	USAF Women (1968)	1905	5.54	0.01	0.51	0.01	9.21	4.0	7.5	3.5

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TABLE 123b. PERCENTILE VALUES FOR MENTON-SUBNASALE LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	6.1	6.3	6.5	6.7	7.0	7.3	7.7	8.1	8.3	8.6	8.7	2.6
2	USAF Flying Pers. (1967)	5.7	5.8	6.1	6.2	6.5	6.9	7.3	7.6	7.8	8.0	8.1	2.4
3	USAF Basic Trainees (1965)	5.8	5.9	6.1	6.3	6.7	7.1	7.5	7.9	8.1	8.4	8.6	2.8
4	US Navy Aviators (1964)	5.6	5.8	6.0	6.2	6.6	7.0	7.4	7.8	8.0	8.2	8.4	2.8
5	USAF Flying Pers. (1950)	5.2	5.3	5.6	5.8	6.2	6.7	7.1	7.6	7.8	8.1	8.3	3.1
6	CWS Face Study (1945)	5.6	5.7	6.0	6.2	6.6	6.9	7.3	7.7	8.0	8.2	8.4	2.8
7	US Army Women (1988)	5.7	5.8	6.0	6.2	6.5	6.9	7.2	7.6	7.8	8.1	8.3	2.6
8	USAF Women (1968)	4.3	4.5	4.7	4.9	5.2	5.5	5.9	6.2	6.4	6.6	6.8	2.5

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TABLE 124a. STATISTICAL VALUES FOR MID-AXILLARY LINE AT XIPHOID LEVEL SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	1.21	0.01	0.57	0.01	47.01	0.3	3.8	3.5
2	USAF Basic Trainees (1965)	2527	0.80	0.01	0.47	0.01	58.75	0.3	3.4	3.2

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TABLE 124b. PERCENTILE VALUES FOR MID-AXILLARY LINE AT XIPHOID LEVEL SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	0.38	0.41	0.48	0.56	0.77	1.10	1.43	2.00	2.29	2.64	2.88	2.50
2	USAF Basic Trainees (1965)	0.26	0.36	0.42	0.44	0.47	0.62	0.97	1.47	1.82	2.24	2.51	2.25

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TABLE 125a. STATISTICAL VALUES FOR MID-SHOULDER HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	63.03	0.07	2.82	0.05	4.5	53.8	73.0	19.2
2	US Army Aviators (1970)	1482	62.90	0.07	2.77	0.05	4.41	50.9	71.1	20.2
3	USAF Flying Pers. (1967)	2420	64.59	0.06	2.74	0.04	4.24	54.0	74.6	20.6
4	US Navy Recruits (1966)	4095	62.71	0.05	3.01	0.03	4.79	50.9	73.1	22.2
5	USA Basic Trainees (1966)	2639	62.70	0.06	2.93	0.04	4.68	52.2	73.2	21.0
6	US Army Men (1966)	6682	62.38	0.04	3.18	0.03	5.09	50.8	73.1	22.3
7	US Marine Corps (1966)	2008	62.38	0.07	3.19	0.05	5.11	51.7	71.3	19.6
8	USAF Basic Trainees (1965)	2527	63.00	0.06	2.94	0.04	4.67	53.8	71.7	17.9
9	US Army Women (1988)	2208	58.40	0.06	2.77	0.04	4.7	48.8	69.4	20.6
10	USAF Women (1968)	1905	58.00	0.06	2.66	0.04	4.59	51.0	67.2	16.2

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TABLE 125b. PERCENTILE VALUES FOR MID-SHOULDER HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	56.3	57.1	58.3	59.4	61.1	63.0	65.0	66.7	67.7	68.7	69.4	13.1
2	US Army Aviators (1970)	56.3	57.2	58.3	59.4	61.0	62.9	64.8	66.5	67.5	68.6	69.3	13.0
3	USAF Flying Pers. (1967)	58.3	59.1	60.2	61.2	62.7	64.5	66.4	68.2	69.2	70.4	71.1	12.8
4	US Navy Recruits (1966)	55.6	56.5	57.8	58.9	60.7	62.7	64.7	66.6	67.8	69.0	69.8	14.2
5	USA Basic Trainees (1966)	55.8	56.7	58.0	59.0	60.7	62.7	64.6	66.5	67.6	68.9	69.7	13.9
6	US Army Men (1966)	54.5	55.6	57.1	58.4	60.3	62.4	64.5	66.5	67.6	68.9	69.7	15.2
7	US Marine Corps (1966)	54.9	55.8	57.2	58.3	60.2	62.4	64.6	66.6	67.7	68.8	69.5	14.6
8	USAF Basic Trainees (1965)	56.1	56.9	58.1	59.2	61.0	63.0	65.0	66.8	67.8	69.1	70.0	13.9
9	US Army Women (1988)	52.3	52.9	53.9	54.8	56.5	58.4	60.3	62.1	63.1	64.1	64.7	12.4
10	USAF Women (1968)	52.3	52.8	53.7	54.6	56.1	57.9	59.8	61.5	62.5	63.6	64.4	12.1

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TABLE 126a. STATISTICAL VALUES FOR MID-THIGH CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1946)	24,446	48.96	0.02	3.97	0.01	8.11	38.2	67.2	29.0
2	US Army Women (1946)	8112	49.03	0.05	4.91	0.04	10.11	33.0	64.0	31.0

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TABLE 126b. PERCENTILE VALUES FOR MID-THIGH CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1946)	40.6	41.4	42.7	43.9	46.2	48.8	51.6	54.9	55.9	57.7	58.9	18.3
2	US Army Women (1946)	39.0	40.1	41.6	43.1	45.6	48.7	52.1	55.5	57.6	60.2	62.0	23.0

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TABLE 127a. STATISTICAL VALUES FOR MINIMUM FRONTAL ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	13.60	0.02	0.79	0.01	5.78	11.3	16.9	5.6
2	USAF Basic Trainees (1965)	2527	11.84	0.02	0.86	0.01	7.26	9.4	15.4	6.0
3	USAF Flying Pers. (1950)	4000	13.67	0.02	0.96	0.01	7.02	10.1	17.0	6.9

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TABLE 127b. PERCENTILE VALUES FOR MINIMUM FRONTAL ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	11.9	12.0	12.3	12.6	13.1	13.6	14.1	14.6	14.9	15.2	15.5	3.6
2	USAF Basic Trainees (1965)	10.1	10.3	10.6	10.8	11.2	11.8	12.4	13.0	13.4	13.9	14.2	4.1
3	USAF Flying Pers. (1950)	11.4	11.7	12.1	12.4	13.0	13.7	14.3	14.9	15.2	15.6	15.9	4.5

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TABLE 128a. STATISTICAL VALUES FOR MINIMUM FRONTAL BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	10.51	0.01	0.52	0.01	4.9	8.2	12.7	4.6
2	US Army Men (1946)	24,406	10.93	0.00	0.59	0.00	5.40	9.0	15.0	6.0
3	CWS Face Study (1945)	3075	10.98	0.01	0.48	0.01	4.40	9.1	12.9	3.8
4	US Army Women (1988)	2208	10.33	0.01	0.48	0.01	4.6	8.6	12.1	3.5
5	US Army Women (1977)	216	10.52	0.03	0.51	0.02	4.86	9.2	12.2	3.0
6	US Army Women (1946)	8118	10.05	0.01	0.59	0.00	5.89	7.5	12.1	4.6

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TABLE 128b. PERCENTILE VALUES FOR MINIMUM FRONTAL BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	9.4	9.5	9.7	9.9	10.2	10.5	10.8	11.2	11.4	11.7	11.8	2.5
2	US Army Men (1946)	9.6	9.7	10.0	10.2	10.5	10.9	11.3	11.7	11.9	12.2	12.4	2.8
3	CWS Face Study (1945)	9.8	10.0	10.1	10.3	10.6	10.9	11.2	11.5	11.7	11.8	11.9	2.1
4	US Army Women (1988)	9.2	9.3	9.5	9.7	10.0	10.3	10.7	10.9	11.1	11.3	11.5	2.3
5	US Army Women (1977)	9.5	9.6	9.7	9.9	10.2	10.5	10.9	11.2	11.4	11.6	11.8	2.3
6	US Army Women (1946)	8.4	8.7	9.0	9.3	9.7	10.1	10.4	10.8	11.0	11.2	11.3	2.9

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TABLE 129a. STATISTICAL VALUES FOR MOUTH BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	5.61	0.01	0.43	0.01	7.6	4.4	7.1	2.7
2	USAF Flying Pers. (1967)	2420	5.23	0.01	0.37	0.01	7.16	3.9	6.6	2.7
3	USAF Basic Trainees (1965)	2527	4.77	0.01	0.43	0.01	9.01	3.4	6.2	2.8
4	US Navy Aviators (1964)	1549	5.14	0.01	0.43	0.01	8.34	3.2	6.8	3.6
5	USAF Flying Pers. (1950)	4000	5.16	0.01	0.36	0.00	6.98	3.8	6.7	2.9
6	CWS Face Study (1945)	3075	5.01	0.01	0.33	0.00	6.67	3.6	6.3	2.7
7	US Army Women (1988)	2208	5.50	0.01	0.42	0.01	7.7	4.1	6.9	2.9
8	USAF Women (1968)	1905	4.38	0.01	0.42	0.01	9.59	3.1	5.8	2.7

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TABLE 129b. PERCENTILE VALUES FOR MOUTH BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	4.7	4.8	4.9	5.1	5.3	5.6	5.9	6.2	6.3	6.5	6.6	2.0
2	USAF Flying Pers. (1967)	4.3	4.4	4.6	4.8	5.0	5.2	5.5	5.7	5.8	6.0	6.1	1.8
3	USAF Basic Trainees (1965)	3.8	3.9	4.1	4.2	4.5	4.8	5.1	5.3	5.5	5.7	5.8	2.0
4	US Navy Aviators (1964)	4.1	4.3	4.5	4.6	4.8	5.1	5.4	5.7	5.8	6.0	6.1	2.0
5	USAF Flying Pers. (1950)	4.4	4.5	4.6	4.7	4.9	5.1	5.4	5.6	5.8	5.9	6.0	1.6
6	CWS Face Study (1945)	4.1	4.3	4.4	4.5	4.7	4.9	5.1	5.4	5.5	5.6	5.8	1.7
7	US Army Women (1988)	4.6	4.7	4.8	5.0	5.2	5.5	5.8	6.1	6.2	6.4	6.5	1.9
8	USAF Women (1968)	3.5	3.6	3.7	3.8	4.1	4.4	4.7	4.9	5.1	5.3	5.4	1.9

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TABLE 130a. STATISTICAL VALUES FOR MOUTH BREADTH, SMILING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Basic Trainees (1965)	2527	5.61	0.01	0.63	0.01	11.23	3.8	7.9	4.1
2	US Army Women (1977)	216	5.88	0.04	0.56	0.03	9.51	4.5	7.6	3.1

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TABLE 130b. PERCENTILE VALUES FOR MOUTH BREATH, SMILING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Basic Trainees (1965)	4.3	4.4	4.6	4.8	5.2	5.6	6.0	6.5	6.7	7.1	7.3	3.0
2	US Army Women (1977)	4.7	4.8	5.0	5.2	5.5	5.9	6.3	6.6	6.8	7.0	7.1	2.4

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TABLE 131a. STATISTICAL VALUES FOR NASAL ROOT BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Basic Trainees (1965)	2527	1.81	0.01	0.26	0.00	14.36	1.0	3.0	2.0
2	US Navy Aviators (1964)	1549	1.85	0.01	0.30	0.01	16.12	0.8	2.8	2.0
3	USAF Flying Pers. (1950)	4000	1.55	0.00	0.21	0.00	13.55	0.9	2.3	1.4
4	US Army Men (1946)	24,348	1.42	0.00	0.23	0.00	16.20	0.7	2.6	1.9
5	CWS Face Study (1945)	3075	1.62	0.01	0.35	0.00	21.79	0.8	2.9	2.1
6	US Army Women (1946)	8114	1.56	0.00	0.25	0.00	15.72	1.0	2.6	1.6

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TABLE 131b. PERCENTILE VALUES FOR NASAL ROOT BREADTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Basic Trainees (1965)	1.3	1.3	1.4	1.5	1.6	1.8	2.0	2.2	2.3	2.4	2.5	1.2
2	US Navy Aviators (1964)	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.2	2.4	2.5	2.6	1.5
3	USAF Flying Pers. (1950)	1.0	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.0	1.0
4	US Army Men (1946)	1.0	1.0	1.0	1.1	1.3	1.4	1.6	1.8	1.8	2.0	2.0	1.0
5	CWS Face Study (1945)	0.9	0.9	1.1	1.1	1.3	1.4	1.7	2.1	2.2	2.4	2.5	1.6
6	US Army Women (1946)	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.9	2.0	2.1	2.2	1.2

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TABLE 132a. STATISTICAL VALUES FOR NECK-BUSTPOINT LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	27.24	0.04	1.81	0.03	6.7	22.2	34.2	12.0
2	US Army Women (1988)	2208	26.80	0.05	2.23	0.03	8.3	20.2	35.4	15.2
3	US Army Women (1977)	1331	25.38	0.06	2.08	0.04	8.24	19.0	22.1	14.1
4	USAF Women (1968)	1905	25.49	0.04	1.89	0.03	7.41	20.0	32.0	12.0

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TABLE 132b. PERCENTILE VALUES FOR NECK-BUSTPOINT LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	23.3	23.7	24.4	25.0	26.0	27.1	28.4	29.6	30.4	31.3	32.0	8.7
2	US Army Women (1988)	22.0	22.6	23.3	24.0	25.3	26.7	28.2	29.7	30.7	31.8	32.6	10.6
3	US Army Women (1977)	21.0	21.3	21.9	22.6	23.8	25.2	26.7	28.0	28.8	29.8	30.6	9.6
4	USAF Women (1968)	21.4	21.8	22.5	23.1	24.2	25.4	26.7	28.0	28.8	29.7	30.3	8.9

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TABLE 133a. STATISTICAL VALUES FOR NECK CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	37.96	0.05	1.97	0.03	5.2	31.6	47.0	15.4
2	US Army Aviators (1970)	1482	37.76	0.05	2.00	0.04	5.31	31.9	44.8	12.9
3	USAF Flying Personnel (1967)	2420	38.34	0.04	1.91	0.03	4.98	32.7	45.0	12.3
4	US Marine Corps (1966)	2008	37.71	0.04	1.91	0.03	5.06	31.1	45.5	14.4
5	US Army Men (1966)	6681	37.39	0.03	2.07	0.02	5.53	30.3	48.4	18.1
6	USA Basic Trainees (1966)	2639	37.13	0.04	2.03	0.03	5.46	30.2	48.6	18.4
7	US Navy Recruits (1966)	4095	36.53	0.03	2.00	0.02	5.48	29.6	43.9	14.3
8	USAF Basic Trainees (1965)	2527	36.25	0.04	1.95	0.03	5.38	30.8	44.8	14.0
9	US Navy Aviators (1964)	1549	38.46	0.05	1.84	0.03	4.78	33.2	45.2	12.0
10	USAF Flying Personnel (1950)	4000	37.96	0.03	1.80	0.02	4.74	32.5	45.1	12.6
11	US Army Men (1946)	24,423	36.74	0.01	1.86	0.00	5.06	29.5	48.5	19.0
12	US Army Women (1988)	2208	31.57	0.03	1.53	0.02	4.8	27.2	37.2	10.0
13	USAF WAF Trainees (1952)	846	32.73	0.06	1.66	0.04	5.07	28.0	41.0	13.0
14	US Army Women (1946)	8112	31.75	0.02	1.67	0.01	5.33	24.0	40.0	16.0

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TABLE 133b. PERCENTILE VALUES FOR NECK CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	33.7	34.2	34.9	35.5	36.6	37.9	39.2	40.5	41.3	42.3	42.9	9.2
2	US Army Aviators (1970)	33.2	33.7	34.6	35.3	36.4	37.7	39.1	40.4	41.2	42.1	42.7	9.5
3	USAF Flying Personnel (1967)	34.3	34.7	35.4	36.0	37.0	38.3	39.6	40.8	41.7	42.6	43.3	9.0
4	US Marine Corps (1966)	33.5	34.0	34.7	35.4	36.4	37.6	38.9	40.2	41.0	41.9	42.6	9.1
5	US Army Men (1966)	33.0	33.5	34.2	34.8	35.9	37.3	38.7	40.1	41.0	42.0	42.6	9.6
6	USA Basic Trainees (1966)	32.6	33.2	34.0	34.6	35.7	37.0	38.4	39.8	40.6	41.5	42.1	9.5
7	US Navy Recruits (1966)	32.3	32.7	33.4	34.0	35.1	36.4	37.8	39.2	40.0	40.9	41.6	9.2
8	USAF Basic Trainees (1965)	32.4	32.8	33.3	33.9	34.9	36.1	37.4	38.8	39.7	40.9	41.7	8.7
9	US Navy Aviators (1964)	34.3	34.8	35.5	36.1	37.2	38.4	39.6	40.8	41.6	42.5	43.1	8.8
10	USAF Flying Personnel (1950)	34.1	34.5	35.2	35.7	36.7	37.9	39.1	40.3	41.1	41.9	42.5	8.4
11	US Army Men (1946)	32.5	33.0	33.8	34.3	35.3	36.6	37.8	39.1	39.9	40.9	41.7	9.4
12	US Army Women (1988)	28.4	28.7	29.2	29.7	30.5	31.5	32.5	33.6	34.3	35.0	35.6	7.2
13	USAF WAF Trainees (1952)	29.4	29.7	30.3	30.7	31.6	32.6	33.7	34.9	35.7	36.7	37.5	8.1
14	US Army Women (1946)	28.2	28.6	29.2	29.7	30.6	31.6	32.8	33.9	34.7	35.6	36.4	8.2

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TABLE 134a. STATISTICAL VALUES FOR NECK CIRCUMFERENCE, BASE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	40.84	0.05	2.05	0.03	5.0	34.9	50.5	15.6
2	US Army Women (1988)	2208	34.62	0.03	1.63	0.02	4.7	29.8	40.9	11.1
3	US Army Women (1977)	1331	32.36	0.04	1.59	0.03	4.90	27.5	41.7	14.2
4	USAF Women (1968)	1905	33.75	0.04	1.68	0.03	4.98	28.5	39.9	11.4

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TABLE 134b. PERCENTILE VALUES FOR NECK CIRCUMFERENCE, BASE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	36.3	36.8	37.6	38.3	39.5	40.8	42.2	43.5	44.3	45.3	46.1	9.7
2	US Army Women (1988)	31.2	31.5	32.0	32.6	33.5	34.6	35.7	36.8	37.4	38.2	38.7	7.5
3	US Army Women (1977)	29.1	29.4	29.9	30.4	31.3	32.3	33.4	34.4	35.0	35.8	36.3	7.2
4	USAF Women (1968)	30.2	30.5	31.1	31.6	32.6	33.7	34.8	35.9	36.7	37.6	38.2	8.0

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TABLE 135a. STATISTICAL VALUES FOR NOSE BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	3.65	0.01	0.46	0.01	12.6	2.6	5.2	2.6
2	USAF Flying Pers. (1967)	2420	3.54	0.01	0.29	0.00	8.28	2.7	5.1	2.4
3	USAF Basic Trainees (1965)	2527	3.39	0.01	0.40	0.01	11.80	2.2	5.0	2.9
4	US Navy Aviators (1964)	1549	3.54	0.01	0.26	0.00	7.43	2.4	4.6	2.2
5	USAF Flying Pers. (1950)	4000	3.33	0.00	0.26	0.00	7.81	2.4	4.6	2.2
6	US Army Men (1946)	24,382	3.37	0.00	0.29	0.00	8.60	2.0	5.5	3.5
7	CWS Face Study (1945)	3075	3.51	0.00	0.27	0.00	7.78	2.1	5.6	3.5
8	US Army Women (1988)	2208	3.45	0.01	0.47	0.01	13.7	2.3	5.0	2.7
9	US Army Women (1977)	216	3.41	0.03	0.45	0.02	13.25	2.5	4.7	2.2
10	USAF Women (1968)	1905	3.19	0.01	0.33	0.01	10.34	2.3	4.6	2.3
11	US Army Women (1946)	8119	3.13	0.00	0.29	0.00	9.26	2.0	4.4	2.4

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TABLE 135b. PERCENTILE VALUES FOR NOSE BREADTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	2.9	2.9	3.1	3.1	3.3	3.6	3.9	4.3	4.5	4.8	4.9	2.0
2	USAF Flying Pers. (1967)	2.9	3.0	3.1	3.2	3.4	3.5	3.7	3.9	4.1	4.2	4.3	1.4
3	USAF Basic Trainees (1965)	2.7	2.8	2.9	3.0	3.1	3.3	3.6	4.0	4.2	4.5	4.6	1.9
4	US Navy Aviators (1964)	2.9	3.0	3.1	3.2	3.4	3.5	3.7	3.9	4.0	4.1	4.2	1.3
5	USAF Flying Pers. (1950)	2.8	2.8	2.9	3.0	3.2	3.3	3.5	3.7	3.8	3.9	4.0	1.2
6	US Army Men (1946)	2.8	2.8	3.0	3.0	3.2	3.4	3.6	3.8	3.9	4.0	4.1	1.3
7	CW Face Study (1945)	2.7	2.8	2.9	3.0	3.2	3.4	3.6	3.7	3.8	4.0	4.0	1.3
8	US Army Women (1988)	2.6	2.7	2.8	2.9	3.1	3.4	3.8	4.1	4.3	4.4	4.5	1.9
9	US Army Women (1977)	2.6	2.7	2.9	3.0	3.1	3.3	3.6	4.1	4.3	4.5	4.6	2.0
10	USAF Women (1968)	2.5	2.6	2.7	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	1.7
11	US Army Women (1946)	2.5	2.6	2.7	2.8	3.0	3.1	3.3	3.5	3.6	3.8	4.0	1.5

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TABLE 136a. STATISTICAL VALUES FOR NOSE LENGTH (SUBNASALE-SELLION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	5.05	0.01	0.37	0.01	7.4	3.7	6.2	2.5
2	USAF Flying Pers. (1967)	2420	5.13	0.01	0.37	0.01	7.25	3.9	6.4	2.5
3	USAF Basic Trainees (1965)	2527	5.07	0.01	0.36	0.00	7.10	3.8	6.6	2.8
4	US Navy Aviators (1964)	1549	5.34	0.01	0.37	0.01	6.93	4.2	6.8	2.6
5	USAF Flying Pers. (1950)	4000	5.09	0.01	0.34	0.00	6.68	4.0	6.4	2.4
6	US Army Men (1946)	24,411	5.53	0.00	0.50	0.00	9.04	3.8	7.8	4.0
7	CWS Face Study (1945)	3075	5.45	0.01	0.38	0.00	7.01	4.1	7.0	2.9
8	US Army Women (1988)	2208	4.82	0.01	0.36	0.01	7.6	3.4	6.5	3.0
9	US Army Women (1977)	216	4.58	0.02	0.33	0.02	7.10	3.7	5.6	1.9
10	USAF Woman (1968)	1905	4.55	0.01	0.41	0.01	9.01	3.2	6.1	2.9
11	US Army Women (1946)	8115	4.81	0.01	0.56	0.00	11.62	2.5	8.7	6.2

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TABLE 136b. PERCENTILE VALUES FOR NOSE LENGTH (SUBNASALE-SELLION)

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	4.2	4.3	4.4	4.6	4.8	5.1	5.3	5.5	5.7	5.8	5.9	1.8
2	USAF Flying Pers. (1967)	4.2	4.3	4.5	4.6	4.8	5.1	5.3	5.5	5.7	5.8	6.0	1.8
3	USAF Basic Trainees (1965)	4.2	4.3	4.5	4.6	4.8	5.1	5.3	5.5	5.7	5.8	6.0	1.8
4	US Navy Aviators (1964)	4.5	4.6	4.7	4.9	5.1	5.3	5.6	5.8	6.0	6.1	6.2	1.7
5	USAF Flying Pers. (1950)	4.3	4.4	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.8	5.9	1.6
6	US Army Men (1946)	4.4	4.5	4.8	4.9	5.2	5.5	5.8	6.2	6.4	6.6	6.8	2.4
7	CWS Face Study (1945)	4.5	4.6	4.7	4.9	5.1	5.3	5.6	5.9	6.0	6.2	6.3	1.8
8	US Army Women (1988)	4.0	4.1	4.2	4.4	4.6	4.8	5.1	5.3	5.5	5.6	5.8	1.8
9	US Army Women (1977)	3.8	3.9	4.1	4.2	4.4	4.6	4.8	5.0	5.2	5.3	5.3	1.5
10	USAF Women (1968)	3.6	3.7	3.9	4.0	4.3	4.5	4.8	5.1	5.2	5.5	5.6	2.0
11	US Army Women (1946)	3.7	3.8	4.0	4.2	4.5	4.8	5.0	5.4	5.8	6.4	7.0	3.3

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TABLE 137a. STATISTICAL VALUES FOR NOSE PROTRUSION

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	1.88	0.01	0.25	0.00	13.1	1.1	2.9	1.8
2	USAF Basic Trainees (1965)	2527	2.27	0.01	0.28	0.00	12.33	1.2	3.4	2.2
3	US Navy Aviators (1964)	1549	2.29	0.01	0.25	0.00	10.87	1.4	3.4	2.0
4	USAF Flying Pers. (1950)	4000	2.27	0.00	0.28	0.00	12.33	1.1	3.4	2.3
5	CWS Face Study (1945)	3075	2.24	0.00	0.26	0.00	11.80	1.2	3.9	2.7
6	US Army Women (1988)	2208	1.82	0.00	0.23	0.00	12.5	1.1	2.5	1.4

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TABLE 137b. PERCENTILE VALUES FOR NOSE PROTRUSION

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	1.3	1.4	1.5	1.6	1.7	1.9	2.1	2.2	2.3	2.4	2.4	1.1
2	USAF Basic Trainees (1965)	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.6	2.8	2.9	3.0	1.4
3	US Navy Aviators (1964)	1.7	1.8	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.8	3.0	1.7
4	USAF Flying Pers. (1950)	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.6	2.7	2.9	3.0	1.4
5	CWS Face Study (1945)	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.6	2.7	2.8	1.3
6	US Army Women (1988)	1.3	1.4	1.5	1.5	1.7	1.8	2.0	2.1	2.2	2.3	2.4	1.0

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TABLE 138a. STATISTICAL VALUES FOR PALM LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	10.96	0.01	0.56	0.01	5.07	9.1	13.0	3.9
2	USAF Men's Hands (1968)	148	11.05	0.05	0.60	0.03	5.43	9.6	12.9	3.3
3	USAF Flying Pers. (1967)	2420	10.83	0.01	0.54	0.01	4.99	9.3	12.8	3.5
4	USA Basic Trainees (1966)	2639	10.62	0.01	0.61	0.01	5.76	8.0	13.0	5.0
5	US Army Men (1966)	6682	10.59	0.01	0.63	0.01	5.93	8.1	13.3	5.2
6	US Marine Corps (1966)	2008	10.53	0.01	0.59	0.01	5.64	8.3	12.5	4.2
7	US Navy Recruits (1966)	4095	10.35	0.01	0.58	0.01	5.64	7.3	12.6	5.3
8	USAF Basic Trainees (1965)	2527	11.54	0.01	0.69	0.01	5.98	8.8	13.8	5.0
9	USAF Flying Pers. (1950)	4000	10.77	0.01	0.54	0.01	5.01	8.6	12.6	4.0
10	US Army Women (1977)	1331	9.88	0.01	0.52	0.01	5.29	8.2	11.6	3.4
11	USAF Women's Hands (1968)	211	9.86	0.04	0.60	0.03	6.09	8.4	11.8	3.4
12	USAF WAF Trainees (1952)	850	9.50	0.02	0.64	0.02	6.72	7.4	11.4	4.0

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TABLE 138b. PERCENTILE VALUES FOR PALM LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	9.7	9.9	10.1	10.3	10.6	10.9	11.3	11.7	11.9	12.2	12.3	2.6
2	USAF Men's Hands (1968)			10.2	10.3	10.6	11.0	11.4	11.9	12.1			
3	USAF Flying Pers. (1967)	9.6	9.8	10.0	10.2	10.5	10.8	11.2	11.6	11.8	12.0	12.1	2.5
4	USA Basic Trainees (1966)	9.2	9.4	9.6	9.8	10.2	10.6	11.0	11.4	11.7	11.9	12.1	2.9
5	US Army Men (1966)	9.2	9.3	9.6	9.8	10.2	10.6	11.0	11.4	11.7	12.0	12.2	3.0
6	US Marine Corps (1966)	9.2	9.3	9.6	9.8	10.1	10.5	10.9	11.3	11.6	11.9	12.1	2.9
7	US Navy Recruits (1966)	9.0	9.2	9.4	9.6	10.0	10.4	10.7	11.1	11.3	11.6	11.8	2.8
8	USAF Basic Trainees (1965)	10.0	10.2	10.4	10.7	11.1	11.5	12.0	12.4	12.7	13.0	13.3	3.3
9	USAF Flying Pers. (1950)	9.6	9.7	9.9	10.1	10.4	10.8	11.1	11.5	11.7	11.9	12.0	2.4
10	US Army Women (1977)	8.8	8.9	9.0	9.2	9.5	9.9	10.2	10.6	10.8	11.0	11.2	2.4
11	USAF Women's Hands (1968)	8.6	8.7	8.9	9.1	9.4	9.9	10.2	10.6	10.8	11.2	11.5	2.9
12	USAF WAF Trainees (1952)	8.0	8.2	8.4	8.7	9.0	9.5	9.9	10.3	10.6	10.9	11.2	3.2

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TABLE 139a. STATISTICAL VALUES FOR PENALE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Navy Aviators (1964)	1549	88.96	0.11	4.24	0.08	4.76	73.8	104.6	30.8
2	USAF Flying Pers. (1950)	2908	87.71	0.07	4.40	0.05	5.02	71.3	105.3	34.0

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TABLE 139b. PERCENTILE VALUES FOR PENALE HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Navy Aviators (1964)	79.7	80.6	82.1	83.5	86.0	88.9	91.8	94.5	96.1	97.9	99.2	19.5
2	USAF Flying Pers. (1950)	77.6	78.8	80.5	82.1	84.8	87.7	90.6	93.3	95.0	96.9	98.3	20.7

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TABLE 140a. STATISTICAL VALUES FOR PHILTRUM LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	USAF Flying Pers. (1967)	2420	1.55	0.01	0.28	0.00	17.77	0.6	2.5	1.9
2	USAF Basic Trainees (1965)	2527	1.43	0.00	0.25	0.00	17.48	0.6	2.4	1.8
3	USAF Flying Pers. (1950)	4000	1.94	0.01	0.34	0.00	17.53	0.9	3.1	2.2

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TABLE 140b. PERCENTILE VALUES FOR PHILTRUM LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	0.9	1.0	1.1	1.2	1.4	1.5	1.7	1.9	2.0	2.2	2.2	1.3
2	USAF Basic Trainees (1965)	0.9	0.9	1.0	1.1	1.3	1.4	1.6	1.8	1.8	2.0	2.0	1.1
3	USAF Flying Pers. (1950)	1.2	1.3	1.4	1.5	1.7	2.0	2.2	2.4	2.5	2.6	2.7	1.5

