

Socioeconomic Status and Psychiatric Disorder among Blacks and Whites*

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Abstract

This article examines the relationship between socioeconomic status (SES) and current (six-month) and lifetime rates of psychiatric disorders among blacks and whites. Overall, SES is inversely related to psychiatric disorder for both racial groups. This association is weaker for black males than for white males. There is some variation among specific disorders, with the strongest relationship with SES occurring for alcohol abuse. The six-month rate of depression is unrelated to SES among blacks but inversely related for whites. In contrast to our expectations, we found that lower-SES white males have higher rates of psychiatric illness than their black peers. Lower-SES black females have higher rates of substance abuse disorders than their white counterparts. These findings underscore the need for research efforts to identify the mechanisms and processes that link social stratification to disease.

One of the most firmly established patterns in the social distribution of psychiatric disorder is an inverse association between socioeconomic status (SES) and mental illness (Dohrenwend & Dohrenwend 1969, Fairs & Dunham 1939; Hollingshead & Redlich 1958; Kessler, Price & Wortman 1985; Langer & Michael 1963). Insufficient attention has been devoted to understanding the association between SES and psychopathology among blacks (or African Ameri-

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The Epidemiologic Catchment Area Program was established as a series of five epidemiologic research studies performed by independent research teams in collaboration with staff of the Division of Biometry and Epidemiology (DBE) of the National Institute of Mental Health (NIMH). The five sites are Yale University, U01 MH 34224; Johns Hopkins University, U01 MH 33870; Washington University, U01 MH 33883; Duke University, U01 MH 35386; University of California, Los Angeles, U01 MH 35865.

cans). Given the low average SES level of blacks in the U.S., race is frequently used as an indicator of socioeconomic position in epidemiologic studies. Since much research simply equates race with SES, most of the research on the mental health of African Americans has used a race comparison paradigm in which the health status of blacks is compared to that of whites, often in a mechanistic and uncritical manner (Gary & Howard 1979; Neighbors 1984). By ignoring the socioeconomic variability within the black population, these analyses fail to identify the potential linkages between socioeconomic position and health status among blacks and thereby the risk factors associated with disorder and the promotive factors associated with well-being.

Although there is little research on SES and mental illness among blacks, some studies have assessed the association between SES and psychological distress. These studies of distress among African Americans in local and national populations, however, do not present a clear picture of the association between SES and mental health status. In a southern black community, income and education were unrelated to depressive symptoms (Dressler & Badger 1985), but both of these SES indicators were inversely associated with depression among blacks in Alameda County, California (Roberts, Stevenson & Breslow 1981). Ijeld (1978) found a positive relationship between education and depression among blacks, but Neighbors (1986) reports both positive and inverse associations between SES and psychological distress in a national survey of blacks. Also using national data, Eaton and Kessler (1981) found that both education and income were positively associated with depressive symptoms, with the relationship being stronger for income than for education. Similarly, in a Kansas City study, Comstock and Helsing (1976) noted that education was unrelated to depressive symptoms among blacks but that income was inversely related.

We do not know if the failure to observe a consistent pattern of findings in these studies is due to differences in the operationalization of the SES variable, to regional variations in the association between SES and psychological distress, or to the lack of uniformity in the measurement of psychological symptoms. The assessment of mental health status in these studies is especially problematic for making conclusions about variations in rates of psychiatric illness. Typically, scales of psychological symptoms rather than diagnostic measures are employed in these studies. While these symptom checklists are important in understanding general distress or demoralization, they are not useful indicators of clinical disorders (Myers & Weissman 1980).

The measurement of mental disorders has become increasingly sophisticated in recent years with the development of standardized psychiatric instruments such as the diagnostic interview schedule (DIS) (Robins et al. 1981). Using a highly structured interview format, the DIS can be used by lay interviewers in community epidemiologic studies to generate diagnoses of psychiatric disorder based on the *Diagnostic and Statistical Manual III (DSM III)*. The National Institute of Mental Health's (NIMH) Epidemiologic Catchment Area Program (ECA) used the DIS to assess the prevalence of specific psychiatric disorders in large community samples in the U.S. Analyses of these data indicate that there is a strong inverse relationship between SES and psychiatric disorder in the total ECA population, with some variation by the specific type of disorder (Holzer

et al. 1986). To date, researchers have not examined the relationship between SES and mental illness within the black population of the ECA. Thus, after fifty years of sociologic studies of psychiatric disorder, we know very little about the social distribution of discrete psychiatric disorders within the black population (Williams 1986).

