DOCUMENT RESUME

ED 197 838 PS 011 976

AUTHOR Landsberger, Betty H.
TITLE Adolescents' Health Status: Sex Differences Among Whites and Nonwhites.
PUB DATE Jul 80
NOTE 27p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adolescents: Clinical Diagnosis: Comparative Analysis: Females: Interviews: Males: National Surveys: *Physical Health: Questionnaires: *Racial Differences: Self Evaluation (Individuals): *Sex Differences
IDENTIFIERS Health Examination Survey

ABSTRACT

The purpose of this study was to determine differences in health status between the sexes in both white and nonwhite adolescents. Data from the 1969 Health Examination Survey's large sample of 12- to 17-year-olds were used to build a group of scales (Exam, Home and Youth Scales). The information obtained from each scale was combined to produce a measure of the health of each adolescent. Each scale was made up of items from (a) a clinical study of each subject: (b) interviews with parents about the subject's past and present health: (c) questionnaire data obtained from each subject: and (d) school officials' ratings of each subject's adjustment at school. Three major findings were highlighted. (1) The health of females among white adolescents was somewhat poorer than that of white males. (2) The health of nonwhite females was poorer than that of the other three sex-race groups. (3) Correlation of youths' own ratings of their health with estimates from others, including clinicians, showed females to be somewhat more accurate than males in self-rating their health. (Author/MP)

ADOLESCENTS' HEALTH STATUS: SEX DIFFERENCES AMONG WHITES AND NONWHITES

Betty H. Landsberger, Ph.D.
Assistant Professor
School of Nursing
University of North Carolina at
Chapel Hill

To be published in Journal of Adolescent Health Care, 1981.

ABSTRACT

Adolescents' Health Status: Sex Differences among Whites and Nonwhites

This study was designed to determine differences in health between sexes in white and nonwhite adolescents. The data are from the Health Examination Survey's large national sample of 12 to 17 year olds. Comparisons are made between males and females for whites and nonwhites of their scores on scales constituting different but complementary views of their health. Thus, there were scales of items from a) a clinical study of each subject, b) interviews with parents about past and present health, and c) questionnaires from the youths themselves. To these was added a single rating from a school official on the youth's adjustment at school. Three important findings emerged: 1) the health of white adolescent females was somewhat poorer than that of white males, 2) the health of nonwhite females was poorer than the other three sex-race groups, and 3) the correlation of youths' own rating of their health with estimates from others, including clinicians, showed females to be somewhat more accurate than males.

This paper is the second in a series on the health of adolescents by race-gender groups. The first article [1] presented a series of analyses by sex-race groups of the pertinent data on adolescent health from the Health Examination Survey (HES) Cycle III[2]. This paper presents the structure of the scales for measuring health status and the results from over 6,000 subjects between 12 and 17 years of age from the Health Examination Survey data.

The problems of measurement of gender differences in health status have been recently addressed in several articles [3,4,5,6]. Controversy continues over which gender should be regarded as having poorer health. Males have higher mortality rates and higher rates for serious chronic diseases [5,7]. However, virtually every survey of prevalence of illnesses of all kinds has found higher rates for women [3,4,5,6,7]. Several researchers regard the latter finding as an artifact produced by the greater readiness of women to report illness [6] and to seek health care for symptoms [5]. Others, however, disagree with the "artifact" explanation and accept the greater morbidity of women as a real difference between the genders [4]. Apart from inquiries limited to mental health differences, [8,9] no previous research of a large sample population has examined the matter of how the genders differ in health status at the stage of adolescence. Nor has the question of sex differences in accuracy of self-reports of the health of adolescents been studied. These are the questions addressed in this study.

The Health Examination Survey data [2] contained data which make it possible to obtain estimates of the state of health of adolescent subjects from a wide variety of sources. Thus, there are data for looking

at similarities and differences among the estimates of different sources assessing the health status of teenagers. This is an almost unique situation. Very few surveys of any population have gathered data regarding physical conditions for each subject from a thorough clinical study, from a parent interview, a questionnaire completed by the subject (him/her) self, and data about adjustment at school from an official of the school (principal, teacher, or counselor). The opportunity was presented here to check the view of (his/her) health from the youth's own report against these others and against a grand total "Health Status score" wherein all views are combined. Whether in fact females were less accurate in their estimates of their own health could be determined by comparing their self reports with scores from the other sources.