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TABLE 141a. STATISTICAL VALUES FOR POPLITEAL HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	43.41	0.06	2.49	0.04	5.7	33.8	54.7	20.9
2	US Army Aviators (1970)	1482	42.34	0.06	2.47	0.05	5.83	35.5	53.4	17.9
3	USAF Flying Pers. (1967)	2420	43.70	0.05	2.25	0.03	5.14	36.5	51.2	14.7
4	US Marine Corps (1966)	2008	45.74	0.05	2.40	0.04	5.25	37.3	52.9	15.6
5	USA Basic Trainees (1966)	2639	44.78	0.05	2.49	0.03	5.56	36.6	53.3	16.7
6	US Army Men (1966)	6682	44.61	0.03	2.50	0.02	5.60	35.8	54.2	18.4
7	US Navy Recruits (1966)	4095	43.75	0.04	2.52	0.03	5.76	36.3	53.1	16.8
8	USAF Basic Trainees (1965)	2527	44.84	0.05	2.37	0.03	5.29	36.6	54.2	17.6
9	US Navy Aviators (1964)	1549	43.98	0.06	2.18	0.04	4.96	37.0	51.0	14.0
10	USAF Flying Pers. (1950)	4000	43.09	0.03	1.93	0.02	4.48	36.0	49.7	13.7
11	US Army Women (1988)	2208	38.94	0.05	2.37	0.04	6.1	29.9	50.0	20.1
12	US Army Women (1977)	1331	41.68	0.06	2.35	0.05	5.64	34.7	49.1	14.4
13	USAF Women (1968)	1905	41.05	0.04	1.86	0.03	4.53	33.6	47.1	13.5

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TABLE 141b. PERCENTILE VALUES FOR POPLITEAL HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	37.8	38.5	39.5	40.3	41.7	43.3	45.0	46.6	47.6	48.8	49.5	11.7
2	US Army Aviators (1970)	36.8	37.4	38.4	39.2	40.6	42.3	44.0	45.6	46.6	47.8	48.6	11.8
3	USAF Flying Pers. (1967)	38.5	39.1	40.1	40.9	42.2	43.7	45.2	46.6	47.5	48.5	49.1	10.6
4	US Marine Corps (1966)	40.3	41.1	42.0	42.8	44.1	45.6	47.3	49.0	50.0	51.0	51.4	11.1
5	USA Basic Trainees (1966)	39.1	39.8	40.7	41.6	43.0	44.7	46.5	48.0	49.0	50.0	50.6	11.5
6	US Army Men (1966)	38.8	39.6	40.6	41.5	42.9	44.5	46.3	47.9	48.8	49.8	50.4	11.6
7	US Navy Recruits (1966)	38.3	38.7	39.5	40.4	42.0	43.8	45.5	47.0	47.8	48.9	49.7	11.4
8	USAF Basic Trainees (1965)	39.6	40.2	41.1	41.9	43.2	44.8	46.3	47.9	48.9	50.1	51.0	11.4
9	US Navy Aviators (1964)	39.0	39.6	40.5	41.2	42.4	43.9	45.5	46.9	47.7	48.5	48.9	9.9
10	USAF Flying Pers. (1950)	38.8	39.2	40.0	40.6	41.8	43.1	44.4	45.6	46.3	47.2	47.7	8.9
11	US Army Women (1988)	33.7	34.2	35.1	35.9	37.3	38.9	40.5	42.0	42.9	44.0	44.6	11.0
12	US Army Women (1977)	36.4	37.0	38.0	38.8	40.1	41.6	43.2	44.8	45.7	46.7	47.3	10.9
13	USAF Women (1968)	36.2	36.9	38.0	38.8	39.9	41.0	42.2	43.3	44.1	45.1	45.9	9.7

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TABLE 142a. STATISTICAL VALUES FOR POSTERIOR NECK LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1967)	2420	13.25	0.03	1.69	0.02	12.74	8.4	19.9	11.5
2	USAF Basic Trainees (1965)	2527	10.14	0.03	1.47	0.02	14.50	5.8	15.3	9.5
3	USAF Flying Pers. (1950)	4000	9.22	0.02	1.54	0.02	16.70	4.0	14.9	10.9

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TABLE 142b. PERCENTILE VALUES FOR POSTERIOR NECK LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Flying Pers. (1967)	9.5	10.0	10.6	11.1	12.1	13.2	14.4	15.5	16.2	16.8	17.1	7.6
2	USAF Basic Trainees (1965)	6.9	7.3	7.8	8.3	9.1	10.1	11.1	12.1	12.7	13.4	13.9	7.0
3	USAF Flying Pers. (1950)	5.8	6.2	6.7	7.3	8.2	9.2	10.2	11.2	11.8	12.6	13.1	7.3

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TABLE 143a. STATISTICAL VALUES FOR PRONASALE TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	21.92	0.02	0.80	0.01	3.7	18.8	24.7	5.8
2	US Army Aviators (1970)	1482	22.66	0.02	0.79	0.01	3.49	19.8	25.3	5.5
3	USAF Flying Pers. (1967)	2420	22.68	0.02	0.75	0.01	3.31	19.6	25.2	5.6
4	US Army Men (1966)	6682	22.19	0.01	0.83	0.01	3.75	18.9	25.4	6.5
5	USA Basic Trainees (1966)	2639	22.17	0.02	0.83	0.01	3.74	18.8	25.4	6.6
6	US Marine Corps (1966)	2008	22.14	0.02	0.81	0.01	3.65	19.3	24.9	5.6
7	US Navy Recruits (1966)	4095	22.05	0.01	0.80	0.01	3.61	18.8	24.7	5.9
8	USAF Basic Trainees (1965)	2527	21.85	0.02	0.80	0.01	3.66	19.0	24.9	5.9
9	US Navy Aviators (1964)	1549	22.85	0.02	0.76	0.01	3.31	19.2	26.0	6.8
10	US Army Women (1988)	2208	20.97	0.02	0.75	0.01	3.6	17.8	23.5	5.7
11	US Army Women (1977)	216	21.49	0.07	0.98	0.05	4.54	18.9	25.0	6.1
12	USAF Women (1968)	1905	21.19	0.02	0.96	0.02	4.53	18.7	25.0	6.3

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TABLE 143b. PERCENTILE VALUES FOR PRONASALE TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	20.0	20.2	20.5	20.9	21.4	22.0	22.5	22.9	23.2	23.6	23.9	4.0
2	US Army Aviators (1970)	20.8	21.0	21.4	21.7	22.2	22.7	23.2	23.7	24.0	24.3	24.5	3.7
3	USAF Flying Pers. (1967)	20.9	21.1	21.4	21.7	22.2	22.7	23.2	23.6	23.9	24.2	24.4	3.5
4	US Army Men (1966)	20.2	20.4	20.8	21.1	21.6	22.2	22.8	23.2	23.5	23.9	24.1	3.9
5	USA Basic Trainees (1966)	20.2	20.4	20.8	21.1	21.6	22.2	22.7	23.2	23.5	23.8	24.1	3.9
6	US Marine Corps (1966)	20.2	20.5	20.8	21.1	21.6	22.2	22.7	23.2	23.4	23.8	24.0	3.8
7	US Navy Recruits (1966)	20.1	20.4	20.7	21.0	21.5	22.0	22.6	23.1	23.4	23.7	23.9	3.8
8	USAF Basic Trainees (1965)	20.0	20.2	20.5	20.8	21.3	21.9	22.4	22.9	23.2	23.5	23.7	3.7
9	US Navy Aviators (1964)	21.0	21.3	21.7	21.9	22.4	22.8	23.3	23.8	24.1	24.5	24.7	3.7
10	US Army Women (1988)	19.2	19.4	19.7	20.0	20.5	21.0	21.5	21.9	22.2	22.5	22.8	3.6
11	US Army Women (1977)	19.4	19.7	20.1	20.4	20.8	21.4	22.1	22.8	23.2	23.8	24.2	4.8
12	USAF Women (1968)	19.2	19.4	19.7	20.0	20.5	21.1	21.8	22.4	22.9	23.4	23.9	4.7

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TABLE 144a. STATISTICAL VALUES FOR PRONASALE TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	15.19	0.02	0.84	0.01	5.5	12.1	18.3	6.2
2	USAF Flying Pers. (1967)	2420	14.74	0.02	1.10	0.02	7.47	10.9	18.5	7.6
3	USAF Basic Trainees (1965)	2527	14.89	0.02	0.81	0.01	5.44	11.8	17.6	5.8
4	US Army Women (1988)	2208	14.16	0.02	0.79	0.01	5.6	11.3	16.8	5.5
5	US Army Women (1977)	216	13.55	0.07	0.99	0.05	7.34	11.0	18.0	7.0
6	USAF Women (1968)	1905	14.76	0.03	1.17	0.02	7.93	11.0	19.3	8.3

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TABLE 144b. PERCENTILE VALUES FOR PRONASALE TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	13.3	13.5	13.8	14.1	14.6	15.2	15.8	16.3	16.6	17.0	17.3	3.9
2	USAF Flying Pers. (1967)	12.3	12.6	13.0	13.4	14.0	14.7	15.5	16.2	16.6	17.1	17.4	5.1
3	USAF Basic Trainees (1965)	12.9	13.2	13.5	13.8	14.4	14.9	15.4	15.9	16.2	16.6	16.8	3.9
4	US Army Women (1988)	12.3	12.5	12.8	13.1	13.6	14.2	14.7	15.2	15.5	15.8	16.1	3.8
5	US Army Women (1977)	11.4	11.6	11.9	12.3	12.9	13.6	14.2	14.8	15.1	15.5	15.7	4.3
6	USAF Women (1968)	12.3	12.5	12.9	13.3	14.0	14.7	15.5	16.3	16.8	17.5	18.0	5.7

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TABLE 145a. STATISTICAL VALUES FOR RADIALE-STYLION LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	26.99	0.04	1.57	0.03	5.8	21.2	32.5	11.3
2	USAF Flying Pers. (1967)	2420	26.88	0.03	1.42	0.02	5.29	22.5	31.4	8.9
3	US Army Women (1988)	2208	24.34	0.03	1.55	0.02	6.3	15.7	31.2	15.5
4	US Army Women (1977)	255	24.37	0.09	1.47	0.07	6.02	21.0	29.9	8.9
5	USAF Women (1968)	1905	23.39	0.03	1.37	0.02	5.86	19.2	28.0	8.8

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TABLE 145b. PERCENTILE VALUES FOR RADIALE-STYLION LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	23.7	24.0	24.5	25.0	25.9	26.9	28.0	29.1	29.7	30.4	30.9	7.3
2	USAF Flying Pers. (1967)	23.6	24.0	24.6	25.1	25.9	26.9	27.8	28.7	29.3	29.8	30.2	6.6
3	US Army Women (1988)	21.0	21.3	21.9	22.4	23.3	24.3	25.4	26.3	26.9	27.7	28.1	7.2
4	US Army Women (1977)	21.2	21.6	22.1	22.6	23.3	24.2	25.3	26.4	27.0	27.6	27.9	6.7
5	USAF Women (1968)	20.3	20.6	21.2	21.6	22.4	23.4	24.3	25.2	25.7	26.4	26.9	6.6

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TABLE 146a. STATISTICAL VALUES FOR SAGITTAL ARC

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	35.88	0.04	1.44	0.03	4.02	31.2	40.8	9.6
2	USAF Flying Pers. (1967)	2420	34.64	0.03	1.66	0.02	4.79	30.0	40.3	10.3
3	USAF Basic Trainees (1965)	2527	37.52	0.03	1.45	0.02	3.86	33.6	43.0	9.4
4	US Navy Aviators (1964)	1549	36.91	0.06	2.17	0.04	5.89	30.2	42.8	12.6
5	USAF Flying Pers. (1950)	4000	38.11	0.02	1.52	0.02	3.99	33.0	43.3	10.3
6	US Army Women (1977)	216	33.63	0.11	1.55	0.07	4.61	29.9	38.9	9.0
7	USAF Women (1968)	1905	34.79	0.03	1.49	0.02	4.28	30.0	41.5	11.5
8	USAF WAF Trainees (1952)	852	37.45	0.07	2.15	0.05	5.75	31.0	48.0	17.0

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TABLE 146b. PERCENTILE VALUES FOR SAGITTAL ARC

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	32.5	32.9	33.5	34.0	34.9	35.9	36.9	37.8	38.2	38.8	39.1	6.6
2	USAF Flying Pers. (1967)	30.9	31.2	31.9	32.5	33.5	34.7	35.8	36.8	37.3	38.0	38.4	7.6
3	USAF Basic Trainees (1965)	34.3	34.6	35.1	35.6	36.5	37.5	38.5	39.4	39.9	40.6	41.1	6.8
4	US Navy Aviators (1964)	31.6	32.1	33.0	33.9	35.5	37.2	38.5	39.6	40.1	40.8	41.3	9.7
5	USAF Flying Pers. (1950)	34.5	34.9	35.6	36.1	37.1	38.1	39.2	40.1	40.6	41.2	41.6	7.1
6	US Army Women (1977)	30.6	31.0	31.1	31.7	32.5	33.6	34.6	35.6	36.1	37.1	38.2	7.6
7	USAF Women (1968)	31.4	31.8	32.4	32.9	33.8	34.7	35.7	36.7	37.3	38.1	38.8	7.4
8	USAF WAF Trainees (1952)	33.1	33.6	34.5	35.2	36.3	37.5	39.1	40.9	42.1	43.8	45.1	12.0

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TABLE 147a. STATISTICAL VALUES FOR SCYE CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	44.55	0.06	2.71	0.05	6.1	35.8	55.3	19.5
2	US Army Aviators (1970)	1482	44.00	0.07	2.58	0.05	5.87	36.4	56.1	19.7
3	USAF Flying Pers. (1967)	2420	48.36	0.06	2.79	0.04	5.76	40.6	59.4	18.8
4	US Marine Corps (1966)	2008	44.67	0.07	2.94	0.05	6.58	36.3	57.0	20.7
5	US Army Men (1966)	6682	44.56	0.04	3.26	0.03	7.32	32.7	59.4	26.7
6	USA Basic Trainees (1966)	2639	44.40	0.06	3.11	0.04	7.00	34.2	58.2	24.0
7	US Navy Recruits (1966)	4095	43.26	0.05	3.21	0.04	7.42	27.1	57.0	30.9
8	USAF Basic Trainees (1965)	2527	42.03	0.05	2.47	0.03	5.88	33.8	52.2	18.4
9	US Navy Aviators (1964)	1549	44.93	0.07	2.67	0.05	5.94	34.2	59.2	25.0
10	USAF Flying Pers. (1950)	4000	45.93	0.05	3.37	0 04	7.34	34.1	58.8	24.7
11	US Army Men (1946)	24,383	43.40	0.02	2.98	0.01	6.87	35.2	56.2	21.0
12	US Army Women (1988)	2208	37.13	0.05	2.30	0.03	6.2	29.8	45.6	15.8
13	US Army Women (1977)	1331	37.52	0.07	2.42	0.05	6.46	30.3	51.3	21.0
14	USAF Women (1968)	1905	37.10	0.05	2.29	0.04	6.17	28.5	49.0	20.5
15	USAF WAF Trainees (1952)	851	36.65	0.10	3.03	0.07	8.26	23.0	49.0	26.0
16	US Army Women (1946)	8119	37.92	0.03	3.14	0.02	8.38	23.0	51.0	28.0

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TABLE 147b. PERCENTILE VALUES FOR SCYE CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	38.4	39.2	40.3	41.2	42.7	44.5	46.3	48.0	49.1	50.5	51.4	12.9
2	US Army Aviators (1970)	38.6	39.0	39.9	40.7	42.2	43.9	45.7	47.3	48.3	49.6	50.5	11.9
3	USAF Flying Pers. (1967)	42.0	42.7	43.8	44.8	46.5	48.4	50.2	51.9	53.0	54.3	55.2	13.2
4	US Marine Corps (1966)	38.8	39.2	40.1	41.0	42.6	44.5	46.5	48.4	49.8	51.6	53.0	14.2
5	US Army Men (1966)	37.7	38.4	39.6	40.6	42.3	44.3	46.5	48.7	50.3	52.3	53.8	16.1
6	USA Basic Trainees (1966)	38.0	38.7	39.7	40.6	42.2	44.2	46.3	48.5	49.9	51.6	52.8	14.8
7	US Navy Recruits (1966)	36.3	37.2	38.4	39.4	41.0	43.0	45.3	47.6	48.9	50.4	51.4	15.1
8	USAF Basic Trainees (1965)	36.8	37.4	38.2	39.0	40.3	41.9	43.6	45.3	46.4	47.6	48.5	11.7
9	US Navy Aviators (1964)	39.4	40.0	40.8	41.6	43.1	44.8	46.6	48.4	49.5	51.0	52.0	12.6
10	USAF Flying Pers. (1950)	39.0	39.7	40.8	41.8	43.6	45.7	48.0	50.4	51.9	53.7	54.9	15.9
11	US Army Men (1946)	36.8	37.6	38.9	39.9	41.4	43.2	45.2	47.2	48.5	50.0	51.1	14.3
12	US Army Women (1988)	32.4	32.9	33.6	34.3	35.6	37.0	38.6	40.2	41.2	42.5	43.4	11.0
13	US Army Women (1977)	32.5	33.0	33.8	34.6	35.9	37.4	39.0	40.6	41.7	43.1	44.2	11.7
14	USAF Women (1968)	32.3	32.8	33.6	34.3	35.5	36.9	38.5	40.1	41.1	42.3	43.1	10.8
15	USAF WAF Trainees (1952)	29.4	31.0	32.4	33.3	35.0	36.7	38.6	40.4	41.6	42.9	43.8	14.4
16	US Army Women (1946)	31.3	32.0	33.1	34.1	35.8	37.7	39.8	42.0	43.4	45.2	46.5	15.2

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TABLE 148a. STATISTICAL VALUES FOR SELLION TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	19.70	0.02	0.71	0.01	3.6	17.4	22.1	4.7
2	US Army Aviators (1970)	1482	19.98	0.02	0.68	0.01	3.42	17.4	22.1	4.7
3	USAF Flying Pers. (1967)	2420	20.17	0.01	0.66	0.01	3.26	17.9	22.7	4.8
4	US Army Men (1966)	6682	19.10	0.01	0.72	0.01	3.77	16.5	21.9	5.4
5	US Marine Corps (1966)	2008	19.08	0.02	0.72	0.01	3.77	16.6	21.7	5.1
6	USA Basic Trainees (1966)	2639	19.06	0.01	0.71	0.01	3.73	16.6	21.4	4.8
7	US Navy Recruits (1966)	4095	19.04	0.01	0.71	0.01	3.73	16.6	21.4	4.8
8	USAF Basic Trainees (1965)	2527	19.52	0.01	0.71	0.01	3.64	17.0	22.1	5.1
9	US Navy Aviators (1964)	1549	20.04	0.02	0.69	0.01	3.43	17.4	23.6	6.2
10	USAF Flying Pers. (1950)	4000	19.69	0.01	0.86	0.01	4.37	16.6	22.7	6.1
11	US Army Women (1988)	2208	18.90	0.01	0.66	0.01	3.5	15.8	21.0	5.2
12	US Army Women (1977)	216	20.16	0.07	0.96	0.05	4.75	17.6	23.9	6.3

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TABLE 148b. PERCENTILE VALUES FOR SELLION TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	18.0	18.2	18.5	18.8	19.3	19.7	20.2	20.6	20.9	21.2	21.4	3.5
2	US Army Aviators (1970)	18.4	18.6	18.8	19.1	19.5	20.0	20.4	20.8	21.1	21.4	21.7	3.3
3	USAF Flying Pers. (1967)	18.7	18.8	19.1	19.3	19.7	20.2	20.6	21.0	21.3	21.6	21.8	3.2
4	US Army Men (1966)	17.4	17.6	17.9	18.2	18.6	19.1	19.6	20.0	20.3	20.6	20.8	3.4
5	US Marine Corps (1966)	17.4	17.6	17.9	18.2	18.6	19.1	19.6	20.0	20.3	20.6	20.8	3.4
6	USA Basic Trainees (1966)	17.4	17.6	17.9	18.1	18.6	19.1	19.5	20.0	20.2	20.5	20.8	3.4
7	US Navy Recruits (1966)	17.4	17.6	17.9	18.1	18.6	19.0	19.5	20.0	20.2	20.5	20.7	3.3
8	USAF Basic Trainees (1965)	17.9	18.1	18.4	18.6	19.0	19.5	20.0	20.4	20.7	21.0	21.2	3.3
9	US Navy Aviators (1964)	18.5	18.7	19.0	19.2	19.6	20.0	20.5	20.9	21.2	21.6	21.8	3.3
10	USAF Flying Pers. (1950)	17.7	17.9	18.3	18.6	19.1	19.7	20.3	20.8	21.1	21.5	21.7	4.0
11	US Army Women (1988)	17.4	17.5	17.8	18.1	18.5	18.9	19.3	19.7	20.0	20.3	20.5	3.1
12	US Army Women (1977)	18.1	18.4	18.8	19.1	19.5	20.0	20.7	21.4	22.0	22.6	23.0	4.9

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TABLE 149a. STATISTICAL VALUES FOR SELLION TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	11.20	0.02	0.69	0.01	6.2	9.0	13.7	4.7
2	USAF Flying Pers. (1967)	2420	10.75	0.02	0.94	0.01	8.72	7.0	14.1	7.1
3	USAF Basic Trainees (1965)	2527	10.94	0.01	0.73	0.01	6.67	8.0	13.4	5.4
4	US Army Women (1988)	2208	10.53	0.01	0.66	0.01	6.3	8.1	13.3	5.2
5	US Army Women (1977)	216	10.06	0.06	0.93	0.04	9.26	7.4	14.4	7.0

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TABLE 149b. PERCENTILE VALUES FOR SELLION TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	9.7	9.8	10.1	10.3	10.7	11.2	11.7	12.1	12.4	12.7	12.9	3.3
2	USAF Flying Pers. (1965)	8.7	8.9	9.2	9.6	10.1	10.7	11.4	12.0	12.3	12.7	13.0	4.3
3	USAF Basic Trainees (1965)	9.2	9.4	9.8	10.0	10.5	10.9	11.4	11.9	12.2	12.5	12.7	3.5
4	US Army Women (1988)	9.0	9.2	9.5	9.7	10.1	10.5	11.0	11.4	11.7	12.0	12.2	3.2
5	US Army Women (1977)	8.0	8.2	8.6	8.9	9.4	10.1	10.7	11.2	11.5	11.8	12.1	4.1

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TABLE 150a. STATISTICAL VALUES FOR SHOULDER (ACROMIALE) HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	59.78	0.07	2.96	0.05	4.9	50.1	69.5	19.4
2	USAF Flying Pers. (1967)	2420	61.05	0.06	2.85	0.04	4.67	49.6	71.4	21.8
3	US Navy Aviators (1964)	1549	60.44	0.07	2.70	0.05	4.47	50.8	69.8	19.0
4	US Army Women (1988)	2208	55.55	0.06	2.86	0.04	5.2	46.4	66.4	20.0
5	USAF Flying Pers. (1950)	4000	59.09	0.04	2.85	0.03	4.82	48.3	69.0	20.7

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TABLE 150b. PERCENTILE VALUES FOR SHOULDER (ACROMIALE) HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	52.5	53.5	54.9	56.0	57.8	59.8	61.8	63.6	64.6	65.8	66.5	13.9
2	USAF Flying Pers. (1967)	54.4	55.3	56.5	57.5	59.1	61.0	63.0	64.8	65.9	67.0	67.7	13.3
3	US Navy Aviators (1964)	54.6	55.0	56.0	56.9	58.6	60.5	62.3	63.9	64.9	66.1	67.0	12.4
4	US Army Women (1988)	49.2	49.9	50.9	51.9	53.6	55.5	57.5	59.3	60.4	61.6	62.3	13.1
5	USAF Flying Pers. (1950)	52.3	53.1	54.3	55.4	57.2	59.1	61.0	62.7	63.7	64.9	65.6	13.3

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TABLE 151a. STATISTICAL VALUES FOR SHOULDER (ACROMIALE) HEIGHT, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	144.25	0.15	6.20	0.10	4.3	118.2	170.4	52.2
2	US Army Aviators (1970)	1482	143.06	0.15	5.92	0.11	4.14	122.8	163.3	40.5
3	USAF Flying Pers. (1967)	2420	145.21	0.12	5.75	0.08	3.96	127.8	164.4	36.6
4	US Marine Corps (1966)	2008	143.98	0.13	5.96	0.09	4.14	125.4	163.9	38.5
5	US Navy Recruits (1966)	4095	143.95	0.10	6.18	0.07	4.29	122.6	167.9	45.3
6	US Army Men (1966)	6682	143.72	0.08	6.22	0.05	4.33	123.6	166.3	42.7
7	USA Basic Trainees (1966)	2639	143.68	0.12	6.07	0.08	4.22	124.2	163.2	39.0
8	USAF Basic Trainees (1965)	2527	142.85	0.12	6.06	0.09	4.24	122.8	166.7	43.9
9	USAF Flying Pers. (1950)	4000	143.55	0.09	5.73	0.06	3.99	120.4	163.2	42.8
10	US Army Women (1988)	2208	133.36	0.12	5.79	0.09	4.3	113.9	156.5	42.6
11	US Army Women (1977)	1331	133.49	0.16	6.00	0.12	4.49	115.7	155.1	39.4
12	USAF Women (1968)	1905	131.86	0.13	5.48	0.09	4.16	116.2	152.0	35.8
13	USAF WAF Trainees (1952)	849	131.48	0.19	5.53	0.14	4.21	117.0	149.0	32.0
14	US Army Women (1946)	8118	134.08	0.06	5.51	0.04	4.12	115.0	157.0	42.0

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TABLE 151b. PERCENTILE VALUES FOR SHOULDER (ACROMIALE) HEIGHT, STANDING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	129.9	131.6	134.2	136.4	140.0	144.2	148.5	152.3	154.6	156.9	158.4	28.5
2	US Army Aviators (1970)	129.9	131.2	133.3	135.4	139.0	143.1	147.1	150.6	152.8	155.3	157.0	27.1
3	USAF Flying Pers. (1967)	131.9	133.4	135.7	137.8	141.3	145.2	149.1	152.7	154.8	157.1	158.6	26.7
4	US Marine Corps (1966)	131.2	132.4	134.4	136.4	139.8	143.8	148.0	151.8	154.2	156.9	158.7	27.5
5	US Navy Recruits (1966)	129.7	131.6	134.2	136.3	139.8	143.7	148.0	152.1	154.6	157.4	159.1	29.4
6	US Army Men (1966)	129.3	131.1	133.6	135.8	139.5	143.6	147.8	151.8	154.1	156.8	158.6	29.3
7	USA Basic Trainees (1966)	129.8	131.4	133.7	135.9	139.6	143.6	147.7	151.5	153.8	156.4	158.2	28.4
8	USAF Basic Trainees (1965)	129.0	130.6	133.0	135.2	138.7	142.8	146.9	150.7	153.0	155.6	157.3	28.3
9	USAF Flying Pers. (1950)	130.3	131.8	134.1	136.2	139.7	143.6	147.4	150.9	153.0	155.5	157.3	27.0
11	US Army Women (1977)	120.4	121.8	123.9	135.8	129.3	133.3	137.6	141.5	143.7	146.0	147.5	27.1
10	US Army Women (1988)	119.8	121.6	124.1	126.1	129.4	133.2	137.2	141.0	143.2	145.6	147.0	27.2
12	USAF Women (1968)	120.1	121.2	123.0	124.8	128.0	131.7	135.6	139.1	141.1	143.3	144.7	24.6
13	USAF WAF Trainees (1952)	119.1	120.4	122.4	124.4	127.8	131.7	135.3	138.3	140.8	143.6	145.5	26.4
14	US Army Women (1946)	121.7	123.1	125.2	127.1	130.3	134.0	137.7	141.2	143.4	145.6	147.5	25.8

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TABLE 152a. STATISTICAL VALUES FOR SHOULDER (BIDELTOID) BREADTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	49.18	0.06	2.59	0.04	5.3	41.0	59.3	18.3
2	US Army Aviators (1970)	1482	47.40	0.07	2.56	0.05	5.39	40.1	58.7	18.6
3	USAF Flying Pers. (1967)	2420	48.24	0.05	2.56	0.04	5.31	40.0	56.7	16.7
4	US Marine Corps (1966)	2008	45.48	0.05	2.32	0.04	5.09	39.1	57.7	18.6
5	US Army Men (1966)	6682	45.37	0.03	2.54	0.02	5.59	36.7	58.4	21.7
6	USA Basic Trainees (1966)	2639	45.08	0.05	2.47	0.03	5.48	36.2	54.2	18.0
7	US Navy Recruits (1966)	4095	44.93	0.04	2.57	0.03	5.72	37.0	54.5	17.5
8	USAF Basic Trainees (1965)	2527	45.78	0.05	2.48	0.03	5.42	38.0	54.4	16.4
9	US Navy Aviators (1964)	1549	47.70	0.06	2.30	0.04	4.83	37.6	55.0	17.4
10	USAF Flying Pers. (1950)	4000	45.41	0.04	2.27	0.03	5.00	37.5	53.7	16.2
11	US Army Men (1946)	24,461	45.59	0.01	2.51	0.00	5.50	35.0	59.0	24.0
12	US Army Women (1988)	2208	43.26	0.05	2.26	0.03	5.2	36.9	53.2	16.3
13	US Army Women (1977)	1331	42.05	0.06	2.24	0.04	5.32	36.3	56.1	19.8
14	USAF Women (1968)	1905	41.87	0.05	2.31	0.04	5.52	35.2	50.1	14.9
15	US Army Women (1946)	8120	39.58	0.03	2.56	0.02	6.54	31.0	56.0	25.0

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TABLE 152b. PERCENTILE VALUES FOR SHOULDER (BIDELTOID) BREADTH

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	43.4	44.0	45.0	45.9	47.4	49.1	50.9	52.5	53.5	54.5	55.2	11.8
2	US Army Aviators (1970)	41.8	42.3	43.2	44.1	45.6	47.4	49.1	50.7	51.6	52.7	53.5	11.7
3	USAF Flying Pers. (1967)	42.4	43.1	44.1	45.0	46.5	48.2	50.0	51.6	52.6	53.7	54.4	12.0
4	US Marine Corps (1966)	40.5	41.0	41.8	42.6	43.9	45.4	46.9	48.4	49.5	50.9	52.0	11.5
5	US Army Men (1966)	40.0	40.6	41.5	42.3	43.6	45.2	47.0	48.6	49.8	51.1	52.1	12.1
6	USA Basic Trainees (1966)	39.6	40.3	41.2	42.0	43.4	45.0	46.7	48.3	49.4	50.5	51.2	11.6
7	US Navy Recruits (1966)	39.2	40.0	40.9	41.8	43.2	44.8	46.6	48.3	49.4	50.6	51.4	12.2
8	USAF Basic Trainees (1965)	40.6	41.1	41.9	42.7	44.1	45.6	47.3	49.0	50.1	51.5	52.4	11.8
9	US Navy Aviators (1964)	42.1	42.9	43.9	44.8	46.2	47.7	49.2	50.6	51.5	52.4	53.1	11.0
10	USAF Flying Pers. (1950)	40.4	41.0	41.8	42.6	43.8	45.3	46.9	48.4	49.3	50.3	50.9	10.5
11	US Army Men (1946)	40.1	40.6	41.7	42.4	43.9	45.5	47.2	48.8	49.8	51.3	52.3	12.2
12	US Army Women (1988)	38.0	38.7	39.7	40.5	41.8	43.1	44.7	46.2	47.2	48.4	49.2	11.2
13	US Army Women (1977)	37.3	37.7	38.4	39.2	40.5	42.0	43.5	44.8	45.7	46.7	47.5	10.2
14	USAF Women (1968)	36.7	37.3	38.2	39.0	40.3	41.8	43.3	44.9	45.9	47.1	48.0	11.3
15	US Army Women (1946)	34.2	34.9	35.8	36.6	37.8	39.3	41.1	43.0	44.2	45.6	46.7	12.5

