

The National Survey of American Life: a study of racial, ethnic and cultural influences on mental disorders and mental health

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Abstract

The objectives of the National Survey of American Life (NSAL) are to investigate the nature, severity, and impairment of mental disorders among national samples of the black and non-Hispanic white ($n = 1,006$) populations in the US. Special emphasis in the study is given to the nature of race and ethnicity within the black population by selecting and interviewing national samples of African-American ($N = 3,570$), and Afro-Caribbean ($N = 1,623$) immigrant and second and older generation populations. National multi-stage probability methods were used in generating the samples and race/ethnic matching of interviewers and respondents were used in the largely face-to-face interview, which lasted on average 2 hours and 20 minutes. The Diagnostic and Statistical Manual (DSM) IV World Mental Health Composite Interview (WHO-CIDI) was used to assess a wide range of serious mental disorders, potential risk and resilience factors, and help seeking and service use patterns. This paper provides an overview of the design of the NSAL, sample selection procedures, recruitment and training of the national interviewing team, and some of the special problems faced in interviewing ethnically and racially diverse national samples. Unique features of sample design, including special screening and listing procedures, interviewer training and supervision, and response rate outcomes are described.

Key words: epidemiology, DSM-IV disorders, race and ethnicity, risk and resilience, service use

Introduction

The National Survey of American Life (NSAL) is the most comprehensive and detailed study of mental disorders and the mental health of Americans of African descent ever completed. The purpose of this paper is to describe the conceptualization and approach used in the NSAL. The study was conducted by the Program for Research on Black Americans (PRBA) within the Institute for Social Research at the University of Michigan. The NSAL is an innovative study designed to explore intra- and inter-group racial and ethnic differences in mental disorders, psychological distress and informal and formal service use, as they are manifested in the context of a variety of stressors, risk and resilient factors, and coping resources, among national adult and ado-

lescent samples. The samples include African-Americans ($N = 3,570$), the first ever national probability study of blacks of immediate Caribbean descent (Afro-Caribbeans) ($N = 1,623$), non-Hispanic whites (Americans largely of European descent) ($N = 1,006$),¹ and Afro-Caribbean and African-American adolescents, aged 13 to 17 ($N = 1,200$). Most of the interviews were conducted face-to-face using a computer-assisted instrument. About 14% were conducted either entirely or partially by telephone. Data collection was completed between February 2001 and March 2003.

¹ The sample of 1,006 whites includes 115 whites who live in areas where the black population is less than 10%. Since the sample error is large for this subsample, most analyses will not include these cases.

In addition to diagnoses as defined by the Diagnostic and Statistical Manual-IV (DSM-IV) (American Psychiatric Association, 1994), International Statistical Classification of Diseases and Related Health Problems (ICD-10), and the World Mental Health Composite International Diagnostic Interview (WHO-CIDI) (Kessler, Berglund, Demler, Jin, Koretz, Merikangas, Rush, Walters, and Wang, 2003), the study also included detailed measures of health; social conditions; stressors; distress; subjective, observational and objective neighbourhood conditions; and social and psychological protective and risk factors. Many of these measures are similar to those used in the National Survey of Black Americans (NSBA) in 1979–80, facilitating comparisons in the continuities and discontinuities of the life situations of African-Americans after a generation of social and economic changes (Jackson, 1991).

Supplementary interviews conducted with 1,200 African-American and Caribbean black adolescents, 13 to 17 years of age, who were attached to the NSAL adult households permit an assessment of early onset conditions and the role of familial influences as risk and protective factors. In addition, over 10% (N = 677) of the NSAL adult respondents were re-interviewed using a modified version of the Structured Clinical Interview for DSM-IV (SCID) (Jackson, Neighbors, Nesse, Trierweiler, Torres, 2004; Spitzer, Williams, Gibbon and First, 1992) and various severity scales in order to examine concordance between the lay-administered DSM-IV World Mental Health CIDI (WMH-CIDI) diagnoses and those assessed via the SCID. Results from this study will shed light on the nature of CIDI diagnoses among members of different race/ethnic groups.

Background and conceptualization

In 1976, the National Institute of Mental Health, by supporting the NSBA, recognized the importance of obtaining nationally representative data on mental health and mental illness among African-Americans. This decision was based on the relative social and economic deprivation of black compared to white Americans and the assumption that these socioeconomic differences should influence the distribution of psychopathology among American adults (Jackson, 1991). Recent data reveal that the decline in the economic status of blacks relative to whites during the 1980s resulted in a widening gap in health, driven in part by an absolute decline in some health status

indicators among the African-American population (Williams and Collins, 1995). More recent data suggest that this trend has continued into the new century (Jackson, 2000; IOM, 2002).

Psychiatric epidemiologists have long argued that the stress associated with disadvantaged status and discrimination increases the vulnerability of African-Americans to mental disorders (Kleiner, Tuckman and Lavell, 1960; Fischer, 1969; Kramer, Rosen and Willis, 1973; Cannon and Locke, 1977; Mirowsky and Ross, 1980). African-Americans are disadvantaged compared to whites on most subjective indicators of quality of life. Blacks report lower levels of life satisfaction, happiness, marital happiness, and higher levels of anomie and mistrust than whites (Hughes and Demo, 1989). There has been no significant improvement in these quality of life indicators for African-Americans between 1972 and 1996 (Hughes and Thomas, 1998). These racial disparities in the quality of life cannot be explained completely by differences in socioeconomic status.