Because the Health Examination Survey included a large number of nonwhite as well as white subjects, it is possible to look separately at differences between the sexes among racial groups. In the earlier paper[1] Landsberger outlined the picture presented by each of the sex-race groups with respect to some morbidity measures and the leading causes of mortality. Causes and rates of mortality were found to differ for sex-race groups among 15 to 19 year olds as well as adults. It was concluded that there was a need to look at sex differences in adolescents' health among whites and among nonwhites separately.

Methods

The Health Examination Survey data were collected between 1966 and 1970. The data set included items of information about the health of the youths from all of the following sources:

a) a clinical-technical view, based on a thorough physical examination, a dental examination, and reports from several laboratory tests;

b) a view from the parent of the youth obtained by an interview which included health-related items from birth to adolescence;

c) a view from the youth him/herself, expressed in a long questionnaire which contained several health-related items;

d) a rating from a professional in the school attended by the youth (either prinicipal, teacher, or counselor) of the youth's adjustment to school.

The Health Examination Survey data have been employed in the present study to build a group of scales which serve as complementary measures of the health of the large national sample of adolescents surveyed. Items from each of these sources, Examination, Home Interview, and Youth Questionnaire, were used to make up three scales: an Exam, Home, and a Youth Scale. Totals of the three scales were then added together with the School Adjustment rating (a single score) to constitute a total score for each subject, the Health Status score.

The items originally selected for preliminary examination of differences in health by race-gender groups[1] appear in the Appendix of this article. The first step in developing the scales from the clinical study (for the Exam Scale), from the parent interview (for the Home Scale) and from the youth questionnaire (for the Youth Scale) was to obtain separate intercorrelations among the items from each source for the race-gender groups. Items which proved to have some agreement with some or most of the other items among all of the four race-gender groups were selected. This meant that items with small significant correlations to some other items from the same source were grouped together to form one scale.

The next step was to obtain Pearson correlations for each item with the total of items, or the constructed scale. These correlations for each of the race-gender groups appear in Table 1, as do the correlations of these separate measures of health with each other. The totals for the three scales, Exam, Home, and Youth, were added together with the subject's School Adjustment rating to yield a general measure of Health Status, for which correlations also are given in Table 1.

-- Table 1 goes here --

Results

Table 2 presents the results for Health Status scores and shows how the race and gender groups compare. Health Status is the measure representing the addition of scores for the Health Exam Scale, Home Scale, and the Youth Scale and the School Adjustment rating.

-- Table 2 goes here --

For the Health Status measure, mean scores and standard deviations are given for the total population, for the white and nonwhite categories, and for all males and all females. Mean scores for males and females within each racial category also appear. In each case the differences between the means for the racial groups and for the genders were tested by a t-test for level of significance of the difference (10). Also in Table 2 appear the Pearson correlations for the scores on Health Status and the various scales which were added together for the Health Status score.

The mean score for Health Status for all white adolescents, 14.01, was .42 above the mean for all nonwhite adolescents, 13.59. The t for this difference between the racial categories is 4.40, significant beyond the .0001 level of confidence. There are gender differences in favor of males

over females for the total population and among whites and nonwhites. This difference in mean scores among whites (male = 14.15, female = 13.85) was .30, shown by the t test to be significant beyond the .0001 level. The t was significant at the .05 level of confidence for the difference among nonwhites of .40 between the means for males (13.80) and females (13.40).

The distributions of scores for males and females among whites and among nonwhites are presented in Table 4. Examination of the distributions from lowest to highest Health Status scores for males and females shows that among whites, the gender group differences occurred at the lower end of the range of scores. That is, higher percentages of white females than white males had low scores, while the percentages for white females and males scoring above the mean were similar.

Among nonwhites, females scored below the males above and below the mean, although higher percentages of nonwhite females than males made scores far below the mean. Approximately 30 percent of nonwhite females scored below 11.6, one standard deviation under the total group's Health Status mean score of 13.95.