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TABLE 153a. STATISTICAL VALUES FOR SHOULDER CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	117.52	0.14	6.04	0.10	5.1	96.6	142.4	45.8
2	US Army Aviators (1970)	1482	116.34	0.16	6.22	0.11	5.35	100.2	147.0	46.8
3	USAF Flying Pers. (1967)	2420	117.69	0.12	5.82	0.08	4.94	99.8	136.7	36.9
4	US Marine Corps (1966)	2008	113.61	0.13	5.76	0.09	5.07	99.2	140.4	41.2
5	US Army Men (1966)	6682	113.16	0.08	6.39	0.06	5.64	93.1	144.7	51.6
6	US Navy Recruits (1966)	4095	112.35	0.10	6.38	0.07	5.68	90.7	135.4	44.7
7	USA Basic Trainees (1966)	2639	112.30	0.12	6.35	0.09	5.66	92.8	139.2	46.4
8	USAF Basic Trainees (1965)	2527	111.05	0.13	6.33	0.09	5.70	91.8	138.7	46.9
9	US Navy Aviators (1964)	1549	116.23	0.14	5.44	0.10	4.68	96.8	138.6	41.8
10	USAF Flying Pers. (1950)	4000	114.93	0.09	5.92	0.07	5.15	98.0	144.3	46.3
11	US Army Men (1946)	3409	109.87	0.11	6.38	0.08	5.81	90.0	137.9	47.9
12	US Army Women (1988)	2208	102.69	0.11	5.22	0.08	5.1	86.2	126.1	39.9
13	US Army Women (1977)	1331	100.39	0.15	5.46	0.11	5.44	86.3	139.9	53.6
14	USAF Women (1968)	1905	100.41	0.12	5.14	0.08	5.12	86.3	122.1	35.8
15	USAF WAF Trainees (1952)	851	96.01	0.14	4.21	0.10	4.39	84.0	109.0	25.0

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TABLE 153b. PERCENTILE VALUES FOR SHOULDER CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	103.7	105.3	107.8	109.9	113.5	117.4	121.5	125.3	127.6	130.4	132.3	28.6
2	US Army Aviators (1970)	102.8	104.0	106.2	108.3	112.0	116.2	120.5	124.3	126.6	129.4	131.4	28.6
3	USAF Flying Pers. (1967)	104.2	105.9	108.4	110.4	113.8	117.5	121.5	125.3	127.6	130.2	132.0	27.8
4	US Marine Corps (1966)	101.4	102.7	104.7	106.5	109.7	113.3	117.1	121.0	123.6	126.9	129.5	28.1
5	US Army Men (1966)	99.8	101.2	103.3	105.3	108.8	112.8	117.1	121.4	124.2	127.7	130.2	30.4
6	US Navy Recruits (1966)	98.7	100.2	102.5	104.4	107.9	112.0	116.4	120.8	123.6	126.7	128.9	30.2
7	USA Basic Trainees (1966)	98.9	100.4	102.5	104.4	107.8	111.9	116.4	120.8	123.5	126.6	123.7	29.8
8	USAF Basic Trainees (1965)	97.9	99.4	101.6	103.5	106.8	110.6	114.9	119.4	122.3	125.9	128.5	30.6
9	US Navy Aviators (1964)	104.1	105.4	107.5	109.3	112.5	116.2	119.9	123.3	125.4	127.8	129.6	25.5
10	USAF Flying Pers. (1950)	102.4	103.8	105.8	107.6	110.8	114.5	118.7	122.8	125.3	128.3	130.3	27.9
11	US Army Men (1946)	96.5	97.5	99.6	101.6	104.6	108.2	112.0	115.8	118.4	121.2	123.2	26.7
12	US Army Women (1988)	91.4	92.7	94.6	96.3	99.1	102.4	105.9	109.5	111.9	114.7	116.7	25.3
13	US Army Women (1977)	89.4	90.3	91.9	93.6	96.7	100.2	103.8	107.2	109.4	112.2	114.3	24.9
14	USAF Women (1968)	90.5	91.2	92.6	94.1	96.8	100.0	103.5	107.0	109.4	112.4	114.7	24.2
15	USAF WAF Trainees (1952)	86.8	87.8	89.4	90.8	93.2	96.0	98.8	101.5	103.1	105.0	106.4	19.6

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TABLE 154a. STATISTICAL VALUES FOR SHOULDER-ELBOW LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	36.90	0.04	1.79	0.03	4.9	29.7	44.6	14.9
2	US Army Aviators (1970)	1482	36.71	0.05	1.78	0.03	4.85	31.7	42.5	10.8
3	USAF Flying Pers. (1967)	2420	35.95	0.03	1.71	0.02	4.76	30.7	42.7	12.0
4	US Marine Corps (1966)	2008	37.12	0.04	1.84	0.03	4.96	31.8	43.2	11.4
5	US Navy Recruits (1966)	4095	36.87	0.03	1.83	0.02	4.97	30.5	43.4	12.9
6	US Army Men (1966)	6682	36.87	0.02	1.86	0.02	5.05	29.7	43.6	13.9
7	USA Basic Trainees (1966)	2639	36.78	0.04	1.81	0.02	4.92	30.8	43.4	12.6
8	USAF Basic Trainees (1965)	2527	36.46	0.04	1.81	0.03	4.96	30.8	42.4	11.6
9	US Navy Aviators (1964)	1549	36.81	0.04	1.70	0.03	4.61	30.8	43.2	12.4
10	USAF Flying Pers. (1950)	4000	36.37	0.03	1.72	0.02	4.73	29.5	43.1	13.6
11	US Army Men (1946)	24,556	36.28	0.01	2.06	0.00	5.68	25.0	49.0	24.0
12	US Army Women (1988)	2208	33.58	0.04	1.74	0.03	5.2	28.2	40.1	11.9
13	US Army Women (1977)	1331	33.56	0.05	1.75	0.03	5.21	27.3	40.2	12.9
14	US Army Women (1946)	8119	33.20	0.02	1.84	0.01	5.62	25.0	41.0	16.0

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TABLE 154b. PERCENTILE VALUES FOR SHOULDER-ELBOW LENGTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	32.9	33.3	34.0	34.6	35.7	36.9	38.1	39.2	39.9	40.6	41.1	8.3
2	US Army Aviators (1970)	32.7	33.1	33.8	34.4	35.5	36.7	37.9	39.0	39.7	40.5	41.1	8.4
3	USAF Flying Pers. (1967)	32.1	32.5	33.2	33.8	34.8	35.9	37.1	38.2	38.8	39.5	40.0	7.9
4	US Marine Corps (1966)	33.0	33.4	34.1	34.7	35.8	37.1	38.4	39.5	40.2	41.0	41.5	8.5
5	US Navy Recruits (1966)	32.7	33.2	33.9	34.5	35.6	36.9	38.1	39.2	39.9	40.7	41.3	8.6
6	US Army Men (1966)	32.6	33.1	33.8	34.5	35.6	36.8	38.1	39.3	40.0	40.8	41.3	8.7
7	USA Basic Trainees (1966)	32.7	33.1	33.8	34.4	35.6	36.8	38.0	39.1	39.8	40.6	41.2	8.5
8	USAF Basic Trainees (1965)	32.4	32.8	33.5	34.1	35.2	36.5	37.7	38.8	39.4	40.2	40.8	8.4
9	US Navy Aviators (1964)	33.0	33.4	34.1	34.7	35.7	36.8	37.9	39.0	39.6	40.4	40.9	7.9
10	USAF Flying Pers. (1950)	32.5	32.9	33.5	34.1	35.2	36.4	37.6	38.6	39.2	39.9	40.3	7.8
11	US Army Men (1946)	31.2	31.8	32.8	33.5	34.8	36.3	37.6	38.9	39.6	40.6	41.4	10.2
12	US Army Women (1988)	29.6	30.1	30.8	31.4	32.4	33.5	34.7	35.9	36.5	37.2	37.7	8.1
13	US Army Women (1977)	29.8	30.2	30.8	31.4	32.3	33.5	34.7	35.9	36.6	37.2	37.6	7.8
14	US Army Women (1946)	28.8	29.3	30.2	30.9	32.0	33.2	34.4	35.5	36.2	37.1	37.6	8.8

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TABLE 155a. STATISTICAL VALUES FOR SHOULDER-FINGERTIP LENGTH (ACROMION-DACTYLION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	78.97	0.09	3.86	0.06	4.9	64.1	95.9	31.8
2	US Army Men (1946)	24,449	77.42	0.02	3.53	0.01	4.56	61.0	93.0	32.0
3	US Army Women (1988)	2208	72.37	0.08	3.84	0.06	5.3	57.9	87.1	29.2
4	US Army Women (1946)	8118	63.93	0.04	3.49	0.03	5.50	51.0	77.0	26.0

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TABLE 155b. PERCENTILE VALUES FOR SHOULDER-FINGERTIP LENGTH (ACROMION-DACTYLION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	70.4	71.4	72.9	74.1	76.3	78.8	81.6	84.1	85.6	87.2	88.2	17.8
2	US Army Men (1946)	69.1	70.1	71.6	72.9	74.9	77.5	79.8	82.0	83.3	84.8	85.9	16.8
3	US Army Women (1988)	63.7	64.7	66.2	67.5	69.7	72.3	74.9	77.3	78.8	80.5	81.6	17.9
4	US Army Women (1946)	55.8	56.8	58.2	59.5	61.6	63.9	66.2	68.4	69.7	71.3	72.5	16.7

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TABLE 156a. STATISTICAL VALUES FOR SHOULDER LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	15.05	0.03	1.10	0.02	7.3	11.4	18.5	7.1
2	US Army Aviators (1970)	1482	15.50	0.03	1.17	0.02	7.56	12.2	19.1	6.9
3	USAF Flying Pers. (1967)	2420	16.60	0.03	1.26	0.02	7.59	13.2	21.7	8.5
4	US Navy Recruits (1966)	4095	16.63	0.03	1.62	0.02	9.77	10.5	21.9	11.4
5	US Marine Corps (1966)	2008	16.43	0.03	1.40	0.02	8.53	10.2	20.9	10.7
6	US Army Men (1966)	6682	16.20	0.02	1.98	0.02	12.25	8.8	24.3	15.5
7	USA Basic Trainees (1966)	2639	15.78	0.04	1.87	0.03	11.83	9.6	22.7	13.1
8	USAF Basic Trainees (1965)	2527	17.76	0.03	1.60	0.02	9.01	12.0	23.0	11.3
9	USAF Flying Pers. (1950)	4000	17.17	0.02	1.37	0.02	7.98	12.2	22.8	10.6
10	US Army Men (1946)	24,453	15.37	0.01	1.70	0.00	11.06	10.2	21.2	11.0
11	US Army Women (1988)	2208	14.47	0.02	1.08	0.02	7.5	11.1	18.2	7.1
12	US Army Women (1977)	1331	15.00	0.03	1.06	0.02	7.08	11.8	18.7	6.9
13	USAF Women (1968)	1905	14.66	0.02	1.02	0.02	6.96	11.5	18.8	7.3
14	USAF WAF Trainees (1952)	846	16.24	0.05	1.33	0.03	8.18	11.0	21.0	10.0
15	US Army Women (1946)	8118	12.14	0.01	1.17	0.01	9.60	8.3	16.7	8.4

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TABLE 156b. PERCENTILE VALUES FOR SHOULDER LENGTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	12.4	12.8	13.3	13.7	14.3	15.0	15.8	16.5	16.9	17.4	17.7	5.2
2	US Army Aviators (1970)	12.9	13.2	13.6	14.0	14.7	15.5	16.3	17.0	17.5	18.0	18.4	5.5
3	USAF Flying Pers. (1967)	13.9	14.2	14.6	15.0	15.7	16.6	17.4	18.2	18.7	19.4	19.8	5.9
4	US Navy Recruits (1966)	13.1	13.6	14.2	14.7	15.5	16.5	17.7	18.9	19.5	20.0	20.2	7.1
5	US Marine Corps (1966)	12.9	13.4	14.1	14.7	15.5	16.4	17.4	18.2	18.8	19.2	19.5	6.6
6	US Army Men (1966)	11.2	11.8	12.7	13.5	14.9	16.3	17.6	18.6	19.2	20.0	20.5	9.3
7	USA Basic Trainees (1966)	11.3	11.6	12.4	13.2	14.6	16.0	17.1	18.0	18.6	19.5	20.2	8.9
8	USAF Basic Trainees (1965)	13.8	14.2	14.9	15.6	16.7	17.9	18.9	19.7	20.2	20.7	21.2	7.4
9	USAF Flying Pers. (1950)	14.0	14.4	14.9	15.4	16.3	17.2	18.1	18.9	19.4	20.1	20.5	6.5
10	US Army Men (1946)	10.9	11.4	12.4	13.2	14.2	15.5	16.5	17.5	18.0	18.8	19.0	8.1
11	US Army Women (1988)	12.0	12.2	12.7	13.1	13.7	14.5	15.2	15.8	16.2	16.7	17.1	5.1
12	US Army Women (1977)	12.5	12.8	13.3	13.7	14.3	15.0	15.7	16.4	16.8	17.3	17.7	5.2
13	USAF Women (1968)	12.3	12.6	13.0	13.3	13.9	14.6	15.3	16.0	16.4	16.9	17.2	4.9
14	USAF WAF Trainees (1952)	13.1	13.5	14.1	14.6	15.4	16.2	17.1	17.9	18.4	19.0	19.5	6.4
15	US Army Women (1946)	9.6	9.8	10.3	10.7	11.4	12.1	12.9	13.6	14.1	14.7	15.2	5.6

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TABLE 157a. STATISTICAL VALUES FOR SITTING HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	91.39	0.08	3.56	0.06	3.9	80.8	103.2	22.4
2	US Army Aviators (1970)	1482	90.92	0.08	3.23	0.06	3.56	78.9	101.6	22.7
3	USAF Flying Pers. (1967)	2420	93.18	0.06	3.18	0.05	3.41	80.9	104.8	23.9
4	US Navy Recruits (1966)	4095	91.60	0.05	3.43	0.04	3.74	79.7	104.5	24.8
5	USA Basic Trainees (1966)	2639	91.22	0.07	3.44	0.05	3.77	79.2	103.2	24.0
6	US Marine Corps (1966)	2008	90.99	0.08	3.53	0.06	3.88	80.4	100.9	20.5
7	US Army Men (1966)	6682	90.69	0.04	3.66	0.03	4.04	77.5	102.9	25.4
8	USAF Basic Trainees (1965)	2527	91.12	0.07	3.48	0.05	3.82	78.8	102.7	23.9
9	US Navy Aviators (1964)	1549	92.14	0.08	3.16	0.06	3.43	81.8	105.6	23.8
10	USAF Flying Pers. (1950)	4000	91.30	0.05	3.23	0.04	3.54	76.7	102.3	25.6
11	US Army Men (1946)	24,352	90.88	0.02	3.41	0.01	3.75	77.0	105.0	28.0
12	US Army Women (1988)	2208	85.20	0.07	3.49	0.05	4.1	74.8	97.1	22.3
13	US Army Women (1977)	1331	85.08	0.10	3.59	0.07	4.22	73.1	96.2	23.1
14	USAF Women (1968)	1905	85.60	0.07	3.17	0.05	3.70	75.4	96.4	21.0
15	US Army Women (1946)	8119	83.66	0.04	3.19	0.03	3.83	71.0	97.0	26.0

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TABLE 157b. PERCENTILE VALUES FOR SITTING HEIGHT

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	82.8	83.9	85.5	86.8	89.0	91.4	93.9	96.0	97.2	98.4	99.1	16.3
2	US Army Aviators (1970)	83.3	84.3	85.7	86.8	88.8	90.9	93.1	95.1	96.3	97.7	98.6	15.3
3	USAF Flying Pers. (1967)	86.2	87.0	88.1	89.2	91.0	93.1	95.3	97.4	98.6	99.8	100.6	14.4
4	US Navy Recruits (1966)	83.6	84.6	86.0	87.2	89.2	91.5	93.9	96.1	97.4	98.8	99.7	16.1
5	USA Basic Trainees (1966)	82.8	83.9	85.5	86.8	88.9	91.2	93.5	95.6	96.9	98.4	99.4	16.6
6	US Marine Corps (1966)	83.1	83.9	85.2	86.4	88.6	91.0	93.4	95.6	96.9	98.4	99.4	16.3
7	US Army Men (1966)	82.0	83.0	84.5	85.9	88.2	90.8	93.2	95.4	96.7	98.2	99.2	17.2
8	USAF Basic Trainees (1965)	82.8	83.8	85.3	86.6	88.8	91.1	93.5	95.5	96.8	98.3	99.3	16.5
9	US Navy Aviators (1964)	85.0	85.8	87.0	88.1	90.0	92.1	94.2	96.2	97.4	98.9	100.0	15.0
10	USAF Flying Pers. (1950)	83.8	84.6	86.0	87.1	89.1	91.3	93.5	95.4	96.6	97.9	98.8	15.0
11	US Army Men (1946)	82.6	83.6	85.1	86.4	88.4	90.9	93.2	95.2	96.5	98.0	99.1	16.5
12	US Army Women (1988)	77.5	78.3	79.5	80.7	82.8	85.1	87.6	89.8	91.0	92.4	93.3	15.8
13	US Army Women (1977)	76.3	77.4	79.0	80.4	82.7	85.2	87.6	89.7	90.8	92.0	92.7	16.4
14	USAF Women (1968)	78.7	79.3	80.4	81.5	83.4	85.6	87.8	89.7	90.9	92.2	93.0	14.3
15	US Army Women (1946)	76.2	77.1	78.4	79.6	81.5	83.7	85.8	87.8	88.9	90.2	91.1	14.9

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TABLE 158a. STATISTICAL VALUES FOR SLEEVE INSEAM LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	47.43	0.07	2.97	0.05	6.3	36.9	59.0	22.1
2	US Army Aviators (1970)	1482	48.67	0.07	2.71	0.05	5.57	40.4	58.5	18.1
3	USAF Flying Pers. (1967)	2420	48.54	0.05	2.56	0.04	5.28	39.9	57.8	17.9
4	USA Basic Trainees (1966)	2639	48.61	0.05	2.57	0.04	5.30	40.2	59.7	19.5
5	US Army Men (1966)	6682	48.59	0.03	2.68	0.02	5.51	39.7	59.7	20.0
6	US Navy Recruits (1966)	4095	48.53	0.04	2.57	0.03	5.29	39.8	56.7	16.9
7	US Marine Corps (1966)	2008	48.31	0.06	2.51	0.04	5.20	40.5	57.5	17.0
8	USAF Basic Trainees (1965)	2527	49.62	0.05	2.63	0.04	5.30	41.0	60.5	19.5
9	US Navy Aviators (1964)	1549	46.52	0.06	2.37	0.04	5.09	39.0	54.0	15.0
10	USAF Flying Pers. (1950)	4000	50.28	0.04	2.84	0.03	5.65	40.6	59.8	19.2
11	US Army Women (1988)	2208	44.33	0.06	2.95	0.04	6.7	32.6	55.3	22.7
12	US Army Women (1977)	1331	45.05	0.07	2.61	0.05	5.80	36.5	54.5	18.0
13	USAF Women (1968)	1905	44.13	0.06	2.42	0.04	5.48	37.0	53.5	16.5
14	USAF WAF Trainees (1952)	845	43.41	0.09	2.63	0.06	6.05	34.0	53.0	19.0

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TABLE 158b. PERCENTILE VALUES FOR SLEEVE INSEAM LENGTH

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	40.9	41.6	42.6	43.6	45.4	47.4	49.4	51.3	52.4	53.7	54.5	13.6
2	US Army Aviators (1970)	42.6	43.3	44.3	45.2	46.8	48.6	50.5	52.2	53.2	54.4	55.2	12.6
3	USAF Flying Pers. (1967)	42.7	43.4	44.4	45.3	46.8	48.5	50.2	51.9	52.8	54.0	54.7	12.0
4	USA Basic Trainees (1966)	42.8	43.4	44.3	45.2	46.8	48.6	50.3	51.8	52.8	54.1	55.0	12.2
5	US Army Men (1966)	42.3	43.0	44.2	45.2	46.8	48.6	50.3	52.0	53.0	54.2	55.1	12.8
6	US Navy Recruits (1966)	42.5	43.2	44.3	45.2	46.8	48.5	50.2	51.8	52.8	53.9	54.7	12.2
7	US Marine Corps (1966)	42.7	43.4	44.3	45.1	46.6	48.2	50.0	51.6	52.6	53.6	54.3	11.5
8	USAF Basic Trainees (1965)	43.6	44.3	45.4	46.3	47.9	49.6	51.3	53.0	54.0	55.2	56.0	12.4
9	US Navy Aviators (1964)	41.2	41.9	42.8	43.5	44.9	46.5	48.1	49.7	50.5	51.5	52.0	10.8
10	USAF Flying Pers. (1950)	43.6	44.4	45.6	46.6	48.4	50.3	52.2	53.9	55.0	56.3	57.1	13.5
11	US Army Women (1988)	37.8	38.5	39.5	40.5	42.3	44.3	46.3	48.2	49.3	50.5	51.3	13.6
12	US Army Women (1977)	39.5	40.1	41.0	41.8	43.2	44.9	46.7	48.5	49.6	50.8	51.7	12.2
13	USAF Women (1968)	38.7	39.3	40.2	41.1	42.4	44.0	45.7	47.2	48.2	49.2	49.9	11.2
14	USAF WAF Trainees (1952)	36.8	37.6	38.8	39.9	41.8	43.6	45.3	46.8	47.7	48.9	50.0	13.2

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TABLE 159a. STATISTICAL VALUES FOR SLEEVE LENGTH: SPINE TO ELBOW

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	59.12	0.06	2.70	0.05	4.6	48.4	68.9	20.5
2	USAF Flying Pers. (1967)	2420	60.57	0.05	2.62	0.04	4.32	52.5	70.5	18.0
3	USAF Basic Trainees (1965)	2527	58.69	0.05	2.73	0.04	4.65	48.2	68.2	20.0
4	US Army Women (1988)	2208	53.71	0.05	2.47	0.04	4.6	44.8	61.6	16.8
5	USAF Women (1968)	1905	53.32	0.06	2.41	0.04	4.52	45.2	62.5	17.3

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TABLE 159b. PERCENTILE VALUES FOR SLEEVE LENGTH: SPINE TO ELBOW

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	52.9	53.6	54.7	55.7	57.3	59.1	60.9	62.6	63.6	64.9	65.7	12.8
2	USAF Flying Pers. (1967)	54.8	55.4	56.4	57.3	58.8	60.5	62.3	64.0	65.0	66.2	67.0	12.2
3	USAF Basic Trainees (1965)	52.5	53.1	54.2	55.2	56.8	58.7	60.6	62.2	63.2	64.2	65.0	12.5
4	US Army Women (1988)	47.9	48.6	49.7	50.5	52.0	53.7	55.4	57.0	57.8	58.7	59.3	11.3
5	USAF Women (1968)	48.0	48.5	49.4	50.3	51.7	53.3	54.9	56.4	57.3	58.5	59.4	11.4

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TABLE 160a. STATISTICAL VALUES FOR SLEEVE LENGTH: SPINE TO SCYE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	22.59	0.04	1.48	0.02	6.5	17.5	27.5	10.0
2	USAF Flying Pers. (1967)	2420	28.45	0.04	1.81	0.03	6.35	23.1	35.4	12.3
3	USAF Basic Trainees (1965)	2527	23.41	0.03	1.59	0.02	6.79	18.6	29.9	11.3
4	US Army Women (1988)	2208	20.83	0.03	1.29	0.02	6.2	16.7	25.2	8.5
5	USAF Women (1968)	1905	20.37	0.03	1.36	0.02	6.68	15.5	25.5	10.0

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TABLE 160b. PERCENTILE VALUES FOR SLEEVE LENGTH: SPINE TO SCYE

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	19.4	19.7	20.2	20.7	21.6	22.6	23.6	24.5	25.1	25.7	26.1	6.8
2	USAF Flying Pers. (1967)	24.3	24.8	25.5	26.1	27.2	28.4	29.7	30.8	31.5	32.2	32.7	8.4
3	USAF Basic Trainees (1965)	19.8	20.2	20.8	21.4	22.3	23.4	24.5	25.4	26.1	26.8	27.4	7.6
4	US Army Women (1988)	17.9	18.2	18.7	19.2	20.0	20.8	21.7	22.5	23.0	23.6	24.0	6.2
5	USAF Women (1968)	17.2	17.6	18.3	18.7	19.5	20.3	21.2	22.2	22.7	23.3	23.7	6.5

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TABLE 161a. STATISTICAL VALUES FOR SLEEVE LENGTH: SPINE TO WRIST

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	88.60	0.09	3.79	0.06	4.3	73.1	103.7	30.6
2	US Army Aviators (1970)	1482	88.63	0.10	3.70	0.07	4.17	78.0	100.6	22.6
3	USAF Flying Pers. (1967)	2420	90.81	0.07	3.52	0.05	3.88	79.1	104.5	25.4
4	US Marine Corps (1966)	2008	86.27	0.08	3.76	0.06	4.36	74.4	99.0	24.6
5	US Navy Recruits (1966)	4095	86.11	0.06	4.03	0.04	4.68	71.2	99.5	28.3
6	US Army Men (1966)	6682	85.84	0.05	3.96	0.03	4.61	70.4	100.2	29.8
7	USA Basic Trainees (1966)	2639	85.75	0.07	3.76	0.05	4.38	72.2	100.2	28.0
8	USAF Basic Trainees (1965)	2527	88.12	0.08	3.80	0.05	4.31	74.8	100.7	25.9
9	US Navy Aviators (1964)	1549	88.86	0.09	3.50	0.06	3.94	78.2	101.2	23.0
10	USAF Flying Pers. (1950)	4000	85.35	0.06	3.76	0.04	4.41	70.4	99.8	29.4
11	US Army Women (1988)	2208	80.67	0.08	3.63	0.05	4.5	67.1	94.8	27.7
12	USAF Women (1968)	1905	79.58	0.08	3.32	0.05	4.17	67.7	91.2	23.5
13	USAF WAF Trainees (1952)	849	75.80	0.14	3.98	0.10	5.26	63.0	89.0	26.0

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TABLE 161b. PERCENTILE VALUES FOR SLEEVE LENGTH: SPINE TO WRIST

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	80.1	81.1	82.5	83.8	86.0	88.5	91.2	94.9	96.5	97.5	97.5	17.4
2	US Army Aviators (1970)	80.3	81.2	82.6	83.8	86.1	88.6	91.1	93.4	94.8	96.5	97.7	17.4
3	USAF Flying Pers. (1967)	83.1	84.0	85.2	86.4	88.3	90.7	93.2	95.5	96.8	98.2	99.1	16.0
4	US Marine Corps (1966)	78.0	78.9	80.2	81.4	83.6	86.2	88.8	91.2	92.6	94.1	94.9	16.9
5	US Navy Recruits (1966)	76.2	77.5	79.4	80.9	83.4	86.1	88.7	91.2	92.7	94.4	95.6	19.4
6	US Army Men (1966)	76.6	77.8	79.4	80.8	83.2	85.7	88.4	90.9	92.4	94.2	95.3	18.7
7	USA Basic Trainees (1966)	77.2	78.2	79.6	80.9	83.1	85.7	88.2	90.6	92.0	93.7	94.8	17.6
8	USAF Basic Trainees (1965)	79.4	80.3	81.8	83.2	85.5	88.2	90.7	93.0	94.4	96.0	97.1	17.7
9	US Navy Aviators (1964)	81.2	82.0	83.3	84.4	86.4	88.8	91.2	93.5	94.9	96.4	97.5	16.3
10	USAF Flying Pers. (1950)	76.5	77.6	79.1	80.5	82.8	85.4	87.9	90.1	91.6	93.2	94.4	17.9
11	US Army Women (1988)	72.4	73.4	74.8	76.1	78.2	80.6	83.1	85.4	86.7	88.0	88.8	16.4
12	USAF Women (1968)	72.4	73.1	74.2	75.3	77.3	79.5	81.7	83.8	85.1	86.8	88.0	15.6
13	USAF WAF Trainees (1952)	66.8	67.9	69.5	70.9	73.3	75.9	78.5	80.9	82.3	84.3	85.7	18.9

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TABLE 162a. STATISTICAL VALUES FOR SLEEVE OUTSEAM

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	60.15	0.07	3.07	0.05	5.1	48.1	74.5	26.4
2	US Army Women (1988)	2208	54.72	0.06	3.02	0.05	5.5	42.1	67.8	25.7
3	US Army Women (1977)	1331	53.80	0.08	2.96	0.06	5.5	44.4	64.6	20.2

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TABLE 162b. PERCENTILE VALUES FOR SLEEVE OUTSEAM

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	53.2	54.0	55.2	56.2	58.0	60.1	62.2	64.2	65.4	66.7	67.6	14.3
2	US Army Women (1988)	47.9	48.7	49.8	50.9	52.6	54.6	56.7	58.6	59.8	61.2	62.1	14.2
3	US Army Women (1977)	47.1	48.0	49.2	50.1	51.7	53.6	55.8	57.8	58.9	60.1	60.7	13.6

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TABLE 163a. STATISTICAL VALUES FOR SPHYRION HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Basic Trainees (1965)	2527	6.63	0.01	0.63	0.01	9.50	4.2	8.9	4.7
2	US Army Women (1977)	1331	6.46	0.01	0.54	0.01	8.40	4.6	8.4	3.8

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TABLE 163b. PERCENTILE VALUES FOR SPHYRION HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	USAF Basic Trainees (1965)	5.2	5.4	5.6	5.8	6.2	6.6	7.1	7.5	7.7	7.9	8.1	2.9
2	US Army Women (1977)	5.2	5.3	5.6	5.8	6.1	6.5	6.8	7.1	7.3	7.6	7.7	2.5

