DOCUMENT RESUME

ED 221 263 PS 012 922

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TITLE Relationships between Health Status, Self Esteem and Social Support among Adolescents: Gender and Race Group Differences.
PUB DATE [82]
NOTE 32p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adolescents; *Racial Differences; *Self Esteem; *Sex Differences; *Social Support Groups; Stress Variables; Surveys
IDENTIFIERS *Health Status; National Center for Health Statistics

ABSTRACT

To locate possible causes for the gender and race differences observed in adolescent health status, an analysis was made of the relationship between the scores of a national sample of 12- to 17-year-old adolescents on selected items of the National Center for Health Statistics' Health Examination Survey. Thirty survey items indicating social support given to or received by an adolescent and nine items representing feelings of self-esteem were organized into seven separate scales and entered into a multiple regression analysis as independent variables. The six categories of support were infrastructure support (including details of the subject's residential area, birth order, family structure, and so on), and school, home behavior, home attitude, peer, and community supports. The self-esteem scale consisted of items requiring the subject to evaluate some personal characteristic or to estimate future accomplishments. A measure of health status, similarly constructed from items in the data set, was regarded as the dependent variable. Findings of the analysis are reported for the total survey population, as well as for race categories, gender groups, and race-gender groups. Results are discussed. (RH)

Relationships Between Health Status, Self Esteem and Social Support Among Adolescents: Gender and Race Group Differences*

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* The author wishes to express appreciation to persons at the University of North Carolina at Chapel Hill for support and assistance in the conduct of this research. First, for the expert help in programming given by Ms. Judith Kovenock of the Carolina Population Center and to Dr. Richard Udry, the Director. Professor Elizabeth Tornquist and Ms. Kathy Holladay of the School of Nursing assisted with the editing and preparation of the manuscript.

Abstract

Relationships between Health Status, Self Esteem and Social Support among Adolescents: Gender and Race Group Differences.

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Gender differences in self esteem and in social support among adolescents are proposed to help explain the fact that male rates for mortality are higher than females, while female rates are higher on measures of morbidity. Scales for various kinds of social support and for self-esteem were constructed from items in the data set of the National Center for Health Statistics' Health Examination Survey. A measure of health status, similarly constructed, was regarded as the dependent variable in this research. Multiple regression analyses with scores for self-esteem and the support measures as the independent variables indicated that for both races and genders as well as the total population, the self esteem measure accounted for approximately 25 percent of the 30 percent of variance in health accounted for by these independent variables. Home Attitude was the only type of support measure which added substantially to the variance explained. Self esteem was significantly lower for females than males. This finding was seen as related to their lower health status scores and to the higher female rates for illness. White males had significantly lower scores than white females on most social support scales. This is said to be congruent with the aggression and striking-out behavior typifying males vs. females in our society, behaviors related to causes of high male mortality rates among adolescents: accidents and homicide. Non-whites' scores for self esteem and social support were significantly

lower than whites'. Again, this is said to be congruent with their lower health status scores and with high nonwhite mortality rates for accidents and homicide. The import of these findings calls for research to follow up in the different gender and race groups on the relationship of self esteem and social support to health at adolescence.

This investigation of the health of adolescents was designed to locate possible causes for the gender and race differences observed in adolescent health status. Studies of adolescent health have shown that just as in total populations, there is greater prevalence of illness -- morbidity -- among female adolescents, while mortality rates are higher for males (Nathanson, 1977; Verbrugge, 1980; Landsberger, 1980, 1981; Locksley and Douvan, 1979; Gove, 1979; Gove and Hughes, 1979; Gove and Herb, 1974). This paradoxical situation has been described for adult populations by the statement, "Women get sick, but men die." Comparisons by race have shown that both morbidity and mortality rates are higher for nonwhite populations that for whites (Kitagawa and Hauser, 1973; Rudov and Santangelo, 1979).

This article follows in the footsteps of investigations of sex differences in health status described by Nathanson (1977), Verbrugge (1980), Mechanic (1976), Gove and Hughes (1979), Rutter (1980) and Locksley and Douvan (1979). All of these investigators agree -- as they must -- that the health problems of males are much greater than those of females when mortality rates are used as the measure. Mortality rates for males have become increasingly worse than rates for females throughout this century (NCHS, 1978). The life expectancy advantage for females at birth was approximately eight years longer than males in 1977 (NCHS, 1980).

