

NAVAL HEALTH RESEARCH CENTER

1995 PERCEPTIONS OF WELLNESS AND READINESS ASSESSMENT (POWR '95) METHODOLOGY REPORT

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BETHESDA, MARYLAND.

**1995 PERCEPTIONS OF WELLNESS AND READINESS ASSESSMENT
(POWR '95) METHODOLOGY REPORT**

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SUMMARY

This report describes the methodology for the assessment of Perceptions of Wellness and Readiness (POWR) among active-duty Navy and Marine Corps personnel. Supported by the Defense Women's Health Research Program, the purpose of this study was to obtain baseline prevalence and risk factor information on a representative sample of active-duty Navy and Marine Corps women and men worldwide and to provide relevant comparative data with civilian populations. The POWR Assessment consisted of three separate, but complementary components. The first and most comprehensive component was a large-scale survey in which respondents completed an in-depth self-report questionnaire that assessed six key issues including reproductive health, medical history and nutritional status, mental health, lifestyle issues, occupational/environmental risks, and health services issues. This questionnaire study was based on a probability sample of approximately 10,000 active-duty Navy and Marine Corps personnel. The second component consisted of physical measurements taken on a subsample of approximately 1,200 respondents to the main survey. The third component was a telephone interview drawn from volunteers responding to the main survey. This report includes background about the study and discussions of the sampling design, the data collection instruments, data collection methods, and sample weighting and estimation procedures.

1. INTRODUCTION AND BACKGROUND

This report describes the methodology for the assessment of Perceptions of Wellness and Readiness (POWR) among active-duty Navy and Marine Corps personnel. It includes background about the study and discussions of the sampling design, the data collection instruments, data collection methods, and sample weighting and estimation procedures. The POWR study was a collaborative effort between researchers at the Naval Health Research Center (NHRC) and Research Triangle Institute (RTI).

1.1 Overview and Objectives

The purpose of the proposed research was to conduct a worldwide survey of the health of active-duty Navy and Marine Corps women and men with a special focus on women's health care needs. The general objectives of this study were to obtain data in order to

- estimate the prevalence of a broad range of health variables overall and for demographic subgroups, such as those defined by sex, race/ethnicity, age, and paygrade;
- assess the prevalence of selected diseases and disease risk factors in Navy and Marine Corps women;
- provide comparisons between differing populations of interest in the Navy and Marine Corps (e.g., women vs. men, sea vs. shore, junior enlisted vs. senior enlisted, enlisted vs. officers, surface vs. aviation, continental United States [CONUS] vs. outside continental United States [OCONUS]);
- compare prevalence findings on women's health from the Navy and Marine Corps with civilian female populations;
- develop baseline information for future status and trends of Navy and Marine Corps women's risk factor and health information;
- identify appropriate female Navy and Marine Corps populations for specialized studies; and
- contribute to the understanding of disease etiology in female populations by collecting and analyzing risk factor information.

The following section provides additional background about the need for and significance of the POWR Assessment.

1. INTRODUCTION AND BACKGROUND

1.2 Background and Significance

The shift in the U.S. Military from a conscription-based to an all-volunteer force in 1973, along with increased social acceptance of women's involvement in traditionally male-dominated occupations, has created new opportunities for an increasing number of women in the Military. Consequently, the proportion of the military population who are women has been increasing. In the early 1980s, less than 10% of the Armed Forces were women (Bray et al., 1983; Burt, Biegel, Carnes, & Farley, 1980), but by 1995 that percentage was approximately 14% of the force for a total of nearly 200,000 women (Institute of Medicine [IOM], 1995). Women make up from 11% to 15% of active-duty Army, Navy, and Air Force personnel and about 4% of Marine Corps personnel (IOM, 1995).

Since 1948, with the passage of the Women's Armed Services Integration Act, women have served in the same units as men, rather than in special all-female units (Dienstfrey, 1988). Although women in the U.S. Military have traditionally tended to be in administrative support or health-related occupational specialties, such as nursing, all occupations in principle are open to women except those related to direct offensive ground combat (Hoiberg & White, 1993; Naylor & Walker, 1994; Stanley & Segal, 1988). In the recent war in the Persian Gulf, however, approximately 33,000 women served in combat-support roles, including airplane and helicopter pilots, construction and repair, and artillery direction (Becraft, 1992).

In addition to safety concerns for women who might be near direct combat operations, concerns have been raised about the potential impact of military service upon women's health, such as the risk of stress-related health problems associated with minority status in a predominantly male environment, the risk of reproductive hazards associated with exposure to hazardous materials, or the risk of injury if women are in more physically demanding occupational specialties as opposed to administrative or medical specialties. Similarly, concern has also been raised about the potential impact of women's health problems upon overall military readiness (Hoiberg & White, 1993). Thus, research on the health status and health behaviors of military women can play an important role in helping to ensure their full participation in all aspects of military service and to guarantee them safety and well-being.

Partly in reflection of the large proportion of males in the Military, however, much prior research on the health of military personnel has either involved all-male samples within individual Services (e.g., Abood & Conway, 1991; Hurtado & Conway, 1993; McCarthy, Griffith, Prusaczyk, Goforth, & Vailas, 1992; Pleas, 1991), or it has included both military women and men but has generally not provided gender-specific estimates (e.g., Conway & Cronan, 1992; Woodruff & Conway, 1992). Prior health-related studies that have been conducted among military women, such as the 1989 DoD Women's Health Survey (Mahoney & Wright, 1990), the 1992 Navy Personnel Research and Development Center (NPRDC) survey of pregnancy among enlisted women, and Hoiberg and White's (1993) study of hospitalizations among Navy women, have tended to focus on a narrow aspect of military women's health issues (e.g., pregnancy, hospitalizations) or have not allowed estimation of baseline disease prevalence rates.

In addition, military population surveys do not offer the same degree of detailed epidemiological data on health status and health behaviors as are available for the civilian population through such studies as the National Health and Nutrition Examination Survey (NHANES) (National Center for Health Statistics [NCHS], 1981, 1985, 1992), the National Health Interview Survey (NHIS) (NCHS, 1994), the Behavioral Risk Factor Surveillance System (BRFSS) (Siegel, Frazier, Margolis, Brackbill, & Smith, 1993) and the Epidemiological Catchment Area (ECA) study (Robins & Regier, 1991). Although three recent DoD-wide surveys provided population-based health data on active-duty members (Bray et al., 1995; Lurie et al., 1993; Mahoney & Wright, 1990), none of them allows extensive estimation of baseline disease prevalence rates.

Further, because of the increasing proportion of military women, and the expansion of their military role, the nature and distribution of health care problems in the Navy and Marine Corps are likely to change. Accordingly, the health care system will need to adapt to effectively meet these needs. The development of baseline data to monitor changes in health status and health care delivery needs within the DoD and the Naval Service is of critical importance to the maintenance of military readiness.

To help address these various needs, the POWR Assessment provides key baseline data for six general issue areas within the Naval Service: (a) reproductive health, (b) medical history and nutritional status, (c) mental health, (d) lifestyle issues, (e) occupational/environmental risks and stressors, and (f) use of health services.

1.2.1 Reproductive Health

Reproductive issues are of major concern not only for policy purposes (e.g., manning ships and combat positions), but also for specialized health care. The majority of active-duty women are at the peak of their reproductive years. During a 1992 Navy Personnel Research and Development Center (NPRDC) survey of pregnancy among enlisted Navy women, a disproportionately high rate of miscarriages within lower paygrades was reported. Nearly 3,500 enlisted Navy women were randomly selected, based on their Social Security number, to complete this questionnaire. Findings indicated that the proportion of miscarriages among enlisted women (assuming any unintentional loss of the fetus throughout the entire pregnancy) for E3 and below ($N = 478$) was about 35%. The proportion of miscarriages for E4 to E6 ($N = 907$) was about 20%, while the proportion of miscarriages for E7 to E9 ($N = 695$) was approximately 5%.

The effect of expanded combat and ship experience and other occupational (chemical, radiological, and biological) exposures associated with specified duties is of major concern. A review of the literature suggests that environmental toxins and lifestyle habits may affect the ability of both a mother and a father to produce a viable embryo or fetus. Maternal factors affecting the length of pregnancy include exposure to organic solvents (Lindbohm, Taskinen, Sallmen, & Hemminki, 1990), electromagnetic radiation (Stewart, 1991), lead exposure (Lindbohm, Sallmen, Anttila, Taskinen, & Hemminki, 1991), alcohol consumption (Windham, Fenster, & Swan, 1992), passive smoke (Windham, Shanna, & Fenster, 1992), contaminated tap water (Hertz-Picciotto, Swan, Neutra, & Samuels, 1989), heavy lifting (Ahlborg, Bodin, & Hogstedt, 1990), and heavy caffeine consumption (Fenster, Eskenazi, Windham, & Swan, 1991).

1. INTRODUCTION AND BACKGROUND

According to the Naval Environmental Health Center (Crawl, 1990), a number of reproductive health hazards are found at both ship and shore commands. Cadmium, mercury, benzene, glycol ethers, perchloroethylene, polychlorinated biphenyls, and vinyl chloride should be considered priority materials for shipboard and shore minimization action. Chloroprene (rubber manufacturing), carbon disulfide, ethylene oxide, ethylene thiourea, ethylene dibromide, halogenated anesthetic gases, and nitrous oxide are substances that most likely would be found at shore facilities.

The POWR study provides information on the participants' reproductive history and existing gynecological and obstetrical (OB/GYN) conditions. In addition, perceptions, attitudes, and health care use patterns regarding existing utilization of OB/GYN facilities and services were surveyed.

1.2.2 Medical History and Nutritional Status

National health surveys (NHANES and NHIS) have served as important parts of the Nation's health monitoring systems. These surveys have established the normative distributions for certain population parameters, such as height, weight, blood pressure, and nutrition. In addition, these surveys have ascertained the prevalence of certain chronic diseases, as well as the prevalence of risk factors for given conditions. This information is essential to identify health care needs and to facilitate health care planning. Currently, there is no baseline information on underlying conditions typically seen in an acute care setting for military personnel. In addition, there is no baseline information on which to base statements regarding average height and weight for women in the Military; that is, despite gender differences in anthropometry, a single equation to predict body surface, used in estimating thermal physiologic responses, is currently applied to both male and female populations (Hodgdon, Fitzgerald, & Vogel, 1990). Also, many machines and vehicles are designed based on physical parameters standardized against the average male.

The physical measurements obtained in this survey, among other advantages, will permit a validation of existing body surface formulae or a generation of new body surface formulae for females. The POWR questionnaire provides information on height, weight, vision problems, tuberculosis, gastrointestinal problems, anemia, diabetes, respiratory conditions, hearing and speech impediments, liver and gallbladder conditions, kidney and bladder disease, allergies, hypertension, cardiovascular conditions, chronic back and joint pain (arthritis), and a variety of acute and chronic diseases.

Nutritional status has been a major component of national surveys and was included in POWR as a way of ascertaining the nutritional status of Navy and Marine Corps personnel. Although it is known that women in the Military have higher nutritional knowledge scores than men (Trent, 1992), it has also been established that women in general have different nutritional needs than men, such as for more iron, more calcium, and fewer calories, and that naval female personnel, in particular, may require supplemental iron to meet the recommended dietary amount (Departments of the Army, the Navy, and the Air Force, 1985). Data from the POWR study will permit an evaluation of active-duty women's nutritional status relative to that of their male counterparts. Also, because the common predictors of economic status and availability should be

relatively stable in the Military, this survey will be able to examine the effect of lifestyle and cultural conditions on nutritional status.

1.2.3 Mental Health

In the Navy, mental disorders are the second leading cause for hospitalization among both enlisted men (after injuries) and enlisted women (after pregnancy-related conditions) (Hoiberg, 1980). Although psychiatric incidence rates are high for both sexes, some studies have suggested that women may have much higher rates than men. For example, a study of sex differences in sick call diagnoses aboard U.S. Navy ships found significantly higher rates of personality disorder, stress, and adjustment reactions, and other symptoms and syndromes (e.g., eating and sleep disorders) among women (Nice & Hilton, 1990). Two- to four-fold differences in psychiatric hospitalization rates (excluding alcoholism) were found for women in earlier cohort studies (Hoiberg, 1980; Schuckit & Gunderson, 1974). Also, women soldiers deployed during the Persian Gulf War were almost twice as likely as men to be diagnosed with psychiatric disorders (Hines, 1993). Some investigators have suggested that women may have more disorders because women find military life more difficult and stressful than men do. However, these higher rates may reflect women's greater propensity to use health services. Further, most studies have not controlled for known demographic, psychosocial, or Service-related differences between the sexes in the assessment of their disorder rates. In view of the increased proportion of women in the Military and their greater exposure to stressful situations, such as nontraditional occupations, deployment, and combat that may increase the risk of mental disorder or distress, the Military must be prepared to plan for the delivery of increased mental health services and must identify high-risk groups to target mental health promotion efforts.

POWR provides the epidemiological data needed to address these issues by determining the prevalence of the most commonly diagnosed mental disorders in women—depression, personality disorders, eating disorders, anxiety disorders, and posttraumatic stress disorder (PTSD)—as well as the prevalence of psychiatric distress symptomatology. This study also examines possible risk factors associated with these rates, such as life events, coping skills, quality of life, perceived stress, personality, interpersonal relations, and social support.

1.2.4 Lifestyle Issues

There is increasing awareness in the medical and psychological communities that men and women differ in their risks for a variety of illnesses and in their appropriation of health-related behaviors. Women's health risk and behavior issues are particularly salient in the U.S. Navy and Marine Corps, where women's roles are expanding to embrace all occupational specialties, including those associated with deployment and combat, thereby exposing women to new physical and psychological demands and potential health hazards. Further, it is unknown to what extent poor health behaviors (e.g., smoking and caffeine use) may potentiate the effects of stress in women or to what extent their co-occurrence in an operational environment may add psychological and biological burdens (Anderson, Kiecolt-Glazer, & Glaser, 1994). To

1. INTRODUCTION AND BACKGROUND

evaluate the effect of an expanded role for women, a clear understanding of health, lifestyle, and fitness variables must be ascertained to serve as a basis for subsequent evaluations.

The POWR study examines an array of health- and fitness-related variables in women, including exercise and dietary habits, sleep patterns, cigarette smoking, aerobic fitness, muscle strength, general health habits and attitudes, and perceived health status. These variables will be evaluated as potential risk factors for specific diseases and used in comparative analyses with males.

1.2.5 Occupational/Environmental Risks

The integration of women into nontraditional ratings raises a number of questions concerning the impact of such jobs on women's health, the mechanisms employed by women to cope with new occupational demands, and the requirements for Navy medicine to provide care to women engaged in the full spectrum of occupational sites and situations. This study provides data to examine the differences in health and occupational stress among Navy women assigned to both traditional and nontraditional jobs, and to compare women's health and fitness status, as well as their job satisfaction, perceived job stress (including sexual harassment and discrimination), and job performance, to that of their male counterparts.