-- Table 3 goes here --

The mean scores, standard deviations, and between-group differences are presented in Table 3 for the clinical study (Exam Scale), the parent interview (Home Scale), the questionnaire completed by the youth (Youth Scale), and the rating for adjustment at school.

The data in Table 3 indicate that differences between the races are large enough to be significant on all three Health Scales, with whites always having the higher scores. Also on the School Adjustment rating, approximately 8 percent more nonwhites than whites were rated "maladjusted."

Thus, across the board on the different ratings of health as well as on the total Health Status score, whites score significantly higher than the nonwhite adolescents.

How about the differences between males and females? Again, as on the Health Status score, males' scores are higher than females'. On the Exam Scale and on the Youth Scale the differences are large enough to be statistically significant. For the Health Exam, the mean for males was 4.8 and the mean for females, 4.7, the difference of .09 point being significant beyond the .001 level of confidence. There was an even greater gender difference on the Youth Scale where the male mean was 3.7 and the female mean 3.4.

On the Home Scale, the higher male score was not large enough to be significantly different from the female. The mean for males on the Home Scale was 4.66, only .05 higher than the female mean of 4.61. There was one instance where females had an advantage; the percentage of females rated as maladjusted at school, 13 percent, was ell below the male percentage of 20 percent rated as maladjusted at school.

Differences between average scores for males and females were examined within each racial category separately. Again, excepting for School Adjustment, males' scores were always higher than females'. For the Exam Scale, the .06 between white males and females was not a significant difference, nor was the .21 by which the males exceeded females among nonwhites. On the Home Scale the males' and females' mean scores were even more close together for both racial categories. The male mean for whites was .03 above the white female mean; among nonwhites, the mean for males was .13

above the nonwhite female mean. Neither of these differences was large enough to approach statistical significance.

However, on the Youth Scale males' scores were significantly higher than females' among whites and among nonwhites. The difference among whites of .28 between the male mean of 3.7 and the females' 3.42 was found to be significant. The same was true for the difference of .35 between the mean for nonwhite males of 3.98 and the nonwhite females' mean of 3.63.

For School Adjustment females were less likely than males to be rated maladjusted among whites. There were 6 percentage points of difference between the white males' 19 percent "maladjusted" and the white females' 13 percent. Among nonwhites, the male and female percentages were 13 percentage points apart. Nonwhite females were rated "maladjusted" at a rate of 17 percent, while this figure for nonwhite males was a very high 30 percent.

The distribution of scores for the three different Health scales as well as for Health Status were also examined and these appear in Table 4. These data are necessary because of the special importance in health measures of the low scores as indicators of possibly seriously poor health. When the cumulative percentages for the males and females within whites are examined, it is evident that in percentages scoring at and near the bottom, there are more females than males, while in percentages for higher scores, the males and females appear to be close together. Only on the Home scale were percentages of males and females very similar at the different brackets between low and high scores on the scale.

Among nonwhites it is clear that the percentages of females making the lowest scores and those scoring just above the lowest scores exceeded males

even more than was the case among whites. This is true, for example, on the Health Exam Scale where very low scores almost surely would be reflective of very poor health. Scoring at the lowest bracket of the range of Health Exam scores, there were 11 percent of white females, 3 percentage points above the white males' 8 percent. Among nonwhites, there were 20 percent of females making such low scores. This was 7 percentage points higher than the nonwhite males' 13 percent.

Correlations of Scales. In the correlations of the Health Status score with the scales representing the separate views of health, there is a similarity between males and females rather than great differences. Some differences between the genders in both racial groups are of note because of their bearing upon the question of accuracy of reporting health status. The intercorrelations among the scales and with Health Status score appear in Table 1.

Both among whites and nonwhites, the correlation of the Youth Scale, the youth's own report of his or her health, with the Health Status score was higher for females than males: .72 and .70, respectively, for females as compared to .65 and .62 respectively for males. This was also true with the correlations of the Exam scale (the clinical assessment) with the Health Status score in both racial groups. Note that this correlation with the clinical study tends to give confidence in the validity of the Health Status measure, especially for the females' health. There was greater correspondence of the Exam Scale with the score for Health Status among females (.60 and .63, for white and nonwhite respectively) than among males (.52 and .50, for white and nonwhite respectively). Inspection of correlations

between the Youth Scale and the Exam Scale shows that among whites the correlation was .16 for females and .09 for males, and among nonwhites for females .18 and for males, .03, a non-significant correlation. The difference between the genders in accuracy of assessment of their own health suggested by these correlations is that female adolescents report their own health status somewhat more accurately than do male adolescents.