Race comparison analyses of the ECA data have also documented that once SES factors are taken into account, blacks do not have higher rates of psychiatric disorder than whites (Robins et al. 1984; Robins & Regier 1991; Somervell et al. 1989). However, these analyses have failed to explore the extent to which race may interact with SES to produce a higher risk of disorder among low-SES blacks. Compared to low-SES whites, low-SES blacks are more likely to experience higher rates of stressors such as unemployment, poverty, and marital disruption that may make them more vulnerable to psychiatric illness (Dohrenwend & Dohrenwend 1970; Williams & House n.d.). Consistent with this perspective, in analyses of eight different epidemiologic surveys, Kessler and Neighbors (1986) found that although there were no overall race differences in psychological distress, race did interact with SES to produce significantly higher levels of distress for low-SES blacks than for their white peers. Other researchers have also found that blacks of low socioeconomic status have higher rates of psychological distress than low-SES whites (Eaton & Kessler 1981; Ulbrich, Warheit & Zimmerman 1989). We do not know if the differential vulnerability of low-SES blacks to psychological distress also exists for psychiatric disorder. More systematic attention to the nature of the SES-disorder relationship in the African American population is clearly warranted.

This article uses data from the ECA program to provide basic descriptive information on the association between socioeconomic factors and psychiatric disorders among adult blacks. Our central concern is the heterogeneity of the black population. However, all analyses will be replicated for the white sample of the ECA. The purpose of this replication is to investigate empirically the extent to which the association between SES and mental illness varies across race and thus to highlight the distinctiveness, if any, of the black population. Studies of all-black samples (e.g., Neighbors 1986) do not indicate if observed associations are unique to blacks. In contrast, studies of large black populations that include a comparable group of whites provide the opportunity to distinguish those risk factors that operate similarly from those that operate differently across race. We also assess the extent to which race interacts with SES to increase rates of disorder among blacks.

Methods

STUDY POPULATION

The ECA program applies common diagnostic instruments to large general population samples in community mental health catchment areas in five communities in the U.S. Four of these communities had a sizable African American population. These are (1) thirteen towns that comprise the greater New Haven area in southeastern Connecticut; (2) three mental health catchment areas in eastern Baltimore, Maryland; (3) three catchment areas in St. Louis,

Missouri; and (4) one primarily urban and four predominantly rural counties in North Carolina. The black sample numbered 420 at New Haven, 1,182 at Baltimore, 1,158 in St. Louis, and 1,392 in North Carolina. The fifth site, Los Angeles, consisted of a predominantly Hispanic and a predominantly non-Hispanic white catchment area. The black sample at this site comprised 135 adults. The interviews were conducted between 1980 and 1983, and total sample sizes at each site ranged from 3,004 to 5,034. The completion rate in the various communities ranged from 68% to 79%. A detailed description of the sampling procedures and data collection methods is available (Holzer et al. 1985).

MEASURES

The DIS was used to measure psychiatric disorders (Robbins et al. 1981). Computer algorithms generate *DSM III* diagnoses of both current (within the past six months) and lifetime disorders based on the presence, severity, and duration of symptoms. We use both current and lifetime rates of disorder, but findings using the lifetime measure must be interpreted with caution. Although a lifetime measure of psychiatric illness avoids confounding of the occurrence of disorder with the duration of disorder that inevitably occurs when we study the association between SES and current disorder rates, lifetime measures are not without problems (see Robbins et al. 1984 for a discussion of the liabilities of lifetime prevalence measures). One of the drawbacks is the problem of impaired recall. Some limited evidence indicates that the assessment of lifetime psychiatric symptoms by the DIS seriously underestimates the lifetime prevalence of psychiatric disorder (Pulver & Carpenter 1983). In addition, recall may vary across SES groups.