The overall mental health picture, however, is more complex than the quality of life data might suggest. For example, there are no black-white differences in self-esteem (Porter and Washington, 1979; Twenge and Crocker, 2002; Jackson, Williams and Torres, 2003). Some studies of psychological distress have revealed significantly higher prevalence and severity of symptoms among blacks compared to whites whereas others have found the opposite, and some studies have found no racial differences (Dohrenwend and Dohrenwend, 1969; Vega and Rumbaut, 1991). Higher rates of distress for blacks compared to whites appear to be accounted for, at least partially, by differences in socio-economic status (SES) (Neighbors, 1984; Vega and Rumbaut, 1991).

With the exceptions of schizophrenia and phobias, the Epidemiologic Catchment Area Study (ECA) found roughly comparable rates of mental disorders for blacks and whites (Robins and Regier, 1991). The 1990 National Comorbidity Survey (NCS) found that rates of disorders for African-Americans were consistently *below* those of whites, particularly for major depression and substance-abuse disorders (Blazer, Kessler, McGonagle, and Swartz, 1994; Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen and Kendler, 1994). Findings from both the ECA and NCS suggest that rates of serious mental

disorders of African-Americans are at least comparable to, and perhaps lower than those of white Americans – and certainly in many respects better than might be expected based on the possible influences of discrimination and other unique stressors associated with racial group status (Neighbors and Williams, 2001; Williams, Neighbors and Jackson, 2003). The overall picture of race differences on psychiatric morbidity, however, is far from simple. Although blacks and whites did not differ in the overall rates of major depression in the ECA, there are complex interactions among age, race and gender (Sommerwell, Weissman, Glazer, Bruce, 1989; Robins and Regier, 1991). For example, African-American men and women, aged 18 to 29, had higher 12-month rates of major depression than their white counterparts. From the age of 30 and older, however, black American men and women had markedly lower 12-month rates of major depression than whites.

One of the major research thrusts of the Program for Research on Black Americans (PRBA) has been the investigation of socioeconomic and sociocultural influences on mental health. Despite the importance of estimating the relative effects of race and SES on psychiatric morbidity, it is not fully understood how race and SES interact to produce observed patterns of psychological well-being and distress, and serious mental disorder (Dohrenwend, Levav, Shrout, Schwartz, Naveh, Link, Skodel, and Stueve, 1992; Williams, Lavizzo-Mourey and Warren, 1994; Neighbors and Williams, 2001). In addition, a better understanding is needed of how life conditions for blacks in America, with associated stressors and coping strategies, relate to specific occurrences of mental disorders (USDHHS, 2001).

Current interest in racial and ethnic health disparities underlines the critical importance of addressing the extent to which minority status increases risk for health and mental health problems (Aneshensel, 1992; Williams and Fenton, 1994). An emerging area of research is the contribution of race-related stressors to the mental health of ethnic minority populations. Stressors that may be unique to, or more prevalent among, African-Americans have not been incorporated into the assessment of stress (Pearlin, 1989; Essed, 1991; Feagin, 1991; McLean and Link, 1994). Several studies indicate that racial discrimination adversely affects the emotional wellbeing and physical health of African-Americans and other ethnic groups

(Harrell, Merritt and Kalu, 1998; Clark, Anderson, Clark and Williams, 1999; Krieger, 1999; Williams and Williams-Morris, 2000; Williams, Neighbors and Jackson, 2003). Other evidence supports the view that experiences of unfair treatment may have negative consequences for health, irrespective of race or ethnicity (Harburg, Erfurt, Huenstein, Chape, Schull and Schork, 1973; Williams, Yu, Jackson and Anderson, 1997; Kessler, Mikelson and Williams, 1999). Using the NSAL data, the types and amounts of racial and non-racial factors that affect the differential distribution of mental disorders within race and ethnic groups can be identified, leading to possible explications of how race and ethnic group memberships combine with different types of stressors to affect mental health.

Recent reports by the Surgeon General (USDHHS, 2001), the Institute of Medicine (Smedley, Stith, and Nelson, 2002), and the President's New Freedom Commission on Mental Health (Hogan, 2003) make it clear that substantial racial and ethnic disparities in access to mental health care exist. More importantly, the ECA and the NCS revealed that the level of *unmet need* for mental health care was substantially *higher* for African-Americans and Hispanics/Latinos than it was for white Americans (Snowden, 2001). A number of reasons have been put forth in the services literature (stigma, mistrust, fear, discrimination, and so forth) but it is disappointing that so few epidemiological studies of racial differences in help-seeking have been published since the mid-1980s. The general services literature is deficient in the number of community epidemiological surveys that actually address racial and ethnic differences in the use of services for discrete disorders. There is increasing interest in updating and collecting new data on racial disparities in access to the use of mental health services for mental disorders, heightened by the recent Surgeon General's supplement report (Susman, Robins and Earls, 1987; Cooper-Patrick, Gallo, Powe, Steinwachs, Eaton and Ford, 1999; USDHHS, 2001).

