III–CLINICAL

ANTHROPOMETRY

DENTAL

TEN-STATE
Nutrition Survey
1968-1970

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Chapter III

CLINICAL, ANTHROPOMETRY AND DENTAL TEN-STATE NUTRITION SURVEY

1. CLINICAL

Abstract: *Few severe nutritional deficiencies were identified by clinical examination. Most of the positive findings were nonspecific and would be useful in making a positive nutritional diagnosis only if associated with related biochemical, anthropometric, and dietary data. The nonspecific nature of the positive findings do not indicate the absence of deficiencies, but, rather, emphasize the need for supporting information to confirm clinical impressions before nutritional diagnoses can be made.*

Clinical findings of malnutrition are generally nonspecific. Malnutrition must be prolonged and severe to produce obvious clinical signs. Even in underdeveloped countries where malnutrition may be a severe problem, specific nutritional deficiencies may be difficult to recognize. For this reason it is not surprising that few severe nutritional deficiencies were identified clinically in the Ten-State Nutrition Survey.

The clinical examination identified signs that could be related to deficiency diseases, but verified clinical diagnoses were not recorded. For example, although signs which may relate to rickets were recorded, diagnoses of rickets were not made. Because most of the positive findings were nonspecific, they would be useful in making a positive nutritional diagnosis only if associated with related biochemical and dietary data. The nonspecific nature of the positive findings do not indicate that deficiencies do not exist. Rather, they point to the need for supporting information to confirm clinical impressions before a nutritional diagnosis can be made.

Many clinical parameters were included in the examination. (The clinical evaluation of growth and development is treated separately in the anthropometry section of this chapter.) Most were found to be positive in so few individuals that no general conclusions could be made. The clinical signs chosen for presentation are those which, because of their diagnostic importance, merit discussion despite the low prevalence of positive findings.

CHILDREN LESS THAN 6 YEARS OF AGE

Clinical signs of malnutrition in children were carefully looked for because of the critical importance of nutrition in normal growth and development (Tables 1A-B). Among these clinical signs, hair quality, color, and ease of plucking can be useful markers of protein malnutrition. These signs are generally associated with severe deficiency. However, results of examination of hair quality were inconclusive. A higher percentage of black children had hair that was described as "dry, staring," but more white children had hair that was "easily pluckable." For all ethnic groups, there was a higher prevalence of positive findings for girls than for boys. However, there was no evidence from other measures that girls displayed generally poorer nutritional status. In the absence of other supporting findings, these observations are inconclusive.

Bitot's spots are well delineated, superficial, white lesions of the eye which can be an indication of vitamin A deficiency. This findings was identified in only one child in the entire survey, a white male in the low-income-ratio group of states. Obviously, no general conclusions concerning vitamin A nutrition can be drawn from this solitary finding.

Findings related to the tongue and lips can be indicative of poor nutritional status, particularly in relation to B-vitamin nutriture. However, no uniform pattern of positive findings was seen in the survey data. Cheilosis, cracking and dry scaling of the lips, appeared to occur somewhat more frequently in whites. Findings related to the tongue showed no convincing relationship to sex or ethnic group. Moreover, positive findings were restricted to only a small percentage of the persons examined.

Thyroid enlargement in children was quite rare. There was no clearcut relationship to sex in the age group under 6 years. There did appear to be an increased incidence of thyroid enlargement in Spanish-Americans in both the low- and high-income-ratio states. This is of interest in that the Spanish-Americans in these two groups of states are ethnically quite distinct. There is no

ready explanation for the differences in prevalence of thyroid enlargement within this ethnic group. Thyroid enlargement can be due to iodine deficiency. However, biochemical studies of urinary iodine excretion suggested that Spanish-American persons in both low- and high-income-ratio states had greater iodine intake than did either blacks or whites.

Skin abnormalities may also be associated with malnutrition. However, positive findings were few, and no striking differences were found when comparisons were made by sex or ethnic group. The finding of liver enlargement was more common among Spanish-American children in the low-income group of states, but no similar trend was seen in the high-income group of states. Skeletal findings that may possibly be related to rickets appeared to be somewhat more common in Spanish-Americans in the low-income group of states. The finding of "winged scapula" appeared to be more common in whites in both high- and low-income-ratio states. Again, there is no ready explanation for these findings, nor can specific diagnoses be made based on these data alone.

The clinical examination findings led to the conclusion that there was little clinical evidence of severe malnutrition in the children examined. However, examination of these children did not provide a useful means of identifying specific populations at increased nutritional risk. Other means of nutritional assessment, such as biochemical, anthropometric, and dietary evaluations must be relied upon for assessment of the more subtle and often clinically inapparant levels of malnutrition.

INDIVIDUALS OLDER THAN 6 YEARS

The results of clinical examinations of older children and adults also yielded generally nonspecific findings (Tables 2A-B). Findings related to hair were inconclusive except that blacks seemed to have a higher frequency of "dry, staring" hair. Bitot's spots were not encountered in the high-income-ratio states. However, the diagnosis was made on a few individuals in the low-income-ratio states. Numbers are too small to draw general conclusions.

Findings related to the lips and tongue were not conclusive in consistently differentiating between ethnic groups in regard to nutritional status. However, there appeared to be more positive findings in the high-income-ratio group of states than in the low-income-ratio states. This observation is not supported by the general finding of somewhat more frequent nutritional problems in individuals from low-income-ratio states.

The prevalence of thyroid enlargement showed differences between races and between sexes. In both high- and low-income-ratio states, whites tended to have the lowest prevalence of thyroid enlargement, blacks had an intermediate prevalence, and Spanish-Americans consistently showed the highest prevalence. There was no striking difference in overall prevalence of thyroid enlargement between the low- and high-income-ratio states.

Goiter prevalence by state ranged from less than 1 percent to greater than 7 percent, but no regional pattern to the occurrence of goiter was seen. Also, there appeared to be no relationship between the prevalence of goiter in the various states and iodine status as reflected by urinary iodine excretion. These data are discussed in more detail in the iodine section of the biochemical chapter of this report.

The final clinical index presented for older children and adults is hepatomegaly. There was no pattern to the prevalence of this finding in either the low- or high-income-ratio states. In both groups of states, hepatomegaly was found in only a small percentage of the population.

As with the clinical assessment of children, examination of adults demonstrated that there was no evidence of widespread, severe, clinically evident malnutrition in the population examined. Clinical examination proved to be a tool of limited value in the broad assessment of more subtle and inapparent levels of malnutrition.

Table 1A. *Number of Persons Under Six Years of Age Examined and Percent with Positive Clinical Findings by Sex and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Clinical Manifestation	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Abnormal Hair												
Dry Staring	280	0.7	966	0.8	219	2.2	268	4.8	974	2.0	237	2.9
Easily Pluckable	286	3.8	957	0.4	210	—	273	8.7	960	1.7	237	0.8
Eyes												
Bitot's Spots	289	0.3	972	—	219	—	274	—	978	—	237	—
Lips												
Cheilosis	289	4.1	972	1.8	219	—	273	2.9	978	1.4	237	—
Tongue												
Filiform Papillary	291	2.0	973	0.1	219	5.0	274	1.0	981	0.4	237	5.4
Fungiform Papillary	291	1.7	973	0.9	219	0.9	274	1.4	981	0.8	237	3.3
Geographic	291	1.3	973	0.4	219	0.4	274	1.4	981	0.2	237	0.8
Fissures	291	0.3	973	—	219	0.4	274	—	981	0.1	237	—
Face and Neck												
Thyroid Visibly Enlarged	296	0.3	973	0.1	219	1.3	277	—	981	0.3	237	1.6
Skin												
Follicular Arm Hyperkeratosis	297	0.6	973	1.2	219	2.7	277	1.9	981	1.6	237	0.8
Dry Scaling	297	1.0	973	1.6	219	—	277	1.0	981	0.7	237	0.4
Abdomen												
Hepatomegaly	222	1.3	650	0.1	216	5.5	213	0.9	679	—	237	5.9
Skeletal												
Beading of Ribs	296	0.3	957	0.6	219	1.3	277	0.3	961	0.3	237	1.6
Bowed Legs	295	0.3	958	1.1	219	2.2	277	0.7	962	1.1	237	1.6
Bossing of Skull	295	2.3	958	1.4	219	5.0	277	2.1	962	0.9	237	2.9
Winged Scapula	294	11.9	957	3.5	219	5.0	276	14.4	959	2.2	237	2.1

Table 1B. *Number of Persons Under Six Years of Age Examined and Percent with Positive Clinical Findings by Sex and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Clinical Manifestation	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Abnormal Hair												
Dry Staring	969	0.1	344	1.7	314	0.6	937	0.2	322	3.1	314	0.3
Easily Pluckable	918	4.3	332	—	310	—	925	7.3	321	0.6	312	0.6
Eyes												
Bitot's Spots	972	—	344	—	314	—	935	—	322	—	314	—
Lips												
Cheilosis	970	2.1	343	1.7	314	0.3	943	0.9	322	0.6	314	0.9
Tongue												
Filiform Papillary	958	0.8	344	5.2	313	6.3	927	1.0	321	3.4	314	3.5
Fungiform Papillary	964	5.6	344	15.4	313	3.8	934	5.1	321	10.9	314	4.4
Geographic	964	0.7	344	0.2	313	1.9	934	0.6	321	—	314	0.3
Fissures	964	0.5	344	0.5	313	—	934	0.1	321	0.9	314	—
Face and Neck												
Thyroid Visibly Enlarged	963	0.1	342	—	314	0.6	922	0.2	320	0.3	314	1.2
Skin												
Follicular Arm Hyperkeratosis	974	2.5	344	2.9	314	—	942	1.8	322	1.5	314	0.3
Dry Scaling	974	0.3	344	3.4	314	1.2	942	0.7	322	1.8	314	0.3
Abdomen												
Hepatomegaly	826	0.9	330	0.9	310	0.9	783	0.5	306	0.6	312	0.9
Skeletal												
Beading of Ribs	970	0.5	344	2.0	308	—	938	0.4	320	2.5	312	—
Bowed Legs	960	0.9	340	1.7	308	0.9	933	0.5	318	3.1	312	0.3
Bossing of Skull	971	0.6	343	1.7	308	1.9	937	0.9	320	1.5	312	0.6
Winged Scapula	944	8.0	337	12.1	308	5.1	905	8.8	317	6.9	312	3.2

Table 2A. *Number of Persons Six Years of Age and Over Examined and Percent with Positive Clinical Findings by Sex and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Clinical Manifestation	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Abnormal Hair												
Dry Staring	1521	1.1	3053	—	815	1.1	2093	1.0	4995	0.2	1160	0.5
Easily Pluckable												
Eyes												
Bitot's Spots	1532	0.1	3067	0.3	815	0.4	2089	—	4999	0.1	1160	0.3
Lips												
Cheilosis	1168	5.9	2987	3.0	815	0.8	1572	3.4	4850	1.8	1160	0.6
Tongue												
Filiform Papillary	1547	4.9	3070	1.9	815	5.6	2107	6.6	5002	2.0	1160	9.5
Fungiform Papillary	1550	1.8	3070	1.9	815	4.0	2107	3.7	5003	2.2	1160	5.4
Geographic	1550	2.0	3070	1.0	815	0.2	2108	2.3	5006	1.1	1160	0.5
Fissures	1549	3.4	3070	2.0	815	5.7	2108	3.2	5006	2.4	1160	5.7
Face and Neck												
Thyroid Visibly Enlarged	1552	1.2	3069	1.4	815	4.0	2112	4.3	5005	6.0	1160	6.2
Skin												
Follicular Arm Hyperkeratosis	1552	3.8	3070	5.0	815	3.4	2111	4.3	5005	4.8	1160	2.7
Dry Scaling	1552	4.1	3069	2.6	815	0.2	2111	3.8	5005	1.6	1160	0.4
Abdomen												
Hepatomegaly	1519	1.2	3097	0.6	815	2.3	2054	0.7	5038	0.1	1159	0.6

Table 2B. *Number of Persons Six Years of Age and Over Examined and Percent with Positive Clinical Findings by Sex and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Clinical Manifestation	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Abnormal Hair												
Dry Staring	5337	0.4	1280	2.2	1099	0.6	6856	0.8	2085	3.9	1657	2.2
Easily Pluckable												
Eyes												
Bitot's Spots	5339	—	1281	—	1100	—	6863	—	2089	0.1	1658	—
Lips												
Cheilosis	5339	1.8	1281	4.2	1100	1.0	6867	1.3	2090	3.2	1659	1.3
Tongue												
Filiform Papillary	5341	4.4	1281	11.3	1099	6.4	6862	4.9	2089	9.9	1656	7.3
Fungiform Papillary	5341	7.2	1281	17.3	1099	6.7	6866	9.9	2089	18.3	1658	6.5
Geographic	5341	1.5	1282	1.2	1099	1.6	6861	1.6	2087	0.5	1657	0.6
Fissures	5342	7.9	1285	8.1	1099	5.8	6865	7.9	2090	6.7	1657	5.3
Face and Neck												
Thyroid Visibly Enlarged	5339	1.2	1280	1.3	1100	3.1	6860	3.2	2084	4.2	1657	6.8
Skin												
Follicular Arm Hyperkeratosis	5344	7.2	1281	8.4	1100	1.4	6859	4.9	2087	4.4	1658	1.2
Dry Scaling	5344	1.4	1281	6.4	1100	1.8	6862	2.7	2087	4.2	1658	1.6
Abdomen												
Hepatomegaly	4847	1.1	920	0.9	1095	0.1	6125	0.1	1529	0.1	1636	0.1

2. ANTHROPOMETRY

Abstract: *Higher income level was associated with greater height, weight, fatness, and skeletal weight; and with larger head circumference, earlier skeletal maturation, and earlier tooth eruption in children. These effects of income level were seen in both black and white populations and generally were more noticeable in younger persons, although trends persisted into adulthood, indicating the cumulative effects of poverty income ratio on growth and maturation. Blacks were taller than whites during the growing period, and were more advanced in skeletal and dental development but showed little difference in weight. Fatfold measurements tended to be smaller in blacks than in whites. Children and adults from the high poverty-income-ratio group of states tended to be somewhat taller, heavier, and fatter, as well as to show earlier skeletal maturation and somewhat larger head circumference, indicating more favorable growth responses. Obesity, as measured by fatfold thickness, was found to be most prevalent in adult women, particularly black women, although white males in both the adolescent and adult age groups also had a relatively high prevalence of obesity.*

Anthropometric measurements are useful in identifying populations where nutritional inadequacies are reflected in retarded growth and development. Many different types of measurements are utilized. The most common are height and weight, but these can be supplemented by detailed measurements of other body parts and proportions. Another type of anthropometric measure utilizes X-rays of the hand and wrist for making measurements of bone size and estimates of skeletal maturation.

Complete data were available on 62,532 children, adolescents, and adults, and were used in the final computations and comparisons. Radiographic data are similarly presented on some 24,540 individuals.

In two states, Louisiana and Texas, identifying information was not compatible with that of other anthropometric and radiographic data. For this reason, data for these states are presented separately throughout this section.

The measurements presented in most detail are height, weight, and triceps fatfold thickness. Information on head circumference of children is also presented, as is the mean age of eruption of permanent teeth, an index of dental maturation. Data based on radiographic measurements include the mean age of appearance of individual ossification (bone growth) centers, which relates to skeletal maturation, since earlier appearance of ossification centers indicates more advanced or mature growth status. Data are also presented on estimated skeletal weight, a measure of body skeletal growth. Skeletal weight estimates are useful in defining population differences in bone building and bone loss, and are appropriate both in the study of growth and development in the formative years and in the measurement of adult bone loss in older age. This information is extrapolated from measurements of the second metacarpal bone of the hand. Most of the data presented in this section are based on the total population surveyed rather than on the populations of the low- and high-income-ratio states separately.

Obesity is a nutritional problem of considerable importance. Fatness has been associated with high rates of cardiovascular disease and other

chronic diseases and is a significant public health concern. Data are presented on the prevalence of obesity in adolescents and adults using a definition of obesity based on triceps fatfold thickness.

Other measurements were made which are not presented in this report. These measurements include subscapular fatfold, arm circumference, chest circumference, shoulder width, wrist width, knee width, knee height, and calf circumference. Radiographic data, which have also been compiled but not presented, include total bone area, cortical area, medullary area, and percent cortical area measurements of the second metacarpal bone at midshaft. These last measurements were used in the calculation of data on estimated skeletal weights, which are presented.

HEIGHT AND WEIGHT OF CHILDREN AND ADOLESCENTS—COMPARISON WITH STANDARDS

Height and weight are the two most used measures of growth in children and adolescents. Greater size at a given age is presumptive evidence of better nutritional status on a group basis, and lesser size suggests relative nutritional inadequacy.

The major difficulty in making a meaningful assessment of the significance of data on height and weight is the selection of appropriate standards. Available standards have often been based on relatively small numbers of children and from measurements made as long as 30-40 years ago. Despite these limitations, the height and weight standards selected for comparison with Ten-State Survey data are the Stuart-Meredith norms, the most widely used standards in the United States. They are based on two sources of data. Standards for height and weight of children 1-4 years of age are based on measurements of children in Boston in the early 1940's. Standards for children age 5-17 are based on measurements of Iowa City children and adolescents made in the 1930's. These norms were initially published in a pediatric reference textbook.[1] They have been the ones most extensively used by pediatricians and were endorsed in November 1971, by an ad hoc committee of the American Academy of Pediatrics for use until other standards are developed.

Use of the Stuart-Meredith Standards for comparison with Ten-State Survey data required some adaptation. The published data show calculated values for the 3rd and 97th percentiles, and values therefore had to be interpolated for the 5th and 95th percentiles used in the present data analysis. Additionally, it should be noted that the Stuart-Meredith Standards for ages 1-4 are based on recumbent length rather than standing height, which was used for some of the children in the Ten-State Survey. Recumbent length is generally about 1 cm. longer than standing height, and therefore, the standards for height are actually based on slightly different measurements for the youngest age group.

The final consideration that bears on the use of the standards stems from the data-collecting technique used in assembling the standard for the 1- to 4-year-old children. Data were collected in a longitudinal fashion, measuring the same children over a period of years on or very near their birthdays. Therefore, children were measured at 1, 2, 3, or 4 years of age. In contrast, children from the Ten-State Survey forming each age group could be from 6 months younger to 6 months older than the exact age of 1, 2, 3, or 4 years. Therefore, measurements on these children would be expected to show a range of values both lower and higher than the standards. The wider range of values is reflected in the excess of Survey children above and below the standard 95th and 5th percentiles.

Height

Comparisons of the 5th, 50th, and 95th percentiles for height of children and adolescents in the Ten-State Survey with the Stuart-Meredith Standards are presented in Figures 1a-b. The area enclosed by the 5th and 95th percentiles of the standards is shown by the shaded area. The most consistent finding is that the 5th percentile for the Ten-State Survey children fell below the standard, indicating that more than the expected number of children were short for their age. Generally, the 50th percentile or median value for height also fell below standards.

Comparison of 95th percentile values gave less consistent findings. In older children and adolescents, the 95th percentiles were similar. However, in the 1- and 2-year-old age groups the 95th percentile for the Ten-State Survey children consistently exceeded the standard. This observation is explained, in part, by the expected wider variation in values from the Ten-State Survey population, as explained above. The same effect would explain the observation that the 5th percentile fell considerably below the 5th percentile of the standard in the youngest age groups. However, whereas the 95th percentile became quite

[1] Nelson, W. E., *Textbook of Pediatrics*, W. B. Saunders Co., 1946.

comparable to the standard by age 2, the 5th percentile remains substantially below standard. This indicates that the excess of Ten-State Survey children below the 5th percentile of the standard is a real and persistent finding, but that the apparent excess of tall-for-age children in the youngest age groups may be a statistical artifact rather than a valid finding.

Undersized Children. A further presentation of the prevalence of undersized children in the Survey population is shown in Table 1. In this tabulation, the 15th percentile is used to define a population that is relatively short-for-age. In a "normal" population, as defined by the standards, one would expect to find 15 percent of children with heights below this level. However, from 18 to 46 percent of the Survey children were actually below the standard 15th percentile, indicating an excess of short-for-age children, particularly in the younger age groups. There was little consistent sex or ethnic-group difference in the prevalence of short-for-age children.

The effect of income on the prevalence of undersized children is evaluated in Table 2. Children from families with a lower Poverty Income Ratio (PIR) were more frequently undersized than were children from families with a higher PIR. These findings indicate that poverty is associated with an excess of short-for-age children.

Spanish-American Children and Adolescents. The number of Spanish-American children surveyed was too small to permit comparison in the same way as that presented for white and black children. This was particularly true since the Spanish-American population was really composed of two rather distinct groups: Mexican-Americans in Texas, and Puerto Ricans primarily in New York.

To provide a basis for comparison with other Ten-State data and with standards, median or 50th percentile values are presented for Mexican-Americans and Puerto Ricans along with the 50th percentile of the Stuart-Meredith Standards. Those data are presented in Figure 1c. Median values for height for both of these populations tended to be somewhat below the standard, as was the case for white and black children. There was no consistent difference in median values between Mexican-American and Puerto Rican populations.

Weight

Weights for children in the Ten-State Nutrition Survey are compared with the Stuart-Meredith Standards in Figures 2a-b. Median values for weight tended to be slightly below the standard in younger age groups, but in contrast to height data, the median values for both sexes and ethnic groups equalled or exceeded the median value by the adolescent age. Fifth percentile values generally were below the standard for all age groups. This finding indicates an excess of underweight children in the populations surveyed, as compared with standards.

The 95th percentile values for weight tended to exceed standards. This effect was most noticeable in the adolescent age group. The finding of an excess of overweight children relative to the standard indicates the existence of malnutrition based either on overeating and lack of exercise or on an imbalance of proper nutrients in the diet.

Underweight Children. From 17 to 45 percent of children had weights falling below the 15th percentile set by the standards (Table 3). The excess of underweight children was greater in younger age groups and was similar to the findings for height. In the adolescent age group, blacks of both sexes tended to have a higher percentage of underweight children than did whites. Also there tended to be a higher percentage of underweight males than females among adolescents of both ethnic groups.

The influence of income level on the prevalence of underweight children is presented in Table 4. Lower PIR was clearly associated with a higher percentage of children falling below the 15th percentile of the standard and was seen to a greater degree in the younger age groups. This finding was consistent with the previous observation of the influence of income level on the prevalence of short-for-age children. It can be concluded that for both whites and blacks, lower income levels were associated with a higher prevalence of undersized and underweight children.

Spanish-American Children and Adolescents. Weight data for Spanish-American children and adolescents are presented in a manner similar to height data (Figure 2c). Values were somewhat more variable, but for both Mexican-Americans and Puerto Ricans, median values in all age groups tended to be slightly below or equal to the standard. In comparison, median values for older black and white children and adolescents always equalled or exceeded the standard. Therefore, it appeared that Mexican-Americans and Puerto Ricans lagged slightly behind whites and blacks of comparable age in median weight.

INFLUENCE OF POVERTY INCOME RATIO ON GROWTH

Height

The effect of income level on growth was evaluated by selecting and comparing two Poverty-Income-Ratio groups, one high (2.25-2.99) and one low (0.00-0.74). Computation of mean heights for these groups indicated that mean heights for white children and adolescents were almost always greater for the high-income-ratio group (Table 5A). The difference in stature between high and low PIR groups was less consistent for white adults. The same comparisons for all blacks gave less consistent results (Table 5B), which can be attributed to the small number of black persons in the high PIR group.

The effect of income on growth was also illustrated by the difference in height-age between low and high PIR groups. Height-age is the age for which a given height value would be the 50th percentile or median value. Figures 3a-b illustrate that white children from the higher PIR group had higher height-ages. For some age groups, the high PIR children were advanced as much as a year in height over the low PIR children.

Weight

Similar evaluation was made of the effect of income on weight. For the white population, persons of all ages with higher income levels tended to weigh more (Tables 6A-B). Only for white adult women was the influence of PIR not consistent. It would seem that for this group an increase in income level was not associated with an increase in body weight. Similar analysis of data for the black population demonstrated a trend towards greater weight among persons of higher income levels. The data showed more variation for the black population than for the white, due to the small number of black persons in the higher PIR group. But, as in the white population, the least consistent data were for adult women. It appears that for both black and white adult women, income level did not consistently influence mean body weight.

Weight-age comparisons between the high and low PIR groups were made for white children in a manner analogous to the presentation for height-age (Figures 4a-b). Similarly, weight-age was more advanced in the high-income-ratio group. In quantitative terms, weight-age for some age groups was advanced as much as two years in the high-income-ratio children.

Triceps Fatfold Thickness

Evaluation of the influence of income level on triceps fatfold thickness among whites showed that increasing PIR was associated with greater fatfold thickness (Figures 5a-b). Adolescent and adult women reflected the general tendency towards increased fatfold thickness in the higher PIR group, but the difference for women in the two Poverty-Income-Ratio groups was small when compared to the differences seen for men. It appears that higher income affects fatfold thickness in white women less than in men, as was the case for height and weight.

Similar data for the black population supported the general conclusion that higher income status was associated with greater fatfold thickness (Appendix Tables 3A-B). The data were more variable because of the small number of black persons available for measurement in the high-income-ratio group. The greatest degree of variability and inconsistency was seen in adult women. Once again, it would appear that for both the black and white populations, adult women showed the least effect of income on measurements of growth and body fat.

Head Circumference

The influence of income level on head circumference in young children is presented in Appendix Table 4A-B. Children from families with higher income levels tended to have slightly greater head circumferences. The data were most consistent for white children. Values for black children were based on very small numbers, and it is therefore difficult to draw conclusions concerning this group.

Skeletal Weight

Skeletal weight was estimated by extrapolation from measurements of the second metacarpal bone of the hand.

No consistent influence of PIR on skeletal weight was found in white male children, although white females in the higher income group tended to have somewhat larger skeletal weights (Appendix Table 5A). For black children there appeared to be a trend towards increased skeletal weight in both males and females in families at the higher income levels, although this influence was variable and the numbers of children were quite small (Appendix Table 5B).

Adolescent males, both black and white, showed no consistent relationship between income level and skeletal weight, but females of both ethnic groups demonstrated distinctly greater

skeletal weights in the higher PIR group. For adults of both ethnic groups, the data clearly indicated that higher income level was associated with greater skeletal weight.

After age 50, skeletal weight generally decreased with age, reflecting the loss and thinning of bone. This decrease in skeletal weight was comparable in both the high and low PIR groups. The low PIR groups continued to have lower skeletal weights generally, but there was no added bone loss associated with lower income status.

Mean Age of Appearance of Ossification Centers

The radiographic record of bone development in children was used to identify the mean age of appearance of individual ossification centers in the hand. This measurement was made to document the degree of skeletal maturation. Findings indicated that for white children there was a distinct trend towards earlier appearance of ossification centers in the high Poverty-Income-Ratio group (Appendix Table 6A). This finding was not as consistently seen for black children (Appendix Table 6B). It appeared that in the white population, and to a lesser extent for blacks, higher income was associated with advanced bone maturation.

Mean Age of Eruption of Permanent Teeth

The age at which permanent teeth erupt is another index of development. Earlier eruption of teeth generally indicates more advanced developmental status. The influence of income level on tooth eruption was examined by comparing a high (greater than 2.24) and a low (0.00-1.49) Poverty-Income-Ratio group. There was a tendency towards earlier eruption of teeth in the children from a higher income background, although this trend was not consistently evident (Appendix Tables 7A-B). Data for both black and white children demonstrated the same trend.

ETHNIC GROUP DIFFERENCES IN GROWTH

Growth may be influenced by genetically based racial differences, as well as by environmental factors such as economic status. For this reason, the major growth parameters of height, weight, and fatfold thickness were also evaluated by ethnic group for the black and white populations. Numbers of Spanish-Americans were insufficient to permit overall comparison with other ethnic groups. Comparisons are presented for blacks and whites in Louisiana and for blacks and Mexican-Americans in Texas, using broader age groupings to provide adequate numbers in each category.

Height

Mean heights in the total black and total white populations were compared at various ages. Black children tended to be taller than white children of comparable age until the adolescent years, despite the fact that the mean PIR of the black children was lower than that of whites. From the adolescent years on, there was little consistent difference in mean heights between blacks and whites (Table 7).

The effect of income level on mean height values was minimized by selecting blacks and whites from the same PIR group (PIR 0.75-1.49) (Figures 6a-b). However, equalizing PIR did not alter the trend towards higher mean heights in black children. With PIR group equalized, in fact, there was a trend towards greater mean heights in blacks of all ages.

The data on height in Louisiana demonstrated that blacks generally were taller than whites of comparable age after early childhood (Appendix Table 8B). Taller stature in blacks was seen most consistently for older children and adolescents. Black adult women continued to be consistently taller than white women, while black men were often but not consistently taller than whites. It must be noted that fewer values were available for whites and that this comparison must be interpreted with some caution.

A comparison of the height of blacks and whites from Louisiana with persons in their same ethnic group from the rest of the Ten-State Nutrition Survey indicated that white children from this state area tended to be slightly shorter. In adulthood, white males had similar mean heights compared with white males from the rest of the survey. However, white females were consistently shorter than white females from the rest of the survey, beginning with the adolescent age group and continuing on through adulthood. Mean heights for white females were 10-15 cm. shorter in the age group 16 years of age and older. Black persons in Louisiana showed little consistent difference in mean height when compared to blacks from the rest of the survey population.

The data for Texas compares blacks with Mexican-Americans (Appendix Table 8C). Mean height for blacks was greater for all age groups beyond early childhood. Adult heights averaged from 5-10 cm. greater for black persons than for Mexican-Americans of comparable age. This finding was seen in both males and females. Compared with black persons from the rest of the Ten-

State Nutrition Survey, blacks in Texas showed little consistent difference in mean height of children and adolescents, although adults were consistently taller. On the basis of mean height values, Mexican-Americans from Texas were consistently shorter than either white or black persons in the rest of the survey.

Weight

With the exception of adult females, white persons were generally heavier than black persons of similar age (Table 8). Black women were found to be consistently heavier than white women of the same age group. Because of the difference in PIR between the black and white populations, an analysis of mean weight for the same Poverty-Income-Ratio group (0.75-1.49) was made (Figures 7a-b). Once income level was equalized, black and white males demonstrated little consistent difference in mean weight in either childhood, adolescence, or adulthood. In contrast, during childhood and early adolescence white females were generally as heavy as black females, or heavier. In later adolescence and adulthood, black women weighed more than white women of comparable age.

Data on weight of both white and black persons in Louisiana tended to parallel that seen for height into the adolescent age group (Appendix Table 9B). Beyond this age, findings were less consistent for males, although black females continued to be somewhat heavier than white females of similar age. In Texas, with few exceptions the weight of blacks exceeded the weight of Mexican-Americans of comparable age (Appendix Table 11D). The greater weight of blacks compared with Mexican-Americans was most consistent for females.

Mean weights for whites in Louisiana were below values for whites from the rest of the survey during childhood, but the reverse was seen for adults. Black individuals from Louisiana were comparable in weight to black persons from the rest of the survey, although females tended to weigh relatively less during childhood and slightly more during adulthood.

In Texas, black persons weighed somewhat less in childhood, but tended to be heavier than blacks in the rest of the survey in adolescence and adulthood. Mexican-Americans in Texas generally weighed less than either white or black persons from the rest of the survey (Appendix Tables 9A-C).

Fatfold Thickness

Triceps fatfold thickness of whites and blacks was evaluated in a manner similar to the analysis of height and weight. It was found that, with the exception of the youngest age groups, white children and adolescents had greater fatfold thickness than did black children of similar age (Table 9). For adults there was a clearcut sex difference in fatfold measurements. Adult white men had consistently greater fatfold thickness than men of comparable age in the black population. By contrast, adult women had fatfolds that were consistently smaller for whites than for blacks.

In order to equalize the effect of income on fatfold measurements, black and white persons from the same PIR group (0.75-1.49) were compared (Figures 8a-b). Findings for black and white persons from the same Poverty-Income-Ratio group showed the same trend as data from the overall black and white populations. With few exceptions, white males had larger fatfolds than did black males of comparable age. Findings for females were similar in the childhood age group; white girls from age 3-10 tended to have larger fatfolds than black girls of similar age. Beyond this age, however, differences were less consistent, although black women more frequently had greater triceps fatfolds than did white women.

Head Circumference

Head circumference measurements indicated that for children 1-6 years of age from the total black and white populations, black males had consistently smaller head circumferences, and black females had, with a single exception, larger head circumferences than whites of comparable age (Appendix Table 11A). Findings were far more variable and inconclusive when Poverty-Income-Ratio group was standardized, probably because smaller numbers of children were involved (Appendix Table 11B).

Skeletal Weight

Estimated skeletal weight of blacks—children, adolescents, and adults—was consistently greater than the skeletal weight of white persons of comparable age. This finding held for both sexes (Appendix Table 12A). Persons drawn from the same Poverty-Income-Ratio group for both ethnic groups demonstrated once again that blacks had larger estimated skeletal weights (Appendix Table 14B). The consistently greater skeletal weight of black persons indicates that racially based genetic differences, as well as nutritional factors, can influence growth.

Mean Age of Appearance of Ossification Centers

Data on the mean age of appearance of various ossification centers supported the finding of generally advanced skeletal development in black children as compared with white (Appendix Table 13A). Comparisons of black and white children from the same Poverty-Income-Ratio group also demonstrated that ossification centers appeared at younger ages in black children.

Mean Age of Eruption of Permanent Teeth

Another measure of development is the child's age at eruption of permanent teeth. These data were developed from the records of dental examination. Examination of the data indicated that eruption of permanant teeth consistently occurred at an earlier age in black children than in white (Appendix Table 14). Comparison of children from the same PIR bracket (0.00-1.49) did not effect the finding of earlier eruption of permanent teeth in blacks (Appendix Tables 7A-B).

LOW- AND HIGH-INCOME-RATIO STATES

Comparison was made of height, weight, fatfold thickness, and other body measurements between the low- and high-income-ratio states. The data were presented with different age midpoints for children and adolescents, but this difference of presentation does not affect the interpretation of the data. Age midpoints for the adult population are the same as those used in previous comparisons.

Height

White children were generally taller in the high- than in the low-income-ratio states. Black children in the two groups of states appeared to be more comparable in height (Table 10A). In the adolescent age group, both white and black individuals tended to be taller in the high-income-ratio states although this finding was variable (Table 10B). Findings were somewhat different for older persons (Table 10C). Adults from the white population in the high-income-ratio states were shorter than those of comparable age in the low-income-ratio states. The reverse was true for black adults.

Weight

Both black and white children in the high-income-ratio states tended to weigh more than children of comparable age in the low-income-ratio states (Table 11A). The same finding was encountered in the adolescent and adult populations (Tables 11B-C).

Fatfold Thickness

Findings for triceps fatfold thickness in white children paralleled the findings for height and weight, in that white children from the high-income-ratio states had higher values than did children from low-income-ratio states (Figures 9a-b). In black children, findings were more variable. Generally, the younger black children from the high-income-ratio states had smaller fatfold thickness (Figures 9c-d), whereas the older black children from the high-income-ratio states demonstrated greater fatfold thicknesses.

Findings for the adolescent age group were more consistent for both whites and blacks. With few exceptions, white and black adolescents in the high-income-ratio states had larger fatfold measurements than did adolescents of comparable age in the low-income-ratio states. The finding for adults was similar except for white women, in whom fatfold thicknesses were not different in the two groups of states.

Head Circumference

Head circumference measurements of children age 1-6 showed little difference in the white population between the two groups of states (Appendix Table 16). In the black population, however, generally larger head circumferences were found in children from the high-income-ratio states.

Mean Age at Eruption of Permanent Teeth

White children in the high- and low-income-ratio states showed little difference in the age of eruption of permanent teeth, although there was a tendency towards earlier eruption in the low-income-ratio states. Findings were distinctly different for black children, in that black children in the high-income-ratio states had earlier tooth eruption than black children in the low-income-ratio states (Appendix Table 17).

OBESITY

Obesity is a nutritionally-related problem of significant public health concern because of its association with increased rates of cardiovascular disease and other chronic diseases. Although obesity is a widely recognized problem, its scope is poorly defined.

In an attempt to define the extent of obesity within the Ten-State Survey population, criteria for the definition of obesity in adolescents were selected utilizing the data of Selzer and Mayer (Appendix Table 19). Standards for adult obesity

were developed from the Ten-State Survey data itself. Obesity in adults was defined as a fatfold measurement greater than the 85th percentile of measurements for young white adults.[1]

Adolescents

Data on the prevalence of obesity in black and in white adolescents, as defined by the Selzer-Mayer Standards, indicated that white male adolescents had a consistently higher percentage of obesity than did black males of similar age (Figure 10a). No comparable relationship was seen for white and black female adolescents, in that no difference in the prevalence of obesity was seen. The percentage of obese adolescents varied from 11 to 39 percent in white males and from 9 to 19 percent in white females. The prevalence of obesity in black males ranged from 5 to 33 percent and in black females from 6 to 32 percent.

The prevalence of obesity was also evaluated in terms of the effect of income level. The percent obese in high (greater than 1.49 PIR) and low (0.00-1.49 PIR) income groups indicated little consistent relationship between obesity and income level (Table 12).

Adults

Comparison of adults from the black and white populations indicated that there were consistently more obese white males than obese black males. The findings were entirely reversed for adult women, with black women showing a higher prevalence of obesity in all age groups (Figure 10b).

Apparent differences between white and black populations in terms of the prevalence of obesity may, in part, reflect differences in income level (Figures 11a-b). It was found that for both black and white males, lower income levels were associated with a lower prevalence of obesity. The picture was more complex for adult women. Among older women in both ethnic groups, lower income level was associated with a lower prevalence of obesity. However, for younger women the relationship was not clearcut. In some age groups, obesity was more prevalent in the lower income group of women.

Adult men had a prevalence of obesity that varied from 5 to 25 percent. Adult women were more frequently found to be obese, with a prevalence of 10 to 55 percent. Middle-aged men and women had the highest prevalence of obesity.

[1] Actual fatfold thickness defining obesity in males was 18.6 mm and for females was 25.1 mm.

SUMMARY

Comparison of height of children from the Ten-State Survey with standards indicated an excess of children below both the 5th and 15th percentile. The prevalence of short-for-age children was similar for both sexes and for both black and white ethnic groups, but children from lower income families were more frequently undersized.

Weight data indicated an excess of both overweight and underweight children relative to the standard, suggesting the existence of malnutrition stemming from either overeating or undereating. There were more underweight children in the younger age groups and in black children generally. Lower Poverty-Income-Ratio level was clearly associated with a higher percentage of children underweight for their age.

Persons in the high-income-ratio states were generally taller and heavier and had larger fatfold measurements than persons of the same race in the low-income-ratio states. For black children, eruption of permanent teeth occurred at an earlier age in high-income-ratio states than in low-, whereas for white children there was little difference except for a slight tendency toward earlier eruption in low-income-ratio states.

Higher Poverty-Income-Ratio levels were associated with greater height and fatfold thickness. Adult women were often an exception to this trend in that, for them, income level seemed to have little consistent influence on these measures. Data derived from X-ray measurements such as estimated skeletal weight and the age of appearance of ossification centers supported the general finding of more advance growth and development in persons having higher levels of income.

Comparisons between blacks and whites indicated that black children were generally taller although not heavier than white children of comparable age. Fatfold measurements of black children tended to be smaller than those of white children, a finding compatible with the general observation that black children are somewhat taller but weigh about the same as white children. Black persons consistently had greater estimated skeletal weights and black children were consistently advanced over white children in both the appearance of bone ossification centers and in the eruption of permanent teeth.

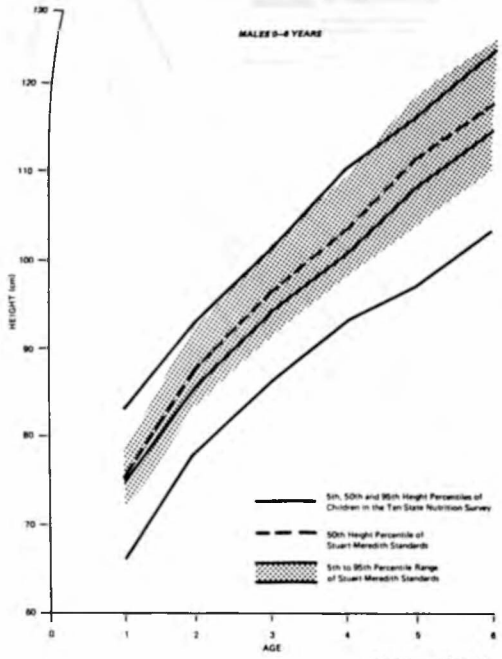
Findings for adolescents tended to be more variable, particularly for height. Differences in weight were most consistent; black males generally weighed less than white males of comparable age. Fatfold measurements of black adolescents

were generally smaller than those of whites, although this effect was eliminated by comparing groups of equal Poverty-Income-Ratio level. Black adult women tended to be somewhat taller and heavier and to have greater fatfold measurements than white women of comparable age. Black adult men tended to be similar in height and weight to white adult men of similar age, but their fatfold measurements were consistently smaller.

A high prevalence of obesity was identified in some segments of the population surveyed. Black women showed the highest prevalence of obesity, exceeding 50 percent in the 45- to 55-year-old age group. White women demonstrated the next highest prevalence of obesity with more than 40 percent of them obese in the 45- to 55-year-old age group. Obesity was substantially less prevalent in adult males, although approximately 20 percent of white adult males were found to be obese. The lowest prevalence of obesity was found in black males. Higher income level was associated with a higher prevalence of obesity in both black and white males, but for females of both races, income was less consistently associated with the prevalence of obesity.

Anthropometric measurements demonstrated that higher income was associated with more advanced growth and development, and that people in high-income-ratio states were more advanced than people in low-income-ratio states. These findings are supported by the biochemical and dietary data which indicate generally better nutritional status in these groups. The finding that black persons generally demonstrated advanced maturation and growth relative to whites, appears initially to conflict with findings from other sections of this report which indicate that the black population was generally less adequately nourished than the white population. However, these findings show that factors other than nutrition, such as racially based genetic differences, have a major role in growth and development.

Figure 1a—Comparison of Selected Height Percentiles for White Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)



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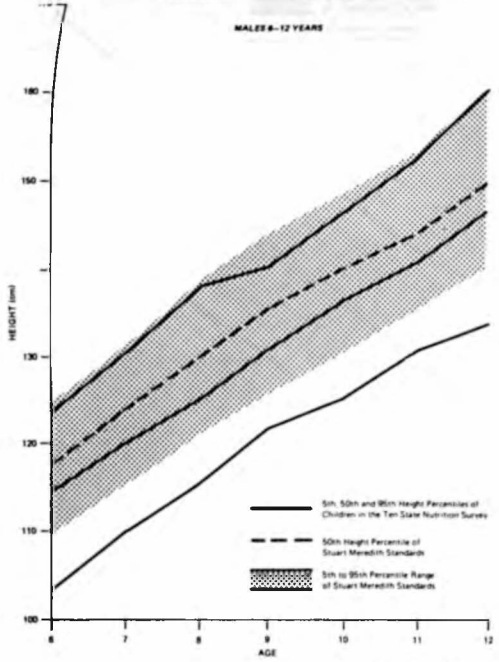

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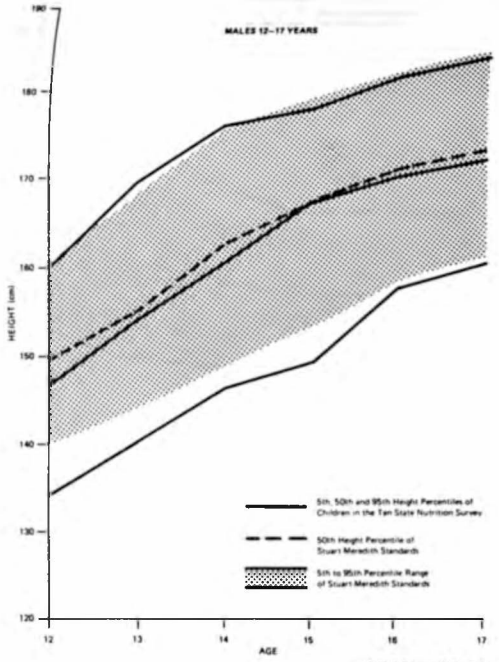

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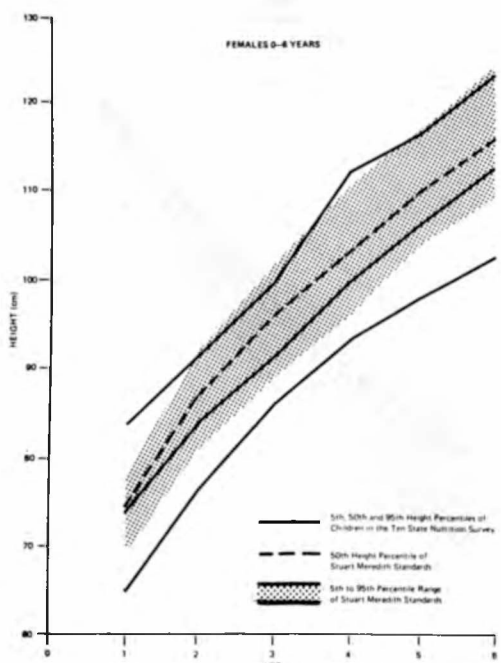

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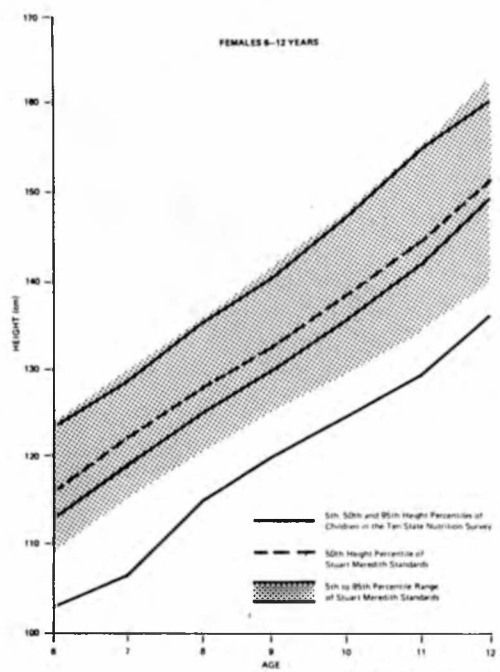

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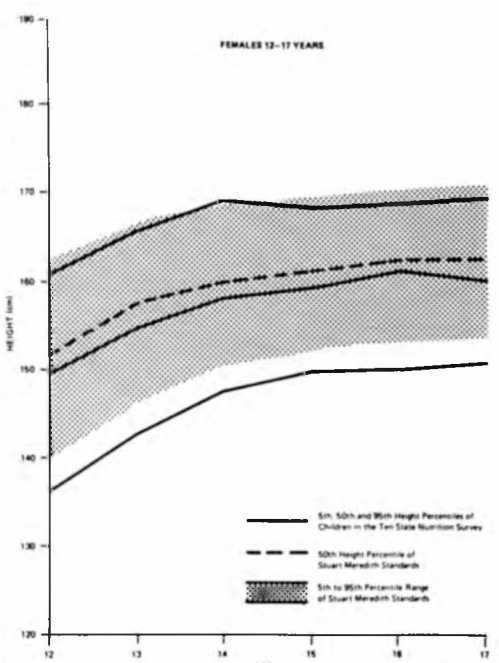

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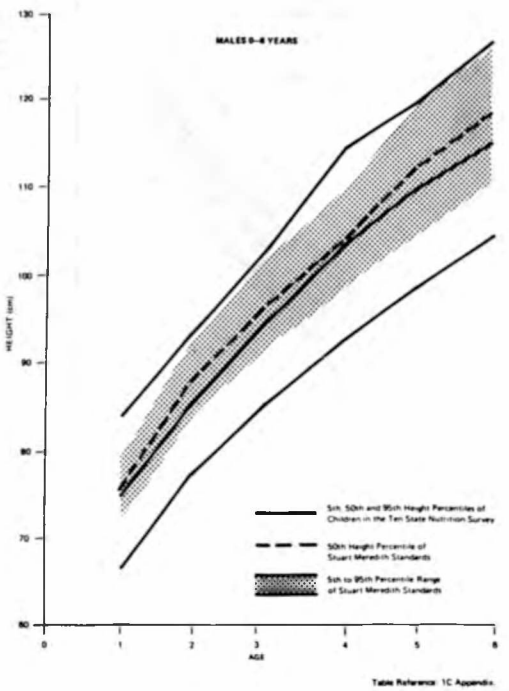
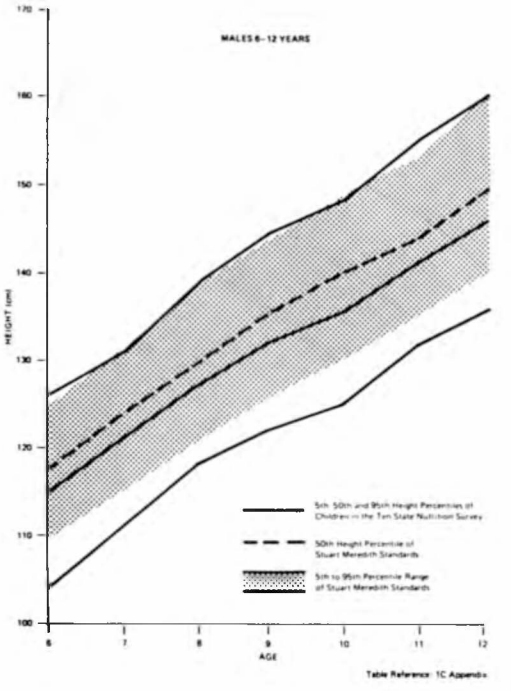
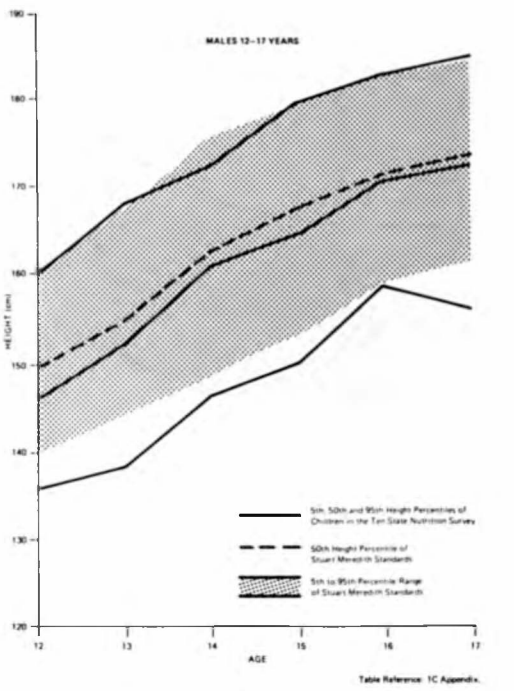
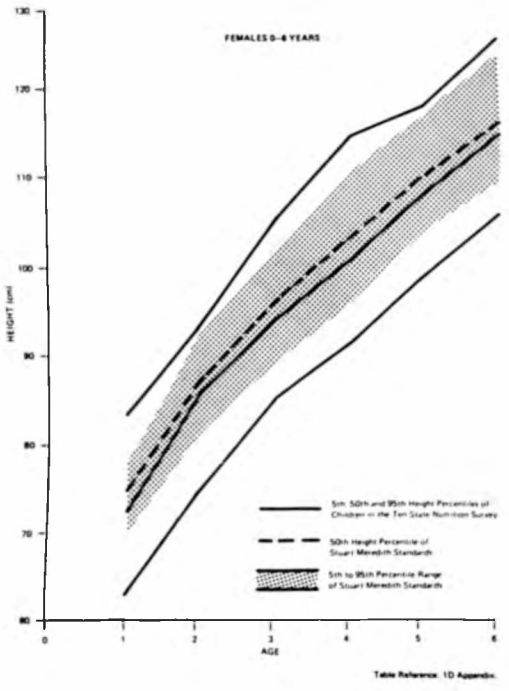
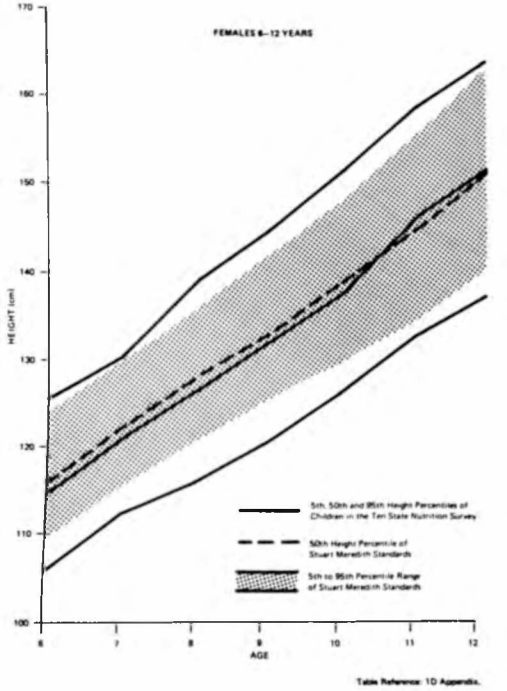
Figure 1b—Comparison of Selected Height Percentiles for Black Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)











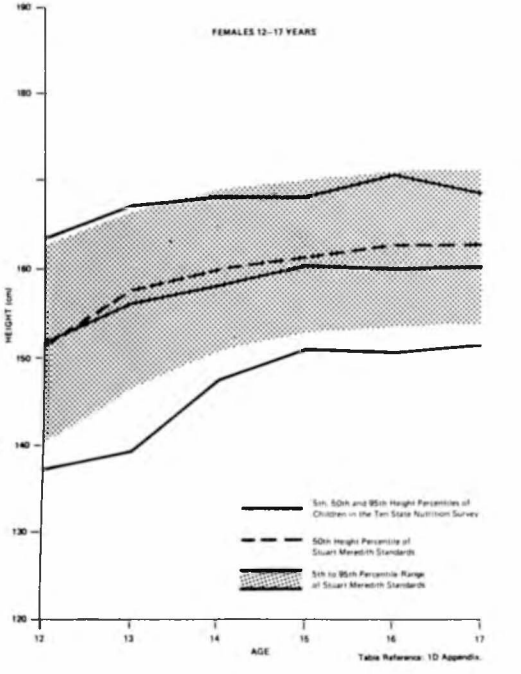


Table 1. *Percent Below the 15th Percentile for Height of Stuart-Meredith Standards by Selected Ages, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Males		Females	
	White (percent)	Black (percent)	White (percent)	Black (percent)
2	42	46	46	37
4	39	34	44	36
6	37	30	38	32
8	45	36	39	25
10	35	41	31	24
12	33	31	26	22
14	22	25	22	28
16	23	18	23	34

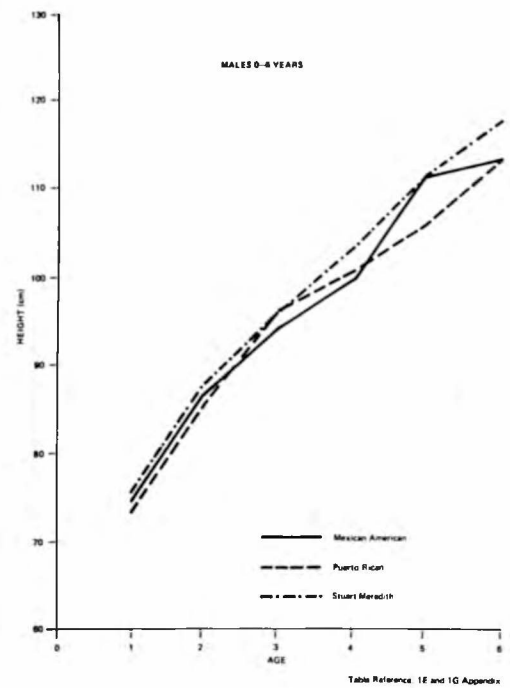
NOTE: For complete data see Table 1J Appendix.