Further, most of the research on the effects of occupational and environmental stress in the workplace has been on males; few studies have examined potential gender differentials. Certainly, an important source of occupational stress in the Military is exposure to combat and sustained operations. Although many epidemiological studies have examined the effects of warfare exposure to active-duty male members, no epidemiological studies have been conducted on the effects of combat or deployment stress in active-duty women. Therefore, an important aspect of this study will be an examination of the physical and psychological correlates of occupational and combat stress.

1.2.6 Health Services Issues

It is well-documented that women utilize health care resources more frequently than do men (Briscoe, 1987; Nathanson, 1975; Verbrugge, 1985). In the United States, women in the reproductive age group use physician services at almost 1½ times the rate of men in that group, excluding services associated with pregnancy. Several studies on military populations have indicated that military women utilize health care resources more frequently than military men do. Navy enlisted women have considerably higher rates of hospitalization than enlisted men, with pregnancy-related conditions accounting for nearly one-third of women's hospitalizations (Hoiberg, 1980). Navy shipboard women were also found to use health care resources at a significantly higher rate than men, with a female-to-male visit ratio of 1.44 for all visits and 1.21 when all sex-specific diagnoses were excluded (Nice & Hilton, 1994). A study of the health status of women in the Army demonstrated that Army women used health care resources more frequently than Army men did (Misner, Bell, & O'Brien, 1987).

In terms of satisfaction with care, a 1989 DoD Women's Health Survey found that the majority of women were satisfied or very satisfied with the quality of medical services for both the last non-OB/GYN visit and the last OB/GYN visit. Nonetheless, there was some dissatisfaction reported with specific aspects of medical treatment (e.g., time waited, priority shown, and time to receive test results) (Mahoney & Wright, 1990). There were also differences across the Services, with women in the Air Force reporting better access to medical services and higher satisfaction with those services than did women in the other Services.

Identifying factors associated with military women's health care utilization, satisfaction, and access will help target areas for improvement in health care delivery to military women. For example, investigators have reported various psychological, social, physical, and behavioral factors associated with sex differences in health care utilization. Differences in health care utilization among men and women have been attributed to greater apparent morbidity among women than men (Rodin & Ickovics, 1990), the effects of employment (both positive and negative models) among women, and factors in the Health Belief Model. Such factors include predisposing variables (i.e., attitudes, beliefs, and knowledge regarding health care and treatment), enabling factors (i.e., conditions that facilitate or inhibit the use of health care resources), and need variables (i.e., subjective and objective evaluations of health status) (Janz & Becker, 1984).

The information obtained in the POWR Assessment contains data to evaluate women's health status in the Navy and Marine Corps. It provides baseline information for future comparisons, as the demographic profile of the Military changes over the next few years and as women move into traditionally male-dominated occupations. These data also provide key information pertinent to Navy and Marine Corps policies ranging from health care utilization to women's health issues.

1.3 POWR Assessment Components and Research Team Responsibilities

The POWR Assessment consisted of three separate, but complementary components. The first and most comprehensive component was a large-scale survey in which respondents completed an in-depth self-report questionnaire that assessed the six key issues described above. This questionnaire study was based on a probability sample of approximately 10,000 active-duty Navy and Marine Corps personnel. The second component consisted of physical measurements taken on a subsample of approximately 1,000 respondents to the main survey. The third component was a telephone interview drawn from volunteers responding to the main survey. For simplicity, these three components are referred to as the questionnaire study, the body measurement study, and the telephone study, respectively. Each is described in more detail in the following chapters.

Researchers from Naval Health Research Center (NHRC) and Research Triangle Institute (RTI) collaborated to conduct the POWR Assessment. NHRC had lead responsibility for instrument development for all three components and for data collection for the body measurement study and telephone study. RTI had responsibility for sample design, data collection, sample weighting, and data file and codebook preparation for the questionnaire study. RTI also provided sampling support for the body measurement study. NHRC had responsibility for data editing for the questionnaire study.

2. SAMPLING DESIGN

2.1 Overview and Modifications of the Sampling Design

The POWR Assessment consisted of three components: a questionnaire study yielding approximately 10,000 respondents, a body measurement study yielding measurements on approximately 1,000 persons, and a telephone study. This section briefly describes these components and the key modifications to the design after its inception.

2.1.1 Questionnaire Study

The main portion of the POWR Assessment was a questionnaire administered to a probability sample of active-duty shore-based Navy and Marine Corps personnel. The questionnaire was administered to sampled personnel in group sessions in three Navy and two Marine Corps locations. Sampled personnel in the remaining sites were surveyed by mail.

The original plans for the study called for the survey to include all active-duty Navy and Marine Corps personnel—afloat as well as shore-based. However, because a similar study of all afloat personnel was being conducted at the same time, the POWR study was restricted to ashore persons to avoid an undue burden to the afloat persons. The original design also called for all sampled persons to be surveyed in group sessions. Nonrespondents would be followed up by mail. The sample design and data collection protocols would be similar to those used for the 1995 DoD Survey of Health Related Behaviors Among Military Personnel (Bray et al., 1995). It was thought that group session administrations would result in higher response rates. The data collection strategy was changed to a combination of group sessions in a few selected sites, and multiple mailings in the remaining sites, because there was insufficient time to obtain command support needed to ensure a high turnout at the group sessions. Group sessions were conducted at a few selected West Coast and Pacific sites where support was obtained. At these sites, the questionnaire was administered in group sessions, and body measurements were taken for a subsample of persons attending the group sessions.

The sample design was similar to that used for the 1995 DoD Survey (Bray et al., 1995). A two-stage stratified design was used that included sampling of geographic locations and personnel from within those locations. Even though a large portion of the sample was surveyed by mail, clustering was used because the first two mailings to sampled persons were sent through the commanding officer (CO) in an

2. SAMPLING DESIGN

attempt to increase the response rates. By restricting the sample to a set number of locations, we also restricted the number of COs who needed to be contacted.

2.1.2 Body Measurement Study

At three Navy locations (corresponding to five first-stage units) and at two Marine Corps locations (corresponding to four first-stage units), a sample of persons reporting to the group sessions was selected to participate in the body measurement study. The sites were determined after the original sample had been selected and corresponded to one naval base outside the continental United States (OCONUS), two West Coast naval bases, and two West Coast Marine Corps bases. The hand-picked bases are major West Coast and OCONUS bases. Although a nonprobability procedure was used to select the bases to participate in the body measurement study, persons were selected in a random manner. The sample of persons can be used to make inferences for these bases. A sample large enough to yield body measurements for 600 Navy personnel (300 men and 300 women) and 400 Marines (200 men and 200 women) was selected.

2.1.3 Telephone Study

The telephone study was a volunteer survey from persons who completed the main POWR questionnaire. Sampled persons received a handout asking if they would like to be a part of the telephone survey. Persons who agreed to participate were then stratified based on their questionnaire responses to two psychiatric screening instruments. This sampling design was patterned after the two-stage approach for case identification and diagnosis described by Shrout et al (1985). Persons of greatest interest for the study were those who were most likely to have selected mental health diagnoses (such as major depression, generalized anxiety disorder, somatization, or alcohol abuse).

2.2 Design Parameters for the Questionnaire Study

The sample design for the POWR Assessment was a two-stage probability sample, with installations selected at the first stage and personnel assigned to selected installations chosen at the second stage. This approach allowed the sample to be restricted to a predetermined number of installations while preserving its inferential capability. In addition, stratification was used to further control the sample distribution with respect to organizational and demographic characteristics. The first-stage sampling frame for the Navy and Marine Corps for the 1995 DoD Survey of Health Related Behaviors Among Military Personnel was used as the basis for the first-stage frame for the 1995 POWR Assessment. The geographic distribution of the sample was controlled by stratifying by continental United States (CONUS) and outside the continental United States (OCONUS).

The total sample size for the survey consisted of approximately 25,863 Navy and Marine Corps personnel selected from 45 geographic locations worldwide. This sample size was based on precision requirements for and targeted sample sizes of approximately 10% of the women in each Service and an equal

number of men, response rates based on experience with similar methodology, and eligibility rates obtained in the 1995 DoD Survey of Health Related Behaviors Among Military Personnel.

The eligible population of survey participants was all active-duty shore-based personnel except recruits, cadets, persons with unauthorized leave (UA), and persons who had a permanent change of station (PCS) at the time of data collection.

The POWR Assessment had two specified precision requirements adopted from NHANES:

- (a) A prevalence statistic of 10% should have a relative standard error (RSE) less than 30%.
- (b) Differences of at least 10% in health or nutrition statistics between any two subdomains should be detected with a type I error of no more than 0.05 and a type II error of no more than 0.10.

Domains of interest for the study were those defined by

- (a) Service (Navy, Marine Corps);
- (b) gender (male, female);
- (c) race (white, other); and
- (d) paygrade (E1-E6, E7-E9, Officer).

Further, the targeted responding eligible sample sizes for the study were specified as approximately 10% of the number of women in each of the services and an equal number of men.

To satisfy precision requirement (a), equations were developed to describe the variable survey costs and sampling variances given the salient features of the design. These features, collectively termed "design effects," included estimates of the intracluster correlation among individuals in the same first-stage unit, the first- and second-stage stratum sizes, and the nonresponse subsampling fraction. Estimates of the data collection costs from previous surveys with similar designs were obtained, and the minimum cost allocations were obtained by solving the equations simultaneously (subject to the precision constraints).

The effective sample size needed to satisfy precision constraint (a) is 100 persons per domain. The effective sample size is the actual sample size divided by the design effect, where the design effect is the ratio of the variance under the sample design divided by the variance under a simple random sample design.

Allocations for a variety of domains and domain-level relative standard errors (RSEs) were made to obtain a sample allocation that satisfied both the approximate targeted sample size and the precision constraint that RSEs be less than 30%. In Table 2.1, the domains and the targeted RSEs considered in designing the survey are presented. The prevalence for each of the domains was assumed to be 10%. Domains were defined by first-, second-, and third-order interactions of Service, gender, paygrade, and race. RSEs that were less than 30% were targeted. Domains defined by the full cross of the factors were not considered in the design because they would have required a very large sample size. Navy

2. SAMPLING DESIGN

Table 2.1 Domains and Relative Standard Errors Used as the Basis for the Sampling Design

Reporting Domain	Number of Domains	Targeted Relative Standard Error
Navy and Marine Corps, Total	1	10%
Navy	1	8%
Marine Corps	1	10%
Gender (Male, Female)	2	15%
Paygrade (E1-E6, E7-E9, Officer)	3	10%
Race (White, Other)	2	25%
Navy: Gender	2	5%
Marine Corps: Gender	2	15%
Navy: Paygrade	3	15%
Marine Corps: Paygrade	3	30%
Navy: Race	2	10%
Marine Corps: Race	2	20%
Navy: Gender by Paygrade	6	20%
Marine Corps, Male: Paygrade	3	20%
Marine Corps, Female: Paygrade	3	30%
Navy: Gender by Race	4	10%
Marine Corps: Gender by Race	4	25%
Navy: Paygrade by Race	6	30%
Marine Corps, Paygrade by Race	6	30%

and Marine Corps women of the "other race" in the E7-E9 and Officer paygrades are very rare groups, and setting precision constraints for this domain made for an unacceptably large sample size. However, the resulting sample sizes should result in acceptable levels of precision for making estimates for most of the domains defined by the cross of gender, paygrade, and race. The resulting sample sizes are actually large enough for some of the domains that estimates will be more precise (i.e., have smaller RSEs) than indicated in Table 2.1. Details of the sample allocation are presented in Section 2.4.

The sample sizes per subgroup needed to satisfy precision constraint (b) are determined by the sizes of the two proportions being compared. With $p_1=0.15$ and $p_2=0.05$, an effective sample size of 183 per subgroup is needed; with $p_1=0.20$ and $p_2=0.10$, an effective sample size of 263 per subgroup is needed; and with $p_1=0.30$ and $p_2=0.20$, an effective sample size of 390 per subgroup is needed. In the sample sizes for our sample allocation, differences of 0.10 can be detected between most of the subgroups defined in Table 2.2 with at least 90% power for proportions in the 0.05 to 0.10 range. Exceptions include some of the comparisons involving Marine Corps females, where the power is generally at least 80%. Table 2.2 gives the expected power for detecting differences of 10% between some example domains under our proposed design.

Table 2.2 Power for Detecting Differences of 0.10 for Some Example Domains and Proportions (Level of Significance = 0.05)

Domains	$p_1=0.30, p_2=0.20$	$p_1=0.15, p_2=0.05$
Navy vs. Marine Corps	0.98	0.99
Navy Females vs. Marine Corps Females	0.98	0.99
Marine E1-E6 Females vs. Marine Officer Females	0.50	0.80
Navy E1-E6 Females vs. Navy Officer Females	0.90	0.99
Navy E1-E6 Females vs. Marine E1-E6 Females	0.80	0.96
Marine White Females vs. Marine Black Females	0.50	0.82
Marine E1-E6 Females vs. Marine E1-E6 Males	0.70	0.95
Navy E1-E6 Females vs. Navy E1-E6 Males	0.90	0.99

2.3 Frame Construction and Stratification for the Questionnaire Study

The sampling frame was constructed in two stages. The first-stage frame was comprised of sampling units that were geographically proximal organizational units defined within each Service; the second-stage frame was comprised of eligible active-duty military personnel attached to selected first-stage sampling units (FSUs).

2.3.1 First-Stage Sampling Frame Construction and Stratification

The FSUs were constructed to be of a minimum size determined by the rates at which 1992 Worldwide Survey sampled persons were available for group session questionnaire administrations. Each FSU was required to contain at least one organizational unit with 300 available persons. As the basis for the first-stage frame, the first-stage frame that had already been constructed for the Navy and Marine Corps for the 1995 DoD Survey of Health Related Behaviors Among Military Personnel was used. The frame for that study was constructed from data from the September 1994 Active-Duty Military Personnel File maintained by the Defense Manpower Data Center (DMDC). The file used to construct the first-stage frame consisted of a record for each distinct value of the zone improvement plan/fleet post office (ZIP/FPO) code and unit identification code (UIC).

To update the POWR frame, an extracted file containing the counts of Navy personnel in each gender-race-paygrade group for each ZIP/FPO code/UIC combination was created from the Navy master personnel files maintained at NHRC. Marine Corps personnel counts were provided by Marine Corps Headquarters. August 1995 data were available for the Navy, and September 1995 data were available for the Marine Corps. The counts contained no recruits and were based on persons with at least 1 year of active duty. Personnel not expected to remain at their current duty assignment through April 1996 were also

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excluded from the counts. This file was matched to the Navy and Marine Corps first-stage frame used for the 1995 DoD Survey by ZIP/FPO code in order to update the frame for use in the POWR study. The frame was then stratified geographically by CONUS/OCONUS. Table 2.3 presents the number of FSUs and the number of personnel on the frame used for the POWR Assessment.