Diversity among ethnic populations

Studies of multiple racial and ethnic groups (for example, African-Americans and Mexican Americans) reveal that they are as likely to differ from each other as they are to differ from white Americans (for example, Robins and Regier, 1991; Williams and Harris-Reid, 1999; Neighbors, 2001; Borrell, Lynch, Neighbors, Burt and Gillespie, 2002; Neighbors and Ford, 2003).

Although there are important commonalities in the black experience, there is also considerable ethnic variation *within* the black population. Blacks from the Caribbean constitute the largest subgroup of black immigrants in the US (Williams et al., 1994; Schmidley and Gordon, 1999). Data from the 1990 US census indicate that almost one million persons were of English-speaking West Indian ancestry and an additional 300,000 were of Haitian ancestry. A recent census report estimated that 6% of the black population is foreign born and that at least 10% of the black population is of foreign parentage (Schmidley and Gordon, 1999). These rates are not trivial and may be underestimates. The population of West Indian ancestry alone may constitute at least 10% of the black population in the US (Hill, 1983). Importantly, these numbers are larger than those of some other population subgroups (for example, Pacific Islanders) that are the focus of data collection by federal government agencies (Williams and Jackson, 2000). Previous studies of black mental health have not addressed the mental health consequences of this within-group ethnic variation. Studies in the UK have consistently documented elevated rates over those in the general population of schizophrenia in first- and second-generation Caribbean immigrants (Harrison, Owens, Holton, Neilson and Boot, 1988; King, Coker, Leavey, Hoare and Johnson-Sabine, 1994; Van Os, Takei, Castle, Wessely, Der, MacDonald and Murray, 1996). In a similar vein, Caribbean immigrants in the Netherlands have rates of schizophrenia that are three to four times that of the Dutch-born population (Selten, Slaets and Kahn, 1997). There is reason to believe that this elevated risk of psychiatric morbidity exists for other disorders. For example, the England Whitehall Study found that Afro-Caribbean civil servants did not have higher rates of psychological distress than their white counterparts (Hemingway, Whitty, Shipley, Stansfeld, Brunner, Fuhrer and Marmot, 2001). On the other hand, survey data from the UK reveal that Afro-Caribbeans have elevated rates of mania over other groups in the general population (Van Os et al., 1996).

Unique features of the NSAL

Several aspects of the NSAL are different from prior epidemiological studies. First, the study includes a large, *nationally* representative sample of African-Americans, permitting an examination of the heterogeneity of experience across groups within this

segment of the black American population. Most prior research on black American mental health has lacked adequate sample sizes to systematically address this within-race variation. The size of the African-American sample will facilitate comparative empirical analyses never before possible, even in the NSBA. Second, the NSAL includes the first nationally representative sample of Caribbean blacks. As a result, the data from this project permit the identification of mental health differences among various important demographic groups often lumped together within the black American population. These types of analyses are critical due to changing immigration patterns (for example, from Africa and the Caribbean); diverging socio-economic status conditions (for example, between American blacks of African descent and those from the Caribbean); and the many other major changes in living patterns and conditions, family structure, and social circumstances that have occurred within the black population over the last 25 years (Farley, 1996). Third, we have included multiple, theoretically driven assessments of socio-economic status (Krieger, Williams and Moss, 1997). Even when racial differences are 'explained' by statistical adjustment for SES, the nature of SES differences across groups makes the interpretation of such findings difficult (Kaufman, Cooper and McGee, 1997). Fourth, the current study successfully employed novel geographical screening procedures developed in the NSBA (Jackson, 1991). Specifically, the screening methods assured that every African-American household in the continental US had a known, non-zero probability of selection, thus permitting first-time estimates of the influence of non-random, missing household members on sampling outcomes and mental disorder prevalence rates (Jackson, Tucker and Bowman, 1982; Hess, 1985). In addition, new methods were developed in an attempt to ascertain the methodological and substantive influences of structurally missing members of black households (for example, young men in prisons and lockups) on sampling and mental disorder estimates. (See Jackson et al, this issue, for a detailed description.)

Fifth, the NSAL assesses the presence of mental disorders as well as levels of impairment associated with these disorders, thereby addressing a major limitation of data gathered in previous national mental health surveys. Lastly, all respondents (including whites) were selected from the targeted geographic segments in

proportion to the African-American and Afro-Caribbean population, making this the first national sample of people of different race and ethnic groups who live in *the same* contexts and geographical areas as blacks are distributed (both high and low density, urban and rural, inner-city and suburban, and so forth). Since the NSAL white sample is distributed like the black population, questions such as neighbourhood characteristics, service use, risk and protective factors will make for important and novel comparisons not possible with prior or current studies.