The version of the DIS used here includes the following major mental disorders: alcohol abuse/dependence, anorexia, antisocial personality, bipolar disorder, drug abuse/dependence, major depression, dysthymia, obsessive compulsive disorder, panic disorder, phobias, somatization, and schizophrenia/schizophreniform. Phobias are excluded from all our analyses because their rates vary widely across the various sites (Myers et al. 1984). Five dependent variables are used in all analyses in this report. Any disorder, the first measure, is a composite indicator of any of the DIS disorders (except phobias) assessed in the ECA surveys. The next three dependent variables are the three most frequently occurring discrete disorders in the ECA data: major depression, alcohol abuse/dependence, and drug abuse/dependence. The final measure of mental health status, any other disorder, is a residual category that includes all the other DIS disorders (that is, it includes all disorders other than phobias, depression, alcohol abuse, and drug abuse).

Four measures of socioeconomic status are employed. Education is a measure of years of formal education completed by the respondent, divided into four categories: 0-8 years, 9-11 years, 12 years, and 13 or more years. Intuitively, these categories delineate meaningful differences in life experiences. Income is a measure of total household income divided by the total number of persons in the household. We divided this per capita income measure into quartiles based on the distribution of the total sample. Following Holzer et al. (1986), we use Nam and Powers's (1983) composite SES measure based on rank orderings of

occupation, education, and income. This SES index averages the education, occupation, and household income percentiles. When one component of the index is not available — as in St. Louis, where income data were not collected — the SES measure uses the average of the other two scores.

ANALYSES

All percentage rates presented are weighted to take into account differential probabilities of selection and to adjust the demographics of the sample to those of each community from which the sample was drawn (Holzer et al. 1985). Analyses are performed separately for men and women because previous research indicates that the association between SES indicators and mental health status varies by gender (Kessler 1979). Women also tend to have lower income and occupational status than men.

Logistic regression models are estimated to test for statistical significance and to control simultaneously for age. In these analyses each SES indicator is coded as a series of four dummy variables, with the highest SES level as the omitted category.¹ These statistical procedures assume simple random sampling and tend to underestimate variances and to overestimate statistical significance when the sampling design is complex. The Research Triangle Institute procedure RTLOGIT (Research Triangle Institute 1987), which takes design effects into account, is used to make the appropriate adjustments to standard errors and *p* values. To facilitate interpretation, estimated relative risk ratios are presented. The relative risk is the ratio of the expected psychiatric disorder rate for a particular SES category compared to the rate for the omitted category. A relative risk greater than 1.0 indicates that persons in that category are more likely to have a disorder than persons in the reference category.

For all analyses, we pooled the samples of respondents from the five ECA sites. We use a combined sample because the distribution of clinically defined psychiatric disorders is relatively low in community samples. Even the relatively large black samples of the ECA surveys provide too few cases of specific DIS diagnoses to allow powerful site-specific analyses of subgroup differences in the rates of disorder. However, we did explore the extent to which the association between SES and disorder varied across the five communities. In preliminary analyses, we used both logistic and ordinary least squares regression (Landerman et al. 1989) to test for interactions between ECA-site and our SES indicators in predicting disorder levels among blacks. We found few significant effects. Hence, theoretical parsimony as well as the economy of analysis and presentation are served by pooling the data.

Results

Table 1 presents the socioeconomic profile of the ECA sample by race and gender. A consistent and expected pattern is evident. African Americans are more likely than whites to be concentrated in the lower-SES categories. For example, 34.9% of black males and 52.7% of black females are in the lowest income quartile, compared to 11.3% of white males and 16.7% of white females. Similarly, 49.8% of black males and 55.0% of black females completed twelve or

TABLE 1: Socioeconomic Characteristics of the ECA Sample (Weighted Percentages, Unweighted N)

	Blacks		Females		Whites		Females	
	Males %	N	%	N	Males %	N	%	N
Education (years)								
0-8	21.4	426	17.6	685	13.2	989	14.7	1,511
9-11	26.8	333	27.4	706	15.0	798	16.4	1,218
12	26.0	329	32.3	736	27.4	1,212	32.6	1,964
13 or more	23.8	356	22.7	613	44.4	2,051	36.3	2,207
Income quartiles								
0-25	34.9	252	52.7	786	11.3	471	16.7	845
25.1-50	23.9	203	20.1	346	20.9	815	23.6	1,331
50.1-75	21.2	167	17.0	229	28.9	1,018	28.4	1,231
75.1-100	20.0	197	10.3	167	38.9	1,510	31.3	1,461
Occupation quartiles								
0-25	30.1	410	41.8	1,107	10.7	544	21.0	1,515
25.1-50	39.9	565	37.0	878	28.6	1,485	43.5	2,633
50.1-75	20.2	263	15.0	323	32.5	1,626	19.9	1,234
75.1-100	9.9	158	6.3	176	28.3	1,326	15.6	928
SES quartiles								
0-25	24.8	445	31.0	1,066	7.5	577	16.1	1,637
25.1-50	43.3	550	41.5	986	27.8	1,568	32.6	2,295
50.1-75	24.1	323	21.6	529	38.9	1,771	34.8	2,050
75.1-100	7.9	128	5.9	167	25.9	1,139	16.5	910