Correlations of Items with the Scales. The correlations of items making up each scale with the scale total appeared in Table 1. As for the Exam Scale, the sex groups within the two racial categories showed some interesting differences, although there was a generally high similarity. For the item "Diagnosis," the physician's final estimate of the presence or absence of a significant health problem, the correlations with the total Exam Scale were higher for females than for males for both whites and nonwhites; i.e., .55 and .51 respectively for females as compared to .50 and .47 respectively for males. The same was true for the estimate of Nutritional Status and the total Exam Scale; i.e., .53 and .49 respectively for females as compared to .46 and .37 respectively for males. For Hematocrit level, a variable which previous reports from the HES survey has shown to be a particular problem for females, it is the same [11]. The correlations for males were slightly higher than for females between the Exam Scale and cholesterol levels. The scores for the sexes were close together and mixed for diastolic blood pressure and peridontal index.

Correlations of the separate items with the total Home Scale showed the two sexes within each racial group to be similar. Figures were almost identical across race categories. Only in the parent's overall rating of

the youth's health was there a slight sex difference in the correlation with the Home Scale as a whole, and this occurred in both racial categories. Among whites, the correlation for females, .59, was slightly higher than for males, .54. Among nonwhites this difference was more marked, .59 and .49 respectively. The point to emphasize about the correlations of the Home Scale is that parents in both race groups apparently did a remarkably similar job of rating their adolescent's health, regardless of the adolescent's gender. The correlations of the Home Scale with the general Health Status score was highest of the three scales. These correlations were virtually identical for the race-gender groups. The white male correlation was .72, the white female, .73, while for nonwhite males the correlations was .73 and for nonwhite females, .70.

Intercorrelations of the items making up the Youth Scale showed a basic similarity of boys and girls in both racial groups. For instance, the correlations of Insomnia with the Youth Scale were .60 for both white and nonwhite females and .61 and .62 for white and nonwhite males, respectively. Backache and earache had a somewhat higher correlation in both racial groups with the score for the Youth Scale among girls as compared to boys.

To summarize the findings regarding the relationships of the items to the total for each of the scales, it is clear that in all race-gender groups these items were usually strongly related to the scale to which they belonged. Each item appears to add some information. Each of the scales appears to be a meaningful measure of health which includes more than one area of functioning of the individual. The combination of all of the scales into one score for Health Status is a measure even more meaningful since it is made up of assessments of health from the variety of viewpoints.

Discussion

The purpose of this study was to determine the health differences between the sexes in white and nonwhite adolescents. Using the data from a large national sample of subjects between 12 and 17 years of age, comparisons were made male to female and white to nonwhite. The sex-race groups were compared with regard to their scores on scales constituting different and complementary views of their health. These views came from a) clinical study of the subjects; b) interviews with parents about the youth's past and present health; c) questionnaires containing specific information on health completed by the youths; and d) school officials' ratings of the youths' school adjustment.

The four sex-race groups were also examined in terms of the level of correlation for items making up each of the scales with the total for that scale. The correlations of the scales with each other as well as with a total, the Health Status score, were presented for each sex-race group.

In Table 5 there is a summary of differences between racial groups and males and females in the total population as well as within racial categories, on the various measures of health.

-- Table 5 goes here --

The column in Table 5 for differences by race shows that in all of these measures of health except the Youth Scale, the averages for whites were significantly higher than those for females. The fact that health of minorities is poorer than whites' is a finding very frequently reported. (12,13,14). The findings here that health is poorer among minorities than among whites at adolescence serve to underline the fact forcefully. This is

true because the scores derived separately from clinical study, parent reports, and the rating for school adjustment all pointed in that same direction. This statement does not imply overlooking the finding that according to the youths themselves, whites' health was not as good as nonwhites. Many of those researchers who have looked at gender differences in health have hypothesized gender differences both in reporting behavior and also in the likelihood that persons interpret symptoms as "illness."[5,6,7]. In other words, it is widely recognized that there are likely to be differences between views of others and one's own views of one's health and illness. The previous studies have identified this as a response style on which males and females differ. These results indicate that it is also a response style on which whites differ from nonwhites.