Table 2.3 1995 First-Stage Stratum and Population Sizes

First-Stage Stratum		First-Stage Units		Personnel	
Region	Service	Frame	Sample	Frame	Sample
CONUS	Navy	73	26	130,769	8,631
	Marine Corps	19	11	94,652	1,962
OCONUS	Navy	14	6	25,626	1,756
	Marine Corps	13	2	18,285	275
Total	Navy	87	32	156,395	10,387
	Marine Corps	32	13	112,937	2,237
	Total	119	45	269,332	12,624

2.3.2 Second-Stage Sampling Frame Construction and Stratification

Second-stage sampling units (SSUs) are the individual active-duty personnel within each of the first-stage units. At the time the sample was selected, we knew the numbers of individuals in each of the paygrade groups by gender by race in each of the FSUs. Each name can be uniquely associated with a line on the roster (the order used to list the names is of no consequence). Then an equal probability, without-replacement sample of individuals can be selected by choosing either names or alternatively lines on the roster.

By defining SSUs to be lines on the roster, we provided a mechanism to fully account for any personnel changes taking place between the time of sample selection and data collection at a sample FSU. At the time the sample was selected, positions were numbered on a conceptual roster and a random sample of line numbers was selected. The individuals named on the sample line numbers were then identified.

The second-stage frame was stratified by paygrade group (E1-E6, E7-E9, Officer), gender (male, female), and race (white, other). The second-stage stratification was needed to control the distribution of the sample by paygrade, gender, and race to meet the precision requirements specified in Table 2.1.

2.4 Sample Allocation and Selection for the Questionnaire Study

A variety of population parameters are to be estimated from this study, and a variety of uses to be made from the data. The sample design was designed to estimate the population prevalences of 0.10 for domains given in Table 2.1 with RSEs less than or equal to those indicated.

The relative sizes of the domains of interest implied in Table 2.2 are defined by the following quantities:

$$P(y, d) = \frac{\sum_{g=1}^N \delta(g)_y \delta(g)_d}{\sum_{g=1}^N \delta(g)_d},$$

where

- g = 1, 2, ..., N, denotes individuals in the population, and
- $\delta(g)_y$ = 1, if the g -th individual belongs to the y -th response variable category,
= 0, otherwise,
- $\delta(g)_d$ = 1, if the g -th individual belongs to the d -th reporting domain,
= 0, otherwise.

Let a single subscript denote the combination of a response variable category with a reporting domain. In what follows, the subscript, $d = 1, 2, \dots, 56$, is used to denote the domains in the order listed in Table 2.2, and the parameters used as the basis for the sampling design are denoted by the binomial proportions, $P(d)$. Our proposed design is such that

$$\frac{\sqrt{\text{Var}[\hat{P}(d)]}}{0.10} \leq \text{RSE}^*[\hat{P}(d)],$$

where $\text{Var}[\hat{P}(d)]$ is the sampling variance of the estimate $\hat{P}(d)$ to be obtained from the survey, and $\text{RSE}^*[\hat{P}(d)]$ is the design specification variance from Table 2.2.

The allocation problem can be stated in terms of determining the

- number of SSUs to be selected per FSU,
- number of FSUs to be selected,
- allocation of each to the first- and second-stage design strata, such that,

2. SAMPLING DESIGN

- precision requirements set for the survey are met,
- for the least cost.

Equations were developed that described the variable survey cost and sampling variances in terms of the various features of the design, the first- and second-stage sample sizes, and the nonresponse follow-up. Then the minimum cost allocations were obtained by solving the equations simultaneously subject to the precision constraints.

The solutions obtained are presented in Table 2.3. As shown, a first-stage sample of 45 units was used, allocated to the Services within geographic strata. A total sample size of 25,863 personnel was selected to yield approximately 12,000 respondents (based on eligibility rates obtained in the 1995 DoD Survey and NHRC response rate experience with this methodology). Paygrade groups were disproportionately sampled; officer grades were generally oversampled relative to the enlisted grades. Females were also oversampled. Based on the response and eligibility rates used, the sample was expected to yield about 5,000 male and 5,000 female Navy respondents, and 1,000 male and 1,000 female Marine Corps respondents. The actual number of respondents obtained is given in Chapter 5.

FSUs were selected with probability proportional to size. For this purpose, composite size measures were computed for the set of FSUs in a given first-stage stratum such that, by selecting an equal-sized second-stage sample from each FSU, the differential sampling rates applied to the gender-paygrade groups would be (on the average) obtained.

Because FSUs vary considerably with respect to numbers of personnel, the first-stage sample was selected with minimum replacement:

$$\pi(a,i) = n_1(a) S(a,i)/S(a),$$

where the expected frequency with which an FSU of composite size, $S(a,i)$, was to appear in samples of $n_1(a)$ units selected from the a -th stratum. The denominator quantity in the above equation is the stratum-level sum of the composite size measures, $S(a,i)$. The minimum replacement procedure is equivalent to without-replacement selection if none of the $\pi(a,i)$ values exceeds unity. Otherwise, the procedure achieves the expected frequencies over repeated samples and, at any specific drawing of the sample, comes within one selection of the units' expected allocation. This minimum replacement method is superior to alternative with- or without-replacement schemes in that it controls the number of selections assigned to a sampling unit so that the actual allocation and the proportional-to-size allocation differ by less than one.

The distribution of sample FSUs across major commands was controlled by using a sequential selection algorithm from a controlled ordering of the sampling frame. The selection procedure was applied within each stratum by picking an FSU at random with probability $\pi(a,i)$. Given the random starting point, selections proceeded sequentially in a circular fashion through the frame until the starting point was again reached. This sequential selection from a controlled circular ordering has the effect of implicit stratification

in the same way that a systematic selection imposes stratification on an ordered list. The random starting point for the sequential selection gives the procedure the added feature that every pair of FSUs on the frame has a chance of appearing together in the sample.

Sequential selection from an ordered frame permitted the control of the distribution of sample members by major command. To implement this procedure, FSUs were assigned to a major command on the basis of the organizational unit's affiliation. FSUs that contained units from multiple major commands were assigned to the major command that accounts for the most personnel.

At the second stage, sample individuals were selected with equal probability and without replacement from among the total personnel in the gender-paygrade-race group at the time of data collection.

3. DATA COLLECTION INSTRUMENTS

The POWR Assessment obtained data using self-report questionnaires and physical measurement instruments. This chapter briefly describes these instruments and the constructs they were designed to measure, as well as the pretest and refinement process.

3.1 Survey Questionnaire

The self-report questionnaire included 17 classes of variables: sociodemographics, medical history, current medical conditions, health perceptions, mental health, quality of life/stress, health care, self-care, lifestyle, health promotion, social support, psychosocial factors, temperament, job satisfaction/stress, casualty events, environmental/occupational exposures, and pregnancy history (see Appendix A). The goal was to produce estimates of disease prevalence, risk factors, and health care utilization that could be compared within military subpopulations and with civilian data. Priority was given to well-established instruments that (a) had published and reliable psychometric properties, (b) were appropriate to an active-duty military population, and (c) were brief. Emphasis was on using questions from the standardized large national health surveys and other military surveys for comparability. The draft questionnaire was sent to numerous investigators to review for quality and priority of content. Among the standardized instruments included in the survey were the

- Medical Outcome Survey-Short Form (MOS 36) (Ware & Sherbourne, 1992);
- Center for Epidemiologic Studies - Depression Scale (CES-D) (Orme, Reis, & Herz, 1986);
- Hopkins Checklist - Short Form (Hopkins - 21) (Deane, Leathem, & Spicer, 1992);
- Rosenberg Self-Esteem Scale (Rosenberg, 1965; Westaway & Wolmarans, 1992);
- State-Trait Anxiety Scale (short form) (Spielberger, Gorsuch, Vagg, & Jacobs, 1968, 1977);
- State-Trait Anger Inventory (short-form) (Spielberger, n.d.); and
- Job Pressures and Stresses and Job Satisfaction scales (House, McMichael, Wells, Kaplan, & Landerman, 1979).

Copyright permissions were obtained for the latter three scales, and the remaining scales were in the public domain. Other instruments from which single or more individual items were obtained included the

3. DATA COLLECTION INSTRUMENTS

- National Health and Nutrition Examination Survey (NHANES III 88-89) (NCHS, 1981, 1985, 1992);
- National Health Interview Survey (NHIS 88-94) (NCHS, 1994);
- Social Adjustment Scale (Berkman & Styme, 1979; Schooler, Hogarty, & Weissman, 1977);
- Andrews and Withey's (1973) quality of life instrument;
- DoD Health Care Survey (Defense Manpower Data Center [DMDC], 1994; Lurie et al., 1993);
- DoD Women's Health Survey (Mahoney & Wright, 1989);
- NHRC's Shipboard Health Survey, Occupational History Survey, Health and Nutrition Survey, Health and Physical Readiness Survey, Follow-Up for Fitness Survey, and the Airlant Carrier Tobacco Use Survey
- Healthier People, The Carter Center of Emory University Health Risk Appraisal (Siegel et al., 1993);
- 1992 DoD Worldwide Survey of Substance Abuse and Health Behaviors Among Military Personnel (Bray et al., 1992);
- Army's Health Risk Appraisal (HRA); and
- Centers for Disease Control and Prevention's (CDC, 1995) Behavioral Risk Factor Questionnaire.

Other stress and trauma measures appropriate to a military population were adapted from a combination of published sources (Gerard, Gibbons, & Warner, 1991; Martin & Ickovics, 1987; Norris, 1992; Ursano, Fullerton, Kao, & Bhartiya, 1995). Inter-item reliability statistics (Chronbach's Alpha coefficients) were examined to determine the best reliability/number of items ratio when data were available.

3.2 Physical and Cardiovascular Measurements

Body measurements were limited to noninvasive, standardized procedures. These measurements included blood pressure; heart rate; height, weight, neck, waist, and hip circumference; triceps skinfold; and subscapular skinfold. All measurements were recorded on a data sheet as they were taken (Appendix B). All equipment was prepared and calibrated in accordance with standardized protocols. This equipment included two digital scales, two calipers, three automated blood pressure cuffs with digital readouts and pulse registration, two handgrip dynamometers, and six tape measures.

3. DATA COLLECTION INSTRUMENTS

The two Seca, model 77000, compact digital doctor scales were used for weighing. Calibration involved weighing the same clipboard on each scale at the beginning of each session and noting any differences in the two scales. The scales were numbered scale one and scale two. Participants were asked to remove their shoes and empty their pockets prior to stepping on the scale. Once on the scale, they were asked to look straight ahead, and their weight was recorded on the data sheet to the nearest 0.1 kilogram.

Height was measured using a W.H. Collins, Inc., plastic-coated tape measure attached to the wall. Participants were asked to remove their shoes and stand with heels together next to the wall or baseboard; the tape measure was used to bisect the long axis of the body. A clipboard was placed on the highest point of the head parallel to the floor. Participants were asked to take and hold a deep breath and stretch tall. When the recorder had a reading, the participant was directed to step away, leaving the clipboard in place. The reading was verified with the clipboard still in place and then recorded on the data sheet to the nearest 0.1 centimeter.

Blood pressure was taken with automatic oscillometric electronic digital blood pressure and pulse monitors manufactured by Omron, model HEM-704C. Two machines designated as machine one and machine two were used, and machine three was used only as a backup. Batteries did not have to be checked because these machines have an indicator for low battery. Specifications with this model indicated that pressure readings are plus or minus 3 mmHG (millimeters of mercury) or 2% of reading, and pulse is plus or minus 5% of reading. Each participant was asked to be seated for approximately 5 minutes prior to taking the first reading. Participants were instructed to place their feet flat on the floor with an arm resting on the table. The cuff inflated automatically and gave an EE readout if the pressure level was set too low for inflation. The systolic and diastolic readings were recorded in millimeters, then the pulse was recorded in beats per minute. The readings were recorded on the data sheet, and the machine was turned off. The cuff was not removed prior to the procedure being repeated. The two readings were averaged. If the second reading was 5 points different from the first reading, a third reading was taken and the three readings were then averaged.

Handgrip strength was measured using 2 Jamar/Asimov Model 258-J00105 hydraulic hand dynamometers from the Lafayette Instrument Co. They were calibrated by zeroing them after each use. Data were recorded in kilograms for the dominant hand. Three readings were taken, and the highest score was used.

Circumferences of the neck, abdomen, and hip in women were taken using a Dritz plastic-coated tape measure. Participants were asked to remove their shirts for the neck and abdomen measures. If necessary, pants or skirts were lowered to gain access to the waist. In women, the hips were measured over the clothing by pulling the tape tight. These measurements were recorded to the nearest centimeter. Each circumference measurement was taken twice by the same team member; these measurements were then averaged. The protocol followed was from Technique for Measuring Body Circumferences and Skinfold Thickness by Beckett and Hodgdon (1984).

3. DATA COLLECTION INSTRUMENTS

Skinfold thicknesses were measured using Harpenden, John Bull calipers from Novel Products, Inc. The protocol followed was also from Beckett and Hodgdon (1984). Calipers were checked after each measurement to be sure the indicator had returned to zero.

3.3 Telephone Interviews

The Quick Diagnostic Interview Schedule (DIS) (Marcus, Robins, & Bucholz, 1991) was the instrument used in this study and is a shortened, computerized version of the DIS used previously in the well-known Epidemiologic Catchment Area studies (Robins & Regier, 1991). The Quick DIS asks the minimum number of questions needed to make a diagnostic decision for selected diagnoses of interest in this study. These diagnoses were Tobacco Addiction, Depression, Generalized Anxiety Disorder, Panic Disorder, Agoraphobia, Social Phobia, Simple Phobia, Post Traumatic Stress Disorder (PTSD), Anorexia, Bulimia, Somatization, Obsessive Disorder, Compulsive Disorder, Antisocial Personality Disorder, and Alcohol Abuse or Dependence. It is designed to be administered by lay interviewers with little or no previous training (see Appendix C). The highly structured interview uses a probe format in which the length of the interview depends on responses to key questions. The minimum number of questions per interview was 75, requiring approximately 8 minutes to complete (i.e., if the respondent answered negatively to all questions).

3.4 Pretest and Refinements

Pilot testing of the questionnaire and physical measurement protocols was conducted on a sample of men and women in the Marine Corps stationed at Twenty-nine Palms and in the Navy stationed at the Naval Base in San Diego. Ten sailors and ten Marines (five men and women each) from local commands were asked to complete and evaluate the questionnaire. The questionnaire took an average of 45 minutes to complete. Modifications were made as needed to improve inclusiveness and clarity. Volunteers also were asked to step through the physical measurement process. Two pilot studies were conducted: one on 14 people from the USS STEADFAST, a floating dry dock, and a second with 20 volunteers from the Branch Medical Clinic at Miramar Naval Air Station.

Pilot testing of the telephone survey was conducted on eight individuals (two per interviewer) who responded positively to the written request for volunteers included with their questionnaire during the on-site survey pilot testing (see preparations below). Several summary statistics were calculated on the pilot and first "live" telephone interviews. Among the eight interviews conducted, the shortest interview took 20 minutes and the longest was 45 minutes. Average time to administer the eight interviews was 31 minutes. Only two of the eight interviews yielded a dependence on tobacco. This finding was particularly relevant because most of our respondents were expected to have used tobacco or tobacco products at some time during their lives. Any lifetime diagnosis of tobacco dependence would result in asking the respondent to answer nearly 40 questions and would lengthen the interview considerably. Including tobacco, four of the eight interviews yielded no diagnosis, three resulted in one diagnosis, and one interview showed three diagnoses. Tobacco dependence and PTSD were the most common diagnoses encountered in the pilot interviews.