Method

Sample design, selection and readjustments

The original target sample for the adult study was an integrated national household probability sample of 4,000 African-Americans, 1,800 non-Hispanic whites, and 1,000 blacks of Caribbean descent (Afro-Caribbeans), for a total sample of 6,800 individuals aged 18 and over. Sample sizes were selected based upon the best available prevalence estimates for these populations (especially the African-American and white populations) and power calculations for detecting differences among them at 0.05 probability levels or better. The African-American sample served as the primary core sampling base for the entire study. (See Heeringa, Wagner, Torres, Duan, Adams and Berglund, this issue for a detailed presentation on the NSAL sample.)

During the course of data collection the sample design was changed. Preliminary examinations of the data suggested that the size of the differences among the three samples was almost twice as large as originally projected, especially among African-Americans and black Caribbeans (Heeringa et al., this issue). Thus, the projected size was decreased in the white sample and increased in the Caribbean sample in order to maximize the examination of potential sources of these differences among the black populations. No loss in power in comparisons among the population samples has been found. In fact, recent power calculations support the decision to reduce the white sample and increase the Afro-Caribbean sample. For example, with the current sample, differences of 2% in disorder rates would be detectable with power of 0.74. If the Afro-Caribbean sample had remained at 1,000, as originally proposed, rather than the current 1,600, the power of a test with a 2% difference would be only

0.59. Because the differences observed between African-American and Afro-Caribbean groups are at least on this order of magnitude for most of the major lifetime disorders, we are confident that much will be gained and little lost in having adjusted the sample sizes. This decision was made because the study of mental disorders among Afro-Caribbeans is unique to this project; white samples have been studied in the past and are being currently examined on a much larger scale in the NCS-R (Kessler et al., 2003) using a similar methodology to that employed in the NSAL.

Institutionalization effects on sample and prison pilot study

People who reside outside of a household (in prison/jail, the military, homeless, and so forth) are by definition not part of household probability samples. It was vital to consider the potential biases introduced in national estimates of psychopathology, service use, and risk and protective factors by excluding these individuals, but it was beyond the scope and budget of the NSAL to obtain interviews with institutionalized populations, homeless, and persons in the military. In a companion paper (Jackson et al., this issue) a methodological approach for estimating potential biases of disproportionate institutionalization among black populations and examining the potential effects of incarceration status is presented. In general, we found that individuals are willing to provide information on relatives away from home. Thus, it will be possible to estimate potential individuals lost to particular household listings.

Interviewer recruitment and training

Race matching of interviewer and respondents, and the use of community based interviewers were important methodological objectives so the NSAL required an unusually large number of new interviewers (Jackson, 1991). As described in greater detail (Pennell, Bowers, Carr, Chardoul, Cheung, Dinkelman, Gebler, Hansen, Pennell and Torres, this issue), very few African-Americans were in the existing pool of trained Survey Research Center (SRC)² interviewers. As in the National Survey of Black Americans (NSBA), and for all subsequent NSBA

² Survey Research Center (SRC) of the Institute for Social Research at the University of Michigan was responsible for interviewer hiring, training, and supervision as well as all other data collection efforts.

data collections, extensive and creative strategies for recruitment of local, indigenous black interviewers were developed. This was important in order to address possible variations in interview quality due to social class, geographical, and cultural differences. These strategies included recruiting retired teachers and other community professionals, and posting flyers in black neighbourhoods in places frequented by potential interviewers, such as barbershops, hair salons, community centres and churches. No other study conducted by SRC required hiring such a large number of black interviewers. The low unemployment rate in 2000 contributed to the additional time and effort needed in the process of obtaining the number of interviewers required to conduct this complex study.

Four interviewer training sessions were conducted over the course of 14 months. More than 300 interviewers were hired and trained. Based on the experience gained through NSBA (Jackson, 1991), standard interviewer training sessions were adjusted to make them more culturally sensitive and new strategies were developed for effectively training a majority of black interviewers (Hastings et al., in press). One of the most important changes made at the second and subsequent training sessions was the inclusion of as many African-American study staff as possible. African-American post-doctoral fellows and advanced graduate students affiliated with PRBA were instructed in administering the NSAL survey instrument and participated actively in training sessions.

Questionnaire design and programming

The NSAL instrument consists of two primary sections: the mental disorders questions developed in collaboration with NIMH investigators and the NCS-R study staff at Harvard and the study-specific questions developed by NSAL researchers. The mental disorders sections used for NSAL and NCS-R are slightly modified versions of those developed for the World Mental Health project initiated in 2000 (WHO World Mental Health Survey Consortium, 2004) and described in the first paper of this issue (Pennell et al., in press). Although assessments of reliability and validity have not been completed, prior work on the WHO-CIDI (Wittchen, 1994), largely in clinical and small research studies, has supported its reliability and validity. More work is needed on reliability and validity of the current version of the WHO-CIDI,

especially in large epidemiological studies like the NSAL (Wittchen, 1994). Blaise was the computer assisted personal interviewing (CAPI) software used to program the questionnaire. It permitted complex manipulations and calculations necessary for the mental disorder sections and much of the instrument could be delivered to SRC programmers already formatted for Blaise based upon the WMH surveys in the field at that time.