Table 2. *Percent Below the 15th Percentile for Height of Stuart-Meredith Standards Comparing Poverty Income Ratio Groups by Selected Ages, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Sex			
	Male		Female	
	Poverty Income Ratio Group		Poverty Income Ratio Group	
	0.00-1.49 (percent)	>1.49 (percent)	0.00-1.49 (percent)	>1.49 (percent)
	WHITE			
6	47	26	41	33
8	52	39	42	28
10	42	32	41	23
12	34	32	32	22
14	27	23	25	21
16	22	20	29	18
	BLACK			
6	30	30	36	8
8	37	40	28	9
10	46	27	22	22
12	30	22	24	16
14	29	13	29	13
16	22	8	39	18

NOTE: For complete data see Table 1J Appendix.

Figure 1c—Comparison of Median Height for Mexican American and Puerto Rican Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)



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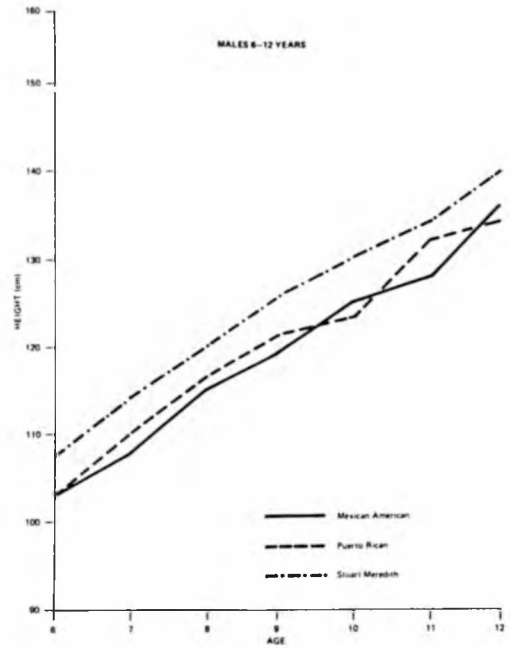

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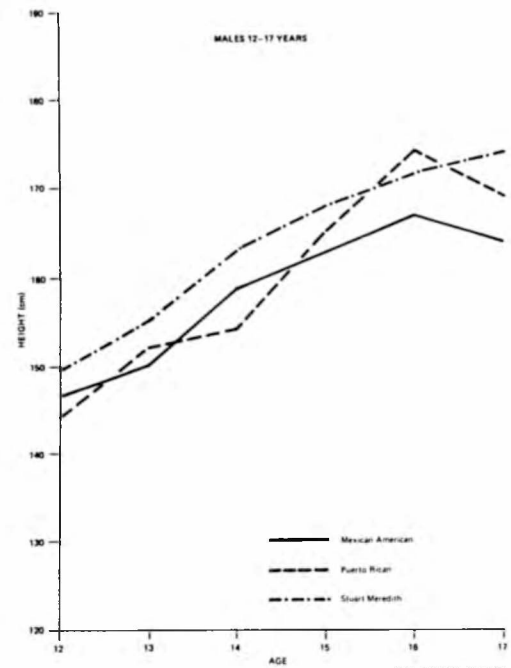

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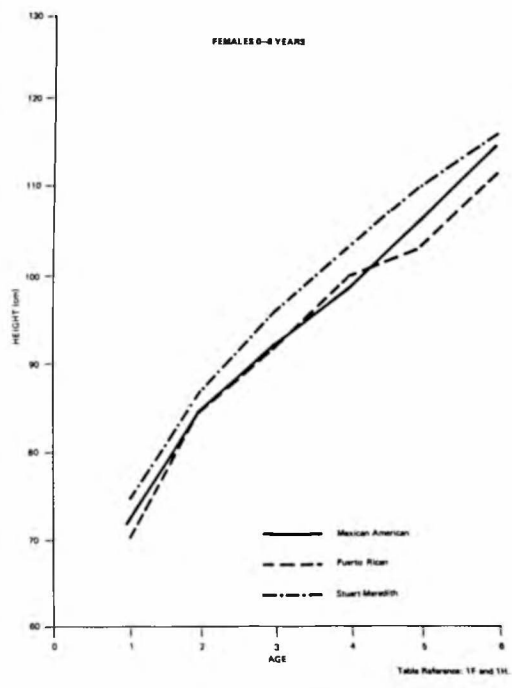

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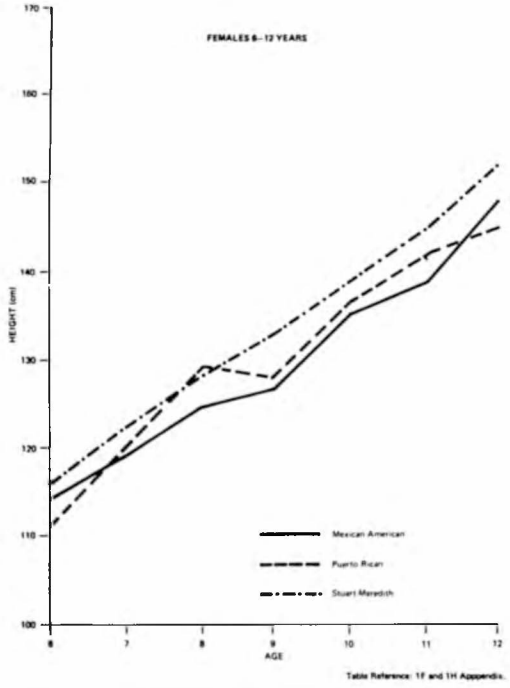

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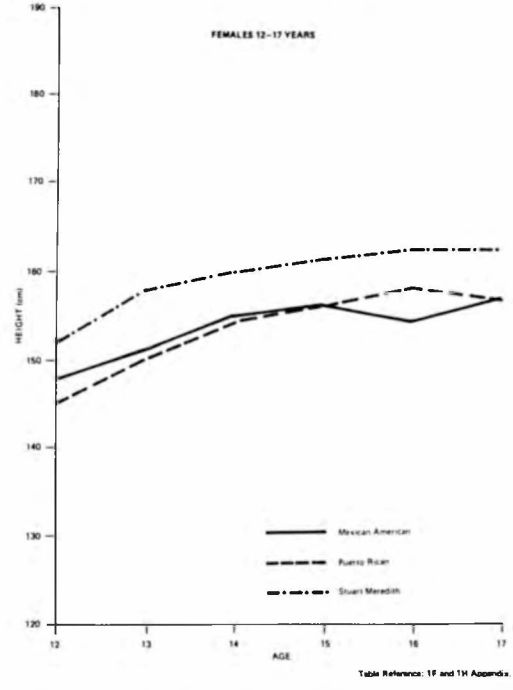

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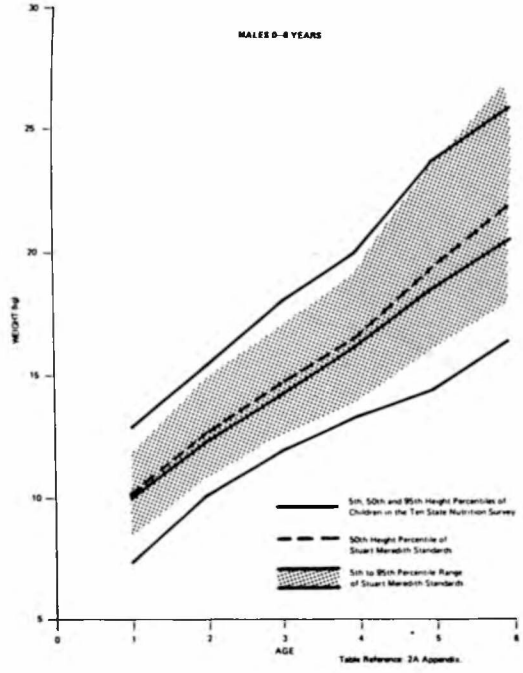
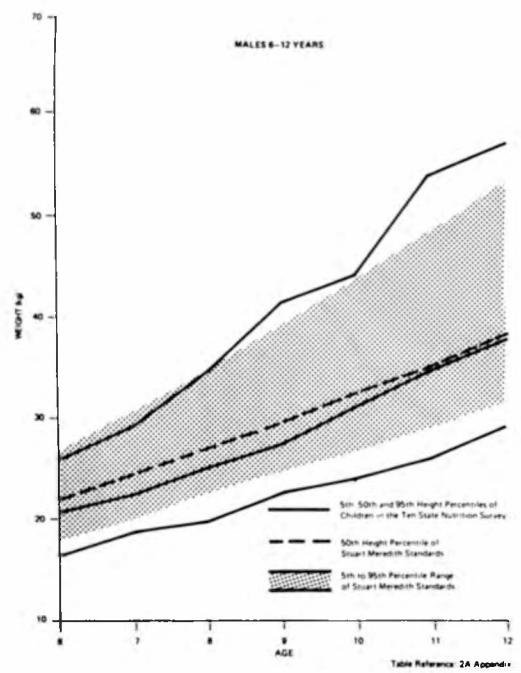
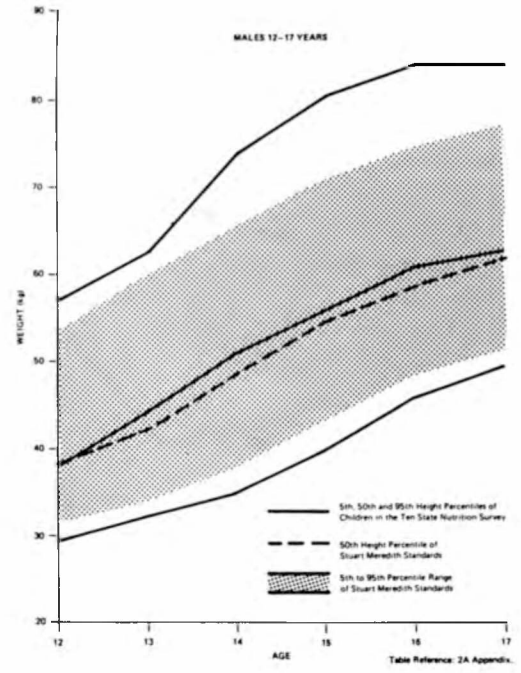
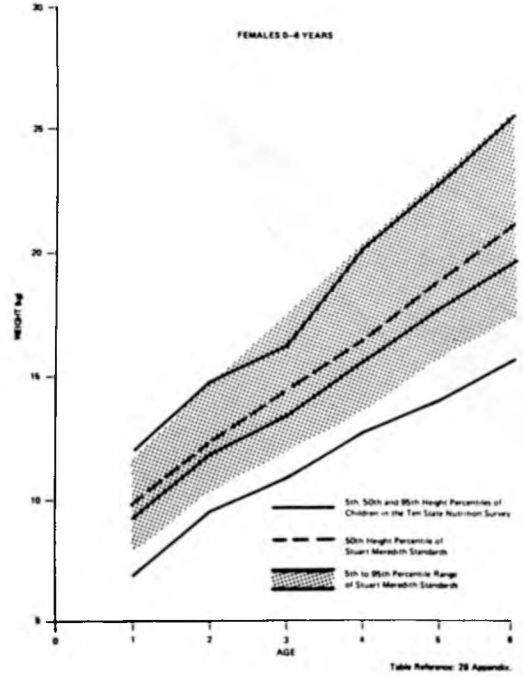
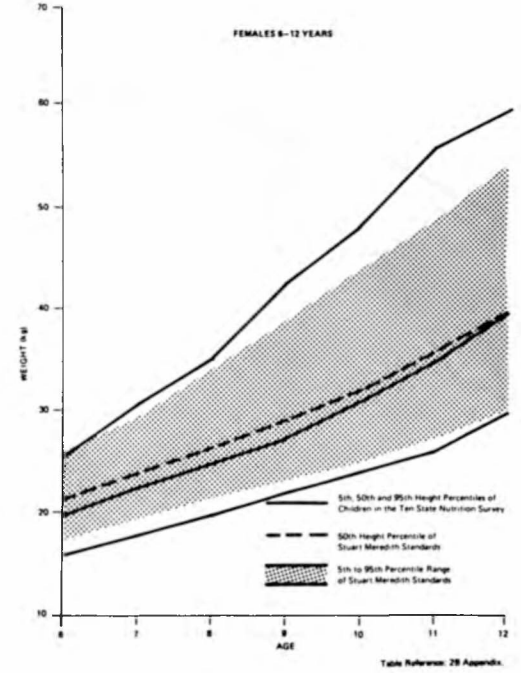
Figure 2a—Comparison of Selected Weight Percentiles for White Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)











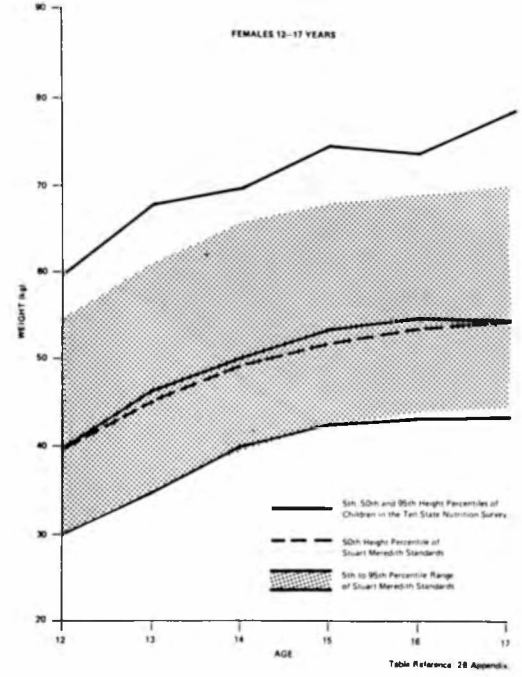
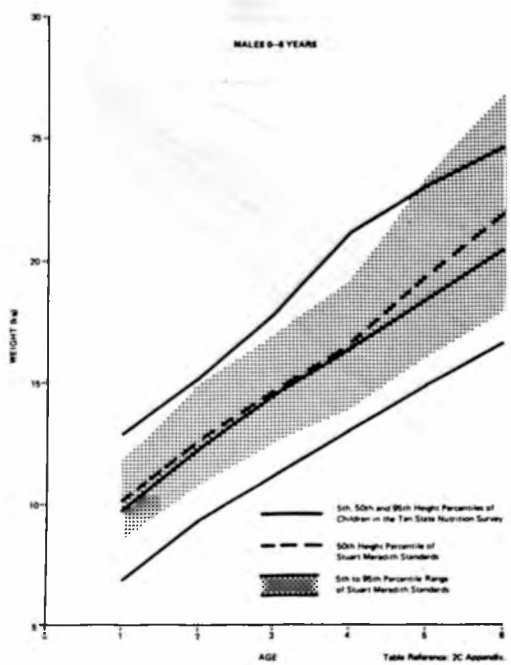
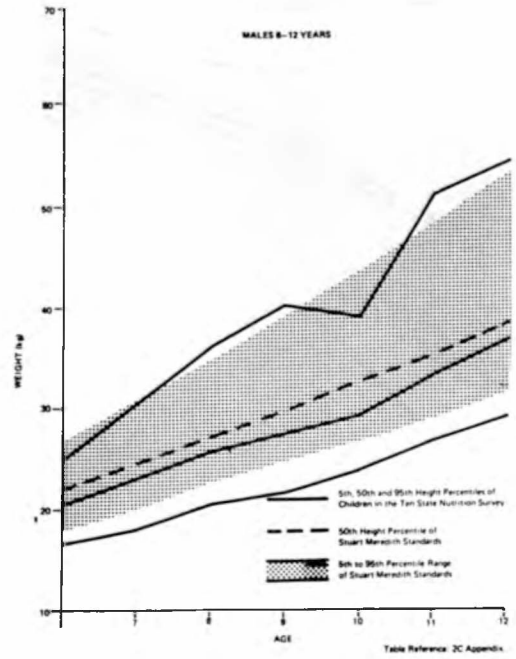
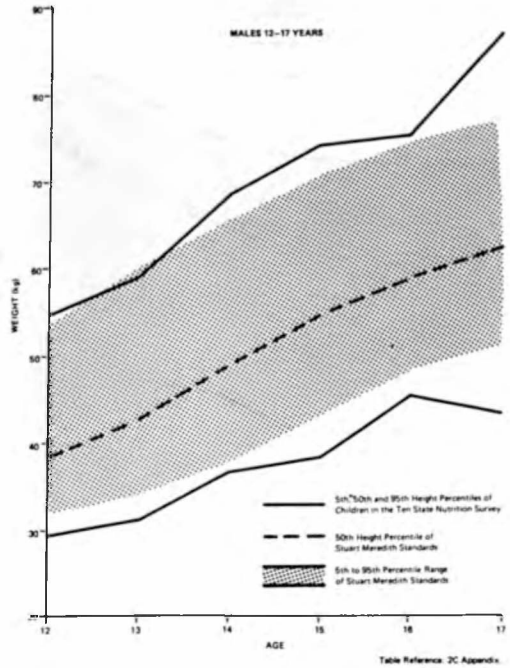
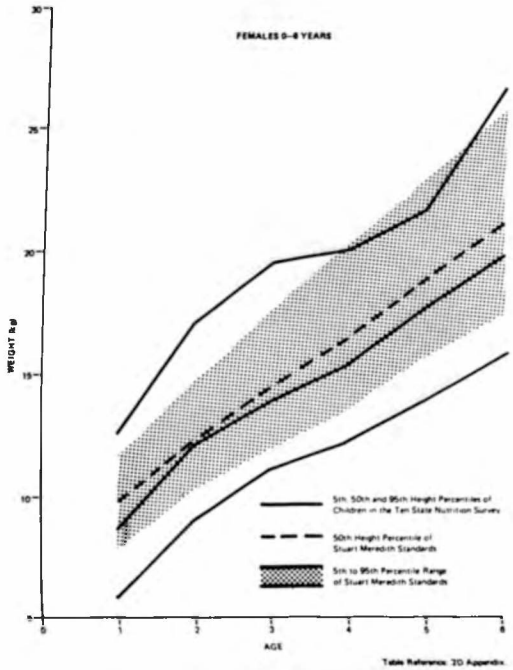


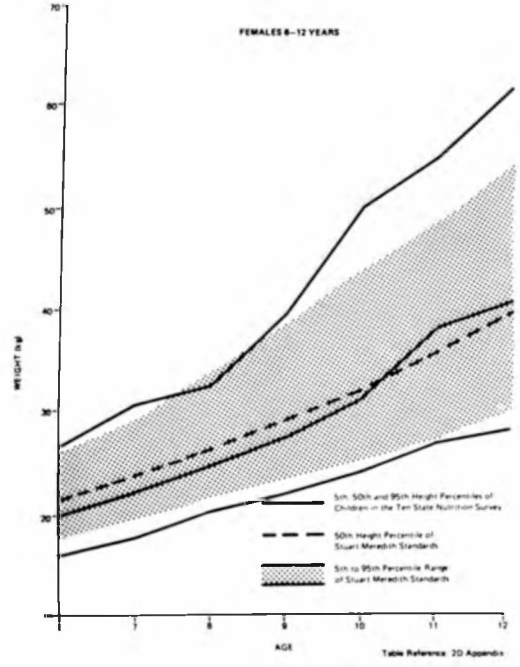
Figure 2b—Comparison of Selected Weight Percentiles for Black Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)











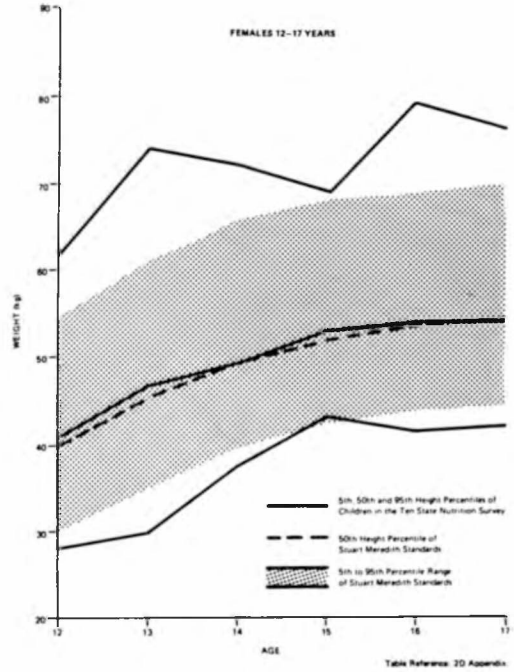


Table 3. *Percent Below the 15th Percentile for Weight of Stuart-Meredith Standards by Selected Ages, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Males		Females	
	White (percent)	Black (percent)	White (percent)	Black (percent)
2	26	34	31	27
4	22	22	33	33
6	27	27	35	37
8	39	32	32	31
10	34	45	20	27
12	26	27	14	18
14	17	21	14	18
16	19	24	16	20

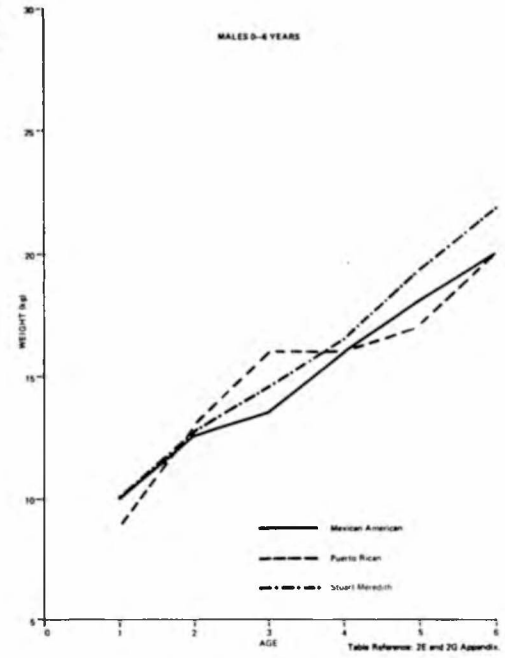
NOTE: For complete data see Table 2J Appendix.

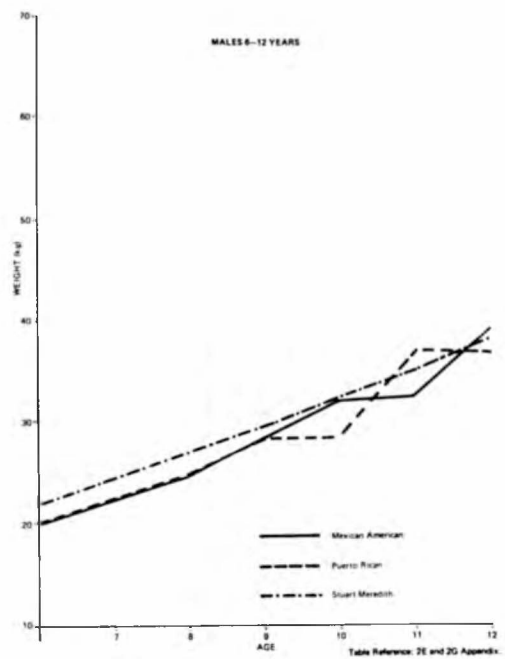
Table 4. *Percent Below the 15th Percentile for Weight of Stuart-Meredith Standards Comparing Poverty Income Ratio Groups by Selected Ages, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

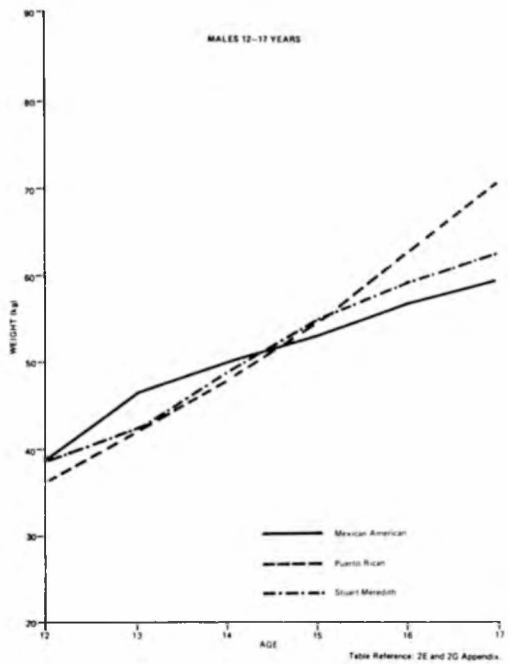
Age	Sex			
	Male		Female	
	Poverty Income Ratio Group		Poverty Income Ratio Group	
	0.00-1.49 (percent)	>1.49 (percent)	0.00-1.49 (percent)	>1.49 (percent)
	WHITE			
6	38	16	42	29
8	47	33	39	25
10	44	26	30	14
12	35	22	21	11
14	15	19	15	14
16	21	11	17	15
	BLACK			
6	28	25	39	23
8	34	26	33	19
10	53	22	28	25
12	25	35	21	16
14	24	24	17	26
16	26	—	23	7

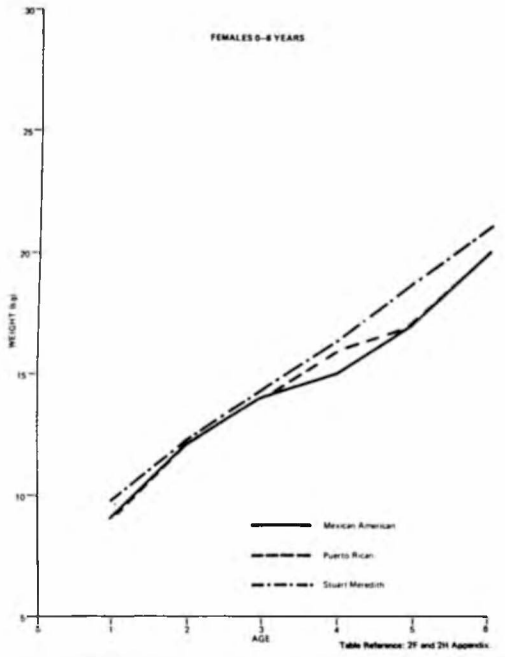
NOTE: For complete data see Table 2J Appendix.

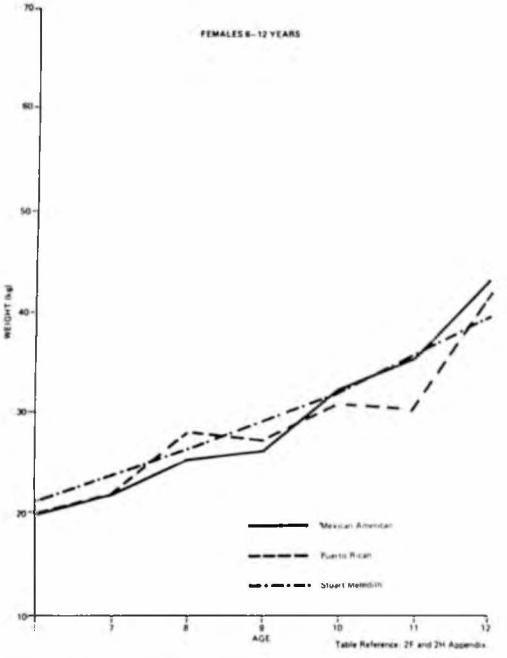
Figure 2c—Comparison of Median Weight for Mexican American and Puerto Rican Persons in the Survey with Stuart-Meredith Standards by Age and Sex for Low and High Income Ratio States—Ten-State Nutritin Survey (1968-1970)











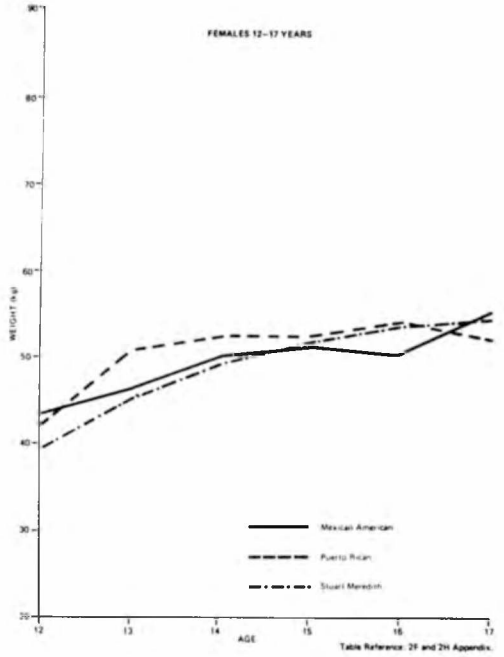


Table 5A. *Mean Height for White Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
1	29	75.9	17	72.5	3.4	19	73.9	22	72.9	1.0
2	24	85.9	23	83.9	2.0	22	85.3	21	82.9	2.4
3	34	95.4	22	93.5	1.9	22	91.3	16	92.7	—1.4
4	25	100.6	22	99.4	1.2	24	101.1	28	99.5	1.6
5	27	109.4	23	107.8	1.6	19	109.0	33	104.2	4.8
6	34	113.8	25	111.2	2.6	39	115.5	35	110.2	5.3
7	31	120.1	25	117.1	3.0	37	119.5	36	116.5	3.0
8	33	127.5	30	123.1	4.4	26	126.0	25	124.0	2.0
9	34	131.5	26	129.3	2.2	39	131.4	28	128.4	3.0
10	35	140.4	39	133.2	7.2	40	138.2	29	134.9	3.3
11	37	145.1	20	138.1	7.0	30	146.4	32	140.3	6.1
12	44	148.5	19	144.0	4.5	36	148.8	26	147.7	1.1
13	40	155.3	29	153.8	1.5	25	154.9	22	151.9	3.0
14	35	158.9	21	161.0	—2.1	30	157.8	17	155.5	2.3
15	31	167.7	16	163.2	4.5	35	159.0	22	158.8	1.8
16	24	171.8	15	168.5	3.3	25	160.2	19	160.0	0.2
17	23	171.5	6	166.4	5.1	26	161.1	14	156.9	4.2
21	72	174.3	53	175.0	—0.7	113	161.2	114	160.9	0.3
30	116	175.5	26	173.0	2.5	181	161.4	91	161.6	—0.2
40	113	174.3	28	171.1	3.2	144	160.8	81	158.2	2.6
50	105	171.4	40	171.8	—0.4	110	158.8	65	159.0	—0.2
60	65	168.9	80	170.6	—1.7	85	158.6	97	157.8	0.8
70	53	167.9	55	167.6	0.3	57	155.8	104	156.5	—0.7
80	16	167.2	29	167.0	0.2	22	155.1	50	153.4	1.7

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean height is greater than the high poverty income ratio group (2.25-2.99) mean height.

Table 5B. *Mean Height for Black Persons, by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
1	2	74.1	37	75.4	—1.3	3	79.3	37	73.0	6.3
2	5	84.6	46	86.0	—1.4	2	91.2	53	83.6	7.6
3	3	95.0	52	93.5	1.5	4	93.9	48	93.3	0.6
4	3	106.0	49	102.2	3.8	6	102.8	60	102.0	0.8
5	3	113.0	80	108.3	4.7	—	—	75	107.9	—
6	3	112.1	69	116.0	—3.9	7	120.6	74	114.2	6.4
7	5	123.3	71	120.5	2.8	6	122.4	63	121.0	1.4
8	3	125.9	61	126.7	—0.8	7	130.4	57	127.4	3.0
9	6	130.2	63	131.4	—1.2	10	131.8	79	130.9	0.9
10	7	138.2	64	134.6	3.6	—	—	62	138.2	—
11	10	146.2	56	141.4	4.8	11	143.1	85	145.1	—2.0
12	3	147.3	61	146.9	0.4	8	149.2	64	150.7	—1.5
13	6	152.2	64	153.0	—0.8	7	156.7	60	152.8	3.9
14	2	160.5	59	158.1	2.4	8	159.6	67	155.7	3.9
15	—	—	51	164.2	—	5	161.6	51	159.6	2.0
16	2	177.2	41	169.7	7.5	6	166.6	54	158.6	8.0
17	—	—	32	169.7	—	—	—	37	159.9	—
21	11	173.6	54	173.1	0.5	22	162.3	174	161.4	0.9
30	7	173.1	32	174.6	—1.5	34	162.4	151	160.2	2.2
40	9	172.6	30	175.9	—3.3	21	160.3	137	161.0	—0.7
50	9	169.6	50	170.6	—1.0	20	162.7	118	160.2	2.5
60	20	169.9	52	169.0	0.9	17	158.5	90	159.2	—0.7
70	7	173.1	44	167.3	5.8	9	158.9	93	156.4	2.5
80	—	—	13	166.3	—	—	—	32	155.9	—

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean height is greater than the high poverty income ratio group (2.25-2.99) mean height.

Figure 3a—Comparison of Height-Age by Chronological Age of Selected Poverty Income Ratio Groups for White Males Six through Seventeen Years of Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

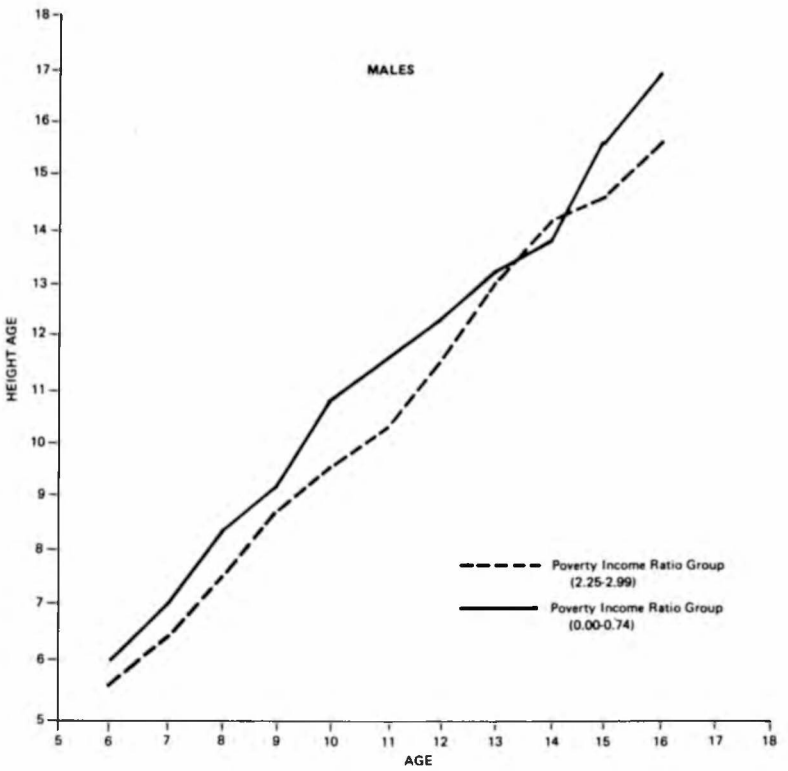


Figure 3b—Comparison of Height-Age by Chrolological Age of Selected Poverty Income Ratio Groups for White Females Six through Seventeen Years of Age for Low and High Income Ratio States—Ten State Nutrition Survey (1968-1970)

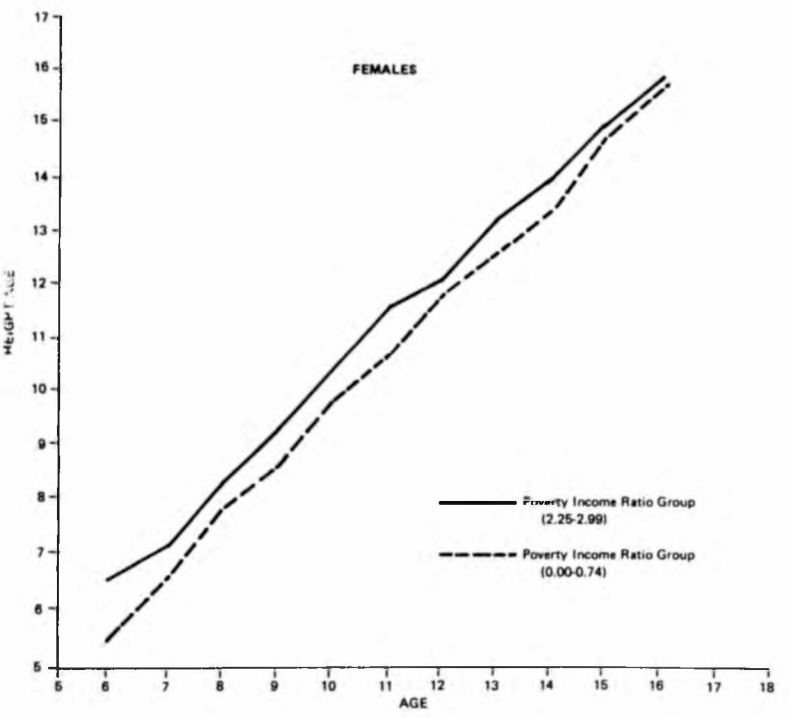


Table 6A. *Mean Weight for White Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
1	27	10.2	20	9.4	0.8	21	9.5	21	8.9	0.6
2	26	12.5	22	12.2	0.3	21	12.5	20	11.8	0.7
3	32	14.6	20	14.5	0.1	25	13.8	14	13.2	0.6
4	24	16.6	22	15.4	1.2	26	15.9	30	15.4	0.5
5	28	19.2	22	19.0	0.2	19	18.4	28	18.8	—0.4
6	35	23.6	21	19.3	4.3	37	21.3	33	18.8	2.5
7	31	23.5	24	23.5	0.0	37	24.6	35	21.6	3.0
8	30	28.3	26	23.7	4.6	27	26.8	22	24.8	2.0
9	36	31.6	22	27.5	4.1	40	30.6	26	26.3	4.3
10	32	36.8	35	29.6	7.2	38	33.1	25	31.7	1.4
11	33	40.5	19	35.0	5.5	29	42.3	31	37.1	5.2
12	39	43.3	16	39.1	4.2	37	40.9	21	38.7	2.2
13	37	48.0	24	44.7	3.3	25	50.3	23	43.4	6.9
14	30	51.9	17	51.1	0.8	31	53.4	14	50.1	3.3
15	30	60.0	18	54.8	5.2	33	55.2	20	51.6	3.6
16	20	69.2	10	60.7	8.5	23	56.0	20	55.5	0.5
17	21	61.6	5	55.7	5.9	23	56.0	12	55.4	0.6
21	72	72.0	53	66.6	5.4	116	60.5	115	57.2	3.3
30	118	77.9	25	66.2	11.7	186	64.1	91	62.2	1.9
40	113	80.1	28	71.1	9.0	140	66.2	80	65.9	0.3
50	102	76.0	41	71.9	4.1	110	65.4	63	69.2	—3.8
60	66	77.6	80	72.8	4.8	82	67.3	97	69.2	—1.9
70	56	73.4	55	67.0	6.4	51	65.3	99	64.2	1.1
80	16	70.5	27	65.0	5.5	21	60.0	48	60.5	—0.5

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean weight is greater than the high poverty income ratio group (2.25-2.99) mean weight.

Table 6B. *Mean Weight for Black Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
1	2	9.8	34	9.7	0.1	3	10.9	34	8.8	2.1
2	5	11.4	41	12.4	—1.0	2	11.7	45	12.1	—0.4
3	3	13.4	39	14.4	—1.0	4	14.1	40	14.0	0.1
4	3	16.7	43	16.7	0.0	6	16.0	48	15.5	0.5
5	2	17.4	68	18.9	—1.5	—	—	64	17.3	—
6	4	20.7	52	20.7	0.0	7	20.8	58	19.7	1.1
7	5	24.5	55	23.0	1.5	6	25.6	54	21.7	3.9
8	2	24.4	43	26.3	—1.9	7	27.6	45	24.6	3.0
9	6	29.6	56	27.6	2.0	9	28.9	61	27.2	1.7
10	7	31.9	51	28.9	3.0	—	—	46	30.4	—
11	9	41.8	45	33.6	8.2	10	35.2	62	38.0	—2.8
12	3	44.3	55	38.2	6.1	8	42.2	50	40.8	1.4
13	5	42.6	50	42.9	—0.3	7	55.8	44	45.4	10.4
14	—	—	46	49.2	—	8	49.7	54	49.2	0.5
15	—	—	38	52.2	—	5	51.2	42	51.8	—0.6
16	2	63.7	33	58.6	5.1	5	54.3	46	54.0	0.3
17	—	—	25	60.8	—	—	—	29	57.2	—
21	9	69.5	39	65.2	4.3	22	64.9	140	60.2	4.7
30	6	76.3	25	74.1	2.2	31	63.3	119	66.9	—3.6
40	9	80.3	28	72.7	7.6	20	62.2	111	70.2	—8.0
50	8	65.0	39	73.6	8.6	19	72.9	85	75.5	—2.6
60	19	80.4	41	71.4	9.0	16	78.7	65	71.0	7.7
70	6	78.6	23	71.6	7.0	7	78.7	64	67.1	1.6
80	—	—	11	61.6	—	7	70.9	19	60.4	10.5
90	—	—	—	—	—	—	—	3	68.3	—

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean weight is greater than the high poverty income ratio group (2.25-2.99) mean weight.

Figure 4a—Comparison of Weight-Age by Chronological Age of Selected Poverty Income Ratio Groups for White Males Six through Seventeen Years of Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

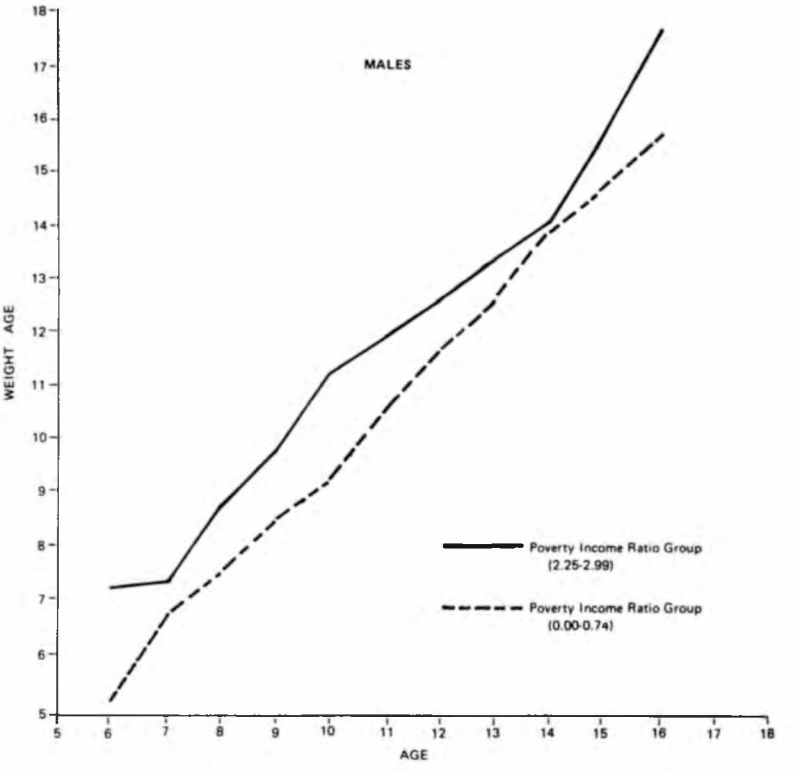


Figure 4b—Comparison of Weight-Age by Chronological Age of Selected Poverty Income Ratio Groups for White Females Six through Seventeen Years of Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

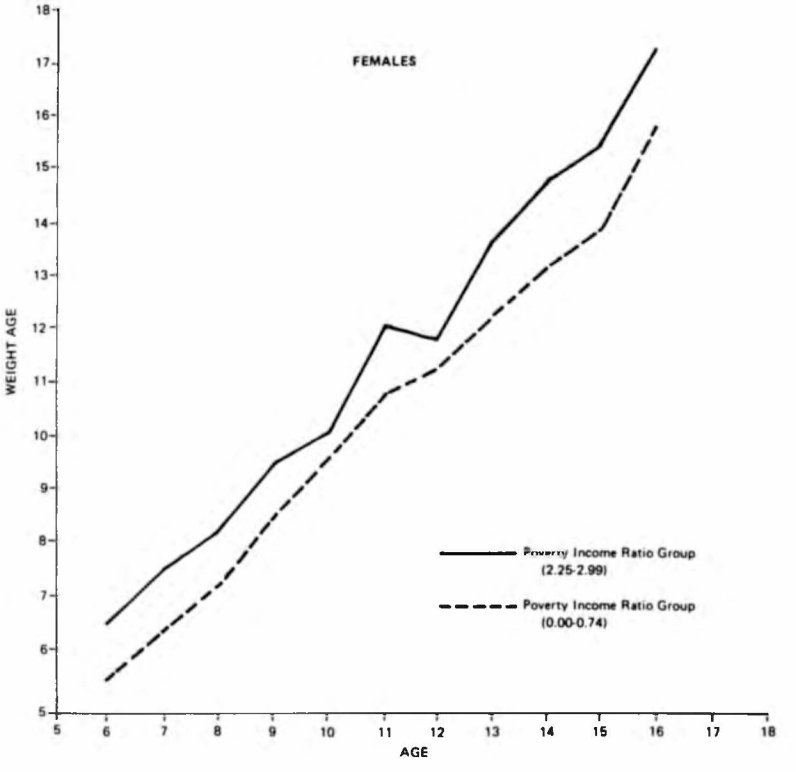


Figure 5a–Comparison of Mean Triceps Fatfold Thickness of Selected Poverty Income Ratio Groups for White Males by Age for Low and High Income Ratio States–Ten-State Nutrition Survey (1968-1970)

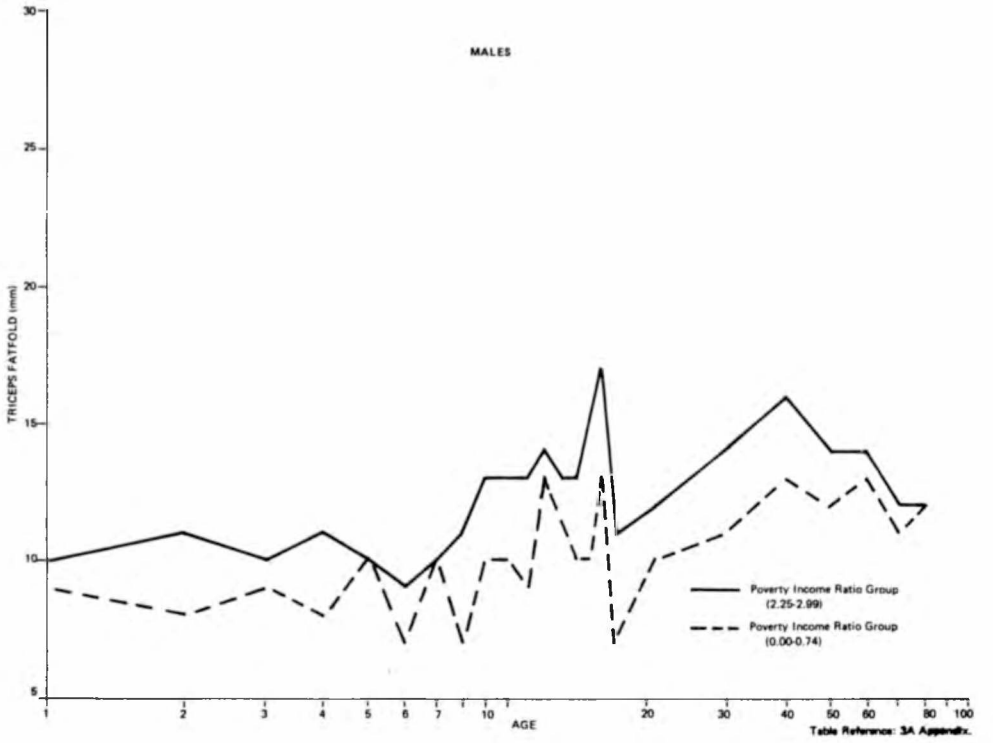


Figure 5b–Comparison of Mean Triceps Fatfold Thickness of Selected Poverty Income Ratio Groups for White Females by Age for Low and High Income Ratio States–Ten-State Nutrition Survey (1968-1970)

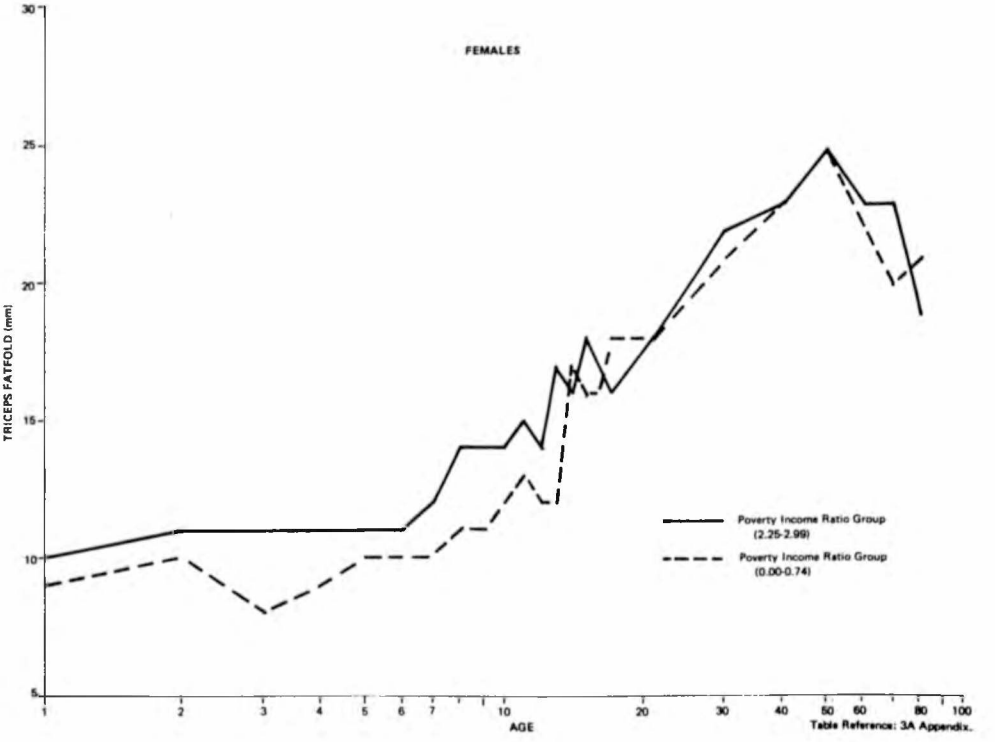


Table 7. *Mean Height by Age, Sex and Ethnic Group for All Persons for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
1	101	74.3	129	74.9	—0.6	93	72.5	158	73.9	—1.4
2	116	85.3	163	85.4	—0.1	123	84.7	155	84.2	0.5
3	132	94.4	175	94.1	0.3	113	94.0	145	92.1	1.9
4	144	102.7	184	101.4	1.3	143	102.0	198	100.4	1.6
5	170	109.0	231	107.6	1.4	159	108.3	211	106.8	1.5
6	168	114.9	222	113.9	1.0	168	114.9	231	113.0	1.9
7	176	121.3	279	120.3	1.0	175	121.3	243	119.0	2.3
8	155	127.5	269	125.7	1.8	166	126.9	231	125.0	1.9
9	165	132.3	260	130.7	1.6	196	131.8	255	130.1	1.7
10	148	135.8	286	136.2	—0.4	171	138.2	251	136.2	2.0
11	145	142.0	257	141.6	0.4	200	145.7	246	142.1	3.6
12	169	146.8	254	146.8	0.0	179	150.9	233	148.8	2.1
13	166	152.6	246	154.5	—1.9	162	154.8	203	154.3	0.5
14	158	159.9	170	160.7	—1.0	156	157.6	169	158.1	—0.5
15	123	164.7	167	166.2	—1.5	127	160.0	170	159.2	0.8
16	110	170.7	133	170.2	0.5	127	159.9	164	160.6	—0.7
17	84	171.4	120	172.4	—1.1	95	160.0	133	159.7	0.2
21	176	173.4	482	175.7	—2.3	460	161.7	855	161.8	—0.1
30	143	174.3	629	175.3	—1.0	505	161.4	1133	161.5	—0.1
40	135	174.3	559	173.9	0.4	429	161.3	860	160.1	1.2
50	159	171.5	570	172.1	—0.6	382	160.4	817	159.3	1.1
60	166	170.2	504	170.6	—0.4	278	158.9	678	158.2	0.7
70	103	168.4	422	168.3	0.1	182	157.4	632	156.4	1.0
80	40	167.4	218	167.4	0.0	63	155.3	271	155.5	—0.2

[1] Negative numbers indicate that the mean height for White persons is greater than the mean height for Black persons.