more years of education, while the comparable levels for whites are 71.8% and 68.9%, respectively. Table 1 also reveals that, despite claims to the contrary (Williams 1986), the ECA sample is not comprised only of disadvantaged, low-SES blacks and that it will allow for analyses of variability within the black population as well as for comparison of higher-SES blacks to their white peers.

SEX-MONTH RATES OF DISORDER

Analyses were performed using all four indicators of SES. Education and the composite SES score emerged as the two strongest predictors of mental health status. When significant associations existed between disorder and income or occupation (results available from the authors) for all of the race and gender groups used in the analyses, they were in the same direction but fewer than those observed for education and the SES score. Moreover, the regression coefficients for the association between SES and disorder are consistently larger

TABLE 2: Six-Month Prevalence of DIS Disorders, by Socioeconomic Status (SES)^a

	Blacks				Whites			
	1	2	3	4	1	2	3	4
Any disorder rates/100	15.7	13.4	14.7	9.5	14.0	15.9	12.9	8.7
Est. relative risk	2.07+	1.42	1.53	1.00	2.79**	2.34**	1.47**	1.00
Depression rates/100	0.7	0.6	2.3	1.0	1.5	2.8	1.5	1.5
Est. relative risk	0.79	0.63	2.64	1.00	1.40	2.03**	0.90	1.00
Alcohol abuse rates/100	12.7	8.3	7.6	1.6	8.9	9.5	8.2	5.9
Est. relative risk	10.32**	6.41**	5.57**	1.00	2.46**	1.86**	1.34+	1.00
Drug abuse rates/100	1.3	2.8	4.6	4.6	1.5	3.9	3.3	0.8
Est. relative risk	0.28	0.54	0.93	1.00	2.36	4.73**	3.16**	1.00
Other disorder rates/100	5.4	4.0	3.5	3.8	7.6	4.5	2.7	1.6
Est. relative risk	1.44	0.70	0.57	1.00	7.69**	3.23**	1.66+	1.00
				Females				
Any disorder rates/100	13.0	9.8	10.1	5.0	8.7	9.2	8.8	6.8
Est. relative risk	4.61**	2.00*	2.00+	1.00	2.50**	1.63**	1.35+	1.00
Depression rates/100	4.4	4.6	5.4	3.7	3.1	4.3	4.3	2.3
Est. relative risk	1.83	1.26	1.38	1.00	1.79+	2.00**	1.78*	1.00
Alcohol abuse rates/100	3.0	1.9	1.0	0.3	0.9	2.0	1.5	0.9
Est. relative risk	22.04**	9.28*	4.76	1.00	2.99*	2.59*	1.41	1.00
Drug abuse rates/100	1.6	1.9	2.3	0.6	0.2	1.1	1.3	1.0
Est. relative risk	6.12*	3.00	3.70	1.00	0.58	1.36	1.37	1.00
Other disorder rates/100	7.6	4.4	4.6	0.4	5.1	4.4	3.4	2.5
Est. relative risk	46.16**	17.24**	16.36**	1.00	4.15**	2.08**	1.42	1.00

^a Rates are weighted. Relative risks are controlled for age using logistic regression, with significance level adjusted for design effect.

+ p < .10 * p < .05 ** p < .01

for the composite SES score than for education for both black females and white males and females. For black males, the association between the composite SES measure and DIS disorders is comparable to but not stronger than that for education. This pattern reflects, in part, the absence of a significant association between income and either current or lifetime rates of psychiatric disorders for blacks males. In the interest of parsimony and clarity, only the results for the composite SES score are presented.