Health status differences between males and females at adolescence was the major focus of this study, and a particular purpose was to examine the difference between males and females not only in the population as a whole, but within the racial groups separately.

It is apparent from the column in Table 5 where gender differences for the total population appear that males' mean scores were higher than females' in every instance excepting for School Adjustment, where females had lower percentages for "maladjustment" than males. Except on the Home Scale, the differences were large enough to be significant. The same condition of male-female differences was true among both the white and nonwhite adolescents in this sample.

The actual mean scores for males and females in both racial categories, presented above in Tables 2 and 3, indicate that nonwhite females have poorer scores for Health than the other groups. Their mean score was the

lowest in every case except a) the school rating where low ratings were received more often by white and nonwhite males and (b) the Youth Scale where the score for white females was lower than for nonwhite females.

When the distribution of scores are examined (Table 4) for the various Health scales, nonwhite females were always the group with the greatest number making scores below the scores for the other groups.

Taken together, these results indicate that the first conclusion to draw about group differences in the health of these adolescents is that the nonwhite females are the group most likely to include health problems. It appears that the greater prevalence of illness among females found in studies of adult populations [2,3,4,5,6] exists already at the stage of adolescence. This is true among both whites and nonwhites. This gender difference occurs alongside the lower health status of nonwhites compared to whites, found to be true among these adolescents as it has in previous studies of whole populations [12,13,14]. The risk factors of both race and sex apparently do combine to create poorer health for the nonwhite female adolescent than for the nonwhite male and poorer than either male or female among whites.

The only health-related assessment in which the nonwhite female is better off than the nonwhite male, even slightly better off than the white male, is in adjustment at school. The extent to which this affects health cannot be determined from this study, but it is a difference which must be expected to have some bearing upon health.

Since these data on health came from a variety of sources there was an opportunity to assess the relative accuracy of the sexes in evaluating their own health status. This was done by comparing male and female responses on

the Youth Scale, their own report on their health, with the other measures. In general, intercorrelations of the scales for the two sexes were similar. When comparing the Youth Scale and the Health Status scores, female correlations were higher than male among whites and nonwhites. The correlation for white females was .72, for white males, .67, for nonwhite females, .70, for nonwhite males, .62. The same was true when comparing the Youth Scale with the clinical view, the Exam Scale. For that set of correlations, the nonwhite male correlation of .03 was not significant, but the correlation for nonwhite females was significant with an r of .18. For whites the levels were .16 for females and .09 for males, both significant at the .001 level. Therefore, females in this sample appeared to have an edge over males in the accuracy of estimating their own health.

This is the first research where there has been opportunity to examine self assessment of subjects' health with assessments from other points of view and obtain a check upon the accuracy of females vs. males. Among adolescents we have seen that females' estimates of their health agree with estimates of others more closely than do males' estimates. This finding is supportive of Gove & Huges [3,4] who take issue with those who attribute some of the excess of illness of females over males to "over reporting" tendencies among females [5,6,7].

Summary

This report is part of a series of articles based on the analysis of the Health Examination Survey data by gender groups for whites and nonwhites.

In the first article, [1] data were presented to make a case for the examination of sex differences in the health status of adolescents for

whites and nonwhites separately. This is based on the uniqueness of each of the four race-gender groups regarding the incidence and causes of mortality and the prevalence of some forms of morbidity.

The data presented here show some sex differences in the health of adolescents for the separate race groups. Females in both race categories appear to have slightly poorer health status than males. The group at greatest risk for poor health is nonwhite females. It was also found that female self-reports of health seem to be more accurate, i.e., they agree with other measures more closely than do male self-reports. Special efforts directed toward health improvement of nonwhite females are needed.

Table 1. Correlations of items with scales and scale intercorrelations for genders within race categories.