Confronted with the paradox of women's higher rates of reported illness and disability -- the morbidity measures of health -- investigators have taken one of two theoretical positions. Some have disputed the reality of the conclusion that women actually have more illness than men. Claiming that the higher rates are an artifact of methods for determining

the
health status like those used for National Health Interview Study (NCHS, 1975), these researchers hold that women are more likely to report illness and to seek care than men, and point out that gender differences in illness behaviors may not be a reflection of illness itself. Other investigators, most notably Gove, accept the fact that women experience more illness than men and note that this is only to be expected given the greater stress for females than for males in our culture. This difference is considered to exist from the stage of adolescence onward.

As recently as 1980, Verbrugge noted that "little research has been devoted to explaining" the sex differential in morbidity and mortality. Her article and the articles by Gove (1979), Nathanson (1978) and Retherford (1975) are among beginning efforts toward such explanation.

The study of gender differences reported here proposes an explanation whose focus is neither "whose health is poorer?" nor "whose stress is greater?". The reader is asked to consider first some well established behavioral and personality differences between males and females, from childhood onward, which are related to the ways stress is handled. Boys generally achieve a sense of independence from those around them and are more likely than girls to strike out and act aggressively. Girls, on the other hand, are usually more compliant toward others and more "social" in their behavior, and they tend to avoid expressions of overt aggression. Many authors have linked these traits to the observation that when they reach adolescence, girls lack a sense of independent identity and also have lower self esteem than boys do (Gove, 1979; Rutter, 1980).

Returning now to differences in health measured by mortality rates, we find that the chief causes of the high male mortality at adolescence and young adulthood involve accidents (especially motor vehicle), homicide and suicide

(Iskrant and Joliet, 1968). The first two of these occur especially frequently along with abuse of alcohol. These unfortunate deaths are consistent with the stress-handling pattern of aggression and striking out against behavioral rules. Girls' mortality rates from these causes are relatively low. The male/female ratios ranged from 2.5 to 3.0 in 1976 figures (NCHS, 1978).

On the other hand, girls' rates for neuroticism and depression are far higher than those of males, beginning in adolescence (Gove, 1979). Not only do these give rise to illnesses long recognized as psychosomatic, but Moss (1973) proposes

> that psychological distress may underlie a wide variety of illnesses.

Other authorities joining in this view are Hinkle (1960) and Gove and Hughes (1979).

The analysis of the Health Examination Survey data on adolescents carried out by the present researcher made it clear that the health of boys was better than the health of girls (Landsberger, 1981). This gender difference was examined for white and nonwhite race groups separately. It was found that the average health status score was significantly higher for white males than for white females, and the same gender difference was true among nonwhites. Though significantly lower than the white male average, the nonwhite male mean score was itself significantly higher than the nonwhite female mean. Obviously, the group with the poorest health of all were the nonwhite females.

The measure of health employed was a substantial one. The Health Examination Survey data set included information about the subjects' health from many sources -- very complete clinical studies, including a physician's examination; a parent interview including items giving details of the subject's health history; a long questionnaire completed by the

youth; and an adjustment rating from a school official. The score for the youth's "health status" referred to above was a composite of items from all of these sources. Furthermore, there was an opportunity to check on how accurately females had assessed and reported health-related information. The sum of items from the youth's own perspective were compared with the total score for health status as well as with the most objective single scale, the clinical study, by Pearson correlations. These correlations were consistently higher for females than for males. Among whites and nonwhites alike, female reports agreed with other estimates more frequently than did males' (Landsberger, 1981).

The availability in the Health Examination Survey data set of items which could be combined to measure social support and self-esteem presented an opportunity to explore further 1) the relationship between health problems and self-esteem among females, and 2) the relationships between health problems and social support among males.

The relationship of social support and self-esteem, as stress-buffers, to the health of adolescents as well as the health of adults has been discussed in the writings of many authors. Gove (1979, 1980), Locksley and Douvan (1979), Rutter (1980), and Mercer (1979) have reported upon gender differences in self-esteem and health, or social supports and health. There has not, however, been a study of gender differences where measures of self-esteem and social support were both related to differences in the adolescents' health, or where gender differences among white adolescents were compared with gender differences among nonwhites.

The scope of the data and the nature of the sample of adolescents studied in Cycle III of the Health Examination Survey (HES) made it possible to examine the relation of those variables to health at adolescence

for the different genders among both whites and nonwhites.