Table 2 presents the six-month prevalence rates of psychiatric disorders by the composite measure of SES. The overall rate for each SES level as well as the age-adjusted estimated relative risks derived from logistic regression are presented. Black men in the lowest SES quartile are 2.07 times more likely to have any DIS disorder than their highest SES counterparts, but this relationship

is only marginally significant. The association between alcohol abuse and SES is stronger, with estimated relative risks in the lower-SES quartiles being 10.3, 6.4, and 5.6 times greater, respectively, than the relative risk of black males in the highest quartile. Depression, drug abuse, and any other disorder are unrelated to SES scores for black males.

The relationship between SES and disorder for black females is stronger than that observed for black males. There is an inverse association between SES and any disorder, alcohol abuse, drug abuse, and any other disorder. African American females in the lowest SES quartile, for example, are 4.6 times more likely, and those in the two intermediate levels 2.0 times more likely, than their peers in the highest quartile to have any DIS disorder. The estimated relative risks for alcohol abuse are particularly great, based on very low rates. Similar to the findings for black males, SES is unrelated to depression for black females.

Table 2 also allows us to compare the association observed between SES and psychiatric disorders in blacks to that in whites. SES is more strongly linked to psychiatric disorders for white males than for their black peers. For white males, there is a significant inverse association between SES and all the disorder measures. Moreover, the SES differentials for any disorder and alcohol abuse tend to follow the pattern of a gradually decreasing risk of mental illness with increasing SES. However, for both depression and drug abuse, the highest rate is at the second-lowest SES level. The association between SES and DIS disorders for white females is very similar to the pattern observed for black females, except that drug abuse is unrelated to SES and depression is inversely related. The three lowest SES categories for white women tend to have elevated risks of depression, with the difference being clearly significant only for the two middle categories. Dohrenwend (1990) has noted that an inverse association between SES and depression is not consistently found for all ethnic groups. Similarly, we have documented that although depression tends to be inversely associated with SES for whites, it is unrelated for blacks.

In sum, we have documented that the frequently reported inverse association between SES and mental illness exists within the black population. This association is weaker for black males than for white males. Unlike the findings for whites, there is no significant association between SES and drug abuse for black males, and major depression is unrelated to SES for black males and black females.

LIFETIME RATES OF DISORDER

Table 3 presents both the lifetime prevalence rates of psychiatric disorders by SES and the associated age-adjusted estimated relative risks. As expected, the overall lifetime rates are much higher than the current disorder rates in Table 2. For black males, the crude rates of a lifetime diagnosis of any DIS disorder range from 33% for men in the lowest SES quartile to 27% for those in the highest. The estimated relative risk of any disorder for the lowest SES quartile compared to the highest is smaller (1.49) for the lifetime rate than for the six-month rate (2.07), and it is not significant. There is a significant inverse association between SES scores and disorder only for alcohol abuse, where the two lowest quartiles are 2.6 and 2.3 times more likely, respectively, to have the disorder than the highest quartile.

TABLE 3: Lifetime Prevalence of DIS Disorders, by Socioeconomic Status (SES)^a

	Blacks				Whites			
	1	2	3	4	1	2	3	4
Any disorder rates/100	33.2	30.7	28.6	26.6	29.8	33.4	30.3	23.5
Est. relative risk	1.49	1.34	1.27	1.00	2.13**	1.88**	1.37**	1.00
Depression rates/100	1.2	1.0	3.0	2.2	2.8	3.8	3.1	4.0
Est. relative risk	0.47	0.45	1.25	1.00	1.05	1.04	0.73	1.00
Alcohol abuse rates/100	29.3	22.7	17.7	14.0	26.5	27.2	22.4	16.9
Est. relative risk	2.61*	2.32**	1.81	1.00	2.42**	2.01**	1.38**	1.00
Drug abuse rates/100	3.1	6.2	10.8	8.8	4.6	8.6	8.8	5.2
Est. relative risk	0.39+	0.63	1.19	1.00	1.12	1.66**	1.42*	1.00
Other disorder rates/100	7.7	7.4	6.1	7.3	12.7	9.0	7.1	4.6
Est. relative risk	1.30	0.89	0.68	1.00	4.39**	2.27**	1.54*	1.00
					Females			
Any disorder rates/100	22.3	18.8	14.7	11.7	14.6	19.5	20.2	19.8
Est. relative risk	2.99**	1.61	1.19	1.00	1.20	1.11	1.03	1.00
Depression rates/100	6.0	5.6	7.2	8.1	4.6	7.9	9.9	8.0
Est. relative risk	0.93	0.63	0.81	1.00	0.79	1.07	1.25	1.00
Alcohol abuse rates/100	8.3	5.4	2.6	1.0	2.8	6.1	4.1	2.6
Est. relative risk	9.15**	5.10*	2.39	1.00	2.40**	2.72**	1.58	1.00
Drug abuse rates/100	2.9	5.4	4.1	1.8	1.1	4.6	5.8	6.1
Est. relative risk	3.60*	3.00*	2.59+	1.00	0.49*	0.85	0.87	1.00
Other disorder rates/100	10.5	6.6	5.4	1.6	7.9	7.0	6.8	6.2
Est. relative risk	8.61**	3.45*	2.63	1.00	2.37**	1.37**	1.22	1.00