Figure 6a—Comparison of Mean Height of White Males with Black Males by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)

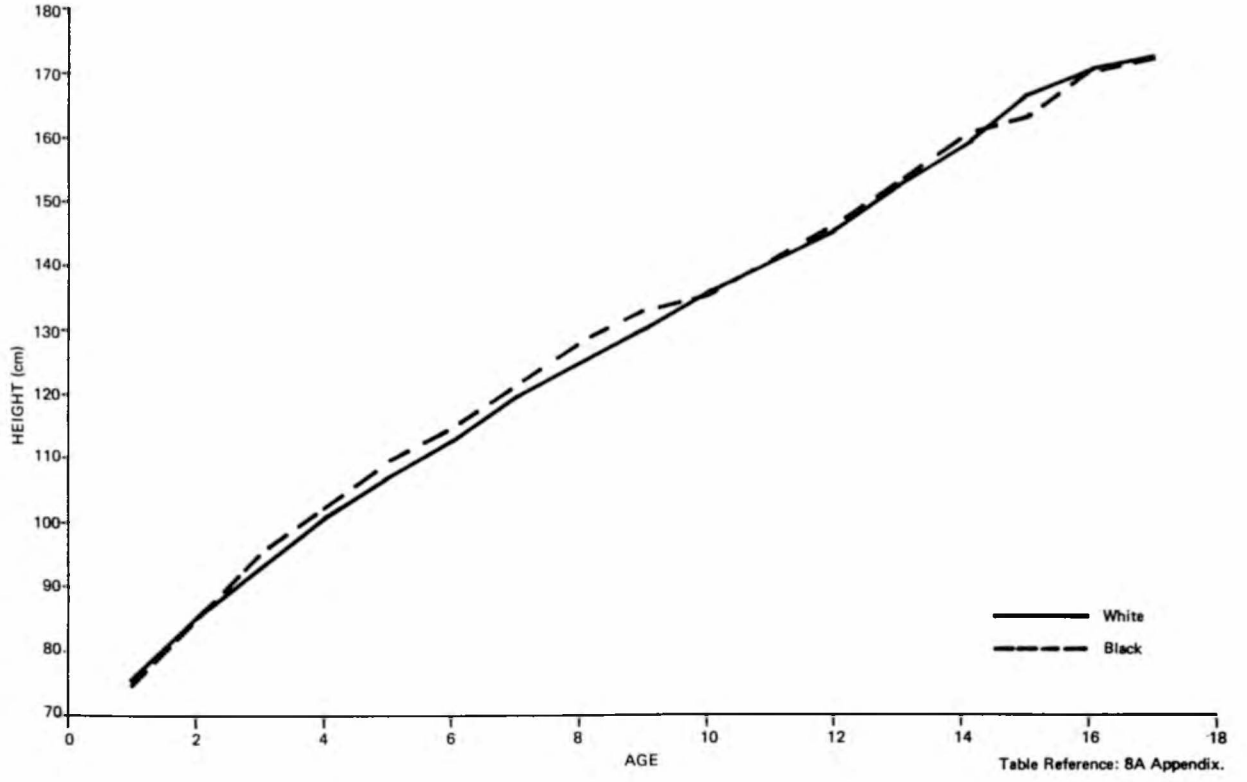


Table Reference: 8A Appendix.

Figure 6b—Comparison of Mean Height of White Females with Black Females by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

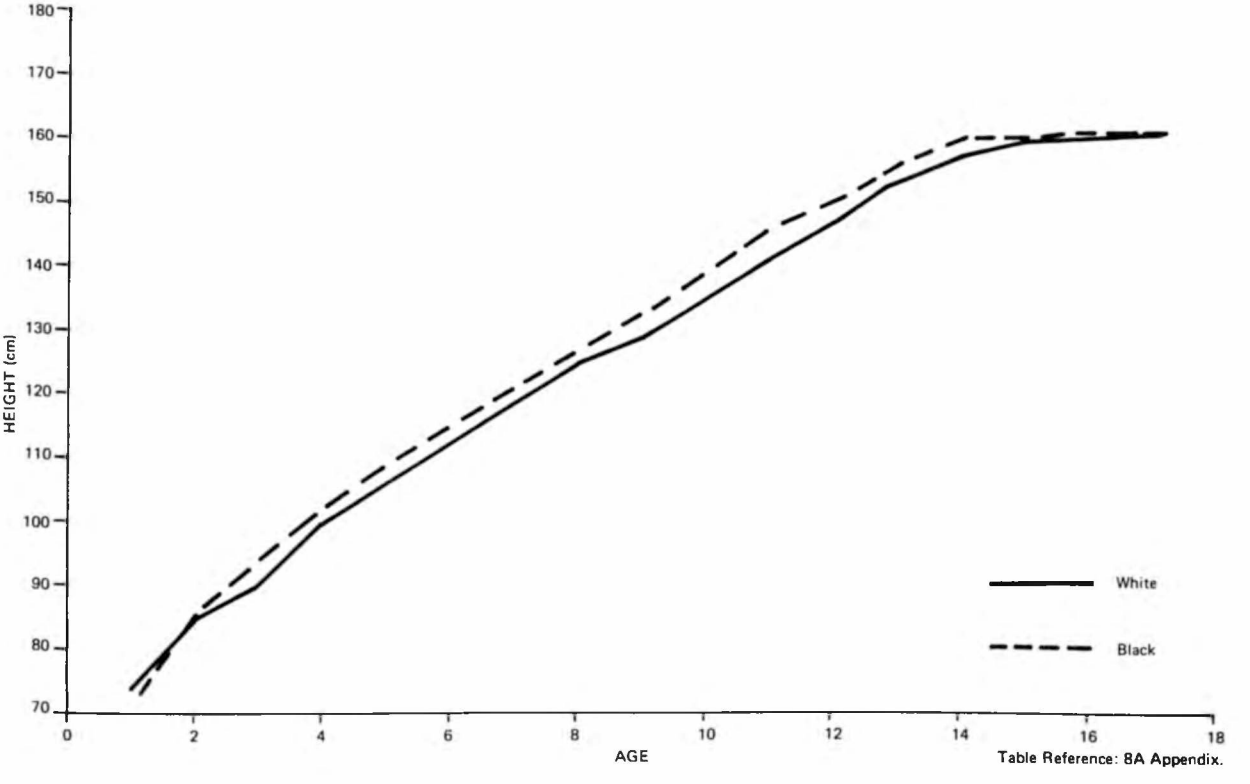


Table Reference: 8A Appendix.

Table 8. *Mean Weight by Age, Sex and Ethnic Groups for Black and White Persons for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
1	87	9.7	136	10.1	—0.4	85	8.9	159	9.2	—0.3
2	99	12.2	171	12.5	—0.3	100	13.0	157	12.0	1.0
3	105	14.5	181	14.7	—0.2	99	14.1	149	13.5	0.6
4	124	16.8	187	16.4	0.4	116	15.6	200	15.7	—0.1
5	149	18.8	232	18.7	0.1	139	17.7	215	17.8	—0.1
6	143	20.6	222	21.1	—0.5	142	20.1	231	20.0	0.1
7	150	23.4	281	22.9	0.5	156	22.7	248	22.8	—0.1
8	127	26.8	267	25.7	1.1	137	25.2	238	25.6	—0.4
9	147	28.6	265	29.1	—0.5	172	28.7	255	28.8	—0.1
10	128	30.3	286	32.2	—1.9	136	32.6	249	32.9	—0.3
11	118	35.3	258	36.3	—1.0	168	38.7	244	37.3	1.4
12	153	38.7	254	40.0	—1.3	148	42.4	231	42.0	0.4
13	143	43.3	246	45.8	—2.5	138	47.4	203	47.7	—0.3
14	130	50.3	170	52.0	—1.7	137	51.9	169	52.4	—0.5
15	100	53.9	167	57.7	—3.8	107	54.6	172	54.6	0.0
16	96	59.3	131	62.1	—2.8	111	56.6	166	55.9	0.6
17	70	64.1	122	64.5	—0.4	80	55.7	134	56.4	—0.7
21	136	67.9	479	71.9	—4.0	375	61.5	866	59.3	2.2
30	126	75.3	626	76.6	—1.3	439	67.5	138	62.9	4.6
40	121	77.9	558	77.7	0.2	371	71.4	853	65.7	5.7
50	133	75.3	564	76.9	—1.6	307	74.7	810	67.0	7.7
60	141	76.0	501	75.5	0.5	230	74.0	665	68.2	5.8
70	75	71.4	424	71.9	—0.5	141	71.2	614	66.3	4.9
80	38	66.3	214	70.6	—4.3	50	64.1	267	62.0	2.1

[1] Negative numbers indicate that the mean weight for White persons is greater than the mean weight for Black persons.

Figure 7a—Comparison of Mean Weight of White Males with Black Males by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States —Ten-State Nutrition Survey (1968-1970)

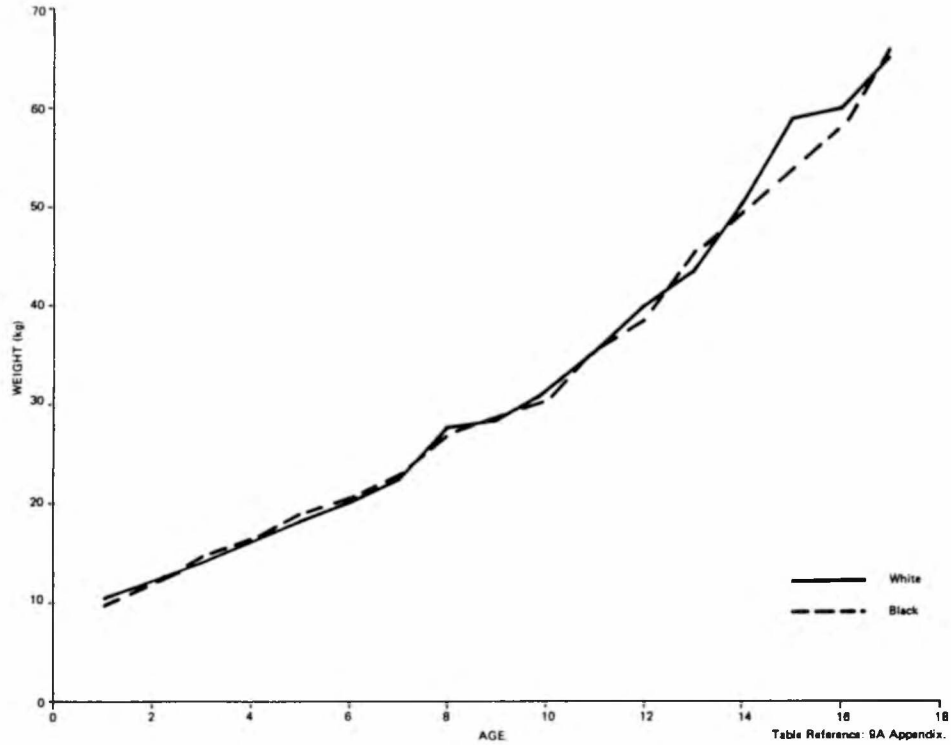


Table Reference: 9A Appendix.

Figure 7b—Comparison of Mean Weight of White Females with Black Females by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

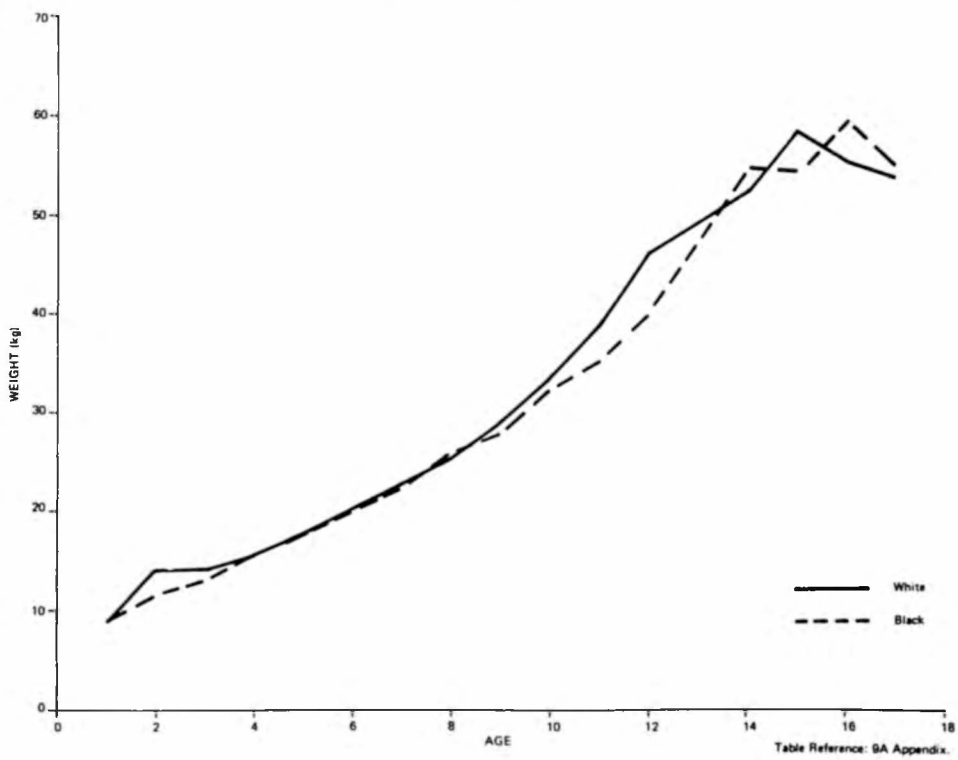


Table Reference: 9A Appendix.

Table 9. *Mean Triceps Fatfold by Age, Sex and Ethnic Groups for Black and White Persons for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
1	95	10.1	126	9.9	0.2	85	10.5	156	9.8	0.7
2	103	10.2	163	10.0	0.2	121	10.4	147	10.0	0.4
3	128	10.2	175	9.8	0.4	108	10.0	145	9.7	0.3
4	140	9.3	177	9.3	0.0	137	9.4	190	10.0	—0.6
5	161	8.5	229	9.1	—0.6	156	9.0	210	10.4	—1.4
6	163	8.4	224	8.6	—0.2	166	9.2	224	10.0	—0.8
7	173	7.9	278	8.7	—0.8	172	9.8	241	10.5	—0.7
8	153	8.2	271	9.2	—1.0	162	9.9	231	11.0	—1.1
9	166	8.8	258	10.2	—1.4	192	10.6	254	12.5	—1.9
10	147	8.8	279	11.0	—2.2	166	11.8	247	13.8	—2.0
11	144	10.3	259	11.8	—1.5	196	13.2	241	13.7	—0.5
12	172	10.2	252	12.4	—2.2	177	13.1	229	14.2	—1.1
13	164	10.5	245	11.7	—1.2	161	14.1	202	15.3	—1.2
14	152	10.1	170	11.3	—1.2	156	15.9	163	16.1	—0.2
15	119	9.5	167	11.9	—2.4	127	15.8	169	17.4	—1.6
16	108	9.4	131	12.0	—2.6	126	16.5	162	16.8	—0.3
17	83	8.9	120	9.8	—0.9	92	17.0	130	17.7	—0.7
21	76	10.1	360	11.8	—1.7	278	18.4	629	18.5	—0.1
30	144	11.8	588	13.4	—1.6	485	22.3	1097	20.4	1.8
40	137	12.4	554	14.0	—1.7	417	24.2	832	22.8	1.4
50	151	12.5	551	14.0	—1.6	366	24.6	782	24.0	0.6
60	152	12.1	484	13.1	—0.9	273	24.0	654	23.0	1.0
70	101	10.6	396	12.6	—2.0	177	21.6	598	21.5	0.1
80	37	11.6	204	12.3	—0.7	58	18.8	237	19.7	—0.9

[1] Negative numbers indicate that the mean triceps fatfold for White persons is greater than the mean triceps fatfold for Black persons.

Figure 8a—Comparison of Mean Triceps Fatfold of White Males with Black Males by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

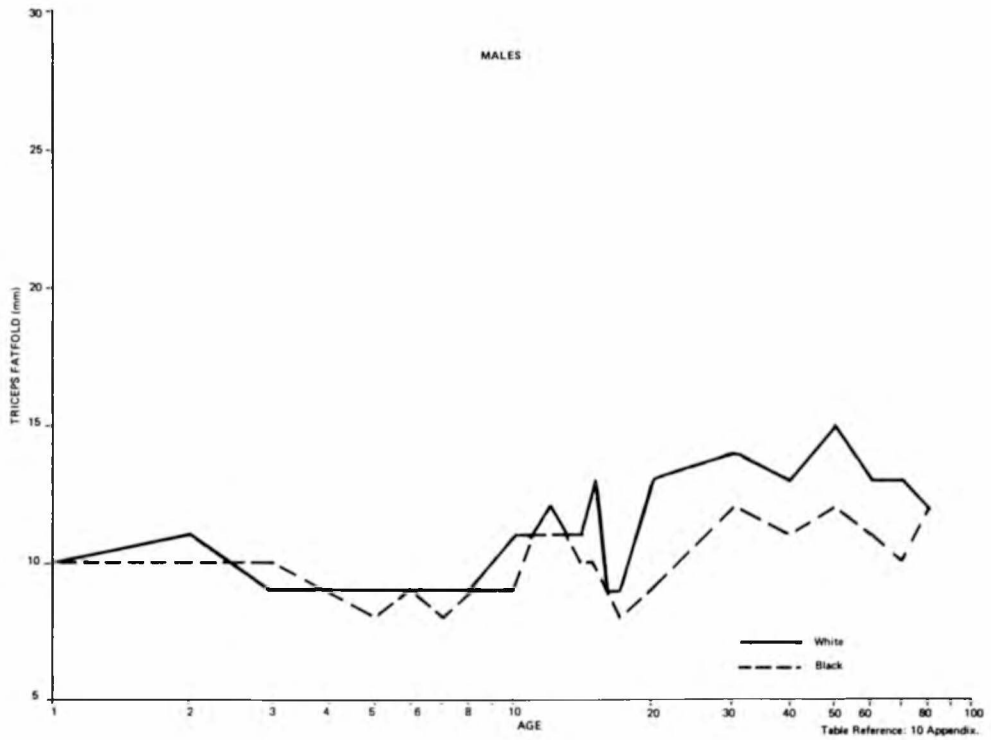


Figure 8b—Comparison of Mean Triceps Fatfold of White Females with Black Females by Age in the Poverty Income Ratio Group 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

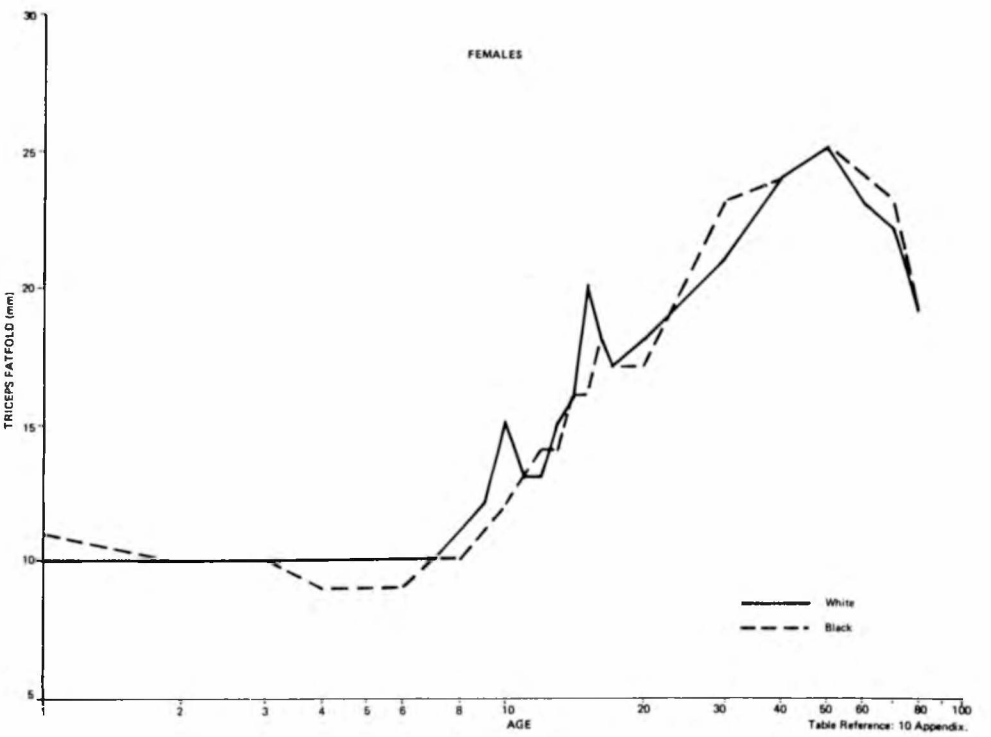


Table 10A. *Mean Height by Age, Sex, and Ethnic Group for White and Black Persons One through Twelve Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (Years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
					WHITE					
1.5	132	80.8	22	81.7	—0.9	140	79.7	22	81.2	—1.5
2.5	139	89.6	30	89.2	0.4	137	88.4	20	86.4	2.0
3.5	160	97.7	34	96.6	1.1	145	97.1	32	96.8	0.3
4.5	177	104.8	40	105.2	—0.4	170	103.3	42	103.2	0.1
5.5	197	109.9	41	109.7	0.2	185	110.0	38	108.9	1.1
6.5	215	117.2	47	117.5	—0.3	200	115.8	47	113.3	2.5
7.5	239	122.8	50	122.5	0.3	213	121.8	43	121.4	0.4
8.5	231	128.2	38	126.9	1.3	219	127.3	41	128.2	—0.9
9.5	230	133.4	53	132.3	1.1	224	132.9	40	132.9	0.0
10.5	234	139.0	59	138.1	0.9	217	138.9	43	139.0	—0.1
11.5	228	144.2	40	142.9	1.3	201	145.9	45	146.0	—0.1
12.5	214	150.0	50	149.8	0.2	183	150.6	42	150.0	0.6
					BLACK					
1.5	49	80.1	54	80.8	—0.7	54	79.8	63	80.4	—0.6
2.5	46	88.5	82	89.4	—0.9	49	89.4	58	88.0	1.4
3.5	61	98.9	86	97.5	1.4	55	97.4	82	98.4	—1.0
4.5	73	107.5	102	105.0	2.5	60	105.8	106	105.0	0.8
5.5	72	112.4	94	110.6	1.8	54	111.6	114	110.7	0.9
6.5	71	118.0	121	118.5	—0.5	81	117.0	113	117.6	—0.6
7.5	92	123.9	77	124.0	—0.1	92	124.1	83	124.2	—0.1
8.5	71	130.2	92	129.1	1.1	89	129.7	102	128.7	1.0
9.5	73	134.4	103	133.7	0.7	101	134.2	97	134.0	0.2
10.5	77	139.0	80	138.7	0.3	81	142.8	101	141.3	1.5
11.5	79	143.9	90	144.2	—0.3	100	148.3	114	147.5	0.8
12.5	84	149.3	100	149.5	—0.2	69	152.8	113	153.3	—0.5

[1] Negative numbers indicate that the mean height for the low income ratio states is greater than the mean height for the high income ratio states.

Table 10B. *Mean Height by Age, Sex, and Ethnic Group for White and Black Persons Thirteen through Seventeen Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
					WHITE					
13.5	178	156.3	44	158.9	—2.6	166	157.0	42	150.1	6.9
14.5	147	164.3	40	163.6	0.7	150	159.0	41	156.4	2.6
15.5	133	169.4	30	168.0	1.4	133	159.8	32	157.0	2.8
16.5	108	172.0	23	170.5	1.5	126	159.4	39	160.0	—0.6
17.5	86	172.2	15	174.2	—2.0	112	160.7	21	159.8	0.9
					BLACK					
13.5	62	155.8	104	156.5	—0.7	74	157.1	88	154.6	2.5
14.5	64	163.1	90	160.8	2.3	55	160.5	86	158.1	2.4
15.5	51	168.4	71	167.7	1.3	63	161.0	92	160.2	0.8
16.5	48	172.8	64	169.6	3.2	43	160.1	72	160.1	0.0
17.5	31	172.5	44	173.2	—0.7	31	160.4	57	161.1	—0.7

[1] Negative numbers indicate that the mean height for the low income ratio states is greater than the mean height for the high income ratio states.

Table 10C. *Mean Height by Age, Sex, and Ethnic Group for White and Black Persons Eighteen Years of Age and Over for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
					WHITE					
21	464	175.7	49	174.1	1.6	798	162.1	109	160.8	1.3
30	572	175.1	58	177.0	—1.9	996	161.1	178	162.1	—1.0
40	497	173.9	83	173.8	0.1	711	160.0	176	160.6	—0.6
50	500	172.0	94	172.4	—0.4	686	159.0	164	160.4	—1.4
60	418	170.4	102	171.0	—0.6	548	157.7	155	159.0	—1.3
70	340	167.8	87	170.1	—2.3	524	156.1	123	157.5	—1.4
80	185	167.2	41	168.7	—1.5	223	155.7	41	155.0	0.7
					BLACK					
21	73	174.6	92	173.0	1.6	227	162.3	243	161.2	1.1
30	80	173.8	73	174.4	—0.6	283	161.4	248	161.5	—0.1
40	92	174.5	63	172.9	1.6	223	161.1	244	161.1	0.0
50	87	172.5	85	171.0	1.5	198	160.5	205	160.1	0.4
60	84	170.6	82	169.3	2.8	124	159.1	162	159.0	0.1
70	51	169.7	67	167.7	2.0	80	157.4	109	156.8	0.6
80	18	169.9	23	166.0	3.9	28	155.8	33	155.6	0.2

[1] Negative numbers indicate that the mean height for the low income ratio states is greater than the mean height for the high income ratio states.

Table 11A. *Mean Weight by Age, Sex, and Ethnic Group for White and Black Persons One through Twelve Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
					WHITE					
1.5	136	11.5	27	11.3	0.2	137	10.8	24	11.6	—0.8
2.5	142	13.8	34	13.2	0.6	140	12.7	23	12.2	0.5
3.5	162	15.4	35	15.0	0.4	145	14.9	33	14.0	0.9
4.5	179	17.6	40	17.8	—0.2	175	16.5	41	16.6	—0.1
5.5	199	19.3	37	19.4	—0.1	189	19.0	39	18.7	0.3
6.5	220	22.3	46	21.7	0.6	201	21.4	46	19.9	1.5
7.5	239	24.2	51	23.7	0.5	219	24.1	43	23.6	0.5
8.5	231	27.4	38	26.0	1.4	225	26.9	38	27.4	—0.5
9.5	233	30.8	52	30.4	0.4	228	30.6	37	30.9	—0.3
10.5	237	34.1	56	33.3	0.8	216	34.7	38	34.3	0.4
11.5	232	38.3	41	36.4	1.9	202	40.3	46	40.6	—0.3
12.5	214	42.8	48	40.4	2.4	184	44.3	39	41.8	2.5
					BLACK					
1.5	51	11.3	43	11.4	—0.1	51	12.4	45	10.8	1.6
2.5	42	12.7	58	13.4	—0.7	51	12.8	46	13.0	—0.2
3.5	61	15.4	64	15.3	0.1	54	14.7	60	15.1	—0.4
4.5	73	17.7	82	17.7	0.0	59	16.9	80	16.8	0.1
5.5	71	19.8	76	19.4	0.4	56	18.9	88	18.4	0.5
6.5	71	21.9	88	22.0	—0.1	81	21.0	85	21.0	0.0
7.5	92	24.5	51	24.8	—0.3	93	24.6	62	22.8	1.8
8.5	73	27.9	71	26.8	1.1	88	27.7	73	25.7	2.0
9.5	72	30.7	75	29.0	1.7	104	30.8	68	28.3	2.5
10.5	77	33.1	55	32.1	1.0	82	36.6	66	34.8	1.8
11.5	79	37.6	73	34.4	3.2	101	41.5	74	38.7	2.8
12.5	86	41.6	78	40.0	1.6	70	45.2	80	42.8	2.4

[1] Negative numbers indicate that the mean weight for the low income ratio states is greater than the mean weight for the high income ratio states.

Table 11B. *Mean Weight by Age, Sex, and Ethnic Group for White and Black Persons Thirteen through Seventeen Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
					WHITE					
13.5	180	48.5	41	48.9	—0.4	166	51.4	40	47.3	4.1
14.5	147	55.0	39	50.6	4.4	152	54.9	30	47.3	7.6
15.5	132	61.8	30	57.1	4.1	137	54.4	39	54.8	—0.4
16.5	112	64.8	21	63.7	1.1	126	55.7	20	51.9	3.8
17.5	87	65.3	15	61.7	3.6	117	58.9	28	54.8	4.1
					BLACK					
13.5	62	47.2	77	45.9	1.3	75	51.9	69	47.7	4.2
14.5	63	54.2	58	47.8	6.4	56	56.8	59	50.9	5.9
15.5	51	57.7	55	56.8	0.9	64	57.0	74	54.3	2.7
16.5	48	64.2	46	58.4	5.8	43	56.2	49	56.0	0.2
17.5	31	65.5	34	64.7	0.8	30	59.2	49	55.7	3.5

[1] Negative numbers indicate that the mean weight for the low income ratio states is greater than the mean weight for the high income ratio states.

Table 11C. *Mean Weight by Age, Sex, and Ethnic Group for White and Black Persons Eighteen Years of Age and Over for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
					WHITE					
21	464	72.9	46	68.5	4.4	810	59.6	111	59.5	0.1
30	569	77.2	58	75.0	2.2	1002	63.1	174	62.5	0.6
40	498	77.9	82	75.5	2.4	712	66.2	169	65.4	0.8
50	493	77.2	95	75.3	1.9	679	66.6	163	69.5	—2.9
60	416	76.0	100	73.4	2.4	541	67.8	148	70.1	—2.3
70	343	72.8	84	68.2	4.6	504	66.4	122	64.2	2.2
80	182	70.7	40	68.7	2.0	216	62.8	44	59.5	3.3
					BLACK					
21	73	71.8	56	64.8	7.0	227	63.0	157	60.2	2.8
30	81	74.7	55	75.6	—0.9	274	67.5	185	68.1	—0.6
40	92	79.1	43	75.5	3.6	222	71.4	187	73.3	—1.9
50	87	75.6	61	76.0	—0.4	191	73.0	129	75.4	—2.4
60	82	77.2	59	74.2	3.0	124	73.8	114	73.8	0.0
70	49	73.2	36	66.7	6.5	79	73.5	63	66.9	6.6
80	17	72.7	18	65.8	6.9	28	66.4	23	63.1	3.3

[1] Negative numbers indicate that the mean weight for the low income ratio states is greater than the mean weight for the high income ratio states.

Figure 9a—Mean Triceps Fatfold of White Males by Age Comparing Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

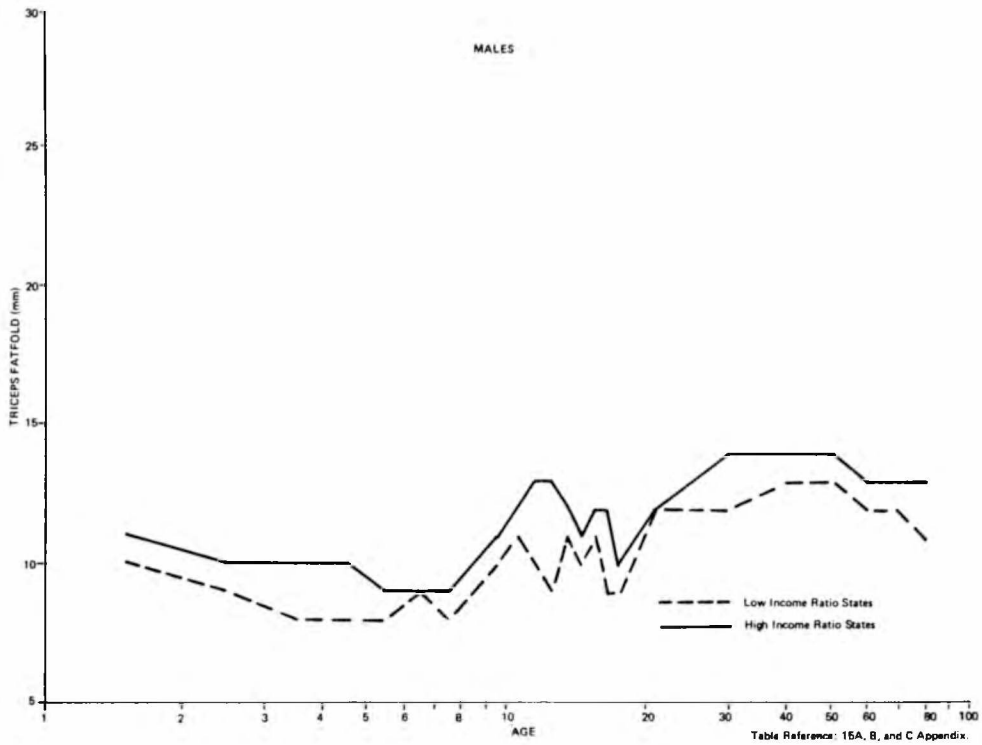


Table Reference: 15A, B, and C Appendix.

Figure 9b—Mean Triceps Fatfold of White Females by Age Comparing Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

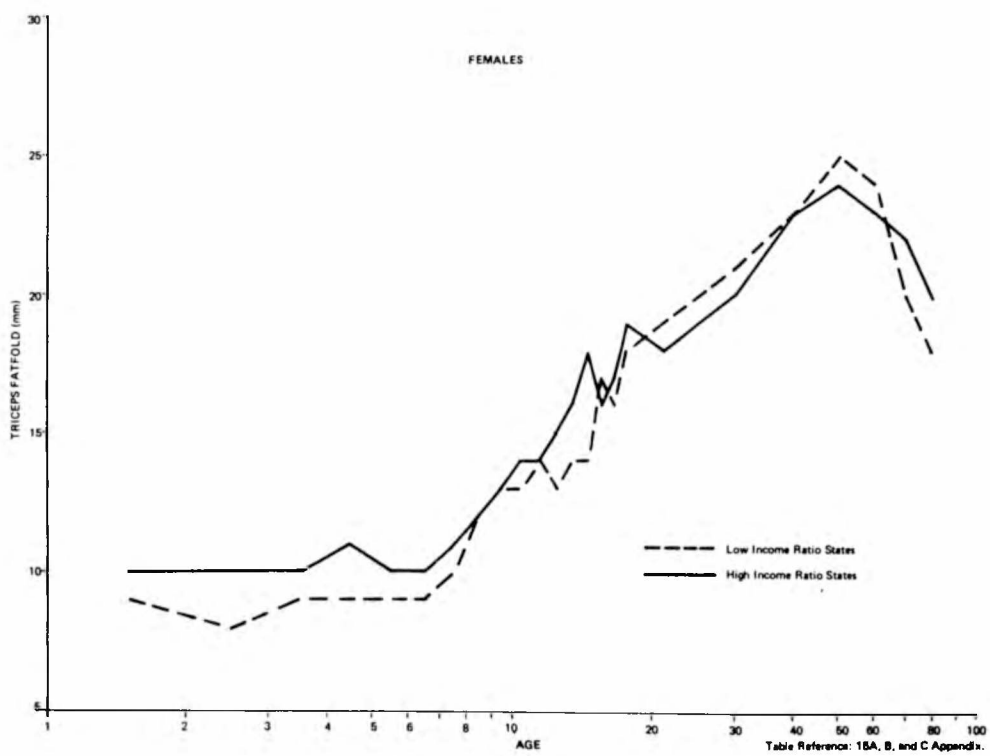


Table Reference: 15A, B, and C Appendix.

Figure 9c—Mean Triceps Fatfold of Black Males by Age Comparing Low Income Ratio Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

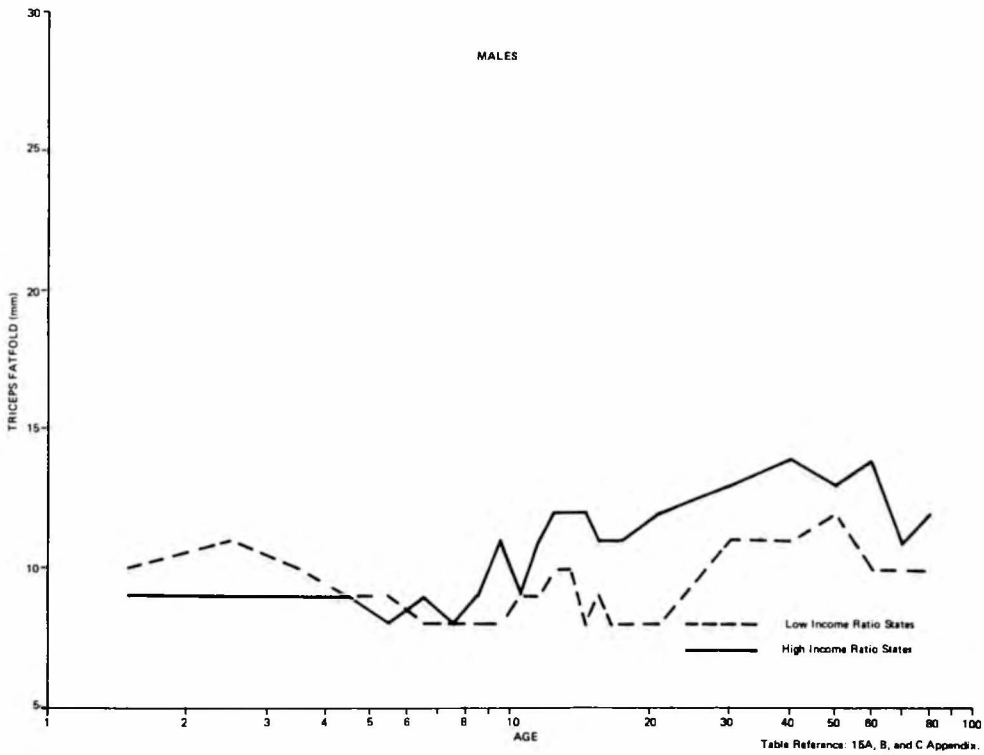


Table Reference: 15A, B, and C Appendix.

Figure 9d—Mean Triceps Fatfold of Black Females by Age Comparing Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

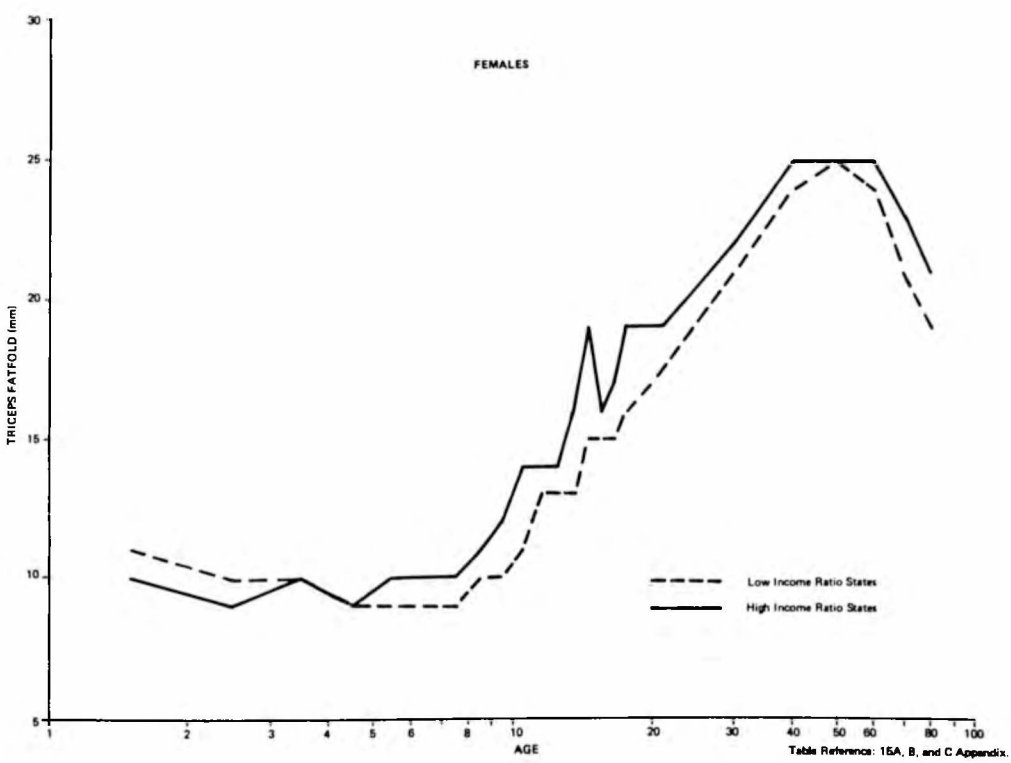


Table Reference: 15A, B, and C Appendix.

Figure 10a—Percent Obese of White Adolescents Compared with Black Adolescents by Age and Sex for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

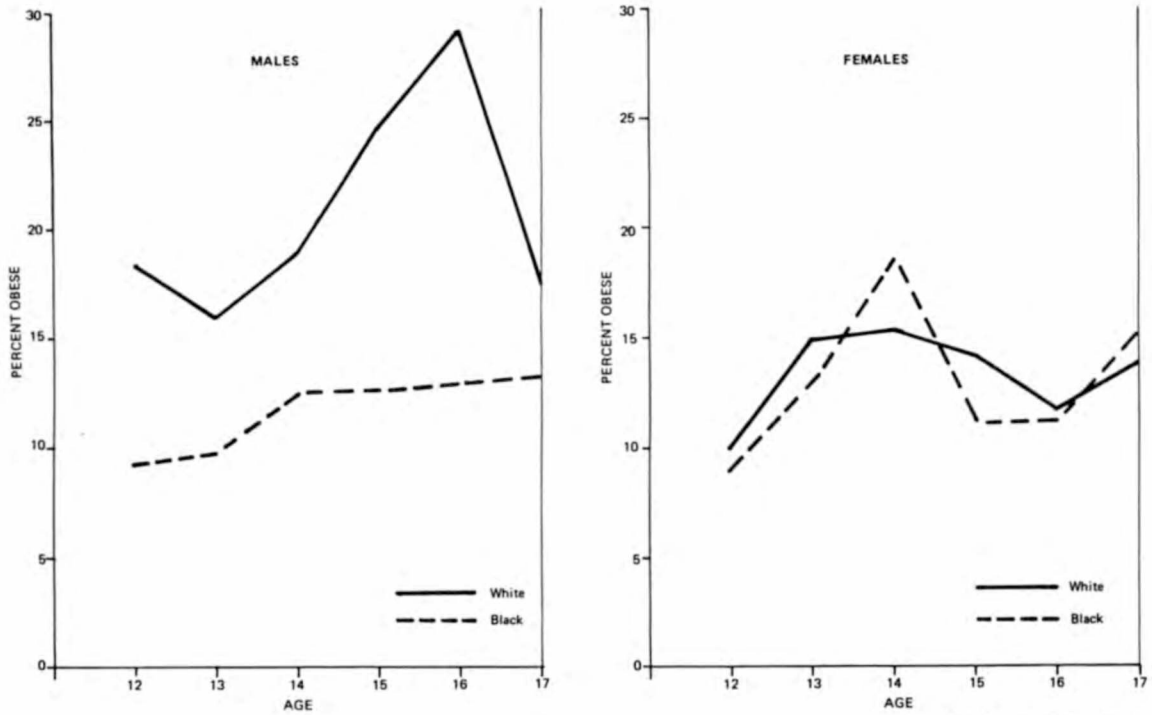


Table Reference: 20 Appendix

Figure 10b—Percent Obese of White Adults Compared with Black Adults by Age and Sex for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

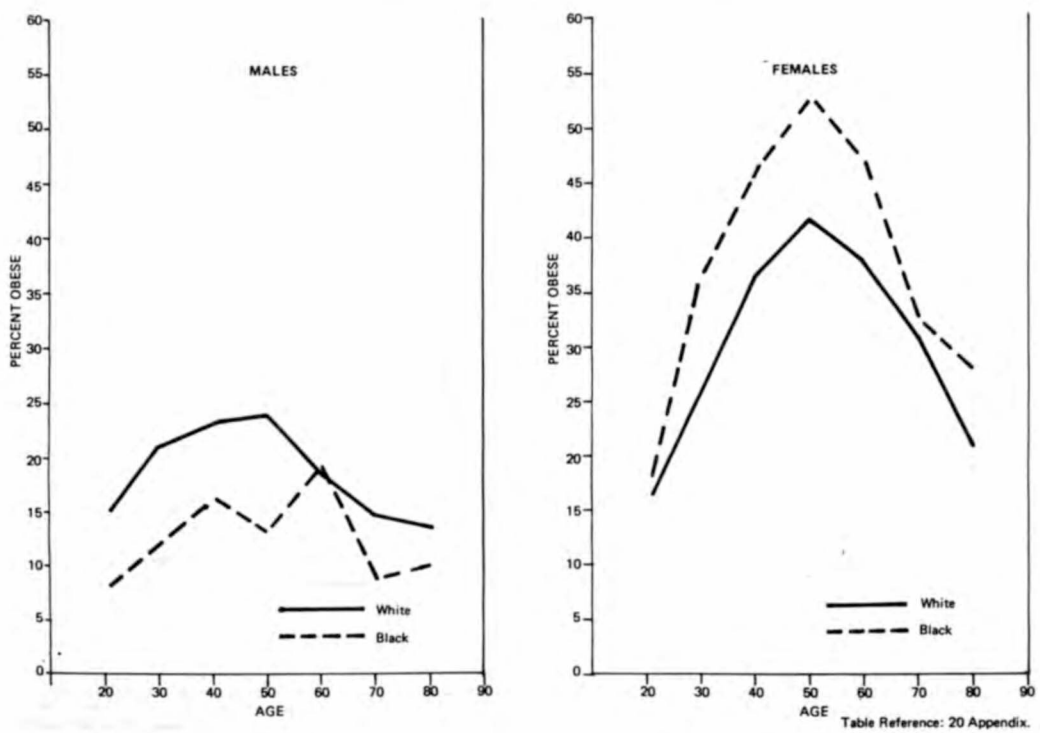


Table Reference: 20 Appendix.