4. DATA COLLECTION AND PROCESSING

4.1 Overview of Methods

The data collection methodology used for the POWR Assessment evolved over the course of the project due to various scheduling and command issues. Several data collection approaches were considered before a hybrid of two methodologies was eventually implemented.

4.1.1 Original Design

The initial data collection methodology was patterned after the DoD Worldwide Surveys and involved sending two-person field teams to 45 first-stage sampling units (FSUs) worldwide. The teams would conduct group sessions at the nucleus installation where selected personnel would be scheduled to come to a meeting/classroom and complete the questionnaire. Completed instruments would be shipped back to a scoring site in North Carolina. Eligible personnel who were selected, but were unable to attend a group session, would be sent a packet containing a questionnaire booklet and business reply envelope to return the completed instrument.

The initial design had to be modified to address issues of command support for the study and overlap with a companion shipboard study being conducted by NHRC. Resolution of these issues resulted in a number of modifications to the study design and the corresponding field operations.

4.1.2 Modified Design

The revised methodology consisted of a mixed mode that was primarily a mail survey with a small number of sites being done in group sessions. For the mailout portion, packets were sent to the selected respondents through their unit commanding officers (COs), who were asked to distribute the packets to the individuals and encourage their participation.

A second mailing was made several weeks later through the unit COs. Lists were provided of those selected unit members who had not yet responded and a second questionnaire packet included for the COs to distribute. A third mailing of a packet was sent directly to the selected personnel who had not responded to either of the first two mailings by a certain date.

4. DATA COLLECTION AND PROCESSING

In an effort to maintain the integrity of the body measurement component of the research, plans were also included to collect data via the original on-site, group session methodology described above, but at a limited number of FSUs. Five sites (two West Coast Navy bases, one Pacific Navy base, and two West Coast Marine Corps sites) were selected for on-site data collection followed by a single mailing to eligible non-attendees. While at these installations, teams from NHRC, working in conjunction with RTI field teams, collected the needed physical measurements from selected participants.

4.2 Data Collection Preparations

The groundwork for the field data collection was laid by preparing a lead letter from NHRC's CO addressed to each CO at all selected units in the Navy and Marine Corps. The letter described the importance of the research and requested CO support in encouraging their staff to participate. Self-reply postcards were also enclosed for the COs to send back if they needed further information. Coordination between NHRC and other commands was facilitated by designating a Headquarters Liaison Officer (HLO), a Lieutenant Commander detailed to NHRC, to interface directly with commands as their Point of Contact (POC) for the study. The HLO was also the Body Measurements field team leader.

4.2.1 Field Site Preparations

For the five sites where group sessions were to be conducted, additional support was obtained from the Bureau of Medicine and Surgery (BUMED), Department of the Navy. BUMED sent official naval messages addressed to the COs of the major medical facilities that endorsed the study and requested their participation and designation of a military liaison officer (MLO).

Field team leaders coordinated with the MLOs by telephone to confirm that local arrangements were proceeding. MLOs were asked to reserve suitable meeting/classroom facilities for the group sessions and schedule the various units into a group session and to encourage support and participation where possible. Field data collection procedures were documented in a brief Field Team Manual and Military Liaison Officer's Manual. The methodology involved scheduling the units into sessions once the MLOs secured local facilities for the dates of the site visits. Unit COs were notified by mail of the personnel selected and scheduled to attend from their respective units. MLOs would handle contacts from unit COs who had to reschedule group sessions. Approximately 1 week prior to the site visit, MLOs would also telephone the COs of the larger units selected at each FSU to confirm the scheduled attendance of the unit's selected personnel at a group session.

Materials were faxed to the MLOs outlining the study and their role in ensuring its success. Scheduling grids were also provided for MLO use in securing rooms for the group sessions to be held during the scheduled site visits. Completed grids were to be faxed to RTI within 10 days. As grids were returned, the process began of scheduling individual units into group sessions. Individual notices were prepared for each unit CO, and copies of the schedule notices were included for distribution to each selected respondent. Field teams participated in two training sessions prior to the beginning of data collection at the installations.

4.2.2 Body Measurement Preparations

All necessary definitions and instructions regarding how physical measurements were taken were compiled into a staff instruction manual. Measurement teams were trained by an experienced anthropometrist. A 2-week practice and reliability-testing period was conducted in which the measurement teams practiced and retrained until all members tested within 1 cm for circumferences and achieved a 90% reliability with the skinfold measurements. Training was conducted by a research physiologist with a master's degree in exercise physiology. Practice included measuring other team members, 10 volunteers, and 30 Marine Corps recruits. Practice sessions included watching each person complete every measurement on a minimum of 10 people. After determining that all team members were proficient in taking the measurements, the training leader divided them into two-person teams. Teams were assigned a specific set of measurements to practice, anticipating that as team members watched each other perform a measure, they would come to agreement on technique and begin to measure similarly, thus reducing the variance between measurers. Separate male and female teams measured men and women, respectively. One additional female team member "floated" between teams and was used to relieve other team members when necessary. It was noted that male participants were equally comfortable with male or female team members. Female participants were measured by female team members only. Blood pressure, caliper, and body circumferences were measured repeatedly on volunteers by the teams that were assigned to do these measurements noting placement and technique in an attempt to keep variance to a minimum.

To check reliability, four people assigned to take blood pressures (BPs) took two readings on the same two subjects using the same machine. The BPs were then averaged, and the strategy was repeated using a second machine. The reliability coefficients for systolic BP on machine 1 were 0.96; on machine 2, $r = .81$; and on machine 3, $r = 0.86$. Reliability coefficients for diastolic BP on machine 1 were 0.93; machine 2, $r = .86$; and machine 3, $r = .96$. Triceps measurements were taken by six measurers on two different subjects with an average correlation = 0.99. The same measurers repeated the procedure for the subscapular measurements with $r = .95$. The same six team members took one measurement each on the same two subjects on the neck and waist, generating r 's of 0.99 and .95, respectively. Reliability estimates were not available for the hip measures due to the limited number of female subjects. Six trials were conducted on handgrip measures to determine the consistency between dynamometers. Two of three dynamometers were selected based on best reliability coefficients. The intra-measure correlations for the first reading were .36; for the second reading, $r = .71$ and for the third reading $r = .25$. The correlation for the average of the three readings was .68.

4.2.3 Telephone Survey Preparations

Definitions and instructions pertaining to the conduct of the telephone survey were compiled into a comprehensive staff instruction manual. Specialized training was given to four data collection staff members in the specific procedures they would perform in the telephone survey. The field team assigned to conduct the Quick Diagnostic Interview Schedule (DIS) interviews (Marcus et al., 1991) participated in the development of all procedures and forms for gaining consent for the interview, conducting the interview,

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scheduling call-backs, and tracking all attempts to contact the respondent (see Appendix C for a copy of the relevant sections of the Quick DIS that were used in this study). The Principal Investigator and Project Coordinator for the study had experience with the full version of the DIS, either through a comprehensive training program or prior research. They delivered the training and served as experts when questions arose during the practice and pilot interviews and throughout the fieldwork. In addition, another member of the field team who was a clinical psychologist was available to provide advice on working with potential respondents who felt emotional discomfort or distress as a result of the interview. She served in a supervisory capacity in the event an interview became overly emotional, to provide a break in the interview or to advise the respondent of professional resources available within the military (e.g., chaplain, medical officer, and family service center).

Training consisted of lectures, practice and pilot interviews both with and without a supervisor present, and debriefings. Unlike the full version of the DIS, the Quick DIS is a self-contained computer program and is considerably shorter than the parent version. Thus, training was greatly simplified. Each member of the field team conducted a single practice interview with either a friend or a co-worker. A second pilot interview was conducted with active-duty military subjects from San Diego, who served as test subjects for the body measurement component of the study. This interview was conducted via the telephone in the presence of a supervisor. After everyone had completed one practice and one pilot interview, the group reconvened to discuss any issues that arose during the practice sessions. Issues that were raised included what probes (if any) could be used to clarify a question, how to categorize a qualifying event for posttraumatic stress disorder (PTSD), and how to code a response when it is clear that the respondent does not understand the question. Each of these issues was addressed and incorporated into the instruction manual. A final "live" interview was conducted with active-duty personnel from around the country. This interview was followed by a final debriefing to discuss any additional questions or problems that arose.

4.2.4 Mail Survey Preparations

Before the beginning of Wave 1 data collection, project staff developed survey materials and procedures. Formal preparations for the first mail-out began in October 1995. These materials included a cover letter (see Exhibit 4.1), the survey questionnaire, consent form (see Exhibit 4.2), a special handout requesting volunteers for the telephone survey (see Exhibit 4.3), and a mailing label. Other appropriate materials were also procured, such as CO envelopes and sample personnel (SP) envelopes with NHRC's return address printed on the outside, business reply envelopes, errata sheet, and unit SP lists.

A CO-to-CO letter explaining the survey, assuring confidentiality, encouraging participation, and requesting assistance in distributing the packets was developed and signed by the CO. A certificate of participation was also developed that was included in the first mail-out.

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Exhibit 4.1 Wave 1 RTI Cover Letter

RESEARCH TRIANGLE INSTITUTE



November 1995 - January 1996

Dear Member of the Navy and Marine Corps:

Research Triangle Institute (RTI) of North Carolina, a nonprofit research organization, is currently conducting a survey for the Department of the Navy through the Naval Health Research Center (NHRC) to provide a comprehensive worldwide assessment of health related issues for the Navy and Marine Corps.

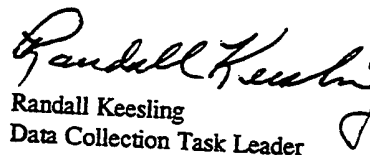
Thousands of Navy Department personnel are completing questionnaires around the world. Your name was chosen at random from a list of officers and enlisted personnel to participate in this survey. Substitutions for selected personnel are **NOT** permitted. That is why you are so important to us. In a survey such as this, each person who participates represents thousands of other service personnel. In order for us to have useful results, it is very important that you provide complete and accurate responses to the questions asked.

Because of the sensitive nature of the information in this survey, the importance of the study, and to encourage your frank and honest responses, you will mail your completed questionnaire directly to a civilian scoring contractor using the enclosed business reply envelope. Enclosed you will also find a consent form outlining the purpose of the study, confidentiality associated with the data, and points of contact at NHRC if you need additional information concerning the study. If you are willing to participate in this study, **please sign the form**. Tear off the back copies and keep them for your personal records. Please enclose the white copy in the business reply envelope provided.

Please complete the questionnaire in private and do not show it to anyone. Directions for marking your answer choices are given inside the cover page. Please read the instructions **carefully**. **USE ONLY A SOFT LEAD (NO.2) PENCIL**; do not use a colored pencil or pen of any kind. Inside the back of the questionnaire you will find a special handout on a blue sheet. Take a few minutes to read this special handout. If you decide to complete the handout, enclose it in the business reply envelope. **NOTE:** At the bottom of the handout, please fill in the four digit First Stage Unit (FSU) number. You will find this number on the back cover of the questionnaire.

When you have finished, seal the questionnaire, consent form, and blue insert in the enclosed envelope and mail it to our printing and scoring contractor, Information Services Group (ISG), Morrisville, North Carolina. **NOTE:** Since this is a business reply envelope, no postage is required; however, you must place it in a U.S. Postal system box. On behalf of NHRC and RTI, I want to sincerely thank you for your participation in this important survey. Enclosed is a certificate in appreciation for your thoughtful responses.

Sincerely,


Randall Keesling
Data Collection Task Leader

Enclosure

PO Box 12194

Research Triangle Park, North Carolina 27709-2194

Telephone 919 541-6000

4. DATA COLLECTION AND PROCESSING

Exhibit 4.2 Voluntary Consent Form

Voluntary Consent to Participate in The 1995 POWR Assessment: Perceptions Of Wellness and Readiness

1. I am being asked to volunteer to participate in a research study titled "The 1995 POWR Assessment: PERCEPTIONS OF WELLNESS AND READINESS." The purpose of this study is to obtain baseline information on a variety of health conditions in active-duty Navy and Marine Corps personnel. Survey items will cover the following general areas: reproduction, medical/physiologic, psychosocial, life-style, occupational, and health care. Approximately 18,000 volunteers will participate in this study. During my participation in this study, I will be involved in the following procedures or tests: completing a written questionnaire taking approximately one half to one hour on one day only, and, at selected sites, having physical measurements taken (blood pressure, heart rate, height, weight, head, neck and waist circumferences) requiring approximately ten minutes, and, if selected, being interviewed by telephone for approximately 15 minutes by a trained staff member. Some automated medical record data may also be extracted and combined with these questionnaire data for research purposes. All of these procedures are considered routine, and none is considered an experimental procedure.
2. The investigators believe that there are no direct physical or psychological risks to me as a participant in this research study. A possible exception is the risk of stress or embarrassment some people may experience related to revealing personal information.
3. The results from this project may help the Navy and Marine Corps better understand and care for the medical needs of active duty personnel. However, I may expect no direct benefit from my participation in this research.
4. There are no alternative procedures for gathering this information.
5. Confidentiality during the study will be ensured by allowing access to data only to authorized study personnel. The confidentiality of the information related to my participation in this research will be ensured by (a) having all raw data maintained in strict confidentiality and stored in locked file cabinets at the Naval Health Research Center, (b) removing individual identifiers (names and social security numbers) from the computerized data files prior to analyses and maintaining automatic data processing (ADP) security, and (c) releasing data only in aggregated (group) form.
6. If I have questions about this study I should contact the following individuals: for questions about research (science) aspects I should contact Dr. Laurel Hourani at (619)553-8460; for questions about medical aspects, injury, or any health or safety questions for myself or any other volunteer's participation, contact Dr. Lisa Meyer at (619)553-8376; and for questions about the ethical aspects of this study, my rights as a volunteer, or any problem related to protection of research volunteers, I should contact Mr. Ralph Burr at (619)553-7760.
7. My participation in this study is completely voluntary. If I do not want to participate, there will be no penalty, and I will not lose any benefit to which I am otherwise entitled. Refusal to participate will not have any negative impact on my military status. I may discontinue my participation in this study at any time I choose. If I do choose to discontinue my participation, there will be no penalty and I will not lose any benefit to which I am otherwise entitled.
8. I have received a statement informing me about the provisions of the Privacy Act.
9. I have been informed that Dr. Laurel Hourani is responsible for storage of my consent form and the research records related to my participation in this study. These records are stored at the Naval Health Research Center, San Diego, CA.
10. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. All my questions have been answered to my satisfaction. By my signature below, I give my voluntary informed consent to participate in the research as it has been explained to me, and I acknowledge receipt of a copy of this form for my own personal records.