^a Rates are weighted. Relative risks are controlled for age using logistic regression, with significance level adjusted for design effect.

+ p < .10 * p < .05 ** p < .01

There is also a trend, for black males, toward a positive association between the SES score and lifetime rates of both drug abuse (marginally significant) and depression (not significant). Both of these patterns are more pronounced and significant when education is used as the indicator of SES (analyses not shown). African American men with at least some college education are more likely to have been diagnosed with depression and drug abuse than their peers with less education.

For black females, there is a significant inverse association between the SES score and mental illness for any disorder, alcohol abuse, drug abuse, and any other disorder. Black females in the lowest SES quartile are 3.0 times more likely

to have a lifetime diagnosis of any disorder, 9.2 times more likely to have abused alcohol, 3.6 times more likely to have abused drugs, and 8.6 times more likely to have had some other disorder than their peers in the highest SES quartile. Similar to the findings for the current rates of disorder, the lifetime rate of major depression for African American women is unrelated to SES.

The association of SES with lifetime rates of psychiatric disorder for white males shares both similarities and differences with that observed for black males. First, similar to the pattern observed for six-month rates of disorder, SES is more strongly associated with psychiatric disorders for white males than for their black counterparts. There is a significant inverse association between SES and any disorder, alcohol abuse, drug abuse, and any other disorder, with the estimated relative risks for white males tending to be larger than those for the six-month rates in Table 2. Second, in contrast to the findings in Table 2, but similar to the pattern for black males, SES is not inversely associated with the lifetime prevalence of depression. However, unlike the positive association observed between SES and the lifetime prevalence of drug abuse for black males, this disorder is inversely related to SES for white males.

In contrast to the results for black females, there is no association between SES and any DIS disorder for white females, and drug abuse is positively related to SES. White women in the lowest SES quartile are 2.04 times less likely (reciprocal of 0.49) than their highest SES counterparts to abuse drugs. Similar to the results for black women, depression is unrelated to SES, while alcohol abuse and any other disorder are inversely associated with SES, with the relative risks for whites being much smaller than those for blacks.

Overall, the results in Table 3 for the lifetime rates of disorder reflect the general pattern of a significant inverse association between SES and mental illness. This relationship is weaker for the lifetime rates than for the six-month rates, especially for black men and white women. In terms of specific disorders, there is an intriguing pattern of variation across the gender and racial groups, with drug abuse positively related to SES for black men and white women but inversely related for black women and white men. Lifetime rates of depression are unrelated to SES.

DIFFERENTIAL VULNERABILITY

Based on prior theory and research, we expected that blacks at the lowest SES levels would have higher rates of disorder than whites. Within each SES category, we estimated the association between race (coded 1 = black, 0 = white) and the six-month rates of psychiatric disorder in logistic regression models that included a continuous age variable. A relative risk greater than 1.0 indicates that blacks have a higher rate of disorder at that level of SES. Table 4 presents the results of these analyses. A consistent but unexpected pattern is evident. Black males at the second-lowest SES level have *lower* rates of disorder than their white peers. This pattern is even more pronounced when education is used as the indicator of SES (analyses not shown). There are few significant race differences at the lowest SES level, but the overall trend is also in the direction of lower rates of disorder for black males.