In particular the data from this national sample of noninstitutionalized individuals between 12 and 17 years of age were used to examine the hypothesis of Gove that females are subject to health problems (especially the frequent illnesses of an acute, transitory nature) and in fact experience more illness in part because of females' lower self-esteem. Nathanson, Verbrugge, Mechanic and others have argued that the female role is compatible with illness behavior and that females may learn very early in life (Mechanic, 1979) that illness behavior is an acceptable means for coping with stress. Combining the Gove arguments with these, the expectation was that females among these adolescents not only would have an average score for health status lower than males, but that they also would have a lower average score for self-esteem than males.

Further, it was expected that the averages for measures of social support would be lower for males than for the "more dependent, social and socialized" females. Lower social support may be a basis for those health problems which are dramatically higher among males than among female teenagers, i.e., injuries and death from accidents (especially alcohol-related motor vehicle accidents) and homicide. Behaviors involved in these are clearly similar to the striking-out and aggressive behaviors typical for males in our culture, and to the personality and conduct disorders which have been found by Gove, among others, to be higher among male than female adolescents (Gove, 1979).

It has already been mentioned that health status of nonwhites was found to be significantly lower than that of whites in this sample of adolescents. Nonwhite mortality rates are higher at this age as well as in general (Landsberger, 1980). Thus we expected that self-esteem scores and social support averages would be lower for all nonwhites

than for all whites. We also expected that the differences by gender would be greater among whites where differences were not confounded by the factor of race, but that among nonwhites as well as whites, girls would be lower than boys in self-esteem, and boys lower than girls on social support.

The intention of these analyses was, as indicated above, to advance our understanding of some of the factors which may help account for the different health problems experienced by men and women in our society -- differences which already appear at adolescence.

Method

The HES data contained items about a wide variety of aspects of the subjects' lives. Thirty items which indicated social support given to or received by the adolescent were selected for analysis and grouped into six categories of support (see Table 1).

The first of these, called Infrastructure support, reflected resources like family income and level of parent education, as well as background conditions for development such as residence area and number of children in the family. Two of the support categories -- activities and customary behavior, and positiveness of parent attitudes -- reflected support from home and family. School support, Peer support and Community support were the other support categories. The number of items in each category ranged from four to eight. A score was obtained for each category for all subjects for whom all items were available.

Similarly, nine items were selected from the HES data which represented feelings of self-esteem on the part of the teenager when (s)he was asked to evaluate some characteristic or estimate future accomplishments (Table 1). The items ranged from whether the youth felt his/her weight was "about right" to how far (s)he thought (s)he would go in school.

-- Table 1 goes here --

Table 1. The Item Content of the Six Scales for Social Support and the Self Esteem Scale.

SUPPORT SCALES

INFRASTRUCTURE SUPPORT

Residence area

a) in a central city: yes (0) or no (1)

b) in SMSA but outside central city: yes (1) or no (0)

c) outside an SMSA: yes (1) or no (0)

Population of area: remaining same or increasing vs. losing relative to general population gain

Parents: two parents in household vs. other household type

Education of parent, head of household: more than high school grad (2); high school grad (1); less than high school grad (0)

Order of birth: first child vs. more than first

Number of persons under 20 in household

a) Only 1 person (the subject): yes (0), no (1)

b) 2 to 5 persons: yes (1), no (0)

c) More than 5 persons: yes (0), no (1)

Family income (late 60's): over $7,000 vs. under

SCHOOL SUPPORT

Whether youth has ever repeated a grade in school: yes (0); no (1)

Whether youth has been absent an unusual number of days: yes (0); no (1)

(continued)

HOME BEHAVIOR SUPPORT

Youth eating meals with adults at home: none (0); one meal per day (1); two or more meals (2).

Youth allowance: receives vs. does not

How well parent knows youth's friends: knows half or less vs. knows most of friends well

Number of hours per day youth spends reading books: none (0); between 1/2 hour and 1 hour (1); one hour or more (2)

Number of hours per day youth spends watching TV: from 2 to 5 hours (0); 1 to 2 hours (1); less than one hour (2)

HOME ATTITUDE SUPPORT

Parent's feelings about how much trouble youth was to bring up: a lot (0); a little (1); no trouble (2)

How nervous youth is: very nervous (0); some (1); not at all (2)

How fussy an eater youth is: very fussy or a little (0); not fussy (1)

Parent desires for how far child will go in school:

a) quit as soon as possible or after high school rather than more than this: yes (0), no (1)

b) "some education post high school" rather than less or more than this: yes (1), no (0)

c) "at least a college degree" rather than any less: yes (1), no (0)