Volunteer

Date (DD/MM/YY)

Witness

Date (DD/MM/YY)



Investigator

20/08/95
Date (DD/MM/YY)

Naval Health Research Center Copy

4. DATA COLLECTION AND PROCESSING

Exhibit 4.3 Special Handout for Telephone Survey

SPECIAL HANDOUT

We are looking for volunteers to participate in an additional confidential telephone survey of physical and mental health, and would greatly appreciate your assistance.

If you would be willing to participate in a confidential telephone interview regarding your physical and mental health and have a study member contact you to schedule a telephone interview appointment, please complete the following information:

Name _____ Social Security No. _____
Last, First Middle Initial (Please Print)

If stationed in CONUS:

City and duty station where living _____
City Duty Station

Daytime telephone number (_____) _____ Is this a DSN or commercial phone?
Evening telephone number (_____) _____ DSN Commercial

If stationed in OCONUS:

Country and duty station where living _____
Country Duty Station

Daytime telephone number _____ Is this a DSN or commercial phone?
Evening telephone number _____ DSN Commercial

Please indicate preferred hours to be contacted (mark all that apply):

- Morning
Afternoon
Evening
Anytime

FSU # [] [] [] [] []

4. DATA COLLECTION AND PROCESSING

4.3 Data Collection Implementation

4.3.1 Field Site Procedures

Data collection at the field sites was conducted by a two-person team from RTI working in conjunction with NHRC body measurement team members. The time on site varied by base; however, the daily schedule and procedures remained largely the same. Group session facilities consisted largely of a centrally located meeting room(s) with sufficient tables, chairs, lighting, and ventilation to allow participants to comfortably complete the survey. When it was not possible for significant numbers of selected personnel to get to the central location, alternative sites were secured and the team (or at least one team member) traveled to the site to administer and secure the questionnaires.

Each day, a number of sessions were scheduled from 0830 to 1700, allowing 1½ hours between the start of each session. Generally, two sessions were scheduled in the morning and three in the afternoon. As participants arrived, a team member checked names off the list of selected respondents, gave them a pencil, and directed them to a seat. When all, or most, of the participants had been checked in, a team member addressed the group and explained the purpose of the study, how the data would be used, the voluntary nature of participation, and confidentiality associated with their responses, as well as instructions on how to complete the optically scanned instrument. The questionnaires were distributed and the group allowed to begin.

During the session, the team members would check the unit lists of sampled personnel and identify those who did not attend. The list would be shown to the highest ranking person from that unit in attendance and asked to identify any who were PCS, on temporary duty (TDY), on leave, ill, separated from the Service, and so on. The person was asked to notify any whose status was not known to attend a later session. The team members and MLOs also made calls, when possible, to unit COs in an effort to document reasons for absences and to reschedule attendance at another session.

As participants completed the questionnaire, they returned them to a box that remained in the custody of the team members who, in turn, sealed and shipped full boxes of questionnaires to North Carolina for scoring. Signed consent forms were collected from each respondent and copies given to each for their files. Those who chose to complete the blue special handout, volunteering to participate in a follow-up telephone interview, returned the forms to the team members with their other materials. The consent forms and the blue special handouts were sent directly to NHRC.

The field teams utilized a laptop PC-based field control system to keep track of attendance by FSU and unit. Every one of the selected personnel had to have an attendance/absence code entered in the program. When all were documented, the system identified those non-attendees who were eligible to receive a questionnaire packet in the mail. At the end of the scheduled site visit, the team members prepared a "Phase 2" packet for mailing by inserting a questionnaire booklet, a cover letter explaining the project, a consent and

blue special handout form, and a business reply envelope. Preprinted mailing labels for each selected sample member were used to address the individual packets for mailing or distribution through the base postal system when possible.

4.3.2 Body Measurement Procedures

Recruitment for participants in the body measurement survey took place at the five sites in which the questionnaire was administered in group sessions. The sampling target was 600 Navy and 400 Marine Corps (6% of the anticipated Navy respondent questionnaires and 20% of the anticipated Marine Corps respondent questionnaires). Target cell sizes for demographic groups were calculated based on equal numbers of men and women and were proportional to those in the original sample. This number was then indicated on a grid used by the MLO or team members who greeted participants on arrival to the sessions. If a participant's demographic composition fell into a target cell, it was ticked on the grid and he or she was handed a 5½ × 8½ inch bright yellow card that informed participants that they had been randomly chosen to participate in the body measurements portion of the study. This procedure helped maintain the scheduling of participants for measuring, avoided long wait times, and allowed for a variable number of respondents per session. After chosen respondents completed their questionnaires, they were shown to the appropriate male or female measuring rooms. Measurements were taken by both trained military corpsmen and civilian contractors. These team members consisted of two four-person teams, one for men and one for women, and an additional team member for relief or backup to fill in for any other team member during a session. One member on each team took and recorded height, weight, and blood pressure (BP) measurements. The other team members worked as partners taking and recording circumference, caliper, and handgrip measurements.

Measurements were taken directly following the administration of the written survey. This ensured that all participants had been seated for at least 30 minutes prior to having their BP and heart rate taken and were not being measured immediately after exercising or working. A standardized protocol for the measurement of cardiovascular and physical parameters was developed based on a combination of the standardized National Health and Nutrition Examination Survey (NHANES) and Navy anthropometric protocols (Beckett & Hodgdon, 1984). This protocol was reflected in the design of the data sheets upon which the measurements were recorded and that accompanied the participant from measuring station to measuring station. BP feedback forms were available for interested individuals. Wellness newsletters and certificates of participation were distributed to all participants in the body measurement survey.

4.3.3 Telephone Survey Procedures

On the special handout that accompanied the questionnaire (Exhibit 4.3), all participants were asked whether they would be willing to participate in a confidential telephone interview regarding their health and mental health, and if so, to provide phone numbers and preferred contact times. Based on criteria met for a high level of psychosocial distress as determined by standardized cutoff scores on self-administered screening instruments included in the written questionnaire (CES-D and Hopkins-21) and scored at NHRC (see Section 3.1), selected individuals who responded positively about participating in a telephone interview were contacted to schedule their interview. Volunteers were compared to nonvolunteers to examine potential

4. DATA COLLECTION AND PROCESSING

for bias and necessity for statistical control. To accommodate local command requests, about 30 interviews were conducted face-to-face on-site following the body measurements survey. Most interviews, however, were conducted from phones in private offices at NHRC. A minimum of six attempts to contact a selected individual were made at various times during day and evening hours. Once contact was made, individuals were reminded of their earlier consent to an interview, asked whether it was a good time to complete the survey, informed that it would take between 15 and 45 minutes to complete, and answered other questions usually pertaining to anonymity and privacy issues. For example, individuals were assured that no military individual would have access to an individual's interview results nor would any aspect of the interview be made part of his or her Navy record, and that most of the questions could be answered with a yes or no.

Call-back appointments were made as needed and recorded on a separate appointment sheet or call-back log. The average interview length was 26 minutes. Interviewers maintained a written log of attempted contacts and/or completed interviews with time and length of interview. Interviewers entered questionnaire responses directly into PCs. In a small number of cases in which the respondent clearly indicated present and untreated symptomatology, following the interview, interviewers reminded respondents of the problem they had expressed and were advised to seek help from the resources available on base. Also, at the conclusion of the interview, interviewers advised respondents of the possibility of retesting and obtained their approval with the following script: "Our research design necessitates that we repeat some interviews. Therefore, we will be calling a random sample of respondents. It is unlikely that you will be called but in the event you are recalled, would you mind being interviewed again by another person from our office?" Interviewers readministered the Quick DIS to a random sample of each others' previous interviewees. The test-retest correlations (Kappas) for specific diagnoses ranged from a low of .41 to 1.00. Completed interviews were scored by computer software, thus ensuring the anonymity of results. To link DIS and questionnaire files, a separate file was created that matched interview number with social security number (SSN), then the SSN was dropped after data were merged.

4.3.4 Mail Survey Procedures

Mail survey operations began in November 1995, with the first mail-out to 1,734 unit COs containing 21,458 survey packets (18,502 Navy and 2,956 Marine Corps). The following materials were included in the Wave 1 mailing:

- Outer envelope for COs,
- Label with a return address for all COs,
- CO-to-CO letter,
- Unit sample personnel (SP) list(s),
- Business reply envelope, and
- Inner envelope(s) for each SP, which included:
 - Cover letter;
 - A pre-coded (with FSU #) questionnaire;
 - Confidential follow-up survey insert;

- Consent form;
- Certificate of participation; and
- Business reply envelope.

A subsequent mailing to those selected personnel who did not respond to the first mailing took place in January 1996. To determine wave eligibility, a Mail-out Eligibility Tracking System was developed that worked as follows: A data file containing name, rank, sex, and SSN of those personnel who returned a questionnaire were merged into the master Mail-out Eligibility Tracking System. The selected personnel who did not respond before a specified date remained eligible to receive the Wave 2 materials.

For the second mail-out, there were 18,252 (15,775 Navy and 2,477 Marine Corps) selected personnel who were still eligible to receive a replacement packet. The packets were addressed to COs of selected personnel requesting their assistance in distributing the enclosed packets to those selected to participate. The above list of materials were also sent during Wave 2, except the certificate of participation, and slight modifications to the CO-to-CO and cover letter (see Exhibit 4.4) to selected personnel.

A subsequent mailing to those selected personnel who did not respond to the first and second mailings took place in March 1996. The Mail-out Eligibility Tracking System identified 13,990 (11,976 Navy and 2,014 Marine Corps) selected personnel who were still eligible to receive a second replacement packet. However, instead of sending the packets to the COs requesting them to distribute the packets to selected personnel, the packets were sent directly to selected personnel. The following replacement materials were included in the final wave's envelope with NHRC's return address printed on the outside:

- Cover letter (modifications from Wave 1 and 2) (see Exhibit 4.5),
- A pre-coded questionnaire with sequential number printed on back,
- Confidential follow-up survey insert,
- Consent form, and
- Business reply envelope.

4.3.5 Data Collection Monitoring

To monitor the progress of completed questionnaires, project staff designed two software monitoring systems, one for the body measurement site component and another for the mail-out component, that stored respondent and eligibility information in a master project database. The body measurement site system was a laptop PC-based system developed for documenting eligibility, attendance at a session, and mailing of a questionnaire for each selected personnel. As selected personnel arrived at a group administration to complete the survey, field staff entered attendance information into their laptop computer. This system allowed field staff to view and update records for sample personnel who attended and who did not attend for some reason (PCS, TDY, SEP). Records not marked as having attended or for which no "disqualifying" reason for absence (i.e., PCS, SEP, DEC, AWOL) had been entered, resulted in a

4. DATA COLLECTION AND PROCESSING

Exhibit 4.4 Wave 2 RTI Cover Memo

RESEARCH TRIANGLE INSTITUTE



January 1996

Dear Member of the Navy and Marine Corps:

Research Triangle Institute (RTI) of North Carolina, a nonprofit research organization, is currently conducting a survey for the Department of the Navy through the Naval Health Research Center (NHRC) to provide a comprehensive worldwide assessment of health related issues for the Navy and Marine Corps.

Thousands of Navy Department personnel are completing questionnaires around the world. Your name was chosen at random from a list of officers and enlisted personnel to participate in this survey. Substitutions for selected personnel are **NOT** permitted. That is why you are so important to us. In a survey such as this, each person who participates represents thousands of other service personnel. In order for us to have useful results, it is very important that you provide complete and accurate responses to the questions asked.

Because of the sensitive nature of the information in this survey, the importance of the study, and to encourage your frank and honest responses, you will mail your completed questionnaire directly to a civilian scoring contractor using the enclosed business reply envelope. Enclosed you will also find a consent form outlining the purpose of the study, confidentiality associated with the data, and points of contact at NHRC if you need additional information concerning the study. If you are willing to participate in this study, **please sign the form**. Tear off the back copies and keep them for your personal records. Please enclose the white copy in the business reply envelope provided.

Please complete the questionnaire in private and do not show it to anyone. Directions for marking your answer choices are given inside the cover page. Please read the instructions **carefully**. **USE ONLY A SOFT LEAD (NO.2) PENCIL**; do not use a colored pencil or pen of any kind. Inside the back of the questionnaire you will find a special handout on a blue sheet. Take a few minutes to read this special handout. If you decide to complete the handout, enclose it in the business reply envelope. **NOTE:** At the bottom of the handout, please fill in the four digit First Stage Unit (FSU) number. You will find this number on the back cover of the questionnaire.

When you have finished, seal the questionnaire, consent form, and blue insert in the enclosed envelope and mail it to our printing and scoring contractor, Information Services Group (ISG), Morrisville, North Carolina, **NOT LATER THAN TWO WEEKS FROM THE DATE YOU RECEIVE THIS PACKET**. **NOTE:** Since this is a business reply envelope, no postage is required; however, you must place it in a U.S. Postal system box. On behalf of NHRC and RTI, I want to sincerely thank you for your participation in this important survey.

Sincerely,

A handwritten signature in cursive script that reads "Randall Keesling".

Randall Keesling
Data Collection Task Leader

Enclosures

PO Box 12194

Research Triangle Park, North Carolina 27709-2194

Telephone 919 541-6000



4. DATA COLLECTION AND PROCESSING

Exhibit 4.5 Wave 3 RTI Cover Letter

RESEARCH TRIANGLE INSTITUTE



25 March 1996

Dear Member of the Navy and Marine Corps:

Research Triangle Institute (RTI) of North Carolina, a nonprofit research organization, is currently conducting a survey for the Department of the Navy through the Naval Health Research Center (NHRC) to provide a comprehensive worldwide assessment of health related issues for the Navy and Marine Corps.

In November, we sent questionnaire packets to selected Navy and Marine Corps personnel for distribution through their unit commanders. Those from whom we had not received a completed questionnaire by early January were sent a second questionnaire packet, again through their unit CO for distribution.

Those from whom we have still not received a questionnaire in the mail as of the date of this letter, we are sending a replacement questionnaire packet directly to you with a final request to please consider participating in this important and confidential survey.

If you recently completed the POWR95 questionnaire and mailed it in the enclosed postage-free envelope, please disregard this letter. You do not need to complete and mail a second questionnaire.

In the event you did not receive the earlier mailings, misplaced them, did not have time before, or have reconsidered an earlier decision not to participate, please use the materials in this mailing to communicate your experiences and opinions, as requested by the survey, by completing and returning the questionnaire booklet. **Please note, this is the last mailing you will receive.**

Thousands of Navy Department personnel are completing questionnaires around the world. Your name was chosen at random from a list of officers and enlisted personnel to participate in this survey. Substitutions for selected personnel are **NOT** permitted. That is why you are so important to us. In a survey such as this, each person who participates represents thousands of other service personnel. In order for us to have useful results, it is very important that you provide complete and accurate responses to the questions asked.

Because of the sensitive nature of the information in this survey, the importance of the study, and to encourage your frank and honest responses, you will mail your completed questionnaire directly to a civilian scoring contractor using the enclosed business reply envelope. Enclosed you will also find a consent form outlining the purpose of the study, confidentiality associated with the data, and points of contact at NHRC if you need additional information concerning the study. If you are willing to participate in this study, **please sign the form**. Tear off the back copies and keep them for your personal records. Please enclose the white copy in the business reply envelope provided.