EXAM Scale with	CORRELATIONS OF ITEMS WITH TOTAL SCALE WHITE Male	WHITE Female	NONWHITE Male	NONWHITE Female
Diagnosis	.508	.553	.477	.515
Nutritional Status	.460	.530	.376	.495
Peridontal Index	.529	.469	.492	.507
Diastolic Blood Pressure	.438	.481	.430	.418
Cholesterol Level	.371	.361	.358	.279
Hematocrit Level	.207	.292	.303	.422

HOME Scale with	CORRELATIONS OF ITEMS WITH TOTAL SCALE WHITE Male	WHITE Female	NONWHITE Male	NONWHITE Female
Parent rating of youth's health	.54	.59	.49	.59
Health problem now of youth which worries parent	.59	.61	.60	.57
Was anything wrong at the point of birth?	.34	.28	.37	.36
Health problems during the first year?	.57	.57	.55	.56
Any lasting effects from youth's most serious illness?	.56	.56	.56	.52
Nervousness of youth	.56	.57	.60	.60

YOUTH Scale with	CORRELATIONS OF ITEMS WITH TOTAL SCALE WHITE Male	WHITE Female	NONWHITE Male	NONWHITE Female
Backache frequency	.55	.61	.48	.53
Earache frequency	.47	.53	.51	.56
Insomnia	.61	.60	.62	.60
Not allowed to participate in some sports due to health	.46	.46	.36	.42
Feels (s)he is "right weight"	.51	.51	.58	.54

	INTERCORRELATIONS OF SCALES AND HEALTH STATUS HOME SCALE WHITE M	WHITE F	NONWHITE M	NONWHITE F	YOUTH SCALE WHITE M	WHITE F	NONWHITE M	NONWHITE F	HEALTH STATUS WHITE M	WHITE F	NONWHITE M	NONWHITE F
Health Exam	.11	.18	.09**	.19	.09	.16	.03	.18	.52	.60	.50	.63
Home Scale	1.0	1.0	1.0	1.0	.25	.32	.30	.29	.72	.73	.73	.70
Youth Scale	.25	.32	.30	.29	1.0	1.0	1.0	1.0	.67	.72	.62	.70
Health Status	.72	.73	.73	.70	.67	.72	.62	.70	1.0	1.0	1.0	1.0
School Adjustment	.16	.11	.09*	NS .06	.05**	.06***	NS .02	NS .07	.31	.27	.30	.17

Note: All correlations significant <.0001 level of confidence except as indicated by NS for non-significant and by asterisks as follows: * <.05 level; ** <.01 level; *** <.001 level

Table 2. Comparison of Health Status Scale Scores by Race and Gender Categories and Intercorrelations of the Health Scales.

		GROUPS' HEALTH STATUS SCALE SCORES			
Group	Number	Mean	S.D.	Difference	t-Score for Difference
Total Population	5443	13.95	2.34		
Race Categories					
White	4736	14.01	2.37	.42	4.40 $p < .0001$
Nonwhite	707	13.59	2.32		
Gender Categories					
Total Population					
Male	2860	14.10	2.23	.32	5.086 $p < .0001$
Female	2583	13.78	2.47		
Among Whites					
Male	2525	14.15	2.25	.30	4.644 $p < .0001$
Female	2211	13.85	2.18		
Among Nonwhites					
Male	335	13.80	2.18	.40	2.29 $p < .05$
Female	372	13.40	2.43		

Intercorrelations of Health Scales

Scale	Health Status	Exam	Home	Youth	School Adjustment
Health Status	1.000				
Exam	.573	1.000			
Home	.729	.154	1.000		
Youth	.688	.126	.235	1.000	
School Adjustments	.283	.100	.124	.03"	1.000

Table 3. Comparison of Three Health Scale Scores and School Adjustment Ratings by Race and Gender Categories.