(continued)

Table 1 continued

SUPPORT SCALES (Continued)

Intellectual ability of youth evaluated as below average (0); average (1); above average (2)

Academic achievement evaluated as in the lower third of class (0); mid-third (1); upper third of class (2)

Youth known to official providing ratings less than one semester (0); between 1 semester and 2 years (1); over 2 years (2)

PEER SUPPORT

Frequency of youth staying overnight with friends:"quite a few times" vs. never or only once or twice

Parent evaluation of whether youth "makes friends easily": yes or no

Rating by school officials as to youth's popularity with others: below average (0); average (1); above average (2)

Youth's report that (s)he has ever had a date vs. no

COMMUNITY SUPPORT

Parent description of reaction of youth when first attended school: "quite happy" (1) vs. upset (0)

Youth works during the week: yes (1) vs. no (0)

Youth works during vacations: part or full time (1); no (0)

Whether youth is paid for work: yes (1); no, or doesn't work (0)

Whether youth ever contacted by police: yes (0) vs. no (1)

Whether any punishment resulted: yes (0) vs. no (1)

SELF ESTEEM SCALE

Youth feels (s)he is right weight vs. too thin or too fat

Youth's rating of his/her own health

Whether youth feels that his/her teeth need straightening or not

Whether youth reports ever having had difficulty in talking

Whether (s)he feels upset over an acne skin problem

Whether (s)he feels that (s)he eats "about the right amount" vs. too much or too little

Whether youth passed the test for literacy

Youth's expectations as to how far (s)he will go in school

Sex of person drawn when directed to "draw a person": whether person was youth's own sex or the opposite sex

The five social support scale scores and the self esteem score were entered into a multiple regression analysis as independent variables, with health status score as the dependent variable. This analysis was done for the total group, for races and genders separately, and for the four race-gender groups: white male, nonwhite male, white female, nonwhite female. Differences between these groups in mean scores for the five kinds of support and for self esteem were examined for significance by t tests.

Findings

The results were clear regarding the relation between health status and the measure of self-esteem and measures of the various kinds of social support. A multiple regression analysis was performed with self-esteem and the support scales entered as predictor variables, with health status the criterion variable. Table 2 presents the results of this analysis for the total population and for races and genders and race-gender groups separately.

- - Table 2 goes here - -

In the total population the amount of variance in health status associated with the various supports and self-esteem was just under 30 percent. Of this, 25 percent was accounted for by self-esteem. Another 4 percent was added by the home attitude support scale. The remainder of the support scales only added another one-half percent to the total common variance.

Table 3 presents the data in terms of the three independent variables which were most important in these analyses, for the total population and for all the race and gender groups.

Table 2. Multiple Regression Results from Summary Tables for Total Population and by Race Categories, Genders and Race-Gender Groups with Health Status the Dependent Variable.

Total Population N = 4061

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.500	.250	.500	.457	9.21	2.0
Support: Home Attitudes	.537	.289	.317	.205	3.31	1.2
Support: Home Behavior	.539	.290	.079	-.040	5.57	1.4
Support: Peers	.540	.292	.126	.047	2.88	1.0
Support: Infra-structure	.54241	.294	.081	-.042	7.27	2.1
Support: Com-munity	.54246	.294	.035	-.008	3.73	1.3
Support: School	.54250	.294	.158	.007	4.97	1.8
				Health Status	14.01	2.3

Race Categories

White N = 3539

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	0.49	.242	.492	.450	9.28	2.0
Support: Home Attitudes	.531	.282	.317	.208	3.33	1.2
Support: Home Behavior	.533	.284	.068	-.046	5.58	1.4
Support: Peers	.535	.286	.127	.049	2.93	1.0
Support: Infra-structure	.536	.288	.077	-.040	7.44	2.1
			.146	School	5.10	1.7
			.036	Community	3.78	1.3
				Health Status	14.07	2.3

Table 2, Continued.