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TABLE 164a. STATISTICAL VALUES FOR STATURE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	175.58	0.16	6.68	0.11	3.8	149.7	204.2	54.5
2	US Army Aviators (1970)	1482	174.56	0.16	6.33	0.12	3.63	153.2	196.9	43.7
3	USAF Flying Pers. (1967)	2420	177.34	0.13	6.19	0.09	3.49	157.9	197.2	39.3
4	US Navy Recruits (1966)	4095	175.33	0.10	6.53	0.07	3.73	153.0	197.9	44.9
5	USA Basic Trainees (1966)	2638	174.69	0.13	6.45	0.09	3.69	152.8	196.7	43.9
6	US Marine Corps (1966)	2006	174.56	0.14	6.31	0.10	3.61	156.8	196.2	39.4
7	US Army Men (1966)	6682	174.52	0.08	6.61	0.06	3.79	151.9	199.1	47.2
8	USAF Basic Trainees (1965)	2527	175.07	0.13	6.49	0.09	3.71	151.2	200.2	49.0
9	US Navy Aviators (1964)	1549	177.64	0.15	5.91	0.11	3.33	161.2	196.2	35.0
10	USAF Flying Pers. (1950)	4000	175.56	0.10	6.16	0.07	3.51	151.9	197.5	45.6
11	US Army Men (1946)	24,508	173.91	0.04	6.39	0.03	3.67	150.0	200.0	50.0
12	Ft. Knox Foot Study (1946)	5566	173.70	0.08	6.45	0.06	3.71	155.0	196.0	41.0
13	CWS Face Study (1945)	3075	174.24	0.12	6.86	0.09	3.94	146.0	196.8	50.8
14	US Army Women (1988)	2208	162.94	0.14	6.36	0.10	3.9	142.8	187.0	44.2
15	US Army Women (1977)	1331	162.96	0.18	6.52	0.13	4.00	142.6	183.8	41.2
16	USAF Women (1968)	1905	162.10	0.14	6.00	0.10	3.70	144.6	183.0	38.4
17	USAF WAF Trainees (1952)	851	162.74	0.20	5.94	0.14	3.65	149.0	179.0	30.0
18	US Army Women (1946)	8121	162.14	0.07	6.00	0.05	3.71	141.0	184.0	43.0

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TABLE 164b. PERCENTILE VALUES FOR STATURE

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	160.3	162.1	164.7	167.0	171.0	175.5	180.1	184.2	186.7	189.2	190.9	30.6
2	US Army Aviators (1970)	160.5	161.8	164.2	166.4	170.3	174.6	178.8	183.6	185.0	188.0	190.2	29.7
3	USAF Flying Pers. (1967)	163.2	164.8	167.2	169.4	173.1	177.3	181.5	185.4	187.7	190.2	191.8	28.6
4	US Navy Recruits (1966)	160.6	162.4	165.0	167.2	170.9	175.1	179.7	184.0	186.5	189.3	191.0	30.4
5	USA Basic Trainees (1966)	159.7	161.6	164.2	166.5	170.3	174.6	179.0	183.0	185.5	188.4	190.2	30.5
6	US Marine Corps (1966)	161.3	162.5	164.5	166.5	170.1	174.4	178.8	182.9	185.4	188.2	190.0	28.7
7	US Army Men (1966)	158.9	160.9	163.8	166.2	170.1	174.4	178.9	183.0	185.6	188.4	190.3	31.4
8	USAF Basic Trainees (1965)	160.0	161.8	164.4	166.7	170.6	175.0	179.4	183.5	185.8	188.4	190.1	30.1
9	US Navy Aviators (1964)	165.3	166.4	168.2	170.0	173.4	177.5	181.8	185.6	187.7	190.0	191.3	26.0
10	USAF Flying Pers. (1950)	161.3	162.9	165.4	167.7	171.5	175.6	179.6	183.4	185.7	188.5	190.6	29.3
11	US Army Men (1946)	159.3	160.8	163.3	165.9	169.7	174.0	178.3	182.4	184.4	187.2	189.2	29.9
12	Ft. Knox Foot Study (1946)	157.0	159.0	161.5	163.5	167.3	171.5	176.0	180.0	182.5	185.0	187.0	30.0
13	CWS Face Study (1945)	157.4	158.7	161.5	164.2	168.3	173.0	177.8	181.4	183.8	185.5	186.1	28.7
14	US Army Women (1988)	148.3	150.2	152.8	155.0	158.6	162.7	167.1	171.3	173.7	176.4	178.0	29.7
15	US Army Women (1977)	148.2	150.0	152.6	154.8	158.4	162.8	167.3	171.6	174.1	176.8	178.4	30.2
16	USAF Women (1968)	149.5	150.5	152.4	154.3	157.8	162.0	166.2	169.9	172.1	174.7	176.5	27.0
17	USAF WAF Trainees (1952)	150.6	151.5	153.2	155.0	158.3	162.4	166.8	170.7	173.3	175.8	177.5	26.9
18	US Army Women (1946)	148.6	150.1	152.4	154.5	158.0	162.0	166.2	169.9	172.2	174.8	176.6	28.0

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TABLE 165a. STATISTICAL VALUES FOR STATURE, AS REPORTED BY SUBJECT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1596	177.25	0.18	7.33	0.13	4.1	144.8	210.8	66.0
2	US Army Aviators (1970)	1482	177.98	0.17	6.50	0.13	3.65	154.9	198.1	43.2
3	USAF Flying Pers. (1967)	2382	176.74	0.12	6.01	0.09	3.40	160.0	193.0	33.0
4	US Army Men (1966)	6669	177.31	0.08	6.89	0.06	3.89	152.4	200.7	48.3
5	US Marine Corps (1966)	2008	178.20	0.15	6.58	0.10	3.69	152.4	198.1	45.7
6	USA Basic Trainees (1966)	2635	177.14	0.13	6.75	0.09	3.82	153.7	199.4	45.7
7	US Navy Recruits (1966)	4095	177.54	0.11	6.79	0.08	3.82	152.4	200.7	48.3
8	USAF Basic Trainees (1965)	2527	176.85	0.14	6.85	0.10	3.87	152.4	200.7	48.3
9	US Army Women (1988)	2132	164.74	0.15	6.69	0.10	4.1	144.8	200.7	55.9
10	US Army Women (1977)	1330	163.98	0.19	6.88	0.13	4.19	142.2	183.9	40.7
11	USAF Women (1968)	1903	164.38	0.14	6.16	0.10	3.75	147.3	188.0	40.7

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TABLE 165b. PERCENTILE VALUES FOR STATURE, AS REPORTED BY SUBJECT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	160.0	162.6	165.1	167.6	172.7	177.8	180.3	188.0	190.5	193.0	195.6	35.6
2	US Army Aviators (1970)	164.0	165.4	167.7	170.1	174.1	178.5	183.0	186.9	189.3	191.0	194.0	30.0
3	USAF Flying Pers. (1967)	162.7	164.3	166.7	168.9	172.6	176.8	180.9	184.5	188.8	187.5	191.1	28.4
4	US Army Men (1966)	160.6	162.8	165.9	168.5	172.7	177.3	182.0	186.2	188.7	191.3	193.0	32.4
5	US Marine Corps (1966)	164.0	165.1	167.2	169.4	173.6	178.3	182.9	186.7	188.9	191.5	193.2	29.2
6	USA Basic Trainees (1966)	161.0	163.1	166.1	168.7	172.5	177.0	181.9	185.9	188.5	191.6	192.5	31.5
7	US Navy Recruits (1966)	161.5	163.5	166.3	168.8	173.0	177.6	182.2	186.3	188.7	191.4	193.2	31.7
8	USAF Basic Trainees (1965)	160.2	162.2	165.3	167.9	172.3	177.0	181.6	185.7	188.1	190.8	192.7	32.5
9	US Army Women (1988)	149.9	149.9	154.9	157.5	160.0	165.1	170.2	172.7	175.3	177.8	180.3	30.5
10	US Army Women (1977)	148.0	149.9	152.7	155.2	159.4	164.0	168.6	172.8	175.3	178.1	180.0	32.0
11	USAF Women (1968)	151.6	152.5	154.3	156.2	159.9	164.3	168.7	172.5	174.7	177.1	178.7	27.1

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TABLE 166a. STATISTICAL VALUES FOR STOMION TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	18.63	0.02	0.78	0.01	4.2	16.1	21.2	5.1
2	USAF Flying Pers. (1967)	2420	18.37	0.02	1.00	0.01	5.44	15.0	21.9	6.9
3	USAF Basic Trainees (1965)	2527	18.28	0.02	0.80	0.01	4.38	15.0	21.2	6.2
4	US Army Women (1988)	2208	17.51	0.02	0.77	0.01	4.4	14.7	20.0	5.3
5	US Army Women (1977)	216	16.84	0.07	1.01	0.05	5.99	14.4	21.8	7.4
6	USAF Women (1968)	1905	17.83	0.03	1.12	0.02	6.28	14.3	23.1	8.8

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TABLE 166b. PERCENTILE VALUES FOR STOMION TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	16.9	17.1	17.4	17.7	18.1	18.6	19.1	19.6	19.9	20.3	20.6	3.6
2	USAF Flying Pers. (1967)	16.1	16.4	16.7	17.1	17.7	18.4	19.0	19.7	20.0	20.5	20.7	4.6
3	USAF Basic Trainees (1965)	16.4	16.6	17.0	17.3	17.7	18.3	18.8	19.3	19.6	20.0	20.2	3.8
4	US Army Women (1988)	15.7	15.9	16.3	16.6	17.0	17.5	18.0	18.5	18.8	19.1	19.4	3.7
5	US Army Women (1977)	14.7	14.9	15.2	15.6	16.2	16.8	17.5	18.0	18.4	18.8	19.1	4.4
6	USAF Women (1968)	15.3	15.6	16.1	16.4	17.1	17.8	18.5	19.3	19.7	20.3	20.7	5.4

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TABLE 167a. STATISTICAL VALUES FOR STRAP LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	71.07	0.10	4.01	0.07	5.7	59.2	88.2	29.0
2	US Army Women (1988)	2208	67.86	0.10	4.62	0.07	6.8	54.5	86.7	32.2
3	USAF Women (1968)	1905	65.22	0.09	3.92	0.06	6.01	52.5	79.7	27.2
4	USAF WAF Trainees (1952)	851	62.80	0.13	3.88	0.09	6.18	50.0	81.0	31.0
5	US Army Women (1946)	8117	71.50	0.07	6.45	0.05	9.08	50.0	100.0	50.0

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TABLE 167b. PERCENTILE VALUES FOR STRAP LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	62.4	63.3	64.7	66.1	68.3	70.9	73.6	76.2	77.9	80.0	81.5	19.1
2	US Army Women (1988)	58.0	59.0	60.6	62.1	64.6	67.6	70.8	73.9	75.7	77.9	79.5	21.5
3	USAF Women (1968)	56.7	57.7	59.2	60.4	62.5	64.9	67.7	70.4	72.1	74.0	75.2	18.5
4	USAF WAF Trainees (1952)	54.0	55.0	56.6	57.8	60.0	62.5	65.1	67.7	69.3	71.4	73.0	19.0
5	US Army Women (1946)	60.0	61.2	62.9	64.3	66.9	70.5	75.1	80.2	83.7	87.9	90.8	30.8

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TABLE 168a. STATISTICAL VALUES FOR SUBNASALE TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	20.35	0.02	0.83	0.01	4.1	17.4	23.1	5.7
2	USAF Flying Pers. (1967)	2420	20.99	0.02	0.79	0.01	3.74	18.0	23.5	5.5
3	US Army Women (1988)	2208	19.57	0.02	0.80	0.01	4.1	16.4	22.0	5.6
4	US Army Women (1977)	216	20.11	0.07	1.00	0.05	4.98	17.5	23.7	6.2
5	USAF Women (1968)	1905	19.66	0.02	0.98	0.02	4.98	17.0	24.0	7.0

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TABLE 168b. PERCENTILE VALUES FOR SUBNASALE TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	18.4	18.6	19.0	19.3	19.8	20.4	20.9	21.4	21.7	22.0	22.3	4.0
2	USAF Flying Pers. (1967)	19.1	19.3	19.7	20.0	20.5	21.0	21.5	22.0	22.3	22.6	22.8	3.7
3	US Army Women (1988)	17.7	17.9	18.3	18.6	19.0	19.6	20.1	20.6	20.9	21.2	21.4	3.7
4	US Army Women (1977)	18.0	18.3	18.6	18.9	19.4	20.0	20.7	21.4	21.9	22.5	22.9	4.9
5	USAF Women (1968)	17.6	17.8	18.2	18.5	19.0	19.6	20.2	20.9	21.4	22.0	22.4	4.8

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TABLE 169a. STATISTICAL VALUES FOR SUBNASALE TO TOP OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	16.19	0.02	0.77	0.01	4.8	13.7	18.9	5.2
2	USAF Flying Pers. (1967)	2420	16.09	0.02	1.02	0.01	6.37	12.5	19.6	7.1
3	US Army Women (1988)	2208	15.28	0.02	0.74	0.01	4.9	12.8	17.9	5.1
4	US Army Women (1977)	216	14.80	0.06	0.95	0.05	6.40	12.5	19.4	6.9
5	USAF Women (1968)	1905	15.91	0.03	1.10	0.02	6.91	12.7	20.5	7.8

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TABLE 169b. PERCENTILE VALUES FOR SUBNASALE TO TOP OF HEAD

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	14.5	14.6	14.9	15.2	15.7	16.2	16.7	17.2	17.5	17.8	18.0	3.6
2	USAF Flying Pers. (1967)	13.8	14.1	14.5	14.8	15.4	16.1	16.8	17.4	17.8	18.2	18.5	4.7
3	US Army Women (1988)	13.5	13.7	14.0	14.3	14.8	15.3	15.8	16.2	16.5	16.8	17.1	3.6
4	US Army Women (1977)	12.5	12.9	13.3	13.7	14.2	14.8	15.4	16.0	16.4	16.7	16.9	4.3
5	USAF Women (1968)	13.5	13.8	14.2	14.5	15.2	15.9	16.6	17.3	17.8	18.3	18.7	5.2

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TABLE 170a. STATISTICAL VALUES FOR SUBSCAPULAR SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Aviators (1970)	1482	1.46	0.02	0.60	0.01	40.87	0.3	4.8	4.5
2	USAF Flying Pers. (1967)	2420	1.37	0.01	0.53	0.01	38.93	0.4	4.3	3.9
3	USAF Flying Pers. (1967)	2420	1.39	0.01	0.49	0.01	35.50	0.5	3.9	3.4
4	USAF Basic Trainees (1965)	2527	0.97	0.01	0.37	0.01	38.14	0.3	3.5	3.3
5	US Navy Aviators (1964)	1549	1.40	0.01	0.49	0.01	34.77	0.6	3.6	3.5
6	US Army Women (1977)	255	1.40	0.04	0.61	0.03	43.29	0.6	3.5	2.9
7	USAF Women (1968)	1905	1.29	0.01	0.48	0.01	37.21	0.5	3.7	3.2

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TABLE 170b. PERCENTILE VALUES FOR SUBSCAPULAR SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	0.59	0.64	0.72	0.80	1.00	1.34	1.81	2.30	2.61	2.95	3.16	2.57
2	USAF Flying Pers. (1967)	0.59	0.65	0.73	0.81	0.98	1.25	1.64	2.10	2.41	2.80	3.07	2.48
3	USAF Flying Pers. (1967)	0.68	0.72	0.79	0.87	1.04	1.29	1.64	2.05	2.34	2.72	3.00	2.32
4	USAF Basic Trainees (1965)	0.46	0.52	0.59	0.63	0.72	0.86	1.11	1.46	1.73	2.09	2.37	1.91
5	US Navy Aviators (1964)	0.63	0.69	0.78	0.86	1.04	1.31	1.67	2.07	2.34	2.65	2.87	2.24
6	US Army Women (1977)	0.60	0.60	0.67	0.75	0.96	1.24	1.66	2.44	2.70	2.90	3.10	2.50
7	USAF Women (1968)	0.62	0.65	0.71	0.78	0.93	1.17	1.51	1.93	2.23	2.62	2.90	2.28

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TABLE 171a. STATISTICAL VALUES FOR SUBSTERNALE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	USAF Flying Pers. (1950)	2908	123.75	0.08	5.06	0.06	4.09	105.0	141.4	36.4
2	US Army Women (1977)	255	113.92	0.31	4.97	0.22	4.36	101.5	130.5	29.0

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TABLE 171b. PERCENTILE VALUES FOR SUBSTERNALE HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	USAF Flying Pers. (1950)	112.1	113.5	115.6	117.4	120.3	123.7	127.1	130.3	132.2	134.4	135.9	23.8
2	US Army Women (1977)	103.4	104.2	105.8	107.5	110.6	113.9	117.2	120.2	122.2	124.9	127.0	23.6

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TABLE 172a. STATISTICAL VALUES FOR SUPRAILIAC SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Aviators (1970)	1482	2.48	0.03	1.07	0.02	43.10	0.4	6.3	6.0
2	USAF Flying Pers. (1967)	2420	2.62	0.02	1.18	0.02	44.92	0.3	6.3	6.0
3	USAF Flying Pers. (1967)	2420	2.42	0.02	1.04	0.01	42.72	0.4	5.6	5.2
4	USAF Basic Trainees (1965)	2527	1.48	0.02	0.80	0.01	54.05	0.6	4.5	4.4
5	US Army Women (1977)	255	1.68	0.04	0.71	0.03	42.26	0.1	3.9	3.8
6	USAF Women (1968)	1905	1.97	0.02	0.70	0.01	35.53	0.5	5.0	4.5

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TABLE 172b. PERCENTILE VALUES FOR SUPRAILIAC SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Aviators (1970)	0.51	0.57	0.74	1.04	1.68	2.48	3.23	3.86	4.24	4.70	5.05	4.54
2	USAF Flying Pers. (1967)	0.56	0.59	0.78	1.07	1.71	2.56	3.45	4.21	4.63	5.07	5.34	4.78
3	USAF Flying Pers. (1967)	0.67	0.70	0.86	1.09	1.63	2.35	3.12	3.82	4.24	4.72	5.04	4.37
4	USAF Basic Trainees (1965)	0.38	0.49	0.59	0.67	0.85	1.26	1.90	2.65	3.11	3.61	3.88	3.50
5	US Army Women (1977)	0.40	0.50	0.68	0.83	1.15	1.59	2.12	2.66	2.99	3.40	3.60	3.20
6	USAF Women (1968)	0.66	0.72	0.89	1.08	1.46	1.92	2.41	2.87	3.17	3.53	3.81	3.15

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TABLE 173a. STATISTICAL VALUES FOR SUPRASTERNALE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	143.84	0.14	5.93	0.10	4.1	118.8	168.6	49.8
2	USAF Flying Pers. (1967)	2420	145.20	0.11	5.50	0.08	3.79	126.9	162.3	35.4
3	USAF Basic Trainees (1965)	2527	142.84	0.12	5.79	0.08	4.05	122.2	166.2	44.0
4	US Navy Aviators (1964)	1549	145.28	0.14	5.33	0.10	3.67	130.2	162.2	32.0
5	USAF Flying Pers. (1950)	4000	142.97	0.09	5.53	0.06	3.87	122.3	162.5	40.2
6	US Army Women (1988)	2208	133.03	0.12	5.60	0.08	4.2	115.1	153.8	38.7
7	US Army Women (1977)	255	132.62	0.35	5.65	0.25	4.26	119.4	152.2	32.8
8	USAF Women (1968)	1905	132.00	0.12	5.30	0.09	4.02	117.4	150.6	33.2

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TABLE 173b. PERCENTILE VALUES FOR SUPRASTERNALE HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	130.2	131.9	134.3	136.4	139.8	143.7	147.8	151.5	153.7	156.0	157.5	27.2
2	USAF Flying Pers. (1967)	132.5	134.0	136.3	138.2	141.4	145.1	148.9	152.4	154.5	156.8	158.2	25.7
3	USAF Basic Trainees (1965)	129.5	131.1	133.5	135.5	138.9	142.7	146.7	150.4	152.5	154.9	156.3	26.8
4	US Navy Aviators (1964)	134.2	135.1	136.7	138.3	141.4	145.1	149.0	152.4	154.3	156.3	157.4	23.2
5	USAF Flying Pers. (1950)	130.5	131.8	133.9	135.9	139.2	143.0	146.7	150.0	152.1	154.5	156.3	25.8
6	US Army Women (1988)	120.7	122.1	124.1	126.0	129.2	132.9	136.8	140.3	142.5	144.9	146.4	25.7
7	US Army Women (1977)	120.7	131.6	123.4	125.3	128.8	132.6	136.3	139.7	142.0	144.9	147.2	26.5
8	USAF Women (1968)	120.5	121.6	123.4	215.2	128.3	131.9	135.5	138.9	140.9	143.2	144.8	24.3

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TABLE 174a. STATISTICAL VALUES FOR THIGH CLEARANCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	16.82	0.03	1.26	0.02	7.5	12.9	22.0	9.1
2	US Army Aviators (1970)	1482	14.71	0.04	1.41	0.03	9.65	10.5	19.8	9.3
3	USAF Flying Pers. (1967)	2420	16.53	0.03	1.38	0.02	8.35	12.5	21.7	9.2
4	USAF Basic Trainees (1965)	2527	15.03	0.03	1.36	0.02	9.05	11.4	20.3	8.9
5	USAF Flying Pers. (1950)	4000	14.24	0.02	1.30	0.01	9.13	10.3	18.7	8.4
6	US Army Women (1988)	2208	15.89	0.03	1.21	0.02	7.6	12.10	20.6	8.5
7	US Army Women (1977)	255	15.41	0.08	1.31	0.06	8.50	12.2	19.9	7.7
8	USAF Women (1968)	1905	12.44	0.03	1.25	0.02	10.05	9.0	16.9	7.9

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TABLE 174b. PERCENTILE VALUES FOR THIGH CLEARANCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	14.1	14.4	14.9	15.3	16.0	16.8	17.6	18.5	19.0	19.6	20.1	6.0
2	US Army Aviators (1970)	11.6	11.9	12.4	12.9	13.8	14.7	15.6	16.5	17.0	17.7	18.2	6.6
3	USAF Flying Pers. (1967)	13.4	13.8	14.3	14.8	15.6	16.5	17.4	18.3	18.8	19.4	19.9	6.5
4	USAF Basic Trainees (1965)	12.2	12.6	13.0	13.4	14.1	14.9	15.9	16.9	17.5	18.2	18.6	6.4
5	USAF Flying Pers. (1950)	11.3	11.6	12.1	12.6	13.3	14.2	15.1	15.9	16.4	16.9	17.2	5.9
6	US Army Women (1988)	13.4	13.6	14.0	14.4	15.0	15.8	16.7	17.5	18.0	18.6	19.0	5.6
7	US Army Women (1977)	12.5	12.7	13.2	13.7	14.6	15.4	16.2	17.0	17.5	18.3	18.9	6.4
8	USAF Women (1968)	9.8	10.0	10.4	10.8	11.5	12.4	13.3	14.1	14.6	15.1	15.5	5.7

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TABLE 175a. STATISTICAL VALUES FOR THUMB CROTCH LENGTH

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Marine Corps (1966)	2008	4.99	0.01	0.54	0.01	10.87	3.1	6.9	3.8
2	US Army Men (1966)	6682	4.97	0.01	0.52	0.00	10.45	3.3	7.5	4.2
3	US Navy Recruits (1966)	4095	4.95	0.01	0.49	0.01	9.95	2.5	6.7	4.2
4	USA Basic Trainees (1966)	2639	4.95	0.01	0.50	0.01	10.00	3.4	6.9	3.5

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TABLE 175b. PERCENTILE VALUES FOR THUMB CROTCH LENGTH

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Marine Corps (1966)	3.8	3.9	4.1	4.3	4.6	5.0	5.3	5.7	5.9	6.2	6.4	2.6
2	US Army Men (1966)	3.8	3.9	4.1	4.3	4.6	5.0	5.3	5.6	5.8	6.1	6.2	2.4
3	US Navy Recruits (1966)	3.8	4.0	4.2	4.3	4.6	5.0	5.3	5.6	5.8	6.0	6.2	2.4
4	USA Basic Trainees (1966)	3.8	3.9	4.2	4.3	4.6	5.0	5.3	5.6	5.8	6.0	6.1	2.3

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TABLE 176a. STATISTICAL VALUES FOR TIBIALE HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1946)	24,664	45.56	0.02	2.85	0.01	6.26	35.5	59.5	24.0
2	US Army Women (1977)	255	44.05	0.15	2.47	0.11	5.61	37.0	51.8	14.8
3	USAF Women (1968)	1905	41.98	0.05	2.38	0.04	5.67	34.2	49.6	15.4

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TABLE 176b. PERCENTILE VALUES FOR TIBIALE HEIGHT

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1946)	39.1	39.9	41.1	41.9	43.7	45.5	47.5	49.3	50.5	51.8	52.8	13.7
2	US Army Women (1977)	38.6	39.1	40.0	40.9	42.4	44.0	45.6	47.2	48.2	49.6	50.6	12.0
3	USAF Women (1968)	36.9	37.4	38.2	39.0	40.3	41.9	43.5	45.1	46.1	47.2	48.0	11.1

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TABLE 177a. STATISTICAL VALUES FOR TRAGION TO BACK OF HEAD

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	9.89	0.01	0.58	0.01	5.9	8.0	12.0	4.0
2	US Army Aviators (1970)	1482	10.33	0.02	0.69	0.01	6.66	8.0	12.8	4.8
3	USAF Flying Pers. (1967)	2420	10.33	0.01	0.65	0.01	6.28	8.1	12.5	4.4
4	US Navy Recruits (1966)	4095	10.46	0.02	1.34	0.01	12.84	6.8	14.7	7.9
5	US Marine Corps (1966)	2008	10.45	0.03	1.21	0.02	11.56	6.7	13.7	7.0
6	US Army Men (1966)	6682	10.28	0.01	1.19	0.01	11.58	6.9	14.5	7.6
7	USA Basic Trainees (1966)	2639	10.13	0.02	1.15	0.02	11.39	6.8	13.6	6.8
8	USAF Basic Trainees (1965)	2527	9.51	0.01	0.65	0.01	6.83	7.4	12.0	4.6
9	US Navy Aviators (1964)	1549	10.81	0.02	0.76	0.01	7.01	8.0	14.4	6.4
10	USAF Flying Pers. (1950)	4000	10.23	0.01	0.75	0.01	7.33	7.8	13.1	5.3
11	US Army Women (1988)	2208	9.74	0.01	0.55	0.01	5.6	8.0	11.7	3.7
12	US Army Women (1977)	216	10.06	0.06	0.91	0.04	9.01	8.4	13.5	5.1
13	USAF Women (1968)	1905	10.17	0.02	0.90	0.01	8.85	7.6	14.6	7.0

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TABLE 177b. PERCENTILE VALUES FOR TRAGION TO BACK OF HEAD

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	8.5	8.7	8.9	9.2	9.5	9.9	10.3	10.6	10.9	11.1	11.3	2.7
2	US Army Aviators (1970)	8.6	8.9	9.2	9.5	9.9	10.3	10.8	11.2	11.5	11.8	12.0	3.4
3	USAF Flying Pers. (1967)	8.9	9.0	9.3	9.5	9.9	10.3	10.8	11.2	11.4	11.7	11.9	3.0
4	US Navy Recruits (1966)	8.0	8.1	8.4	8.7	9.4	10.4	11.5	12.3	12.7	13.0	13.1	5.1
5	US Marine Corps (1966)	8.2	8.3	8.6	8.9	9.5	10.4	11.3	12.1	12.6	12.9	13.0	4.9
6	US Army Men (1966)	7.9	8.1	8.5	8.8	9.4	10.2	11.1	11.9	12.4	12.7	12.9	5.0
7	USA Basic Trainees (1966)	7.8	8.1	8.4	8.7	9.3	10.0	10.9	11.7	12.2	12.6	12.8	5.0
8	USAF Basic Trainees (1965)	8.0	8.2	8.4	8.7	9.1	9.5	10.0	10.3	10.6	10.8	11.0	3.0
9	US Navy Aviators (1964)	9.1	9.3	9.6	9.9	10.3	10.8	11.3	11.8	12.1	12.5	12.8	3.7
10	USAF Flying Pers. (1950)	8.6	8.7	9.0	9.3	9.7	10.2	10.7	11.2	11.5	11.8	12.1	3.5
11	US Army Women (1988)	8.5	8.6	8.8	9.0	9.4	9.7	10.1	10.4	10.6	10.9	11.0	2.5
12	US Army Women (1977)	8.6	8.6	8.8	9.0	9.4	9.9	10.6	11.2	11.7	12.4	12.9	4.3
13	USAF Women (1968)	8.4	8.6	8.9	9.1	9.6	10.1	10.7	11.3	11.8	12.4	12.9	4.5

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TABLE 178a. STATISTICAL VALUES FOR TRAGION HEIGHT, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	162.49	0.16	6.54	0.11	4.0	137.1	190.3	53.2
2	US Navy Aviators (1964)	1549	164.85	0.15	5.76	0.10	3.49	147.8	183.6	35.8
3	USAF Flying Pers. (1950)	4000	162.38	0.10	6.02	0.07	3.71	139.3	185.0	45.7
4	US Army Women (1988)	2208	150.59	0.13	6.23	0.09	4.1	131.5	173.9	42.4

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TABLE 178b. PERCENTILE VALUES FOR TRAGION HEIGHT, STANDING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	147.4	149.2	151.9	154.2	158.0	162.4	166.9	171.0	173.4	175.9	177.5	30.0
2	US Navy Aviators (1964)	152.6	153.7	155.6	157.4	160.7	164.7	168.8	172.5	174.6	176.8	178.2	25.6
3	USAF Flying Pers. (1950)	148.6	150.1	152.5	154.7	158.3	162.4	166.4	170.1	172.3	175.0	176.8	28.2
4	US Army Women (1988)	136.3	138.1	140.7	142.8	146.3	150.4	154.7	158.8	161.2	163.8	165.4	29.1

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TABLE 179a. STATISTICAL VALUES FOR TRICEPS SKINFOLD THICKNESS

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Navy Aviators (1970)	1549	1.12	0.01	0.44	0.01	39.19	0.3	3.0	2.7
2	US Army Aviators (1970)	1482	1.17	0.01	0.51	0.01	43.42	0.3	3.1	2.9
3	USAF Flying Pers. (1967)*	2420	1.27	0.01	0.51	0.01	40.18	0.3	3.3	3.0
4	USAF Flying Pers. (1967)**	2420	1.23	0.01	0.43	0.01	35.19	0.4	3.1	2.7
5	USAF Basic Trainees (1965)	2527	0.84	0.01	0.36	0.00	42.86	0.1	2.6	2.6
6	US Army Women (1977)	255	1.74	0.03	0.50	0.02	28.61	0.7	3.5	2.8
7	USAF Women (1968)	1905	1.90	0.01	0.54	0.01	28.42	0.6	4.7	4.1

*Right side

**Left side

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TABLE 179b. PERCENTILE VALUES FOR TRICEPS SKINFOLD THICKNESS

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Navy Aviators (1970)	0.40	0.42	0.48	0.58	0.78	1.07	1.40	1.71	1.91	2.14	2.31	1.91
2	US Army Aviators (1970)	0.34	0.36	0.43	0.54	0.77	1.11	1.50	1.87	2.09	2.32	2.47	2.13
3	USAF Flying Pers. (1967)*	0.39	0.44	0.53	0.65	0.89	1.22	1.60	1.97	2.21	2.47	2.65	2.26
4	USAF Flying Pers. (1967)**	0.46	0.51	0.60	0.70	0.91	1.19	1.51	1.82	2.01	2.25	2.40	1.94
5	USAF Basic Trainees (1965)	0.30	0.35	0.41	0.46	0.57	0.76	1.03	1.34	1.56	1.83	2.01	1.71
6	US Army Women (1977)	0.70	0.80	0.92	1.09	1.40	1.74	2.05	2.34	2.56	2.90	3.20	2.50
7	USAF Women (1968)	0.83	0.91	1.06	1.22	1.51	1.87	2.23	2.59	2.83	3.13	3.36	2.53