TABLE 4: Estimated Relative Risks of DIS Disorders for Blacks Compared to Whites^a

	Males				Females			
	1	2	3	4	1	2	3	4
Any disorder	0.89	0.60*	0.97	0.98	1.12	0.78	0.95	0.65
Depression	0.32+	0.15**	1.38	0.45	1.22	0.82	1.07	1.36
Alcohol abuse	1.13	0.74	0.79	0.20*	2.03+	0.54	0.56	0.19
Drug abuse	0.51	0.47+	1.25	4.67*	5.43*	1.09	1.30	0.49
Any other disorder	0.51+	0.57+	0.91	2.68	1.05	0.76	1.05	0.09*

^a Controlling for age using logistic regression, significance level is adjusted for design effect. Values greater than 1.00 indicate that blacks have higher rates than whites; values less than 1.00 indicate that blacks have lower rates than whites.

+ p ≤ .10 * p ≤ .05 ** p ≤ .01

Table 4 further indicates that the prevalence of disorder among black men exceeds that among whites only at the highest level of SES, and only for drug abuse. Interestingly, the opposite pattern exists for alcohol abuse, with the highest SES black males five times less likely (reciprocal of 20) than their white counterparts to abuse alcohol. Thus, when compared to whites in these data, black males of lower socioeconomic status are not disadvantaged in terms of mental health.

The results for females indicate that there are few significant race differences. The expected pattern of elevated risk of disorder among black women is evident only for alcohol and drug abuse. Black women at the lowest SES level are 2.03 times more likely than their white peers (marginally significant) to abuse alcohol, and 5.43 times more likely to abuse drugs. Researchers have noted that black women are overrepresented at the extremes of the drinking distribution. Black females have the highest rates of abstinence from alcohol of any racial or ethnic group in the U.S., but patterns of heavy drinking among them exceed that of white females (U.S. Department of Health and Human Services 1985). In our data, the higher substance abuse rate of black women compared to white women is limited to the lower levels of SES.

Discussion

Recent reviews indicate that there is a strong causal relationship between socioeconomic position and health status (Haan & Kaplan 1986; Marmor, Kogevinas & Elston 1987; Wilkinson 1986; Williams 1990). Moreover, this literature indicates that the inverse association between SES and health has not changed over time and persists for a broad range of health outcomes throughout the industrialized and developing world. In an era of waning commitment to socioeconomic equity for blacks in the U.S. (Williams 1986), we have examined the association between SES and the prevalence of mental illness and

have documented, for the first time in large community samples of the African American population, that SES is a potent predictor of psychiatric disorders for blacks. Our analyses do not address the causal direction of the observed associations and the mechanisms and processes underlying them, but our findings are consistent with the larger literature that indicates that SES has a causal impact on health status.

Research interest in the association between SES and mental health status has been declining over time (Dohrenwend 1990). Our findings underscore the continuing significance of social stratification as a central determinant of health status. The association between SES and mental illness among blacks shares both similarities and differences with that of whites. Income and a composite measure of SES are not important predictors of either the six-month or the lifetime prevalence of psychiatric disorder among black males. In contrast, compared to years of education, the summary SES score is a stronger predictor of the six-month prevalence of psychiatric disorder for white males and black and white females. This composite measure is also a better predictor of lifetime rates for black females and white males.

The nature of these findings and the variations that we find for various SES indicators clearly highlight the need for more systematic attention to the conceptualization and measurement of SES. Our findings are generally consistent with the view that education may be the most stable and best single SES predictor of health status (Williams 1990). Our analyses also provide further evidence that the disadvantage of low-SES position involves more than the unavailability of adequate finances (McLeod & Kessler 1990). However, we did not replicate Kessler's (1979) finding that education is a stronger predictor of mental health status for women and that income is a stronger predictor for men. Our findings underscore the importance of more careful theoretically grounded investigations that would seek to identify the situations in which particular indicators of SES are more or less consequential in determining mental health status.

Studies of psychological distress have consistently indicated that blacks of lower SES have higher rates of symptoms than similarly situated whites. Our analyses suggests that this relationship may be gender and disorder specific. For lower-SES black women, this pattern is confined to substance abuse disorders. Among black men, our results were opposite to those expected. Thus, although low-SES black males may have higher average levels of distress than their white peers, they do not have higher rates of severe psychiatric impairment. Instead, white males at the second-lowest SES level have higher rates of psychiatric disorders than their black counterparts. This lower level of psychiatric impairment among lower-SES black men relative to their white peers merits investigation. Perhaps once some minimal threshold of economic well being is met, race differences in the distribution and impact of adaptive resources and risk factors combine to shield blacks from the more severe sequelae of the pathogenic features of low-SES existence. Some evidence suggests, for example, that low-SES whites are more vulnerable to economic problems than their black peers and lack the supportive social resources of the extended black family (Ulbrich, Warheit & Zimmerman 1989).