Table 12. *Percent Obese for Selected Poverty Income Ratio Groups by Age, Sex, and Ethnic Group for White and Black Persons Twelve Years of Age and Over for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex							
	Male				Female			
	Poverty Income Ratio Group				Poverty Income Ratio Group			
	>1.49		0.00-1.49		>1.49		0.00-1.49	
	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]
				WHITE				
12	134	18.7	88	21.6	124	12.1	79	7.6
13	130	18.5	89	14.6	95	16.8	79	15.2
14	83	20.5	56	17.9	82	14.6	59	15.3
15	96	26.0	50	28.0	95	13.7	65	15.4
16	72	38.9	33	21.2	75	9.3	61	16.4
17	76	21.1	27	11.1	67	13.4	37	18.9
21	248	20.2	147	11.6	444	18.0	255	11.4
30	448	21.2	115	21.7	670	24.3	327	28.4
40	399	25.3	120	20.8	489	35.0	277	42.6
50	394	24.1	109	22.0	532	39.5	196	45.9
60	288	20.5	156	16.7	347	41.5	238	33.2
70	188	15.4	176	14.8	241	33.2	305	28.5
80	72	15.3	111	12.6	74	17.6	156	23.1
				BLACK				
12	22	4.5	137	10.9	33	6.1	126	10.3
13	24	8.3	120	10.8	22	31.8	121	9.9
14	23	17.4	112	11.6	23	13.0	120	20.0
15	16	31.3	92	9.8	12	16.7	103	8.7
16	12	33.3	80	12.5	16	12.5	98	12.2
17	9	33.3	66	9.1	12	16.7	73	15.1
21	42	11.9	102	5.9	67	22.4	319	16.9
30	48	18.8	70	7.1	127	27.6	310	37.4
40	46	23.9	72	9.7	96	45.8	277	44.8
50	41	14.6	99	13.1	89	56.2	223	52.0
60	56	19.6	90	16.7	63	52.4	176	45.5
70	25	12.0	91	8.5	31	35.5	140	31.4
80	5	20.0	32	9.4	8	25.0	51	25.5

[1] Obesity defined as a triceps fatfold measurement >18.6mm for males and >25.1mm for females. For derivation of these standards refer to the section on obesity in the text for this chapter.

Figure 11a—Percent Obese of White Males and White Females by Age Comparing Poverty Income Ratio Groups for Low and High Income Ratio States Combined—Ten-State Nutrition Survey (1968-1970)

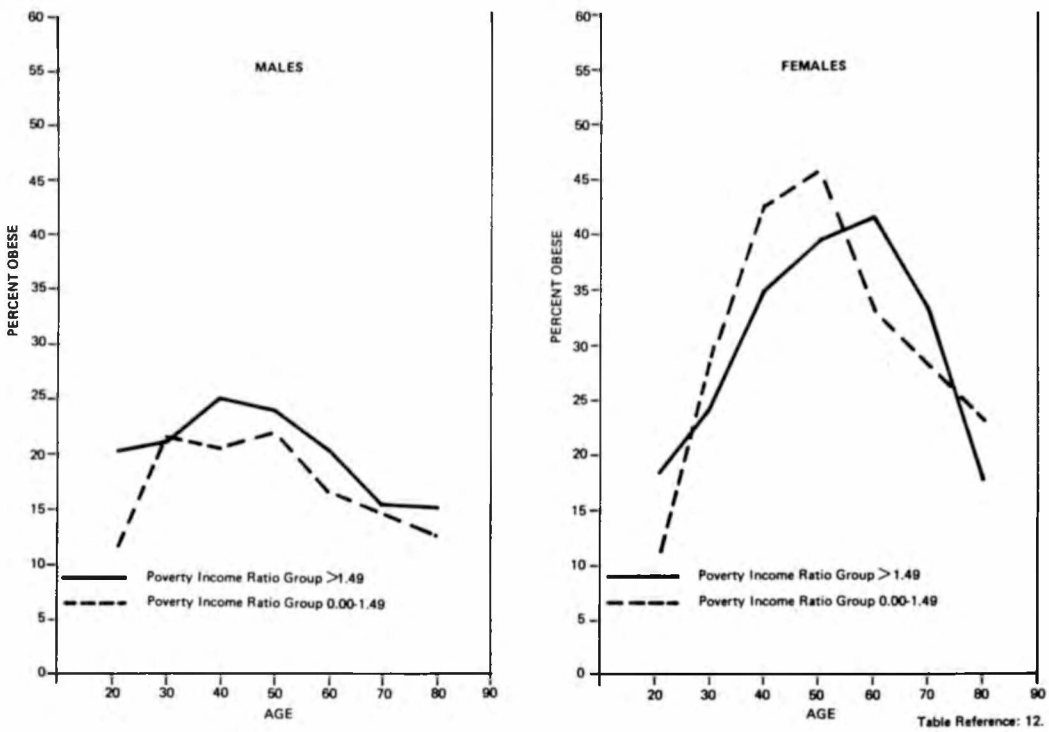
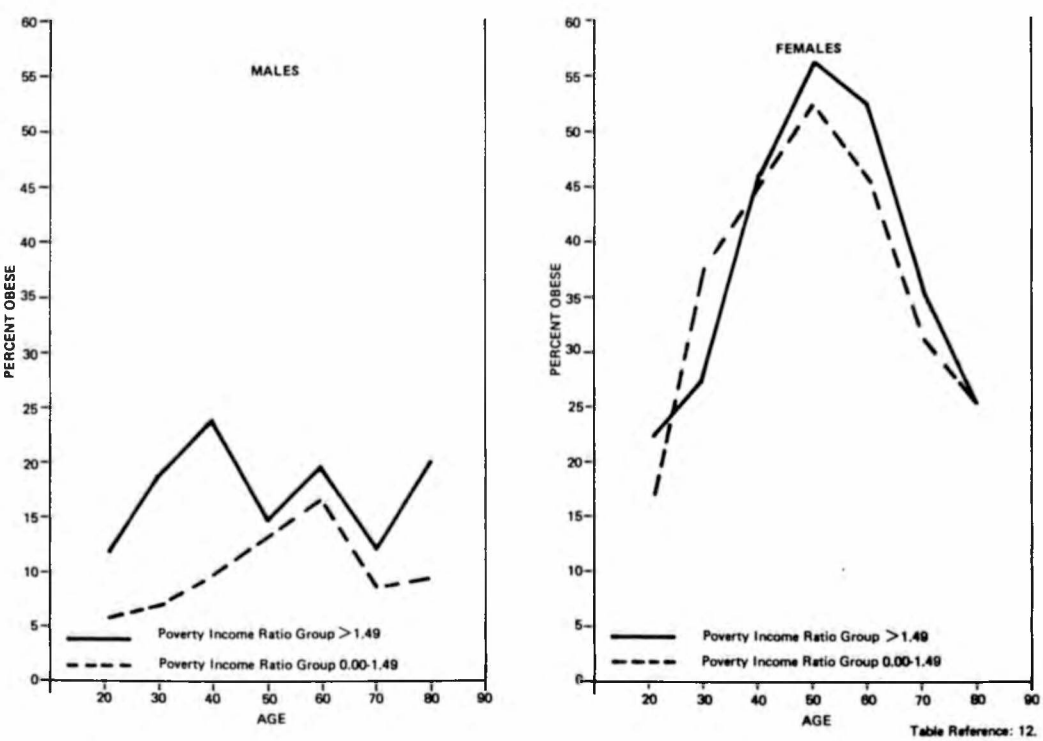


Figure 11b—Percent Obese of Black Males and Black Females by Age Comparing Poverty Income Ratio Groups for Low and High Income Ratio States Combined—Ten-State Nutrition Survey (1968-1970)



APPENDIX

2. Anthropometry

Table 1A Appendix. *Height Percentiles for White Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	38	53.40	57.86	63.25	67.18	72.02
1	129	66.39	69.44	75.00	80.09	83.41
2	163	78.08	80.66	85.83	90.20	93.12
3	175	86.16	90.23	94.07	98.91	100.97
4	184	93.24	95.82	100.76	106.77	110.23
5	231	96.93	101.95	107.92	113.88	116.02
6	222	103.08	107.08	114.25	120.08	123.56
7	279	109.96	114.49	120.04	127.08	130.51
8	269	115.59	119.18	125.28	132.06	138.01
9	260	121.80	124.95	130.92	135.93	140.35
10	286	125.27	129.95	136.45	142.61	146.54
11	257	130.92	134.47	140.95	149.38	152.69
12	254	134.04	138.94	146.60	155.55	160.08
13	246	140.16	144.69	154.20	163.82	169.64
14	170	146.40	151.57	160.77	170.90	175.90
15	167	149.47	156.97	167.80	173.76	178.01
16	133	157.86	163.16	170.18	179.12	181.77
17	120	160.35	165.02	172.35	179.85	183.90
21	482	164.34	169.34	175.47	183.40	186.86
30	629	164.06	168.39	175.15	182.41	187.42
40	559	162.23	166.45	174.03	181.33	185.30
50	570	160.60	164.58	172.27	179.44	184.60
60	504	159.54	164.01	170.50	177.18	182.46
70	422	156.25	161.15	168.92	175.57	179.39
80	218	155.29	159.82	167.90	175.09	177.76
90	22	152.12	159.02	166.45	173.28	178.84
97	0	—	—	—	—	—

Table 1B Appendix. *Height Percentiles for White Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	50	51.20	55.70	60.75	65.90	68.80
1	158	64.78	68.58	74.07	79.03	83.56
2	155	76.30	78.95	84.03	88.99	91.53
3	145	85.95	87.45	91.40	96.53	99.63
4	198	93.39	95.36	99.91	104.76	112.08
5	211	98.01	101.71	106.41	112.78	116.48
6	231	102.72	106.82	112.90	118.68	123.43
7	243	106.46	112.69	119.30	125.21	128.62
8	231	115.24	118.32	125.10	131.08	135.51
9	255	120.12	123.47	129.90	136.72	140.45
10	251	124.72	129.52	135.80	143.69	147.47
11	246	129.50	133.76	142.00	150.54	155.04
12	233	136.16	140.97	149.40	157.12	160.57
13	203	142.56	147.72	154.67	160.70	165.78
14	169	147.52	151.12	157.95	164.88	169.10
15	170	149.70	153.07	159.13	165.37	168.30
16	164	149.86	154.51	161.07	166.63	168.66
17	133	150.61	154.00	160.10	166.05	169.25
21	855	151.82	154.99	161.97	168.34	172.47
30	1133	150.70	154.70	161.72	168.17	172.44
40	860	149.57	153.52	160.16	166.68	170.52
50	817	148.47	152.86	159.40	166.34	169.42
60	678	147.64	151.09	158.31	164.71	168.41
70	632	145.62	150.01	156.14	163.11	167.19
80	271	144.24	148.61	155.65	162.24	165.29
90	24	143.42	145.93	151.67	161.08	165.78
97	0	—	—	—	—	—

Table 1C Appendix. *Height Percentiles for Black Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	18	54.88	58.54	61.35	70.10	*
1	101	66.25	68.64	74.67	79.17	83.82
2	116	76.96	81.07	85.15	89.17	93.07
3	132	85.41	88.11	94.75	99.89	102.58
4	144	92.37	95.72	102.95	109.52	114.13
5	170	98.20	103.20	109.30	115.07	119.00
6	168	103.89	109.59	114.56	120.65	126.04
7	176	111.28	115.67	121.26	127.31	130.99
8	155	118.17	120.85	127.13	134.12	139.07
9	165	121.95	125.27	131.97	138.45	144.65
10	148	124.87	129.37	135.50	142.86	148.24
11	145	132.02	134.67	141.30	149.22	154.55
12	169	135.57	140.11	146.13	154.41	160.26
13	166	138.14	142.84	152.40	161.32	168.30
14	158	146.42	151.18	160.95	169.28	172.42
15	123	150.00	155.38	164.60	174.50	179.47
16	110	158.80	163.30	170.55	177.97	182.80
17	84	156.31	162.23	172.50	178.88	184.76
21	176	162.12	166.09	173.00	181.12	185.19
30	143	163.35	168.08	174.10	181.67	184.62
40	135	163.05	167.80	173.90	181.78	186.07
50	159	161.68	164.53	171.54	178.14	181.53
60	166	158.98	163.54	169.90	177.17	181.55
70	103	157.99	161.32	168.40	174.90	178.85
80	40	157.95	161.60	165.95	176.05	177.60
90	4	*	140.45	163.95	167.65	*
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 1D Appendix. *Height Percentiles for Black Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	35	53.40	56.02	62.10	67.09	69.82
1	93	62.64	66.04	72.10	79.13	83.23
2	123	74.09	78.89	85.73	89.42	92.98
3	113	85.11	88.29	94.22	98.51	105.51
4	143	91.65	95.78	101.10	108.57	114.68
5	159	98.81	103.16	108.04	113.93	117.75
6	168	105.59	108.31	114.77	121.63	125.64
7	175	112.42	115.86	121.14	126.45	130.42
8	166	115.92	120.18	126.52	132.37	138.82
9	196	120.31	124.45	131.81	139.71	144.07
10	171	126.21	130.58	137.37	146.97	151.19
11	200	132.70	137.35	146.06	154.15	158.60
12	179	137.09	141.27	151.57	159.96	163.86
13	162	139.34	146.12	156.30	162.96	167.24
14	156	147.16	149.87	158.08	164.89	168.44
15	127	150.64	154.17	160.20	166.19	167.98
16	127	150.34	154.18	160.00	166.98	170.39
17	95	151.07	153.87	160.00	165.72	168.67
21	460	150.87	155.14	161.60	168.23	172.45
30	505	151.12	154.92	161.28	167.62	171.47
40	429	150.69	154.47	161.16	167.63	172.11
50	382	149.32	154.07	160.52	166.73	170.09
60	278	148.48	152.08	158.99	165.28	168.50
70	182	146.82	151.46	158.10	163.91	166.84
80	63	144.26	149.57	154.40	161.89	166.59
90	6	*	145.44	152.50	162.04	*
97	2	*	*	155.85	*	*

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 1E Appendix. *Height Percentiles for Puerto Rican Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	3	*	*	65.50	*	*
1	9	*	66.91	73.30	80.60	*
2	8	*	72.84	85.05	92.18	*
3	6	*	87.12	95.50	99.88	*
4	13	92.44	95.22	101.07	106.21	108.24
5	16	98.74	101.08	105.80	115.01	118.18
6	19	103.27	106.35	112.60	119.30	127.95
7	15	106.50	114.37	120.20	125.60	129.50
8	14	119.54	120.86	125.95	131.68	136.90
9	15	116.42	121.75	131.40	136.47	142.25
10	13	*	128.19	133.20	145.95	146.91
11	13	132.87	135.90	141.80	144.59	148.82
12	14	138.76	139.18	143.80	155.64	168.78
13	14	141.28	144.62	151.80	160.36	165.00
14	12	136.93	147.55	154.20	168.81	173.13
15	14	153.90	156.80	164.97	168.58	171.40
16	7	*	160.18	173.90	178.43	*
17	5	*	168.20	169.30	177.15	*
21	23	159.12	162.68	168.80	173.20	178.71
30	23	158.78	161.19	167.90	172.79	179.62
40	26	151.48	160.76	166.90	172.96	175.66
50	18	156.94	159.08	166.10	169.24	169.98
60	10	156.60	160.00	164.30	171.90	172.00
70	2	*	*	159.45	*	*
80	0	—	—	—	—	—
90	0	—	—	—	—	—
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 1F Appendix. *Height Percentiles for Puerto Rican Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	2	*	*	60.10	*	*
1	7	*	64.82	70.27	76.97	*
2	10	77.50	80.20	84.05	90.00	91.00
3	11	83.69	89.32	92.10	95.16	95.68
4	14	92.96	97.64	100.40	104.78	111.58
5	6	*	96.80	102.55	108.18	*
6	13	104.54	106.68	111.00	119.74	*
7	10	108.30	111.00	120.00	124.40	128.70
8	9	*	121.21	129.00	134.77	*
9	15	117.85	124.15	127.70	135.15	142.72
10	13	124.60	128.49	136.00	148.35	152.32
11	14	131.26	133.42	141.90	148.50	150.10
12	10	138.30	140.30	144.60	153.00	156.40
13	2	*	*	149.50	*	*
14	13	135.22	148.90	154.00	159.16	165.76
15	11	149.31	151.52	156.20	164.93	167.49
16	6	*	150.00	157.85	166.32	*
17	7	*	149.27	156.30	165.72	*
21	37	144.45	149.54	156.30	161.97	162.96
30	65	143.85	148.72	154.60	161.45	166.33
40	55	143.65	147.97	155.00	162.55	166.67
50	38	143.24	148.34	152.73	159.20	162.54
60	17	142.43	146.61	154.30	157.43	159.72
70	7	*	143.55	148.20	159.63	*
80	2	*	*	140.85	*	*
90	0	—	—	—	—	—
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 1G Appendix. *Height Percentiles for Mexican American Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	10	60.00	60.40	62.30	64.87	65.60
1	26	65.82	68.62	73.65	80.74	84.12
2	25	73.37	80.15	85.80	90.55	94.65
3	30	80.50	88.00	93.90	98.70	109.90
4	34	91.10	96.06	100.37	113.86	117.38
5	33	96.13	100.73	110.50	117.81	119.78
6	37	107.01	110.82	113.23	119.13	121.12
7	43	111.97	114.20	118.40	122.85	130.51
8	41	112.62	116.64	124.60	128.81	133.71
9	45	120.95	125.27	128.80	133.03	141.45
10	38	124.14	126.89	135.30	141.62	143.08
11	41	128.24	132.26	136.70	144.03	150.06
12	36	127.71	135.38	146.40	151.35	156.86
13	39	140.77	142.69	149.70	161.01	164.17
14	36	141.45	149.85	159.07	168.74	171.31
15	21	149.44	157.62	163.20	170.90	176.96
16	17	153.30	162.38	166.60	177.31	*
17	15	155.42	158.20	163.90	171.30	175.12
21	55	158.76	161.05	167.50	174.70	179.35
30	58	161.08	164.14	168.15	176.36	182.34
40	73	154.66	160.40	167.83	173.87	177.45
50	44	159.05	161.28	167.60	177.58	183.69
60	21	154.61	159.83	166.30	170.54	175.75
70	16	155.10	157.31	164.30	167.03	170.45
80	8	*	160.57	163.40	170.45	*
90	2	*	*	161.70	*	*
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 1H Appendix. *Height Percentiles for Mexican American Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Height (cm) Percentiles				
		5th	15th	50th	85th	95th
3 months	11	53.30	57.24	61.50	66.17	66.96
1	20	62.55	66.40	72.10	76.83	83.30
2	39	71.92	78.87	83.50	88.00	92.94
3	33	78.88	88.36	92.40	97.41	103.31
4	36	88.99	95.03	99.20	113.31	115.41
5	35	94.10	98.65	106.00	115.02	118.07
6	48	104.52	109.50	114.10	119.86	123.94
7	55	109.75	113.00	118.90	125.57	129.05
8	67	111.98	115.82	123.60	130.24	135.23
9	46	113.94	118.24	126.20	134.24	140.54
10	50	122.53	128.10	134.75	140.20	143.90
11	43	126.36	129.97	139.20	146.54	150.86
12	43	137.45	140.29	147.80	153.54	159.85
13	37	138.38	145.53	151.00	158.99	162.76
14	38	144.30	150.55	155.00	162.65	164.80
15	34	145.00	149.16	156.43	161.40	166.94
16	23	145.13	148.06	154.40	160.26	163.78
17	20	147.15	151.05	156.40	161.10	168.75
21	102	148.20	150.85	155.47	162.96	166.46
30	140	146.45	149.45	155.60	162.35	166.07
40	142	147.28	150.36	155.67	160.93	165.64
50	83	143.56	148.06	153.67	158.41	161.84
60	43	144.38	146.15	152.33	158.45	161.14
70	27	139.97	146.71	153.60	158.58	169.71
80	11	140.94	141.92	148.10	153.40	156.26
90	1	—	—	—	—	—
97	1	—	—	—	—	—

Table 1I Appendix. *Stuart-Meredith Height Standards by Age and Sex for 5th, 50th, and 95th Percentiles.*

Age	Height (cm) Percentiles		
	5th	50th	95th
	MALE		
1	71.6	75.2	78.7
2	83.1	87.5	92.1
3	91.1	98.5	101.2
4	98.0	106.5	109.0
5	103.6	111.3	118.4
6	109.7	117.5	125.0
7	115.2	124.1	131.7
8	121.0	130.0	138.9
9	125.9	135.5	144.1
10	130.3	140.3	148.7
11	—	144.2	153.0
12	140.0	149.6	160.4
13	144.2	155.0	168.1
14	148.6	162.7	175.2
15	154.1	167.8	179.5
16	159.3	171.6	182.7
17	161.3	173.7	184.6
	FEMALE		
1	69.4	74.2	77.6
2	80.6	86.6	91.7
3	89.0	95.7	101.8
4	95.9	103.2	110.4
5	103.8	109.7	116.7
6	109.3	115.9	123.9
7	115.4	122.3	130.3
8	120.6	128.0	136.0
9	125.3	132.9	141.9
10	129.6	138.6	147.6
11	134.5	144.7	155.2
12	140.0	151.5	162.6
13	146.1	157.1	166.6
14	150.5	159.6	169.0
15	152.6	161.1	170.0
16	153.3	162.2	170.6
17	153.5	162.5	171.0

NOTE: Nelson, Waldo Emerson, Textbook of Pediatrics, Philadelphia, W. B. Saunders Company, 1959, pp. 50-55.

Table 1J Appendix. *Percent Below the 15th Percentile for Height of Stuart-Meredith Standards Comparing Poverty Income Ratio Groups by Age, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Sex											
	Male						Female					
	Poverty Income Ratio Group						Poverty Income Ratio Group					
	0.00-1.49		>1.49		Total (PIR-Male)		0.00-1.49		>1.49		Total (PIR-Females)	
	Number of Persons	Percent	Number of Persons	Percent	Number	Percent	Number of Persons	Percent	Number of Persons	Percent	Number	Percent
						WHITE						
1	49	37	71	32	129	33	59	34	78	37	158	35
2	63	46	78	37	163	42	54	61	78	37	155	48
3	51	41	102	27	175	33	55	64	77	55	145	59
4	79	47	79	38	184	39	90	47	87	41	198	44
5	90	37	118	37	231	37	97	53	87	43	211	46
6	108	47	94	26	222	37	97	41	116	33	231	38
7	121	41	121	27	279	36	112	45	116	34	243	41
8	120	52	114	39	269	45	89	42	115	28	231	36
9	99	46	129	34	260	40	101	48	125	35	255	39
10	119	41	127	32	286	35	104	41	121	23	251	31
11	102	41	127	34	257	37	114	37	106	22	246	30
12	89	34	134	32	254	33	82	32	125	22	233	26
13	89	27	133	22	246	24	80	39	94	19	203	29
14	56	27	84	23	170	22	59	25	87	21	169	22
15	49	25	97	19	167	20	64	25	96	24	170	26
16	32	22	74	20	133	23	61	30	76	18	164	24
17	28	18	76	24	120	22	37	32	70	33	133	31
18	31	10	40	10	84	11	33	39	60	27	108	32
						BLACK						
1	86	37	5	60	101	41	70	49	14	43	93	47
2	84	46	16	44	116	46	103	41	9	11	123	37
3	102	40	17	24	132	38	91	42	12	25	113	39
4	111	34	19	21	144	34	112	34	17	35	143	36
5	134	35	23	17	170	32	134	34	16	25	159	33
6	131	30	20	30	168	30	132	36	25	8	168	32
7	140	30	25	28	176	29	132	24	24	13	175	23
8	115	37	25	40	155	36	114	28	34	9	166	25
9	135	31	19	42	165	32	153	30	24	21	196	28
10	107	46	26	27	148	41	133	22	18	22	171	24
11	107	36	26	23	145	34	155	20	29	10	200	18
12	134	30	22	23	169	31	129	24	32	16	179	22
13	123	24	25	36	166	27	124	29	22	23	162	27
14	118	29	23	13	158	25	121	29	23	13	156	28
15	94	31	17	24	123	29	104	28	12	25	127	25
16	82	22	12	8	110	18	98	39	16	19	127	35
17	67	33	9	22	84	30	75	28	12	33	95	31
18	39	21	15	7	65	19	63	27	9	11	84	25

Table 2A Appendix. *Weight Percentiles for White Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	42	3.90	4.74	6.40	7.54	9.66
1	136	7.39	8.26	10.01	11.88	12.83
2	171	10.10	10.91	12.34	14.17	15.39
3	181	11.90	12.70	14.17	16.25	17.96
4	187	13.29	14.25	16.22	18.74	19.99
5	232	14.42	16.06	18.54	21.07	23.69
6	222	16.36	17.76	20.54	23.33	25.84
7	281	18.63	19.71	22.32	26.13	29.21
8	267	19.64	21.42	24.95	29.50	34.51
9	265	22.61	24.42	27.45	32.77	41.52
10	286	24.15	26.33	31.26	37.91	44.34
11	258	26.04	29.31	34.66	44.06	53.96
12	254	29.44	31.62	37.87	49.29	57.26
13	246	31.67	36.44	43.95	57.68	62.72
14	170	34.70	39.50	50.55	64.40	73.70
15	167	39.68	45.04	55.60	71.83	80.31
16	131	45.81	50.76	60.80	74.03	84.48
17	122	49.92	53.09	62.85	73.92	84.12
21	479	54.13	59.87	70.07	84.28	92.93
30	626	58.39	64.37	75.64	88.97	101.11
40	558	58.99	65.58	76.74	90.58	100.96
50	564	57.57	63.66	75.62	89.32	99.03
60	501	55.30	61.56	74.80	88.48	96.68
70	424	53.77	60.34	71.67	82.69	90.85
80	214	51.48	58.74	71.70	81.94	89.58
90	21	44.56	50.32	60.80	74.34	87.85
97	0	—	—	—	—	—

Table 2B Appendix. *Weight Percentiles for White Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	50	3.60	4.37	5.80	7.40	7.90
1	159	6.85	7.66	9.31	10.82	12.00
2	157	9.46	10.32	11.82	13.62	14.81
3	149	10.89	11.63	13.38	15.20	16.17
4	200	12.72	13.60	15.47	17.70	20.05
5	215	13.95	15.16	17.65	20.33	22.80
6	231	15.58	16.95	19.57	23.11	25.51
7	248	17.49	19.43	22.21	26.05	30.51
8	238	19.53	21.08	24.57	29.75	34.98
9	255	21.71	23.44	27.08	34.75	42.45
10	249	23.86	26.08	30.92	40.14	48.22
11	244	26.00	28.72	34.75	47.26	55.79
12	231	29.91	33.23	39.70	51.38	59.74
13	203	34.36	37.74	46.17	58.91	67.77
14	169	39.78	42.98	49.95	63.69	69.84
15	172	42.11	44.92	53.12	64.39	74.56
16	166	43.04	47.03	54.53	64.82	73.34
17	134	43.18	47.75	54.03	67.94	78.04
21	866	45.13	49.49	57.70	68.28	80.38
30	1138	47.68	51.86	59.95	74.69	89.62
40	853	47.51	52.50	62.80	79.30	95.26
50	810	48.95	54.36	65.51	80.93	92.40
60	665	47.75	54.58	66.50	81.73	92.17
70	614	48.05	53.44	64.40	79.54	89.98
80	267	45.18	50.64	61.20	73.20	84.03
90	25	43.17	46.55	52.30	66.25	71.60
97	0	—	—	—	—	—

Table 2C Appendix. *Weight Percentiles for Black Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	19	3.62	4.64	5.87	8.69	9.27
1	87	6.88	7.67	9.77	11.46	12.85
2	99	9.39	10.43	12.25	14.05	15.21
3	105	11.20	12.29	14.53	16.44	17.78
4	124	13.06	14.44	16.43	19.36	21.29
5	149	14.89	16.51	18.54	21.21	23.24
6	143	16.61	18.26	20.48	22.97	24.74
7	150	18.03	19.80	22.97	26.80	30.40
8	127	20.25	22.38	25.62	31.85	36.06
9	147	21.47	24.00	27.52	32.65	40.20
10	128	23.69	25.23	29.25	35.47	39.07
11	118	26.58	28.62	33.30	41.52	51.24
12	153	29.21	31.84	37.03	45.45	54.68
13	143	30.83	34.49	42.03	51.87	58.68
14	130	36.40	39.90	47.95	60.27	68.10
15	100	38.05	43.15	53.30	63.95	73.75
16	96	45.06	49.39	59.25	67.45	75.04
17	70	43.00	51.70	64.20	77.03	87.00
21	136	51.89	57.40	65.63	78.48	93.53
30	126	57.18	62.24	74.85	88.86	95.50
40	121	58.37	64.53	76.50	91.83	102.14
50	133	56.68	61.70	73.80	85.92	101.49
60	141	56.62	60.88	76.00	90.60	100.85
70	75	51.12	56.85	68.80	86.35	91.90
80	33	49.27	55.07	66.10	75.82	85.54
90	3	*	*	73.10	*	*
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2D Appendix. *Weight Percentiles for Black Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	36	3.23	4.66	5.30	7.13	8.31
1	85	5.85	7.12	8.72	11.12	12.55
2	100	9.00	10.30	12.05	13.62	17.05
3	99	11.14	12.09	13.77	16.04	19.45
4	116	12.19	13.58	15.30	17.67	19.99
5	139	13.70	15.42	17.61	20.11	21.57
6	142	15.58	17.14	19.75	23.32	26.54
7	156	17.27	19.23	21.75	26.45	30.41
8	137	19.96	21.60	24.53	29.19	32.46
9	172	21.71	23.23	27.24	34.87	39.48
10	136	23.89	25.59	31.00	39.17	49.81
11	168	26.84	30.21	38.04	46.29	54.54
12	148	28.07	31.49	40.70	51.71	61.76
13	138	29.64	36.08	46.55	57.68	73.55
14	137	37.64	42.08	49.20	60.99	71.66
15	107	43.04	45.45	52.67	63.90	68.88
16	111	41.40	44.94	53.80	66.20	78.93
17	80	41.85	45.20	53.83	64.50	75.95
21	375	44.58	48.69	59.20	73.95	88.95
30	439	45.86	52.24	65.12	83.23	97.05
40	371	46.85	53.83	68.40	90.27	102.59
50	307	52.47	58.57	73.16	89.89	103.01
60	230	52.90	58.92	72.30	90.90	102.00
70	141	47.86	57.59	70.87	85.35	98.68
80	50	44.00	48.80	63.85	76.10	84.03
90	5	*	40.07	62.40	85.62	*
97	2	*	*	51.05	*	*

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2E Appendix. *Weight Percentiles for Puerto Rican Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	3	*	*	7.30	*	*
1	10	4.90	6.80	8.60	12.20	12.70
2	9	*	10.28	12.83	15.67	*
3	6	*	13.46	15.70	16.59	*
4	13	*	14.17	16.15	18.37	19.79
5	16	*	14.87	17.40	24.99	28.95
6	19	16.98	18.13	20.40	32.88	41.12
7	15	16.70	20.07	22.23	26.67	38.90
8	14	20.24	21.85	24.97	35.22	43.90
9	15	20.32	21.67	27.53	34.05	45.22
10	13	*	25.64	28.10	34.09	35.26
11	13	*	32.60	36.70	44.99	50.41
12	14	28.68	31.46	36.55	47.94	66.00
13	14	29.74	34.02	42.33	49.98	53.96
14	12	30.53	36.23	48.55	57.48	59.67
15	14	46.42	47.22	52.60	57.72	60.34
16	7	*	48.77	61.70	66.25	*
17	5	*	55.45	69.90	84.07	*
21	23	55.16	57.13	64.40	72.64	77.96
30	23	49.58	58.46	73.93	87.41	100.33
40	26	53.28	61.76	72.35	83.13	95.28
50	18	51.18	55.36	70.55	84.67	95.31
60	10	53.10	57.60	63.95	73.50	75.30
70	2	*	*	71.20	*	*
80	0	—	—	—	—	—
90	0	—	—	—	—	—
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2F Appendix. *Weight Percentiles for Puerto Rican Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	2	*	*	5.40	*	*
1	8	*	7.98	9.00	10.01	*
2	10	10.80	11.13	11.90	13.10	13.60
3	11	*	11.52	13.60	15.35	17.11
4	14	11.84	14.14	15.97	18.30	20.76
5	6	*	14.20	16.70	17.44	*
6	13	15.59	16.74	20.23	22.92	27.35
7	11	16.33	16.99	22.20	29.36	31.68
8	9	*	21.87	27.70	31.89	*
9	15	21.72	22.02	26.80	32.40	42.75
10	13	21.15	25.80	31.10	49.95	56.85
11	14	24.96	27.16	29.90	42.80	47.24
12	10	28.10	32.20	42.03	46.43	*
13	2	*	*	50.55	*	*
14	13	36.68	43.14	51.70	62.06	83.83
15	11	44.67	48.01	52.03	57.75	64.08
16	6	*	44.18	52.60	55.74	*
17	7	*	47.10	51.70	60.08	*
21	38	41.00	44.67	54.20	68.94	79.52
30	65	41.42	46.82	58.30	67.91	81.05
40	54	42.02	50.92	60.80	75.26	85.62
50	38	49.24	55.50	64.45	82.54	88.00
60	17	30.47	48.19	61.20	82.07	97.18
70	7	*	45.62	58.10	74.39	*
80	2	*	*	58.75	*	*
90	0	—	—	—	—	—
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2G Appendix. *Weight Percentiles for Mexican American Males by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	10	5.40	5.80	6.25	6.80	7.00
1	27	6.71	7.81	9.60	11.34	12.29
2	27	9.30	11.19	12.90	14.64	15.34
3	29	11.59	12.54	13.70	16.73	17.87
4	35	12.85	13.97	16.37	19.15	22.57
5	33	14.71	16.20	18.10	20.46	23.43
6	39	16.80	18.16	20.04	23.74	25.21
7	42	18.62	20.44	22.15	26.04	29.70
8	40	20.25	21.40	24.25	27.75	36.35
9	45	21.45	23.17	26.60	31.95	42.25
10	37	24.81	26.25	31.50	44.31	52.60
11	41	26.78	28.19	32.20	43.07	50.47
12	36	25.95	33.89	39.20	47.76	57.75
13	39	33.78	35.85	45.50	62.68	80.91
14	36	33.42	41.07	50.45	65.65	76.73
15	21	37.05	43.77	53.30	63.34	69.46
16	17	40.63	45.83	56.90	67.21	74.79
17	15	48.30	52.12	58.70	63.42	83.38
21	55	51.57	55.45	62.50	76.80	84.57
30	58	56.52	60.15	74.97	87.84	94.40
40	72	58.92	61.12	73.05	86.91	101.09
50	43	53.73	62.96	75.00	85.65	109.15
60	21	54.62	60.45	76.80	89.48	94.30
70	16	52.72	57.14	67.65	72.34	80.68
80	8	*	56.28	60.15	77.43	*
90	2	*	*	69.30	*	*
97	0	—	—	—	—	—

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2H Appendix. *Weight Percentiles for Mexican American Females by Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Number	Weight (kg) Percentiles				
		5th	15th	50th	85th	95th
3 months	10	3.70	4.10	5.35	7.50	7.70
1	22	6.80	7.28	9.35	11.38	13.20
2	39	10.04	10.32	11.73	13.30	14.35
3	33	9.35	11.53	14.00	16.47	17.22
4	38	12.34	13.34	14.90	17.09	18.12
5	35	14.06	14.78	16.67	18.72	19.50
6	50	17.20	17.83	19.92	25.80	30.60
7	56	17.83	18.79	22.25	27.21	32.63
8	68	19.32	20.47	25.07	31.08	41.72
9	46	19.94	21.86	26.43	35.16	41.86
10	49	23.16	24.75	31.80	43.11	49.66
11	43	26.29	26.88	35.10	47.84	56.23
12	43	28.08	33.75	43.00	57.34	69.38
13	37	33.20	36.52	46.90	51.95	71.68
14	38	39.78	43.51	50.33	63.08	74.60
15	34	37.26	43.90	50.75	68.46	88.26
16	23	39.62	42.20	49.75	57.42	62.89
17	20	45.45	48.05	54.05	74.80	85.30
21	105	43.47	46.97	55.90	73.97	85.55
30	139	43.47	50.06	62.10	75.34	84.16
40	145	49.40	53.67	66.40	80.47	91.07
50	84	47.31	55.71	62.65	77.75	87.01
60	44	47.32	54.95	66.60	80.14	92.15
70	27	42.54	50.45	65.00	81.75	91.68
80	12	41.24	49.31	54.97	69.93	80.40
90	1	*	*	*	*	*
97	1	*	*	*	*	*

* Because of the sample size or the form of the distribution interpolation to the desired percentile cannot be made.

Table 2I Appendix. *Stuart-Meredith Weight Standards by Age and Sex for 5th, 50th, and 95th Percentiles.*

Age	Weight (kg) Percentiles		
	5th	50th	95th
	MALE		
1	8.5	10.1	11.8
2	10.7	12.6	14.9
3	12.5	14.0	17.0
4	13.9	16.5	19.1
5	16.1	19.4	23.5
6	17.9	21.9	26.9
7	20.0	24.5	30.8
8	22.5	27.3	34.9
9	24.6	29.9	39.2
10	26.7	32.6	43.7
11	29.0	35.2	48.4
12	31.5	38.3	53.5
13	33.7	42.2	60.0
14	37.7	48.8	65.8
15	43.1	54.5	70.8
16	48.4	58.8	74.8
17	51.4	61.8	77.3
	FEMALE		
1	7.8	9.8	11.5
2	10.3	12.3	14.7
3	11.9	14.4	17.5
4	13.9	16.4	20.3
5	15.6	18.8	23.0
6	17.3	21.1	25.7
7	19.3	23.7	29.2
8	21.1	26.4	34.0
9	23.0	28.9	38.6
10	24.9	31.9	43.6
11	27.2	35.7	48.7
12	30.0	39.7	54.3
13	34.5	45.0	60.8
14	39.3	49.2	66.5
15	42.1	51.5	67.6
16	43.5	53.1	68.7
17	44.5	54.0	69.5

NOTE: Nelson, Waldo Emerson, Textbook of Pediatrics, Philadelphia, W. B. Saunders Company, 1959, pp. 50-55.

Table 2J Appendix. *Percent Below the 15th Percentile for Weight of Stuart-Meredith Standards Comparing Poverty Income Ratio Groups by Age, Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Sex											
	Male						Female					
	Poverty Income Ratio Group						Poverty Income Ratio Group					
	0.00-1.49		>1.49		Total (PIR-Male)		0.00-1.49		>1.49		Total (PIR-Females)	
	Number of Persons	Percent	Number of Persons	Percent	Number	Percent	Number of Persons	Percent	Number of Persons	Percent	Number	Percent
					WHITE							
1	54	33	70	33	136	33	60	45	80	30	159	36
2	65	31	84	23	171	26	58	36	78	28	157	31
3	55	29	104	24	181	27	55	47	80	35	149	40
4	78	27	83	17	187	22	89	32	90	34	200	33
5	90	33	114	26	232	30	98	38	90	32	215	36
6	104	38	99	16	222	27	96	42	117	29	231	35
7	121	46	122	32	281	39	114	37	119	31	248	35
8	119	47	113	33	267	39	90	39	122	25	238	32
9	100	45	133	29	265	36	98	40	127	18	255	27
10	117	44	33	26	286	34	101	30	122	14	249	20
11	101	31	129	29	258	28	111	29	107	12	244	19
12	88	35	135	22	254	26	78	21	127	11	231	14
13	86	17	134	10	246	13	78	23	96	10	203	16
14	54	15	85	19	170	17	59	15	87	14	169	14
15	49	16	97	18	167	17	64	17	98	20	172	19
16	29	21	75	11	131	19	60	17	78	15	166	16
17	28	21	77	20	122	21	36	28	70	13	134	16
18	30	20	40	5	83	12	31	26	62	10	109	14
					BLACK							
1	74	38	4	50	87	39	64	50	13	39	85	48
2	71	34	13	46	99	34	80	26	10	30	100	27
3	78	30	15	33	105	31	77	30	11	—	99	27
4	93	22	17	24	124	22	87	32	15	33	116	33
5	114	25	22	23	149	26	117	41	15	33	139	39
6	106	28	20	25	143	27	110	39	22	23	142	37
7	115	36	25	20	150	32	113	39	24	21	156	36
8	89	34	23	26	127	32	88	33	32	19	137	31
9	117	38	18	33	147	36	130	29	23	22	172	27
10	90	53	23	22	128	45	102	28	16	25	136	27
11	85	32	22	27	118	30	124	15	28	7	168	13
12	120	25	20	35	153	27	101	21	32	16	148	18
13	101	23	22	27	148	25	98	18	22	14	138	18
14	93	24	21	24	130	21	102	17	23	26	137	18
15	75	31	13	23	100	29	86	19	10	10	107	16
16	69	26	12	—	96	24	84	23	15	7	111	20
17	54	22	9	—	70	20	62	19	10	10	80	21
18	29	28	11	—	51	20	48	20	8	13	68	18

Table 3A Appendix. *Mean Triceps Fatfold for White Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
1	25	9.7	18	9.2	0.5	17	10.4	19	9.1	1.3
2	25	11.0	24	8.0	3.0	21	10.9	18	9.9	1.0
3	31	9.9	21	9.3	0.6	22	10.5	17	8.2	2.3
4	22	10.9	22	7.9	3.0	25	11.1	27	9.0	2.1
5	28	10.3	23	9.5	0.8	19	11.0	27	10.0	1.0
6	33	8.6	21	7.3	1.3	37	11.1	30	9.5	1.6
7	31	9.7	24	9.6	0.1	35	11.5	35	10.3	1.2
8	31	10.5	26	7.1	3.4	25	13.6	20	11.1	2.5
9	33	13.4	22	9.5	3.9	38	13.8	27	11.1	2.7
10	31	13.1	34	9.7	3.4	38	13.9	25	12.4	1.5
11	34	13.4	19	9.3	4.1	29	14.9	30	12.7	2.2
12	39	14.2	17	12.9	1.3	37	14.2	21	11.9	2.3
13	36	13.0	26	12.0	1.0	24	16.7	22	12.2	4.5
14	30	12.5	17	10.3	2.2	30	16.0	14	16.6	—0.6
15	30	14.7	19	10.4	4.3	31	17.7	20	15.5	2.2
16	19	16.6	12	13.3	3.3	22	16.9	20	16.4	0.5
17	21	10.5	5	7.0	3.5	21	16.2	12	18.0	1.8
21	72	11.7	53	9.5	2.2	114	18.1	109	17.6	0.5
30	116	13.8	26	11.1	2.7	175	22.0	88	21.2	0.8
40	114	15.5	27	13.2	2.3	136	23.2	80	22.6	0.6
50	102	13.8	37	11.7	2.1	108	25.3	63	24.5	0.8
60	64	13.9	77	12.9	1.0	84	22.7	95	21.9	0.8
70	49	11.8	54	11.4	0.4	53	22.7	98	20.0	2.7
80	16	12.3	27	11.6	0.7	20	18.5	47	20.8	—2.3

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean triceps fatfold is greater than the high poverty income ratio group (2.25-2.99) mean triceps fatfold.

Table 3B Appendix. *Mean Triceps Fatfold for Black Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
1	—	—	36	10.8	—	3	9.3	28	11.4	2.1
2	4	11.0	36	10.3	0.7	2	12.0	49	9.8	2.2
3	3	9.0	49	10.2	—1.2	4	10.0	45	10.4	—0.4
4	3	8.3	48	10.3	—2.0	6	9.0	52	9.2	—0.2
5	3	10.3	72	8.7	1.6	—	—	59	9.2	—
6	4	10.5	65	8.5	2.0	7	10.1	58	9.0	1.1
7	5	7.2	70	8.3	—1.0	6	10.5	67	10.0	0.5
8	3	6.3	61	7.8	—1.5	7	10.4	55	10.1	0.3
9	6	13.0	61	8.2	4.8	10	11.0	71	11.0	0.0
10	7	9.4	63	8.4	1.0	—	—	69	11.3	—
11	9	13.3	56	9.1	4.2	10	13.2	67	13.3	—0.1
12	3	7.0	64	9.2	—2.2	8	13.0	63	14.3	—1.3
13	5	8.2	60	10.8	—2.6	7	18.0	63	13.7	4.3
14	2	9.0	54	9.1	—0.1	8	12.9	53	16.4	—3.5
15	—	—	49	8.4	—	5	11.2	50	15.5	—4.3
16	2	10.0	38	9.8	0.2	6	13.5	44	18.2	—4.7
17	—	—	30	8.4	—	—	—	36	17.3	—
21	10	10.9	50	8.6	2.3	20	18.5	149	17.0	1.5
30	7	15.7	30	8.8	6.9	33	19.9	162	23.0	—3.1
40	9	15.0	30	8.5	6.5	21	21.0	143	24.4	—3.4
50	9	16.1	48	12.0	4.1	19	22.5	103	24.8	—2.3
60	20	15.2	48	11.3	3.9	17	25.5	87	23.8	1.7
70	7	11.0	44	10.6	0.4	9	23.4	46	22.5	0.9
80	—	—	13	12.2	—	—	—	19	19.0	—

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean triceps fatfold is greater than the high poverty income ratio group (2.25-2.99) mean triceps fatfold.

Table 4A Appendix. *Mean Head Circumference for White Persons One through Six Years of Age by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)	Persons of Number	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)
1	25	46.2	18	44.6	1.6	17	45.5	20	45.0	0.5
2	26	48.7	24	49.2	—0.5	20	47.7	18	46.7	1.0
3	29	49.7	18	49.7	0.0	19	48.4	15	48.3	0.1
4	23	50.8	21	49.6	1.2	24	49.5	27	48.9	0.6
5	27	51.8	22	50.9	0.9	17	50.2	27	49.8	0.4
6	17	51.1	8	51.0	0.1	12	51.0	19	49.5	1.5

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean head circumference is greater than the high poverty income ratio group (2.25-2.99) mean head circumference.

Table 4B Appendix. *Mean Head Circumference for Black Persons One through Six Years of Age by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	2.25-2.99		0.00-0.74			2.25-2.99		0.00-0.74		
	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)
1	2	46.7	38	45.7	1.0	3	45.8	26	44.9	0.9
2	5	48.2	42	47.9	0.3	2	47.8	33	46.8	1.0
3	3	48.5	49	48.8	—0.3	4	48.0	25	48.2	—0.2
4	3	52.2	47	49.9	2.3	6	49.3	30	49.6	—0.3
5	3	51.5	58	50.1	1.4	—	—	32	49.8	—
6	3	53.0	28	50.9	2.1	3	49.7	13	49.5	0.2

[1] Negative numbers indicate that the low poverty income ratio group (0.00-0.74) mean head circumference is greater than the high poverty income ratio group (2.25-2.99) mean head circumference.

Table 5A Appendix. *Mean Estimated Skeletal Weight for White Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>1.49		0.00-1.49			>1.49		0.00-1.49		
	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)
1	5	288.8	8	240.9	47.9	7	266.9	8	181.9	85.0
2	16	382.9	17	359.6	23.3	19	361.5	7	364.4	—2.9
3	47	433.4	26	503.0	—69.6	27	436.8	21	423.5	13.3
4	41	575.2	44	579.2	—4.0	48	556.7	50	552.7	4.0
5	65	653.8	61	680.9	—27.1	41	669.0	61	633.3	35.7
6	67	826.8	67	781.2	45.6	78	790.1	63	764.3	25.8
7	79	930.2	89	957.2	—27.0	67	960.2	86	910.2	50.0
8	81	1155.8	77	1075.5	80.3	76	1097.0	66	1071.9	25.1
9	79	1305.6	65	1229.0	76.6	82	1191.6	68	1201.1	—9.5
10	76	1430.5	80	1393.8	36.7	90	1432.9	65	1348.0	84.9
11	91	1613.9	66	1654.0	—40.1	78	1768.2	80	1625.3	142.9
12	92	1896.4	73	1923.0	—26.6	89	1948.5	57	1898.5	50.0
13	103	2541.3	64	2325.6	215.7	74	2356.4	59	2188.7	167.7
14	62	2631.7	39	2611.9	19.8	62	2471.9	43	2530.7	—58.8
15	75	3131.4	37	3183.2	—51.8	68	2611.1	46	2604.3	6.8
16	49	3450.1	27	3532.1	—82.0	61	2679.9	40	2583.7	96.2
17	52	3577.8	19	3752.4	—174.6	56	2715.5	27	2593.1	122.4
21	171	4146.1	88	3835.4	310.7	292	2810.7	146	2738.1	72.6
30	292	4254.1	68	4149.2	104.9	441	2851.5	175	2875.4	—23.9
40	273	4332.5	68	4338.9	—6.4	337	2926.7	171	2970.0	—43.3
50	256	4213.5	65	4068.5	145.0	376	2937.2	116	2926.0	11.2
60	194	4156.3	76	4093.6	62.7	244	2838.9	145	2729.4	109.5
70	129	4053.0	93	3849.1	203.9	176	2647.6	200	2547.0	100.6
80	48	3889.9	72	3714.3	175.6	46	2521.9	105	2441.9	80.0

[1] Negative numbers indicate that the low poverty income ratio group (0.00-1.49) mean estimated skeletal weight is greater than the high poverty income ratio group (>1.49) mean estimated skeletal weight.

Table 5B Appendix. *Mean Estimated Skeletal Weight for Black Persons by Age, Sex, and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>1.49		0.00-1.49			>1.49		0.00-1.49		
	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)
1	1	256.0	14	259.9	—3.9	2	262.0	10	228.0	34.0
2	5	406.8	8	437.4	29.4	5	393.6	17	389.6	4.0
3	9	569.0	29	500.4	68.6	4	557.8	15	562.9	—5.1
4	8	700.6	32	673.8	27.3	10	786.6	40	642.0	144.6
5	16	837.7	61	803.5	34.2	9	703.6	55	787.8	—84.2
6	11	877.2	75	972.8	—95.6	21	1013.8	85	903.9	109.9
7	17	1136.6	94	1120.1	16.5	16	1126.4	95	1020.1	106.3
8	22	1267.7	80	1287.1	—19.4	26	1353.8	76	1222.9	130.9
9	15	1394.2	103	1378.6	15.6	16	1419.4	115	1414.6	4.8
10	18	1779.9	77	1547.7	232.2	14	1811.6	102	1653.2	158.4
11	19	2073.9	87	1794.9	279.0	19	1932.9	119	2012.1	—79.2
12	15	2015.3	95	1978.3	37.0	23	2299.3	99	2294.2	5.1
13	19	2385.5	89	2432.6	—47.4	18	2580.0	87	2474.6	105.4
14	14	2669.0	91	2756.0	—87.0	13	2883.9	86	2780.5	103.4
15	11	3643.2	74	3022.4	620.8	9	3345.1	73	2894.2	450.9
16	10	4064.1	72	3572.9	491.2	9	3212.9	65	2858.8	354.1
17	2	3735.0	52	3861.4	—126.4	7	3229.4	60	2991.6	237.8
21	25	4272.9	47	4008.2	264.7	43	3273.8	154	3126.7	147.1
30	23	4314.7	27	4249.8	64.9	78	3284.1	137	3191.1	93.0
40	30	4946.3	41	4775.8	170.5	55	3346.4	153	3310.1	36.3
50	24	4569.7	71	4517.4	52.3	71	3404.9	137	3305.5	96.4
60	33	4639.1	70	4511.9	127.2	32	3215.3	120	3001.6	218.7
70	21	4477.3	40	4089.9	387.4	22	3016.4	94	2963.1	58.3
80	3	4065.3	21	4117.3	—52.0	5	2907.0	33	2740.8	166.2

[1] Negative numbers indicate that the low poverty income ratio group (0.00-1.49) mean estimated skeletal weight is greater than the high poverty income ratio group (>1.49) mean estimated skeletal weight.