SCALE:	EXAM				HOME				YOUTH				SCHOOL ADJUSTMENT RATING		
	N	Mean	SD	Difference t score	N	Mean	SD	Difference t score	N	Mean	SD	Difference t score	N	Percentage Rated as Maladjusted	Difference
ATEGORY															
Population	6666	4.86	1.04		6536	4.61	1.22		6630	3.65	1.14		5647	17.1%	
Categories				White > Nonwhite				White > Nonwhite				Nonwhite > White			Nonwhite > White
te	5683	4.88	1.01	.43 ****	5581	4.67	1.22	.17 ****	5663	3.57	1.16	.23 ****	4871	16.1%	
white	983	4.45	1.09	5.67	955	4.50	1.25	3.96	967	3.80	1.10	5.74	745	23.9%	7.8%
r Categories															
al Population				Male > Female				Male > Female				Male > Female			Male > Female
ale	3491	4.86	.99	.093 ***	3424	4.66	1.22	.04 NS	3470	3.73	1.08	.28 ****	2972	20.3%	
emale	3175	4.76	1.10	3.64	3112	4.61	1.23	1.61	3160	3.45	1.19	10.23	2675	13.5%	6.8%
tes Only				Male > Female				Male > Female				Male > Female			Male > Female
ale	3021	4.91	.96	.06 NS	2966	4.68	1.22	.03 NS	3007	3.70	1.11	.28 ****	2596	18.3%	
emale	2662	4.85	1.06	1.92	2615	4.65	1.22	0.5	2656	3.42	1.21	9.08	2275	12.9%	6.8%
whites Only				Male > Female				Male > Female				Male > Female			Male > Female
ale	470	4.56	1.00	.21 NS	458	4.57	1.24	.13 NS	463	3.98	1.00	.35 NS	358	30.7%	
emale	513	4.35	1.16	1.55	49"	4.44	1.25	.09	504	3.63	1.15	5.03	387	17.6%	13.1%

Note: Significance of t scores=**** $p < .0001$; *** $p < .001$; NS, not significant at the .05 level.

Table 4. Distribution of Scores for Health Status and for the Health Exam Scale, Home Scale, and Youth Scale by Race-Gender Groups.

	CUMULATIVE PERCENTAGES					
	WHITE			NONWHITE		
Scores for Health Status	Male	Female	F-M	Male	Female	F-M
	N=2525	2511		335	372	
3-9	.5%	6.7%	3.2	3.3%	7.0%	3.7
10-12	21.0	25.8	4.8	24.2	30.1	5.9
13-14	51.2	55.0	3.8	60.2	62.6	2.4
15-16	86.4	87.2	0.8	88.9	92.2	3.3
17-18	100.	100.	-	100.	100.	-
	WHITE			NONWHITE		
Scores for Health Exam Scale	Male	Female	F-M	Male	Female	F-M
	N=3021	2662		470	513	
0-3	8.1%	11.3%	3.2	13.8%	20.6%	6.8
4	30.1	31.4	1.3	43.5	50.4	6.9
5	69.0	69.1	0.1	83.2	85.6	2.4
6	100.	100.	-	100.	100.	-
	WHITE			NONWHITE		
Scores for Home Scale	Male	Female	F-M	Male	Female	F-M
	N=2966	2615		458	497	
0-2	5.8%	6.5%	0.7	7.0%	8.5%	1.5
3-4	36.3	37.0	0.7	41.2	47.0	5.8
5-6	100.	100.	-	100.	100.	-
	WHITE			NONWHITE		
Scores for Youth Scale	Male	Female	F-M	Male	Female	F-M
	N=3007	2656		463	504	
0-1	4.2%	6.9%	2.7	1.9%	4.9%	3.0
2-3	37.8	48.0	10.2	29.7	41.5	11.8
4-5	100.	100.	-	100.	100.	-

Table 5. Summary of Health Scale Differences in Scores by Race and by Gender for Total Population and for Races Separately.

Health Measure	Differences By Race (Total Population)	DIFFERENCES BY GENDER		
		For Total Population	For Whites	For Nonwhites
Health Status	White higher than nonwhite t=4.40 p<.0001	Male higher than female t=5.08 p<.0001	Male higher than females t=4.64 p<.0001	Male higher than females t=2.29 p<.05
Exam Scale	White higher than nonwhite t=12.17 p<.0001	Male higher than female t=3.64 p<.001	Male higher than female t=2.22 p<.05	Male higher than female t=3.02 p<.01
Home Scale	White higher than nonwhite t=3.96 p<.001	Male higher than female t=1.615 Not significant	Male higher than female t=1.33 Not significant	Male higher than female t=1.61 Not significant
Youth Scale	Nonwhite higher than white t=5.74 p<.0001	Male higher than female t=10.23 p<.0001	Male higher than female t=9.08 p<.0001	Male higher than female t=5.03 p<.01
School[1] Adjustment	White higher than nonwhite	Female higher than male	Female higher than male	Female higher than male

[1]There was no testing for significance of the differences on this single-item variable. Differences were in fact large by both race and gender. (See page 9).