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TABLE 182a. STATISTICAL VALUES FOR UPPER THIGH CIRCUMFERENCE, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	59.65	0.12	4.93	0.08	8.3	45.8	78.7	32.9
2	US Army Aviators (1970)	1482	58.47	0.14	5.24	0.10	8.96	43.3	77.5	34.2
3	USAF Flying Pers. (1967)	2420	58.81	0.09	4.43	0.06	7.54	45.7	75.9	30.2
4	US Marine Corps (1966)	2008	56.32	0.09	4.21	0.07	7.48	42.3	73.2	30.9
5	US Army Men (1966)	6682	55.42	0.06	4.80	0.04	8.66	39.1	77.1	38.0
6	US Navy Recruits (1966)	4095	54.99	0.08	5.00	0.06	9.08	41.9	73.6	31.7
7	USA Basic Trainees (1966)	2639	54.57	0.10	4.95	0.07	9.06	40.8	75.7	34.9
8	USAF Basic Trainees (1965)	2527	54.09	0.10	5.03	0.07	9.30	40.8	72.7	31.9
9	US Navy Aviators (1964)	1549	57.47	0.10	4.02	0.07	6.99	43.8	71.6	27.8
10	USAF Flying Pers. (1950)	4000	56.84	0.07	4.30	0.05	7.57	43.8	73.0	29.2
11	US Army Men (1946)	24,832	54.45	0.03	4.32	0.02	7.93	41.2	70.2	29.0
12	US Army Women (1988)	2208	58.03	0.10	4.50	0.07	7.8	45.4	74.8	29.4
13	US Army Women (1977)	1331	56.92	0.13	4.59	0.09	8.07	43.1	79.9	36.8
14	USAF Women (1968)	1905	55.48	0.10	4.22	0.07	7.61	43.5	72.0	28.5
15	USAF WAF Trainees (1952)	850	55.58	0.14	4.18	0.10	7.52	44.0	71.0	27.0
16	US Army Women (1946)	7781	56.08	0.06	5.23	0.04	9.40	39.0	79.0	40.0

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TABLE 182b. PERCENTILE VALUES FOR UPPER THIGH CIRCUMFERENCE, STANDING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	48.7	49.9	51.7	53.3	56.3	59.6	63.0	66.0	67.9	70.0	71.5	22.7
2	US Army Aviators (1970)	46.5	47.6	49.6	51.6	54.9	58.6	62.0	65.0	66.9	69.2	70.9	24.4
3	USAF Flying Pers. (1967)	48.5	49.7	51.5	53.2	55.9	58.8	61.7	64.4	66.2	68.2	69.7	21.2
4	US Marine Corps (1966)	47.4	48.4	49.8	51.1	53.4	56.1	59.0	61.9	63.7	65.8	67.3	19.9
5	US Army Men (1966)	45.5	46.5	48.1	49.5	52.0	55.1	58.5	61.8	63.9	66.1	67.6	22.1
6	US Navy Recruits (1966)	45.2	46.2	47.7	49.0	51.3	54.4	58.2	61.9	64.2	66.5	67.8	22.6
7	USA Basic Trainees (1966)	44.8	45.8	47.2	48.6	51.0	54.1	57.8	61.3	63.4	65.7	67.0	22.2
8	USAF Basic Trainees (1965)	44.8	45.7	47.1	48.3	50.4	53.4	57.1	61.1	63.6	66.4	68.1	23.3
9	US Navy Aviators (1964)	47.8	49.0	50.7	52.3	54.8	57.5	60.1	62.5	64.1	65.9	67.3	19.5
10	USAF Flying Pers. (1950)	47.6	48.4	49.9	51.3	53.9	56.8	59.8	62.4	64.1	65.9	67.2	19.6
11	US Army Men (1946)	45.5	46.2	47.8	49.0	51.3	54.1	57.2	60.2	62.2	64.5	66.0	20.5
12	US Army Women (1988)	48.1	49.2	50.8	52.3	54.9	57.9	60.9	63.9	65.7	67.9	69.4	21.4
13	US Army Women (1977)	46.4	47.5	49.4	51.1	53.9	56.9	59.8	62.6	64.5	67.0	69.0	22.6
14	USAF Women (1968)	46.3	47.2	48.7	50.2	52.6	56.3	58.1	60.8	62.6	64.9	66.7	20.4
15	USAF WAF Trainees (1952)	46.6	47.5	49.0	50.3	52.7	55.6	58.5	61.1	62.7	64.4	66.3	19.7
16	US Army Women (1946)	45.4	46.6	48.3	49.8	52.4	55.6	59.3	63.0	65.4	68.2	70.1	24.7

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TABLE 183a. STATISTICAL VALUES FOR VERTICAL REACH, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	143.38	0.14	5.90	0.10	4.1	116.4	169.3	52.9
2	US Army Aviators (1970)	1482	143.48	0.15	5.81	0.11	4.05	124.5	162.8	38.3
3	USA Basic Trainees (1966)	2639	138.80	0.11	5.57	0.08	4.01	116.8	158.7	41.9
4	US Navy Recruits (1966)	4095	138.73	0.09	5.72	0.06	4.12	117.9	160.0	42.1
5	US Army Men (1966)	6682	138.23	0.07	5.80	0.05	4.20	116.8	160.4	43.6
6	US Marine Corps (1966)	2008	137.77	0.13	5.68	0.09	4.12	121.9	155.7	33.8
7	US Army Women (1988)	2208	132.65	0.12	5.59	0.08	4.2	112.9	151.4	38.5

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TABLE 183b. PERCENTILE VALUES FOR VERTICAL REACH, SITTING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	129.3	131.2	133.8	135.9	139.4	143.3	147.4	151.0	153.2	155.4	156.7	27.4
2	US Army Aviators (1970)	130.2	131.7	134.0	136.0	139.5	143.4	147.4	151.1	153.2	155.7	157.3	27.1
3	USA Basic Trainees (1966)	125.8	127.3	129.6	131.7	135.1	138.8	142.4	145.8	148.0	150.7	152.7	26.9
4	US Navy Recruits (1966)	125.9	127.3	129.5	131.5	134.9	138.7	142.5	146.0	148.2	151.0	152.9	27.0
5	US Army Men (1966)	124.7	126.3	128.7	130.9	134.4	138.2	142.0	145.5	147.8	150.6	152.6	27.9
6	US Marine Corps (1966)	124.9	126.4	128.6	130.6	133.9	137.7	141.6	145.2	147.4	149.8	151.4	26.5
7	US Army Women (1988)	119.7	121.1	123.3	125.4	128.8	132.7	136.5	139.8	141.8	143.9	145.4	25.7

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TABLE 184a. STATISTICAL VALUES FOR VERTICAL TRUNK CIRCUMFERENCE, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Aviators (1970)	1482	162.76	0.19	7.22	0.13	4.43	133.1	185.1	47.0
2	USAF Flying Pers. (1967)	2420	161.31	0.14	6.95	0.10	4.31	137.1	185.6	48.5
3	USAF Basic Trainees (1965)	2527	154.28	0.14	7.07	0.10	4.58	132.8	182.7	49.9
4	US Army Men (1946)	24,388	157.67	0.04	6.77	0.03	4.29	125.5	190.5	64.0
5	US Army Women (1977)	255	146.44	0.15	7.26	0.32	4.96	125.5	165.5	40.0
6	USAF Women (1968)	1905	150.07	0.15	6.56	0.11	4.37	133.0	170.5	37.5

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TABLE 184b. PERCENTILE VALUES FOR VERTICAL TRUNK CIRCUMFERENCE, SITTING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Aviators (1970)	146.3	148.3	151.2	153.7	157.8	162.6	167.6	172.2	175.0	178.1	180.1	33.8
2	USAF Flying Pers. (1967)	145.8	147.7	150.4	152.7	156.6	161.0	165.8	170.4	173.2	176.4	178.5	32.7
3	USAF Basic Trainees (1965)	138.0	140.0	142.8	145.3	149.5	154.1	158.9	163.4	166.2	169.5	171.8	33.8
4	US Army Men (1946)	141.7	143.8	146.8	149.1	152.9	157.5	162.1	166.4	169.2	172.7	175.3	33.6
5	US Army Women (1977)	131.7	132.7	134.8	137.0	141.3	146.3	151.4	155.9	158.7	161.8	164.0	32.3
6	USAF Women (1968)	136.4	137.4	139.4	141.5	145.4	149.9	154.4	158.5	161.0	164.0	166.3	29.9

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TABLE 185a. STATISTICAL VALUES FOR VERTICAL TRUNK CIRCUMFERENCE, STANDING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	163.18	0.19	7.81	0.13	4.8	137.7	190.4	52.7
2	US Army Aviators (1970)	1482	169.39	0.20	7.58	0.14	4.48	144.6	194.6	50.0
3	USAF Flying Pers. (1967)	2420	168.07	0.15	7.16	0.10	4.26	142.6	197.5	54.9
4	US Marine Corps (1966)	2008	164.90	0.17	7.41	0.12	4.49	144.0	193.7	49.7
5	USA Basic Trainees (1966)	2639	164.69	0.16	8.47	0.12	5.14	136.8	196.7	59.9
6	US Army Men (1966)	6682	164.11	0.10	8.49	0.07	5.17	135.5	198.6	63.1
7	US Navy Recruits (1966)	4095	162.88	0.14	9.03	0.10	5.54	135.3	196.3	61.0
8	USAF Basic Trainees (1965)	2527	161.15	0.15	7.37	0.10	4.57	138.8	189.7	50.9
9	US Navy Aviators (1964)	1549	167.33	0.17	6.65	0.12	3.98	146.8	190.2	43.4
10	USAF Flying Pers. (1950)	4000	164.53	0.11	7.18	0.08	4.36	139.4	189.7	50.3
11	US Army Women (1988)	2208	153.02	0.15	6.92	0.10	4.5	132.3	177.3	45.0
12	US Army Women (1977)	1331	153.84	0.20	7.27	0.14	4.72	130.3	186.2	55.9
13	USAF Women (1968)	1905	154.43	0.16	6.87	0.11	4.45	134.5	178.2	43.7
14	USAF WAF Trainees (1952)	845	151.71	0.21	6.21	0.20	4.09	137.0	170.0	33.0
15	US Army Women (1946)	7771	149.71	0.08	7.16	0.06	4.80	125.0	185.0	60.0

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TABLE 185b. PERCENTILE VALUES FOR VERTICAL TRUNK CIRCUMFERENCE, STANDING

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	144.6	147.1	150.6	153.5	158.1	163.0	168.1	173.1	176.3	180.2	182.9	38.4
2	US Army Aviators (1970)	152.8	154.4	157.0	159.6	164.2	169.3	174.5	179.1	181.9	185.0	187.2	34.4
3	USAF Flying Pers. (1967)	151.5	153.7	156.7	159.2	163.3	167.8	172.7	177.3	180.2	183.6	185.9	34.4
4	US Marine Corps (1966)	149.5	150.8	153.1	155.4	159.6	164.4	169.9	174.8	177.6	180.7	182.8	33.3
5	USA Basic Trainees (1966)	145.0	147.4	151.0	154.0	159.0	164.5	170.1	175.5	179.0	183.1	186.2	41.2
6	US Army Men (1966)	145.4	147.5	150.6	153.5	158.3	163.8	169.5	175.1	178.6	182.9	185.9	40.5
7	US Navy Recruits (1966)	142.7	145.0	148.4	151.5	156.6	162.6	168.8	174.7	178.3	182.5	185.3	42.6
8	USAF Basic Trainees (1965)	144.6	146.5	149.3	151.9	156.1	160.9	165.8	170.6	173.7	177.5	180.2	35.6
9	US Navy Aviators (1964)	152.5	153.9	156.3	158.7	162.7	167.3	171.8	175.9	178.4	181.5	183.7	31.2
10	USAF Flying Pers. (1950)	148.1	150.1	153.0	155.5	159.6	164.3	169.3	173.9	176.7	179.6	181.3	33.2
11	US Army Women (1988)	138.0	139.6	142.0	144.3	148.3	152.8	157.5	162.0	164.8	168.2	170.6	32.6
12	US Army Women (1977)	136.5	138.9	142.2	144.9	149.1	153.7	158.2	163.2	166.1	169.5	171.8	35.3
13	USAF Women (1968)	140.2	141.4	143.5	145.7	149.6	154.1	158.9	163.4	166.3	169.9	172.5	32.3
14	USAF WAF Trainees (1952)	138.6	139.6	141.6	143.5	147.0	150.9	155.5	159.5	161.6	163.9	165.9	27.3
15	US Army Women (1946)	134.4	136.1	138.6	140.9	144.8	149.3	154.2	159.0	162.2	166.1	169.0	34.6

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TABLE 186a. STATISTICAL VALUES FOR WAIST BACK LENGTH (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	41.20	0.06	2.32	0.04	5.6	34.5	49.3	14.8
2	USAF Flying Pers. (1950)	4000	44.97	0.04	2.57	0.03	5.71	35.2	55.3	20.1
3	US Army Women (1988)	2208	36.73	0.05	2.50	0.04	6.8	28.3	47.7	19.4
4	US Army Women (1977)	1331	40.85	0.07	2.65	0.05	6.50	33.7	51.5	17.8
5	USAF Women (1968)	1905	40.51	0.05	2.22	0.04	5.48	33.6	48.1	14.5
6	USAF WAF Trainees (1952)	847	39.37	0.10	2.98	0.07	7.51	30.0	50.0	20.0
7	US Army Women (1946)	8115	37.78	0.03	2.28	0.02	6.10	29.0	47.0	18.0

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TABLE 186b. PERCENTILE VALUES FOR WAIST BACK LENGTH (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	36.0	36.5	37.4	38.2	39.6	41.2	42.8	44.2	45.1	46.1	46.9	10.9
2	USAF Flying Pers. (1950)	39.1	39.8	40.8	41.7	43.2	44.9	46.7	48.3	49.3	50.4	51.1	12.0
3	US Army Women (1988)	31.4	31.9	32.7	33.5	35.0	36.7	38.4	40.0	41.0	42.1	42.9	11.5
4	US Army Women (1977)	35.4	35.9	36.7	37.5	39.0	40.7	42.6	44.3	45.4	46.7	47.6	12.2
5	USAF Women (1968)	35.4	36.1	37.0	37.7	39.0	40.4	42.0	43.4	44.3	45.2	45.8	10.4
6	USAF WAF Trainees (1952)	33.1	33.9	35.0	35.9	37.4	39.3	41.2	43.0	44.2	45.7	47.5	14.4
7	US Army Women (1946)	32.4	33.1	34.1	34.9	36.2	37.8	39.3	40.8	41.6	42.5	43.1	10.7

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TABLE 187a. STATISTICAL VALUES FOR WAIST BACK LENGTH (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Males (1988)	1774	47.85	0.06	2.68	0.05	5.6	38.5	57.1	18.6
2	US Army Aviators (1970)	1482	46.68	0.07	2.54	0.05	5.44	39.4	54.9	15.5
3	USAF Flying Personnel (1967)	2420	46.92	0.05	2.37	0.03	5.05	40.3	56.3	16.0
4	US Army Men (1966)	6682	45.03	0.04	3.44	0.03	7.64	34.5	58.2	23.7
5	USA Basic Trainees (1966)	2639	44.67	0.06	3.26	0.04	7.30	33.8	57.7	23.9
6	US Marine Corps (1966)	2008	44.67	0.08	3.49	0.06	7.81	35.4	56.2	20.8
7	US Navy Recruits (1966)	4095	43.81	0.06	3.65	0.04	8.34	31.1	57.1	26.0
8	USAF Basic Trainees (1965)	2527	45.48	0.05	2.67	0.04	5.87	34.8	56.2	21.4
9	US Army Women (1988)	2208	44.25	0.05	2.46	0.04	5.6	36.3	55.5	19.2

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TABLE 187b. PERCENTILE VALUES FOR WAIST BACK LENGTH (OMPHALION)

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Males (1988)	41.9	42.5	43.5	44.5	46.1	47.8	49.6	51.2	52.3	53.7	54.8	12.9
2	US Army Aviators (1970)	40.9	41.5	42.4	43.4	44.9	46.7	48.4	49.9	50.9	52.0	52.8	11.9
3	USAF Flying Personnel (1967)	41.6	42.2	43.1	43.9	45.3	46.9	48.5	50.0	50.9	51.9	52.6	11.0
4	US Army Men (1966)	37.5	38.3	39.5	40.6	42.6	44.9	47.3	49.6	50.8	52.2	53.0	15.5
5	USA Basic Trainees (1966)	37.5	38.2	39.4	40.4	42.4	44.6	46.9	49.0	50.2	51.4	52.2	14.7
6	US Marine Corps (1966)	37.2	38.0	39.2	40.2	42.1	44.5	47.0	49.4	50.7	52.0	52.8	15.6
7	US Navy Recruits (1966)	36.2	36.9	38.0	39.1	41.2	43.7	46.4	48.7	50.1	51.5	52.3	16.1
8	USAF Basic Trainees (1965)	39.4	40.1	41.2	42.1	43.7	45.4	47.2	48.9	50.0	51.2	52.0	12.6
9	US Army Women (1988)	39.0	39.5	40.4	41.2	42.6	44.2	45.8	47.4	48.5	49.7	50.6	11.6

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TABLE 188a. STATISTICAL VALUES FOR WAIST BREADTH (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Navy Aviators (1964)	1549	30.39	0.05	2.12	0.04	6.98	22.6	38.0	15.4
2	USAF Flying Personnel (1950)	4000	27.05	0.04	2.32	0.03	8.58	28.2	40.3	12.1
3	US Army Women (1977)	1331	25.58	0.07	2.46	0.05	9.60	19.4	40.0	20.6
4	USAF Women (1968)	1905	24.13	0.04	1.94	0.03	8.04	19.0	32.7	13.7

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TABLE 188b. PERCENTILE VALUES FOR WAIST BREADTH (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Navy Aviators (1964)	25.4	26.0	26.9	27.7	29.0	30.4	31.8	33.1	33.9	34.9	35.6	10.2
2	USAF Flying Personnel (1950)	22.7	23.1	23.7	24.3	25.4	26.8	28.5	30.2	31.3	32.6	33.5	10.8
3	US Army Women (1977)	21.2	21.5	22.1	22.7	23.9	25.3	26.9	28.7	30.0	31.7	33.1	11.9
4	USAF Women (1968)	20.3	20.6	21.2	21.8	22.8	24.0	25.3	26.7	27.6	28.6	29.4	9.1

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TABLE 189a. STATISTICAL VALUES FOR WAIST BREADTH (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	30.93	0.07	2.87	0.05	9.3	23.5	40.5	17.0
2	USAF Flying Personnel (1967)	2420	30.96	0.05	2.39	0.03	7.72	23.5	44.0	20.5
3	USAF Basic Trainees (1965)	2527	28.56	0.05	2.61	0.04	9.14	22.6	40.1	17.5
4	US Army Women (1988)	2208	28.97	0.06	2.83	0.04	9.8	22.5	39.0	16.5

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TABLE 189b. PERCENTILE VALUES FOR WAIST BREADTH (OMPHALION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	25.0	25.6	26.5	27.4	28.9	30.7	32.8	34.8	36.0	37.3	38.1	13.1
2	USAF Flying Personnel (1967)	25.8	26.3	27.2	28.0	29.3	30.9	32.5	34.0	35.0	36.3	37.3	11.5
3	USAF Basic Trainees (1965)	24.0	24.5	25.2	25.7	26.7	28.1	30.0	32.1	33.6	35.5	36.8	12.8
4	US Army Women (1988)	23.7	24.2	24.9	25.6	26.9	28.6	30.7	32.9	34.2	35.8	36.8	13.1

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TABLE 190a. STATISTICAL VALUES FOR WAIST CIRCUMFERENCE (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	83.99	0.18	7.40	0.12	8.8	64.7	112.2	47.5
2	USAF Flying Personnel (1950)	4000	81.23	0.12	7.49	0.08	9.22	62.0	119.3	57.3
3	US Army Men (1946)	24,472	77.73	0.04	7.01	0.03	9.02	59.0	119.0	60.0
4	US Army Women (1988)	2208	72.55	0.13	6.30	0.09	8.7	56.8	98.7	41.9
5	US Army Women (1977)	1331	71.01	0.19	6.90	0.13	9.71	56.5	117.5	61.0
6	USAF Women (1968)	1905	67.20	0.13	5.48	0.09	8.15	53.1	95.1	42.0
7	USAF WAF Trainees (1952)	848	65.70	0.14	4.14	0.10	6.30	52.0	86.0	34.0
8	US Army Women (1946)	8115	67.00	0.07	6.24	0.05	9.38	52.0	110.0	58.0

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TABLE 190b. PERCENTILE VALUES FOR WAIST CIRCUMFERENCE (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters 1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	69.9	71.1	73.0	74.9	78.6	83.4	88.8	94.0	97.1	100.6	102.9	32.9
2	USAF Flying Personnel (1950)	67.5	68.7	70.5	72.3	75.7	80.4	85.9	91.5	94.9	98.8	101.3	33.8
3	US Army Men (1946)	65.0	66.3	68.3	69.8	72.9	76.7	81.3	86.6	90.9	95.8	99.3	34.3
4	US Army Women (1988)	60.7	62.0	63.7	65.3	68.1	71.7	76.2	81.1	84.3	88.3	91.0	30.3
5	US Army Women (1977)	59.0	60.0	61.7	63.4	66.3	70.0	74.6	79.8	83.5	88.5	92.4	33.4
6	USAF Women (1968)	57.6	58.3	59.5	60.8	63.3	66.5	70.2	74.3	77.2	81.1	84.0	26.4
7	USAF WAF Trainees (1952)	57.5	58.3	59.8	61.0	63.0	65.5	68.2	71.0	72.8	74.9	76.4	18.9
8	US Army Women (1946)	56.2	57.2	58.8	60.1	62.6	66.0	70.4	75.4	79.0	83.4	86.5	30.3

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TABLE 191a. STATISTICAL VALUES FOR WAIST CIRCUMFERENCE (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	86.24	0.21	8.64	0.15	10.0	65.4	118.5	53.1
2	US Army Aviators (1970)	1482	87.13	0.22	8.61	0.16	9.89	65.8	121.1	55.3
3	USAF Flying Personnel (1967)	2420	87.60	0.15	7.38	0.11	8.43	68.1	124.6	56.5
4	US Army Men (1966)	6681	80.29	0.10	8.18	0.07	10.19	58.9	127.7	68.8
5	US Navy Recruits (1966)	4095	80.24	0.13	8.14	0.09	10.15	60.8	113.0	52.2
6	USA Basic Trainees (1966)	2639	79.59	0.16	8.08	0.11	10.15	58.8	117.2	58.4
7	US Marine Corps (1966)	2008	79.29	0.14	6.34	0.10	7.99	63.5	110.7	47.2
8	USAF Basic Trainees (1965)	2527	77.96	0.15	7.47	0.10	9.58	62.2	116.2	54.0
9	US Navy Aviators (1964)	1549	85.36	0.17	6.57	0.12	7.69	59.2	111.6	52.4
10	US Army Women (1988)	2208	79.19	0.18	8.27	0.12	10.4	61.0	110.8	49.8
11	US Army Women (1977)	255	76.21	0.49	7.89	0.35	10.35	60.2	109.0	48.8

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TABLE 191b. PERCENTILE VALUES FOR WAIST CIRCUMFERENCE (OMPHALION)

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st--99th)
1	US Army Men (1988)	70.0	71.0	73.3	75.5	79.9	85.6	92.0	98.0	101.6	105.4	107.7	37.7
2	US Army Aviators (1970)	70.8	71.5	73.5	75.9	80.9	86.9	92.9	98.3	101.7	105.8	108.9	38.1
3	USAF Flying Personnel (1967)	71.7	73.2	75.7	78.1	82.4	87.4	92.5	97.2	100.1	103.5	105.9	34.2
4	US Army Men (1966)	66.3	67.7	69.7	71.3	74.5	78.9	84.7	91.4	95.9	101.6	105.6	39.3
5	US Navy Recruits (1966)	65.6	67.4	69.6	71.2	74.2	78.8	85.0	91.8	96.0	100.6	103.3	37.7
6	USA Basic Trainees (1966)	67.2	68.4	70.2	71.9	74.9	78.6	82.8	87.4	90.8	95.2	98.6	31.4
7	US Marine Corps (1966)	65.5	67.3	69.4	70.9	73.7	78.0	84.2	91.0	95.5	100.5	103.6	38.1
8	USAF Basic Trainees (1965)	65.2	66.8	68.7	70.1	72.6	76.4	81.9	88.2	92.6	97.7	101.2	36.0
9	US Navy Aviators (1964)	70.2	71.9	74.5	77.0	81.0	85.4	89.6	93.6	96.1	99.4	101.8	31.6
10	US Army Women (1988)	64.4	65.6	67.6	69.4	73.1	78.1	84.2	90.5	94.6	99.4	102.6	38.2
11	US Army Women (1977)	62.6	63.8	65.5	67.2	70.4	75.1	80.9	87.1	90.9	95.3	98.0	35.4

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TABLE 192a. STATISTICAL VALUES FOR WAIST DEPTH (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Navy Aviators (1964)	1549	21.72	0.05	1.92	0.03	8.86	15.4	29.4	14.0
2	USAF Flying Personnel (1950)	4000	20.16	0.03	2.16	0.02	10.71	14.6	30.6	16.0
3	US Army Women (1977)	1331	18.29	0.06	2.21	0.04	12.09	13.4	32.7	19.3
4	USAF Women (1968)	1905	17.01	0.04	1.67	0.03	9.82	13.0	25.5	12.5

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TABLE 192b. PERCENTILE VALUES FOR WAIST DEPTH (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Navy Aviators (1964)	17.4	17.8	18.6	19.3	20.4	21.7	22.9	24.1	24.9	25.9	26.7	9.3
2	USAF Flying Personnel (1950)	16.1	16.5	17.1	17.6	18.6	19.9	20.5	23.1	24.2	25.3	26.1	10.0
3	US Army Women (1977)	14.4	14.8	15.3	15.9	16.8	18.0	19.4	21.0	22.2	23.9	25.1	10.7
4	USAF Women (1968)	14.0	14.3	14.8	15.2	15.9	16.8	17.8	19.1	20.2	21.6	22.9	8.9

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TABLE 193a. STATISTICAL VALUES FOR WAIST DEPTH (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	22.62	0.06	2.56	0.04	11.3	15.9	33.2	17.3
2	USAF Flying Personnel (1967)	2420	22.31	0.04	2.18	0.03	9.78	16.4	33.6	17.2
3	USAF Basic Trainees (1965)	2527	20.58	0.04	2.21	0.03	10.74	15.2	33.2	18.0
4	US Army Women (1988)	2208	20.39	0.05	2.49	0.04	12.2	14.7	30.4	15.7

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TABLE 193b. PERCENTILE VALUES FOR WAIST DEPTH (OMPHALION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	17.9	18.3	19.0	19.6	20.7	22.3	24.2	26.1	27.3	28.6	29.5	11.6
2	USAF Flying Personnel (1967)	17.8	18.2	18.9	19.6	20.8	22.2	23.7	25.2	26.1	27.3	28.1	10.3
3	USAF Basic Trainees (1965)	16.6	17.0	17.7	18.2	19.0	20.2	21.7	23.5	24.8	26.3	27.4	10.8
4	US Army Women (1988)	15.8	16.3	17.0	17.6	18.6	20.0	21.8	23.8	25.1	26.6	27.5	11.7

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TABLE 194a. STATISTICAL VALUES FOR WAIST FRONT LENGTH (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	34.57	0.05	2.18	0.04	6.3	27.8	42.4	14.6
2	USAF Flying Personnel (1950)	4000	38.65	0.04	2.66	0.03	6.88	28.5	50.6	22.1
3	US Army Women (1988)	2208	31.17	0.05	2.35	0.04	7.5	23.8	40.4	16.6
4	US Army Women (1977)	1331	36.74	0.07	2.63	0.05	7.16	29.5	47.7	18.2
5	USAF Women (1968)	1905	33.58	0.04	1.96	0.03	5.84	27.5	41.5	14.0
6	US Army Women (1946)	8106	32.69	0.02	2.00	0.02	6.13	26.0	40.0	14.0

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TABLE 194b. PERCENTILE VALUES FOR WAIST FRONT LENGTH (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	29.7	30.2	31.0	31.7	33.1	34.6	36.0	37.3	38.1	39.1	39.8	10.1
2	USAF Flying Personnel (1950)	32.6	33.4	34.4	35.3	36.8	38.5	40.3	42.1	43.2	44.4	45.2	12.6
3	US Army Women (1988)	26.1	26.6	27.5	28.3	29.6	31.1	32.7	34.2	35.2	36.4	37.2	11.1
4	US Army Women (1977)	31.6	32.0	32.8	33.5	34.9	36.5	38.3	40.1	41.4	43.0	44.3	12.7
5	USAF Women (1968)	29.4	29.8	30.5	31.1	32.2	33.5	34.8	36.1	36.9	37.9	38.6	9.2
6	US Army Women (1946)	28.1	28.6	29.4	30.2	31.4	32.6	34.0	35.2	36.1	37.1	37.9	9.8

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TABLE 195a. STATISTICAL VALUES FOR WAIST FRONT LENGTH (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	41.45	0.06	2.45	0.04	5.9	34.0	52.1	18.1
2	US Army Aviators (1970)	1482	38.33	0.06	2.34	0.04	5.94	32.8	47.7	14.9
3	USAF Flying Personnel (1967)	2420	40.42	0.05	2.22	0.03	5.49	34.2	49.2	15.0
4	USAF Basic Trainees (1965)	2527	38.32	0.04	2.14	0.03	5.58	30.6	47.0	16.4
5	US Army Women (1988)	2208	38.98	0.05	2.23	0.03	5.7	32.3	48.1	15.8

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TABLE 195b. PERCENTLE VALUES FOR WAIST FRONT LENGTH (OMPHALION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	36.1	36.7	37.6	38.4	39.8	41.3	43.0	44.6	45.7	47.1	48.0	11.9
2	US Army Aviators (1970)	34.2	34.8	35.7	36.5	37.8	39.2	40.7	42.3	43.4	44.9	45.9	11.7
3	USAF Flying Personnel (1967)	35.8	36.2	36.9	37.6	38.9	40.3	41.8	43.3	44.2	45.4	46.2	10.4
4	USAF Basic Trainees (1965)	33.7	34.2	35.0	35.7	36.9	38.2	39.7	41.1	42.1	43.2	44.0	10.3
5	US Army Women (1988)	34.2	34.7	35.5	36.2	37.5	38.9	40.4	41.9	42.8	44.0	44.8	10.6