Table 6A Appendix. *Mean Age of Appearance of Individual Ossification Centers for White Persons by Sex and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Individual Ossification Center	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>1.49		0.00-1.49			>1.49		0.00-1.49		
	Number of Persons	Mean Age of Appearance (years)	Number of Persons	Mean Age of Appearance (years)	Difference [1] (years)	Number of Persons	Mean Age of Appearance (years)	Number of Persons	Mean Age of Appearance (years)	Difference [1] (years)
Distal Radius	113	1.0	57	1.3	—0.3	21	0.7	25	1.1	—0.4
Distal Ulna	567	7.2	500	7.3	—0.1	356	5.7	371	6.0	—0.3
Triquetral	362	2.5	467	2.8	—0.3	205	1.5	270	1.7	—0.3
Lunate	491	3.9	458	4.2	—0.3	302	2.9	352	3.2	—0.3
Scaphoid	478	6.0	448	6.1	—0.1	383	4.5	337	4.5	0.0
Trapezium	478	6.2	573	6.4	—0.2	477	4.2	411	4.4	—0.2
Trapezoid	478	6.1	403	6.2	—0.1	289	4.5	399	4.6	—0.1

[1] Negative numbers indicate that the low poverty income ratio group (0.00-1.49) mean age of appearance is greater than the high poverty income ratio group (>1.49) mean age of appearance.

Table 6B Appendix. *Mean Age of Appearance of Individual Ossification Centers for Black Persons by Sex and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Individual Ossification Center	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>1.49		0.00-1.49			>1.49		0.00-1.49		
	Number of Persons	Mean Age of Appearance (years)	Number of Persons	Mean Age of Appearance (years)	Difference [1] (years)	Number of Persons	Mean Age of Appearance (years)	Number of Persons	Mean Age of Appearance (years)	Difference [1] (years)
Distal Radius	8	0.0	27	0.8	—0.8	8	0.0	13	0.0	0.0
Distal Ulna	59	7.1	593	6.7	0.4	49	5.0	485	5.7	—0.7
Triquetral	54	1.4	395	2.4	—1.0	26	1.7	122	0.9	0.8
Lunate	58	2.5	475	3.9	—1.4	36	2.2	536	1.7	0.5
Scaphoid	105	5.4	429	5.4	0.0	28	3.7	274	4.0	—0.3
Trapezium	98	5.9	490	5.8	0.1	42	3.3	406	4.3	—1.0
Trapezoid	83	6.4	381	5.6	0.8	34	4.3	274	4.2	0.1

[1] Negative numbers indicate that the low poverty income ratio group (0.00-1.49) mean age of appearance is greater than the high poverty income ratio group (>1.49) mean age of appearance.

Table 7A Appendix. *Mean Age at Eruption of Permanent Teeth for White Persons by Sex and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition (1968-1970)*

Tooth	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>2.24		0.00-1.49			>2.24		0.00-1.49		
	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)
					UPPER					
Second Molar	485	12.52	961	12.45	0.07	357	12.02	773	12.01	0.01
First Molar	252	6.24	744	6.47	—0.23	234	6.30	568	6.35	—0.05
Second Pre-Molar	540	11.30	931	11.17	0.13	557	10.83	877	10.87	—0.04
First Pre-Molar	494	10.67	931	10.63	0.04	557	10.23	767	10.18	0.05
Cuspid	540	11.12	1075	11.45	—0.33	592	10.49	815	10.78	—0.29
Second Incisor	454	8.10	872	8.51	—0.41	445	7.99	760	7.95	0.04
First Incisor	263	7.12	827	7.40	—0.28	317	6.77	647	7.02	—0.25
					LOWER					
Second Molar	417	11.98	588	12.05	—0.07	444	11.50	679	11.50	0.00
First Molar	223	6.35	531	6.36	—0.01	307	6.14	422	6.15	—0.01
Second Pre-Molar	527	11.53	740	11.47	0.06	591	11.07	767	10.96	0.11
First Pre-Molar	510	10.57	688	10.79	—0.22	486	10.15	910	10.15	0.00
Cuspid	494	10.46	899	10.61	—0.15	431	9.69	790	9.84	—0.15
Second Incisor	393	7.34	783	7.54	—0.20	328	7.06	739	7.15	—0.09
First Incisor	252	6.23	783	6.37	—0.14	208	5.92	894	6.30	—0.38

[1] Negative numbers indicate that the tooth erupts later in the low poverty income group (0.00-1.49).

Table 7B Appendix. *Mean Age at Eruption of Permanent Teeth for Black Persons by Sex and Selected Poverty Income Ratio Groups for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Tooth	Sex									
	Male					Female				
	Poverty Income Ratio Group					Poverty Income Ratio Group				
	>2.24		0.00-1.49			>2.24		0.00-1.49		
	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)
					UPPER					
Second Molar	37	12.59	1318	12.32	0.27	31	11.71	1245	11.62	0.09
First Molar	18	6.72	1379	6.25	0.47	19	6.62	1223	5.96	0.66
Second Pre-Molar	42	10.82	1581	11.22	—0.40	40	10.69	1173	10.74	—0.05
First Pre-Molar	42	10.20	1507	10.45	—0.25	48	10.05	1215	10.06	—0.01
Cuspid	49	10.42	1588	10.97	—0.55	40	9.97	1113	10.66	—0.69
Second Incisor	24	7.74	1370	7.97	—0.23	28	7.26	1215	7.64	—0.38
First Incisor	23	6.79	1254	6.96	—0.17	28	6.78	1178	6.75	0.03
					LOWER					
Second Molar	48	12.38	1272	11.96	0.42	34	11.26	1594	11.22	0.04
First Molar	23	5.89	1195	6.10	—0.21	19	6.57	1223	5.68	0.89
Second Pre-Molar	42	10.73	1770	11.18	—0.45	44	10.94	1598	10.75	0.19
First Pre-Molar	42	10.41	1575	10.40	0.01	48	9.41	855	10.09	—0.68
Cuspid	31	10.21	1575	10.38	—0.17	48	9.01	1215	9.82	—0.81
Second Incisor	42	6.82	1132	6.98	—0.16	28	6.82	941	6.55	0.27
First Incisor	23	5.56	1082	6.11	—0.55	25	5.66	1026	5.88	—0.22

[1] Negative numbers indicate that the tooth erupts later in the low poverty income ratio group (0.00-1.49).

Table 8A Appendix. *Mean Height by Age, Sex and Ethnic Group for All Persons with a Poverty Income Ratio from 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
1	50	74.3	35	75.8	—1.5	34	71.2	43	73.8	—2.6
2	37	84.7	44	84.7	0.0	55	85.2	37	83.4	1.8
3	55	94.9	38	92.8	2.1	43	93.9	39	89.9	4.0
4	66	102.0	62	100.5	1.5	58	101.7	71	99.7	2.0
5	56	109.6	76	106.9	2.7	68	108.3	73	105.9	2.4
6	68	114.3	92	112.3	2.0	60	114.6	72	112.2	2.4
7	73	121.2	108	119.6	1.6	78	120.6	88	118.5	2.1
8	56	128.0	100	124.9	3.1	66	126.5	79	124.4	2.1
9	77	133.0	79	129.8	3.2	79	132.0	76	128.4	3.6
10	48	135.3	97	135.6	—0.3	76	138.5	86	134.6	3.9
11	55	141.1	93	140.5	0.6	70	146.1	83	140.6	5.5
12	79	146.6	78	146.2	0.4	71	149.3	69	146.7	2.6
13	59	153.3	59	153.1	0.2	63	155.8	56	153.1	2.7
14	58	160.5	58	158.9	1.6	53	159.8	45	157.3	2.5
15	43	168.4	43	166.3	—2.9	50	159.7	44	159.3	0.4
16	41	170.0	41	170.7	—0.7	43	160.6	41	159.8	0.8
17	35	172.1	35	172.0	0.1	38	160.3	25	159.9	0.4
21	53	172.9	97	175.8	—2.9	154	161.3	149	161.8	—0.5
30	39	173.5	87	174.5	—1.0	167	161.3	234	160.7	0.6
40	42	172.4	95	172.7	—0.3	143	161.8	203	159.4	2.4
50	52	171.1	78	170.2	0.9	105	160.0	139	159.2	0.8
60	43	171.1	80	170.3	0.8	87	158.8	142	157.4	1.4
70	27	168.6	124	167.8	0.8	45	157.9	214	156.1	1.8
80	18	167.2	91	166.8	0.4	18	153.2	118	155.7	—2.5

[1] Negative numbers indicate that the mean height for White persons is greater than the mean height for Black persons.

Table 8B Appendix. *Mean Height by Age, Sex, and Ethnic Group for White and Black Persons for Louisiana—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
2	89	84.8	11	85.1	—0.3	99	83.4	18	84.7	—1.3
4	119	100.2	32	99.9	0.3	88	99.9	16	100.2	—0.3
6	112	114.6	30	113.0	1.6	98	112.8	25	112.6	0.2
8	113	126.9	29	123.0	3.9	142	125.4	21	125.0	0.4
10	125	137.1	26	135.2	1.9	133	138.5	28	135.2	3.3
12	115	146.6	30	145.9	0.7	122	150.6	31	148.3	2.3
14	95	162.0	18	156.7	5.3	116	159.1	24	154.2	4.9
16	81	171.0	19	169.1	1.9	107	161.2	22	159.0	2.2
18	30	170.3	12	173.4	—3.1	80	161.6	4	153.6	8.0
22	53	174.5	9	172.5	2.0	122	161.7	22	159.8	1.9
30	53	174.3	34	173.0	1.3	190	161.7	66	160.8	0.9
40	53	174.8	31	177.5	—2.7	173	162.2	50	162.0	0.2
50	59	173.1	31	171.9	1.2	166	160.4	56	159.5	0.9
60	79	170.3	38	172.4	—2.1	140	159.6	54	158.8	0.8
70	60	170.9	29	169.7	1.2	104	157.9	31	156.7	1.2
80	21	168.7	8	167.5	1.2	31	157.6	9	155.8	1.8

[1] Negative numbers indicate that the mean height for White persons is greater than the mean height for Black persons.

Table 8C Appendix. *Mean Height by Age, Sex, and Ethnic Group for Mexican American and Black Persons for Texas—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		Mexican American			Black		Mexican American		
	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)	Number of Persons	Mean Height (cm)	Number of Persons	Mean Height (cm)	Difference [1] (cm)
2	39	84.6	60	84.8	—0.2	49	86.0	72	84.4	1.6
4	61	101.3	75	98.9	2.4	63	101.8	78	97.1	4.7
6	60	113.6	103	111.3	2.3	68	114.6	91	109.7	4.9
8	63	126.0	101	121.9	4.1	71	125.9	97	122.5	3.4
10	77	138.3	106	133.1	5.2	52	137.5	89	132.8	4.7
12	55	149.1	94	143.2	5.9	51	152.7	85	146.4	6.3
14	33	160.5	88	156.1	4.4	58	159.6	97	152.7	6.9
16	36	169.0	45	163.8	5.2	45	160.2	72	155.7	4.5
18	18	173.0	21	168.3	4.7	33	161.7	50	156.2	5.5
22	9	174.5	32	167.5	7.0	45	162.3	87	155.2	7.1
30	20	175.4	40	168.8	6.6	87	162.6	106	155.5	7.1
40	22	177.2	54	167.8	9.4	79	162.8	153	155.1	7.7
50	20	176.5	50	169.6	6.9	50	162.0	108	153.9	8.1
60	42	172.7	38	166.9	5.8	82	160.9	75	152.4	8.5
70	28	174.5	50	164.8	9.7	51	159.2	40	151.9	7.3
80	11	170.0	14	161.1	8.9	20	157.5	12	147.2	10.3

[1] Negative numbers indicate that the mean height for Mexican American persons is greater than the mean height for Black persons.

Table 9A Appendix. *Mean Weight by Age, Sex and Ethnic Groups for Black and White Persons with a Poverty Income Ratio from 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
1	42	9.7	37	10.5	—0.8	43	9.0	31	8.8	0.2
2	29	11.8	47	12.4	—0.6	40	11.6	41	14.3	—2.7
3	44	14.6	42	14.1	0.5	40	13.0	37	14.3	—1.3
4	55	16.5	61	16.2	0.3	70	15.6	48	15.5	0.1
5	48	18.8	77	18.3	0.5	74	17.5	61	17.8	—0.3
6	59	20.5	88	20.2	0.3	71	19.7	53	20.2	—0.5
7	65	22.9	109	22.4	0.5	90	22.4	66	22.7	—0.3
8	47	27.1	97	27.8	—0.7	80	25.8	50	25.3	0.5
9	65	28.9	81	28.4	0.5	75	27.7	75	28.8	—1.1
10	44	30.1	96	31.4	—1.3	84	32.0	61	33.4	—1.4
11	43	35.4	92	35.4	0.0	80	35.0	62	38.5	—3.5
12	71	38.5	78	39.8	—1.3	66	40.0	55	41.2	—1.2
13	51	45.0	62	43.4	1.6	54	47.1	55	47.1	0.0
14	46	49.3	37	50.1	—0.8	48	54.7	45	52.2	2.5
15	37	53.9	31	58.8	—4.9	41	54.2	44	58.3	—4.1
16	36	57.6	19	59.5	—1.9	37	59.3	40	55.1	4.2
17	29	65.7	23	64.9	0.8	33	54.7	24	53.8	0.9
21	35	66.4	94	72.5	—6.1	116	61.2	147	59.2	2.0
30	33	74.9	86	77.0	—2.1	143	70.2	231	64.2	6.0
40	32	75.6	95	74.5	1.1	124	72.5	196	67.8	4.7
50	40	75.8	78	77.6	—1.8	81	74.4	139	70.9	3.5
60	36	76.0	78	73.9	2.1	76	73.4	137	68.4	5.0
70	23	68.9	124	71.0	—2.1	40	73.0	210	67.2	5.8
80	14	71.4	89	69.9	1.5	17	63.9	119	63.1	0.8

[1] Negative numbers indicate that the mean weight for White persons is greater than the mean weight for Black persons.

Table 9B Appendix. *Mean Weight by Age, Sex, and Ethnic Groups for Black and White Persons for Louisiana—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
2	91	12.4	11	12.2	0.2	104	11.5	20	11.7	—0.2
4	120	16.0	31	15.7	0.3	84	15.6	18	15.4	0.2
6	110	20.6	30	20.2	0.4	96	19.8	24	19.9	—0.1
8	113	26.2	28	24.8	1.4	143	25.3	22	24.8	0.5
10	122	32.2	25	32.0	0.2	134	32.5	28	30.7	1.8
12	115	38.9	29	38.8	0.1	121	41.8	31	40.5	1.3
14	94	52.0	18	48.2	3.8	114	51.4	24	51.1	0.3
16	80	60.0	19	65.2	—5.2	108	55.8	22	51.2	4.6
18	30	64.4	12	68.5	—4.1	81	56.2	4	48.9	7.3
22	53	72.7	9	72.8	—0.1	128	62.0	22	57.5	4.5
30	52	81.5	34	79.3	2.2	189	69.2	65	63.5	5.7
40	55	80.2	31	87.3	—7.1	173	75.9	50	68.5	7.4
50	60	77.7	31	78.3	—0.6	167	75.9	56	66.2	9.7
60	79	73.5	38	76.4	—2.9	141	76.2	53	73.5	2.7
70	61	74.0	30	76.9	—2.9	106	71.9	31	62.9	9.0
80	22	67.1	8	66.8	0.3	30	66.1	9	66.1	0.0

[1] Negative numbers indicate that the mean weight for White persons is greater than the mean weight for Black persons.

Table 9C Appendix. *Mean Weight by Age, Sex, and Ethnic Groups for Black and Mexican American Persons for Texas—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		Mexican American			Black		Mexican American		
	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)	Number of Persons	Mean Weight (kg)	Number of Persons	Mean Weight (kg)	Difference [1] (kg)
2	39	11.6	60	12.1	—0.5	50	11.6	73	11.5	0.1
4	62	15.7	75	15.4	0.3	62	15.6	78	15.0	0.6
6	58	19.9	104	19.1	0.8	68	19.8	92	18.7	1.1
8	63	24.8	101	23.9	0.9	72	24.7	97	24.2	0.5
10	77	31.1	106	30.5	0.6	51	30.2	89	29.3	0.9
12	55	39.6	93	36.7	2.9	50	43.2	85	39.0	4.2
14	33	50.6	89	46.2	4.4	58	51.2	98	47.1	4.1
16	36	62.9	45	53.6	9.3	45	53.1	73	49.6	3.5
18	18	62.9	21	58.6	4.3	33	60.8	52	52.3	8.5
22	9	62.9	32	68.5	—5.6	45	71.6	87	57.1	14.5
30	19	77.6	40	76.6	1.0	87	68.8	107	60.8	8.0
40	22	80.9	53	73.3	7.6	78	76.9	154	66.7	10.2
50	21	79.2	50	75.9	3.3	50	78.5	109	67.6	10.9
60	42	74.8	38	72.8	2.0	83	74.2	77	66.0	8.2
70	28	72.4	50	68.6	3.8	51	72.1	41	63.3	8.8
80	11	67.4	14	58.6	8.8	21	67.2	12	49.1	18.1

[1] Negative numbers indicate that the mean weight for Mexican American persons is greater than the mean weight for Black persons.

Table 10 Appendix. *Mean Triceps Fatfold by Age, Sex and Ethnic Groups for Black and White Persons with a Poverty Income Ratio from 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
1	48	10.0	33	10.0	0.0	30	11.2	44	10.1	1.1
2	37	10.0	44	10.9	—0.9	56	9.7	34	10.1	—0.4
3	57	10.2	39	9.0	1.2	45	10.4	37	9.6	0.8
4	66	8.9	60	9.1	—0.2	59	9.0	68	9.9	—0.9
5	56	8.3	74	8.8	—0.5	68	9.4	73	10.4	—1.0
6	66	8.6	93	8.6	0.0	62	8.7	69	9.9	—1.2
7	72	7.7	109	8.9	—1.2	78	9.9	88	10.0	—0.1
8	55	9.0	102	9.4	—0.4	67	10.0	79	10.8	—0.8
9	80	9.0	81	9.7	—0.7	77	11.0	75	11.9	—0.9
10	49	9.0	96	10.6	—1.6	76	11.5	85	14.5	—3.0
11	55	10.7	94	11.2	—0.5	69	13.1	81	13.0	0.1
12	78	11.1	77	12.2	—1.1	69	14.2	67	13.4	0.8
13	60	10.9	63	10.9	0.0	63	13.7	57	15.1	—1.4
14	57	10.1	39	11.1	—1.0	53	16.4	45	16.4	0.0
15	43	9.9	31	13.4	—3.5	50	15.5	45	19.5	—4.0
16	42	9.0	21	8.9	0.1	44	18.2	41	17.7	0.5
17	36	8.2	22	9.0	—0.8	36	17.3	25	17.2	0.1
21	52	9.1	94	12.8	—3.7	149	17.0	146	17.5	—0.5
30	40	12.2	85	13.5	—1.3	162	23.0	235	20.5	2.5
40	42	11.4	92	12.7	—1.3	143	24.4	195	23.6	0.8
50	49	11.7	71	14.7	—3.0	103	24.8	133	25.1	—0.3
60	41	11.4	79	12.7	—1.3	87	23.8	142	23.4	0.4
70	27	9.8	122	12.8	—3.0	46	22.5	207	21.8	0.7
80	19	11.8	84	12.3	—0.5	19	19.0	109	19.1	—0.1

[1] Negative numbers indicate that the mean triceps fatfold for White persons is greater than the mean triceps fatfold for Black persons.

Table 11A Appendix. *Mean Head Circumference by Age, Sex and Ethnic Group for Black and White Persons One through Six Years of Age for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)
1	100	45.8	128	46.0	—0.2	75	44.9	151	44.7	0.2
2	108	48.2	162	48.7	—0.5	89	47.3	137	47.3	0.0
3	129	49.3	162	49.7	—0.4	81	49.0	131	48.5	0.5
4	135	50.1	173	50.3	—0.2	99	49.5	185	49.2	0.3
5	141	50.1	222	51.0	—0.9	97	50.1	195	49.6	0.5
6	80	50.9	104	51.5	—0.6	53	49.9	110	50.2	—0.3

[1] Negative numbers indicate that the mean head circumference for White persons is greater than the mean head circumference for Black persons.

Table 11B Appendix. *Mean Head Circumference by Age, Sex, and Ethnic Group for Black and White Persons One through Six Years of Age with a Poverty Income Ratio from 0.75 through 1.49 for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (cm)
1	49	46.1	35	46.3	—0.2	15	39.8	41	44.5	—4.7
2	37	48.3	43	48.3	0.0	30	44.6	33	47.2	—2.6
3	56	49.6	38	49.5	0.1	44	47.4	37	48.3	—0.9
4	66	49.9	56	50.1	—0.2	36	49.5	66	49.2	0.3
5	53	49.5	71	50.8	—1.3	49	49.4	69	49.3	0.1
6	32	50.7	44	51.6	—1.1	54	50.1	34	50.3	—0.2

[1] Negative numbers indicate that the mean head circumference for White persons is greater than the mean head circumference for Black persons.

Table 12A Appendix. *Mean Estimated Skeletal Weight by Age, Sex and Ethnic Group for Black and White Persons for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)
1	15	259.6	13	259.3	0.3	12	233.7	15	221.6	12.1
2	13	425.3	33	370.9	54.4	22	390.5	26	362.3	28.2
3	38	516.6	73	458.2	58.4	19	561.8	48	430.8	131.0
4	40	678.8	85	577.3	101.5	50	670.9	98	554.7	116.2
5	77	810.7	126	666.9	143.8	64	776.0	102	647.7	128.3
6	86	960.6	134	804.0	156.6	106	925.7	141	778.6	147.1
7	111	1122.6	168	944.3	178.3	111	1035.4	153	932.1	103.3
8	102	1282.9	158	1116.8	166.1	102	1256.3	142	1085.3	171.0
9	118	1380.6	144	1271.0	109.6	131	1415.2	150	1195.9	219.3
10	95	1591.7	156	1411.7	180.0	116	1672.3	155	1397.3	275.0
11	106	1844.9	157	1630.8	214.1	138	2001.2	158	1695.8	305.4
12	110	1983.3	165	1907.9	75.4	122	2295.2	146	1928.9	366.3
13	108	2424.8	167	2458.2	—33.9	105	2492.7	133	2282.6	210.1
14	105	2744.4	101	2624.1	120.3	99	2794.1	105	2495.9	298.2
15	85	3102.7	112	3148.5	—45.8	82	2943.7	114	2608.4	335.3
16	82	3632.8	76	3479.1	153.7	74	2902.6	101	2641.8	260.8
17	54	3856.7	71	3623.8	239.9	67	3016.4	83	2675.7	340.7
21	72	4139.3	259	4040.5	98.8	197	3158.8	438	2786.5	372.3
30	50	4279.6	360	4234.4	45.3	215	3224.8	616	2858.3	366.5
40	71	4847.8	341	4333.8	514.0	208	3319.6	508	2941.3	378.3
50	95	4530.6	321	4184.1	346.5	208	3339.9	492	2934.6	455.3
60	103	4552.7	270	4138.7	414.0	152	3046.8	389	2798.3	247.7
70	61	4223.3	222	3967.6	255.7	116	2973.2	376	2593.8	379.4
80	24	4110.8	120	3784.4	326.4	38	2749.6	151	2466.3	283.3

[1] Negative numbers indicate that the mean estimated skeletal weight for White persons is greater than the mean estimated skeletal weight for Black persons.

Table 12B Appendix. *Mean Estimated Skeletal Weight by Age, Sex, and Ethnic Group for Black and White Persons with a Poverty Income Ratio from 0.00 through 1.49 for Low and High Income Ratio States— Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)	Number of Persons	Mean Skeletal Weight (gm)	Number of Persons	Mean Skeletal Weight (gm)	Difference [1] (gm)
1	14	259.9	8	240.9	19.0	10	228.0	8	181.9	46.1
2	8	437.4	17	359.6	77.8	17	389.6	7	364.4	25.2
3	29	500.4	26	503.0	—2.6	15	562.9	21	423.5	139.4
4	32	673.3	44	579.2	94.1	40	642.0	50	552.7	89.3
5	61	803.5	61	680.9	122.6	55	787.8	61	633.3	154.5
6	75	972.8	67	781.2	191.6	85	903.9	63	764.3	139.6
7	94	1120.1	89	957.2	162.9	95	1020.1	86	910.2	109.9
8	80	1287.1	77	1075.5	211.6	76	1222.9	66	1071.9	151.0
9	103	1378.6	65	1229.0	149.6	115	1414.6	68	1201.1	213.5
10	77	1547.7	80	1393.9	153.9	102	1653.2	65	1348.0	305.2
11	87	1794.9	66	1654.0	140.9	119	2012.1	80	1625.3	386.8
12	95	1978.3	73	1923.0	55.3	99	2294.2	57	1898.5	395.7
13	89	2432.6	64	2325.6	107.0	87	2474.6	59	2188.7	285.9
14	91	2756.0	39	2611.9	144.1	86	2780.5	43	2530.7	249.8
15	74	3022.4	37	3183.2	160.8	73	2894.2	46	2604.3	289.9
16	72	3572.9	27	3532.1	40.8	65	2858.8	40	2583.7	275.1
17	52	3861.4	19	3752.4	109.0	60	2991.6	27	2593.1	398.5
21	47	4068.2	88	3835.4	232.8	154	3126.7	146	2738.1	388.6
30	27	4249.8	68	4149.2	100.6	137	3191.1	175	2875.4	315.7
40	41	4775.8	68	4338.9	436.9	153	3310.1	171	2970.0	340.1
50	71	4517.4	65	4068.5	448.9	137	3305.5	116	2926.0	379.5
60	70	4511.9	76	4093.6	418.3	120	3004.6	145	2729.9	274.7
70	40	4089.9	93	3849.1	240.8	94	2963.1	200	2547.0	416.1
80	21	4117.3	72	3714.3	403.0	33	2740.8	105	2441.9	298.9

[1] Negative numbers indicate that the mean estimated skeletal weight for White persons is greater than the mean estimated skeletal weight for Black persons.

Table 13A Appendix. *Mean Age of Appearance of Individual Ossification Centers for Black and White Persons by Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Individual Ossification Center	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Age (yrs)	Number of Persons	Mean Age (yrs)	Difference [1] (yrs)	Number of Persons	Mean Age (yrs)	Number of Persons	Mean Age (yrs)	Difference [1] (yrs)
Distal Radius	123	0.8	380	1.2	—0.4	27	0.8	91	0.9	—0.1
Distal Ulna	1008	6.7	1630	7.2	—0.5	907	5.6	1143	5.8	—0.2
Triquetral	673	2.3	1409	2.7	—0.4	262	1.4	576	1.7	—0.3
Lunate	944	3.7	1379	4.0	—0.3	934	2.5	994	3.0	—0.5
Scaphoid	754	5.5	1872	6.1	—0.6	913	3.9	942	4.4	—0.5
Trapezium	942	5.8	1872	6.2	—0.4	742	4.2	1174	4.2	0.0
Trapezoid	682	5.7	1450	6.2	—0.5	742	4.1	911	4.4	—0.3

[1] Negative numbers indicate that the mean age of appearance for White persons is greater than the mean age of appearance for Black persons.

Table 13B Appendix. *Mean Age of Appearance of Individual Ossification Centers for Black and White Persons with a Poverty Income Ratio from 0.75 through 1.49 by Sex and Ethnic Group for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Individual Ossification Center	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)
Distal Radius	27	0.8	57	1.3	—0.5	13	—	25	1.1	—
Distal Ulna	593	6.7	500	7.3	—0.6	485	5.7	371	6.0	—0.3
Triquetral	395	2.4	467	2.8	—0.4	122	0.9	270	1.7	—0.8
Lunate	475	3.9	458	4.2	—0.3	536	1.7	352	3.2	—1.5
Scaphoid	429	5.4	448	6.1	—0.7	274	4.0	337	4.5	—0.5
Trapezium	490	5.8	573	6.4	—0.8	406	4.3	411	4.4	—0.1
Trapezoid	381	5.6	403	6.2	—0.6	274	4.2	399	4.6	—0.4

[1] Negative numbers indicate that the mean age of appearance for White persons is greater than the mean age of appearance for Black persons.

Table 14 Appendix. *Mean Age at Eruption of Permanent Teeth by Sex and Ethnic Group for Black and White Persons for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Tooth	Sex									
	Male					Female				
	Ethnic Group					Ethnic Group				
	Black		White			Black		White		
	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)
					UPPER					
Second Molar	1729	12.30	3641	12.44	—0.14	1645	11.63	2061	11.95	—0.32
First Molar	1807	6.30	2090	6.40	—0.10	1731	6.00	1382	6.35	—0.35
Second Pre-Molar	2141	11.09	3196	11.21	—0.12	1789	10.71	2554	10.88	—0.17
First Pre-Molar	1975	10.45	2981	10.64	—0.19	1859	10.00	1970	10.17	—0.17
Cuspid	2087	10.93	3106	11.29	—0.36	1477	10.54	2901	10.62	—0.08
Second Incisor	1799	7.95	2475	8.39	—0.44	1607	7.67	2086	7.97	—0.30
First Incisor	1642	6.93	2217	7.34	—0.41	1552	6.74	1966	6.98	—0.24
					LOWER					
Second Molar	1664	11.90	1960	12.00	—0.10	2221	11.20	1948	11.49	—0.29
First Molar	1559	6.11	1674	6.33	—0.22	1987	5.73	1351	6.15	—0.42
Second Pre-Molar	2318	11.10	2283	11.43	—0.33	2160	10.74	3115	10.97	—0.23
First Pre-Molar	2068	10.47	2981	10.70	—0.23	1367	10.00	2135	10.17	—0.17
Cuspid	2068	10.34	2898	10.52	—0.18	1607	9.71	2478	9.78	—0.07
Second Incisor	1475	6.97	2217	7.47	—0.50	1429	6.58	1816	7.18	—0.55
First Incisor	1406	6.07	2217	6.30	—0.23	1536	5.89	1694	6.18	—0.29

[1] Negative numbers indicate that the tooth erupts later for White persons.

Table 15A Appendix. *Mean Triceps Fatfold by Age, Sex, and Ethnic Group for White and Black Persons One through Twelve Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
					WHITE					
1.5	129	10.6	26	9.5	1.1	133	10.1	24	8.9	1.2
2.5	137	9.8	32	8.5	1.3	132	10.0	20	7.8	2.2
3.5	158	9.7	33	8.2	1.5	145	10.2	34	8.7	1.5
4.5	173	9.5	38	8.2	1.3	162	10.6	39	9.0	1.6
5.5	196	8.9	42	8.3	0.6	183	10.1	37	9.7	0.4
6.5	216	8.8	48	8.9	—0.1	196	10.3	47	9.0	1.3
7.5	237	8.9	52	7.8	1.1	213	10.7	44	10.1	0.6
8.5	228	10.0	40	8.9	1.1	219	11.8	40	12.3	—0.5
9.5	225	10.8	54	9.5	1.3	220	12.9	40	12.9	0.0
10.5	233	11.6	58	10.5	1.1	210	13.9	43	12.5	1.4
11.5	230	12.6	40	10.3	2.3	201	14.3	46	14.3	0.0
12.5	207	12.7	53	9.4	3.3	178	15.1	42	13.1	2.0
					BLACK					
1.5	45	9.4	55	10.4	—1.0	51	9.6	61	11.1	—1.5
2.5	41	9.1	75	10.8	—1.7	51	9.1	56	10.2	—1.1
3.5	61	8.8	84	10.0	—1.2	54	10.2	76	9.7	0.5
4.5	73	8.6	99	9.1	—0.5	58	8.9	100	9.0	—0.1
5.5	70	8.2	89	8.6	—0.4	56	9.6	111	8.9	0.7
6.5	71	8.7	114	7.9	0.8	79	9.5	112	9.1	0.4
7.5	92	8.0	75	8.2	—0.2	94	10.4	80	9.1	1.3
8.5	73	8.6	91	7.8	0.8	88	11.3	101	9.8	1.5
9.5	72	10.8	102	8.4	2.4	103	11.8	88	9.8	2.0
10.5	76	9.4	78	9.2	0.2	80	18.7	100	11.4	2.3
11.5	78	11.1	89	8.9	2.2	100	14.0	108	12.6	1.4
12.5	86	11.7	99	9.8	1.9	69	14.0	112	12.6	1.4

[1] Negative numbers indicate that the mean triceps fatfold for the low income ratio states is greater than the mean triceps fatfold for the high income ratio states.

Table 15B Appendix. *Mean Triceps Fatfold by Age, Sex, and Ethnic Group for White and Black Persons Thirteen through Seventeen Years of Age for Low Income Ratio States and High Income Ratio States— Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (Years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (cm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (cm)
					WHITE					
13.5	178	12.4	44	10.3	2.1	162	16.2	40	13.6	2.6
14.5	145	11.4	40	9.7	1.7	148	17.6	32	13.0	4.6
15.5	129	12.4	32	10.0	2.4	133	16.3	40	17.8	—1.5
16.5	109	11.5	23	8.9	2.6	123	16.9	21	16.5	0.4
17.5	84	10.3	15	8.7	1.6	108	10.1	30	19.4	—0.3
					BLACK					
13.5	62	12.1	98	9.2	2.9	75	15.6	86	14.5	1.1
14.5	64	12.0	88	7.9	4.1	56	18.8	83	14.9	3.9
15.5	50	10.7	68	8.3	2.4	64	16.0	91	15.0	1.0
16.5	48	10.8	59	8.3	2.5	42	17.2	71	16.5	0.7
17.5	31	11.1	41	8.2	2.9	29	18.6	53	16.1	2.5

[1] Negative numbers indicate that the mean triceps fatfold for the low income ratio states is greater than the mean triceps fatfold for the high income ratio states.

Table 15C Appendix. *Mean Triceps Fatfold by Age, Sex, and Ethnic Group for White and Black Persons Eighteen Years of Age and Over for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (Years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)	Number of Persons	Mean Fatfold (mm)	Number of Persons	Mean Fatfold (mm)	Difference [1] (mm)
					WHITE					
21	462	11.9	49	11.9	0.0	779	18.1	112	18.8	—0.7
30	560	13.6	57	12.0	1.6	965	20.3	178	20.5	—0.2
40	490	14.2	84	12.4	1.8	286	23.1	178	22.3	0.9
50	472	14.3	94	13.2	1.1	655	23.8	166	23.1	—1.3
60	405	13.1	105	12.8	0.3	524	22.9	156	23.4	—0.5
70	326	12.7	91	12.7	0.0	501	21.8	124	20.4	1.4
80	171	12.5	40	11.2	1.3	207	20.2	43	17.9	2.3
90	15	11.8	3	7.3	4.5	18	15.3	6	9.5	5.8
					BLACK					
21	70	11.5	87	8.0	3.5	217	19.1	238	17.5	1.6
30	80	12.9	72	10.7	2.2	270	22.3	239	22.0	0.3
40	90	13.6	63	10.4	3.2	217	24.8	240	23.7	1.1
50	83	13.0	81	11.9	1.1	192	25.0	199	24.1	0.9
60	78	13.7	80	10.6	3.1	123	24.9	161	23.2	1.7
70	50	11.3	67	10.1	1.2	79	23.1	110	20.5	2.6
80	17	12.2	23	11.0	1.2	29	20.9	33	17.3	3.6
90	—	—	—	—	—	—	—	—	—	—

[1] Negative numbers indicate that the mean triceps fatfold for the low income ratio states is greater than the mean triceps fatfold for the high income ratio states.

Table 16 Appendix. *Mean Head Circumference by Age, Sex, and Ethnic Group for White and Black Persons One through Six Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (Years)	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (mm)	Number of Persons	Mean Head Circumference (cm)	Number of Persons	Mean Head Circumference (cm)	Difference [1] (mm)
					WHITE					
1	127	47.8	26	48.1	—0.3	128	46.2	23	46.6	—0.4
2	133	49.3	32	48.7	0.6	119	48.0	20	47.4	1.4
3	151	50.0	31	49.9	0.1	138	49.0	30	49.0	0.0
4	167	50.8	37	50.3	0.5	150	49.3	41	49.4	—0.1
5	188	51.2	41	51.6	—0.4	164	50.1	36	50.0	0.1
6	5	50.6	2	52.5	—1.9	16	49.7	4	49.8	—0.1
					BLACK					
1	45	47.8	59	47.2	0.6	52	47.1	39	46.0	1.1
2	40	48.6	78	48.9	—0.3	48	48.2	28	48.1	0.1
3	59	50.3	85	49.4	0.9	53	49.4	48	48.7	0.7
4	66	50.8	93	49.9	0.9	58	50.2	50	49.8	0.4
5	67	50.6	72	50.2	0.4	51	50.0	49	50.0	0.0
6	5	51.2	5	49.9	1.3	9	51.3	2	49.2	2.1

[1] Negative numbers indicate that the mean head circumference for the low income ratio states is greater than the mean head circumference for the high income ratio states.

Table 17 Appendix. *Mean Age at Eruption of Permanent Teeth for White and Black Persons by Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Tooth	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)	Number of Persons	Mean Age (years)	Number of Persons	Mean Age (years)	Difference [1] (years)
					WHITE					
					Upper					
Second Molar	1608	12.50	561	12.16	0.34	1516	11.93	294	12.02	—0.09
First Molar	1279	6.37	270	6.53	—0.16	1153	6.37	211	6.21	0.16
Second Pre-Molar	2651	11.26	282	10.88	0.38	1935	10.94	373	10.51	0.43
First Pre-Molar	2475	10.70	304	10.30	0.40	1654	10.23	316	9.91	0.32
Cuspid	2536	11.26	316	11.45	—0.19	2437	10.65	254	10.47	0.18
Second Incisor	2065	8.40	223	8.33	0.07	1609	7.97	239	7.97	0.00
First Incisor	1510	7.35	248	7.28	0.07	1752	6.97	151	7.08	—0.11
					Lower					
Second Molar	1626	12.04	300	11.79	0.25	1516	11.50	312	11.53	—0.03
First Molar	1395	6.33	174	6.34	—0.01	944	6.14	189	6.17	—0.03
Second Pre-Molar	1666	11.50	316	11.10	0.40	2619	11.06	316	10.49	0.57
First Pre-Molar	2475	10.71	338	10.64	0.07	2005	10.21	305	9.92	0.29
Cuspid	2404	10.53	304	10.52	0.01	2073	9.83	263	9.45	0.38
Second Incisor	1851	7.47	266	7.45	0.02	1697	7.12	170	7.14	—0.02
First Incisor	1851	6.29	189	6.30	—0.01	1579	6.16	148	6.30	—0.14
					BLACK					
					Upper					
Second Molar	583	12.34	948	12.30	0.04	631	11.74	901	11.51	0.23
First Molar	464	6.42	987	6.78	—0.36	288	6.17	908	5.89	0.28
Second Pre-Molar	520	11.04	1051	11.25	—0.21	549	10.55	791	10.82	—0.27
First Pre-Molar	590	10.29	1019	10.61	—0.32	779	9.64	790	10.32	—0.68
Cuspid	551	10.81	1144	11.05	—0.24	493	10.22	787	10.85	—0.63
Second Incisor	400	8.03	980	7.90	0.13	506	7.61	861	7.72	—0.11
First Incisor	476	6.88	894	7.01	—0.13	383	6.69	841	6.80	—0.11
					Lower					
Second Molar	428	11.92	911	11.89	0.03	510	11.17	901	11.22	—0.05
First Molar	354	6.11	850	6.12	—0.01	362	5.94	908	5.58	0.36
Second Pre-Molar	984	10.97	1164	11.23	—0.26	582	10.60	791	10.86	—0.26
First Pre-Molar	938	10.21	945	10.74	—0.53	555	9.68	790	10.35	—0.67
Cuspid	817	10.14	1086	10.57	—0.43	746	9.22	787	10.30	—1.08
Second Incisor	658	6.96	718	6.99	—0.03	464	6.58	861	6.59	—0.01
First Incisor	626	5.83	641	6.24	—0.41	491	5.71	841	6.03	—0.32

[1] Negative numbers indicate that the tooth erupts later in the low income ratio states.

Table 18 Appendix. *Mean Number of Erupted Teeth by Age, Sex and Ethnic Group for White and Black Persons Five through Fourteen Years of Age for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Sex									
	Male					Female				
	High Income Ratio States		Low Income Ratio States			High Income Ratio States		Low Income Ratio States		
	Number of Persons	Mean Erupted Teeth	Number of Persons	Mean Erupted Teeth	Difference [1] (teeth)	Number of Persons	Mean Erupted Teeth	Number of Persons	Mean Erupted Teeth	Difference [1] (teeth)
					WHITE					
Total	2097	14.5	646	14.9	—0.4	1946	15.5	586	16.5	—1.0
5	193	0.8	67	1.4	—0.6	188	1.3	53	2.1	—0.8
6	218	4.5	67	4.3	0.2	201	5.0	64	5.9	—0.9
7	243	7.9	72	7.7	0.2	214	9.5	56	8.9	0.6
8	225	11.1	60	12.2	—1.1	215	12.0	59	12.2	—0.2
9	233	13.0	67	13.3	—0.3	229	14.7	63	17.0	—2.3
10	227	16.3	70	16.9	—0.6	204	18.2	59	18.3	—0.1
11	236	20.9	58	20.9	0.0	210	22.6	67	23.2	—0.6
12	203	23.7	76	24.4	—0.7	173	24.9	62	24.5	0.4
13	177	26.1	58	26.0	0.1	164	26.6	57	26.8	—0.2
14	142	26.8	51	26.8	0.0	148	26.7	46	26.9	—0.2
					BLACK					
Total	732	15.9	1749	15.8	0.1	794	17.1	1860	16.8	0.3
5	65	1.3	169	1.4	—0.1	57	2.3	179	2.3	0.0
6	69	5.6	198	5.7	—0.1	77	6.6	180	6.5	0.1
7	90	9.2	154	9.5	—0.3	95	10.4	199	9.8	0.6
8	74	11.9	182	12.2	—0.3	85	12.7	201	12.8	—0.1
9	75	14.4	205	14.3	0.1	103	16.0	180	15.2	0.8
10	72	17.7	175	17.8	—0.1	80	21.5	196	19.1	2.4
11	75	22.7	168	21.5	1.2	100	23.4	191	23.1	0.3
12	85	24.3	186	24.6	—0.3	71	25.8	204	26.0	—0.2
13	62	26.0	166	26.6	—0.6	71	26.8	178	27.3	—0.5
14	65	27.0	146	27.0	0.0	55	26.8	152	27.4	—0.6

Table 19 Appendix. *Seltzer-Mayer Lower Limits of Obesity by Age and Sex for Persons Twelve through Seventeen Years of Age*

Age (years)	Minimum Triceps Fatfold Thickness Indicating Obesity (mm)	
	Male	Female
12	18	22
13	18	22
14	17	23
15	16	24
16	15	25
17	14	26

NOTE: Seltzer, C. C. and Mayer, J., A Simple Criterion of Obesity. Post. Grad. Med. 38, A101-107, 1965.

Table 20 Appendix. *Percent Obese by Age, Sex and Ethnic Group for Black and White Persons Twelve Years of Age and Over for Low and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Mid-Point (years)	Sex							
	Male				Female			
	Ethnic Group				Ethnic Group			
	Black		White		Black		White	
	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]	Number of Persons	Percent Obese [1]
12	172	9.3	252	18.3	177	9.0	229	10.0
13	164	9.8	245	15.9	161	13.0	202	14.9
14	152	12.5	170	18.8	156	18.6	163	15.3
15	119	12.6	167	24.6	127	11.0	169	14.2
16	108	13.0	131	29.0	126	11.1	162	11.7
17	83	13.3	120	17.5	92	15.2	130	13.8
21	169	8.3	478	15.1	443	18.1	837	16.6
30	142	12.0	615	21.0	486	36.4	1107	25.9
40	134	16.4	553	28.1	423	46.1	835	36.5
50	151	13.2	543	23.9	368	52.7	792	41.9
60	157	19.1	494	18.6	274	46.7	658	37.8
70	102	8.8	412	14.8	184	32.6	611	30.9
80	40	10.0	204	13.7	64	28.1	256	20.7

[1] Obesity defined as a triceps fatfold measurement >18.6mm for males and >25.1mm for females. For derivation of these standards refer to the section on obesity in the text for this chapter.

3. DENTAL

Abstract: *There was considerable variation in the number of decayed and filled teeth in children from different subgroups of the population. The data on decayed, missing, and filled teeth showed that older Spanish-American children had the lowest level of dental care. Among adults, the blacks and the Spanish-Americans had the greatest treatment needs. Periodontal disease and poor oral hygiene in adults were prevalent and appeared to have some relationship to income status. There was a relationship between the prevalence of caries in adolescents and the intake of foods containing sugar. There was little relationship between selected biochemical parameters and dental disease. The data generally indicate poor dental health associated with poor levels of dental care in many segments of the population surveyed.*

The demographic variables used to describe the distribution of dental diseases in the population examined are age, sex, ethnic group, and Poverty-Income-Ratio. Of the 40,000 people who were interviewed and attended the clinics, nearly 38,000 received dental examinations. Approximately 40 percent were in low-income-ratio states (Appendix Table 1A) and 60 percent were in high-income-ratio states (Appendix Table 1B). Data on the sex, age, and ethnic distribution of these individuals are also presented in Appendix Tables 1A and 1B.

Results from modern studies on humans have raised questions regarding the importance of nutritional and dietary factors in dental health. For example, while Vitamin A is believed to be essential to tooth and bone development, which occurs during the first 8 years of life, very few cases of dental abnormalities due to Vitamin A deficiency have been identified in the United States. On the other hand, both dental caries and periodontal disease are related to the intake of refined carbohydrate and the amount that remains on the teeth. Hence, diet, rather than nutriture, has a major influence on caries and periodontal disease.

The examinations were conducted by dentists utilizing standard dental instruments and criteria. The examiners evaluated tooth status, the supporting tissues of the teeth, and oral hygiene, employing the following indices: the Decayed-Missing-Filled Index (DMF), the Periodontal Index (PI), and the Simplified Oral-Hygiene Index (OHI-S).

It is important to keep the purpose and limitations of each of these indices in mind when interpreting the results. The DMF index describes the mean total number of decayed, missing, and filled permanent teeth per person. Without the aid of dental radiographs, the D (decayed) component of the DMF index is an underestimate of the true clinical condition. The M (missing) component may be due to extracted, replaced, or unerupted teeth, or teeth indicated for extraction. The F (filled) component measures teeth with sound fillings or crowns and no recurrent decay, and thus reflects the person's prior dental treatment experience. The DMF index is age-dependent, and within these limitations should serve as a reasonably accurate estimater of dental caries experience in permanent teeth up to approximately 35 years of age.

Tabulations of DMF teeth in this survey were based on 32 teeth. Unerupted third molars were recorded as "unerupted" only if confirmed by the person being examined. Previously extracted third molars were recorded as "missing" if the person being examined could strongly confirm this.

Caries experience in the primary (deciduous) teeth of children is measured with the "df" index, written in lower-case letters to distinguish if from the DMF index in permanent teeth. The df index measures the mean total number of decayed and filled primary teeth per child. Missing teeth are omitted because of the difficulty in determining whether the tooth was shed normally or extracted due to decay.

The Periodontal Index (PI) quantitates the severity of disease affecting the supporting tissues, the gums (or gingiva), the fibers that hold the tooth in the bone, and the alveolar bone itself. PI scores assess the absence or presence of gingival inflammation, periodontal pockets, and sufficient bone support to permit the tooth to function during mastication. Since the PI assesses only obvious disease and does not include the use of radiographs, or measurements with calibrated instruments, the results are an underestimation of periodontal disease.

Because of the relationship between periodontal disease and oral hygiene, PI data are more meaningful when oral hygiene status is also assessed. The Simplified Oral-Hygiene Index (OHI-S) measures the amount of foreign debris (soft, sticky deposits, or plaque) and calculus (hard deposits, or tartar) present on selected teeth.

PRIMARY TEETH IN CHILDREN UNDER 7 YEARS OF AGE

Low-Income-Ratio States

In low-income-ratio states, the mean number of decayed and filled (DF) teeth increased with age, at a rate somewhat faster for white children than for black children (Figure 1). Although the rates for Spanish-American and white children appear similar, the number of Spanish-American children surveyed is smaller, making comparisons questionable.

Black children had a slightly lower df score than white children (Figure 2). Decayed teeth contributed the larger portion among all ethnic groups. Black children had the smallest number of decayed teeth per child and white children had the largest number. The number of filled teeth was approximately the same for all three ethnic groups.

The only sex differences were among Spanish-American children, with males having slightly more df teeth than females (Figure 2). Among these children, slightly lower mean age for females than for males suggests that the slight difference in df teeth by sex may be more apparent than real.

High-Income-Ratio States

The mean number of df teeth per child in high-income-ratio states also increased with age (Figure 1), accumulating somewhat faster in white and Spanish-American children than in black children.

Combining all age groups, the mean df scores were approximately the same both within and between ethnic groups (Figure 2). The number of decayed and filled teeth was approximately the same for all three ethnic groups.

Low- and High-Income-Ratio States

All children in high-income-ratio states had a better experience with dental caries, consistently having slightly less df teeth than their counterparts in low-income-ratio states. White children in low-income-ratio states had the largest mean number of df teeth per child (Figure 2), while black children in high-income-ratio states had the smallest number of df teeth per child but by only a small margin. White and Spanish-American children in low-income-ratio states had the most decayed teeth, suggesting the greatest dental need. Children from high-income-ratio states had slightly fewer decayed teeth and more filled teeth, suggesting less dental need and a more favorable treatment history than their counterparts in low-income-ratio states.

The absence of sex differences in df teeth in white children was contrary to the usual finding that males have more df teeth than females, and may have been due either to inter-examiner variability or to emergence of a new pattern of decayed and filled teeth. The slightly smaller mean number of df teeth among black children in comparison with white children was consistent with findings of other surveys in the United States.

PERMANENT TEETH IN CHILDREN 6-17 YEARS OF AGE

Low-Income-Ratio States

For both males and females, DMF scores increased with age at approximately the same rates for all ethnic groups (Figure 3). Decayed teeth accounted for most of the increase. The DMF scores for white males and females were approximately the same, but there were slight sex differences among blacks and Spanish-Americans. After age 11, black females had slightly more DMF teeth than black males. Among Spanish-American children, females had slightly higher DMF scores than males; but the total number of Spanish-Americans was smaller and the mean age of females slightly higher, thus casting some doubt on the validity of the comparison.

All groups of children had approximately the same number of decayed teeth except that black females had slightly more (Figure 4). Spanish-

Americans appeared to have more missing teeth than the other groups, and whites had the most filled teeth (Figure 4).

High-Income-Ratio States

In the high-income-ratio states, all ethnic groups had similar age increases in DMF teeth (Figure 3). No significant sex differences appeared.

Black children had the most decayed teeth by a slight margin, and white children had the most filled teeth, while all three ethnic groups had similar numbers of missing teeth (Figure 4).