Race Categories

Nonwhite N = 498

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.537	.28	.537	.490	8.76	2.1
Support: Home Attitudes	.567	.32	.309	.185	3.16	1.3
			.170	Home Behavior	5.52	1.4
			.055	Peers	2.47	0.9
			.021	Infrastructure	6.06	1.9
			.169	School	4.06	1.7
			-.026	Community	3.42	1.1
				Health Status	13.61	2.3

Gender Groups

Male N = 2122

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.476	.226	.476	.482	9.47	2.0
Support: Home Attitudes	.526	.277	.324	.230	3.33	1.2
Support: Peers	.528	.279	.136	.053	2.77	1.2
Support: Home Behavior	.530	.281	.081	-.045	5.41	1.4
Support: Infra-structure	.531	.282	.102	-.027	7.33	2.1
			.183	School	4.77	1.8
			.048	Community	3.84	1.4
				Health Status	14.15	2.2

Female N = 1939

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.518	.268	.518	.477	8.93	2.0
Support: Home Attitudes	.545	.297	.309	.180	3.28	1.2
Support: Infra-structure	.547	.299	.057	-.052	7.21	2.1
Support: Peers	.548	.301	.131	.040	2.99	1.0
Support: Home Behavior	.549	.302	.093	-.035	5.75	1.3
			.151	School	5.20	1.7
			.012	Community	3.62	1.2
				Health Status	13.86	2.4

Table 2, Concluded.

Race-Gender Groups

White Male N = 1872

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.464	.216	.464	.422	9.55	1.9
Support: Home Attitudes	.518	.268	.322	.231	3.35	1.1
Support: Home Behavior	.521	.271	.066	-.061	5.41	1.4
Support: Peers	.524	.274	.135	.055	2.81	1.0
			.09	Infrastructure	7.50	2.2
			.17	School	4.88	1.7
			.05	Community	3.87	1.4
				Health Status	14.20	2.2

Nonwhite Male N = 236

Variable	Multiple R	R Square	Simple r	Beta	Mean	S.D.
Self Esteem	.522	.272	.522	.457	8.78	2.1
Support: Home Attitudes	.562	.316	.331	.198	3.16	1.3
Support: Home Behavior	.568	.323	.221	.081	5.44	1.4
			.10	Infrastructure	6.02	1.9
			.19	School	3.81	1.7
			.09	Peers	2.46	1.0
			-.06	Community	3.58	1.2
				Health Status	13.76	2.2

Though there was some variation among the groups, for example, in the size of the Betas for each variable, self-esteem was the dominant variable in relation to health status for all race-gender groups. Home attitude support was the dominant type of support -- the one type which added to the common variance, to more or less the same degree, for all groups. The third most important variables differed for the separate races and genders. For instance, home behavior Support was in third place for both white males and nonwhite males, but Infrastructure was the support variable in third place for white females and nonwhite females.

-- Table 3 goes here --

Table 3. Results of Regression Analysis with Health Status as Criterion and Self Esteem and Support Scales as Predictor Variables, and Predictor Variables Ranked in Order of Importance: for Total Population and Race and Gender Groups.

VARIABLE 1	NAME OF VARIABLE	MR	r	Beta	F
Total Population	Self Esteem	.50	.50	.457	1,038.
GENDER					
Male	Self Esteem	.476	.47	.435	496.
Female	Self Esteem	.518	.51	.477	545.
RACE					
White	Self Esteem	.492	.49	.450	893.
Nonwhite	Self Esteem	.537	.53	.490	164.
RACE-GENDER					
White Male	Self Esteem	.464	.46	.422	424.
Nonwhite Male	Self Esteem	.522	.52	.457	66.
White Female	Self Esteem	.514	.51	.472	451.
Nonwhite Female	Self Esteem	.552	.55	.512	95.
VARIABLE 2					
Total Population	Home Attitudes	.537	.31	.205	217.
GENDER					
Male	Home Attitudes	.526	.32	.230	142.
Female	Home Attitudes	.545	.30	.180	80.
RACE					
White	Home Attitudes	.531	.31	.20	195.
Nonwhite	Home Attitudes	.567	.30	.18	23.

Table 3, Concluded

RACE-GENDER					
White Male	Home Attitudes	.518	.32	.23	127.
Nonwhite Male	Home Attitudes	.562	.33	.19	12.
White Female	Home Attitudes	.541	.31	.18	70.
Nonwhite Female	Home Attitudes	.573	.29	.17	10.
VARIABLE 3					
Total Population	Home Behavior	.539	.07	-.040	8.79
GENDER					
Male	Peer Support	.528	.13	.053	8.12
Female	Infrastructure	.547	.05	-.05	7.06
RACE					
White	Home Behavior	.533	.06	-.04	9.96
Nonwhite	None				
GENDER-RACE					
White Male	Home Behavior	.521	-.06	-.061	9.13
Nonwhite Male	Home Behavior	.568	.22	.081	2.09
White Female	Infrastructure Support	.543	.06	-.050	5.66
Nonwhite Female	Infrastructure Support	.581	-.04	-.09	3.52

Note: Peer Support is fourth variable for females, MR .548; White males, .524; white females, .544. Home Behavior is fifth variable for females, MR .549; white females, .546.