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TABLE 196a. STATISTICAL VALJES FOR WAIST HEIGHT (ILIOCRISTALE)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	107.34	0.12	5.14	0.09	4.8	87.7	131.7	44.0
2	US Army Aviators (1970)	1482	106.04	0.13	5.04	0.09	4.76	89.7	123.5	33.8
3	USAF Flying Personnel (1967)	2420	109.15	0.10	4.80	0.07	4.40	94.2	126.8	32.6
4	USA Basic Trainees (1966)	2639	106.65	0.10	5.14	0.07	4.82	88.2	125.2	37.0
5	US Army Men (1966)	6682	106.33	0.07	5.37	0.05	5.05	86.4	125.3	38.9
6	US Navy Recruits (1966)	4094	106.13	0.09	5.64	0.06	5.32	86.0	126.9	40.9
7	US Marine Corps (1966)	2008	106.03	0.11	5.14	0.08	4.84	90.3	122.9	32.6
8	USAF Basic Trainees (1965)	2527	105.65	0.10	5.28	0.07	5.00	88.8	125.7	36.9
9	US Army Men (1946)	24,469	105.55	0.03	4.97	0.02	4.71	83.0	127.0	44.0
10	US Army Women (1988)	2208	98.88	0.10	4.82	0.07	4.9	81.5	117.8	36.3

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TABLE 196b. PERCENTILE VALUES FOR WAIST HEIGHT (ILIOCRISTALE)

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	95.7	97.1	99.1	100.9	103.8	107.2	110.8	114.0	115.9	117.9	119.2	23.5
2	US Army Aviators (1970)	94.8	95.8	97.6	99.4	102.6	106.1	109.4	112.4	114.3	116.5	118.2	23.4
3	USAF Flying Personnel (1967)	97.9	99.3	101.3	103.1	105.9	109.1	112.3	115.3	117.2	119.3	120.7	22.8
4	USA Basic Trainees (1966)	95.0	96.2	98.2	100.0	103.2	106.7	110.1	113.2	115.2	117.5	119.2	24.2
5	US Army Men (1966)	93.6	95.1	97.5	99.5	102.8	106.4	109.9	113.1	115.2	117.5	119.2	25.6
6	US Navy Recruits (1966)	92.9	94.6	96.9	99.0	102.3	106.0	109.9	113.4	115.6	118.1	119.8	26.9
7	US Marine Corps (1966)	93.9	95.6	97.8	99.6	102.5	105.9	109.4	112.8	114.9	117.0	118.4	24.5
8	USAF Basic Trainees (1965)	92.8	94.7	97.2	99.2	102.2	105.5	109.1	112.5	114.6	117.0	118.5	25.7
9	US Army Men (1946)	94.2	95.2	97.3	99.1	102.1	105.4	109.0	111.8	113.8	116.1	117.6	23.4
10	US Army Women (1988)	88.0	89.2	91.1	92.8	95.6	98.7	102.0	105.2	107.1	109.3	110.8	22.9

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TABLE 197a. STATISTICAL VALUES FOR WAIST HEIGHT (NATURAL INDENTATION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	112.71	0.12	5.20	0.09	4.6	91.7	134.8	43.1
2	USAF Flying Personnel (1950)	4000	106.77	0.07	4.56	0.05	4.27	88.2	124.4	36.2
3	US Army Women (1988)	2208	105.65	0.11	5.17	0.08	4.9	86.3	123.4	37.1
4	US Army Women (1977)	1331	101.39	0.14	5.20	0.10	5.13	84.8	120.8	36.0
5	USAF Women (1968)	1905	100.28	0.10	4.50	0.07	4.49	87.3	115.5	28.2
6	USAF WAF Trainees (1952)	848	100.80	0.16	4.71	0.11	4.67	86.0	116.0	30.0
7	US Army Women (1946)	8121	102.46	0.05	4.57	0.04	4.48	87.0	122.0	35.0

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TABLE 197b. PERCENTILE VALUES FOR WAIST HEIGHT (NATURAL INDENTATION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	100.9	102.3	104.3	106.1	109.2	112.6	116.2	119.4	121.3	123.5	124.9	24.0
2	USAF Flying Personnel (1950)	96.0	97.3	99.3	101.0	103.8	106.8	109.8	112.6	114.3	116.5	118.0	22.0
3	US Army Women (1988)	94.1	95.4	97.3	99.1	102.1	105.5	109.0	112.3	114.3	116.7	118.3	24.2
4	US Army Women (1977)	89.7	91.1	93.2	95.0	97.8	101.2	104.8	108.2	110.3	112.7	114.2	24.5
5	USAF Women (1968)	90.6	91.6	93.1	94.5	97.1	100.1	103.3	106.1	107.9	109.8	111.2	20.6
6	USAF WAF Trainees (1952)	90.8	91.8	93.5	95.0	97.7	101.0	104.2	106.9	108.5	110.6	112.0	21.2
7	US Army Women (1946)	92.2	93.3	95.1	96.7	99.4	102.4	105.4	108.3	110.1	112.3	113.9	21.7

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TABLE 198a. STATISTICAL VALUES FOR WAIST HEIGHT (OMPHALION)

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	105.88	0.12	5.09	0.09	4.8	86.0	130.5	44.5
2	USAF Flying Pers. (1967)	2420	106.47	0.10	4.72	0.07	4.43	91.9	123.8	31.9
3	USAF Basic Trainees (1965)	2527	105.30	0.10	5.23	0.07	4.97	87.8	125.7	37.9
4	US Navy Aviators (1964)	1549	107.39	0.12	4.56	0.08	4.25	94.2	122.2	28.0
5	US Army Women (1988)	2208	98.21	0.10	4.88	0.07	5.0	80.2	117.5	37.3

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TABLE 198b. PERCENTILE VALUES FOR WAIST HEIGHT (OMPHALION)

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	94.2	95.6	97.7	99.5	102.5	105.8	109.3	112.4	114.3	116.3	117.6	23.4
2	USAF Flying Pers. (1967)	95.6	96.8	98.7	100.4	103.2	106.4	109.7	112.5	114.3	116.2	117.6	22.0
3	USAF Basic Trainees (1965)	93.0	94.7	96.9	98.8	101.8	105.2	108.7	112.1	114.1	116.3	117.8	24.8
4	US Navy Aviators (1964)	97.4	98.4	100.0	101.5	104.1	107.3	110.5	113.5	115.1	116.8	117.8	20.4
5	US Army Women (1988)	86.9	88.3	90.3	92.0	94.9	98.1	101.5	104.6	106.5	108.5	109.8	22.9

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TABLE 199a. STATISTICAL VALUES FOR WAIST HEIGHT, SITTING

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	28.73	0.04	1.66	0.03	5.8	23.1	34.7	11.6
2	USAF Flying Pers. (1950)	4000	23.46	0.03	1.91	0.02	8.14	16.2	30.5	14.3
3	US Army Women (1988)	2208	27.95	0.05	2.14	0.03	7.6	20.8	36.0	15.2
4	USAF Women (1968)	1905	23.37	0.04	1.73	0.03	7.40	17.9	29.2	11.3

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TABLE 199b. PERCENTILE VALUES FOR WAIST HEIGHT, SITTING

No.	Series	Percentiles in Centimeters											Range
							Median						
		1st	2nd	5th	10th	25th	50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	24.8	25.3	26.0	26.7	27.6	28.7	29.8	30.8	31.5	32.3	32.9	8.1
2	USAF Flying Pers. (1950)	18.8	19.3	20.2	20.9	22.2	23.5	24.8	25.9	26.5	27.2	27.6	8.8
3	US Army Women (1988)	22.8	23.5	24.4	25.2	26.5	28.0	29.4	30.7	31.5	32.3	32.7	9.9
4	USAF Women (1968)	19.2	19.7	20.5	21.1	22.2	23.4	24.5	25.6	26.2	27.0	27.5	8.3

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TABLE 200a. STATISTICAL VALUES FOR WEIGHT

Values in Kilograms

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	78.49	0.26	11.10	0.19	14.1	47.6	127.8	80.2
2	US Army Aviators (1970)	1482	77.63	0.28	10.81	0.20	13.93	51.4	126.9	75.5
3	USAF Flying Pers. (1967)	2420	78.74	0.20	9.72	0.14	12.35	53.5	119.7	66.2
4	US Marine Corps (1966)	2006	72.65	0.20	8.92	0.14	12.28	49.9	111.6	61.7
5	US Army Men (1966)	6677	72.23	0.13	10.60	0.09	14.68	45.4	127.0	81.6
6	US Navy Recruits (1966)	4091	71.56	0.17	10.56	0.12	14.76	47.2	123.0	74.8
7	USA Basic Trainees (1966)	2638	70.74	0.20	10.47	0.14	14.81	45.2	115.9	70.7
8	USA Basic Trainees (1965)	2527	68.73	0.20	10.24	0.14	14.90	42.4	107.7	65.3
9	US Navy Aviators (1964)	1549	77.74	0.22	8.66	0.16	11.14	49.7	111.4	61.7
10	USAF Flying Pers. (1950)	4000	74.10	0.15	9.44	0.11	12.74	51.3	120.2	68.9
11	US Army Men (1946)	24,506	70.22	0.06	9.32	0.04	13.29	43.1	138.3	95.2
12	Ft. Knox Foot Study (1946)	5564	69.01	0.12	9.24	0.09	13.39	51.0	106.0	55.0
13	CWS Face Study (1945)	3075	71.19	0.17	9.53	0.12	13.39	44.0	125.6	81.6
14	US Army Women (1988)	2208	62.01	0.18	8.35	0.13	13.5	41.3	96.7	55.4
15	US Army Women (1977)	1331	59.97	0.24	8.69	0.17	14.49	39.9	125.1	85.2
16	USAF Women (1968)	1905	57.73	0.17	7.52	0.12	13.03	38.6	90.7	52.1
17	USAF WAF Trainees (1952)	851	55.92	0.23	6.60	0.16	11.80	38.1	78.5	40.4
18	US Army Women (1946)	8107	59.63	0.10	9.00	0.07	15.10	39.0	111.6	72.6

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TABLE 200b. PERCENTILE VALUES FOR WEIGHT

No.	Series	Percentiles in Kilograms											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	55.3	57.8	61.6	64.9	70.7	77.7	85.5	93.2	98.1	103.8	107.7	52.4
2	US Army Aviators (1970)	55.5	57.2	60.4	63.7	69.9	77.4	84.9	91.8	96.0	101.0	104.4	48.9
3	USAF Flying Pers. (1967)	57.9	60.2	63.6	66.6	71.9	78.2	85.0	91.5	95.6	100.2	103.3	45.4
4	US Marine Corps (1966)	55.6	57.0	59.4	61.8	66.2	71.8	78.2	84.5	88.5	93.3	96.6	41.0
5	US Army Men (1966)	52.6	54.5	57.4	60.0	64.8	71.0	78.4	86.3	91.6	98.3	103.0	50.4
6	US Navy Recruits (1966)	51.8	53.9	56.8	59.3	63.9	70.1	78.0	86.2	91.3	97.0	100.6	48.8
7	USA Basic Trainees (1966)	50.8	53.0	56.1	58.7	63.3	69.4	77.0	85.1	90.3	96.2	100.0	49.2
8	USAF Basic Trainees (1965)	50.4	52.2	54.8	57.2	61.4	67.2	74.5	82.7	88.2	95.2	100.1	49.7
9	US Navy Aviators (1964)	58.7	60.6	63.7	66.7	71.9	77.6	83.3	88.8	92.3	96.7	100.0	41.3
10	USAF Flying Pers. (1950)	55.7	57.4	60.1	62.6	67.3	73.4	80.3	87.1	91.2	95.8	98.6	42.9
11	US Army Men (1946)	51.9	53.5	56.4	59.0	64.0	69.4	75.7	82.1	87.0	93.0	97.5	45.6
12	Ft. Knox Foot Study (1946)	49.0	51.0	53.5	56.0	60.0	65.0	71.5	77.7	82.0	87.5	92.0	43.0
13	CWS Face Study (1945)	51.0	52.4	55.8	58.2	63.0	68.6	75.4	82.1	86.6	91.9	96.1	45.1
14	US Army Women (1988)	45.2	47.0	49.6	52.0	56.1	61.3	67.1	73.1	77.0	81.6	84.7	39.5
15	US Army Women (1977)	42.7	44.0	46.6	49.3	54.1	59.6	65.1	70.7	74.5	79.7	83.8	41.1
16	USAF Women (1968)	43.7	44.5	46.4	48.5	52.4	57.2	62.2	67.4	70.9	75.7	79.5	35.8
17	USAF WAF Trainees (1952)	43.1	44.5	46.3	48.0	51.0	55.4	60.3	64.4	67.2	71.0	73.5	30.4
18	US Army Women (1946)	44.0	45.3	47.4	49.4	53.2	58.3	64.7	71.7	76.5	84.2	86.6	42.6

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TABLE 201a. STATISTICAL VALUES FOR WEIGHT, AS REPORTED BY SUBJECT

Values in Kilograms

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	77.89	0.25	10.63	0.18	13.7	48.2	126.4	78.2
2	US Army Aviators (1970)	1482	77.51	0.26	9.88	0.18	12.75	54.4	117.0	62.6
3	USAF Flying Pers. (1967)	2380	78.50	0.18	8.91	0.13	11.35	56.7	100.2	43.5
4	US Marine Corps (1966)	2008	74.33	0.18	8.77	0.14	11.80	50.8	111.6	60.8
5	US Army Men (1966)	6682	73.20	0.13	10.56	0.09	14.43	45.4	122.5	77.1
6	US Navy Recruits (1966)	4094	72.04	0.17	10.82	0.12	15.02	46.7	122.0	75.3
7	USA Basic Trainees (1966)	2639	71.08	0.26	10.56	0.15	14.86	44.2	114.5	70.3
8	USAF Basic Trainees (1965)	2527	69.44	0.20	10.25	0.14	14.76	43.1	113.4	70.3
9	US Army Women (1988)	2202	60.92	0.17	7.90	0.12	13.0	40.9	95.5	54.5
10	US Army Women (1977)	1330	59.51	0.22	8.04	0.16	13.51	39.5	99.8	60.3
11	USAF Women (1968)	1903	56.88	0.16	7.18	0.12	12.62	37.2	88.4	51.2

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TABLE 201b. PERCENTILE VALUES FOR WEIGHT, AS REPORTED BY SUBJECT

No.	Series	Percentiles in Kilograms											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men(1988)	55.8	57.7	61.4	65.0	70.5	77.3	84.1	91.8	97.3	102.0	104.5	48.8
2	US Army Aviators (1970)	58.2	59.1	61.6	64.6	70.5	77.4	84.0	90.0	94.0	99.1	103.1	44.9
3	USAF Flying Pers. (1967)	58.4	60.2	63.2	66.0	71.0	77.0	83.4	89.4	93.0	96.9	99.3	40.9
4	US Marine Corps (1966)	57.4	58.9	61.3	63.6	68.0	73.5	79.8	86.1	90.1	94.8	98.0	40.6
5	US Army Men (1966)	53.0	55.0	58.0	60.8	65.8	72.1	79.4	87.2	92.3	98.6	103.1	50.1
6	US Navy Recruits (1966)	51.9	54.0	56.8	59.4	64.1	70.6	78.6	86.9	92.1	97.9	101.6	49.7
7	USA Basic Trainees (1966)	50.8	53.1	56.2	59.0	63.5	69.9	77.6	85.3	90.7	96.6	100.7	49.9
8	USAF Basic Trainees (1965)	50.0	52.3	55.3	57.7	62.0	67.9	75.4	83.7	89.2	95.8	100.2	50.2
9	US Army Women (1988)	44.5	46.4	49.1	51.4	55.5	60.5	65.9	71.6	75.0	79.5	82.7	38.2
10	US Army Women (1977)	40.8	43.0	46.3	49.2	54.1	59.5	64.9	69.8	72.7	76.0	78.2	37.4
11	USAF Women (1968)	42.9	44.1	46.1	48.1	51.8	56.2	61.0	65.9	69.4	73.9	77.3	34.4

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TABLE 202a. STATISTICAL VALUES FOR WRIST CIRCUMFERENCE

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range		
								Min.	Max.	Total
1	US Army Men (1988)	1774	17.42	0.02	0.83	0.01	4.8	14.3	20.4	6.1
2	US Army Aviators (1970)	1482	16.86	0.03	1.03	0.02	6.13	13.7	20.3	6.6
3	USAF Flying Pers. (1967)	2420	17.59	0.02	0.92	0.01	5.23	15.1	20.8	5.7
4	USA Basic Trainees (1966)	2639	17.08	0.02	0.85	0.01	4.99	14.6	20.6	6.0
5	US Army Men (1966)	6682	17.06	0.01	0.88	0.01	5.13	13.7	21.6	7.9
6	US Marine Corps (1966)	2008	17.01	0.02	0.81	0.01	4.74	14.7	19.6	4.9
7	US Navy Recruits (1966)	4095	16.96	0.01	0.87	0.01	5.12	13.9	20.0	6.1
8	USAF Basic Trainees (1965)	2527	17.14	0.02	0.85	0.01	4.96	14.0	20.4	6.4
9	US Navy Aviators (1964)	1549	17.04	0.02	0.80	0.01	4.72	14.2	19.4	5.2
10	USAF Flying Pers. (1950)	4000	17.37	0.01	0.91	0.01	5.24	14.4	21.6	7.2
11	US Army Men (1946)	24,391	17.02	0.00	1.03	0.00	6.05	13.5	21.0	6.5
12	US Army Women (1988)	2208	15.12	0.01	0.69	0.01	4.6	12.9	17.4	4.5
13	US Army Women (1977)	1331	14.71	0.02	0.69	0.01	4.66	12.9	17.5	4.6
14	USAF Women (1968)	1905	14.96	0.02	0.71	0.01	4.75	12.5	17.6	5.1
15	USAF WAF Trainees (1952)	848	15.44	0.04	1.03	0.03	6.70	13.0	20.0	7.0
16	US Army Women (1946)	8112	14.72	0.01	0.81	0.01	5.53	11.4	18.4	7.0

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TABLE 202b. PERCENTILE VALUES FOR WRIST CIRCUMFERENCE

No.	Series	Percentiles in Centimeters											
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	Range (1st-99th)
1	US Army Men (1988)	15.6	15.8	16.1	16.4	16.9	17.4	18.0	18.5	18.8	19.2	19.4	3.9
2	US Army Aviators (1970)	14.6	14.9	15.3	15.6	16.1	16.8	17.5	18.2	18.7	19.3	19.7	5.1
3	USAF Flying Pers. (1967)	15.7	15.9	16.2	16.5	16.9	17.5	18.2	18.8	19.2	19.7	20.0	4.3
4	USA Basic Trainees (1966)	15.2	15.4	15.8	16.0	16.5	17.0	17.6	18.2	18.6	19.0	19.4	4.2
5	US Army Men (1966)	15.1	15.3	15.7	16.0	16.5	17.0	17.6	18.2	18.6	19.0	19.3	4.2
6	US Marine Corps (1966)	15.2	15.4	15.7	16.0	16.4	17.0	17.5	18.1	18.4	18.8	19.0	3.8
7	US Navy Recruits (1966)	15.1	15.2	15.6	15.9	16.4	16.9	17.5	18.1	18.4	18.9	19.2	4.1
8	USAF Basic Trainees (1965)	15.2	15.5	15.8	16.1	16.6	17.1	17.7	18.2	18.6	19.0	19.3	4.1
9	US Navy Aviators (1964)	15.2	15.4	15.8	16.0	16.5	17.0	17.6	18.1	18.4	18.8	19.0	3.8
10	USAF Flying Pers. (1950)	15.4	15.6	16.0	16.2	16.8	17.4	18.0	18.6	18.9	19.4	19.7	4.3
11	US Army Men (1946)	14.7	15.0	15.2	15.7	16.3	17.0	17.8	18.5	18.8	19.3	19.6	4.9
12	US Army Women (1988)	13.6	13.8	14.0	14.3	14.7	15.1	15.6	16.0	16.3	16.6	16.8	3.2
13	US Army Women (1977)	13.2	13.4	13.6	13.8	14.2	14.7	15.2	15.6	15.8	16.1	16.2	3.0
14	USAF Women (1968)	13.4	13.5	13.8	14.0	14.4	14.9	15.4	15.9	16.2	16.6	16.8	3.4
15	USAF WAF Trainees (1952)	13.6	13.7	14.0	14.2	14.7	15.3	16.0	16.8	17.4	18.1	18.6	5.0
16	US Army Women (1946)	13.0	13.2	13.5	13.7	14.4	14.9	15.2	15.8	16.1	16.6	17.6	4.0

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TABLE 203a. STATISTICAL VALUES FOR WRIST (STYLION) HEIGHT

Values in Centimeters

No.	Series	N	Mean	SE(M)	S.D.	SE(SD)	V(%)	Range Min.	Range Max.	Range Total
1	US Army Men (1988)	1774	84.65	0.10	4.15	0.07	4.9	70.2	100.5	30.3
2	USAF Flying Pers. (1967)	2420	86.58	0.08	3.94	0.06	4.55	75.4	100.4	25.0
3	USAF Basic Trainees (1965)	2527	84.77	0.08	4.02	0.06	4.74	72.2	100.2	28.0
4	USAF Flying Pers. (1950)	4000	85.19	0.06	3.88	0.04	4.55	71.4	101.2	29.8
5	US Army Women (1988)	2208	79.03	0.08	3.86	0.06	4.9	67.3	93.9	26.6

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TABLE 203b. PERCENTILE VALUES FOR WRIST (STYLION) HEIGHT

No.	Series	Percentiles in Centimeters											Range
		1st	2nd	5th	10th	25th	Median 50th	75th	90th	95th	98th	99th	(1st-99th)
1	US Army Men (1988)	74.9	76.1	77.8	79.3	81.8	84.6	87.5	90.0	91.5	93.1	94.1	19.2
2	USAF Flying Pers. (1967)	77.6	78.7	80.2	81.6	83.9	86.5	89.2	91.8	93.3	94.9	96.0	18.4
3	USAF Basic Trainees (1965)	75.3	76.6	78.4	79.7	82.0	84.6	87.4	90.1	91.7	93.3	94.2	18.9
4	USAF Flying Pers. (1950)	76.5	77.4	78.8	80.2	82.6	85.2	87.8	90.1	91.6	93.2	94.4	17.9
5	US Army Women (1988)	70.8	71.5	72.8	74.0	76.3	79.0	81.6	84.1	85.5	87.2	88.3	17.5

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20. TERMINOLOGY FOR BODY MEASUREMENTS

20.1 General. The use of correct terminology for body measurements is important so that the measurements may be clearly and specifically identified. Anthropometric terminology has evolved over a period of years, and in this evolution changes and modifications in terminology have taken place through usage. Although clarity and consistency in terminology are to be desired, there are no fixed or rigid standards for anthropometric terminology. Many of the descriptive terms used for body measurements have been derived from scientific or anatomical terms for parts of the body or anatomical points used as landmarks for measurements. The terms for some body measurements, particularly the so—called surface measurements, have been derived from tailoring measurements used in the development of clothing patterns. The terms used for body measurements taken in each of the fourteen basic anthropometric surveys are listed below. To facilitate identification of body measurements, the terms used in the original published technical reports for each survey are given under the heading “original term.” Equivalent terms, which conform with current usage, are shown under the heading “preferred term.“ The “preferred terms” are those used for the 203 body measurements included in the collation of anthropometric data in this handbook. It will be noted that a “preferred term” is not given for some of the “original terms.” This omission indicates a measurement which was taken in only one of the fourteen basic anthropometric surveys. Since body measurements taken only once have not been included in the collation of data on 203 measurements, the terminology listings below thus indicate those measurements which have been omitted. Anthropometric data for these body measurements may be found in the referenced technical reports.

20.2 United States Army.

20.2.1 U.S. Army Hen (1946). See paragraph 2.2.1.1 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Outseam	Waist Height
Inseam	Crotch Height
Thigh Length 1/	
Lower Leg Length	Tibiale Height
Arm Length	Shoulder-Fingertip Length

1/ cotained by subtracting Lower Leg Length from Inseam.

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Original term	Preferred term
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Trunk Height	Trunk (Suprasternale) Height, Sitting
Upper Arm Length	Acromion-Radiale Length
Shoulder-Elbow	Shoulder-Elbow Length
Forearm-Hand Length	Elbow-Fingertip Length
Patella Height	Knee Height, Sitting
Buttock-Knee	Buttock-Knee Length
DEPTH AND BREADTH MEASUREMENTS	
Chest Breadth	Chest Breadth
Trunk Depth 1/	
Bideltoid	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Bi-iliac	Bi—iliocristale Breadth
Elbow Breadth	Elbow-Elbow Breadth, Sitting
Hip Breadth	Hip Breadth, Sitting

1/ Subject stands. Measurement taken as the maximum anterior-posterior diameter of either the thorax or abdomen, whichever is greater, in the horizontal plane. Contact, no pressure.

CIRCUMFERENCES	
Neck circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference	Waist Circumference
Hip Circumference	Hip (Buttock) Circumference, Standing
Vertical Trunk Circumference	Vertical Trunk Circumference, Sitting
LIMB CIRCUMFERENCE	
Arm Scye	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Middle Upper Arm Circumference	Biceps Circumference, Relaxed
Lower Upper Arm Circumference	
Upper Forearm Circumference	Forearm Circumference, Relaxed
Middle Forearm Circumference	

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Original term	Preferred term
LIMB CIRCUMFERENCE - continued	
Wrist Circumference	Wrist Circumference
Crotch Thigh Circumference	Upper Thigh Circumference, Standing
Middle Thigh Circumference	Mid—Thigh Circumference
Lower Thigh Circumference	Lower Thigh Circumference
Upper Leg Circumference	
Calf Circumference	Calf Circumference
Ankle Circumference 1/	

1/ Measurement taken over the ankle bones (internal and external malleoli); data are not comparable with other measurements of Ankle Circumference.

SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Cross Back Width	Interscye, Back
Sleeve Length	Sleeve Length: Spine to Wrist
Total Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS	
Head Circumference	Head Circumference
Head Length	Head Length
Otobasion—Superior—Outer Canthus	
Head Breadth	Head Breadth
Head Height (Porion-Apex)	Head Height (Tragion to top of head)
Face Length (Nasion—Menton)	Face Length (Menton-Sellion)
Minimum Frontal	Minimum Frontal Breadth
Bizygcmatic	Face Breadth (Bizygomatic)
Bigonial	Bigonial Breadth
Biocular	Biocular Breadth
Interocular	Interocular Breadth
Nose Length (Nasion-Menton)	Nose length (Subnasale—Sellion)
Nasal Root Breadth	Nasal Root Breadth
Nose Breadth	Nose Breadth
HAND MEASUREMENTS	
Hand Length	Hand Length
Hand Breadth	Hand Breadth

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Original term	Preferred term
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Heel Breadth	Heel Breadth
Ball Foot Circumference	Ball of Foot Circumference

20.2.2 U.S. Army Men (1966). See paragraph 2.2.1.2 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Shoulder Height (Acromiale Height)	Shoulder (Acromiale) Height, Standing
Waist Height (Iliocristale Height)	Waist Height
Crotch Height	Crotch Height
Kneecap Height (Patella Height)	Kneecap (Patella) Height
Calf Height	Calf Height
Fuctional Reach	Fuctional (Thumb—Tip) Reach
SITTING MEASUREMENTS	
Vertical Arm Reach, Sitting	Veritcal Reach, Sitting
Sitting Height	Sitting Height
Eye Height, Sitting	Eye Height, Sitting
Mid—Shoulder Height, Sitting	Mid—Shoulder Height, Sitting
Shoulder-Elbow Length	Shoulder-Elbow Length
Elbow-Fingertip Length (Forearm-Hand Length)	Elbow-Fingertip Length
Knee Height, Sitting	Knee Height, Sitting
Popliteal Height, Sitting	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock-Popliteal Length	Buttock-Popliteal Length
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Chest Depth
Shoulder Breadth (Bideltoid Breadth)	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Hip breadth, Standing	Hip Breadth, Standing

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Original term	Preferred term
DEPTH AND BREADTH MEASUREMENTS - continued	
Forearm–Forearm Breadth (Elbow-to-Elbow Breadth)	Forearm-Forearm Breadth, Sitting
Hip Breadth, Sitting	Hip Breadth, Sitting
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference	Waist Circumference
Hip Circumference	Hip (Buttock) Circumference, Standing
Vertical Trunk Circumference, Standing	Vertical Trunk Circumference, Standing
LIMB CIRCUMFERENCES	
Arm Scye Circumference	Scye Circumference
Biceps Circumference, Relaxed	Biceps Circumference, Relaxed
Biceps Circumference, Flexed	Biceps Circumference, Flexed
Forearm Circumference, Flexed	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing
Lower Thigh Circumference	Lower Thigh Circumference
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Interscye Breadth	Interscye, Back
Interscye, Maximum	Interscye, Maximum
Waist Back Length	Waist Back Length
Sleeve Inseam Length	Sleeve Inseam Length
Sleeve Length	Sleeve Length: Spine to Wrist
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Head Length	Head Length
Occiput-Nasal Root	Sellion to back of head
Occiput-Pronasale	Pronasale to back of head
Occiput-External Canthus	Ectocanthus to back of head

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Occiput—Tragion	Tragion to back of head
Head Breadth	Head Breadth
Bitragion Breadth	Bitragion Breadth
Head Height (Tragion-Vertex Height)	Head Height (Tragion to top of head)
Face Length (Menton-Nasal Root Length)	Face Length (Menton-Sellion)
Face Breadth (Bizygomatic Breadth)	Face Breadth (Bizygomatic)
Interpupillary Breadth	Interpupillary Breadth

1/ Note on head measurements: A headboard was not used in making the head measurements of U.S. Army men (1966); horizontal head measurements were made within an anthropometer. Thus, the horizontal measurements made from the back of the head (occiput) to the tip of the nose (pronasale) originally was called "Occiput-Pronasale." The terms for this group of head measurements have been changed in order to conform with current preferred terminology.

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth	Hand Breadth
Hand Circumference	Hand Circumference
Thumb Crotch Length	Thumb Crotch Length
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Ball of Foot Breadth	Foot Breadth
Heel Breadth "	Heel Breadth
Ball of Foot Circumference	Ball of Foot Circumference
Instep Circumference	Instep Circumference
Heel-Ankle Circumference	Heel—Ankle Circumference

20.2.3 U.S. Army basic trainees (1966). Body measurements taken on U.S. Army basic trainees (1966) were the same as those taken on U.S. Army men (1966); see paragraph 20.2.2 for terminology. See Paragraph 2.2.1.3 for reference.