Low- and High-Income-Ratio States

Except for Spanish-Americans, children in low-income-ratio states had DMF scores similar to those of children in high-income-ratio states, but with consistently more decayed teeth and fewer filled teeth. The mean numbers of teeth missing were similar for all groups except Spanish-Americans in low-income-ratio states, who seemed to have the highest number. Children in high-income-ratio states consistently had more filled teeth per child, with white children having the most. Black and Spanish-American children in low-income-ratio states had the smallest number of filled teeth.

The mean number of DMF teeth per child was similar in whites and blacks, but Spanish-Americans from high-income-ratio states had a smaller number. Spanish-American females from low-income-ratio states had the largest mean number of DMF teeth per child.

The salient DMF findings in children from 6 through 17 years of age were (1) the absence of sex differences among children in high-income-ratio states, (2) the similarity between white and black children in high-income-ratio states, and (3) the apparent low level of dental care among Spanish-American children in low-income-ratio states.

DMF TEETH AND CARBOHYDRATE CONSUMPTION IN CHILDREN FROM 10-16 YEARS OF AGE

The relationship between the long-term consumption of refined carbohydrates (foods with high quantities of sugar such as pastries, candies, soft drinks) and DMF teeth has been established beyond a reasonable doubt. Dietary data were collected by the 24-hour recall method and are used to describe the dietary intake patterns of groups rather than individuals. The amount of carbohydrates from desserts and foods that were primarily sugar was calculated and compared with caries experience of adolescents.

The consumption of refined carbohydrates between meals is usually associated with higher DMF scores than consumption of these carbohydrates during meals. In high-income-ratio states, all three ethnic groups showed a positive association between DMF teeth and the between-meal consumption of carbohydrates (Figure 5); blacks had similar numbers of DMF teeth for both during-meal and between-meal consumption. In low-income-ratio states, there was no association for whites and Spanish-Americans between carbohydrate consumption and DMF scores, whereas black children had a positive association.

DMF TEETH IN ADULTS (18 YEARS AND OVER)

Beyond approximately 35 years of age, the DMF index reflects the loss of teeth from causes other than dental caries, principally periodontal disease. Hence, most comparisons will be limited to the 18- to 35-year-old age group. The mean number of decayed teeth remained almost the same or decreased slightly after the age of 35, but the mean number of missing teeth increased with age until it became the largest component for all groups. The number of missing teeth surpassed the number of decayed teeth between the ages of 25 and 34 for whites, and between 35 and 44 for blacks and Spanish-Americans. Blacks and Spanish-Americans had the largest number of decayed teeth and the smallest number of missing teeth, and whites had the most filled teeth.

Low-Income-Ratio States. In the low-income-ratio states, the total number of DMF teeth increased with age at similar rates for all ethnic groups (Figure 6) with males generally having fewer DMF teeth than females. At every age, whites had the highest number of DMF teeth, followed by blacks, and then Spanish-Americans (Figure 7a).

High-Income-Ratio States. In the high-income-ratio states, the mean of DMF teeth increased with age somewhat more slowly for blacks than for whites and Spanish-Americans (Figure 6, 7b), with males having fewer DMF teeth than females. Whites had the largest numbers of DMF teeth until after age 60, when all three groups had similar scores.

In general, the number of decayed and filled teeth decreased slightly with age, and the missing teeth increased slightly. The increase in missing teeth became pronounced when numbers of wholly endentulous persons were taken into account. For

white males, missing teeth became the largest component at age 45-59 years, the latest age for any group. Whites tended to have the most decayed and filled teeth, and blacks and Spanish-Americans had the most missing teeth.

Low- and High-Income-Ratio States. Between 18 and 34 years of age, white and black males in high-income-ratio states had slightly higher DMF scores than in low-income-ratio states. White females tended to have the highest DMF scores, and all Spanish-Americans had the lowest.

Persons in the low-income-ratio states had more decayed teeth than persons in high-income-ratio states. Black and Spanish-American females in low-income-ratio states had the most decayed teeth, while whites and Spanish-Americans in high-income-ratio states had the smallest number of decayed teeth. White females in low-income-ratio states had the largest number of missing teeth. Black and Spanish-American females in low-income-ratio states had the smallest number of filled teeth, while white males in high-income-ratio states had the largest number of filled teeth.

In this survey, black persons had slightly higher DMF scores than have been observed previously. Spanish-Americans had the lowest number of DMF teeth. Among black persons in low-income-ratio states, decayed teeth contributed the most to the increased DMF scores, suggesting increased treatment needs. In high-income-ratio states, filled teeth contributed the most to the increased scores, suggesting that higher economic status contributed favorably to dental treatment. In white persons from low-income-ratio states, data on DMF teeth were similar to those from previous United States surveys. A shift in the components of the DMF index suggested slightly higher needs and less adequate treatment experience.

PERIODONTAL DISEASE IN CHILDREN

Periodontal disease in persons less than 18 years of age consisted predominantly of gingivitis (disease without pockets). The beginning of reversible destructive periodontal disease (disease with pockets) may occur in adolescents but constitutes a very small percentage of periodontal disease in the under-18 age group.

In this survey an unusually high prevalence of peridontal disease was reported. In low-income-ratio states, white and black children had a similar prevalence of peridontal disease, with that of Spanish-American children being smaller (Figure 8a).

Among children in high-income-ratio states, the prevalence of periodontal disease (Figure 8b) was similar for all three ethnic groups.

Overall, white and Spanish-American children from high-income-ratio states had the highest prevalence of gingivitis, while Spanish-American children in low-income-ratio states had the lowest. For periodontal disease with pockets, white and black children in low-income-ratio states had the highest prevalence, with white children from high-income-ratio states and Spanish-American children from both groups of states having similar prevalences (Figures 8a-b).

These trends in the prevalence data are contrary to results of other United States surveys (which have shown that blacks and males have more gingivitis). This survey has shown an unusually high percentage of children under 10 years of age with periodontal disease. This high prevalence could have resulted from the disproportionately small number of children in specific age groups, and the possibility of examiners overestimating periodontal disease in all children less than 18.

The severity of periodontal disease is described more clearly by mean PI scores of subgroups, where a score up to 0.2 is considered clinically healthy; a score from 0.3 to 0.9 is diagnosed as gingivitis; and 0.7 to 1.9 is diagnosed as severe gingivitis and on through early reversible destructive disease.

All the children from 10 through 17 years of age had approximately the same mean PI scores of 1 or less, except for Spanish-Americans in low-income-ratio states, who had the smallest mean scores (Figures 9a-b). The absence of sex and ethnic differences in mean PI scores is consistent with the findings on the prevalence of periodontal disease. The mean PI scores corresponded clinically to gingivitis, which has been considered the major periodontal disease problem of children less than 18 years of age.

PERIODONTAL DISEASE IN ADULTS

The prevalence of periodontal disease increased with age to over 90 percent in nearly every subgroup of the survey population by the age of 65-74 years (Figures 8a and 8b). Periodontal disease becomes a major problem in adults beyond approximately 35 years of age.

In the low-income-ratio states, white and black males had slightly more disease with pockets than white and black females and all Spanish-American adults. The prevalence of disease without pockets (gingivitis) was similar among ethnic groups.

In the high-income-ratio states, white males had the highest prevalence of disease with pockets and the lowest prevalence of disease without pockets. White and black males had slightly higher prevalences of disease with pockets than white and black females.

Except for black females, the prevalence of periodontal disease (with and without pockets) was somewhat higher in high-income-ratio states. Consistently, white and black males had slightly more disease with pockets than white or black females in both low- and high-income-ratio states.

Findings on the prevalence of peridontal disease were somewhat different from findings of other recent surveys. Males usually have higher rates of periodontal disease than females, but in this survey, no sex differences were found among Spanish-Americans. Typically, black persons have a higher percentage of periodontal disease (with pockets) than white persons. In this survey no such differences by ethnic group were observed in high- or low-income-ratio states. In fact, the converse was observed in high-income-ratio states, where white males had higher percentages of periodontal disease (with pockets) than black males.

Clinical conditions that correspond to the Periodontal Index (PI) scores for adults are as follows: 0 to 0.2, clinically healthy; 0.3 to 0.9, gingivitis; 0.7 to 1.9, severe gingivitis to early reversible destructive disease; 1.5 to 5.0, advanced irreversible destructive disease; 3.8 to 8.0, terminal stages of periodontal disease.

In both low- and high-income-ratio states, PI scores increased with age (Figures 9a and 9b). Spanish-Americans in low-income-ratio states consistently had the lowest PI scores. PI scores were generally slightly lower in high-income-ratio states than in low-income-ratio states.

The influence of income on the Periodontal Index is illustrated in Figure 10. PI scores decreased with increasing Poverty-Income-Ratio (PIR). The periodontal status of persons with a PIR less than 1.0 was apparently poorer for whites than for blacks and Spanish-Americans. In this same PIR group, white males had slightly higher PI scores than white females. The inverse relationship of PI scores and PIR appeared to be stronger in low-income-ratio states than in high-income-ratio states. For any given PIR group, PI scores tended to be higher in the low-income-ratio states.

ORAL HYGIENE IN CHILDREN 10-17 YEARS OF AGE

The Simplified Oral-Hygiene Index (OHI-S) is the sum of the Debris Index and the Calculus Index with scores ranging from 0 to 6. Clinically, a score of 0 to 1.2 indicates good oral hygiene; 1.3 to 3.0, fair oral hygiene; 3.1 to 6.0, poor oral hygiene.

The mean OHI-S scores of children 10 through 17 years increased with age in both low- and high-income-ratio states, with debris predominating (Figures 11a and 11b). In the low-income-ratio states, white children of both sexes and Spanish-American females had similar scores, with blacks and Spanish-American males having slightly higher scores. In the high-income-ratio states, white children of both sexes had the lowest scores, with blacks and Spanish-Americans having similarly, the highest scores.

White children, as a whole, appeared to have the best level of oral hygiene and blacks the poorest level by the slightest margin. No sex differences were found except among Spanish-Americans in the low-income-ratio states.

ORAL HYGIENE IN ADULTS

Among persons in low-income-ratio states, mean Simplified Oral Hygiene Index (OHI-S) scores increased with age (Figure 11a). Males consistently had slightly higher OHI-S scores than females. White and Spanish-American persons had similar OHI-S scores, which were slightly lower than in black persons.

In high-income-ratio states, mean OHI-S scores also increased with age, and males consistently had slightly higher OHI-S scores than females (Figure 11b). Whites consistently had slightly lower OHI-S scores than blacks and Spanish-Americans.

Figure 12 illustrates the decrease in mean OHI-S scores with increasing PIR in both low- and high-income-ratio states. Above a PIR of 1.0, blacks in low-income-ratio states generally had somewhat higher OHI-S scores than whites and Spanish-Americans. Persons below a PIR of 1.0 in low-income-ratio states tended to have the poorest oral hygiene.

The components of OHI-S, the Debris Index (DI) and the Calculus Index (CI), paralleled the

respective OHI-S scores by age, sex, and ethnic group in low- and high-income-ratio states, except for Spanish-American males in high-income-ratio states, who consistently had more calculus than debris. Generally, both debris and calculus increased with age, with debris predominating at earlier ages.

EDENTULOUS PERSONS

Between 7 and 35 percent of the persons 18 and over had all 32 teeth missing; in both low- and high-income-ratio states, whites had the largest prevalence of edentulous persons, followed by blacks and then Spanish-Americans (Figure 13). The percentages increased with age, reaching a prevalence of 55 percent in whites by the age of 55 to 64 (Tables 1A-B). As a group, endentulous persons tend to have great difficulty in chewing, which potentially affects their ability to eat a nutritionally balanced diet.

ASSOCIATION OF SELECTED BIOCHEMICALS AND DENTAL INDICES IN ADULTS 18-54

Simple correlations between DMF teeth, periodontal disease (PI), oral hygiene (OHI-S), and several biochemical determinations proved to be weak (Table 2). Ranking the biochemicals in quartiles was slightly more promising than correlations but still did not demonstrate strong associations. Mean dental scores by quartile of levels of serum albumin, vitamin A, and vitamin C for persons 18 through 54 years of age appear in Tables 3A-C, 4A-C, and 5A-C. There appeared to be slight inverse associations between these nutrients and DMF teeth that varied by ethnic group. Among Spanish-American persons, the number of decayed teeth decreased consistently with each increasing quartile of serum albumin. For plasma vitamin A, the number of decayed teeth also decreased slightly with increasing nutrient levels.

The number of decayed teeth consistently decreased with increasing serum vitamin C levels (Tables 5A-C), while the number of filled teeth were not related to vitamin C levels. Mean OHI-S scores also appeared to decrease with increasing serum vitamin C levels in all groups. These inverse associations suggested that persons with low levels of serum vitamin C, and, to a lesser extent, of vitamin A and serum albumin, had slightly more severe dental disease. However, the data presented above cannot establish a causal relationship between low levels of these nutrients and the prevalence of dental disease.

SUMMARY

In the Ten-State Nutrition Survey, approximately 38,000 persons were examined for tooth status and the condition of the tissues supporting the teeth. The epidemiologic indices used were the Decay-Missing-Filled Index (DMF), the Periodontal Index (PI), and the Simplified Oral-Hygiene Index (OHI-S).

DMF and df Teeth

The caries experience in children's primary teeth was measured with the decayed and filled (df) teeth index. In children under 7 years of age, the number of df teeth increased with age. Contrary to previously observed patterns of df teeth in the United States, there was essentially no differences in df teeth scores by sex among white and black children. Other surveys have identified fewer decayed and filled teeth in black children than in white children, but in the Ten-State Survey this result was found only in the low-income-ratio states.

Dental caries in the permanent teeth (DMF) of children 6 to 17 years old increased with age. While no sex differences in DMF teeth were reported for white children, black males in low-income-ratio states had slightly fewer DMF teeth than females. No ethnic-group differences in DMF teeth were reported between white children and black children in high-income-ratio states. The findings also suggested an apparent low level of dental care in Spanish-American children from low-income-ratio states.

The dental caries experience of persons 18 years of age and over varied with age, sex, and ethnic group. The pattern of DMF teeth generally supported the observations of other surveys in the United States, males consistently having lower DMF scores than females. In black persons, however, DMF teeth scores were higher than previously observed.

Periodontal Disease

The prevalence and severity of periodontal disease in children varied slightly with age, sex, and ethnic group. Mean PI scores appeared to give a truer indication of periodontal status than the percent distributions of periodontal disease. Gingivitis was the major periodontal problem in children. Contrary to previous observations, there were no major ethnic-group differences in the percentage of persons with periodontal disease. In persons 18 years of age and over, there was a higher pervalence of disease with pockets

among white and black males than among white and black females. Except for black females, the prevalence of periodontal disease (with and without pockets) was slightly higher in the high-income-ratio states. PI scores, however, were generally slightly lower in the high-income-ratio states. In the low-income-ratio states, periodontal disease was more prevalent among white persons than among blacks or Spanish-Americans.

Oral Hygiene

The oral hygiene status (OHI-S) of children tended to parallel the pattern of periodontal disease, and, in fact, clarified some of the differences by sex and ethnic group. White children as a whole appeared to have the highest level of oral hygiene and blacks the lowest by a slight margin. Sex differences were reported only among Spanish-Americans in the low-income-ratio states. Plaque or debris (DI) was the predominant oral hygiene problem in children.

The oral hygiene status (OHI-S) of persons 18 years of age and over consistently followed previously observed patterns of oral hygiene. Males had slightly higher OHI-S scores than females, and white persons generally had slightly lower OHI-S scores than blacks or Spanish-Americans. Mean OHI-S scores decreased with increasing PIR. The amount of debris present was greater than the amount of calculus except among Spanish-American males in high-income-ratio states, who consistently had more calculus than debris.

Consumption of Carbohydrates

The association of tooth status (DMF) with the consumption of carbohydrates from desserts and other foods with high sugar content varied with ethnic group, income, and whether consumed during meals or between meals. Black children in low-income-ratio states and all groups of children in high-income-ratio states showed a positive association between DMF teeth and the between-meal consumption of large quantities of these carbohydrates.

Edentulous Persons

A very high percentage of the persons examined in this survey had lost all 32 of their teeth. The percentage was highest for white persons and lowest for Spanish-Americans. As a group, edentulous persons have the greatest difficulty in chewing properly, which potentially affects their ability to maintain a nutritionally balanced diet.

Biochemicals

Simple correlations between the dental indices and several selected nutrients (serum albumin, plasma vitamin A, and serum vitamin C) were weak. Examination of mean dental scores by quartile of serum vitamin A and serum albumin showed an inconsistent inverse association. Serum vitamin C, on the other hand, showed a relationship with the number of decayed teeth, OHI-S scores, and PI scores. However, these data did not establish a causal relationship between levels of these nutrients and the prevalence of dental caries and periodontal disease.

The data presented in this section indicate that, in the population surveyed, there is a major public health problem in regard to the delivery of dental care. Spanish-Americans in the low-income-ratio states appeared to have the lowest level of dental care. A large percentage of all children showed evidence of having received little or no dental care. In adults, periodontal disease was by far the major dental problem seen.

Figure 1—Mean Decayed and Filled (df) Primary Teeth for Persons Under Seven Years of Age by Age, Sex, and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

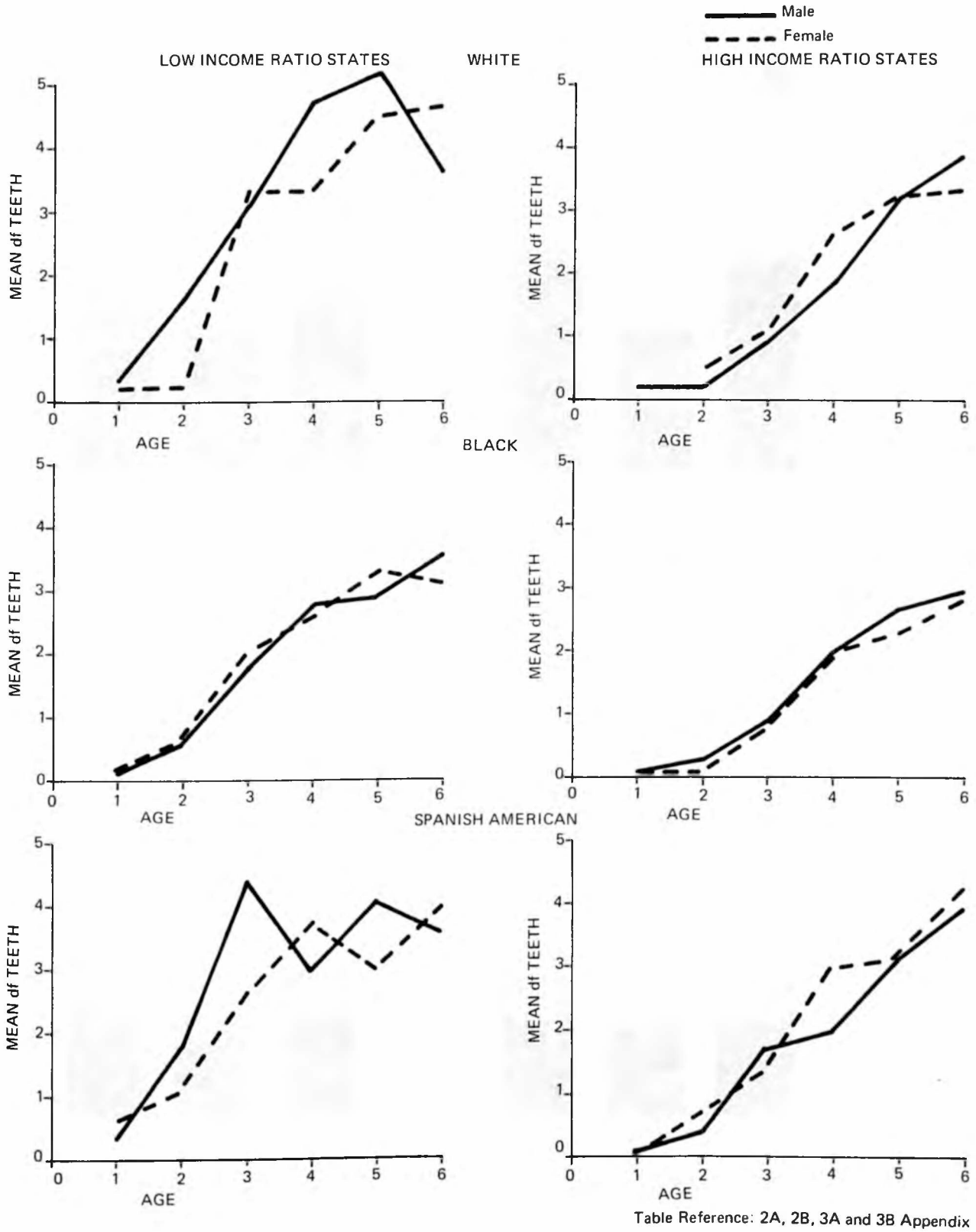
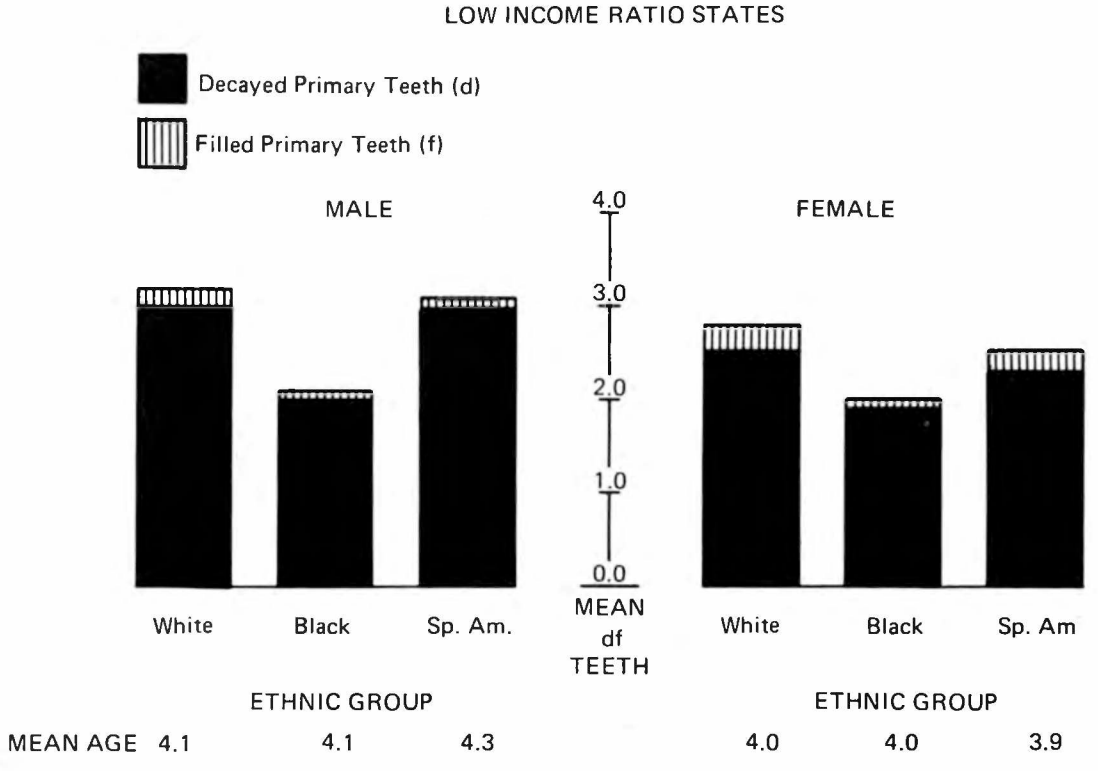


Table Reference: 2A, 2B, 3A and 3B Appendix

Figure 2—Mean Decayed and Filled (df) Primary Teeth for Persons Under Seven Years of Age by Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)



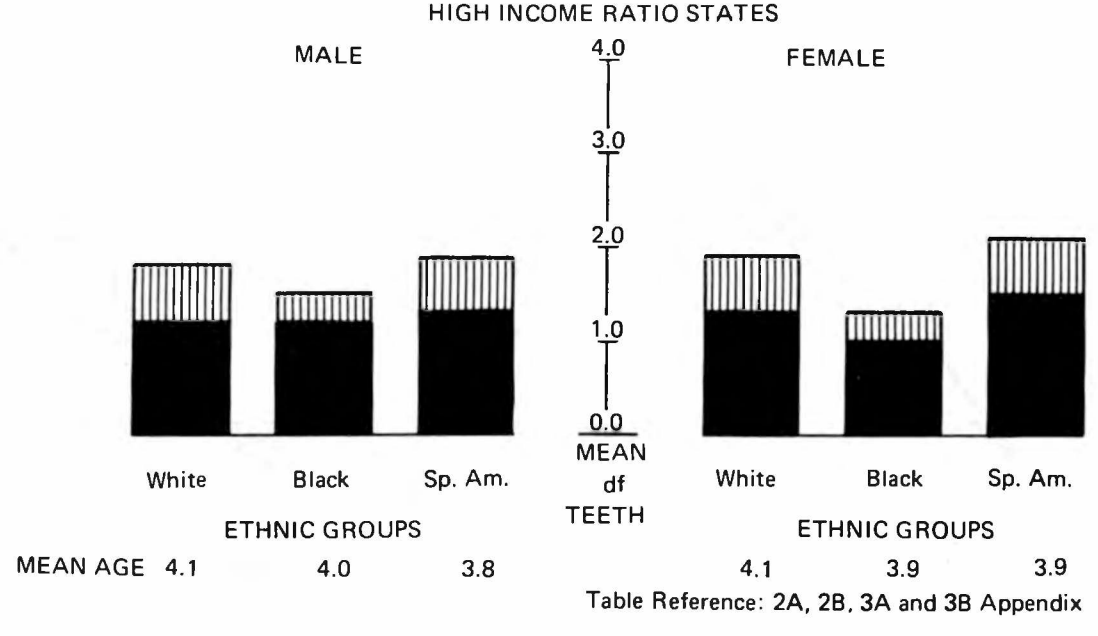


Table Reference: 2A, 2B, 3A and 3B Appendix

Figure 3—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Six through Seventeen Years of Age by Age, Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

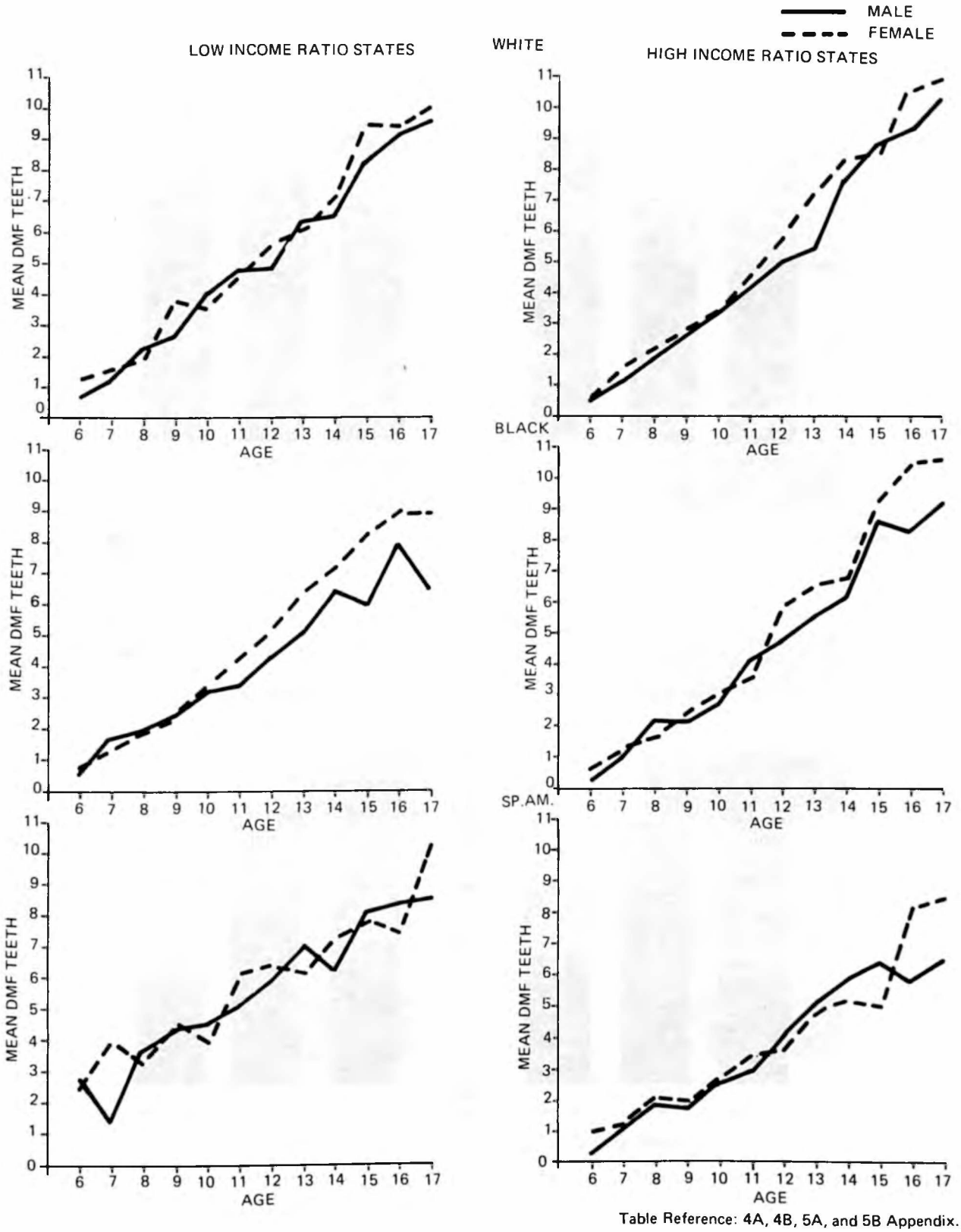
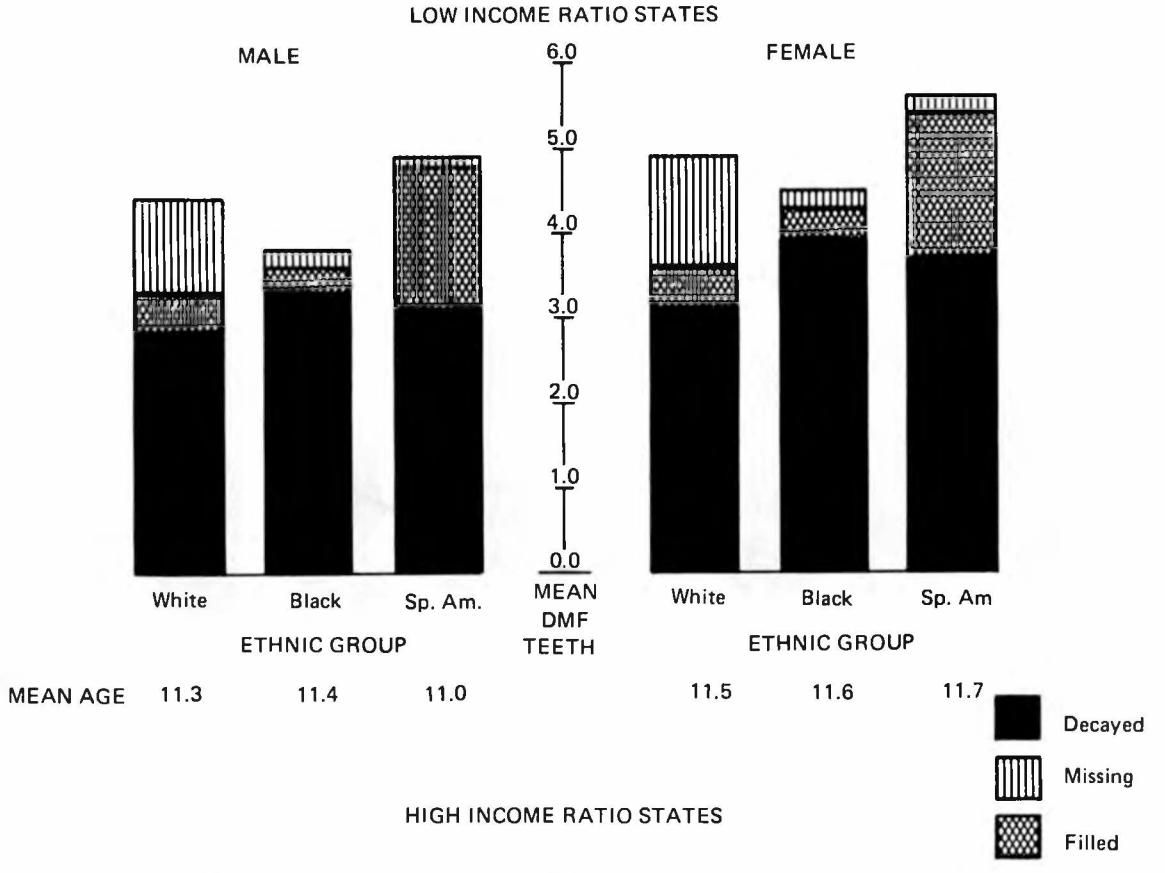


Table Reference: 4A, 4B, 5A, and 5B Appendix.

Figure 4—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Six through Seventeen Years of Age by Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)



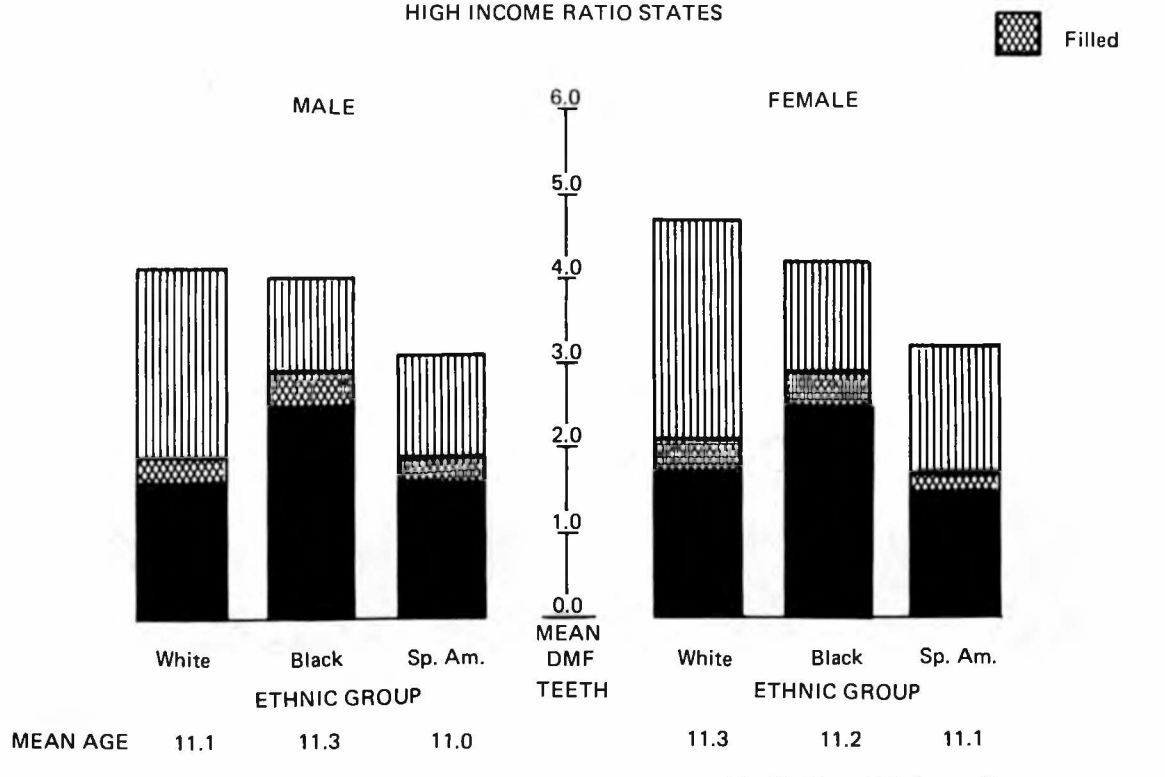


Table Reference: 4A, 4B, 5A and 5B Appendix

Figure 5—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Ten through Sixteen Years of Age by Grams of Carbohydrate Consumed Between and During Meals for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

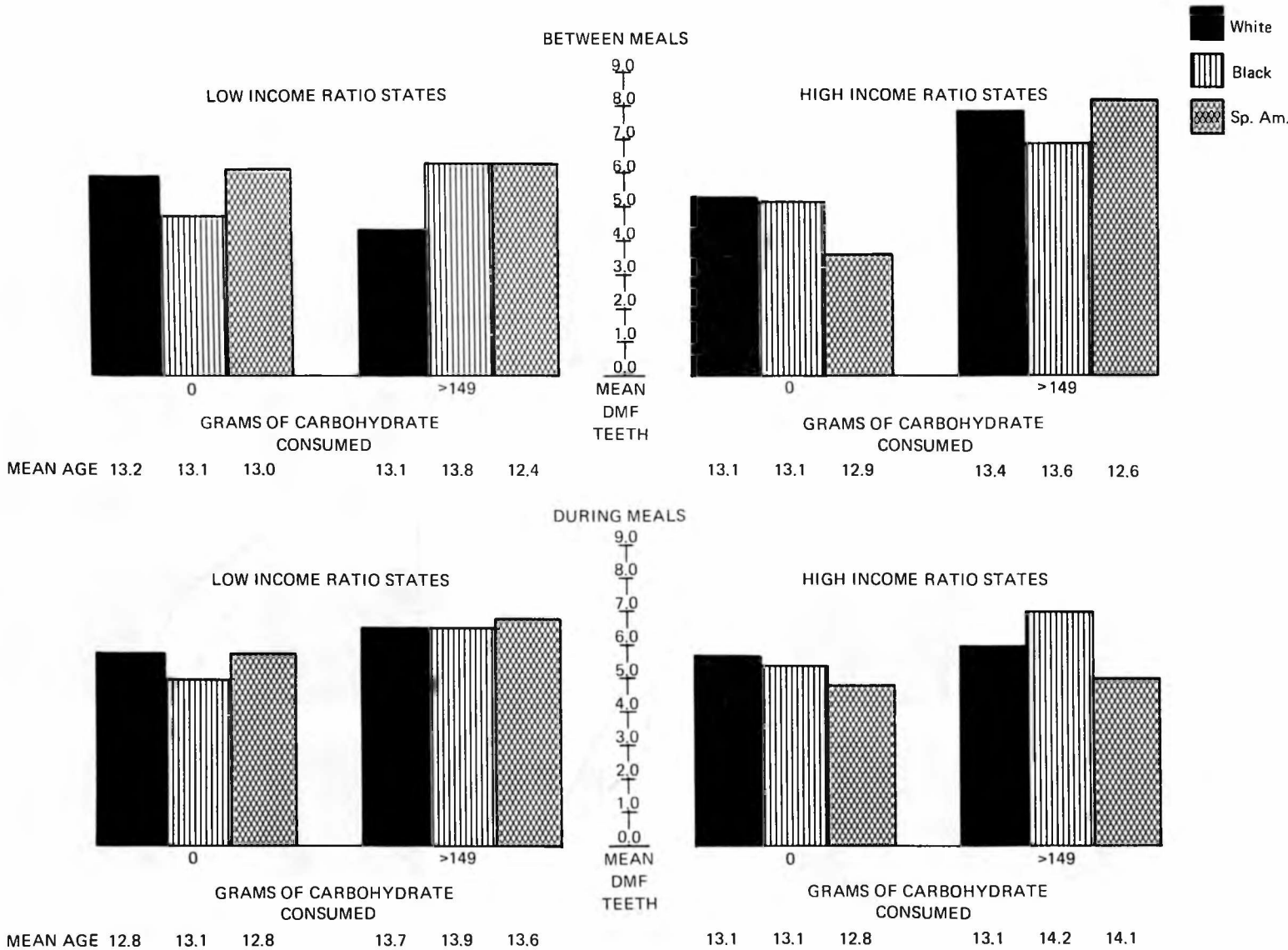


Table Reference: 6 Appendix.

Figure 6—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Eighteen Years of Age and Over by Age, Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

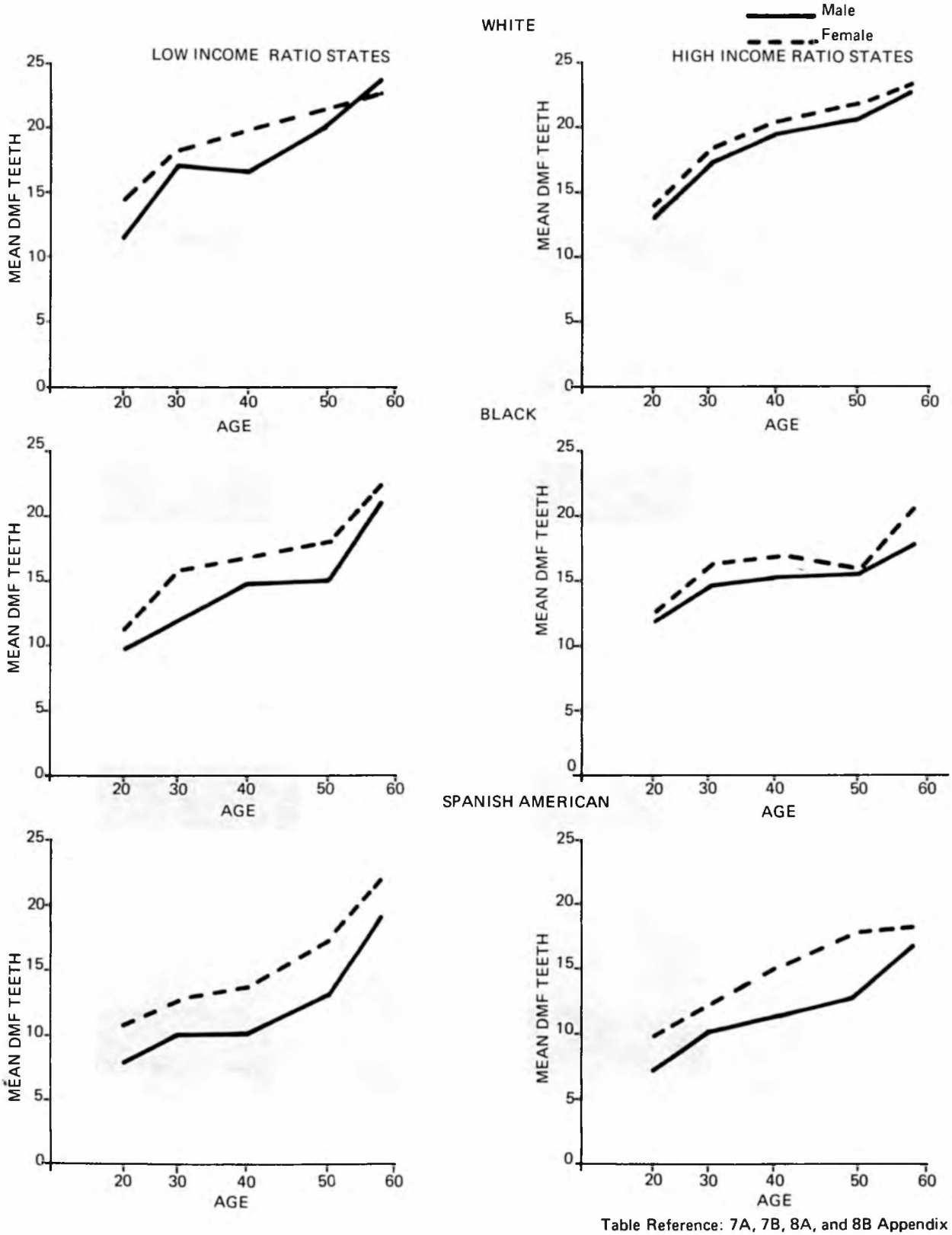


Table Reference: 7A, 7B, 8A, and 8B Appendix

Figure 7a—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Eighteen Years of Age and Over by Age, Sex, Ethnic Group, and Component Score for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)

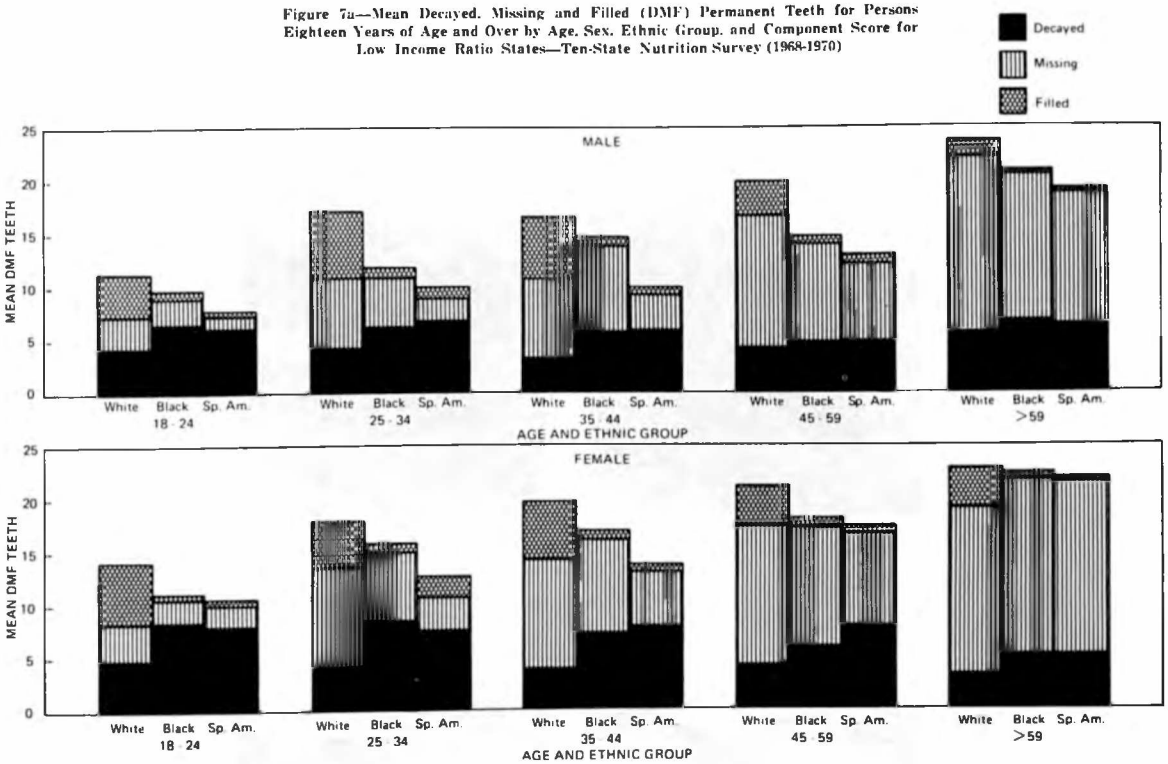


Table Reference: 7A and 7B Appendix

Figure 7b—Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Persons Eighteen Years of Age and Over by Age, Sex, Ethnic Group, and Component Score for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

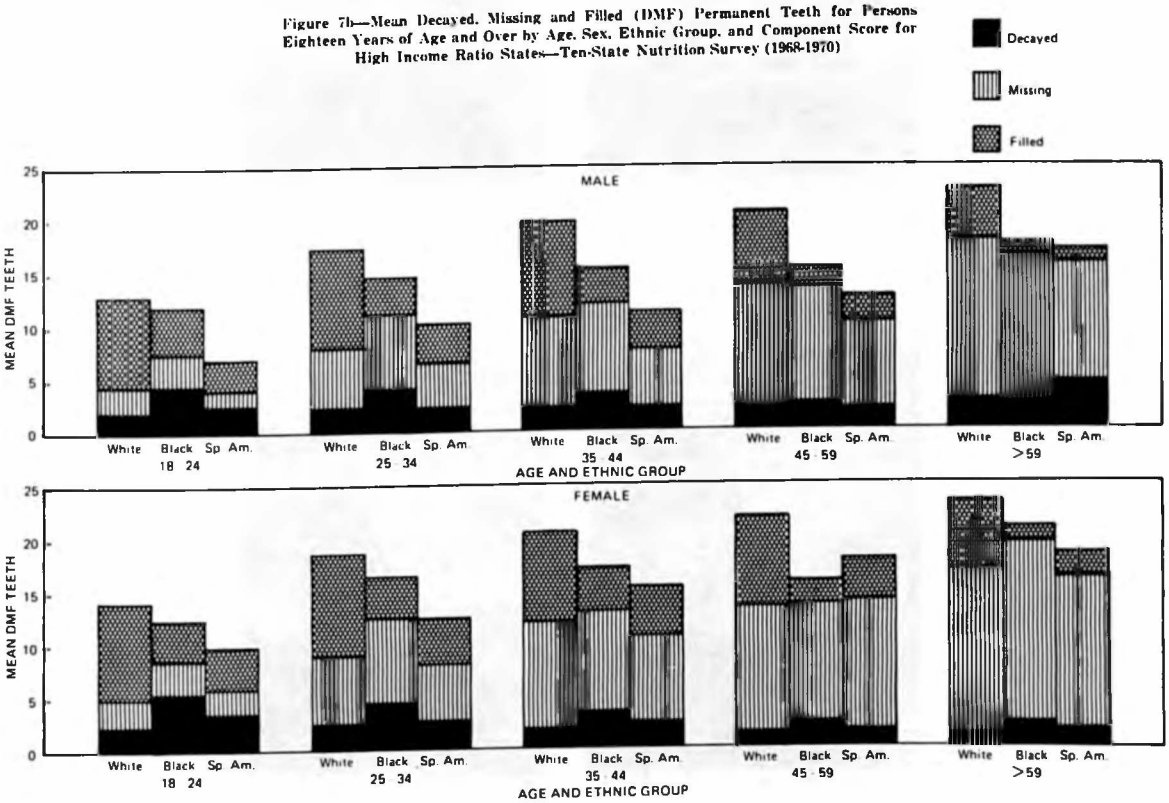


Table Reference: 8A and 8B Appendix.