As the data in Tables 4, 5 and 6 indicate, there were significant differences between genders and races in both self-esteem and social support scores.

-- Tables 4, 5 and 6 go here --

The males' average self-esteem score was significantly higher than the female average. The white average was significantly higher than the nonwhite average. The self-esteem score was significantly higher for white males than for white females and nonwhite males. Among nonwhites there was no significant difference between genders in the self-esteem score, and among females there was no significant difference by race. The white male group had the highest self-esteem score and the nonwhite female group had the lowest.

Social support scores for the groups did not follow one pattern: on some scales females had higher support scores than males, while on others males had better scores -- though when males were higher, the differences in mean scores tended to be small. As for race categories, whites' averages were always higher, usually by a large margin. When gender differences were examined separately within each race category, white females were found to have significantly higher scores than males for support from home behavior, from school and from peers. Only for community support was the average of white males significantly higher than the white female average.

Among nonwhites also, males were significantly higher than females on community support, but only on this one support scale. In all other respects, nonwhite males had the poorest social support scores of the four race-gender groups. Nonwhite females had a significantly higher average than nonwhite males only on school support, though their scores were higher than nonwhite male scores on four of the six scales. The nonwhite females were significantly lower than the white females on most of the support measures.

Table 4. Mean Scores and Standard Deviations for Support Scales and Self Esteem Scale by Race and Gender Groups.

SCALE	GENDER				RACE			
	Male N=2,122 Mean (S.D.)	Female 1,939 Mean (S.D.)	Difference M-F	t (sign. level)	White N=3,539 Mean (S.D.)	Nonwhite 498 Mean (S.D.)	Difference White-Nonwhite	t (sign. level)
Support: Infrastructure	7.33 (2.19)	7.21 (2.19)	.127	1.844 (>.05)	7.44 (2.16)	6.06 (1.94)	1.389	13.572 (<.0001)
Support: Home Behavior	5.41 (1.43)	5.75 (1.38)	-.335	7.555 (<.0001)	5.58 (1.42)	5.52 (1.42)	.063	.926 (NS)
Support: Home Attitudes	3.33 (1.20)	3.28 (1.24)	.053	1.376 (>.05)	3.33 (1.20)	3.16 (1.35)	.169	2.860 (<.01)
Support: School	4.77 (1.81)	5.20 (1.78)	-.434	7.657 (<.0001)	5.10 (1.78)	4.06 (1.78)	1.034	12.130 (<.0001)
Support: Peers	2.77 (1.02)	2.99 (1.08)	-.220	6.649 (<.0001)	2.93 (1.05)	2.47 (0.99)	.465	8.846 (<.0001)
Support: Community	3.84 (1.42)	3.62 (1.29)	.219	5.099 (<.0001)	3.78 (1.39)	3.42 (1.19)	.355	5.423 (<.0001)
Self Esteem	9.47 (2.00)	8.93 (2.05)	.541	8.490 (<.0001)	9.28 (2.02)	8.76 (2.16)	.520	5.324 (<.0001)

Table 5. Mean Scores and Standard Deviations for Support Scales and Self Esteem Scale by Genders Within Race Groups.

SCALE	WHITE				NONWHITE			
	White Male N=1,872 Mean (S.D.)	White Female 1,667 Mean (S.D.)	Difference (M-F)	t (sign. level)	Nonwhite Male N=236 Mean (S.D.)	Nonwhite Female N=262 Mean (S.D.)	Difference (M-F)	t (sign. level)
Support: Infrastructure	7.503 (2.162)	7.388 (2.166)	.115	1.578 (NS)	6.025 (1.959)	6.091 (1.937)	-.066	t=0.377 NS
Support: Home Behavior	5.415 (1.433)	5.777 (1.382)	-.362	7.628 p<.0001	5.440 (1.464)	5.595 (1.380)	-.155	t=1.215 NS
Support: Home Attitudes	3.350 (1.178)	3.301 (1.236)	.049	t=1.325 (NS)	3.165 (1.387)	3.160 (1.332)	.005	t=0.041 NS
Support: School	4.838 (1.788)	5.343 (1.741)	-.455	t=7.650 p<.0001	3.813 (1.762)	4.297 (1.786)	-.484	t=3.038 p<.01
Support: Peers	2.813 (1.020)	3.075 (1.076)	-.262	t=7.100 p<.0001	2.466 (1.037)	2.477 (0.961)	-.011	t=0.122 NS
Support: Community	3.879 (1.442)	3.673 (1.321)	.206	t=4.412 p<.0001	3.580 (1.297)	3.290 (1.082)	.290	t=2.718 p<.01
Self Esteem	9.558 (1.957)	8.970 (2.049)	.588	t=8.726 p<.0001	8.788 (2.200)	8.736 (2.143)	.052	t=0.123 NS
Health Status	14.202 (2.206)	13.929 (2.437)	.273	t=3.497 p<.001	13.762 (2.277)	13.473 (2.359)	.289	t=1.387 NS