20.2.4 U. S. Army aviators (1970). See paragraph 2.2.1.4 for reference.

Original term	Preferred term
Weight	Weight

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Original term	Preferred term
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Shoulder Height	Shoulder (Acromiale) Height, Standing
Waist Height	Waist Height
Crotch Height	Crotch Height
Kneecap Height	Kneecap (Patella) Height
Calf Height	Calf Height
Functional Reach	Functional (Thumb–Tip) Reach
SITTING MEASUREMENTS	
Vertical Arm Reach (Sitting)	Vertical Reach, Sitting
Sitting Height	Sitting Height
Eye Height (Sitting)	Eye Height, Sitting
Mid-Shoulder Height (Sitting)	Mid-Shoulder Height, Sitting
Trunk Height (Sitting)	Trunk (Suprasternale) Height, Sitting
Shoulder-Elbow Length	Shoulder-Elbow Length
Elbow-Fingertip Length	Elbow–Fingertip Length
Elbow Rest Height (Sitting)	Elbow Rest Height
Thigh Clearance Height (Sitting)	Thigh Clearance
Knee Height (Sitting)	Knee Height, Sitting
Popliteal Height (Sitting)	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock-Popliteal Length	Buttock-Popliteal Length
Buttock-Heel Length	
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Chest Depth
Shoulder Breadth	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Hip Breadth (Standing)	Hip Breadth, Standing
Forearm-Forearm Breadth	Forearm-Forearm Breadth, Sitting
Hip Breadth (Sitting)	Hip Breadth, Sitting
Elbow Breadth (Bone)	Elbow (Humeral) Breadth
Knee Breadth (Bone)	Knee (Femoral) Breadth

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Original term	Preferred term
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference	Waist Circumference
Hip Circumference	Hip (Buttock) Circumference, Standing
Vertical Trunk Circumference (Standing)	Vertical Trunk Circumference, Standing
Vertical Trunk Circumference (Sitting)	Vertical Trunk Circumference, Sitting
LIMB CIRCUMFERENCES	
Arm Scye Circumference	Scye Circumference
Biceps Circumference (Relaxed)	Biceps Circumference, Relaxed
Biceps Circumference (Flexed)	Biceps Circumference, Flexed
Forearm Circumference (Flexed)	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing
Lower Thigh Circumference	Lower Thigh Circumference
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Interscye	Interscye, Back
Interscye, Maximum	Interscye, Maximum
Back Curvature	Back Curvature – Chest Level
Waist Back Length	Waist Back Length
Waist Front Length	Waist Front Length
Sleeve Inseam Length	Sleeve Inseam Length
Sleeve Length	Sleeve Length: Spine to Wrist
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Bitragion-Coronal Arc	Bitragion–Coronal Arc
Head Length	Head Length
Nasal Root to wall	Sellion to back of head
Pronasale to wall	Pronasale to back of head
External Canthus to wall	Ectocanthus to back of head

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1_/ - continued	
Tragion to wall	Tragion to back of head
Head Breadth	Head Breadth
Bitragion Breadth	Bitragion Breadth
Head Height (Tragion to Vertex)	Head Height (Tragion to top of head)
Glabella to Vertex Height	Glabella to top of head
Face Length	Face Length (Menton–Sellion)
Face Breadth	Face Breadth (Bizygomatic)
Interpupillary Breadth	Interpupillary Breadth

1/ Note on head measurements: A headboard was used in making the head measurements of U.S. Army aviators (1970). See paragraph 5.1.6 for description of headboard.

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth	Hand Breadth
Hand Circumference	Hand Circumference
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Heel Breadth 1_/	
Foot Circumference	Ball of Foot Circumference
Instep Circumference	Instep Circumference
Heel–Ankle Circumference	Heel–Ankle Circumference

1/ Data not comparable with other measurements of Heel Breadth.

SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold	Subscapular Skinfold Thickness
Triceps Skinfold	Triceps Skinfold Thickness
Suprailiac Skinfold	Suprailiac Skinfold Thickness
Medial Calf Skinfold	Medial Calf Skinfold Thickness

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20.2.5 U.S. Army Women (1946). See paragraph 2.2.1.5 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Acromion Height	Shoulder (Acromiale) Height, Standing
Waist Height	Waist Height
Inseam	Crotch Height
Hip Height	Hip (Trochanteric) Height
Arm Length 1/	Shoulder-Fingertip Length
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Trunk Height	Trunk (Suprasternale) Height, Sitting
Shoulder—Elbow	Shoulder-Elbow Length
Forearm-Hand Length	Elbow-Fingertip Length
Patella Height	Knee Height, Sitting
Buttock—Knee	Buttock-Knee Length
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth 1/	
Trunk Depth 2/	
Bideltoid	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Nipple-Nipple	Bustpoint-Bustpoint Breadth
Bi—iliac	Bi-iliocristale Breadth
Elbow Breadth	Elbow-Elbow Breadth, Sitting
Hip Breadth	Hip Breadth, Sitting

1/ Measurements taken as the maximum anterior—posterior depth of the chest, above the breasts.

2/ Subject stood. Anthropometer held horizontally at the subject's left. Measurements taken as the maximum anterior—posterior depth of the thorax or abdomen, whichever is greater, below the breasts.

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Original term	Preferred term
CIRCUMFERENCES	
Neck Circumference	Neck circumference
Breast Circumference	Bust Circumference
Chest Circumference	Chest Circumference below Bust
Waist Circumference	Waist Circumference
Halfway to Hip Circumference	
Hip Circumference	Hip (Buttock) Circumference, Standing
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
LIMB CIRCUMFERENCES	
Arm Scye	Scye Circumference
Upper Arm Circumference	Biceps Circumference, Relaxed
Forearm Circumference	Forearm Circumference, Relaxed
Wrist Circumference	Wrist Circumference
Thigh Circumference at Crotch	Upper Thigh Circumference, Standing
Mid—Thigh Circumference	Mid—Thigh Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Cervicale—Lateral Neck Point	
Cross Back Width	Interscye, Back
Back Waist Length	Waist Back Length
Front Waist Length	Waist Front Length
Nipple to Nipple over Cervicale	Strap Length
Lateral Neck Point Waist	
Arm Pit Waist	Axilla to Waist Length
Total Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS	
Head Circumference	Head Circumference
Head Length	Head Length
Outer—Canthus-Otobasion Superior	
Head Breadth	Head Breadth
Head Height (Apex-Tragus)	Head Height (Tragion to top of head)
Face Length (Nasion—Onathion)	Face Length (Menton-Sellion)
Minimum Frontal	Minimum Frontal Breadth
Bizygomatic	Face Breadth (Bizygomatic)
Biocular	Biocular Breadth
Interocular	Interocular Breadth

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS - continued	
Nose Length (Nasion-Subnasale)	Nose Length (Subnasale-Sellion)
Nasal Root Breadth	Nasal Root Breadth
Nose Breadth	Nose Breadth
HAND MEASUREMENTS	
Hand Length	Hand Length
Hand Breadth	Hand Breadth
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Heel Breadth	Heel Breadth
Ball Circumference	Ball of Foot Circumference

20.2.6 U.S. Army Women (1977). See paragraph 2.2.1.6 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Shoulder Height	Shoulder (Acromiale) Height, Standing
Axilla Height	Axilla Height
Suprasternale Height	Suprasternale Height
Bustpoint Height	Bustpoint Height
Substernale Height	Substernale Height
Elbow (Radiale) Height	Elbow (Radiale) Height
Knuckle Height	Knuckle (Metacarpal III) Height
Waist Height	Waist Height
Crotch Height	Crotch Height
Hip (Trochanteric) Height	Hip (Trochanteric) Height
Buttock Height	Buttock Height
Gluteal Furrow Height	Gluteal Furrow Height
Kneecap Height	Kneecap (Patella) Height
Tibiale Height	Tibiale Height
Calf Height	Calf Height
Ankle Height	Ankle Height
Acromion-Radiale Length	Acromion-Radiale Length
Radiale-Stylion Length	Radiale-Stylion Length

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Original term	Preferred term
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Eye Height, Sitting	Eye Height, Sitting
Shoulder—Elbow Length	Shoulder-Elbow Length
Elbow-Grip Length	Elbow—Grip Length
Elbow-Fingertip Length	Elbow—Fingertip Length
Elbow Rest Height	Elbow Rest Height
Thigh Clearance	Thigh Clearance
Knee Height, Sitting	Knee Height, Sitting
Popliteal Height	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
DEPTH AND BREADTH MEASUREMENTS	
Bust Depth	Bust Depth
Waist Depth	Waist Depth
Abdominal Extension Depth, Sitting	Abdominal Depth, Sitting
Biacromial Breadth	Biacromial Breadth
Shoulder (Bideltoid) Breadth	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Waist Breadth	Waist Breadth
Bispinous Breadth	
Hip Breadth	Hip Breadth, Standing
Abdominal Extension Breadth, Sitting	
Thigh-to-Thigh Breadth, Sitting	Thigh-to-Thigh Breadth, Sitting
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference at Scye	Chest Circumference at Scye
Bust Circumference	Bust Circumference
Chest Circumference below Bust	Chest Circumference below Bust
Waist Circumference	Waist Circumference
Waist Circumference (Omphalion)	Waist Circumference (Omphalion)
Hip Circumference	Hip (Buttock) Circumference, Standing
Hip Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
Vertical Trunk Circumference Sitting	Vertical Trunk Circumference, Sitting

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Original term	Preferred term
LIMB CIRCUMFERENCE	
Arm Scye Circumference	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Biceps Circumference, Relaxed	Biceps Circumference, Relaxed
Biceps Circumference, Flexed	Biceps Circumference, Flexed
Elbow Circumference, Flexed	Elbow Circumference, Flexed
Forearm Circumference, Relaxed	Forearm Circumference, Relaxed
Forearm Circumference, Flexed	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing
Knee Circumference	Knee Circumference, Standing
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Interscye, Back	Interscye, Back
Interscye, Front	
Back Curvature - Bust Level	Back Curvature – Bust Level
Back Curvature – Waist Level	
Back Curvature - Hip Level	
Waist Back Length	Waist Back Length
Waist Front Length	Waist Front Length
Neck to Bustpoint	Neck-Bustpoint Length
Axilla to Waist	Axilla to Waist Length
Sleeve Inseam Length	Sleeve Inseam Length
Sleeve Outseam Length	
Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Bitragion-Coronal Arc	Bitragion-Coronal Arc
Bitragion–Frontal Arc	Bitragion-Minimum Frontal Arc
Bitragion–Menton Arc	Bitragion–Menton Arc
Bitragion–Submandibular Arc	Bitragion-Submandibular Arc
Head Length	Head Length
Glabella to wall	Glabella to back of head
Sellion to wall	Sellion to back of head
Pronasale to wall	Pronasale to back of head
Subnasale to wall	Subnasale to back of head
Lip Protrusion to wall	Lip Protrusion to back head

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Menton to wall	Menton to back of head
Ectocanthus to wall	Ectocanthus to back of head
Tragion to wall	Tragion to back of head
Head Breadth	Head Breadth
Bitragion Breadth	Bitragion Breadth
Head Height (Tragion-vertex)	Head Height (Tragion to top of head)
Ectocanthus to vertex	Ectocanthus to top of head
Glabella to vertex	Glabella to top of head
Sellion to vertex	Sellion to top of head
Pronasale to vertex	Pronasale to top of head
Subnasale to vertex	Subnasale to top of head
Stomion to vertex	Stomion to top of head
Menton to vertex	Menton to top of head
Face Length (Sellion—Menton)	Face Length (Menton-Sellion)
Crinion-Menton	Menton—Crinion Length
Minimum Frontal Breadth	Minimum Frontal Breadth
Face Breadth (Bizygomatic)	Face Breadth (Bizygomatic)
Biocular Breadth	Biocular Breadth
Interpupillary Distance	Interpupillary Breadth
Nose Length	Nose Length (Subnasale-Sellion)
Nose Breadth	Nose Breadth
Mouth Breadth, Smiling	Mouth Breadth, Smiling

~/ Note on head measurements: A headboard was used in making the head measurements of U.S. Army women (1977). See paragraph 5.1.6 for description of headboard.

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth	Hand Breadth
Hand Circumference	Hand Circumference
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Heel Breadth	Heel Breadth
Foot Circumference	Ball of Foot Circumference
Instep Circumference	Instep Circumference
Heel-Ankle Circumference	Heel-Ankle Circumference
Sphyrion Height	Sphyrion Height

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Original term	Perferred term
SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold	Subscapular Skinfold Thickness
Triceps Skinfold	Triceps Skinfold Thickness
Biceps Skinfold	
Suprailiac Skinfold	Suprailiac Skinfold Thickness

20.2.7 United States Army Men and Women (1988). See paragraph 2.2.1.7 for reference.

Original term	Perferred term
Age	Age
Weight	Weight
Weight, as reported by subject	Weight, as reported by subject
STANDING MEASUREMENTS	
Abdominal Link	
Acromial Height	Shoulder (Acromiale) Height, Standing
Acromion-Radiale Length	Acromion-Radiale Length
Arm Length	Shoulder-Fingertip Length (Acromion-Dactylion)
Axilla Height	Axilla Height
Buttock Height	Buttock Height
Calf Height	Calf Height
Calf Link	
Cervicale Height	Cervicale Height
Chest Height	Chest/Bustpoint Height
Clavicle Link	
Crotch Height	Crotch Height
Dactylion Height	Fingertip (Dactylion) Height
Dactylion Reach from Wall	
Dactylion Reach from Wall, Extended	
Elbow Rest Height, Standing	
Eye Height	
Functional Grip Reach	
Functional Grip Reach, Extended	
Gluteal Furrow Height	Gluteal Furrow Height
Iliocristale Height	Waist Height Iliocristale
Index Finger Reach	
Index Finger Reach, Extended	
Knee Height, Midpatella	Knee Height, Midpatella
Lateral Femoral Spicondyle Height	

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Original term	Preferred term
STANDING MEASUREMENTS - continued	
Neck Height, Lateral	
Neck Link	
Neck-Buttock Length	
Neck-Gluteal Furrow Length	
Overhead Fingertip Reach	
Overhead Fingertip Reach, Extended	
Pelvic Link	
Radiale-Stylion Length	Radiale-Stylion Length
Rise (Natural Indentation)	
Rise (Omphalion)	
Shoulder Slope	
Span	
Stature	Stature
Stature, as reported by subject	Stature, as reported by subject
Suprasternale Height	Suprasternale Height
Tenth Rib Height	
Thigh Link	
Thorax Link	
Thumb–Tip Reach	Functional (Thumb-Tip) Reach
Thumb–Tip Reach, Extended	Functional (Thumb-Tip) Reach, Extended
Tragion Height	Tragion Height, Standing
Trochanteric Height	Hip (Trochanteric) Height
Vertical Grip Reach	
Vertical Grip Reach, Extended	
Vertical Grip Reach Down	
Vertical Index Fingertip Reach	
Vertical Index Fingertip Reach, Extended "	
Vertical Index Fingertip Reach Down	
Vertical Thumbtip Reach Down	
Vertical Wrist Height	
Vertical Wrist Height, Extended	
Waist Height (Natural Indentation)	Waist Height (Natural Indentation)
Waist Height (Omphalion)	Waist Height (Omphalion)
Wrist Height	Wrist (Stylion) Height
Wrist-Wall Length	
Wrist-Wall Length, Extended	

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Original term	Preferred term
SITTING MEASUREMENTS	
Acromial Height. Sitting	Shoulder (Acromiale) Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock-Popliteal Length	Buttock-Popliteal Length
Cervicale Height, Sitting	
Chest Height, Sitting	
Elbow Rest Height	Elbow Rest Height
Elbow-Center of Grip Length	Elbow—Grip Length
Elbow-Wrist Length	Elbow-Wrist Length
Eye Height, Sitting	Eye Height, Sitting
Forearm—Hand Length	Elbow—Fingertip Length
Functional Leg Length	
Knee Height, Sitting	Knee Height, Sitting
Mid-Shoulder Height, Sitting	Mid—Shoulder Height, Sitting
Overhead Fingertip Reach, Sitting	Vertical Reach, Sitting
Popliteal Height	Popliteal Height, Sitting
Sitting Height	Sitting Height
Thigh Clearance	Thigh Clearance
Tragion Height, Sitting	
Trunk (Suprasternale) Height, Sitting	Trunk (Suprasternale) Height, Sitting
Vertical Grip Reach, Sitting	
Vertical Index Fingertip Reach, Sitting	
Vertical Thumbtip Reach, Sitting	
Vertical Wrist Height, Sitting	
Waist Height, Sitting (Natural Indentation)	Waist Height, Sitting (Natural Indentation)
Waist Height, Sitting (Omphalion)	Waist Height, Sitting (Omphalion)
Wrist Height, Sitting	
Wrist-Center of Grip Length	
Wrist-Index Finger Length	
Wrist-Thumbtip Length	
DEPTH AND BREADTH MEASUREMENTS	
Abdominal Extension Depth, Sitting	Abdominal Depth, Sitting
Biacromial Breadth	Biacromial Breadth
Bideltoid Breadth	Shoulder (Bideltoid) Breadth
Bispinous Breadth	Bi—Iliocristale Breadth
Bustpoint/Thelion—Bustpoint/Thelion Breadth	Bustpoint-Bustpoint Breadth
Buttock Depth	Buttock Depth
Chest Breadth	Chest Breadth
Chest Depth	Chest/Bust Depth

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Original term	Preferred term
DEPTH AND BREADTH MEASUREMENTS - continued	
Forearm-Forearm Breadth	Forearm-Forearm Breadth, Sitting
Hip Breadth	Hip Breadth, Standing
Hip Breadth, Sitting	Hip Breadth, Sitting
Scye Depth	
Waist Breadth	Waist Breadth
Waist Depth	Waist Depth
CIRCUMFERENCES	
Buttock Circumference	Hip (Buttock) Circumference, Standing
Chest Circumference	Chest/Bust Circumference
Chest Circumference at Scye	Chest Circumference at Scye
Chest Circumference Below Breast	Chest Circumference Below Bust
Chest-Waist Drop (Natural Indentation)	
Chest-Waist Drop (Omphalion)	
Neck Circumference	Neck Circumference
Neck Circumference, Base	Neck Circumference, Base
Shoulder Circumference	Shoulder Circumference
Vertical Trunk Circumference (ASCC)	
Vertical Trunk Circumference (USA)	Vertical Trunk Circumference
Waist Circumference (Natural Indentation)	Waist Circumference (Natural Indentation)
Waist Circumference (Omphalion)	Waist Circumference (Omphalion) Standing
LIMB CIRCUMFERENCE	
Ankle Circumference	Ankle Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Ball of Foot Circumference	Ball of Foot Circumference
Biceps Circumference, Flexed	Biceps Circumference, Flexed
Calf Circumference	Calf Circumference
Elbow Circumference	Elbow Circumference, Relaxed
Hand Circumference	Hand Circumference
Heel-Ankle Circumference	Heel-Ankle Circumference
Knee Circumference	Knee Circumference, Standing
Lower Thigh Circumference	Lower Thigh Circumference
Thigh Circumference	Upper Thigh Circumference, Standing
Wrist Circumference	Wrist Circumference
Forearm Circumference, Flexed	Forearm Circumference, Flexed
Scye Circumference	Scye Circumference

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS	
Alare—Back of Head	
Alare—Top of Head	
Bigonial Breadth	Bigonial Breadth
Biinfraorbitale Breadth	
Biocular Breadth, Maximum	Biocular Breadth
Bitragion Breadth	Bitragion Breadth
Bitragion Chin Arc	Bitragion-Menton Arc
Bitragion Frontal Arc	Bitragion—Minimum Frontal Arc
Bitragion-Coronal Arc	Bitragion—Coronal Arc
Bitragion-Crinion Arc	
Bitragion-Submandibular Arc	Bitragion-Submandibular Arc
Bitragion-Subnasale Arc	Bitragion-Subnasale Arc
Bizygomatic Breadth	Face Breadth (Bizygomatic)
Cheilion-Back of Head	
Cheilion-Top of Head	
Chin—Back of Head	
Chin-Top of Head	
Crinion-Back of Head	
Crinion-Top of Head	
Ear Breadth	Ear Breadth
Ear Length	Ear Length
Ear Length Above Tragion	Ear Length Above Tragion
Ear Protrusion	Ear Protrusion
Ectoorbitale—Back of Head	
Ectoorbitale-Top of Head	
Eye—Tragion Link	
Frontotemporale-Back of Head	
Frontotemporale-Top of Head	
Glabella to Back of Head	Glabella to Back of Head
Glabella to Top of Head	Glabella to Top of Head
Gonion—Back of Head	
Gonion—Top of Head	
Head Breadth	Head Breadth
Head Circumference	Head Circumference
Head Length	Head Length
Infraorbitale-Back of Head	
Infraorbitale—Top of Head	
Interpupillary Breadth	Interpupillary Breadth
Lip Length	Mouth Breadth
Max Frontal Breadth	Max Frontal Breadth
Menton-Back of Head	Menton-Back of Head
Menton-Crinion Length	Menton-Crinion Length
Menton—Sellion Length	Face Length (Mention-Sellion)

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS - continued	
Menton-Subnasale Length	Menton-Subnasale Length
Menton-Top of Head	Menton-Top of Head
Minimum Frontal Breadth	Minimum Frontal Breadth
Nose Breadth	Nose Breadth
Nose Protrusion	Nose Protrusion
Pronasale to Back of Head	Pronasale to Back of Head
Pronasale to Top of Head	Pronasale to Top of Head
Sellion to Back of Head	Sellion to Back of Head
Sellion to Top of Head	Sellion to Top of Head
Stomion to Back of Head	
Stomion to Top of Head	Stomion to Top of Head
Subnasale to Back of Head	Subnasale to Back of Head
Subnasale to Top of Head	Subnasale to Top of Head
Subnasale—Sellion Length	Nose Length (Subnasale-Sellion)
Tragion to Back of Head	Tragion to Back of Head
Tragion-Top of Head	Head Height (Tragion-Top of Head)
Zygion-Back of Head	
Zygion-Top of Head	
Zygofrontale-Back of Head	
Zygofrontale-Top of Head	
HAND MEASUREMENTS	
Hand Breadth	Hand Breadth
Hand Length	Hand Length
Thumb Breadth	
FOOT MEASUREMENTS	
Ball of Foot Length	Instep Length
Bimalleolar Breadth	
Foot Breadth, Horizontal	Foot Breadth
Foot Length	Foot Length
Heel Breadth	Heel Breadth
Lateral Malleolus Height	Lateral Malleolus Height
SURFACE MEASUREMENTS	
Axilla-Waist Length (Natural Indentation)	Axilla to Waist Length
Axilla-Waist Length (Omphalion)	
Crotch Length, Anterior (Natural Indentation)	
Crotch Length, Anterior (Omphalion)	
Crotch Length, Posterior (Natural Indentation)	

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Original term	Preferred term
SURFACE MEASUREMENTS - continued	
Crotch Length, Posterior (Omphalion)	
Crotch Length (Natural Indentation)	Crotch Length (Natural Indentation)
Crotch Length (Omphalion)	Crotch Length (Omphalion)
Interscye I	Interscye, Back
Interscye II	
Neck—Bustpoint/Thelion Length	Neck-Bustpoint Length
Shoulder Length	Shoulder Length
Shoulder-Elbow Length	
Shculder-Waist Length (Natural Indentation)	
Shoulder-Waist Length (Omphalion)	
Sleeve Inseam Length	
Sleeve Length: Spine to Elbow	
Sleeve Length: Spine to Scye	
Sleeve Length: Spine to Wrist	
Sleeve Outseam	Sleeve Outseam
Strap Length	Strap Length
Waist Back, Vertical (Natural Indentation)	
Waist Back, Vertical (Omphalion)	
Waist Back Length (Natural Indentation)	Waist Back Length (Natural Indentation)
Waist Back Length (Omphalion)	Waist Back Length (Omphalion)
Waist Front Length (Natural Indentation)	Waist Front Length (Natural Indentation)
Waist Front Length (Omphalion)	Waist Front Length (Omphalion)
Waist (Natural Indentation) - Waist (Omphalion) Length	
Waist—Buttock Drop (Natural Indentation)	
Waist-Buttock Drop (Omphalion)	
Waist—Hip Length	
Waist-Waist (Natural Indentation) Over Shoulder	
Waist—Waist (Omphalion) Over Shoulder	
Acromion-Axilla Length	
Neck-Scye Length	

20.3 United States Marine Corps.

20.3.1 U.S. Marine Corps men (1966). Body measurements taken on U.S. Marine Corps men (1966) were the same as those taken on U.S. Army men (1966); see paragraph 20.2.2 for terminology. See paragraph 2.2.2.1 for reference.

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20.4 United Stated Navy.

20.4.1 U.S. Navy Aviators (1964). See paragraph 2.2.3.1 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Height (Stature)	Stature
Tragion Height	Tragion Height, Standing
Cervicale Height	Cervicale Height
Suprasternale Height	Suprasternale Height
Nipple (Chest) Height	Chest Height
Waist Height	Waist Height
Penale Height	Penale Height
Crotch Height	Crotch Height
Gluteal Furrow Height	Gluteal Furrow Height
Patella Height	Kneecap (Patella) Height
Functional Reach	Functional (Thumb—Tip) Reach
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Eye Height, Sitting	Eye Height,Sitting
Shoulder Height, Sitting	Shoulder (Acromiale) Height, Sitting
Shoulder-Elbow Length	Shoulder-Elbow Length
Forearm-Hand Length	Elbow-Fingertip Length
Elbow Rest Height	Elbow Rest Height
Knee Height, Sitting	Knee Height. Sitting
Popliteal Height, Sitting	Popliteal Height, Sitting
Buttock-Knee Length	Buttock—Knee Length
Buttock-popliteal Length	Buttock-Popliteal Length
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Chest Depth
Waist Depth	Waist Depth
Buttock Depth	Buttock Depth
Bideltoid Diameter	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Waist Breadth	Waist Breadth
Hip Breadth	Hip Breadth, Standing
Hip Breadth, Sitting	Hip Breadth, Sitting

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Original term	Preferred term
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference	Waist Circumference
Buttock Circumference	Hip (Buttock) Circumference, Standing
Buttock Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
LIMB CIRCUMFERENCES	
Scye Circumference	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Biceps Circumference, Flexed	Biceps Circumference, Flexed
Lower Arm Circumference, Flexed	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Thigh Circumference	Upper Thigh Circumference, Standing
Lower Thigh Circumference	Lower Thigh Circumference
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Interscye	Interscye, Back
Interscye, Maximum	Interscye, Maximum
Sleeve Inseam	Sleeve Inseam Length
Sleeve Length	Sleeve Length: Spine to Wrist
Gluteal Arc	Gluteal Arc
HEAD AND FACE MEASUREMENTS	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Bitragion—Coronal Arc	Bitragion—Coronal Arc
Bitragion—Minimum Frontal Arc	Bitragion—Minimum Frontal Arc
Bitragion—Subnasale Arc	Bitragion-Subnasale Arc
Bitragion-Menton Arc	Bitragion-Menton Arc
Bitragion—Submandibular Arc	Bitragion—Submandibular Arc
Bitragion—Inion Arc	Bitragion—Inion Arc
Head Length	Head Length
Nasal Root to Wall	Sellion to back of head
Pronasale to wall	Pronasale to back of head

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS - continued	
External Canthus to wall	Ectocanthus to back of head
Tragion to wall	Tragion to back of head
Head Breadth	Head Breadth
Bitragion Diameter	Bitragion Breadth
Head Height (Tragion to Vertex)	Head Height (Tragion to top of head)
Menton-Vertex Height	Menton to top of head
Menton—Subnasale Distance	Menton-Subnasale Length
Maximum Frontal Diameter	Maximum Frontal Breadth
Bizygomatic Diameter	Face Breadth (Bizygomatic)
Bigonial Diameter	Bigonial Breadth
Biocular Diameter	Biocular Breadth
Interpupillary Distance	Interpupillary Breadth
Interocular Diameter	Interocular Breadth
Nose Length	Nose Length (Subnasale-Sellion)
Nasal Root Breadth	Nasal Root Breadth
Nose Breadth	Nose Breadth
Nose Protrusion	Nose Protrusion
Lip-to—Lip Distance	Lip-to—Lip Length
Lip Length	Mouth Breadth
Ear Length	Ear Length
Ear Breadth	Ear Breadth
Ear Protrusion	Ear Protrusion
HAND MEASUREMENTS	
Hand Length	Hand Length
Hand Breadth	Hand Breadth
Hand Breadth at Thumb	Hand Breadth at Thumb
Hand Circumference	Hand Circumference
Hand Circumference at Thumb	Hand Circumference at Thumb
Thickness at Metacarpal III	Hand Thickness
FOOT MEASUREMENTS	
Foot Length	Foot Length
Foot Breadth	Foot Breadth
SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold	Subscapular Skinfold Thickness
Back of Arm Skinfold	Triceps Skinfold Thickness
Jutxa-Nipple Skinfold	Juxta—Nipple Skinfold Thickness
Mid—Axillary Line at Umbilicus Skinfold	

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20.4.2 U.S. Navy recruits (1966). Body measurements taken on U.S. Navy recruits (1966) were the same as those taken on U.S. Army men (1966); see paragraph 20.2.2 for terminology. There is no published reference on U.S. Navy recruits (1966).

20.5 United States Air Force.

20.5.1 U.S. Air Force flying personnel (1950). See paragraph 2.2.4.1 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Stature	Stature
Nasal Root Height	
Eye Height (Internal Canthus Height)	
Tragion Height	Tragion Height, Standing
Cervicale Height	Cervicale Height
Shoulder Height (Acromial Height)	Shoulder (Acromiale) Height, Standing
Suprasternale Height	Suprasternale Height
Nipple Height	Chest Height
Substernale Height	Substernale Height
Elbow Height (Radiale Height)	Elbow (Radiale) Height
Wrist Height (Stylion Height)	Wrist (Stylion) Height
Knuckle Height (Metacarpal III Height)	Knuckle (Metacarpal III) Height
Waist Height	Waist Height
Penale Height	Penale Height
Crotch Height (Inseam)	Crotch Height
Gluteal Furrow Height	Gluteal Furrow Height
Kneecap Height (Patella Height)	Kneecap (Patella) Height
Span	
Arm Reach from Wall	
Maximum Reach from Wall	
Functional Reach	Functional (Thumb–Tip) Reach
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Eye Height, Sitting (Internal Canthus Height, Sitting)	Eye Height, Sitting
Shoulder Height, Sitting (Acromial Height, Sitting)	Shoulder (Acromiale) Height, Sitting
Shoulder-Elbow Length	Shoulder–Elbow Length
Forearm-Hand Length	Elbow-Fingertip Length

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Original term	Preferred term
SITTING MEASUREMENTS - continued	
Elbow Rest Height (Sitting)	Elbow Rest Height
Waist Height, Sitting	Waist Height, Sitting
Thigh Clearance Height, Sitting	Thigh Clearance
Knee Height, Sitting	Knee Height, Sitting
Popliteal Height, Sitting	Popliteal Height, Sitting
Buttock-Knee Length	Buttock—Knee Length
Buttock-Leg Length	
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Chest Depth
Waist Depth	Waist Depth
Buttock Depth	Buttock Depth
Biacromial Diameter	Biacromial Breadth
Shoulder Breadth (Bideltoid Diameter)	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Waist Breadth	Waist Breadth
Hip Breadth	Hip Breadth, Standing
Elbow—to-Elbow Breadth	Elbow-Elbow Breadth, Sitting
Hip Breadth, Sitting	Hip Breadth, Sitting
Knee—to-Knee Breadth	Knee-to—Knee Breadth, Sitting
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference	Waist Circumference
Buttock Circumference	Hip (Buttock) Circumference, Standing
Buttock Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
LIMB CIRCUMFERENCE	
Scye Circumference	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Biceps Circumference (Flexed)	Biceps Circumference, Flexed
Elbow Circumference (Flexed)	Elbow Circumference, Flexed
Lower Arm Circumference (Flexed)	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Thigh Circumference	Upper Thigh Circumference, Standing

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Original term	Preferred term
LIMB CIRCUMFERENCE - continued	
Lower Thigh Circumference	Lower Thigh Circumference
Knee Circumference, Sitting	Knee Circumference, Sitting
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Interscye	Interscye, Back
Interscye Maximum	Interscye, Maximum
Waist Back	Waist Back Length
Waist Front	Waist Front Length
Anterior Neck Length	Anterior Neck Length
Posterior Neck Length	Posterior Neck Length
Sleeve Inseam	Sleeve Inseam Length
Sleeve Length (Spine-to-Wrist)	Sleeve Length: Spine to Wrist
Gluteal Arc	Gluteal Arc
Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Minimum Frontal Arc	Minimum Frontal Arc
Bitragion—Coronal Arc	Bitragion-Coronal Arc
Bitragion—Crinion Arc	
Bitragion-Minimum Frontal Arc	Bitragion-Minimum Frontal Arc
Bitragion—Subnasale Arc	Bitragion-Subnasale Arc
Bitragion-Menton Arc	Bitragion-Menton Arc
Bitragion—Submandibular Arc	Bitragion-Submandibular Arc
Bitragion—Inion Arc	Bitragion-Inion Arc
Bitragion—Posterior Arc	Bitragion—Posterior Arc
Head Length	Head Length
Nasal Root to wall	Sellion to back of head
Larynx to wall	
External Canthus to wall	Ectocanthus to back of head
Tragion to wall	Tragion to back of head
Head Breadth	Head Breadth
Bitragion Diameter	Bitragion Breadth
Head Height (Tragion to Vertex)	Head Height (Tragion to top of head)
Menton—Crinion Length	Menton-Crinion Length
Menton-Subnasale Length	Menton-Subnasale Length
Menton Projection	
Minimum Frontal Diameter	Minimum Frontal Breadth

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Maximum Frontal Diameter	Maximum Frontal Breadth
Bizygomatic Diameter	Face Breadth (Bizygomatic)
Bigonial Diameter	Bigonial Breadth
Biocular Diameter	Biocular Breadth
Interpupillary Distance	Interpupillary Breadth
Interocular Diameter	Interocular Breadth
Nose Length	Nose Length (Subnasale-Sellion)
Nasal Root Breadth	Nasal Root Breadth
Nose Breadth	Nose Breadth
Nose Protrusion	Nose Protrusion
Philtrum Length	Philtrum Length
Lip–to–Lip Distance	Lip–to-Lip Length
Lip Length (Bichelion Diameter)	Mouth Breadth
Ear Length	Ear Length
Ear Length above Tragion	Ear Length above Tragion
Ear Breadth	Ear Breadth
Ear Protrusion	Ear Protrusion

1/ Note on head measurements: A headboard was not used in making the head measurements of U.S. Air Force flying personnel (1950).