PO Box 12194
6000

Research Triangle Park, North Carolina 27709-2194

Telephone 919 541-

4. DATA COLLECTION AND PROCESSING

Exhibit 4.5 (continued)

Please complete the questionnaire in private and do not show it to anyone. Directions for marking your answer choices are given inside the cover page. Please read the instructions **carefully**. **USE ONLY A SOFT LEAD (NO.2) PENCIL**; do not use a colored pencil or pen of any kind. Along with the questionnaire you will find a special handout on a blue sheet. Take a few minutes to read this special handout. If you decide to complete the handout, enclose it in the business reply envelope.

When you have finished, seal the questionnaire, consent form, and blue insert in the enclosed envelope and mail it to our printing and scoring contractor, Information Services Group (ISG), Morrisville, North Carolina, **NOT LATER THAN TWO WEEKS FROM THE DATE YOU RECEIVE THIS PACKET**. **NOTE:** Since this is a business reply envelope, no postage is required; however, you must place it in a U.S. Postal system box. On behalf of NHRC and RTI, I want to sincerely thank you for your participation in this important survey.

Sincerely,



Randall Keesling
Data Collection Task Leader

Enclosures

questionnaire packet, similar to the Wave 3 packet, being mailed to the eligible nonattende. After the site visit was completed, field staff created an outbound data file and sent it electronically to the host system.

The Mail-out Eligibility Tracking System was designed to identify sampled personnel who returned the questionnaire in the postage-paid envelope and to monitor eligibility status for follow-up mail-out waves. The selected personnel who completed a questionnaire were identified in a data file containing respondent ID information that was downloaded into the host control system. This system then determined who was eligible for the next wave of mailings. In addition, there also was information on the unit SP lists that COs annotated and sent back via postage-paid envelope identifying selected personnel who were not forwarded his or her packet (PCS, SEP, TDY). These data were then keyed into the Mail-out Eligibility Tracking System to determine wave eligibility. Nondeliverable mail returned for wrong address was researched on the Military Location System and re-sent if an updated address was available.

4.3.6 Questionnaire Receipt and Scanning

All completed questionnaires and other materials returned by mail were received, reviewed, scanned, and batched. Problems identified during this phase were either resolved by RTI or NHRC project staff. After this manual review phase, completed questionnaires were optically scanned. A data file was generated for use in data analysis.

4.4 Survey Response Rates

Response rate information is useful for assessing the quality of survey field operations and for assessing nonresponse bias. This section describes the response rates among eligibles for the questionnaire study and for the body measurement study.

4.4.1 Questionnaire Study

Table 4.1 presents response data and response rates for the questionnaire study, both for the group session methodology and the mail methodology. As shown, response rates among eligibles were notably higher at the group session sites (57.2%) than at the mail sites (36.0%). These results indicate that the group session methodology was more effective than the mail methodology in obtaining participation. Although the reasons for the differences could not be documented formally, they likely stem from differences in participants' perceptions of the importance of the survey. Participants at group sessions may have attached greater importance to completing the survey than those at mail sites because they were given time during the duty day to attend a group session and complete the questionnaire and because command personnel gave reminders and urged selected persons to participate. Persons at mail sites had to complete the questionnaire during off-duty time and may have perceived it as more of a burden.

Two overall response rates were computed. The first, 39.6%, included all persons determined to be eligible; the second, 41.8%, eliminated 1,305 persons whose questionnaires from the third wave of

4. DATA COLLECTION AND PROCESSING

Table 4.1 Survey Response Data and Response Rates for Questionnaire Study

Data Collection Method	USMC	Navy	Total
Group Session Sites			
1. Number of persons selected	1,747	2,658	4,405
2. Number of eligible persons	1,664	2,544	4,208
3. Number of respondents	726	1,680	2,406
4. Response rate among eligibles (%) = Item 3/Item 2 × 100	43.6	66.0	57.2
Mail Sites			
5. Number of persons selected	2,956	18,502	21,458
6. Number of eligible persons	2,913	17,777	20,690
7. Number of respondents	1,069	6,384	7,453
8. Response rate among eligibles (%) = Item 7/Item 6 × 100	36.7	35.9	36.0
Total			
9. Number of persons selected	4,703	21,160	25,863
10. Number of eligible persons	4,577	20,321	24,898
11. Number of respondents	1,795	8,064	9,859
12. Response rate A among eligibles (%) ^a = Item 11/Item 10 × 100	39.2	39.7	39.6
13. Response rate B among eligibles (%) ^b = Item 11/(Item 10 - 1,305) × 100	NA	NA	41.8

NA = Not available.

Note: Most ineligibles were screened out of the frame prior to sample selection. Because of the long field period, some selected personnel became ineligible and were reported by commanders. These rates of ineligibles, which are assumed to be conservative, were applied to all FSUs.

^aRate was based on the data in the table.

^bDuring Wave 3 mailing, 1,305 questionnaires were returned due to bad addresses. However, because the first two waves of mailings were sent directly to unit commanders, it was not known if these individuals received the early mailings. This response rate eliminates them as eligibles assuming that they did not receive any of the mailings.

mailing were returned because of bad addresses. Unfortunately, both rates were relatively low and raise the potential for nonresponse bias in the survey estimates. That is, because persons who did not respond may differ from those who did respond, estimates based on respondents alone have the potential to misrepresent the population of interest. Although the potential for bias cannot be entirely ruled out, a nonresponse adjustment was made to help compensate for this problem. As described in Chapter 5, the weights were adjusted by poststratifying them to the population counts within cells defined by gender, race, paygrade, region, and Service. Because prior literature suggests that estimates are expected to vary among respondents defined by these cells, these adjustments tend to diminish differences attributable to varying cooperation rates among respondents in these groups. To the extent that there are few differences between respondents and nonrespondents to the survey, biases will be minimal.

4.4.2 Body Measurement Study

Table 4.2 presents the response data and response rates for the body measurement study. The top portion of the table repeats the information from Table 4.1 regarding the response rates for eligibles at the group session sites because the response rates for the body measurement study are conditional on those rates. The bottom portion of the table gives the cooperation rates among those selected and the overall response rates among eligibles. As shown, cooperation rates were very high for both the Marine Corps (97.3%) and the Navy (89.1%) personnel. The overall response rates were lower, however, because they take into account the numbers who attended the group sessions. The final rates were 42.4% for the Marine Corps, 58.8% for the Navy, and 52.5% overall. Although these rates were higher than those for the questionnaire study, they are still sufficiently low that they may be subject to potential nonresponse bias. Given the high cooperation rates for this portion of the study and the fact that the study involved unobtrusive physical measurements, it seems unlikely that serious bias would be introduced by the nonrespondents. As discussed in Chapter 5, relative weights were applied to these data to permit them to properly reflect the population at the five sites for the body measurement study, and no further adjustments for nonresponse were made for the data in this study.

4.4.3 Telephone Interview Study

Table 4.3 presents the response rates for the telephone interview study. Again, the top portion of the table repeats information from Table 4.1 but from the total number of questionnaire eligible persons. It also gives the number of respondents or telephone interview volunteer rates among the total eligible for the survey. These volunteer rates of 14-15 % were low but not unexpected for a telephone interview. The bottom portion of the table gives the cooperation and overall response rates. The cooperation rates, the number of persons interviewed out of the number selected, was high; most non-respondents having moved within the 6 month data collection period leaving no forwarding number. The low overall response rate suggests that the power to detect diagnoses with low prevalence rates is compromised. However, when screening test scores were compared between telephone interview volunteers and eligible questionnaire respondents, they were found to be very similar suggesting the potential for bias in the volunteer sample was small.

4. DATA COLLECTION AND PROCESSING

Table 4.2 Survey Response Data and Response Rates for Body Measurement Study

Group Session Sites	USMC	Navy	Total
Questionnaire Study			
1. Number of eligible persons	1,664	2,544	4,208
2. Number of respondents	726	1,680	2,406
3. Response rate among eligibles (%) = Item 2/Item 1 × 100	43.6	66.0	57.2
Body Measurement Study			
4. Number of eligible persons selected	450	959	1,409
5. Number of respondents	438	854	1,292
6. Cooperation rate (%) = Item 5/Item 4 × 100	97.3	89.1	91.7
7. Response rate among eligibles (%) = (Item 3 × Item 6)/100	42.4	58.8	52.5

Table 4.3 Survey Response Data and Response Rates for Telephone Interview Study

Total Survey	USMC	Navy	Total
Volunteers			
1. Number of persons selected	4,703	21,160	25,863
2. Number of eligible persons	4,577	20,321	24,898
3. Number of respondents (volunteers)	545	3046	3591
4. Response rate A among eligibles (%) ^a = Item 3/Item 2 × 100	11.9	15.0	14.4
5. Response rate B among eligibles (%) ^b = Item 2/Item 1 × 100	N/A	N/A	15.2
Telephone Interviews			
6. Number of eligible persons selected	128	841	969
7. Number interviewed	95	687	782
8. Cooperation rate (%) = Item 7/Item 6 × 100	74.2	81.7	80.7
9. Response rate A among eligibles (%) ^a = Item 4/Item 8/ 100	8.8	12.3	11.6
5. Response rate B among eligibles (%) ^b = Item 5/Item 8/ 100	N/A	N/A	12.3

^aRate was based on the data in the table.

^bDuring Wave 3 mailing, 1,305 questionnaires were returned due to bad addresses. However, because the first two waves of mailings were sent directly to unit commanders, it was not known if these individuals received the early mailings. This response rate eliminates them as eligibles assuming that they did not receive any of the mailings.

5. SAMPLE WEIGHTING AND ESTIMATION PROCEDURES

In this chapter, information is presented for the methods used to develop sample weights in the questionnaire study (i.e., initial sample weights, adjustments for nonresponse), the estimation methods used for the questionnaire study (i.e., population totals and proportions, domain estimates, the analysis software), and the weighting used for the body measurement study.

5.1 Sample Weighting for the Questionnaire Study

This section describes how sampling weights were assigned in the questionnaire study to reflect differences in the sample selection rate and response rates. Weighting consisted of calculating initial sample weights and making adjustments for nonresponse.

5.1.1 Initial Sample Weights

Initial sample weights were calculated as the inverse of the probability of selection at each stage of the design. At the first stage, the expected frequency of selecting the i -th first-stage sampling unit (FSU) from the a -th first-stage stratum was

$$\pi(a,i) = n_1(a) \cdot S(a,i) / S(a),$$

where

$n_1(a)$ = number of FSUs selected from the a -th stratum,

$S(a,i)$ = composite size measure assigned to the i -th FSU, and

$S(a)$ = sum of the composite size measures in the a -th stratum.

At the second stage, simple random samples of personnel were selected from each gender/paygrade-race group with sampling rates that attained the desired stratum sizes. The overall selection probabilities assigned to personnel in the same first- and second-stage strata were made equal whenever possible. The probability of selecting the j -th person from the b -th gender/paygrade-race stratum conditional on the selection of the i -th FSU from the a -th first-stage stratum was

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$$\pi(j | a, i, b) = \text{Min}[1, n_2(a, b) / N(a, i, b)] ,$$

where

$N(a, i, b)$ = total number of personnel in the b -th gender/paygrade-race second-stage stratum of the I -th FSU from the a -th first-stage stratum, and

$n_2(a, b)$ = targeted second-stage sample size for the b -th gender/paygrade-race second-stage stratum for FSUs in the a -th first-stage stratum.

Thus, the initial sample weight assigned to the j -th person of the b -th gender/paygrade-race second-stage stratum of the I -th FSU was

$$w(a, i, b, j) = [\pi(a, i) \cdot \pi(j | a, i, b)]^{-1} .$$

This initial sampling weight was assigned to each of the 21,160 Navy and 4,703 Marine Corps personnel selected for the sample.

The POWR Assessment survey population comprised all shore-based Navy and Marine Corps personnel on active duty at the time the sample was selected (September 1995) and who were expected to be at their September 1995 location through April 1, 1996. Exceptions who were excluded from the survey were

- basic trainees,
- Service academy cadets and midshipmen,
- personnel undergoing a permanent change of station (PCS), and
- personnel with an unauthorized leave (UA).

Basic trainees, academy cadets, and midshipmen were excluded because of their lack of military experience. We excluded personnel who were either undergoing a PCS or had a UA because of the difficulties associated with contacting them during the relatively short data collection period.

During the group administrations and mailings of the survey questionnaires, it was determined that some sampled persons were ineligible. 769 personnel identified as having left active duty, were PCS, were AWOL, or were deceased were considered to be ineligible for the survey. Personnel who were deployed, ill, on leave, or on temporary duty (TDY) were considered to be eligible but unavailable for the survey. Personnel were also considered eligible who were available but did not attend the group administrations. To give all eligible sampled members an opportunity to participate in the survey, questionnaires were mailed to those not attending the group administrations. Some mailed questionnaires were returned because of incorrect addresses; these persons were considered eligible for the survey.

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5.1.2 Adjustments for Nonresponse

To adjust the weights for nonresponse, counts of the numbers of shore-based Navy and Marine Corps personnel were obtained as of January 1996. Personnel not expected to remain at their current location through April 1, 1996, were omitted. These counts were available for each of the 48 cells defined by the intersection of Service, region, gender, paygrade group, and race. To help ensure stable sampling estimates, 10 cells with fewer than 25 respondents were collapsed to form 38 poststrata. Any necessary collapsing was done by combining across regions. These cells formed the poststratification cells for weight adjustment. Some persons had changed paygrades since the sample was selected, and the new (current) paygrade was used in defining the poststrata.

Table 5.1 presents the counts of the eligible active-duty population by Service, gender, race, and paygrade group. These counts were used to adjust the initial sampling weights of survey participants so that the sum of their adjusted weights within a poststratum equaled the number of eligible personnel in the poststratum.

Table 5.1 Total Eligible Personnel

Gender	Race	Paygrade	Navy			Marine Corps		
			CONUS	OCONUS	Total	CONUS	OCONUS	Total
Male	White	E1-E6	62,439	13,267	75,706	53,605	11,396	65,001
		E7-E9	15,043	2,367	17,410	6,467	1,273	7,740
		Officer	22,926	3,747	26,673	11,647	2,031	13,678
	Nonwhite	E1-E6	21,737	5,292	27,029	19,340	4,246	23,586
		E7-E9	3,419	822	4,241	2,885	697	3,582
		Officer	1,925	397	2,322	1,213	245	1,458
Female	White	E1-E6	11,231	3,216	14,447	2,149	401	2,550
		E7-E9	1,097	289	1,386	313	61	374
		Officer	4,068	746	4,814	477	81	558
	Nonwhite	E1-E6	6,105	1,643	7,748	1,453	314	1,767
		E7-E9	264	78	342	164	46	210
		Officer	674	149	823	87	12	99
Total			150,928	32,013	182,941	99,800	20,803	120,603

Note: Table contains the number of shore-based personnel, excluding cadets, midshipmen, and basic trainees, who were on active duty as of January 1996 and expected to remain at their current location through April 1, 1996.

Source: Data provided by NHRC, 1996.