Table 6. Mean Scores and Standard Deviations for Support Scales and Self Esteem Scale by Race Within Gender Groups.

SCALE	MALE				FEMALE			
	White N=1,872 Mean (S.D.)	Nonwhite 236 Mean (S.D.)	Difference White-Nonwhite	t (sign. level)	White N=1,667 Mean (S.D.)	Nonwhite 262 Mean (S.D.)	Difference White-Nonwhite	t (sign. level)
Support: Infrastructure	7.503 (2.162)	6.025 (1.959)	1.478	9.997 p<.0001	7.388 (2.166)	6.091 (1.937)	1.297	9.135 p<.0001
Support: Home Behavior	5.415 (1.433)	5.440 (1.464)	-.025	.251 NS	5.777 (1.382)	5.595 (1.38)	.182	1.960 p=.05
Support: Home Attitudes	3.350 (1.178)	3.165 (1.387)	.185	2.225 p<.05	3.301 (1.236)	3.160 (1.332)	.141	1.698 NS
Support: School	4.888 (1.788)	3.813 (1.762)	1.075	8.718 p<.0001	5.343 (1.741)	4.297 (1.786)	1.046	9.008 p<.0001
Support: Peers	2.813 (1.020)	2.466 (1.037)	.347	4.915 p<.0001	3.075 (1.076)	2.477 (.961)	.598	8.48 p<.0001
Support: Community	3.879 (1.442)	3.580 (1.297)	.299	3.034 p<.01	3.673 (1.321)	3.290 (1.082)	.383	4.463 p<.0001
Self Esteem	9.558 (1.957)	8.788 (2.2)	.770	5.613 p<.0001	8.970 (2.049)	8.736 (2.143)	.234	1.707 NS
Health Status	14.202 (2.206)	13.762 (2.277)	.44	2.877 p<.01	13.929 (2.437)	13.473 (2.359)	.456	2.827 p<.01

Thus, gender differences in social support and self-esteem were not the same among nonwhites as among whites. Only among whites was the males' average for self-esteem significantly above the females' average. Only among whites were there several areas of social support in which females' averages were significantly higher than males'. This finding requires that gender differences be discussed separately for whites and nonwhites.

Discussion

Gender Differences in Health Status, Self-Esteem and Social Support among Whites. Analysis of the Health Examination Survey data on 12-17 year-old white subjects has shown that the average health status of males is higher than that of females. The multiple regression with self-esteem and social support scores as predictors for health status demonstrated that the self-esteem score acccunted for most of the common variance: for whites that R was .49. Home attitude was the one support scale which accounted for a substantial amount of variance, bringing the MR to .53. The other support scales added very little to the size of the multiple regression figure which was .536 when all the support scales and self-esteem were in the equation.

Analysis of these data appears to support the view -- presented most recently by Gove (1979) -- that among adolescents in this society, females have lower self-esteem than males and female health is poorer. Gove was dealing with mental health, but he has also made the point (as have others) that mental and physical illness are considered to be similar in their relation to stress.

This analysis also provides insights into those health problems which are dramatically worse for males than for females, that is, the high death rate (as well as injury rate) from violence and unnatural causes: accidents (especially motor vehicle accidents), homicide and suicide. This study has shown generally lower social support scores for white males than for white females. This is congruent with the view that females show greater dependency on other persons and are more "social" (Locksley and Douvan, 1979). It is

also consistent with the greater aggressiveness of males, which, as Gove (1979) and others have shown, may lead to less supportive attitudes toward males on the part of parents and teachers.