Development of the study-specific section for the adult instrument began 4 months prior to the official start of the project. Four work groups were formed by topic area. Approximately 10 researchers and several post-doctoral fellows participated in each group, according to their areas of expertise and interest. In addition, external researchers having expertise in the core mental health areas were consulted. Some of these researchers were pioneers in the collection, analysis and interpretation of these types of data and their extensive input to the instrument content was invaluable (for, Robins, Eaton and Schwab-Stone). Many of the questions were taken from the 1979-80 NSBA and the NSBA panel questionnaires (1987, 1992 and 1994), which were designed to be culturally sensitive and responsive to the nature of mental health issues within the black population. Much of the reliability and validity of scales and measures in these sections were based upon work over the last 25 years (Caldwell, Jackson Tucker and Bowman, 1999), and the use of fairly standardized measures (Jackson, 1991).

Core and non-core sections for the two studies were determined in the early stages of the project. Most of the risk and protective items and the demographic questions were constructed in a similar manner across studies. In addition, there was close consultation with the National Latino and Asian-American Study (NLAAS) investigators, Alegria and Takeuchi, in developing similar measures of psychopathology, environmental context, risk and protective and socio-demographic questions. Table 1 presents the areas of focus in the questionnaire, number of items in each area, and the timing in average minutes and seconds in each area and for the overall NSAL instrument.

The final African-American interviews averaged 2 hours and 20 minutes in length and Caribbean adult interviews averaged 2 hours and 43 minutes (see Table 1). The interviews administered to white respondents

Table 1. Major sections of the NSAL questionnaire

Section name	Number of items	Length in minutes and seconds
Household listing (8 items for 20 people)	160	4:41
Neighborhood	6	3:36
Religion	20	7:04
Cognitive functioning	5	4:15
Psychological resources and physical health	39	18:46
Employment and workplace	40	5:34
Family and friends	25	6:57
Screening for DSM psychiatric disorders	16	9:21
Substance and tobacco use	128	5:59
Pharmacological epidemiology	20	2:31
Family history	48	3:09
DSM psychiatric disorders and mental health (19 sections varying in length)	789	78:7
Mental health services	135	3:17
Use of help resources	10	3:18
Group and personal identity and discrimination	21	12:08
Personal data, politics and detention	64	15:20
Technology and roots	9	3:19
Total questionnaire	1535	2 hours 20 minutes

NOTE: Because respondents were not screened into each mental health section, the average length of the interview does not equal the sum of each section's average timing.

were shorter, 1 hour and 43 minutes, because some of the contextual, study-specific questions were not appropriate for whites and questions about some of the disorders were not administered to this sample (for example, substance abuse), because data would be available on a larger sample of whites through the NCS-R. When necessary, the interview was taken in more than one session to avoid fatigue and deterioration in quality of responses. When the interview was completed, respondents were compensated with \$50 for their time and cooperation. As has been found in prior surveys (Caldwell et al., 1999), the logistics of providing an incentive to a heavily urban and often poor sample was difficult. For many respondents mailed checks were not viewed as an incentive. In many geographical areas, interviewers paid respondents in cash immediately after the completion of their sessions.

Household screening and field experiences

One of the more unique demands of this study was the need to develop clear household screening procedures for each of the three study sample groups. Most

large population based, studies encounter very few households that do not meet criteria for study eligibility. African-American and Afro-Caribbean households are relatively 'rare' in their national distributions – on average, for every 3.5 households screened, one household was found to be eligible for the study. Adding even more complexity – so each of the selected segment types (African-American and Caribbean) had slightly different procedures and coversheets. Each interviewer completed a household listing of all persons living in the household and determined eligibility for each member based on their ability to speak English, their age, race, and Hispanic and Caribbean ancestry. Since self-identifying their race as being black was necessary for both the African-American and Caribbean samples, each interviewer was supplied with a laminated card with the five Census 2000 race categories to show the household informant if they answered 'mixed' or 'other race' or refused to give race information. Only one eligible adult was selected from each household using random selection procedures utilized by the SRC for over 50 years (Kish, 1965).

A challenge of the Caribbean component of the NSAL was not only in determining which countries were to be considered Caribbean for the purposes of the study but, more importantly, ensuring that persons from those countries would also self-identify as being of Caribbean descent. The interviewers were provided with a list of countries the study staff considered as being Caribbean. If the household informant responded in the negative to the coversheet question 'Are you of West Indian or Caribbean descent?' and yet said they were from one of the countries on the list, the interviewer was instructed to consider this a positive response and inform the selected respondent that he or she was considered as being Caribbean for the purposes of the study.

The difficulties in interviewing a large and complex national sample of respondents extended the data collection field period to over 2 years. As expected with disproportionately geographically distributed targeted population surveys, we encountered and responded to unique challenges once the fieldwork began. Some of these challenges were:

- race matching required hiring and training more interviewers than usual for a national study;
- a larger proportion of high-crime neighbourhoods than in general population national surveys necessitated the hiring of escorts;
- a higher proportion of primarily rural areas in the sample increased travel time;
- the Caribbean sample had high refusal rates, especially after 11 September (a significant proportion of the total Caribbean sample was located in the New York and New Jersey areas), due partly to fears and suspicions concerning questions about possible immigration status; and
- even though an excellent team of interviewers was eventually hired, they had a higher number of unexpected personal problems than anticipated, such as deaths of close family members and other personal problems, which occur disproportionately more among at-risk, race and ethnic groups, such as African-Americans.