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Sampled members were considered respondents if they returned a usable questionnaire. Questionnaires were considered "usable" if the sampled person responded to at least two items. Accordingly, the following response indicator was assigned to the j -th person of the b -th gender/paygrade-race stratum in the i -th FSU of the a -th first-stage stratum:

$$r(a,i,b,j) = \begin{cases} 1 & \text{if he/she provided a usable questionnaire, and} \\ 0 & \text{otherwise.} \end{cases}$$

This indicator was set to 1 for the 9,859 sampled members who provided a usable questionnaire. To force the sum of the adjusted weights of respondents to equal the number of eligible personnel, the following adjustment factor was calculated for each poststratum c :

$$A(c) = \frac{N(c)}{\sum_{a,b,c} \sum_{i \in a} \sum_{j \in b} w(a,i,b,j) \cdot r(a,i,b,j)},$$

where $N(c)$ is the total number of eligible personnel in poststratum c . Then the adjustment factor was applied to the initial sampling weight of each respondent to obtain the following adjusted weight:

$$w^*(a,i,b,j) = A(c) \cdot w(a,i,b,j) \cdot r(a,i,b,j).$$

Nonzero values of this weight were assigned to the 9,859 respondents who provided questionnaires with usable information. Table 5.2 presents the number of survey respondents.

5.2 Estimation for the Questionnaire Study

This section discusses the statistical estimation procedures appropriate for the complex sample design of the survey. Estimates can be produced for different reporting domains, such as demographic groups defined by Service, race/ethnicity, sex, age, and family status. The main types of estimates to be produced are means and percentages. Differences can also be produced. In addition, linear and logistic regression models can be fitted to estimate the combined effect of sociodemographic variables on a variety of dependent variables.

Estimation procedures used should be those appropriate for the two-stage, deeply stratified, two-phase design (e.g., see Cochran, 1977). The first step in the estimation process is the development of response-adjusted analysis weights (discussed in Section 5.1). Next, frequencies of categorical variables should be examined, and unreasonably large or small values in the data investigated and resolved.

Estimates of population totals are linear statistics, and their variances can be expressed in closed form. Ratios are calculated by separately estimating the numerators and denominators of the ratios, then dividing to obtain the ratio. Because ratio estimates are nonlinear statistics, their sampling variance cannot

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Table 5.2 Respondent Sample Size, by Service, Gender, Paygrade, and Race

Paygrade/ Race	Service and Gender				Total
	Navy, Male	Navy, Female	Marine Corps, Male	Marine Corps, Female	
E1 - E6					
White	1,768	2,062	169	386	4,385
Other	498	906	84	225	1,713
E7-E9					
White	558	282	152	70	1,062
Other	246	62	95	36	439
Officer					
White	649	690	251	167	1,757
Other	186	157	133	27	503
Total	3,905	4,159	884	911	9,859

be expressed in closed form. Variance approximations can be calculated using first-order Taylor series linearizations. The estimation of regression coefficients is a multivariate extension of the Taylor series linearization for ratios.

5.2.1 Estimate of Population Totals

In this section, response or observation variables (which are questionnaire items or quantities recoded from questionnaire items) are denoted by Y , and the values obtained for the response variables for the j -th person from the b -th second-stage stratum of the r -th FSU in the a -th first-stage stratum are denoted by $y(a,i,b,j)$.

A population total is estimated by the quantity,

$$\hat{Y} = \sum_{a=1}^4 \sum_{i=1}^{n_1(a)} \sum_{b=1}^{12} \sum_{j=1}^{n_2(a,i,b)} w^*(a,i,b,j) \cdot y(a,i,b,j) \quad (1)$$

where

$n_1(a)$ = number of FSUs selected from the a -th stratum,

$n_2(a,i,b)$ = number of responding personnel in the b -th second-stage stratum of the i -th FSU in the a -th first-stage stratum,

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$w^*(a,i,b,j)$ = final adjusted sampling weight (described in Section 5.1), and

$y(a,i,b,j)$ = response obtained for the j -th respondent in the b -th second stratum of the i -th FSU in the a -th first-stage stratum.

For purposes of estimating the sampling variances, Equation (1) can be conveniently rewritten as a sum of the separate estimates for each of the sampled first-stage units. To this end, define:

$$\hat{Y}(a,i) = \sum_{b=1}^{12} \sum_{j=1}^{n_2(a,i,b)} w^*(a,i,b,j) \cdot y(a,i,b,j). \quad (2)$$

Then Equation (1) can be rewritten as:

$$\hat{Y} = \sum_{a=1}^4 \sum_{i=1}^{n_1(a)} \hat{Y}(a,i),$$

and the sampling variance, assuming sampling with replacement at the first stage of the design, is estimated by:

$$\widehat{\text{Var}}\{\hat{Y}\} = \sum_{a=1}^4 \frac{n_1(a)}{n_1(a)-1} \sum_{i=1}^{n_1(a)} [\hat{Y}(a,i) - \hat{Y}(a)]^2, \quad (3)$$

where

$$\hat{Y}(a) = \frac{1}{n_1(a)} \sum_{i=1}^{n_1(a)} \hat{Y}(a,i).$$

5.2.2 Estimates of Population Proportions

Estimates of population proportions take the form of (combined) ratio estimates, denoted in general by:

$$\hat{R} = \frac{\hat{Y}}{\hat{X}}.$$

The numerator and denominator totals are individually estimated as described above. Because the numerator and denominator quantities are random variables, the estimator is a nonlinear statistic. Ratio estimates are usually biased, but the bias becomes negligible in a large sample (e.g., see Cochran, 1977).

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The variance of the estimator can be approximated using a Taylor series linearization. The linearized response variable value,

$$z(a,i,b,j) = y(a,i,b,j) - \hat{R} x(a,i,b,j) \quad (4)$$

is computed and used in place of the y -values in Equation (2). The variance estimate is then computed as given in Equation (3). Here, $y(a,i,b,j)$ and $x(a,i,b,j)$ denote the responses to two different observation variables of the j -th person in the b -th second-stage stratum of the i -th FSU in the a -th first-stage stratum.

5.2.3 Domain Estimates

Membership of a sampled person in some specified subpopulation or domain of interest can be denoted by the indicator variable,

$$\begin{aligned} \delta(a,i,b,j) &= 1, \text{ if the } j\text{-th sampled individual (in the } b\text{-th gender/paygrade group,} \\ &\quad i\text{-th first-stage unit, and } a\text{-th first-stage stratum) is a member of the} \\ &\quad \text{domain, and} \\ &= 0, \text{ otherwise.} \end{aligned}$$

The products, $\delta(a,i,b,j)$ and $y(a,i,b,j)$, when substituted for the y -values alone in the previous formulae, restrict the calculations to the specified domain. Note that the ranges of summation in the formulae remain the same, namely over all of the individuals in the sample. This convention ensures that sampling variances are computed using the correct sample sizes.

Domain comparisons, taking the form of the difference or other linear combinations of domain estimates, have, in general, a covariance arising from the two-stage selection of the sample. This is, using a difference between two domains by way of example:

$$\text{Var}\{\hat{\theta}_1 - \hat{\theta}_2\} = \text{Var}\{\hat{\theta}_1\} + \text{Var}\{\hat{\theta}_2\} - 2 \text{Cov}\{\theta_1, \theta_2\},$$

where $\hat{\theta}_1$ and $\hat{\theta}_2$ denote the two domain estimates. In terms of the previous formulae, the first-stage level differences,

$$\begin{aligned} \hat{D}(a,i) &= \hat{Y}_1(a,i) - \hat{Y}_2(a,i), \quad i = 1, 2, \dots, n_1(a), \\ &\quad a = 1, 2, 3, 4, \end{aligned}$$

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and their corresponding means,

$$\hat{D}(a) = \frac{1}{n_1(a)} \sum_{i=1}^{n_1(a)} \hat{D}(a,i),$$

can be computed and used in Equation (3) to estimate the variance of the difference. Except as the necessary distributional assumptions may not apply, the quasi student's t statistic,

$$t^* = \frac{\hat{\theta}_1 - \hat{\theta}_2}{[\text{Var}\{\hat{\theta}_1 - \hat{\theta}_2\}]^{1/2}}$$

could be used with 41 degrees of freedom as an indicator of the statistical significance of the difference. The total number of degrees of freedom suggested is the number of first-stage units minus the number of first-stage strata.

Computer software packages that perform this type of estimation and testing include PC CARP (available from the Iowa State University Statistics Laboratory), and SUDAAN (available from RTI). Section 5.2.4 contains a brief description of SUDAAN and an example of its use with the questionnaire data from the 1995 POWR Assessment.

5.2.4 SUDAAN Analysis Software

SUDAAN is a software package developed at the RTI for the specific purpose of analyzing data from complex surveys (Shah, Barnwell, & Bieler, 1995). RTI developed this software because most of the popular statistical software packages (e.g., SAS, SPSS, BMDP) do not contain procedures for properly estimating the variance of survey statistics (e.g., means, ratios, totals, proportions, regression coefficients) obtained from a complex sample survey, such as the POWR Assessment. The analytical procedures in these packages assume that the data come from simple random samples. Many software packages have no mechanism for dealing with sample design factors and either do not allow the use of sampling weights or use them in an unreliable or inconsistent fashion.

The DESCRIP procedure in SUDAAN calculates weighted estimates of proportions, means, and totals along with estimates of their standard errors. Estimates are calculated separately for specified population domains. DESCRIP also has the capability of producing standardized estimates for comparing the characteristics of two populations with differing distributions of confounding attributes. The approach used for calculating the standard errors is a first-order Taylor series approximation of the deviation of the estimates from their expected values (Woodruff, 1971). The RATIO procedure generalizes the capacities of DESCRIP to general ratio estimates and their standard errors. The CROSSTAB procedure produces weighted frequencies, percentages, and estimates of their standard errors for specified domains.

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For fitting the linear and logistic regression models, the SUDAAN procedures REGRESS and LOGISTIC (as suggested by Binder, 1981) fit linear and logistic regression models using sample design weights and a design-consistent estimate of the model parameters and covariance matrix. The Horvitz-Thompson estimators (Cochran, 1977) of the regression coefficients are produced, as well as a Taylor series approximation of the variance-covariance matrix of the regression coefficients in which the mean square error between primary sampling units within strata is used to estimate the variance and covariance parameters. Tests of hypotheses about regression coefficients estimated using LOGISTIC were based on a Hotelling's T^2 -type statistic, which is assumed to have a transformed F -distribution in repeated samples (Shah, Holt, & Folsom, 1977).

The following example shows how the CROSSTAB procedure can be used to estimate the proportions of persons in each level of marital status by service. Marital status is given in the questionnaire variable Q8:

```
PROC CROSSTAB DATA = IN.POWR95 FILETYPE = SAS
    DESIGN = WR;
    NEST STRATUM XFSU;
    WEIGHT ANALWT;
    SUBGROUP SERVICE Q8;
    LEVELS 2 6;
    TABLES Q8*SERVICE;
    SETENV DECWIDTH = 5.0;
    PRINT WSUM = 'ESTIMATED TOTAL PERSONS'
        NSUM = 'SAMPLE SIZE'
        COLPER = 'COLUMN PERCENTAGE'
        SECOLPER = 'STANDARD ERROR OF COLUMN PERCENTAGE'
        /WSUMFMT = F15.0 NSUMFMT = F6.0;
    TITLE "1995 POWR ASSESSMENT";
    TITLE "MARITAL STATUS";
```

5.3 Weighting for the Body Measurement Study

Five sites (two West Coast Navy bases, one Pacific Navy base, and two West Coast Marine Corps bases) were selected for participation in the body measurement sample. These sites were chosen after the FSUs had been selected for the questionnaire study. The rationale for the particular body measurement sites chosen was primarily because support could be obtained to conduct on-site group administrations of the questionnaires and to obtain body measurements from persons who participated in the group administrations. No probability mechanism was used to select the particular sites.

Sample sizes were set to obtain a total of 600 Navy and 400 Marine Corps personnel for body measurements. These were allocated approximately equally to men and women, and to the paygrade-race

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strata. Targeted sample sizes were set within each of the sites to obtain an approximately proportional allocation within each of the 12 cells. At the time of the group administration, these targeted sample sizes were allowed to vary in order to obtain as many body measurements as could be conducted during each group session. Thus, some cells have more than the targeted respondents and some have fewer. Persons in the harder to fill cells (rarer groups) were selected first, followed by the persons in the other groups. It was not possible to preselect persons for the body measurement samples because of the uncertainty of which sampled persons would actually attend the group sessions. For this reason, persons were selected as they arrived. Table 5.3 presents the actual numbers of body measurements obtained by service and by gender, paygrade, and race.

Inferences using data collected in the body measurement sample can be made only to the set of sites that were included because no probability mechanism was used to select the sites. However, the particular sites are among the larger West Coast and OCONUS Navy and Marine Corps bases.

For analyzing the data, weights were computed that reflect the relative frequency with which persons in the body measurement sample occur in 30 classes defined by branch of Service, location (CONUS or OCONUS), paygrade, gender, and race. Race was not used in defining the classes for female E7s to E9s or female officers in either Service because of the small respondent sample sizes. Within each class (denoted by the subscript h), the analysis weight for each person providing body measurements (denoted by the subscript i), was computed as

$$BMWT_{hi} = N_h / n_h$$

where n_h is the number of respondents in class h , and N_h is the total number of persons across all sites in class h . For the Marine Corps, the numerator counts were obtained from September 1995 data, and for the Navy from January 1996 data. N_h includes only persons stationed at the nucleus site; persons in satellite units were not a part of the body measurement study because it was difficult for them to attend the group sessions. These weights do not reflect the initial selection probabilities of the individuals. The weights cannot correct for other potential biases in the sample (e.g., if only the most physically fit agreed to participate). They do, however, reflect the disproportionalities in the actual obtained sample across the sites and gender-paygrade-race categories. These weights can be used to make estimates and inferences that are applicable to persons stationed at those five sites. Estimates can be computed by Service, by CONUS versus OCONUS for the Navy, and for categories defined by paygrade, race, and gender. Except for the OCONUS Navy site, analysts should not use these data to make estimates for the other four individual sites. As with any analyses, one should pay attention to cell sizes and collapse if necessary.

The SUDAAN design statements for computing estimates and estimated standard errors are

```
DESIGN=STRWR  
NEST BMCLASS;  
WEIGHT BMWT;
```

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Table 5.3 Number of Body Measurements Obtained

Paygrade, Race	Service and Gender				Total
	Navy, Male	Navy, Female	Marine Corps, Male	Marine Corps, Female	
E1-E6					
White	150	169	36	124	479
Other	89	111	31	65	296
E7-E9					
White	68	31	31	11	141
Other	61	7	29	6	103
Officer					
White	31	91	33	28	183
Other	39	14	28	9	90
Total	438	423	188	243	1,292

where BMCLASS is a variable that denotes the 30 weighting classes and BMWT is the analysis weight. The design option STRWR will give a conservative estimate of the standard error.