Certain conclusions about gender differences among whites can be drawn from the findings reported here for this large national sample of adolescents. Females had lower scores for self-esteem and this may well be related to females' poorer health status scores. It can be categorically stated that poorer female health status in this survey was not due to inaccuracies in self-reporting. The health status score was a composite of a clinical study and other estimates of health along with the youth's own report. When the accuracy of the youth's view was tested by comparing the self-reported score with the total score and with the score from the clinical study, females were found to be somewhat more accurate than males (Landsberger, 1981).

The lower male social support scores among these adolescents may be related to the antisocial and violent acts which lead to higher death rates among white male adolescents for accidents, homicide and suicide (Waldron and Eyer, 1976; Iskrant and Joliet, 1968).

Gender Differences in Health Status, Self-Esteem and Social Support among Nonwhites. The picture of nonwhite gender differences in health includes the influences upon social support and self-esteem brought by race as well as by gender. It is apparent from the findings presented in Table 3 that the relationship between self-esteem and health status is somewhat greater for nonwhites than for whites. Among the four race-gender groups, the highest correlation (.552) was for nonwhite females and the next highest, .522, was for nonwhite males. Among nonwhites the average self-esteem scores were almost identical for males and females, and both were lower than whites' averages (significantly lower than the white males' average).

As among whites, the only support variable which accounted for a substantial amount of variance in health status was home attitudes: with self-esteem and home attitude support, the MR was .56 for nonwhite males and .57 for nonwhite

females (both figures were higher than the equivalent MRs for both gender groups among whites). When all the support scales were added to self-esteem, the MR for nonwhite males was .568 and for nonwhite females, .581.

Among nonwhites, males scored significantly higher than females only on the community support scale; females were significantly higher than males only on school support. Otherwise, gender differences in regard to support were not significant. It should be noted that nonwhite males had significantly lower scores than white males on five of the six types of social support, and similarly, nonwhite females scored lower than white females.

These significantly lower scores give cause for concern for the health of both male and female nonwhites. We have seen from the regression analyses that self-esteem and social support are even more closely related to health among nonwhites than among whites, and the relationship is greatest among nonwhite females.

Also, as noted above, white females' generally higher levels of social support may help deter them from many of the anti-social and aggressive behaviors leading to high death rates from unnatural causes among white males. This is not the case, however, for nonwhite females, for their social support rates are not as high as the white females'.

For both health status and self-esteem, nonwhite females were found to have the lowest scores of the four race-gender groups. The nonwhite females' health status score was significantly lower than the scores of both white males and white females, and their self-esteem score was significantly lower than the white males' score.

The fact that the mean self-esteem and social support scores of nonwhite males are significantly lower than those of white males means that non only is their general health status at risk, but also they are at risk for the consequences of violent behavior. And indeed, their mean score for

health status, while a little higher than that of nonwhite females, was found to be significantly lower than the white male health status scores. Furthermore, as this author reported in an earlier article, using 1975 data, nonwhite males are the race-gender group with the highest death rate for 15-19 year olds from all causes. Their mortality rates for accidents and homicide are especially high.

Conclusions

The building of self-esteem is a complex task which Rutter (1980) has recently described as a life-long matter of parental behavior and attitudes, biological development and sex-role definition. There are far-reaching implications of the findings presented here regarding the relation of self-esteem to health; the fact that self-esteem was found to be lower among white females and all nonwhites than among white males is especially important.

When it comes to differences in social support, there is one area -- school support -- where it would be relatively simple to bring about changes. Every investigation of gender differences has found that beginning with preschool and continuing on into high school, boys are regarded and treated more negatively than girls by teachers and other school officials.

Rutter points out (1980:p.39) that "schooling plays a major role in the life of adolescents." The lack of support from school may be part of a pattern which leads to males' aggressiveness, to their failure to "affiliate" in society as girls do, and, in extreme cases, to violent behavior on their part and the injuries and deaths resulting from this. Our schools are responsible to our society. In meeting their responsibilities, school officials need to change the picture found in this study. They must assign high priority to giving white males and all nonwhites the level of support which is provided white females. That would at least correct inequality in social support in the institution which society operates especially for the benefit of children and adolescents.

Finally, it is clear that each race-gender group presents a unique picture of health status and of the relationship of other factors to health. The close relationship of self-esteem to the health of all has been demonstrated, as has the importance of home attitudes toward youth. But there are differences in the response to the stress which must result from poor self-esteem and negative home attitudes. Gender and race both appear to be factors influencing how stress is handled. If we are to improve adolescent health, studies must probe more deeply into the relationship suggested in this research, so that interventions will be appropriate to underlying needs and to characteristic behavior patterns.

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