Our findings for depression also highlight the need to delineate the factors inherent in the culture and traditions of African Americans that may counteract the effects of stress. Stress is a known risk factor for the onset of depression (Brown & Harris 1978) and is inversely related to SES (Milrowky & Ross 1986; Williams 1990). Surprisingly, an earlier report using the ECA data indicates that blacks do not have higher rates of depression than whites (Somerville et al. 1989). Similarly, our analyses document that unlike the pattern for whites, depression is unrelated to SES among blacks. Future research must seek to identify the extent to which the strong spiritual orientation and the high level of religious involvement characteristic of black culture (Giles 1980; Griffith, Young & Smith 1984; Williams et al. 1991), as well as the deep sense of kinship and extended family relationships (Hatchett, Cochran & Jackson 1991), may offset at least some of the pathogenic effects of stress.

Early studies of mental illness provide a distorted view of the distribution of psychiatric disorder in blacks (Williams 1986). We have attempted to address the major limitations of earlier work, but we still have serious doubts that our findings provide a true picture of the prevalence of disorders among blacks, especially black males. African American males are especially likely to be nonrespondents in survey research studies and are disproportionately represented in marginal and institutional populations that are likely to have high rates of mental illness. To compensate for this underrepresentation, following conventional wisdom, the ECA data are weighted to adjust for differential selection probabilities and to make the samples correspond to the U.S. Census characteristics for the populations from which they were drawn. We can be confident that this weighting effectively corrects for the underrepresentation of black males only if we make two highly implausible assumptions: that nonrespondents are similar to respondents and that the U.S. Census provides an accurate count of black males (Williams 1986). Thus, it is likely that the ECA data underestimates the prevalence of psychiatric disorders in black males (Blazer, Crowell & George 1987).

One of the strengths of this study is that the definition of *psychiatric disorder* was obtained from a structured research instrument that used specific and invariant criteria across all respondents. Nonetheless, a potentially serious limitation of the findings is that we do not know the extent to which the DIS is a valid measure of psychiatric disorder in blacks. The diagnostic criteria used in the DIS were developed from studies of predominantly white patients (Neighbors et al. 1989). If race differences exist in the expression of psychopathology, then the DIS may misdiagnose disorder in blacks. Some limited evidence indicates that the DIS achieves almost perfect concordance with a clinical interview in diagnosing depression and alcoholism among low-income blacks (Hendricks et al. 1983). More systematic efforts are necessary to identify the extent to which the expression of psychopathology may vary across cultural and socioeconomic groups. Studies that seek to identify variations across socio-cultural groups, in the number and patterning of symptoms that make up discrete clinical entities, may be a fruitful place to begin (Neighbors et al. 1989).

Our analyses have been descriptive in nature. Future research must identify the causal dynamics that underlie the association between SES and psychiatric disorder for both blacks and whites. Our understanding of these processes is

still primitive. Stressful conditions of life may precipitate the onset of psychiatric illness (Brown & Harris 1978). Social status variations in the distribution and effects of stress as well as in the resources (social, economic, and psychological) to cope with it may play a major role in accounting for SES differences in mental health (Kessler & Cleary 1980; Kohn 1972; McLeod & Kessler 1990; Myers, Lindenthal & Pepper 1974; Wheaton 1980). What we need is research exploring how macrosocial structures and processes, socializing mechanisms, and individual constitutional and dispositional factors are related and how they combine within different sociocultural (e.g., racial) contexts, both additively and interactively, to give rise to particular patterns of disease distribution.

Notes

1. Given that SES is coded as a set of dummy variables, analyses were performed to determine whether SES as a whole was significant. We used a stepwise procedure (Hoerner & Lemeshow 1989) to test whether SES (as a continuous variable) was important enough to enter and remain in a base model that contained the coefficient for age (a known covariate of disorder). Following the recommendation of Hoerner and Lemeshow (1989), an alpha level of .15 was used. Stepwise logistic regression models were run for the four unique groups (black males, black females, white males, white females). In 19 of 20 models (5 disorder categories x 4 groups) SES entered and remained in the model. Only for drug abuse among white women did it fail to remain. This finding indicates that, overall, SES is an important indicator of disorder.

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