Figure 8a—Percent of Persons with Periodontal Disease by Age, Sex, and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)

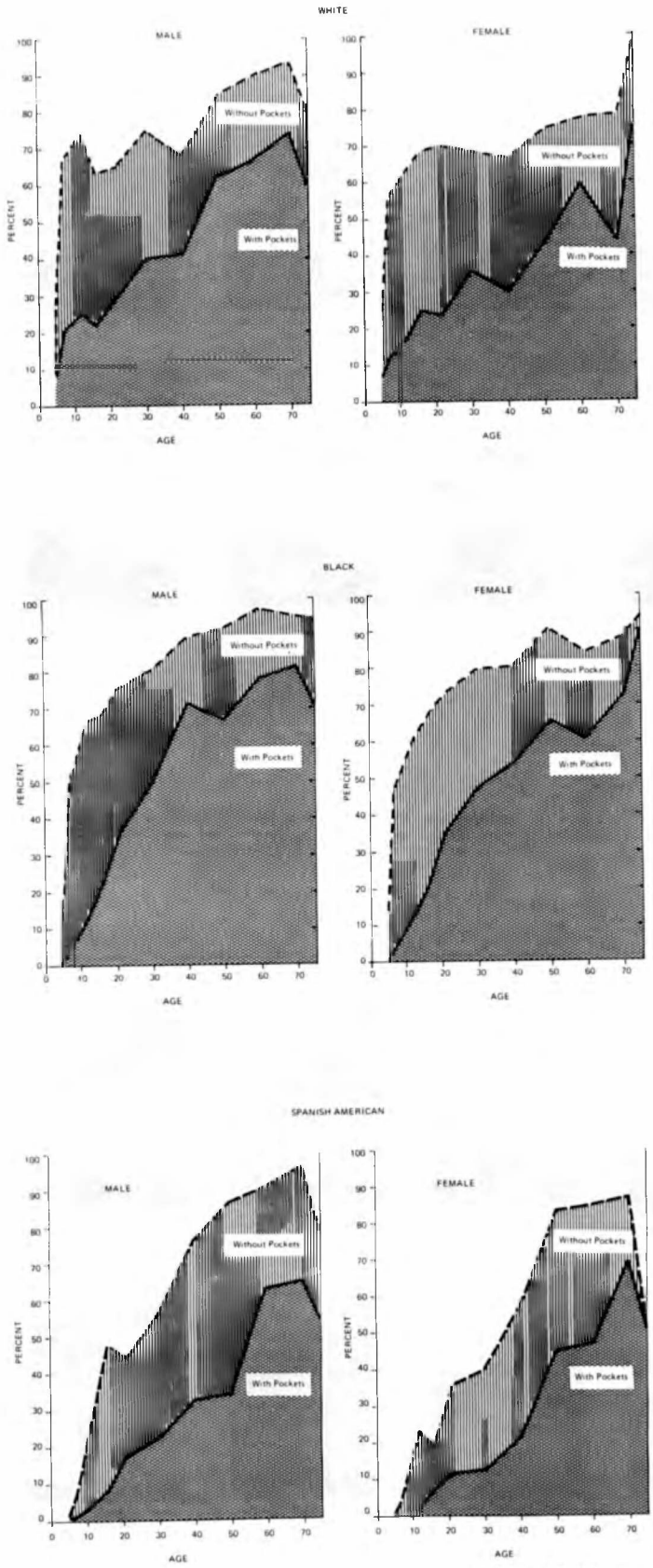


Table Reference 9A - 9F Appendix

Figure 8b—Percent of Persons with Periodontal Disease by Age, Sex, and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

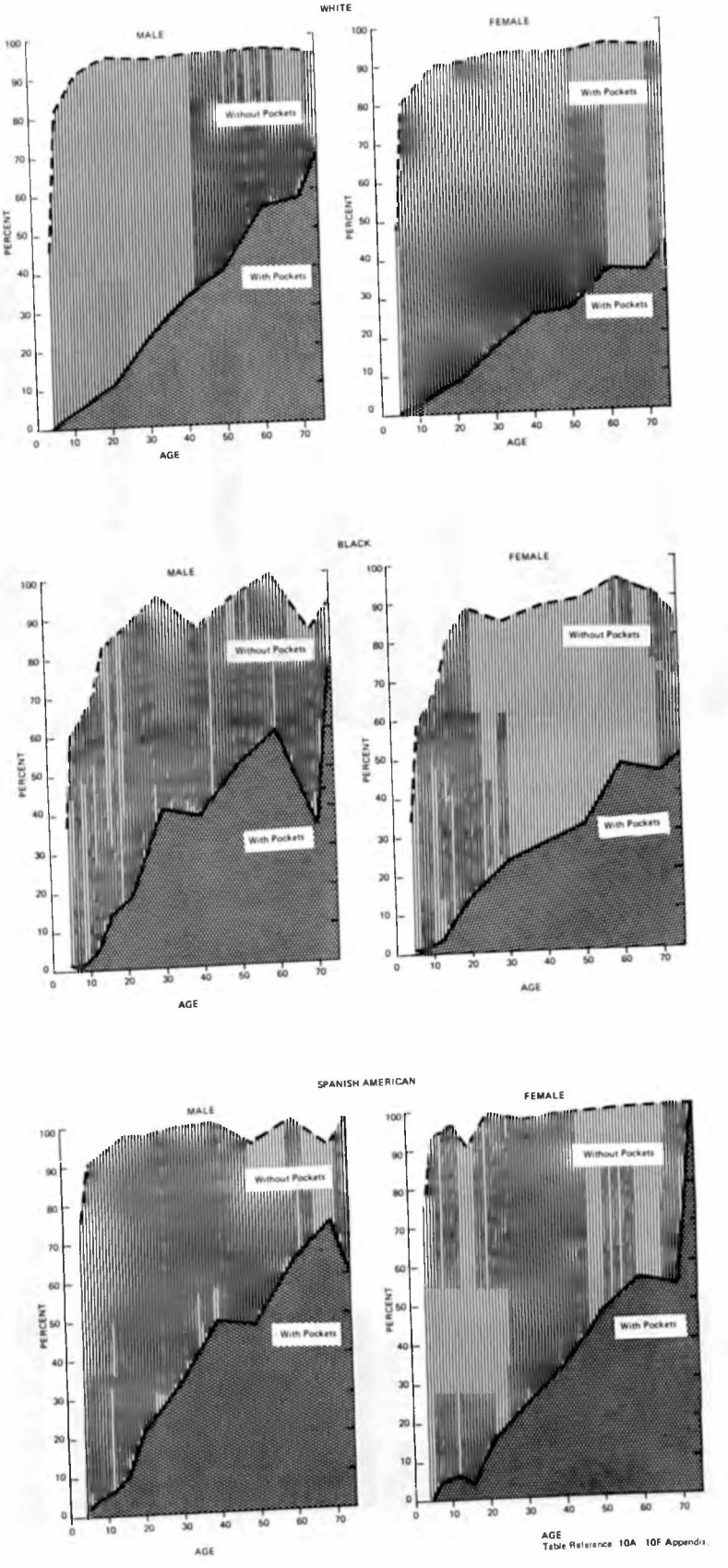


Table Reference 10A 10F Appendix

Figure 9a—Mean Periodontal Index Scores for Persons Ten Years of Age and Over by Age, Sex and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)

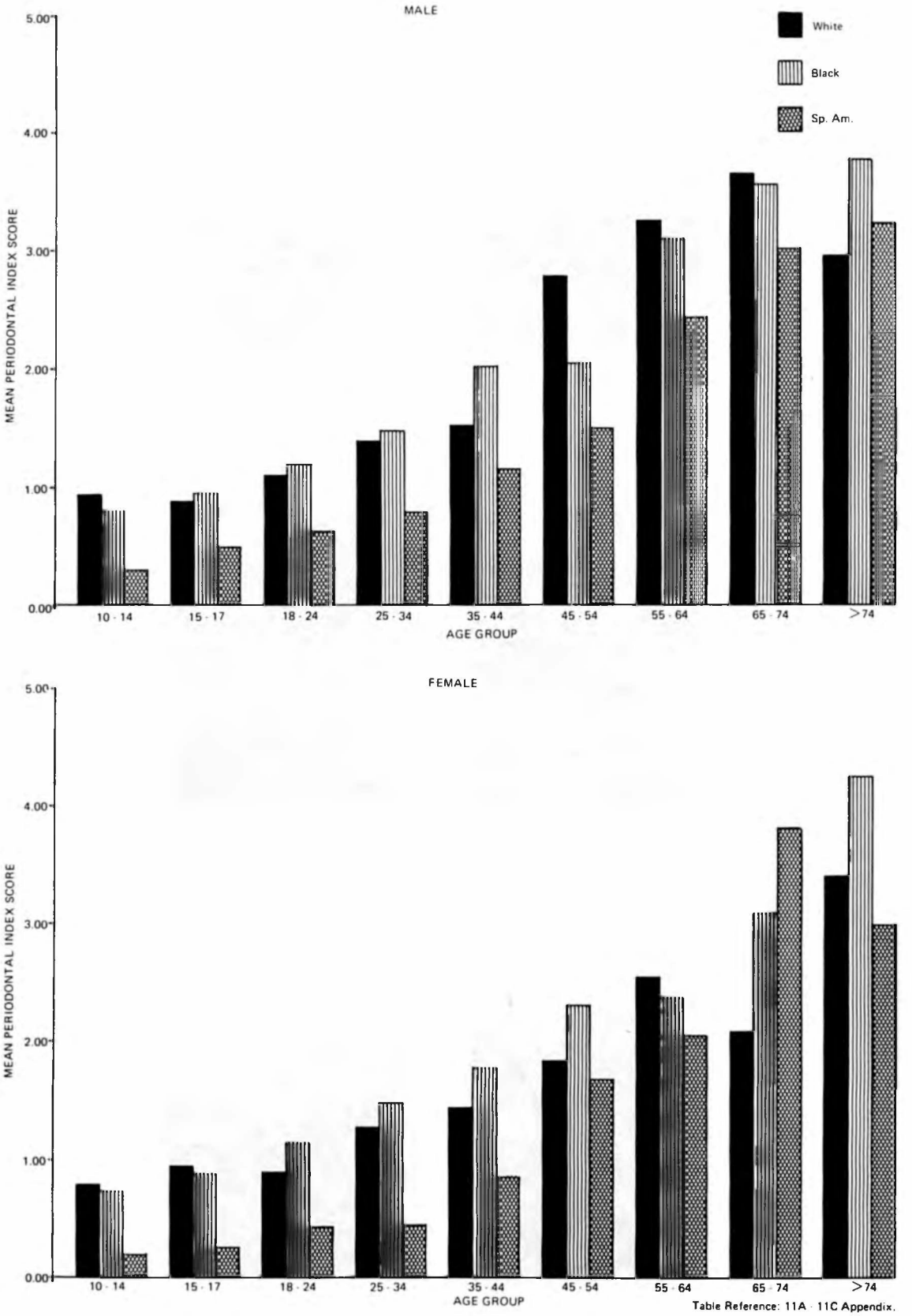
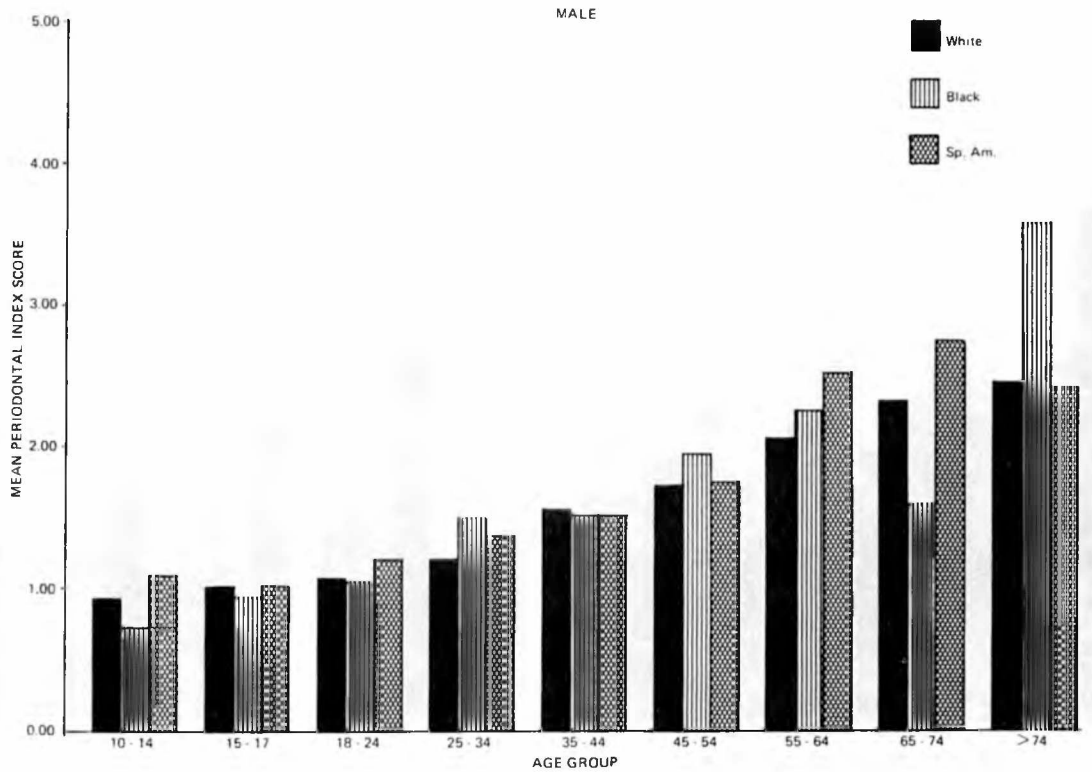


Table Reference: 11A - 11C Appendix.

Figure 9b—Mean Periodontal Index Scores for Persons Ten Years of Age and Over by Age, Sex and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)



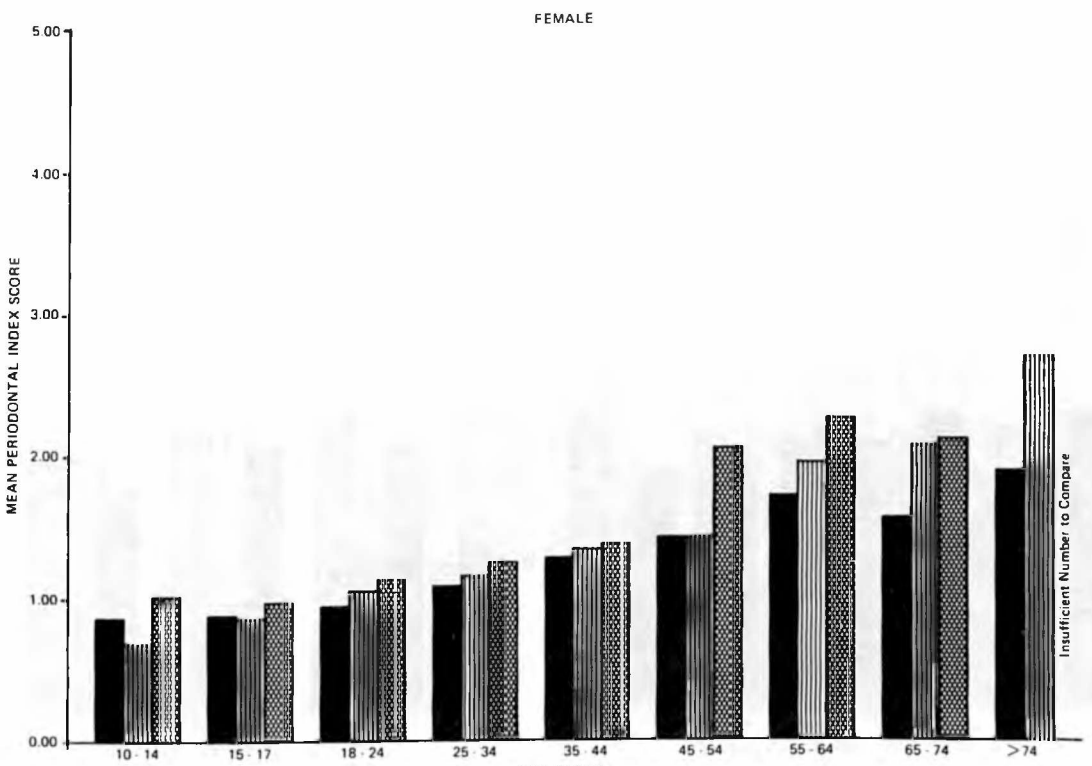


Table Reference: 12A - 12C Appendix.

Figure 10—Mean Periodontal Index Scores for Persons Thirty-five through Fifty-nine Years of Age by Sex, Ethnic Group and Poverty Income Ratio Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

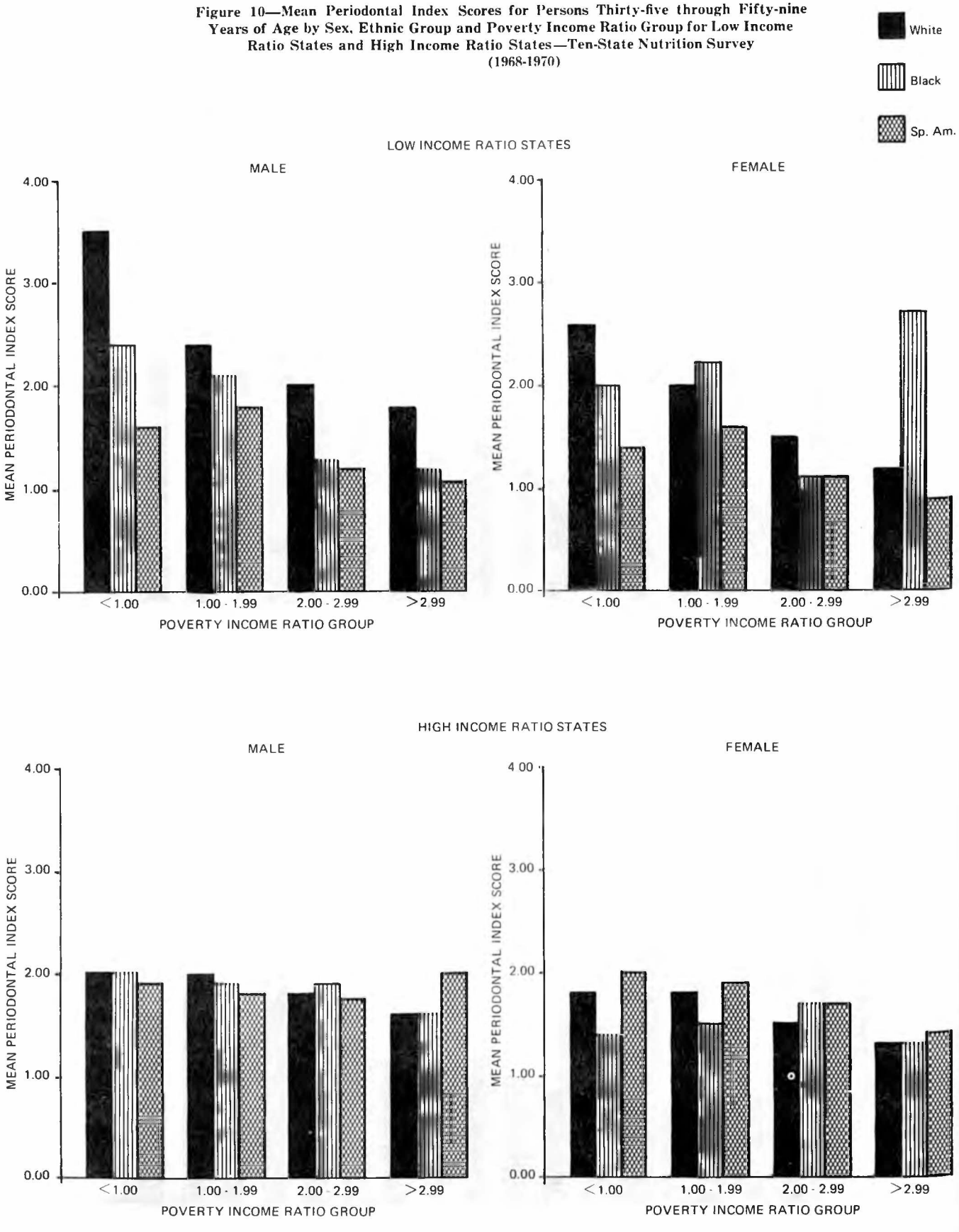
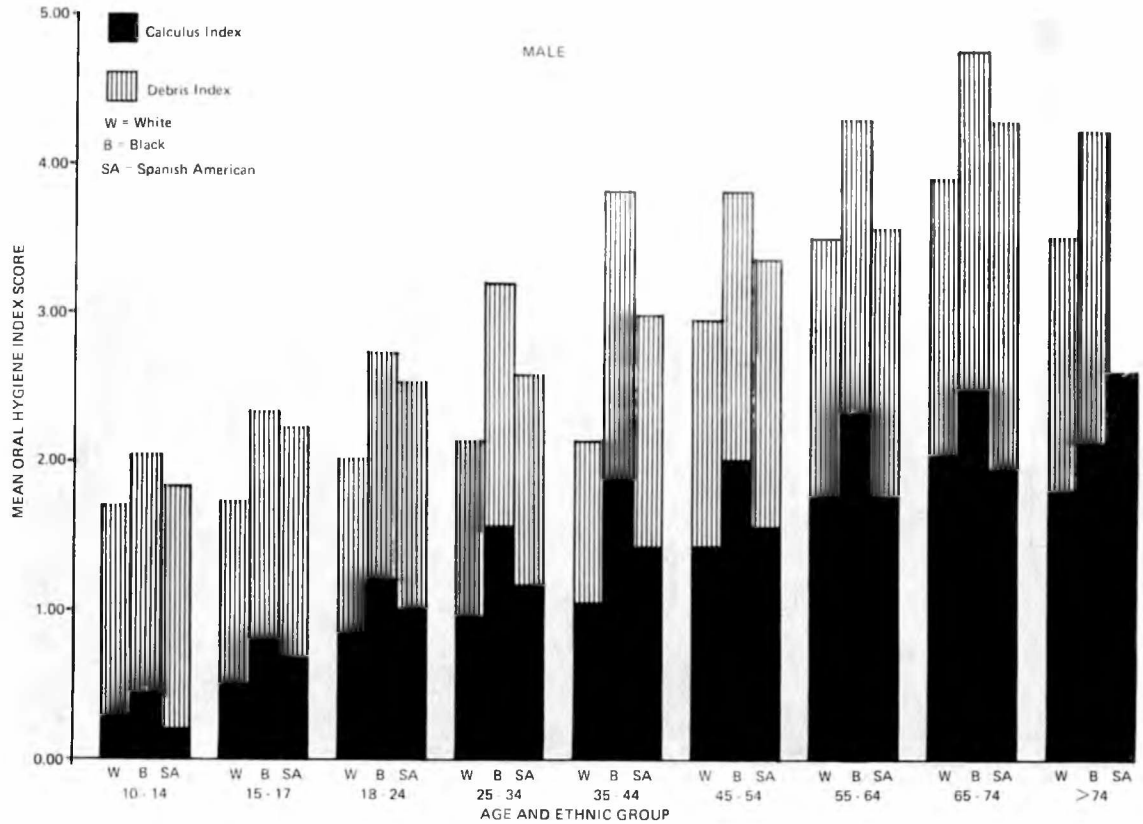
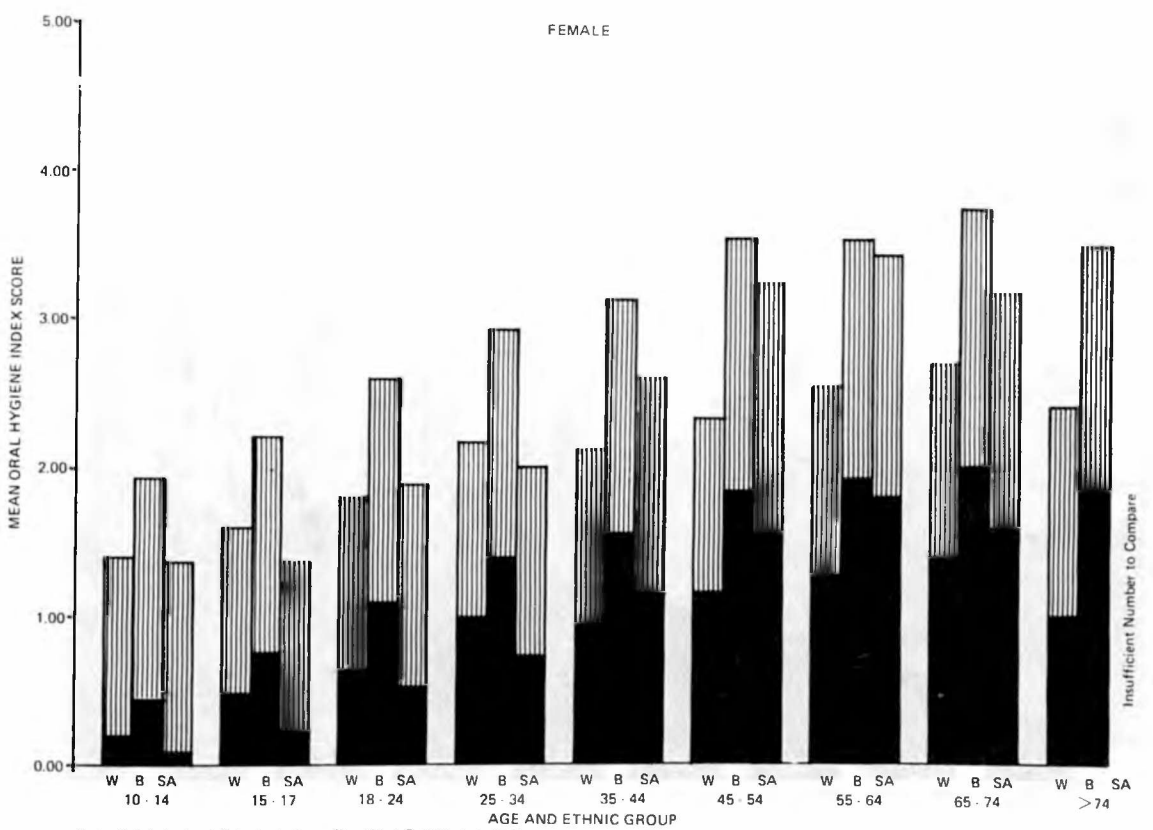


Table Reference: 13 Appendix

Figure 11a—Mean Simplified Oral Hygiene Index Scores for Persons Ten Years of Age and Over by Age, Sex, and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)

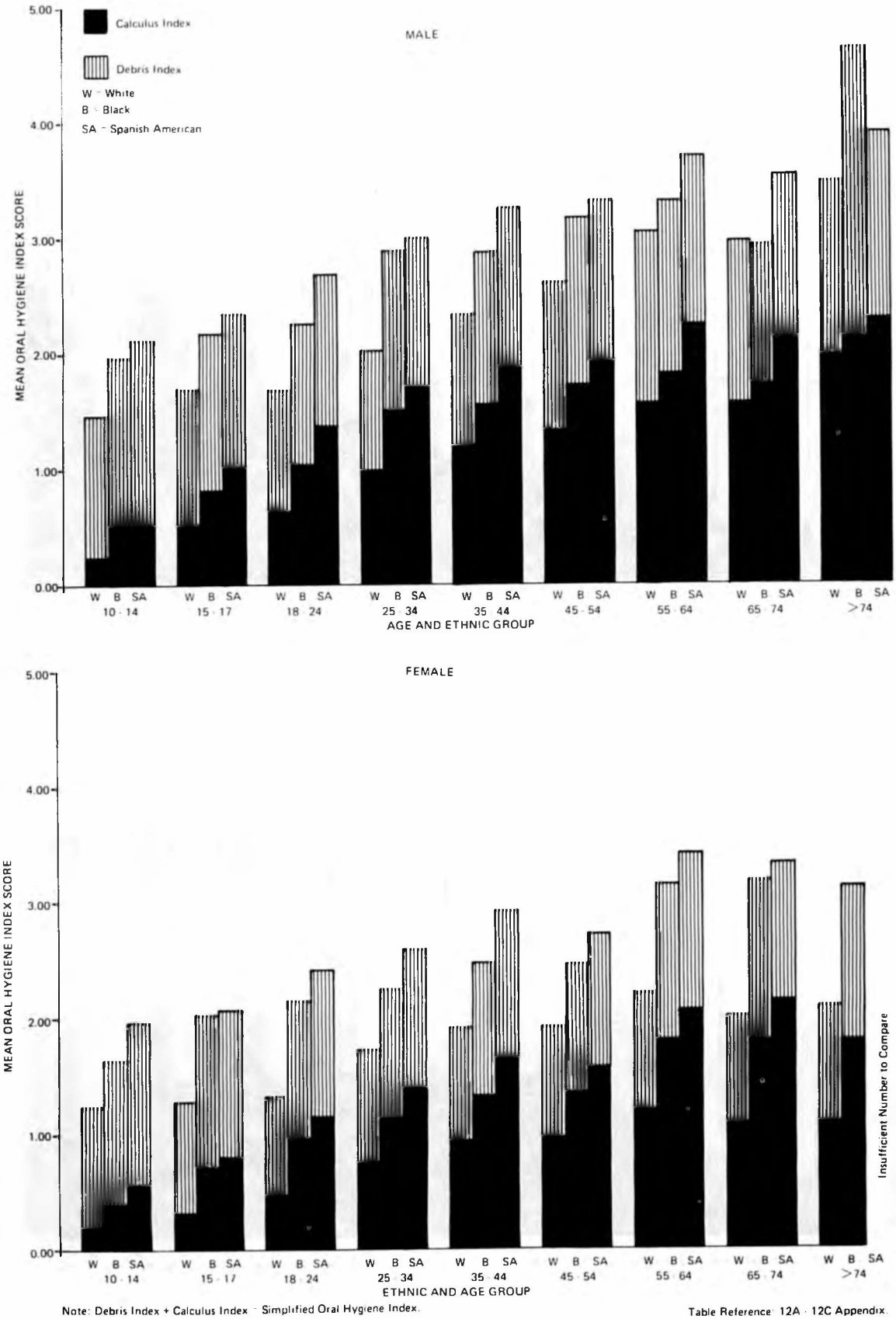




Note: Debris Index + Calculus Index = Simplified Oral Hygiene Index.

Table Reference: 11A - 11C Appendix.

Figure 11b—Mean Simplified Oral Hygiene Index Scores for Persons Ten Years of Age and Over by Age, Sex, and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)



Note: Debris Index + Calculus Index = Simplified Oral Hygiene Index.

Table Reference: 12A - 12C Appendix.

Figure 12—Mean Simplified Oral Hygiene Scores for Persons Thirty-five through Fifty-nine Years of Age by Sex, Ethnic Group and Poverty Income Ratio Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

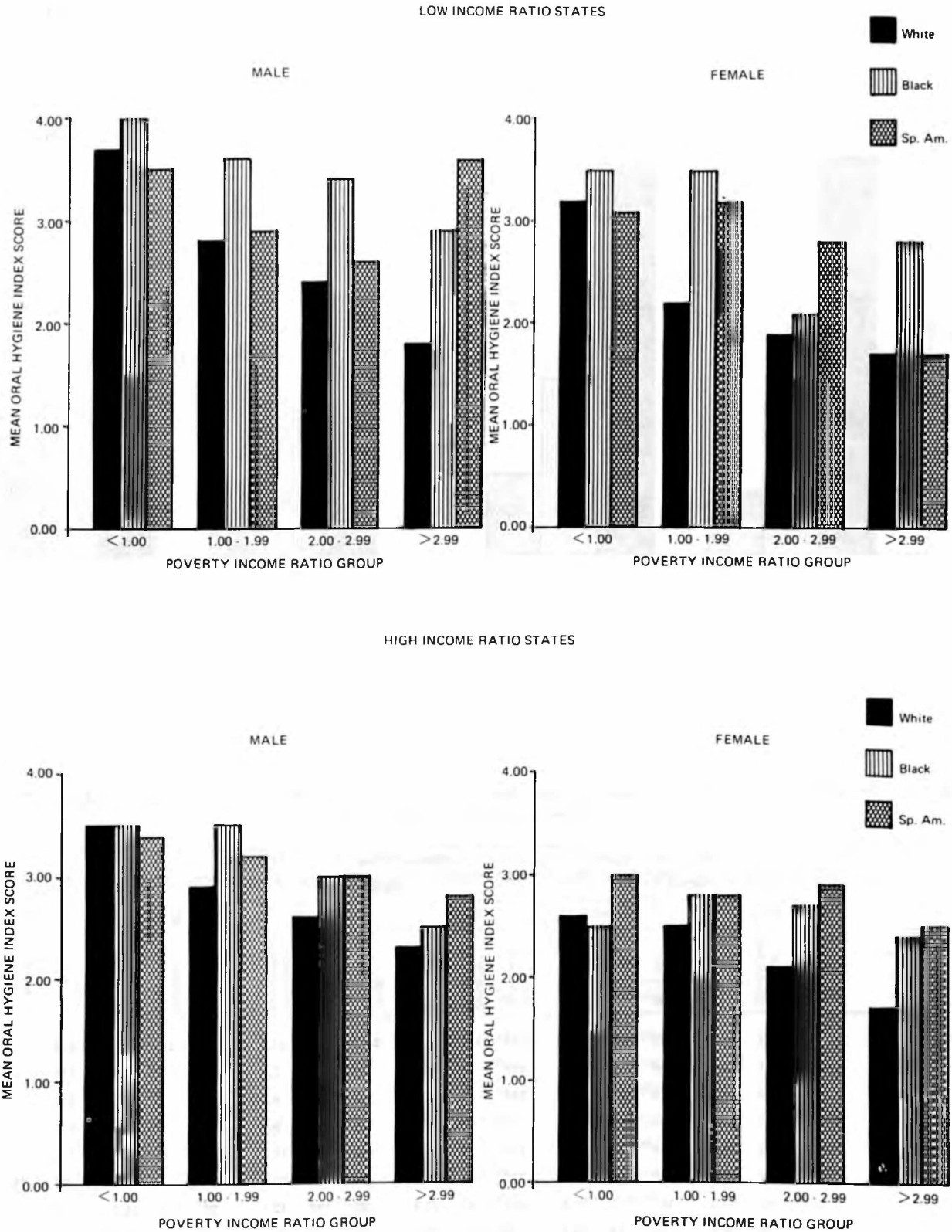


Table Reference: 14 Appendix.

Figure 13—Percent of Edentulous Persons by Sex and Ethnic Group for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)

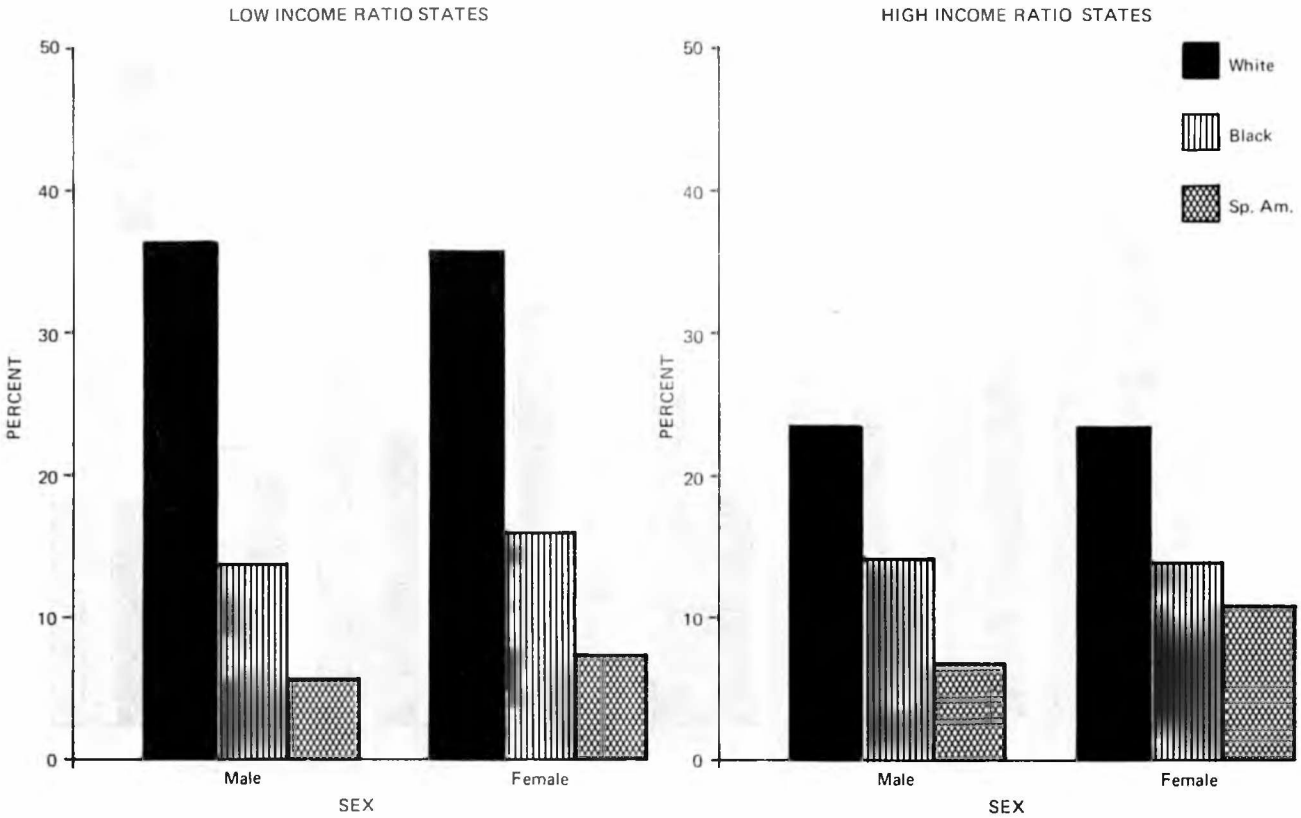


Table Reference: 1A and 1B.

Table 1A. *Percent of Edentulous Persons by Age, Sex and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group																	
	White						Black						Spanish American					
	Male			Female			Male			Female			Male			Female		
	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous
TOTAL	845	305	36.1	1452	519	35.7	1106	151	13.7	2810	450	16.0	300	17	5.7	636	47	7.4
18-24	71	1	1.4	150	1	0.7	182	1	0.5	481	5	1.0	44	0	0.0	114	0	0.0
25-34	98	14	14.3	278	31	11.2	152	2	1.3	546	22	4.0	40	1	2.5	109	1	0.9
35-44	137	23	16.8	265	74	27.9	152	6	3.9	533	33	6.2	56	0	0.0	160	4	2.5
45-54	142	35	24.6	259	91	35.1	173	25	14.5	443	74	16.7	52	0	0.0	112	8	7.1
55-64	167	92	55.1	239	126	52.7	212	38	17.9	411	127	30.9	39	4	10.3	82	15	18.3
65-74	157	90	57.3	187	132	70.6	163	52	31.9	285	120	42.1	52	8	15.4	44	13	29.5
>74	73	50	68.5	74	64	86.5	72	27	37.5	111	69	62.2	17	4	23.5	15	6	40.0

Table 1B. *Percent of Edentulous Persons by Age, Sex and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group																	
	White						Black						Spanish American					
	Male			Female			Male			Female			Male			Female		
	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous	Total Number	Number Edentulous	Percent Edentulous
TOTAL	3127	735	23.5	4786	1119	23.4	493	70	14.2	1218	166	13.6	465	31	6.7	963	103	10.7
18-24	480	4	0.8	836	18	2.2	73	0	0.0	239	1	0.4	107	1	0.9	184	2	1.1
25-34	583	32	5.5	1066	95	8.9	82	1	1.2	296	9	3.0	100	1	1.0	268	3	1.1
35-44	518	60	11.6	748	146	19.5	95	2	2.1	232	17	7.3	112	0	0.0	236	15	6.4
45-54	521	113	21.7	717	177	24.7	87	13	14.9	205	37	18.0	80	7	8.7	144	25	17.4
55-64	442	173	39.1	586	233	39.8	85	26	30.6	126	43	34.1	32	9	28.1	69	22	31.9
65-74	363	206	56.7	555	275	49.5	52	21	40.4	84	39	46.4	24	8	33.3	48	24	50.0
>74	220	143	65.0	278	175	62.9	19	7	36.8	36	20	55.6	10	5	50.0	14	12	85.7

Table 2. *Simple Correlation Coefficients between Selected Biochemical Values and Dental Scores for Persons Eighteen through Fifty-four Years of Age with Poverty Income Ratios 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Dental Score	Biochemical					
	Serum Albumin		Plasma Vitamin A		Serum Vitamin C	
	Number	Correlation Coefficient	Number	Correlation Coefficient	Number	Correlation Coefficient
DMF	3273	—0.01	1322	0.03	1762	—0.02
D	3273	0.02	1322	0.03	1762	0.07
M	3273	0.03	1322	0.02	1762	0.06
F	3273	—0.06	1322	0.01	1762	—0.16
OHI-S	3273	—0.02	1322	0.00	1762	0.09
DI	3273	—0.01	1322	0.00	1762	0.11
CI	3273	—0.02	1322	—0.01	1762	0.11
PI	3273	0.05	1322	—0.03	1762	0.12

Table 3A. *Mean Dental Scores by Quartile of Serum Albumin Values for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	1003	1003	1003	1003	123	123	123	155
First Quartile	14.68	2.32	6.86	5.50	3.20	1.35	1.85	1.78
Second Quartile	13.66	2.72	5.19	5.75	2.65	1.22	1.43	1.79
Third Quartile	14.64	2.52	6.19	5.93	2.64	1.23	1.41	2.05
Fourth Quartile	13.79	2.34	5.00	6.45	2.53	1.17	1.36	2.38

NOTE: For quartile intervals of Serum Albumin values refer to Table 15A Appendix.

Table 3B. *Mean Dental Scores by Quartile of Serum Albumin Values for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	337	337	337	337	57	57	57	77
First Quartile	12.15	5.61	4.67	1.88	3.21	1.44	1.77	2.51
Second Quartile	14.69	5.64	6.92	2.13	2.87	1.31	1.56	1.48
Third Quartile	12.51	4.30	5.95	2.26	2.94	1.20	1.74	1.63
Fourth Quartile	12.30	4.14	5.71	2.44	4.05	1.83	2.22	1.91

NOTE: For quartile intervals of Serum Albumin values refer to Table 15B Appendix.

Table 3C. *Mean Dental Scores by Quartile of Serum Albumin Values for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	370	370	370	370	40	40	40	75
First Quartile	10.72	4.53	3.28	2.90	3.07	1.29	1.78	1.43
Second Quartile	12.36	4.37	4.91	3.08	3.30	1.49	1.81	2.19
Third Quartile	10.13	2.85	3.94	3.34	3.46	1.42	2.04	1.42
Fourth Quartile	8.58	2.34	3.27	2.97	2.58	1.01	1.57	1.59

NOTE: For quartile intervals of Serum Albumin values refer to Table 15C Appendix.

Table 4A. *Mean Dental Scores by Quartile of Plasma Vitamin A Values for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	829	829	829	829	98	98	98	124
First Quartile	13.87	3.03	5.49	5.35	3.03	1.33	1.70	2.17
Second Quartile	13.75	2.86	5.70	5.19	2.31	1.02	1.29	1.45
Third Quartile	14.31	2.19	6.45	5.68	2.66	1.16	1.50	2.13
Fourth Quartile	13.89	1.99	5.85	6.06	2.73	1.34	1.39	2.16

NOTE: For quartile intervals of Plasma Vitamin A values refer to Table 16A Appendix.

Table 4B. *Mean Dental Scores by Quartile of Plasma Vitamin A Values for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	369	369	369	369	76	76	76	101
First Quartile	13.09	6.82	4.97	1.80	3.23	1.40	1.83	2.04
Second Quartile	13.47	6.63	5.37	1.47	3.71	1.78	1.93	2.44
Third Quartile	14.16	5.24	6.51	2.41	3.16	1.43	1.73	1.87
Fourth Quartile	13.37	4.82	6.18	2.37	3.71	1.56	2.15	2.24

NOTE: For quartile intervals of Plasma Vitamin A values refer to Table 16B Appendix.

Table 4C. *Mean Dental Scores by Quartile of Plasma Vitamin A Values for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	371	371	371	371	43	43	43	80
First Quartile	11.49	5.67	3.59	2.23	2.67	1.29	1.38	1.73
Second Quartile	10.71	2.89	4.04	3.77	2.92	1.31	1.61	1.45
Third Quartile	10.62	2.99	3.86	3.77	3.37	1.40	1.97	1.88
Fourth Quartile	9.71	2.49	4.34	2.88	2.87	1.11	1.76	1.18

NOTE: For quartile intervals of Plasma Vitamin A values refer to Table 16C Appendix.

Table 5A. *Mean Dental Scores by Quartile of Serum Vitamin C Values for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	909	909	909	909	105	105	105	131
First Quartile	13.24	3.19	6.70	3.36	3.53	1.66	1.87	2.80
Second Quartile	14.33	3.24	6.16	4.93	2.28	1.03	1.26	1.52
Third Quartile	14.73	1.68	5.92	7.13	2.48	1.09	1.39	1.76
Fourth Quartile	14.48	2.02	4.55	7.91	1.80	0.84	0.96	1.60

NOTE: For quartile intervals of Serum Vitamin C values refer to Table 17A Appendix.

Table 5B. *Mean Dental Scores by Quartile of Serum Vitamin C Values for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	368	368	368	368	72	72	72	94
First Quartile	14.76	7.55	6.08	1.13	3.86	1.80	2.06	2.26
Second Quartile	15.07	7.64	6.10	1.33	3.20	1.38	1.82	2.18
Third Quartile	12.01	4.05	5.77	2.18	3.40	1.60	1.80	2.52
Fourth Quartile	12.21	3.77	5.14	3.29	3.01	1.37	1.64	1.98

NOTE: For quartile intervals of Serum Vitamin C values refer to Table 17B Appendix.

Table 5C. *Mean Dental Scores by Quartile of Serum Vitamin C Values for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	354	354	354	354	40	40	40	77
First Quartile	10.34	3.49	3.66	3.19	3.59	1.44	2.14	1.43
Second Quartile	9.70	3.93	3.24	2.53	3.37	1.63	1.74	2.52
Third Quartile	11.49	3.60	4.91	2.99	2.85	1.10	1.75	1.53
Fourth Quartile	11.18	2.80	4.49	3.90	2.37	1.08	1.29	1.15

NOTE: For quartile intervals of Serum Vitamin C values refer to Table 17C Appendix.