These factors directly contributed to time spent on both screening and interviewing being higher than anticipated and originally budgeted. Based upon our prior experiences with national studies of largely urban populations, 8 hours (twice the average number of

hours in national surveys) per completed interview were originally budgeted; the actual time was 22.5 hours per completed interview.

Soon after data collection began, SRC and study staff worked together to implement the following strategies to address these challenges:

- Study aides were hired to screen households and make tentative appointments. This reduced screening costs and made the interviewers more effective in conducting interviews.
- The best interviewers travelled to areas where they were needed most.
- Press releases were issued to a large number of local black and Caribbean newspapers and radio stations in cities with the highest refusal rates.
- Investigators spoke on talk shows (especially in New York and New Jersey) about the study to increase respondent participation.
- The use of telephone interviews by especially effective interviewers was authorized in areas where there were no interviewers to conduct in-person interviews, where travel time to the household was high, when in-person attempts had proved difficult, or to complete partial interviews;
- Some members of the NSAL study staff joined the field team to assist in screening and study recruitment. This was an important element in the success of the NSAL fieldwork because the staff brought an energy and enthusiasm to the tasks that had flagged over the long and arduous 2-year field period.

Despite the challenges of obtaining samples that are distributed disproportionately within urban areas where response rates have been historically low, and mounting the first study of a large national sample of Afro-Caribbeans, the final overall response rate of 72.3% was excellent. Response rates varied by race/ethnic group (see Table 2). The final samples (see Table 2) of African-Americans ($N = 3,570$), Caribbean ($N = 1,623$) and non-Hispanic white ($N = 1,006$) are representative of their respective populations and reflect national distributions on major socio-demographic variables such as education, income, gender, region, urbanicity, marital status, and a large number of other factors representing the broad spectrum of different individual backgrounds and experiences.

Table 2. NSAL response rates

	African-American	Caribbean	Non-Hispanic white	Total
Completed sample size	3570	1623	1006	6199
Response rate (%)	70.7	77.7	69.7	72.3

Conclusions

The National Survey of American Life is the largest, most in-depth investigation of serious mental disorders and mental health ever conducted on a national household sample of the black American population. The study provides an opportunity to analyse data from a larger and more representative sample of blacks (both African American and Afro-Caribbean) than in any previous national, psychiatric epidemiological community study, permitting a systematic description and evaluation of the heterogeneity within the black population. The NSAL included multiple measures of mental disorders and mental health, which will clarify a number of unresolved issues about racial disparities in psychological health that have not been possible in previous studies. This project is directed by a multidisciplinary (psychiatry, psychology, social work, sociology, public health, biostatistics) team of multi-ethnic researchers representing all the core mental-health disciplines, and a distinguished group of scientific advisors with extensive experience in important past and current large studies, and linkages to other university and national resources in the measurement of psychopathology and survey research methods.

A major scientific contribution of the NSAL will be the development of more appropriate models of racial and ethnic minority mental health. These empirically derived models will result in a better understanding of the nature of racial and ethnic differences in the distribution of serious mental disorders. For example, differential immigration experiences among Afro-Caribbeans will contribute to understanding the mental health implications of racial/ethnic identity and acculturation strategies. Second, we will be able to gain a better understanding of the reasons for racial and ethnic differences in the use of services, both formal and informal, contributing to the development of policies to address race-based barriers to treatment. Moreover, the analyses of service use will permit an inspection of the reasons why black Americans (African-American and Afro-Caribbean) meeting criteria for mental disorders

remain less likely than white Americans to access the specialty mental health care sector. This is particularly important given the recent report of the Surgeon General, which recommended the need to increase the use of mental health services by African Americans and other ethnic groups (USDHHS, 2001). Findings from the NSAL will help to develop culturally grounded strategies for increasing access to services among the underserved.

The scientific aim of exploring the nature of psychopathology within heterogeneous national samples of the black population remains an important but unfinished national priority. It has not been possible to make meaningful comparisons among important population groups because of limitations in prior studies. Careful analyses of the NSAL data will reveal the nature of a broad array of prevalence rates for most DSM IV mental disorders, the nature of impairments associated with these disorders, help-seeking patterns, and socio-cultural correlates, of a depth and extensiveness not previously available. The NSAL will make an important contribution to the scientific understanding of mental disorders, mental health, coping and help-seeking in the heterogeneous American black population. Finally, the NSAL is a powerful vehicle for attracting and training a new generation of health researchers interested in racial and ethnic differences in mental health and mental disorders.