REFERENCES

1. Landsberger BH: The need to study health of adolescents by sex-race groups. Urbana, Illinois: ERIC (Educational Resources Information Center) Clearinghouse. ERIC No. ED187433, 1980.

2. National Center for Health Statistics. Plan and operation of a health examination survey of U.S. youths 12-17 years of age. Rockville, MD, National Center for Health Statistics, 1969. (Public Health Service Publication No. 1000, Series 1, No. 8).

3. Gove WR and Hughes M: Sex differences in physical health and how medical sociologists view illness. American Sociological Review 44: 512-522, 1980.

4. Gove WR and Hughes M: Possible causes of the apparent sex differences in physical health. American Sociological Review 44: 126-46, 1979.

5. Verbrugge LM: Sex differentials in health and mortality, in Stromberg AH (ed.): Women, Health, and Medicine. Palo Alto: Mayfield Publishing (in press).

6. Mechanic D: Sex, illness behavior and the use of health services. J of Human Stress 2(4): 29-40, 1976.

7. Nathanson CA: Sex, illness and medical care: a review of data, theory and method. Social Science and Medicine 11: 13-25, 1977.

8. Gove WR and Herb TR: Stress and mental illness among the young: a comparison of the sexes. Social Forces 53(2): 256-265, 1974.

9. Locksley A and Douvan E: Problem behavior in adolescents, in Gomberg ES and Franks V (eds).: Gender and Disoriented Behavior. New York: Brunner/Mazel, 1979.

10. Blalock HM: Social Statistics. New York: McGraw-Hill, 1960.

11. National Center for Health Statistics. Hematocrit values. Rockville, MD: National Center for Health Statistics, 1977. (Vital and Health Statistics Series 11, No. 146).

12. Kitagawa EM and Hauser P: Differential mortality in the United States: a study in socioeconomic epidemiology. Cambridge, MA: Harvard University Press, 1973.

13. Office of Health Resources Opportunity: Health Status of minorities and low-income groups. Hyattsville, MD.: Public Health Service, Health Resources Administration, 1979. (DHEW Publication No. (HRA) 79-627.

14. Office of Health Research, Statistics and Technology: Health, United States, 1979. Hyattsville, MD.: National Center for Health Statistics, 1980. (DHEW Publication No. (PHS) 80-1232.

APPENDIX

Items included under all categories of Health Status.

Health Status - Exam

1. From Physical Examination:
   a. Significant abnormalities on physical examination.
   b. Any abnormality of body system:
      1) cardiovascular
      2) musculoskeletal
      3) other system
2. Dental
   a. Peridontal disease
   b. Treatment priority index[1]
3. Lab reports and clinical measures:
   a. Blood pressure, systolic
   b. Blood pressure, diastolic
   c. Cholesterol
   d. Hematocrit
   e. Pulse rate

---

[1] Treatment priority index is an item in the data set in which various findings from the dental evaluation were combined to indicate seriousness of subject's need for dental treatment.

Health Status - Home

1. Parent rating the youth's present health
2. Whether health is "a worry" to parent now
3. Whether there was a problem during pregnancy
4. Whether there was a problem with child at birth
5. Whether there has been a problem with the child's health since the first year of life.
6. How sick the child was with his/her most serious illness
7. Whether there was any lasting effect from child's serious illness
8. Whether or not child is "nervous"

Health Status - Youth

1. Youth's own rating of health
2. Whether any participation in games or sports is prohibited

Report of any of the following problems:

3. Insomnia
4. Acne
5. Feel upset over acne
6. Broken bones, ever
7. Serious injury, ever
8. Whether youth wears glasses
9. Other eye trouble
10. Earaches
11. Other ear trouble
12. Teeth need straightening
13. Difficulty talking, ever
14. Backache
15. Underweight
16. Overweight
17. Weight just right
18. Feel "fidgety"
19. Feel that good health is important