APPENDIX

3. Dental

Table 1A Appendix. *Number of Persons Receiving Dental Examinations by Age, Sex and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Ethnic Group								
	Total	White			Black			Spanish American	
		Total	Male	Female	Total	Male	Female	Total	Male	Female
TOTAL	15182	4002	1732	2270	9385	3786	5549	1845	774	1071
<5	1974	413	209	204	1323	680	643	238	108	130
5-9	2844	631	336	295	1849	909	940	364	190	174
10-14	2751	606	314	292	1767	841	926	378	187	191
15-17	1126	239	113	126	755	323	432	132	48	84
18-24	945	194	60	134	618	172	446	133	40	93
25-34	1095	347	91	256	634	141	493	114	33	81
35-44	1150	370	122	248	632	142	490	158	43	115
45-59	1652	585	217	368	886	260	626	181	55	126
>59	1635	617	270	347	871	318	553	147	70	77

Table 1B Appendix. *Number of Persons Receiving Dental Examinations by Age, Sex and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Ethnic Group								
	Total	White			Black			Spanish American	
		Total	Male	Female	Total	Male	Female	Total	Male	Female
TOTAL	20903	13612	6111	7501	3951	1608	2343	3340	1398	1942
<5	2289	1290	663	627	514	264	250	485	240	245
5-9	3637	2160	1112	1048	794	375	419	683	326	357
10-14	3228	1884	985	899	740	362	378	604	296	308
15-17	1138	696	327	369	258	123	135	184	79	105
18-24	1844	1274	468	806	286	72	214	284	106	178
25-34	2289	1575	568	1007	362	79	283	352	97	255
35-44	1846	1192	487	705	315	94	221	339	112	227
45-59	2389	1704	734	970	402	132	270	288	97	186
>59	2248	1837	767	1070	280	107	173	126	45	81

Table 2A Appendix. *Mean Decayed and Filled (df) Primary Teeth for Males Under Seven Years of Age by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group											
	White				Black				Spanish American			
	Number of Persons	Mean Score			Number of Persons	Mean Score			Number of Persons	Mean Score		
		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled
TOTAL	342	3.2	3.0	0.2	1023	2.1	2.0	0.1	180	3.1	3.0	0.1
<1	19	0.0	0.0	0.0	63	0.0	0.0	0.0	11	1.3	1.3	0.0
1	35	0.3	0.3	0.0	90	0.1	0.1	0.0	16	0.3	0.3	0.0
2	43	1.6	1.6	0.0	148	0.6	0.6	0.0	20	1.8	1.8	0.0
3	56	3.1	2.9	0.2	162	1.8	1.8	0.0	24	4.4	4.3	0.1
4	55	4.7	4.5	0.2	193	2.8	2.8	0.0	29	3.0	2.7	0.3
5	67	5.2	4.7	0.5	169	2.9	2.9	0.0	33	4.1	4.0	0.1
6	67	3.6	3.5	0.1	198	3.6	3.2	0.4	47	3.6	3.6	0.0

Table 2B Appendix. *Mean Decayed and Filled (df) Primary Teeth for Females Under Seven Years of Age by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group											
	White				Black				Spanish American			
	Number of Persons	Mean Score			Number of Persons	Mean Score			Number of Persons	Mean Score		
		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled
TOTAL	318	2.8	2.5	0.3	977	2.0	1.9	0.1	192	2.5	2.3	0.2
<1	30	0.0	0.0	0.0	74	0.0	0.0	0.0	11	0.0	0.0	0.0
1	33	0.2	0.2	0.0	107	0.1	0.1	0.0	28	0.6	0.6	0.0
2	37	0.2	0.2	0.0	131	0.6	0.6	0.0	23	1.1	1.1	0.0
3	47	3.3	3.3	0.0	126	2.0	2.0	0.0	38	2.6	2.6	0.0
4	54	3.3	3.1	0.2	180	2.6	2.4	0.2	23	3.7	3.7	0.0
5	53	4.5	4.3	0.2	179	3.3	3.2	0.1	32	3.0	2.8	0.2
6	64	4.7	3.7	1.0	180	3.1	2.8	0.3	37	4.0	3.2	0.8

Table 3A Appendix. *Mean Decayed and Filled (df) Primary Teeth for Males Under Seven Years of Age by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group											
	White				Black				Spanish American			
	Number of Persons	Mean Score			Number of Persons	Mean Score			Number of Persons	Mean Score		
		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled
TOTAL	1074	1.8	1.2	0.6	399	1.5	1.2	0.3	366	1.9	1.3	0.6
<1	70	0.0	0.0	0.0	23	0.0	0.0	0.0	40	0.0	0.0	0.0
1	115	0.2	0.2	0.0	48	0.1	0.1	0.0	48	0.1	0.1	0.0
2	134	0.2	0.2	0.0	51	0.3	0.3	0.0	39	0.4	0.3	0.1
3	158	0.9	0.8	0.1	61	0.9	0.9	0.0	55	1.7	1.7	0.0
4	186	1.8	1.4	0.5	81	2.0	1.7	0.2	58	2.0	1.8	0.2
5	193	3.1	2.0	1.1	65	2.7	2.2	0.4	57	3.1	2.2	0.9
6	218	3.8	2.2	1.6	70	2.9	1.9	1.0	69	3.9	1.8	2.1

Table 3B Appendix. *Mean Decayed and Filled (df) Primary Teeth for Females Under Seven Years of Age by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group											
	White				Black				Spanish American			
	Number of Persons	Mean Score			Number of Persons	Mean Score			Number of Persons	Mean Score		
		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled		Decayed and Filled	Decayed	Filled
TOTAL	1016	1.9	1.3	0.6	385	1.3	1.0	0.3	380	2.1	1.5	0.6
<1	81	0.0	0.0	0.0	40	0.0	0.0	0.0	34	0.0	0.0	0.0
1	113	0.0	0.0	0.0	49	0.1	0.1	0.0	44	0.1	0.1	0.0
2	118	0.5	0.5	0.0	52	0.1	0.1	0.0	52	0.7	0.7	0.0
3	142	1.1	1.0	0.1	49	0.8	0.8	0.0	55	1.4	1.4	0.0
4	172	2.6	2.0	0.6	60	2.0	1.9	0.1	60	3.0	2.6	0.4
5	188	3.2	2.1	1.1	57	2.3	1.4	0.9	59	3.1	1.8	1.3
6	202	3.3	1.7	1.6	78	2.8	1.9	0.9	76	4.2	2.5	1.7

Table 4A Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Males Six through Seventeen Years of Age by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	696	4.4	2.9	0.4	1.1	1903	3.8	3.3	0.3	0.2	392	4.9	3.1	1.7	0.1
6	67	0.7	0.7	0.0	0.0	198	0.6	0.6	0.0	0.1	47	2.8	0.4	2.4	0.0
7	73	1.2	1.0	0.1	0.1	155	1.7	1.6	0.1	0.1	34	1.5	1.1	0.3	0.0
8	60	2.3	2.0	0.2	0.2	182	2.0	1.9	0.0	0.1	45	3.7	1.6	1.9	0.2
9	69	2.6	1.7	0.2	0.7	205	2.4	2.3	0.1	0.1	31	4.4	2.2	2.1	0.1
10	71	4.0	2.9	0.3	0.8	175	3.3	3.1	0.1	0.1	50	4.5	2.6	1.8	0.1
11	58	4.7	3.2	0.4	1.1	168	3.4	3.1	0.2	0.1	37	5.1	3.2	1.8	0.1
12	76	4.8	3.5	0.3	0.9	186	4.3	4.0	0.2	0.1	33	5.9	4.0	1.9	0.1
13	58	6.3	4.1	0.5	1.7	166	5.1	4.3	0.5	0.3	35	7.0	5.2	1.4	0.4
14	51	6.5	4.1	0.6	1.8	146	6.4	5.4	0.6	0.3	32	6.3	4.4	1.6	0.3
15	45	8.2	4.8	0.8	2.6	139	6.0	5.0	0.7	0.3	24	8.1	7.2	0 8	0.1
16	39	9.2	5.4	1.1	2.7	116	7.9	6.7	0.9	0.3	14	8.4	6.4	1.9	0.1
17	29	9.6	4.7	1.6	3.4	67	6.5	5.2	0.9	0.4	10	8.5	7.0	1.5	0.0

Table 4B Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Females Six through Seventeen Years of Age by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	660	4.9	3.1	0.5	1.2	2116	4.5	3.9	0.4	0.2	417	5.6	3.7	1.7	0.2
6	64	1.3	1.1	0.0	0.1	180	0.7	0.5	0.0	0.2	37	2.4	0.5	1.9	0.0
7	56	1.6	1.2	0.3	0.1	200	1.4	1.3	0.0	0.1	38	4.0	1.4	2.5	0.0
8	59	1.9	1.5	0.0	0.4	201	2.0	1.9	0.0	0.1	35	3.4	2.6	0.7	0.1
9	63	3.8	2.6	0.3	0.9	180	2.3	2.0	0.1	0.2	32	4.5	2.3	2.1	0.1
10	59	3.5	2.0	0.4	1.0	196	3.1	2.7	0.2	0.1	40	3.9	1.9	1.9	0.1
11	67	4.6	3.4	0.3	0.9	191	4.2	3.7	0.2	0.2	32	6.1	3.0	2.8	0.3
12	62	5.6	4.1	0.5	1.0	206	5.1	4.4	0.5	0.2	38	6.4	4.8	1.6	0.1
13	58	6.0	4.6	0.3	1.1	178	6.4	5.8	0.4	0.2	45	6.1	4.7	1.2	0.2
14	46	7.0	4.1	1.0	2.0	152	7.1	6.1	0.7	0.4	36	7.2	5.4	1.3	0.5
15	54	9.4	5.5	0.8	3.1	176	8.1	6.8	0.9	0.4	40	7.8	5.5	1.9	0.4
16	36	9.3	5.3	1.4	2.6	140	8.9	7.2	1.3	0.5	26	7.4	5.2	1.4	0.8
17	36	10.0	4.8	2.3	3.0	116	8.8	7.0	1.3	0.6	18	10.2	8.9	0.6	0.7

Table 5A Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Males Six through Seventeen Years of Age by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	2231	4.1	1.6	0.3	2.2	794	4.0	2.5	0.4	1.1	644	3.1	1.6	0.3	1.2
6	218	0.5	0.4	0.0	0.1	70	0.3	0.3	0.0	0.0	69	0.3	0.2	0.0	0.1
7	243	1.1	0.7	0.0	0.4	90	1.0	0.7	0.0	0.2	73	1.0	0.5	0.1	0.4
8	225	1.9	0.9	0.0	0.9	74	2.2	1.6	0.1	0.4	61	1.8	1.2	0.1	0.5
9	233	2.6	1.3	0.1	1.2	76	2.1	1.5	0.1	0.6	66	1.7	1.0	0.1	0.7
10	227	3.3	1.5	0.2	1.7	73	2.7	1.7	0.2	0.8	67	2.5	1.6	0.1	0.9
11	236	4.2	1.8	0.3	2.1	77	4.1	2.8	0.4	0.9	62	2.9	1.5	0.3	1.1
12	203	5.0	1.8	0.4	2.8	85	4.8	2.9	0.4	1.5	72	4.1	2.3	0.6	1.2
13	177	5.4	1.9	0.4	3.1	62	5.6	3.6	0.8	1.3	46	5.1	2.9	0.5	1.8
14	142	7.6	2.6	0.7	4.3	65	6.1	3.6	0.6	1.9	49	5.9	2.6	0.8	2.6
15	132	8.7	2.9	0.7	5.1	48	8.6	4.8	1.3	2.5	37	6.3	2.2	1.0	3.0
16	108	9.2	2.9	0.9	5.4	48	8.3	4.2	1.4	2.7	27	5.8	2.7	0.5	2.6
17	87	10.2	2.6	0.9	6.6	26	9.2	4.2	1.6	3.4	15	6.4	2.6	0.9	2.9

Table 5B Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Females Six through Seventeen Years of Age by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	2128	4.7	1.7	0.4	2.6	875	4.2	2.5	0.4	1.3	711	3.2	1.5	0.2	1.5
6	202	0.5	0.4	0.0	0.1	78	0.6	0.6	0.0	0.0	76	1.0	0.7	0.0	0.3
7	214	1.5	0.8	0.0	0.6	96	1.2	0.8	0.0	0.3	78	1.1	0.8	0.0	0.3
8	215	2.2	1.1	0.1	1.0	85	1.6	1.1	0.0	0.6	78	2.0	1.3	0.1	0.6
9	229	2.8	1.4	0.1	1.4	103	2.4	1.6	0.1	0.7	66	1.9	1.3	0.1	0.5
10	204	3.3	1.6	0.2	1.5	80	3.0	1.8	0.1	1.0	73	2.5	1.0	0.2	1.3
11	210	4.4	1.4	0.4	2.7	101	3.5	2.3	0.3	1.0	76	3.4	1.7	0.2	1.5
12	173	5.7	2.3	0.6	2.7	71	5.8	3.3	0.6	1.9	50	3.6	1.8	0.1	1.7
13	164	7.1	2.4	0.7	4.0	71	6.5	4.3	0.6	1.7	50	4.8	1.6	0.2	3.0
14	148	8.1	2.4	0.9	4.7	55	6.7	3.5	0.8	2.4	59	5.1	2.3	0.6	2.3
15	129	8.4	2.3	0.9	5.2	62	9.3	4.5	1.3	3.5	41	5.0	2.3	0.5	2.2
16	126	10.4	2.6	1.1	6.6	45	10.4	5.1	1.7	3.6	30	8.1	2.1	0.9	5.1
17	114	10.8	2.6	1.5	6.8	28	10.5	4.6	2.9	3.0	34	8.4	2.2	0.8	5.5

Table 6 Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for persons Ten through Sixteen Years of Age by Grams of Carbohydrate Consumed Between and During Meals for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970*

Carbohydrates Consumed (gm)	Ethnic Group					
	White		Black		Spanish American	
	Number	Mean	Number	Mean	Number	Mean
LOW INCOME RATIO STATES						
Between Meals						
Total	594	6.2	1661	5.5	418	6.1
0	273	5.9	837	4.7	204	6.1
1-149	298	6.6	761	6.3	207	6.0
>149	23	4.3	63	6.3	7	6.3
During Meals						
Total	594	6.2	1661	5.5	418	6.1
0	130	5.8	514	4.9	131	5.7
1-149	433	6.3	1096	5.7	276	6.2
>149	31	6.5	51	6.5	11	6.8
HIGH INCOME RATIO STATES						
Between Meals						
Total	1946	5.8	746	5.8	614	4.4
0	686	5.3	286	5.2	292	3.6
1-149	1177	6.0	412	6.1	304	4.9
>149	83	7.9	48	6.9	18	8.1
During Meals						
Total	1946	5.8	746	5.8	614	4.4
0	359	5.7	156	5.4	157	3.8
1-149	1480	5.9	545	5.8	444	4.6
>149	107	6.0	45	7.0	13	5.0

NOTE: Dietary data presented in this table are based on twenty-four hour recall. Only foods unusually high in sugar (pastries, candies, soft drinks, etc.) are presented.

Table 7A Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Males Five Years of Age and Over by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	1218	9.4	3.3	3.9	2.2	2954	6.9	3.9	2.6	0.4	649	7.5	4.0	3.2	0.4
5-9	336	1.4	1.1	0.1	0.2	909	1.4	1.3	0.0	0.1	190	3.0	1.1	1.9	0.1
10-14	314	5.2	3.5	0.4	1.2	841	4.4	3.9	0.3	0.2	187	5.6	3.8	1.7	0.2
15-17	113	8.9	5.0	1.1	2.8	322	6.8	5.7	0.8	0.3	48	8.3	6.9	1.3	0.1
18-24	59	11.4	4.3	3.1	4.0	171	9.8	6.5	2.4	1.0	40	7.8	6.1	1.2	0.6
25-34	77	17.2	4.3	6.4	6.5	139	11.9	6.1	4.9	1.0	32	10.0	6.6	2.1	1.3
35-44	99	16.6	3.1	7.5	6.0	136	14.7	5.6	8.1	1.0	43	10.0	5.7	3.5	0.9
45-59	134	20.0	4.2	12.4	3.4	219	14.9	4.9	9.2	0.8	53	13.0	4.8	7.3	0.9
60+	86	23.9	5.6	16.6	1.8	217	21.0	6.7	14.0	0.3	56	19.1	6.4	12.4	0.4

NOTE: Edentulous persons are not included.

Table 7B Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Females Five Years of Age and Over by Age and Ethnic Group for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	1547	12.4	3.6	5.7	3.1	4453	10.2	5.3	4.4	0.5	894	9.9	5.4	4.0	0.6
5-9	295	1.8	1.4	0.1	0.3	940	1.3	1.2	0.0	0.1	174	3.2	1.4	1.7	0.0
10-14	292	5.2	3.6	0.5	1.2	923	5.1	4.4	0.4	0.2	191	5.9	4.0	1.7	0.2
15-17	126	9.5	5.2	1.4	2.9	432	8.5	7.0	1.1	0.5	84	8.2	6.1	1.5	0.6
18-24	133	14.1	4.9	3.5	5.8	441	11.2	8.4	2.4	0.4	93	10.6	8.0	1.8	0.7
25-34	225	18.0	4.3	8.9	4.8	471	15.8	8.5	6.5	0.7	80	12.6	7.5	3.2	1.9
35-44	174	19.7	3.9	10.3	5.5	457	16.9	7.2	8.8	0.9	111	13.6	7.7	5.1	0.7
45-59	203	21.1	4.1	13.3	3.8	491	18.0	5.8	11.3	0.9	113	17.4	7.7	9.0	0.8
60+	99	22.6	3.1	15.9	3.6	298	22.4	5.0	16.7	0.7	48	21.8	5.0	16.4	0.4

NOTE: Edentulous persons are not included.

Table 8A Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Males Five Years of Age and Over by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	4713	10.9	1.9	4.1	4.9	1273	7.3	2.7	3.1	1.5	1127	5.7	1.8	2.2	1.7
5-9	1112	1.3	0.7	0.0	0.5	375	1.2	0.9	0.0	0.2	326	1.0	0.6	0.1	0.3
10-14	985	4.9	1.9	0.4	2.6	362	4.6	2.9	0.5	1.3	296	3.9	2.1	0.4	1.4
15-17	327	9.3	2.8	0.8	5.6	122	8.6	4.4	1.4	2.8	79	6.1	2.4	0.8	2.8
18-24	464	12.9	2.3	2.1	8.6	72	11.7	4.6	3.1	4.0	105	7.0	2.6	1.6	2.8
25-34	536	17.3	2.4	5.4	9.5	78	14.7	4.2	7.1	3.3	96	10.1	2.4	4.1	3.6
35-44	427	19.7	2.3	8.5	8.9	92	15.2	3.8	8.5	2.9	112	11.2	2.3	5.7	3.3
45-59	543	20.6	2.3	11.6	6.7	106	15.3	2.8	10.7	1.8	87	12.6	2.2	8.0	2.8
60+	319	22.8	2.9	15.4	4.5	66	17.7	2.6	14.1	1.0	26	17.0	4.5	12.3	1.1

NOTE: Edentulous persons are not included.

Table 8B Appendix. *Mean Decayed, Missing and Filled (DMF) Permanent Teeth for Females Five Years of Age and Over by Age and Ethnic Group for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age	Ethnic Group														
	White					Black					Spanish American				
		Mean Score					Mean Score					Mean Score			
	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled	Number of Persons	Decayed, Missing and Filled	Decayed	Missing	Filled
TOTAL	5755	13.2	2.2	5.3	6.0	1927	10.2	3.1	4.7	2.3	1594	8.6	2.0	3.8	2.8
5-9	1048	1.5	0.8	0.0	0.7	419	1.3	0.9	0.0	0.4	357	1.3	0.9	0.0	0.4
10-14	899	5.5	2.0	0.5	3.0	378	4.9	2.9	0.4	1.5	308	3.8	1.6	0.3	1.9
15-17	369	9.8	2.5	1.1	6.2	135	9.9	4.7	1.8	3.4	105	7.0	2.2	0.7	4.0
18-24	788	14.0	2.3	2.7	9.0	213	12.3	5.3	3.4	3.6	176	9.8	3.4	2.3	4.0
25-34	912	18.5	2.4	6.6	9.5	274	16.4	4.6	7.9	4.0	252	12.5	2.8	5.3	4.4
35-44	559	20.4	1.9	9.9	8.6	204	17.0	3.5	9.6	3.9	212	15.2	2.4	8.4	4.4
45-59	688	21.7	1.5	12.1	8.1	210	15.8	2.4	11.0	2.4	147	17.6	1.7	12.4	3.6
60+	492	23.1	1.3	15.4	6.4	94	20.7	2.4	16.8	1.5	37	18.3	1.9	14.4	2.0

NOTE: Edentulous persons are not included.

Table 9A Appendix. *Percent of White Males with Periodontal Disease by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1323	423	32.0	486	36.7	414	31.3	900	68.0
<5	136	99	72.8	25	18.4	12	8.8	37	27.2
5-9	310	105	33.9	141	45.5	64	20.6	205	66.1
10-14	313	81	25.9	152	48.5	80	25.5	232	74.1
15-17	113	41	36.3	47	41.6	25	22.1	72	63.7
18-24	59	21	35.6	21	35.6	17	28.8	38	64.4
25-34	76	19	25.0	26	34.2	31	40.8	57	75.0
35-44	99	31	31.3	27	27.3	41	41.4	68	68.7
45-54	94	14	14.9	21	22.3	59	62.8	80	85.1
55-64	61	6	9.8	14	22.9	41	67.2	55	90.2
65-74	47	3	6.4	9	19.1	35	74.5	44	93.6
>74	15	3	20.0	3	20.0	9	60.0	12	80.0

Table 9B Appendix. *Percent of White Females with Periodontal Disease by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1651	601	36.4	611	37.0	439	26.6	1050	63.6
<5	129	96	74.4	23	17.8	10	7.7	33	25.5
5-9	283	124	43.8	124	43.8	35	12.4	159	56.2
10-14	290	105	36.2	133	45.9	52	17.9	185	63.8
15-17	126	40	31.7	54	42.9	32	25.4	86	68.3
18-24	133	40	30.1	61	45.9	32	24.0	93	69.9
25-34	223	70	31.4	73	32.7	80	35.9	153	68.6
35-44	171	57	33.3	62	36.3	52	30.4	114	66.7
45-54	153	39	25.5	48	31.4	66	43.1	114	74.5
55-64	94	21	22.3	17	18.1	56	59.6	73	77.6
65-74	41	9	21.9	14	34.1	18	43.9	32	78.0
>74	8	0	0.0	2	25.0	6	75.0	8	100.0

Table 9C Appendix. *Percent of Black Males with Periodontal Disease by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	3275	1267	38.7	1248	38.1	760	23.2	2008	61.3
<5	387	337	87.1	47	12.1	3	0.7	50	12.8
5-9	876	445	50.8	395	45.1	36	4.1	431	49.2
10-14	836	280	33.5	445	53.2	111	13.3	556	66.5
15-17	319	102	32.0	145	45.4	72	22.6	217	68.0
18-24	171	41	24.0	67	39.2	63	36.8	130	76.0
25-34	138	27	19.6	42	30.4	69	50.0	111	80.4
35-44	131	13	9.9	24	18.3	94	71.8	118	90.1
45-54	137	11	8.0	34	24.8	92	67.1	126	91.9
55-64	148	4	2.7	28	18.9	116	78.4	144	97.3
65-74	97	5	5.1	13	13.4	79	81.4	92	94.8
>74	35	2	5.7	8	22.8	25	71.4	33	94.3

Table 9D Appendix. *Percent of Black Females with Periodontal Diseases by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	4723	1675	35.5	1679	35.5	1369	29.0	3048	64.5
<5	369	316	85.6	51	13.8	2	0.5	53	14.4
5-9	897	474	52.8	386	43.0	37	4.1	423	47.1
10-14	916	358	39.1	439	47.9	119	13.0	558	60.9
15-17	431	141	32.7	202	46.9	88	20.4	290	67.3
18-24	438	116	26.5	167	38.1	155	35.4	322	73.5
25-34	468	93	19.9	153	32.7	222	47.4	375	80.1
35-44	451	88	19.5	117	25.9	246	54.6	363	80.5
45-54	332	32	9.6	81	23.4	219	66.0	300	90.4
55-64	253	39	15.4	60	23.7	154	60.9	214	84.6
65-74	137	16	11.7	22	16.0	99	72.3	121	88.3
>74	31	2	6.4	1	3.2	28	90.3	29	93.5

Table 9E Appendix. *Percent of Spanish American Males with Periodontal Disease by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	744	484	65.1	161	21.6	99	13.3	260	34.9
<5	94	93	98.9	1	1.2	0	0.0	1	1.2
5-9	191	178	93.2	12	6.3	1	0.5	13	6.8
10-14	187	131	70.0	48	25.7	8	4.3	56	30.0
15-17	48	25	52.1	19	39.6	4	8.3	23	47.9
18-24	40	22	55.0	11	27.5	7	17.5	18	45.0
25-34	32	14	43.7	11	34.4	7	21.9	18	56.3
35-44	43	10	23.3	19	44.2	14	32.5	33	76.7
45-54	38	5	13.1	20	52.6	13	34.2	33	86.8
55-64	33	3	9.1	9	27.3	21	63.6	30	90.0
65-74	29	1	3.4	9	31.0	19	65.5	28	96.5
>74	9	2	22 2	2	22.2	5	55.5	7	77.7

Table 9F Appendix. *Percent of Spanish American Females with Periodontal Disease by Age and Disease Status for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1010	679	67.2	197	19.5	134	13.3	331	32.8
<5	119	118	99.2	1	0.8	0	0.0	1	0.8
5-9	174	165	94.8	9	5.2	0	0.0	9	5.2
10-14	191	147	77.0	39	20.4	5	2.6	44	23.0
15-17	84	68	80.9	10	11.9	6	7.1	16	19.0
18-24	93	60	64.5	22	23.7	11	11.8	33	35.5
25-34	80	48	60.0	22	27.5	10	12.5	32	40.0
35-44	111	47	42.3	40	36.0	24	21.6	64	57.7
45-54	84	14	16.7	32	38.1	38	45.2	70	83.3
55-64	47	7	14.9	18	38.3	22	46.8	40	85.1
65-74	23	3	13.0	4	17.4	16	69.6	20	86.9
>74	4	2	50.0	0	0.0	2	50.0	2	50.0

Table 10A Appendix. *Percent of White Males with Periodontal Disease by Age and Disease Status for High Income Ratio tSates—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	5223	706	13.5	3680	70.5	837	16.0	4517	86.5
<5	565	305	70.5	259	45.8	1	0.2	260	46.0
5-9	1110	198	17.8	888	80.0	24	2.2	912	82.2
10-14	985	86	8.7	843	85.6	56	5.7	899	91.3
15-17	327	20	6.1	279	85.3	28	8.6	307	93.9
18-24	464	20	4.3	390	84.0	54	11.6	444	95.7
25-34	533	27	5.1	384	72.0	122	22.9	506	94.9
35-44	420	17	4.0	262	62.4	141	33.6	403	95.9
45-54	377	15	4.0	210	55.7	152	40.3	362	96.0
55-64	247	7	2.8	101	40.9	139	56.3	240	97.2
65-74	136	5	3.7	52	38.2	79	58.1	131	96.3
>74	59	6	10.2	12	20.3	41	69.5	53	89.8

Table 10B Appendix. *Percent of White Females with Periodontal Disease by Age and Disease Status for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	6223	890	14.3	4511	72.5	822	13.2	5333	85.7
<5	511	265	51.9	245	47.9	1	0.2	246	48.1
5-9	1048	208	19.8	822	78.4	18	1.7	840	80.2
10-14	897	124	13.8	738	82.3	35	3.9	773	86.2
15-17	365	36	9.9	306	83.8	23	6.3	329	90.1
18-24	785	75	9.5	641	81.7	69	8.8	710	90.4
25-34	903	67	7.4	680	75.3	156	17.3	836	92.6
35-44	553	40	7.2	372	67.3	141	25.5	513	92.8
45-54	506	37	7.3	334	66.0	135	26.7	469	92.7
55-64	327	18	5 5	189	57.8	120	36.7	309	94.5
65-74	247	15	6.1	143	57.9	89	36.0	232	93.9
>74	81	5	6.2	41	50.6	35	43.2	76	93.8

Table 10C Appendix. *Percent of Black Males with Periodontal Disease by Age and Disease Status for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1488	446	30.0	830	55.8	212	14.2	1042	70.0
<5	219	138	63.0	78	35.6	3	1.4	81	37.0
5-9	374	146	39.0	227	60.7	1	0.3	228	61.0
10-14	361	108	30.0	235	65.1	18	5.0	253	70.1
15-17	122	20	16.4	84	68.9	18	14.7	102	83.6
18-24	72	9	12.5	50	69.4	13	18.1	63	87.5
25-34	78	4	5.1	42	53.8	32	41.0	74	95.0
35-44	92	12	13.0	44	47.8	36	39.1	80	87.0
45-54	72	4	5.5	31	43.0	37	51.4	68	94.4
55-64	58	0	0.0	23	39.6	35	60.3	58	100.0
65-74	28	4	14.3	14	50.0	10	35.7	24	85.7
>74	12	1	8.3	2	16.7	9	75.0	11	91.7

Table 10D Appendix. *Percent of Black Females with Periodontal Disease by Age and Disease Status for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	2123	570	26.8	1250	58.9	303	14.3	1553	73.1
<5	205	134	65.4	69	33.7	2	1.0	71	34.6
5-9	417	173	41.5	240	57.5	4	1.0	244	58.5
10-14	377	124	32.9	240	63.7	13	3.4	253	67.1
15-17	135	25	18.5	97	71.8	13	9.6	110	81.5
18-24	212	24	11.3	155	73.1	33	15.6	188	88.7
25-34	273	41	15.0	168	61.5	64	23.4	232	85.0
35-44	203	23	11.3	124	61.1	56	27.6	180	88.7
45-54	161	16	9.9	93	57.8	52	32.3	145	90.1
55-64	82	4	4.9	39	47.6	39	47.6	78	95.1
65-74	44	4	9.1	20	45.4	20	45.4	40	90.9
>74	14	2	14.3	5	35.7	7	50.0	12	85.7

Table 10E Appendix. *Percent of Spanish American Males with Periodontal Disease by Age and Disease Status for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1326	106	8.0	1007	75.9	213	16.1	1220	92.0
<5	191	46	24.1	142	74.3	3	1.6	145	75.9
5-9	335	32	9.5	292	87.2	11	3.3	303	90.5
10-14	295	17	5.8	260	88.1	18	6.1	278	94.2
15-17	79	2	2.5	69	87.3	8	10.1	77	97.5
18-24	105	3	2.8	78	74.3	24	22.9	102	97.1
25-34	96	1	1.0	63	65.6	32	33.3	95	99.0
35-44	112	0	0.0	57	50.9	55	49.1	112	100.0
45-54	71	4	5.6	33	46.5	34	47.9	67	94.4
55-64	22	0	0.0	8	36.4	14	63.6	22	100.0
65-74	15	1	6.7	3	20.0	11	73.3	14	93.3
>74	5	0	0.0	2	40.0	3	60.0	5	100.0

Table 10F Appendix. *Percent of Spanish American Females with Periodontal Disease by Age and Disease Status for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Age Group	Total Number	Disease Status: Without Disease Number	Without Disease Percent	Disease No Pockets Number	Disease No Pockets Percent	Disease With Pockets Number	Disease With Pockets Percent	Total With Disease Number	Total With Disease Percent
TOTAL	1785	98	5.5	1394	78.1	293	16.4	1687	94.5
<5	191	40	20.9	149	78.0	2	1.0	151	79.0
5-9	361	24	6.6	322	89.2	15	4.2	337	93.3
10-14	308	11	3.6	276	89.6	21	6.8	297	96.4
15-17	105	10	9.5	90	85.7	5	4.8	95	90.5
18-24	176	2	1.1	148	84.1	26	14.8	174	98.9
25-34	251	7	2.8	183	72.9	61	24.3	244	97.2
35-44	211	3	1.4	137	64.9	71	33.6	208	98.6
45-54	116	1	0.9	60	51.7	55	47.4	115	99.1
55-64	41	0	0.0	18	43.9	23	56.1	41	100.0
65-74	24	0	0.0	11	45.8	13	54.2	24	100.0
>74	1	0	0.0	0	0.0	1	100.0	1	100.0

Table 11A Appendix. *Mean Periodontal, Oral Hygiene, Debris and Calculus Scores for White Persons by Age Group and Sex for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
TOTAL												
Periodontal Index												
Number	2974	265	585	603	239	192	299	270	247	155	88	23
Mean	1.19	0.32	0.73	0.86	0.91	0.97	1.30	1.47	2.19	2.83	2.91	3.10
Oral Hygiene Index												
Number	2968	318	618	606	238	191	280	262	222	136	76	13
Mean	1.75	0.87	1.33	1.55	1.66	1.83	2.14	2.09	2.55	2.89	3.31	3.10
Debris Index												
Number	2968	318	618	606	238	191	280	262	222	136	76	13
Mean	1.21	0.81	1.24	1.31	1.20	1.15	1.16	1.15	1.29	1.41	1.57	1.56
Calculus Index												
Number	2968	318	618	606	238	191	280	262	222	136	76	13
Mean	0.54	0.06	0.10	0.24	0.46	0.68	0.98	0.95	1.25	1.48	1.73	1.54
MALE												
Periodontal Index												
Number	1323	136	305	313	113	59	76	99	94	61	47	15
Mean	1.28	0.36	0.83	0.94	0.88	1.10	1.38	1.53	2.77	3.25	3.64	2.95
Oral Hygiene Index												
Number	1334	160	328	314	113	59	71	95	84	55	41	9
Mean	1.81	0.93	1.31	1.70	1.74	1.92	2.13	2.14	2.93	3.47	3.86	3.42
Debris Index												
Number	1334	160	328	314	113	59	71	95	84	55	41	9
Mean	1.29	0.87	1.24	1.44	1.28	1.16	1.15	1.13	1.50	1.70	1.83	1.64
Calculus Index												
Number	1334	160	328	314	113	59	71	95	84	55	41	9
Mean	0.52	0.06	0.07	0.26	0.46	0.76	0.97	1.02	1.43	1.77	2.02	1.78
FEMALE												
Periodontal Index												
Number	1651	129	280	290	126	133	223	171	153	94	41	8
Mean	1.12	0.29	0.63	0.79	0.94	0.91	1.28	1.44	1.84	2.55	2.08	3.39
Oral Hygiene Index												
Number	1634	158	290	292	125	132	209	167	138	81	35	4
Mean	1.70	0.80	1.36	1.38	1.59	1.78	2.14	2.06	2.31	2.50	2.66	2.38
Debris Index												
Number	1634	158	290	292	125	132	209	167	138	81	35	4
Mean	1.14	0.75	1.23	1.17	1.13	1.14	1.16	1.16	1.17	1.21	1.27	1.38
Calculus Index												
Number	1634	158	290	292	125	132	209	167	138	81	35	4
Mean	0.56	0.05	0.12	0.21	0.46	0.65	0.98	0.91	1.15	1.29	1.39	1.00

[1] Total includes persons with unknown age.

Table 11B Appendix. *Mean Periodontal, Oral Hygiene, Debris and Calculus Scores for Black Persons by Age Group and Sex for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
						TOTAL						
Periodontal Index												
Number	7998	756	1707	1752	750	609	606	582	469	401	234	66
Mean	1.10	0.13	0.51	0.76	0.91	1.16	1.49	1.83	2.24	2.64	3.28	3.99
Oral Hygiene Index												
Number	8078	1035	1812	1762	747	594	569	535	410	333	169	47
Mean	2.19	0.83	1.59	1.98	2.25	2.63	2.97	3.23	3.58	3.82	4.15	3.81
Debris Index												
Number	8076	1035	1811	1762	747	594	569	535	410	332	169	47
Mean	1.47	0.80	1.49	1.56	1.49	1.52	1.54	1.62	1.70	1.77	1.96	1.84
Calculus Index												
Number	8078	1035	1812	1762	747	594	569	535	410	333	169	47
Mean	0.72	0.02	0.10	0.42	0.77	1.12	1.43	1.61	1.88	2.05	2.19	1.96
						MALE						
Periodontal Index												
Number	3275	387	840	836	319	171	138	131	137	148	97	35
Mean	1.02	0.13	0.52	0.79	0.95	1.19	1.48	2.03	2.05	3.10	3.56	3.76
Oral Hygiene Index												
Number	3392	542	888	841	319	168	134	123	126	122	72	22
Mean	2.13	0.84	1.63	2.05	2.32	2.74	3.16	3.65	3.78	4.31	4.71	4.18
Debris Index												
Number	3390	542	887	841	319	168	134	123	126	121	72	22
Mean	1.50	0.82	1.53	1.63	1.54	1.54	1.59	1.78	1.77	2.02	2.23	2.07
Calculus Index												
Number	3392	542	888	841	319	168	134	123	126	122	72	22
Mean	0.63	0.02	0.11	0.42	0.78	1.20	1.56	1.87	2.00	2.31	2.48	2.11
						FEMALE						
Periodontal Index												
Number	4723	369	867	916	431	438	468	451	332	253	137	31
Mean	1.16	0.13	0.50	0.74	0.89	1.15	1.49	1.77	2.32	2.37	3.08	4.25
Oral Hygiene Index												
Number	4686	493	924	921	428	426	435	412	284	211	97	25
Mean	2.23	0.81	1.55	1.92	2.21	2.59	2.91	3.10	3.50	3.53	3.73	3.48
Debris Index												
Number	4686	493	924	921	428	426	435	412	284	211	97	25
Mean	1.44	0.79	1.46	1.49	1.45	1.51	1.52	1.57	1.66	1.62	1.75	1.64
Calculus Index												
Number	4686	493	924	921	428	426	435	412	284	211	97	25
Mean	0.79	0.02	0.09	0.43	0.76	1.08	1.39	1.54	1.83	1.91	1.98	1.83

[1] Total includes persons with unknown age.

Table 11C Appendix. *Mean Periodontal, Oral Hygiene, Debris and Calculus Scores for Spanish Americans by Age Group and Sex for Low Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
						TOTAL						
Periodontal Index												
Number	1755	213	363	378	132	133	112	154	122	80	53	13
Mean	0.59	0.01	0.06	0.25	0.35	0.50	0.55	0.94	1.61	2.22	3.41	3.15
Oral Hygiene Index												
Number	1722	202	364	378	132	133	112	154	118	75	43	9
Mean	1.91	0.90	1.37	1.60	1.68	2.06	2.16	2.69	3.27	3.48	3.84	5.04
Debris Index												
Number	1722	202	364	378	132	133	112	154	118	75	43	9
Mean	1.39	0.90	1.37	1.45	1.31	1.38	1.30	1.45	1.71	1.71	2.01	2.40
Calculus Index												
Number	1722	202	364	378	132	133	112	154	118	75	43	9
Mean	0.53	0.00	0.01	0.15	0.38	0.68	0.86	1.24	1.56	1.77	1.83	2.64
						MALE						
Periodontal Index												
Number	744	94	189	187	48	40	32	43	38	33	29	9
Mean	0.60	0.01	0.07	0.30	0.49	0.63	0.79	1.15	1.46	2.44	3.01	3.23
Oral Hygiene Index												
Number	731	87	190	187	48	40	32	43	38	32	24	8
Mean	2.05	0.97	1.42	1.83	2.22	2.51	2.57	2.97	3.34	3.56	4.27	5.01
Debris Index												
Number	731	87	190	187	48	40	32	43	38	32	24	8
Mean	1.51	0.97	1.41	1.62	1.56	1.50	1.40	1.54	1.80	1.80	2.32	2.41
Calculus Index												
Number	731	87	190	187	48	40	32	43	38	32	24	8
Mean	0.54	0.00	0.01	0.21	0.66	1.01	1.17	1.43	1.54	1.77	1.95	2.60
						FEMALE						
Periodontal Index												
Number	1010	119	174	191	84	93	80	111	84	47	23	4
Mean	0.57	0.00	0.04	0.20	0.27	0.44	0.46	0.86	1.69	2.06	3.81	2.98
Oral Hygiene Index												
Number	990	115	174	191	84	93	80	111	80	43	18	1
Mean	1.81	0.84	1.33	1.37	1.37	1.86	2.00	2.58	3.23	3.42	3.16	5.80
Debris Index												
Number	990	115	174	191	84	93	80	111	80	43	18	1
Mean	1.30	0.84	1.32	1.28	1.16	1.33	1.27	1.42	1.67	1.64	1.55	2.30
Calculus Index												
Number	990	115	174	191	84	93	80	111	80	43	18	1
Mean	0.51	0.00	0.01	0.09	0.22	0.53	0.73	1.16	1.56	1.78	1.61	3.00

[1] Total includes persons with unknown age.

Table 12A Appendix. *Mean Periodontal, Oral Hygiene. Debris and Calculus Scores for White Persons by Age Group and Sex for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
						TOTAL						
Periodontal Index												
Number	11446	1076	2157	1882	692	1249	1436	973	883	574	383	140
Mean	1.06	0.42	0.77	0.91	0.95	1.00	1.15	1.41	1.55	1.88	1.83	2.12
Oral Hygiene Index												
Number	10838	996	2152	1872	688	1238	1369	889	772	479	291	91
Mean	1.54	0.68	1.15	1.36	1.48	1.45	1.83	2.10	2.21	2.47	2.35	2.67
Debris Index												
Number	10838	996	2152	1872	688	1238	1369	889	772	479	291	91
Mean	1.02	0.67	1.08	1.16	1.06	0.92	0.98	1.05	1.08	1.12	1.10	1.21
Calculus Index												
Number	10838	996	2152	1872	688	1238	1369	889	772	479	291	91
Mean	0.52	0.01	0.07	0.21	0.42	0.53	0.85	1.05	1.14	1.35	1.25	1.46
						MALE						
Periodontal Index												
Number	5223	565	1109	985	327	464	533	420	377	247	136	59
Mean	1.11	0.41	0.77	0.94	1.03	1.08	1.22	1.57	1.73	2.07	2.32	2.45
Oral Hygiene Index												
Number	5005	524	1106	980	325	461	513	401	345	201	109	39
Mean	1.66	0.67	1.17	1.46	1.71	1.66	2.02	2.33	2.59	2.82	2.95	3.46
Debris Index												
Number	5005	524	1106	980	325	461	513	401	345	201	109	39
Mean	1.10	0.65	1.10	1.24	1.19	1.01	1.03	1.12	1.25	1.24	1.40	1.51
Calculus Index												
Number	5005	524	1106	980	325	461	513	401	345	201	109	39
Mean	0.56	0.02	0.07	0.23	0.52	0.65	1.00	1.21	1.34	1.58	1.55	1.95
						FEMALE						
Periodontal Index												
Number	6223	511	1048	897	365	785	903	553	506	327	247	81
Mean	1.03	0.42	0.76	0.87	0.88	0.95	1.10	1.29	1.42	1.73	1.56	1.88
Oral Hygiene Index												
Number	5833	472	1046	892	363	777	856	488	427	278	182	52
Mean	1.44	0.69	1.12	1.25	1.28	1.82	1.71	1.90	1.91	2.21	2.00	2.08
Debris Index												
Number	5833	472	1046	892	363	777	856	488	427	278	182	52
Mean	0.96	0.68	1.06	1.07	0.95	0.86	0.95	0.99	0.94	1.04	0.93	0.99
Calculus Index												
Number	5833	472	1046	892	363	777	856	488	427	278	182	52
Mean	0.48	0.01	0.06	0.19	0.33	0.46	0.76	0.91	0.97	1.18	1.07	1.09

[1] Total includes persons with unknown age.

Table 12B Appendix. *Mean Periodontal, Oral Hygiene, Debris and Calculus Scores for Black Persons by Age Group and Sex for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
TOTAL												
Periodontal Index												
Number	3611	424	790	738	257	284	351	295	233	140	72	26
Mean	0.93	0.32	0.55	0.71	0.90	1.05	1.23	1.41	1.58	2.07	1.89	3.10
Oral Hygiene Index												
Number	3460	398	787	736	254	283	334	274	209	118	46	20
Mean	1.84	0.69	1.25	1.79	2.10	2.17	2.39	2.59	2.66	3.18	3.04	3.63
Debris Index												
Number	3459	398	787	736	254	283	334	273	209	118	46	20
Mean	1.17	0.65	1.14	1.33	1.35	1.18	1.17	1.21	1.20	1.36	1.28	1.73
Calculus Index												
Number	3460	398	787	736	254	283	334	274	209	118	46	20
Mean	0.67	0.03	0.11	0.46	0.75	0.98	1.22	1.39	1.46	1.82	1.76	1.90
MALE												
Periodontal Index												
Number	1488	219	374	361	122	72	78	92	72	58	28	12
Mean	0.91	0.33	0.56	0.72	0.94	1.05	1.51	1.53	1.95	2.26	1.61	3.58
Oral Hygiene Index												
Number	1439	202	373	360	122	72	76	91	65	50	21	7
Mean	1.87	0.71	1.28	1.95	2.18	2.25	2.86	2.86	3.15	3.28	2.91	4.60
Debris Index												
Number	1439	202	373	360	122	72	76	91	65	50	21	7
Mean	1.23	0.67	1.16	1.42	1.37	1.20	1.35	1.32	1.42	1.45	1.19	2.47
Calculus Index												
Number	1439	202	373	360	122	72	76	91	65	50	21	7
Mean	0.64	0.04	0.11	0.53	0.81	1.04	1.51	1.55	1.73	1.82	1.73	2.13
FEMALE												
Periodontal Index												
Number	2123	205	416	377	135	212	273	203	161	82	44	14
Mean	0.94	0.31	0.55	0.69	0.87	1.05	1.15	1.35	1.42	1.94	2.07	2.68
Oral Hygiene Index												
Number	2021	196	414	376	132	211	258	183	144	68	25	13
Mean	1.82	0.66	1.22	1.63	2.03	2.14	2.25	2.46	2.45	3.11	3.15	3.11
Debris Index												
Number	2020	196	414	376	132	211	258	182	144	68	25	13
Mean	1.13	0.63	1.12	1.24	1.32	1.18	1.12	1.15	1.11	1.30	1.36	1.33
Calculus Index												
Number	2021	196	414	376	132	211	258	183	144	68	25	13
Mean	0.70	0.03	0.10	0.39	0.71	0.96	1.14	1.32	1.34	1.81	1.78	1.78

[1] Total includes persons with unknown age.

Table 12C Appendix. *Mean Periodontal, Oral Hygiene, Debris and Calculus Scores for Spanish Americans by Age Group and Sex for High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Dental Index	Age Group											
	Total [1]	<5	5-9	10-14	15-17	18-24	25-34	35-44	45-54	55-64	65-74	>74
TOTAL												
Periodontal Index												
Number	2094	256	487	423	117	166	217	217	187	63	39	6
Mean	1.14	0.85	0.96	1.05	1.00	1.16	1.29	1.43	1.94	2.35	2.36	3.28
Oral Hygiene Index												
Number	2019	212	486	423	117	166	217	210	164	50	30	4
Mean	2.24	1.52	1.73	2.04	2.18	2.49	2.69	3.02	2.96	3.50	3.37	3.88
Debris Index												
Number	2019	212	486	423	117	166	217	210	164	50	30	4
Mean	1.43	1.47	1.62	1.50	1.28	1.26	1.22	1.30	1.25	1.38	1.26	1.60
Calculus Index												
Number	2019	212	486	423	117	166	217	210	164	50	30	4
Mean	0.81	0.05	0.11	0.54	0.90	1.23	1.47	1.72	1.71	2.12	2.12	2.28
MALE												
Periodontal Index												
Number	864	125	221	191	49	58	57	77	71	22	15	5
Mean	1.16	0.80	0.97	1.09	1.03	1.23	1.38	1.53	1.76	2.52	2.75	2.44
Oral Hygiene Index												
Number	832	103	221	191	49	58	57	76	67	19	10	4
Mean	2.29	1.56	1.75	2.11	2.33	2.68	3.00	3.24	3.31	3.69	3.53	3.88
Debris Index												
Number	832	103	221	191	49	58	57	76	67	19	10	4
Mean	1.51	1.52	1.63	1.61	1.31	1.31	1.28	1.36	1.38	1.45	1.41	1.60
Calculus Index												
Number	832	103	221	191	49	58	57	76	67	19	10	4
Mean	0.78	0.04	0.12	0.51	1.02	1.37	1.72	1.88	1.93	2.24	2.12	2.28
FEMALE												
Periodontal Index												
Number	1230	131	266	232	68	108	160	140	116	41	24	1
Mean	1.13	0.89	0.96	1.02	0.98	1.13	1.26	1.38	2.05	2.26	2.11	7.50
Oral Hygiene Index												
Number	1187	109	265	232	68	108	160	134	97	31	20	—
Mean	2.20	1.49	1.72	1.97	2.07	2.39	2.58	2.90	2.71	3.39	3.30	—
Debris Index												
Number	1187	109	265	232	68	108	160	134	97	31	20	—
Mean	1.38	1.43	1.61	1.42	1.27	1.24	1.20	1.27	1.15	1.34	1.18	—
Calculus Index												
Number	1187	109	265	232	68	108	160	134	97	31	20	—
Mean	0.82	0.05	0.11	0.56	0.80	1.15	1.39	1.63	1.56	2.05	2.12	—

[1] Total includes persons with unknown age.

Table 13 Appendix. *Mean Periodontal Index Scores for Persons Thirty-five through Fifty-nine Years of Age by Sex, Ethnic and Poverty Income Ratio Groups for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Poverty Income Ratio	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Total Number	Mean Periodontal Index	Total Number	Mean Periodontal Index	Total Number	Mean Periodontal Index	Total Number	Mean Periodontal Index	Total Number	Mean Periodontal Index	Total Number	Mean Periodontal Index
LOW INCOME RATIO STATES												
TOTAL	177	2.5	237	2.2	90	1.6	282	2.0	637	2.1	185	1.4
<1.00	48	3.5	144	2.4	52	1.6	101	2.6	427	2.0	127	1.4
1.00-1.99	61	2.4	66	2.1	27	1.8	84	2.0	133	2.2	44	1.6
2.00-2.99	34	2.0	15	1.3	5	1.2	38	1.5	23	1.1	4	1.1
>2.99	34	1.8	12	1.1	6	1.1	59	1.2	54	2.7	10	0.9
HIGH INCOME RATIO STATES												
TOTAL	885	1.8	173	1.9	171	1.8	1149	1.5	351	1.5	292	1.8
<1.00	75	2.0	35	2.0	40	1.9	115	1.8	98	1.4	102	2.0
1.00-1.99	188	1.9	64	1.9	86	1.8	284	1.8	139	1.5	127	1.9
2.00-2.99	254	1.8	36	1.9	25	1.8	286	1.5	65	1.7	44	1.7
>2.99	368	1.6	38	1.6	20	2.0	464	1.3	49	1.3	19	1.4

Table 14 Appendix. *Mean Simplified Oral Hygiene Index Scores for Persons Thirty-five through Fifty-nine Years of Age by Sex, Ethnic and Poverty Income Ratio Groups for Low Income Ratio States and High Income Ratio States—Ten-State Nutrition Survey (1968-1970)*

Poverty Income Ratio	Male						Female					
	White		Black		Spanish American		White		Black		Spanish American	
	Total Number	Mean O.H.I. Score	Total Number	Mean O.H.I. Score	Total Number	Mean O.H.I. Score	Total Number	Mean O.H.I. Score	Total Number	Mean O.H.I. Score	Total Number	Mean O.H.I. Score
LOW INCOME RATIO STATES												
TOTAL	179	2.8	253	3.8	91	3.3	281	2.4	643	3.4	180	3.0
<1.00	47	3.7	158	4.0	52	3.5	98	3.2	472	3.5	122	3.1
1.00-1.99	59	2.8	69	3.6	27	2.9	81	2.2	132	3.5	44	3.2
2.00-2.99	38	2.4	16	3.4	6	2.6	42	1.9	21	2.1	4	2.8
>2.99	35	1.8	10	2.9	6	3.6	60	1.7	18	2.8	10	1.7
HIGH INCOME RATIO STATES												
TOTAL	815	2.6	160	3.2	161	3.2	984	2.1	314	2.6	258	2.9
<1.00	69	3.5	33	3.5	39	3.4	99	2.6	85	2.5	94	3.0
1.00-1.99	173	2.9	61	3.5	79	3.2	227	2.5	124	2.8	107	2.8
2.00-2.99	238	2.6	31	3.0	25	3.0	247	2.1	58	2.7	40	2.9
>2.99	335	2.3	35	2.5	18	2.8	411	1.7	47	2.4	17	2.5

Table 15A Appendix. *Quartile Intervals of Serum Albumin Values for Corresponding Dental Scores for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	1003	1003	1003	1003	123	123	123	155
First Quartile	<392	<392	<392	<392	<390	<390	<390	<390
Second Quartile	392-430	392-430	392-430	392-430	390-420	390-420	390-420	390-420
Third Quartile	431-460	431-460	431-460	431-460	421-441	421-441	421-441	421-441
Fourth Quartile	>460	>460	>460	>460	>441	>441	>441	>441

Table 15B Appendix. *Quartile Intervals of Serum Albumin Values for Corresponding Dental Scores for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	337	337	337	337	57	57	57	77
First Quartile	<370	<370	<370	<370	<400	<400	<400	<390
Second Quartile	370-400	370-400	370-400	370-400	400-420	400-420	400-420	390-420
Third Quartile	401-437	401-437	401-437	401-437	421-440	421-440	421-440	421-440
Fourth Quartile	>437	>437	>437	>437	>440	>440	>440	>440

Table 15C Appendix. *Quartile Intervals of Serum Albumin Values for Corresponding Dental Scores for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Albumin Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	370	370	370	370	40	40	40	75
First Quartile	<400	<400	<400	<400	<402	<402	<402	<379
Second Quartile	400-436	400-436	400-436	400-436	402-434	402-434	402-434	379-418
Third Quartile	437-464	437-464	437-464	437-464	435-459	435-459	435-459	419-444
Fourth Quartile	>464	>464	>464	>464	>459	>459	>450	>444

Table 16A Appendix. *Quartile Intervals of Plasma Vitamin A Values for Corresponding Dental Scores for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	829	829	829	829	98	98	98	124
First Quartile	<34	<34	<34	<34	<38	<38	<38	<36
Second Quartile	34-46	34-46	34-46	34-46	38-51	38-51	38-51	36-51
Third Quartile	47-59	47-59	47-59	47-59	52-62	52-62	52-62	52-63
Fourth Quartile	>59	>59	>59	>59	>62	>62	>62	>63

Table 16B Appendix. *Quartile Intervals of Plasma Vitamin A Values for Corresponding Dental Scores for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	369	369	369	369	76	76	76	101
First Quartile	<32	<32	<32	<32	<42	<42	<42	<39
Second Quartile	32-41	32-41	32-41	32-41	42-50	42-50	42-50	39-47
Third Quartile	42-54	42-54	42-54	42-54	51-66	51-66	51-66	48-66
Fourth Quartile	>54	>54	>54	>54	>66	>66	>66	>66

Table 16C Appendix. *Quartile Intervals of Plasma Vitamin A Values for Corresponding Dental Scores for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Plasma Vitamin A Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	371	371	371	371	43	43	43	80
First Quartile	<34	<34	<34	<34	<39	<39	<39	<32
Second Quartile	34-47	34-47	34-47	34-47	39-50	39-50	39-50	32-41
Third Quartile	48-61	48-61	48-61	48-61	51-65	51-65	51-65	42-57
Fourth Quartile	>61	>61	>61	>61	>65	>65	>65	>57

Table 17A Appendix. *Quartile Intervals of Serum Vitamin C Values for Corresponding Dental Scores for White Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	909	909	909	909	105	105	105	131
First Quartile	<0.39	<0.39	<0.39	<0.39	<0.35	<0.35	<0.35	<0.35
Second Quartile	0.39-0.66	0.39-0.66	0.39-0.66	0.39-0.66	0.35-0.61	0.35-0.61	0.35-0.61	0.35-0.60
Third Quartile	0.67-1.07	0.67-1.07	0.67-1.07	0.67-1.07	0.62-1.00	0.62-1.00	0.62-1.00	0.60-1.00
Fourth Quartile	>1.07	>1.07	>1.07	>1.07	>1.00	>1.00	>1.00	>1.00

Table 17B Appendix. *Quartile Intervals of Serum Vitamin C Values for Corresponding Dental Scores for Black Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	368	368	368	368	72	72	72	94
First Quartile	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
Second Quartile	0.31-0.48	0.31-0.48	0.31-0.48	0.31-0.48	0.31-0.57	0.32-0.57	0.32-0.57	0.31-0.54
Third Quartile	0.49-0.81	0.49-0.81	0.49-0.81	0.49-0.81	0.58-0.93	0.58-0.93	0.58-0.93	0.55-0.85
Fourth Quartile	>0.81	>0.81	>0.81	>0.81	>0.93	>0.93	>0.93	>0.85

Table 17C Appendix. *Quartile Intervals of Serum Vitamin C Values for Corresponding Dental Scores for Spanish American Persons Eighteen through Fifty-four Years of Age with a Poverty Income Ratio from 1.00 through 1.99—Ten-State Nutrition Survey (1968-1970)*

Serum Vitamin C Quartiles	Mean Score							
	Persons 18-44 Years of Age				Persons 45-54 Years of Age			
	Decayed, Missing and Filled	Decayed	Missing	Filled	Simplified Oral Hygiene Index	Debris Index	Calculus Index	Periodontal Index
Number	354	354	354	354	40	40	40	77
First Quartile	<0.44	<0.44	<0.44	<0.44	<0.49	<0.49	<0.49	<0.41
Second Quartile	0.44-0.74	0.44-0.74	0.44-0.74	0.44-0.74	0.49-0.85	0.49-0.85	0.49-0.85	0.41-0.77
Third Quartile	0.75-1.09	0.75-1.09	0.75-1.09	0.75-1.09	0.86-1.19	0.86-1.19	0.86-1.19	0.78-1.11
Fourth Quartile	>1.09	>1.09	>1.09	>1.09	>1.19	>1.19	>1.19	>1.11