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References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Fourth edition (DSM-IV). Washington DC: American Psychiatric Association, 1994.
- Aneshensel CS. Social stress: theory and research. *Annual Review of Sociology* 1992; 18: 15-38.
- Blazer DG, Kessler RC, McGonagle KA, Swartz, MS. The prevalence and distribution of major depression in a national community sample: The National Comorbidity Survey. *American Journal of Psychiatry* 1994; 151(7): 979-86.
- Borrell LN, Lynch J, Neighbors HW, Burt BA, Gillespie BW. Is there homogeneity in dental health between African Americans and Mexican Americans? *Ethnicity and Disease* 2002; 12: 97-110.
- Caldwell CH, Jackson JS, Tucker MB, Bowman PJ. Culturally-competent research methods in African American communities: an update. In RL Jones (ed.) *Advances in African American Psychology: Theory, Paradigms, Methodology, and Reviews*. Hampton VA: Cobb & Henry Publishers, 1999, pp. 101-27.
- Cannon M, Locke B. Being black is detrimental to one's mental health: myth or reality? *Phylon* 1977; 38: 408-28.
- Clark R, Anderson NB, Clark, VR, Williams DR. Racism as a stressor for African Americans: a biopsychosocial model. *American Psychologist* 1999; 54(10): 805-16.
- Cooper-Patrick L, Gallo JJ, Powe NR, Steinwachs DS, Eaton WW, Ford DE. Mental health service utilization by African Americans and Whites: The Baltimore Epidemiologic Catchment Area Follow-Up. *Medical Care* 1999; 37(10): 1034-45.
- Dohrenwend BP, Dohrenwend BS. *Social Status and Psychological Disorder: A Casual Inquiry*. New York: Wiley, 1969.
- Dohrenwend BP, Levav I, Shrout PE, Schwartz S, Naveh G, Link BG, Skodol AE, Stueve A. Socioeconomic status and psychiatric disorders: the causation-selection issue. *Science* 1992; 255: 946-52.
- Essed P. *Understanding Everyday Racism: An Interdisciplinary Theory*. Newbury Park: Sage, 1991.
- Farley R. *The New American Reality: Who We Are, How We Got Here, Where We Are Going*. New York: Russell Sage Foundation, 1996.
- Feagin JR. The continuing significance of race: anti-black discrimination in public places. *American Sociological Review* 1991; 56(1): 101-16.
- Fischer J. Negroes and whites and rates of mental illness: reconsideration of a myth. *Psychiatry* 1969; 32: 428-46.
- Furberg E, Erfurt JC, Huenstein LS, Chape C, Schull WJ, Schork MA. Socio-economic stress, suppressed hostility, skin color, and black-white male blood pressure: Detroit. *Psychosomatic Medicine* 1973; 35: 276-96.
- Harrell JP, Merritt MM, Kalu J. Racism, stress, and disease. In RL Jones (ed.) *African American Mental Health*. Hampton VA: Cobb & Henry, 1998, pp. 247-80.
- Harrison G, Owens D, Holton A, Neilson D, Boot D. A prospective study of severe mental disorder in Afro-Caribbean patients. *Psychological Medicine* 1988; 18: 643-57.
- Hastings JF, Kromrei H, Caldwell CH. Conducting quantitative research with African American Caribbean black adults and adolescent populations: strategies for training interviewers from experiences with the national survey of American life. In JS Jackson, CH Caldwell, SL Sellers (eds) *Research Methods in Studies of Race and Ethnic Minority Populations*, in press.
- Heeringa SG, Adams T, Duan N, Torres M, Wagner J. Sample designs and sampling methods for the Collaborative Psychiatric Epidemiology Studies (CPES). *IJMPR* 2004; 13(4): 221-40.
- Hemingway H., Whitty CJM, Shipley M, Stansfeld S, Brunner E, Fuhrer R, Marmot M. Psychosocial risk factors for coronary disease in white, South Asian and Afro-Caribbean civil servants: The Whitehall II study. *Ethnicity and Disease* 2001; 11: 391-400.
- Hess I. *Sampling for Social Research Surveys: 1947-1980*. Ann Arbor: Institute for Social Research, University of Michigan, 1985.
- Hill RB. (1983). Comparative socio-economic profiles of Caribbean and Non-Caribbean Blacks in the US. Paper presented at the International Conference on Immigration and the Changing Black Population in the United States.
- Hogan M. *New Freedom Commission on Mental Health. Achieving the Promise: Transforming Mental Health Care in America, Executive Summary*. USDHHS Pub. No. SMA-03-3831. Rockville MD, 2003.
- Hughes M, Demo D. Self-perceptions of black Americans: self-esteem and personal efficacy. *American Journal of Sociology* 1989; 95: 132-59.
- Hughes M, Thomas ME. The continuing significance of race revisited: a study of race, class, and quality of life in America, 1972 to 1996. *American Sociological Review* 1998; 63: 785-95.
- Institute of Medicine (IOM). *Unequal treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington DC: National Academy Press, 2002.
- Jackson JS (ed.) *Life in Black America*. Newbury Park: Sage Publications, 1991.
- Jackson JS (ed.) *New Directions: African Americans in a Diversifying Nation*. Washington DC: National Policy Association, 2000.
- Jackson JS, Neighbors HW, Nesse RN, Trierweiler SJ, Torres M. Methodological innovations in the National Survey of American Life. *IJMPR* 2004; 13(4): 289-98.
- Jackson JS, Tucker MB, Bowman PJ. Conceptual and methodological problems in survey research on black Americans. In WT Liu (ed.) *Methodological Problems*