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
First Phalanx III Length	
Hand Breadth at Metacarpal	Hand Breadth
Hand Breadth at Thumb	Hand Breadth at Thumb
Fist Circumference	Fist Circumference
Grip Diameter (Outside)	
Grip Diameter (Inside)	
Thickness at Metacarpal III	Hand Thickness
Finger Diameter III	Finger Diameter
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Heel Breadth	Heel Breadth
Bimalleolar Breadth	Bimalleolar Breadth
Ball of Foot Circumference	Ball of Foot Circumference
Medial Malleolus Height	Medial Malleolus Height
Lateral Malleolus Height	Lateral Malleolus Height

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20.5.2 U.S. Air Force basic trainees (1965). See paragraph 2.2.4.2 for reference.

Original term	Preferred term
Weight	Weight
STANDING MEASUREMENTS	
Height (Stature)	Stature
Cervicale Height	Cervicale Height
Shoulder (Acromial) Height	Shoulder (Acromiale) Height, Standing
Suprasternale Height	Suprasternale Height
Chest (Nipple) Height	Chest Height
Elbow (Radiale) Height	Elbow (Radiale) Height
Wrist (Stylion) Height	Wrist (Stylion) Height
Dactylion Height	Fingertip (Dactylion) Height
Iliocristale Height	Waist Height
Waist Height (Omphalion)	Waist Height (Omphalion)
Crotch Height	Crotch Height
Trochanteric Height	Hip (Trochanteric) Height
Buttock Height	Buttock Height
Gluteal Furrow Height	Gluteal Furrow Height
Patella Top Height	Kneecap (Patella) Height
Patella Bottom Height	
Calf Height	Calf Height
Ankle Height	Ankle Height
Functional Reach	Functional (Thumb-Tip) Reach
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Eye Height, Sitting	Eye Height, Sitting
Mid Shoulder Height, Sitting	Mid—Shoulder Height, Sitting
Shoulder-Elbow Length	Shoulder-Elbow Length
Elbow Wrist Length	Elbow—Wrist Length
Elbow Rest Height, Sitting	Elbow Rest Height
Thigh Clearance Height, Sitting	Thigh Clearance
Knee Height, Sitting	Knee Height, Sitting
Popliteal Height, Sitting	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock—Popliteal Length	Buttock-Popliteal Length
Chest Depth	Chest Depth
Waist Depth (Omphalion)	Waist Depth

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Original term	Preferred term
DEPTH AND BREADTH MEASUREMENTS - continued	
Chest Depth	Chest Depth
Waist Depth (Omphalion)	Waist Depth
Buttock Depth	Buttock Depth
Abdominal Depth, Sitting	Abdominal Depth, Sitting
Biacromial Breadth	Biacromial Breadth
Bideltoid Breadth	Shoulder (Bideltoid) Breadth
Chest Breadth, Skin	Chest Breadth
Chest Breadth, Bone	
Waist Breadth (Omphalion)	Waist Breadth
Bi—iliocristale	Bi-iliocristale Breadth
Hip Breadth	Hip Breadth, Standing
Bitrochanteric, Bone	
Maximum Forearm-Forearm Breadth	Forearm-Forearm Breadth, Sitting
Hip Breadth, Sitting	Hip Breadth, Sitting
Knee-Knee Breadth, Sitting	Knee—to—Knee Breadth, Sitting
Elbow Breadth	Elbow (Humeral) Breadth
Wrist Breadth	
Knee Breadth	Knee (Femoral) Breadth
CIRCUMFERENCES	
Neck Circumference, Maximum	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference	Chest Circumference
Waist Circumference (Omphalion)	Waist Circumference
Buttock Circumference	Hip (Buttock) Circumference, Standing
Buttock Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
Vertical Trunk Circumference, Sitting	Vertical Trunk Circumference, Sitting
LIMB CIRCUMFERENCES	
Scye Circumference	Scye Circumference
Biceps Circumference, Extended	Biceps Circumference, Relaxed
Biceps Circumference, Flexed	Biceps Circumference, Flexed
Elbow Circumference, Extended	Elbow Circumference, Relaxed
Elbow Circumference, Flexed	Elbow Circumference, Flexed
Forearm Circumference, Extended	Forearm Circumference, Relaxed
Forearm Circumference, Flexed	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing

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Original term	Preferred term
LIMB CIRCUMFERENCES - continued	
Thigh Circumference, Sitting	Upper Thigh Circumference, Sitting
Lower Thigh Circumference	Lower Thigh Circumference
Knee Circumference	Knee Circumference, Standing
Knee Circumference, Sitting	Knee Circumference, Sitting
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Deltoid Arc	Deltoid Arc .
Interscye	Interscye, Back
Interscye, Maximum	Interscye, Maximum
Waist Back	Waist Back Length
Waist Front	Waist Front Length
Anterior Neck Length	Anterior Neck Length
Posterior Neck Length	Posterior Neck Length
Sleeve Inseam	Sleeve Inseam Length
Sleeve Length: Spine-Scye	Sleeve Length: Spine to Scye
Sleeve Length: Spine-Elbow	Sleeve Length: Spine to Elbow
Sleeve Length: Spine—Wrist	Sleeve Length: Spine to Wrist
Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Minimum Frontal Arc	Minimum Frontal Arc
Bitragion—Coronal Arc	Bitragion—Coronal Arc
Bitragion-Minimum Frontal Arc	Bitragion-Minimum Frontal Arc
Bitragion-Subnasale Arc	Bitragion—Subnasale Arc
Bitragion-Menton Arc	Bitragion-Menton Arc
Bitragion—Submandibular Arc	Bitragion—Submandibular Arc
Bitragion-Posterior Arc	Bitragion-Posterior Arc
Head Length	Head Length
Wall—Glabella Distance	Glabella to back of head
Wall-Nasal Root Depression Distance	Sellion to back of head
Wall-Pronasale Distance	Pronasale to back of head
Wall-Stomion Distance	Lip Protrusion to back of head
Wall-Menton Distance	Menton to back of head
Wall-External Canthus Distance	Ectocanthus to back of head
Wall-Tragion Distance	Tragion to back of head
Maximum Head Diagonal, Menton	Head Diagonal: Menton to Occiput
Maximum Head Diagional, Nuchale	Head Diagonal: Nuchale to Pronasale
Head Breadth	Head Breadth

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Bitragion Diameter	Bitragion Breadth
Biauricular Diameter	Biauricular Breadth
Vertex—Tragion Height	Head Height (Tragion to top to head)
Vertex—External Canthus Height	Ectocanthus to top of head
Vertex Glabella Height	Glabella to top of head
Vertex-Nasal Root Depression Height	Sellion to top of head
Vertex-Pronasale Height	Pronasale to top of head
Vertex—Stomion Height	Stomion to top of head
Vertex-Menton Height	Menton to top of head
Menton—Nasal Root Depression	Face Length (Menton-Sellion)
Menton-Subnasale Length	Menton-Subnasale Length
Maximum Frontal Diameter	Maximum Frontal Breadth
Bizygomatic Diameter	Face Breadth (Bizygomatic)
Bigonial Diameter	Bigonial Breadth
Biocular Diameter	Biocular Breadth
Interpupillary Distance	Interpupillary Breadth
Interocular Diameter	Interocular Breadth
Subnasale—Nasal Root Depression	Nose Length (Subnasale-Sellion)
Nasal Root Breadth	Nasal Root Breadth
Nasal Breadth	Nose Breadth
Nose Protrusion	Nose Protrusion
Philtrum Length	Philtrum Length
Lip-Lip Distance	Lip-to-Lip Length
Lip Length	Mouth Breadth
Lip Length, Smiling	Mouth Breadth, Smiling
Ear Length	Ear Length
Ear Length above Tragion	Ear Length above Tragion
Ear Breadth	Ear Breadth
Ear Protrusion	Ear Protrusion

1/ Note on head measurements: A headboard was used in making the head measurements of U.S. Air Force basic trainees (1965). See paragraph 5.1.6 for description of headboard.

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth at Metacarpal	Hand Breadth
Hand Circumference at Metacarpal	Hand Circumference
Hand Circumfence at Thumb	Hand Circumference at Thumb
Thickness at Metacarpal III	Hand Thickness
Finger Diameter III	Finger Diameter

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Original term	Preferred term
FOOT MEASUREMENTS	
Foot Length	Foot Length
Ball of Foot Length	Instep Length
Ball of Foot Breadth	Foot Breadth
Bimalleolar Breadth	Bimalleolar Breadth
Ball of Foot Girth	Ball of Foot Circumference
Instep Circumference	Instep Circumference
Heel-Ankle Circumference	Heel-Ankle Circumference
Medial Malleolus Height	Medial Malleolus Height
Lateral Malleolus Height	Lateral Malleolus Height
Sphyrion Height	Sphyrion Height
SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold	Subscapular Skinfold Thickness
Triceps Skinfold	Triceps Skinfold Thickness
Juxta-Nipple Skinfold	Juxta—Nipple Skinfold Thickness
Mid-Axillary Line at Xiphoid Skinfold	Mid-Axillary Line at Xiphoid Level Skinfold Thickness
Suprailiac Skinfold	Suprailiac Skinfold
Dorsal Hand Skinfold	
Grip Strength	Grip Strength

20.5.3 U.S. Air Force flying personnel (1967). See paragraph 2.2.4.3 for reference

Original term	Preferred term
Weight	Weigh
STANDING MEASUREMENTS	
Height (Stature)	Stature
Cervicale	Cervicale Height
Acromion Height	Shoulder (Acromiale) Height, Standing
Suprasternale Height	Suprasternale Height
Nipple Height	Chest Height
Radiale Height	Elbow (Radiale) Height
Stylion Height	Wrist (Stylion) Height
Dactylion Height	Fingertip (Dactylion) Height
Iliocristale Height	Waist Height
Waist Height (Omphalion)	Waist Height (Omphalion)
Crotch Height	Crotch Height

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Original term	Preferred term
STANDING MEASUREMENTS - continued	
Trochanterion Height	Hip (Trachanteric) Height
Buttock Height	Buttock Height
Gluteal Furrow Height	Gluteal Furrow Height
Patella Top Height	Kneecap (Patella) Height
Knee Circumference Height	
Fibular Height	
Calf Height	Calf Height
Ankle Height	Ankle Height
Thumb-Tip Reach	Functional (Thumb-Tip) Reach
Thumb-Tip Reach, Extended	Functional (Thumb-Tip) Reach, Extended
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Eye Height, Sitting	Eye Height, Sitting
Mid-Shoulder Height, Sitting	Mid-Shoulder Height, Sitting
Acromion Height, Sitting	Shoulder (Acromiale) Height, Sitting
Acromion—Biceps Circumference Level	
Acromion—Radiale Length	Acromion-Radiale Length
Shoulder-Elbow Length	Shoulder-Elbow Length
Radiale—Stylion Length	Radiale-Stylion Length
Elbow—Wrist Length	Elbow-Wrist Length
Elbow-Grip Length	Elbow-Grip Length
Elbow Rest Height, Sitting	Elbow Rest Height
Thigh Clearance Height	Thigh Clearance
Knee Height, Sitting	Knee Height, Sitting
Popliteal Height, Sitting	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock-Popliteal Length	Buttock-Popliteal Length
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Chest Depth
Waist Depth (Omphalion)	Waist Depth
Buttock Depth	Buttock Depth
Biacromial Breadth	Biacromial Breadth
Bideltoid Breadth	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Waist Breadth (Omphalion)	Waist Breadth
Bicristale Breadth	Bi-iliocristale Breadth
Hip Breadth	Hip Breadth, Standing
Forearm—Forearm Breadth	Forearm-Forearm Breadth, Sitting

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Original term	Preferred term
DEPTH AND BREADTH MEASUREMENTS - continued	
Hip Breadth, Sitting	Hip Breadth, Sitting
Elbow Breadth, Bone, Right	Elbow (Humeral) Breadth
Elbow Breadth, Bone, Left	
Knee Breadth, Bone, Right	Knee (Femoral) Breadth
Knee Breadth, Bone, Left	
CIRCUMFERENCES 1/	
Neck Circumference, Maximum	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference at Scye	Chest Circumference at Scye
Chest Circumference	Chest Circumference
Waist Circumference (Omphalion)	Waist Circumference
Waist Circumference (Omphalion), Sitting	
Buttock Circumference	Hip (Buttock) Circumference, Standing
Buttock Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
Vertical Trunk Circumference, Sitting	Vertical Trunk Circumference, Sitting

1/ Note on circumferences: This listing does not include twenty additional body measurements which were taken only on U.S. Air Force flying personnel (1967). These twenty measurements are actually surface measurements taken with a tape, representing segments or portions of Vertical Trunk Circumference and measured from the crotch (scrotale) up to various landmarks on the front and back of the body. Anthropometric data for these specialized measurements may be found in references given in paragraph 2.2.4.3.

LIMB CIRCUMFERENCES	
Scye Circumference	Scye Circumference
Biceps Circumference, Extended, Right	Biceps Circumference, Relaxed
Biceps Circumference, Extended, Left	
Biceps Circumference, Flexed, Right	Biceps Circumference, Flexed
Biceps Circumference, Flexed, Left	
Elbow Circumference, Extended	Elbow Circumference, Relaxed
Elbow Circumference, Flexed	Elbow Circumference, Flexed
Lower Arm Circumference, Extended	Forearm Circumference, Relaxed
Lower Arm Circumference, Flexed	Forearm Circumference, Flexed

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Original term	Preferred term
LIMB CIRCUMFERENCES - continued	
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing
Upper Thigh Circumference, Sitting	Upper Thigh Circumference, Sitting
Knee Circumference	Knee Circumference, Standing
Knee Circumference, Sitting	Knee Circumference, Sitting
Calf Circumference, Right	Calf Circumference
Calf Circumference, Left	
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Deltoid Arc	Deltoid Arc
Interscye	Interscye, Back
Interscye, Maximum	Interscye, Maximum
Waist Back (Omphalion)	Waist Back Length
Waist Front (Omphalion)	Waist Front Length
Anterior Neck Length	Anterior Neck Length
Posterior Neck Length	Posterior Neck Length
Sleeve Inseam	Sleeve Inseam Length
Sleeve Length: Spine—Scye	Sleeve Length: Spine to Scye
Sleeve Length: Spine—Elbow	Sleeve Length: Spine to Elbow
Sleeve Length: Spine—Wrist	Sleeve Length: Spine to Wrist
Crotch Length (Omphalion)	Crotch Length
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Minimum Frontal Arc	Minimum Frontal Arc
Bitragion—Coronal Arc	Bitragion—Coronal Arc
Bitragion—Minimum Frontal Arc	Bitragion—Minimum Frontal Arc
Bitragion—Subnasale Arc	Bitragion Subnasale Arc
Bitragion—Menton Arc	Bitragion—Menton Arc
Bitragion—Submandibular Arc	Bitragion—Submandibular Arc
Bitragion-Posterior Arc	Bitragion—Posterior Arc
Head Length	Head Length
Glabella-to—Wall	Glabella to back of head
Nasal Root—to—Wall	Sellion to back of head
Pronasale-to—Wall	Pronasale to back of head
Subnasale-to—Wall	Subnasale to back of head
Lip Promience-to-Wall	Lip Protrusion to back to head
Chin Prominence-to-Wall	Menton to back of head
External Canthus-to—Wall	Ectocanthus to back of head

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Original term .	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Tragion-to—Wall	Tragion to back of head
Head Diagonal—Menton	Head Diagonal: Menton to Occiput
Head Diagonal—Inion-Nose	Head Diagonal: Nuchale to Pronasale
Head Breadth	Head Breadth
Bitragion Breadth	Bitragion Breadth
Ear-to-Ear Breadth	Biauricular Breadth
Tragion-to—Vertex	Head Height (Tragion to top of head)
External Canthus—to-Vertex	Ectocanthus to top of head
Glabella-to-Vertex	Glabella to top of head
Nasal Root—to—Vertex	Sellion to top of head
Pronasale-to—Vertex	Pronasale to top of head
Subnasale—to—Vertex	Subnasale to top of head
Stomion—to—Vertex	Stomion to top of head
Menton—to-Vertex	Menton to top of head
Menton-Nasal Root	Face Length (Menton-Sellion)
Menton-Subnasale Length	Menton—Subnasale Length
Maximum Frontal Breadth	Maximum Frontal Breadth
Bizygomatic Breadth	Face Breadth (Bizygomatic)
Bigonial Breadth	Bigonial Breadth
Biocular Breadth	Biocular Breadth
Interpupillary Breadth	Interpupillary Breadth
Interocular Breadth	Interocular Breadth
Subnasale-Nasal Root	Nose Length (Subnasale-Sellion)
Nose Breadth	Nose Breadth
Philtrum Length	Philtrum Length
Lip—to—Lip Distance	Lip-to-Lip Length
Lip Length	Mouth Breadth
Ear Length	Ear Length
Ear Length above Tragion	Ear Length above Tragion
Ear Breadth	Ear Breadth
Ear Protrusion	Ear Protrusion

1/ Note on head measurements: A headboard was used in making the head measurements of U.S. Air Force flying personnel (1967). See paragraph 5.1.6 for description of headboard.

HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth at Metacarpal	Hand Breadth
Hand Breadth at Thumb	Hand Breadth at Thumb
Hand Circumference at Metacarpal	Hand Circumference

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Original term	Preferred term
HAND MEASUREMENTS — continued	
Hand Circumference round Thumb	Hand Circumference at Thumb
Hand Thickness at Metacarple III	Hand Thickness
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Breadth	Foot Breadth
Bi-malleolar Breadth	Bimalleolar Breadth
Ball of Foot Circumference	Ball of Foot Circumference
Instep Circumference	Instep Circumference
Heel Circumference	Heel—Ankle Circumference
Medial Malleolus Height	Medial Malleolus Height
Lateral Malleolus Height	Lateral Malleolus Height
SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold - Lange Calipers	Subscapular Skinfold Thickness; Right Side - Lange Calipers
Subscapular Skinfold - Harpenden Calipers	Subscapular Skinfold Thickness; Left Side - Harpenden Calipers
Triceps Skinfold - Lange Calipers	Triceps Skinfold Thickness; Right Side - Lange Calipers
Triceps Skinfold — Harpenden Calipers	Triceps Skinfold Thickness; Left Side — Harpenden Calipers
Juxta-Nipple Skinfold - Lange Calipers	Juxta—Nipple Skinfold Thickness
Mid-Axillary Line at Xiphoid Skinfold-Lange Calipers	Mid—Axillary Line at Xiphoid Level Skinfold Thickness
Suprailiac Skinfold — Lange Calipers	Suprailiac Skinfold Thickness; Right Side — Lange Calipers
Suprailiac Skinfold - Harpenden Calipers	Suprailiac Skinfold Thickness; Left Side - Harpenden Calipers
Suprapatella Skinfold - Lange Calipers	
Grip Strength	Grip Strength

20.5.4 U.S. Air Force WAF basic trainees (1952). See paragraph 2.2.4.4 for reference.

Original term	Preferred term
Weight	Weight

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Original term	Preferred term
STANDING MEASUREMENTS	
Stature	Stature
Cervicale Height	Cervicale Height
Acromial Height	Shoulder (Acromiale) Height, Standing
Axilla Height	Axilla Height
Waist Height	Waist Height
Crotch Height (Inseam)	Crotch Height
Gluteal Furrow Height	Gluteal Furrow Height
Patella Height	Kneecap (Patella) Height
Calf Height	Calf Heigth
BREADTH MEASUREMENTS	
Chest Breadth	Chest Breadth
Internipple Distance	Bustpoint-Bustpoint Breadth
Hip Breadth	Hip Breadth, Standing
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference (Over)	Chest Circumference at Scye
Bust Circumference	Bust Circumference
Chest Circumference (Under)	Chest Circumference below Bust
Waist Circumference	Waist Circumference
Buttocks Circumference	Hip (Buttock) Circumference, Standing
Hip Circumference, Sitting	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
LIMB CIRCUMFERENCES	
Arm Scye	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Biceps Circumference (Flexed)	Biceps Circumference, Flexed
Elbow Circumference (Flexed)	Elbow Circumference, Flexed
Lower Arm Circumference (Flexed)	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Thigh Circumference	Upper Thigh Circumference, Standing
Lower Thigh Circumference	Lower Thigh Circumference
Knee Circumference (Sitting)	Knee Circumference, Sitting
Calf Circumference	Calf Circumference
Ankle Circumference	Ankle Circumference

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Original term	Preferred term
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Biacromial Arc	
Interscye	Interscye, Back
Interscye Maximum	Interscye, Maximum
Waist Back	Waist Back Length
Waist Front to Cervicale	
Strap Length	Strap Length
Sleeve Inseam	Sleeve Inseam Length
Sleeve Length	Sleeve Length: Spine to Wrist
Gluteal Arc	Gluteal Arc
Crotch Length	Crotch Length
HEAD AND FACE MEASUREMENTS	
Head Circumference	Head Circumference
Sagittal Arc	Sagittal Arc
Coronal Arc	Bitragion–Coronal Arc
Posterior Arc 1/	
Head Length	Head Length
Head Breadth	Head Breadth
HAND MEASUREMENTS	
Hand Length	Hand Length
Palm Length	Palm Length
Hand Breadth at Metacarpal	Hand Breadth
Hand Breadth at Thumb	Hand Breadth at Thumb
Palm Circumference	Hand Circumference
Fist Circumference	Fist Circumference
Thickness at Metacarpal III	Hand Thickness
FOOT MEASUREMENTS	
Foot Length	Foot Length
Instep Length	Instep Length
Foot Width	Foot Breadth
Heel Width	Heel Breadth
Ball of Foot Circumference	Ball of Foot Circumference
Ankle Height	Medial Malleolus Height

1/ Data not comparable with other measurements or Bitragion-Posterior Arc.

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20.5.5 U.S. Air Force women (1968). See paragraph 2.2.4.5 for reference. Body measurements indicated by @ in the following list were repeated on 1513 Air Force women with the subjects wearing foundation garments; most of these were either girdles or panty girdles. See referenced technical report for anthropornetric data on measurements taken over foundation garments.

Original term	Preferred term
Weight @	Weight
STANDING MEASUREMENTS	
Stature @	Stature
Stature, Maximum	
Cervicale Height	Cervicale Height
Acromial Height	Shoulder (Acromiale) Height, Standing
Suprasternale Height	Suprasternale Height
Bustpoint Height	Bustpoint Height
Waist Height @	Waist Height
Abdominal Extension Height @	
Crotch Height	Crotch Height
Trochanteric Height	Hip (Trochanteric) Height
Buttock Height	Buttock Height
Gluteal Furrow Height	Gluteal Furrow Height
Tibiale Height	Tibiale Height
Ankle Height	Ankle Height
Acromion—Radiale Length	Acromion-Radiale Length
Radiale—Stylion Length	Radiale-Stylion Length
Overhead Reach	
Thumb-Tip Reach	Fuctional (Thumb-Tip) Reach
Thumb-Tip Reach, Extended	Functional (Thumb-Tip) Reach, Extended
SITTING MEASUREMENTS	
Sitting Height	Sitting Height
Sitting Height, Relaxed	
Eye Height, Sitting	Eye Height, Sitting
Midshoulder Height, Sitting	Mid—Shoulder Height, Sitting
Elbow Rest Height	Elbow Rest Height
Waist Height, Sitting	Waist Height, Sitting
Thigh Clearance	Thigh Clearance
Popliteal Height	Popliteal Height, Sitting
Buttock-Knee Length	Buttock-Knee Length
Buttock—Popliteal Length	Buttock-Popliteal Length

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Original term	Preferred term
DEPTH AND BREADTH MEASUREMENTS	
Chest Depth	Bust Depth
Waist Depth @	Waist Depth
Abdominal Extension Depth @	
Buttock Depth @	Buttock Depth
Biacromial Breadth	Biacromial Breadth
Bideltoid Breadth	Shoulder (Bideltoid) Breadth
Chest Breadth	Chest Breadth
Bustpoint—to—Bustpoint Breadth	Bustpoint—Bustpoint Breadth
Waist Breadth @	Waist Breadth
Hip Breadth @	Hip Breadth, Standing
Thigh-to-Thigh Breadth, Sitting @	Hip Breadth, Sitting
Humeral Breadth, Right	Elbow (Humeral) Breadth
Humeral Breadth, Left	
Femoral Breadth, Right	Knee (Femorai) Breadth
Femoral Breadth, Left	
CIRCUMFERENCES	
Neck Circumference	Neck Circumference
Shoulder Circumference	Shoulder Circumference
Chest Circumference at Scye	Chest Circumference at Scye
Bust Circumference	Bust Circumference
Chest Circumference, below Bust	Chest Circumference below Bust
Waist Circumference @	Waist Circumference
Abdominal Extension Circumference @	
Hip Circumference — Seven Inches below Waist Level @	
Hip Circumference - Nine Inches below Waist Level @	Hip (Buttock) Circumference, Standing
Buttock Circumference, Sitting @	Hip (Buttock) Circumference, Sitting
Vertical Trunk Circumference	Vertical Trunk Circumference, Standing
Vertical Trunk Circumference, Sitting	Vertical Trunk Circumference, Sitting
LIMB CIRCUMFERENCES	
Scye Circumference	Scye Circumference
Axillary Arm Circumference	Axillary Arm Circumference
Biceps Circumference, Relaxed, Right	Biceps Circumference, Relaxed
Biceps Circumference, Relaxed, Left	

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Original term	Preferred term
LIMB CIRCUMFERENCES - continued	
Biceps Circumference, Flexed, Right	Biceps Circumference, Flexed
Biceps Circumference, Flexed, Left	
Elbow Circumference, Flexed	Elbow Circumference, Flexed
Forearm Circumference, Relaxed	Forearm Circumference, Relaxed
Forearm Circumference, Flexed	Forearm Circumference, Flexed
Wrist Circumference	Wrist Circumference
Upper Thigh Circumference	Upper Thigh Circumference, Standing
Knee Circumference	Knee Circumference, Standing
Calf Circumference, Right	Calf Circumference
Calf Circumference, Left	
Ankle Circumference	Ankle Circumference
SURFACE MEASUREMENTS	
Shoulder Length	Shoulder Length
Interscye Curvature	Interscye, Back
Interscye Curvature, Maximum	Interscye, Maximum
Back Curvature	Back Curvature – Bust Level
Waist Back	Waist Back Length
Anterior Waist Length	Waist Front Length
Strap Length	Strap Length
Neck-to-Bustpoint Length	Neck-Bustpoint Length
Sleeve Inseam	Sleeve Inseam Length
Spine-to-Scye Length (Sleeve Length Segment)	Sleeve Length: Spine to Scye
Spine-to-Elbow (Sleeve Length Segment)	Sleeve Length: Spine to Elbow
Spine-to–Wrist (Spine Length Segment)	Sleeve Length: Spine to Wrist
HEAD AND FACE MEASUREMENTS 1/	
Head Circumference	Head Circumference
Sagittal Curvature	Sagittal Arc
Bitragion–Coronal Curvature	Bitragion-Coronal Arc
Head Length	Head Length
Pronasale to wall	Pronasale to back of head
Subnasale to wall	Subnasale to back of head
Lip Protrusion to wall	Lip Protrusion to back of head
Menton to wall	Menton to back of head
Ectocanthus to wall	Ectocanthus to back of head
Tragion to wall	Tragion to back of head
Head Breadth	Head Breadth

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Original term	Preferred term
HEAD AND FACE MEASUREMENTS 1/ - continued	
Bitragion Breadth	Bitragion Breadth
Biauricular Breadth	Biauricular Breadth
Tragion to top of head	Head Height (Tragion to top of head)
Ectocanthus to top of head	Ectocanthus to top of head
Pronasale to top of head	Pronasale to top of head
Subnasale to top of head	Subnasale to top of head
Stomion to top of head	Stomion to top of head
Menton to top of head	Menton to top of head
Menton-Sellion Length	Face Length (Menton-Sellion)
Menton-Subnasale Length	Menton-Subnasale Length
Bizygomatic Breadth	Face Breadth (Bizygomatic)
Bigonial Breadth	Bigonial Breadth
Biocular Breadth	Biocular Breadth
Subnasale-Sellion Length	Nose Length (Subnasale—Sellion)
Nasal Breadth	Nose Breadth
Lip Length	Mouth Breadth
Ear Length	Ear Length
Ear Breadth	Ear Breadth
HAND MEASUREMENTS	
Hand Length	Hand Length
Hand Breadth	Hand Breadth
Hand Circumference	Hand Circumference
FOOT MEASUREMENTS	
Foot Length	Foot Length
Foot Breadth	Foot Breadth
Lateral Malleolus Height	Lateral Malleolus Height
SKINFOLD THICKNESS MEASUREMENTS	
Subscapular Skinfold	Subscapular Skinfold Thickness
Triceps Skinfold	Triceps Skinfold Thickness
Suprailiac Skinfold	Suprailiac Skinfold Thickness
Medial Calf Skinfold	Medial Calf Skinfold Thickness
Grip Strength	Grip Strength

1/ Note on head measurements: A headboard was used in making the head measurements of U.S. Air Force women (1968). See paragraph 5.1.6 for description of headboard.

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