- in *Minority Research*. Chicago IL: Pacific/Asian American Mental Health Research Center, 1982.
- Jackson JS, Williams DR, Torres M. Perceptions of discrimination and health: the social stress process. In A Maney (ed.) *Social Stressors, Personal and Social Resources, and their Mental Health Consequences*. Rockville MD: National Institute of Mental Health, 2003, pp. 86-146.
- Kaufman JS, Cooper RS, McGee DL. Socioeconomic status and health in blacks and whites: the problem of residual confounding and the resiliency of race. *Epidemiology* 1997; 8: 621-28.
- Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, Rush AJ, Walters EE, Wang PS. The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *JAMA* 2003; 289(23): 3095-105.
- Kessler RC, Mikelson K, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior* 1999; 40(3): 208-30.
- Kessler RC, McGonagle K, Zhao S, Nelson C, Hughes M, Eshleman S, Wittchen H, Kendler K. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry* 1994; 51(1): 8-19.
- King M, Coker E, Leavey G, Hoare A, and Johnson-Sabine E. Incidence of psychotic illness in London: Comparison of ethnic groups. *British Medical Journal* 1994; 309: 1115-19.
- Kish L. *Survey Sampling*. New York: Wiley, 1965.
- Kleiner RJ, Tuckman J, Lavell M. Mental disorder and status based on race. *Psychiatry* 1960; 23: 271-4.
- Kramer M, Rosen B, Willis E. Definitions and distributions of mental disorders in a racist society. In C Willie, M Kramer, B Brown (eds). *Racism and Mental Health*. Pittsburgh: University of Pittsburgh Press, 1973.
- Krieger N. Embodying inequality: A review of concepts, measures, and methods for studying health consequences of discrimination. *International Journal of Health Services* 1999; 29(2): 295-352.
- Krieger N, Williams DR, Moss NE. Measuring social class in US public health research: concepts, methodologies, and guidelines. *Annual Review of Public Health* 1997; 18: 341-78.
- McLean DE, Link BG. Unraveling complexity: Strategies to refine concepts, measures, and research designs in the study of life events and mental health. In WR Avison (ed.) *Stress and Mental Health: Contemporary Issues and Prospects for the Future*. New York: Plenum Press, 1994, pp. 15-42.
- Mirowsky J, Ross C. Minority status, ethnic culture, and distress: a comparison of blacks, whites, Mexicans and Mexican-Americans. *American Journal of Sociology* 1980; 86(3): 479-95.
- Neighbors HW. The distribution of psychiatric morbidity in black Americans: a review and suggestions for research. *Community Mental Health Journal* 1984; 20: 5-18.
- Neighbors HW. Racial/ethnic health disparities in the state of Michigan: a look at the data. Invited presentation to the Faculty of Color Forum in Michigan's Health Professional Schools. Kalamazoo, Michigan: Kellogg Foundation, 2001.
- Neighbors HW, Ford B. Prevention of racial and ethnic disparities in health and mental health in adulthood. In T Gullotta, M Bloom (eds) *Encyclopedia of Primary Prevention*. New York: Kluwer Academic/Human Sciences Press, 2003.
- Neighbors HW, Williams D. The epidemiology of mental disorder among African Americans: 1985-2000. In RL Braithwaite, SE Taylor (eds) *Health Issues in the Black Community*. San Francisco: Jossey-Bass, 2001, pp. 99-128.
- Pearlin LI. The sociological study of stress. *Journal of Health and Social Behavior* 1989; 30(3): 241-56.
- Pennell BP, Bowers A, Carr D, Chardoul S, Cheung G-Q, Dinkelmann K, Gebler N, Hansen SE, Pennell S, Torres M. The Development and Implementation of the National Comorbidity Survey Replication, the National Survey of American Life, and the National Latino and Asian American Survey. *IJMPR* 2004; 13(2): 241-69.
- Porter JR, Washington RE. Black identity and self-esteem: a review of studies of black self-concept, 1968-1978. *Annual Review of Sociology* 1979; 5: 53-74.
- Robins LN, Regier DA. *Psychiatric Disorders in America: The Epidemiologic Catchment Area Study*. New York: The Free Press, 1991.
- Schmidley AD, Gordon C. US Census Bureau, Current Population Reports, Series P23-195, Profile of the Foreign-Born Population in the United States: 1997. Washington DC: US Government Printing Office, 1999.
- Selten JP, Slaets JP, Kahn RS. Schizophrenia in Surinamese and Dutch Antillean immigrants to the Netherlands: evidence of an increased incidence. *Psychological Medicine* 1997; 27(4): 807-11.
- Smedley BD, Stith AY, Nelson AR. Unequal treatment: confronting racial and ethnic disparities in health care (Summary), 1-28. Washington DC: Institute of Medicine, National Academy Press, 2002.
- Snowden LR. Barriers to effective mental health service for African Americans. *Mental Health Service Research: Special Issue: barriers to providing effective mental health services to racial and ethnic minorities in the United States* 2001; 3(4): 181-7.
- Somerwell PL, Weissman M, Glazer D, Bruce ML. The prevalence of major depression in black and white adults in five United States communities. *American Journal of Epidemiology* 1989; 130: 725-35.