For some of the groups of interest (particularly the female E7s to E9s and female officers), a fairly large proportion of those at the site were included in the body measurement sample. The finite population correction factors can be used in SUDAAN to obtain a smaller estimate of the variance. The design statements would be

```

DESIGN=STRWOR
NEST BMCLASS;
TOTCNT BMTOTS;
WEIGHT BMWT;
    
```

The values for the totals (BMTOTS variable) are given in Table 5.4 along with the classes used for developing these relative analysis weights.

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Table 5.4 Classes, Population Counts, and Sample Sizes Used to Develop the Analysis Weights for the Body Measurement Sample

Class Number (BMCLASS)	Class	Population Size (BMTOT)	Body Measurements Obtained
	Navy, CONUS		
101	Male, White, E1-E6	2,717	59
102	Male, White, E7-E9	927	27
103	Male, White, Officer	774	15
104	Male, Nonwhite, E1-E6	1,138	39
105	Male, Nonwhite, E7-E9	410	36
106	Male, Nonwhite, Officer	102	14
107	Female, White, E1-E6	544	71
110	Female, Nonwhite, E1-E6	284	57
108	Female, E7-E9	67	19
109	Female, Officer	114	41
	Navy, OCONUS		
201	Male, White, E1-E6	2,561	91
202	Male, White, E7-E9	612	41
203	Male, White, Officer	800	16
204	Male, Nonwhite, E1-E6	880	50
205	Male, Nonwhite, E7-E9	174	25
206	Male, Nonwhite, Officer	66	25
207	Female, White, E1-E6	482	98
210	Female, Nonwhite, E1-E6	206	54
208	Female, E7-E9	39	19
209	Female, Officer	144	64
	Marine Corps, CONUS		
301	Male, White, E1-E6	15,691	36
302	Male, White, E7-E9	997	31

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Table 5.4 (continued)

Class Number (BMCLASS)	Class	Population Size (BMTOT)	Body Measurements Obtained
303	Male, White, Officer	2,161	33
304	Male, Nonwhite, E1-E6	6,025	31
305	Male, Nonwhite, E7-E9	633	29
306	Male, Nonwhite, Officer	277	28
307	Female, White, E1-E6	552	124
310	Female, Nonwhite, E1-E6	336	65
308	Female, E7-E9	69	17
308	Female, Officer	95	37

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Appendix A

1995 POWR Assessment: Perceptions of Wellness and Readiness Questionnaire

1995 *POWR* Assessment: Perceptions of Wellness and Readiness



DEPARTMENT OF THE NAVY
NAVAL HEALTH RESEARCH CENTER
SAN DIEGO, CA



PRIVACY ACT STATEMENT

1. Authority. 5 USC 301, 10 USC 1071. OPNAV 6000-15a-c, 11/30/95. 2. Purpose. Medical research information will be collected to enhance basic medical knowledge concerning medical care and health promotion. 3. Routine use. Medical research information will be used in statistical analyses by the Department of the Navy, Defense, and other U.S. Government agencies, provided this is compatible with the purpose for which information was collected. Use of the information may be granted to non-Government agencies by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. 4. Voluntary disclosure. I understand that all information derived from the study will be retained at the Naval Health Research Center, San Diego, and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding section, and I have been informed that failure to agree to such disclosure may negate the purposes of the study. I understand that my provision of information is voluntary, and that I am free to discontinue filling out the questionnaire and withdraw from the study at any time without prejudice or loss of medical treatment or privileges to which I would otherwise be entitled.

ABOUT THIS QUESTIONNAIRE

WHY ME?

You have been selected at random to be a part of the group of people who represent all active duty Navy and Marine Corps personnel. Enough people were selected to participate in this survey so that valid conclusions can be made about the health status of military personnel and the appropriateness of military health services.

WHY SHOULD I BOTHER? DO SURVEYS CHANGE ANYTHING?

In general, statistics from surveys provide valuable information to policymakers and planners about your health and health care services. Survey data help to identify parts of our health care system that work well and the parts that need to be improved. Changes to the system may take time, but filling out this survey will help ensure that we make changes as quickly as possible. Your response counts!

WILL MY SURVEY RESULTS BE KEPT PRIVATE?

Yes. Under no circumstances will any information about individuals be released to anyone. Any identifiable information will be used only by persons engaged in, and for the purposes of, the survey. A number will be given to each questionnaire and only that number will be used in analyses. Moreover, the results will be derived from pooled data and no individual's responses will be identifiable.

AREN'T SOME OF THE QUESTIONS VERY PERSONAL?

Yes. Although people will have different views on what is or is not personal, most people will consider at least some of the questions to be very personal. We are asking questions to evaluate the health of military members and the health care they receive. Good estimates can be made only if most people answer all the questions in the survey. However, you can choose not to answer particular items.

MARKING INSTRUCTIONS

- USE A NO. 2 PENCIL.
- MAKE HEAVY MARKS THAT FILL THE CIRCLE FOR YOUR ANSWER.
- ERASE CLEANLY ANY MARKS YOU WISH TO CHANGE.
- PLEASE DO NOT MAKE STRAY MARKS OF ANY KIND.

CORRECT MARK



INCORRECT MARKS



MEDICAL HISTORY

25. Has a health care provider ever told you that you had any of the following? (If yes, please answer question 26.)

26. If yes, what was your age at first diagnosis?

	No, Never	Yes,		0 - 16 Years	17 - 24 Years	25 - 34 Years	35 - 44 Years	45+ Years
		Recovered	Still have					
a. Asthma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Chronic bronchitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Emphysema	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Chronic rhinitis or hay fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Other allergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Positive skin test for tuberculosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Skin cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Breast cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Cervical cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Other cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Heart disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Hypertension (high blood pressure)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. High cholesterol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Heart murmur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Other heart problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Anemia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Varicose veins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Scrotal varices (varicose vein in scrotum)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Hernia or rupture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Hemorrhoids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Other blood circulation problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. Ulcer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w. Bowel or intestinal trouble (e.g. colitis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
x. Gallstones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
y. Thyroid disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
z. Diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
aa. Hepatitis (Jaundice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bb. Other liver problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cc. Urinary tract infection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dd. Repeated kidney infections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ee. Kidney stones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ff. Other bladder trouble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
gg. Pelvic inflammatory disease (PID)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
hh. Gonorrhea ("clap")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ii. Syphilis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
jj. Chlamydia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
kk. Herpes or genital warts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ll. Sterility/infertility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
mm. Arthritis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
nn. Neuralgia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
oo. Anorexia or bulimia (eating disorder)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pp. Migraines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
qq. Head injury (involving stitches or unconsciousness)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
rr. Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ss. Other psychological condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
tt. Speech problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
uu. Hearing loss/problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
vv. Vision impairment/problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ww. Periodontal disease (gum disease)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
xx. Other (please specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CURRENT MEDICAL CONDITIONS

27. Have you experienced any of the conditions listed below any time in the past 30 days regardless of whether or not they resulted in a visit to sick call or a health care provider? (Please check **NO** or **YES** for every condition) (If yes, please answer question 28.)

28. If yes, what did you do?

	No	Yes	Nothing	Self Care	Seek Medical Care
a. Common cold symptoms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Dizziness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Chills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Cough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Sore throat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Flu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Diarrhea lasting at least 3 days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Stomach problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Constipation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Indigestion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Nausea/vomiting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Sinus trouble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Hay fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Shortness of breath	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Hoarseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Sleeping problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Headaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Skin problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Muscle sprain or strain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Back problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. Ringing in the ears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w. Irritated eyes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
x. Trouble seeing with one or both eyes even if wearing glasses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
y. Teeth/gum/dental problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
z. Broken bones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
aa. Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Was there any time when you used a fair amount of any of these medications? Include both prescribed and nonprescribed medications for the last 30 days and the last 12 months.

	In the last 30 days		In the last 12 months	
	Yes	No	Yes	No
a. Allergy pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Aspirin or other pain killers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Diet pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Laxatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Sleeping pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Stomach medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Tranquilizers (Valium, Librium)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Antibiotics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Antimalarial pills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Pyridostigmine (pills to protect you from a chemical weapon attack)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Other anti-CBW pills or agents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Prescribed medicine for psychological condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Ciprofloxacin (Cipro or anti-anthrax pills)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Other medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Other vaccine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HEALTH PERCEPTIONS

30. In general, would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

31. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	Yes	No
a. Cut down the amount of time you spent on work or other activities	<input type="radio"/>	<input type="radio"/>
b. Accomplished less than you would have liked	<input type="radio"/>	<input type="radio"/>
c. Were limited in the kind of work or other activities you could do	<input type="radio"/>	<input type="radio"/>
d. Had difficulty performing the work or other activities (took extra effort)	<input type="radio"/>	<input type="radio"/>

HEALTH PERCEPTIONS (CONTINUED)

32. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

Yes No

- a. Cut down the amount of time you spent on work or other activities
- b. Accomplished less than you would have liked
- c. Didn't do work or other activities as carefully as usual

33. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

34. How much bodily pain have you had during the past 4 weeks?

- None
- Very mild
- Mild
- Moderate
- Severe
- Very Severe

35. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at all
- A little bit
- Moderately
- Quite a bit
- Extremely

36. How much of the time during the past 4 weeks:

None of the time
A little of the time
Some of the time
A good bit of the time
Most of the time
All of the time

- a. Did you feel full of pep?
- b. Did you have a lot of energy?
- c. Did you feel worn out?
- d. Did you feel tired?

37. During the past 4 weeks, how much of the time have your physical or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

38. How true or false is each of the following statements for you?

Definitely false
Mostly false
Don't know
Mostly true
Definitely true

- a. I seem to get sick a little easier than other people I know.
- b. I am as healthy as anybody I know.
- c. I expect my health to get worse.
- d. My health is excellent.
- e. I don't have the time to be ill.
- f. I sometimes allow myself to be ill.
- g. I don't have a choice about being ill.
- h. I can will myself not to become ill.
- i. I wait until the last minute to seek medical care.

EMOTIONS

39. Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way during the past 7 days.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1 - 2 days)	Occasionally or a moderate amt. of time (3 - 4 days)	Most or all of the time (5 - 7 days)
a. I was bothered by things that usually don't bother me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I did not feel like eating; my appetite was poor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I felt I could not shake off the blues even with help from my family or friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I felt that I was just as good as other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had trouble keeping my mind on what I was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I felt depressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I felt that everything I did was an effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I felt hopeful about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. I thought my life had been a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. I felt fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. My sleep was restless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. I was happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. I talked less than usual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. I felt lonely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. People were unfriendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. I enjoyed life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. I had crying spells.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. I felt sad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. I felt that people disliked me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. I could not get "going".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. How have you felt during the past 7 days including today?
Use the following scale to describe how distressing you have found the following things over this time.

	Not at all	A little	Quite a bit	Extremely
a. Difficulty in speaking when you are excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Trouble remembering things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Worried about sloppiness or carelessness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Blaming yourself for things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Pains in the lower part of your back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Feeling lonely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Feeling blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Your feelings being easily hurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Feeling others do not understand you or are unsympathetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Feeling that people are unfriendly or dislike you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Having to do things very slowly in order to be sure you are doing them right	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Feeling inferior to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Soreness in your muscles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Having to check and double check what you do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Hot or cold spells	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Your mind going blank	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Numbness or tingling in parts of your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. A lump in your throat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Trouble concentrating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Weakness in parts of your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Heavy feeling in your arms and legs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUALITY OF LIFE

Pleased/Delighted
Mostly satisfied
Mixed
Mostly dissatisfied
Terrible/Unhappy

41. How do you feel about your job?
42. How do you feel about yourself?
43. How do you feel about your own personal life?
44. How do you feel about your life as a whole?

STRESS

45. Think about your life over the past 7 days. On the whole, how much stress do you think is in your life right now?

- None at all
- A little bit
- Moderate amount
- Quite a bit
- Extreme amount

46. Over the past 7 days, stress has affected my personal life:

- Not at all
- A little bit
- Moderate amount
- Quite a bit
- Extreme amount

47. Over the past 7 days, stress has affected my performance on the job:

- Not at all
- A little bit
- Moderate amount
- Quite a bit
- Extreme amount

48. Over the past 7 days, how well have you coped with stress?

- Very poorly
- Somewhat poorly
- In-between (neutral)
- Somewhat well
- Very well

HEALTH CARE

49. Please indicate how many times you went to a military medical facility for your own health care during the past 12 months. (Mark one response in each row)

- | | Number of times | 11 or more |
|--|------------------------|------------|
| a. Illness or injury | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| b. Follow-up for illness or injury..... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| c. General physical exam | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| d. Prescription refill only | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| e. Eye exam only | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| f. Prenatal care | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| g. Same day surgery.. | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| h. Mental health | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| i. Emergency care ... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| j. Other type of care (please specify type of care)..... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |

50. Please indicate how many times you went to a civilian doctor's office or outpatient clinic for your own health care during the past 12 months. (Mark one response in each row)

- | | Number of times | 11 or more |
|--|------------------------|------------|
| a. Illness or injury | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| b. Follow-up for illness or injury..... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| c. General physical exam | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| d. Prescription refill only | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| e. Eye exam only | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| f. Prenatal care | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| g. Same day surgery.. | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| h. Mental health | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| i. Emergency care ... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |
| j. Other type of care (please specify type of care)..... | 0 1 2 3 4 5 6 7 8 9 10 | 11 |

51. Please take a moment to recall your visit(s) to a military medical facility. Then mark one response that describes the strength of your agreement or disagreement with the following statements.

- Not applicable
- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

- a. The doctor (or Corpsman, etc.) seemed warm and friendly to me.○○○○○
- b. The doctor (or Corpsman, etc.) seemed interested in me as a person.○○○○○
- c. I felt the doctor (or Corpsman, etc.) did not treat me with appropriate respect. .○○○○○
- d. The doctor (or Corpsman, etc.) seemed to take my problem seriously.○○○○○

52. On your last non-OB/GYN visit to a military medical facility, how satisfied were you with each of the following?

- Not applicable
- Very dissatisfied
- Dissatisfied
- Neither satisfied nor dissatisfied
- Satisfied
- Very satisfied

- a. The quality of medical services provided.○○○○○
- b. The amount of time it took you to get to the medical facility○○○○○
- c. The amount of time you waited at the facility to see a health care provider ...○○○○○
- d. The priority you were shown as an active-duty member○○○○○
- e. The priority you were shown when you had orders to deploy○○○○○
- f. The variety of medical services available to you○○○○○
- g. The type of medical professionals that you saw○○○○○
- h. The amount of privacy you had during the visit○○○○○
- i. The consideration and respect shown to you○○○○○
- j. The timeliness of the follow-up care.....○○○○○

53. When you go to a military medical facility, who is the primary person who treats you?

- Doctor
- Physician's assistant
- Corpsman
- Nurse
- Other

54. After you arrive at a military medical facility, how long do you typically have to wait to see a doctor or other health care professional?

- Less than 5 minutes
- At least 5 minutes, but less than 15 minutes
- At least 15 minutes, but less than half an hour
- At least half an hour, but less than an hour
- At least one hour
- Two or more hours

55. Can you ask someone in the military medical system questions about a health concern on the telephone?

- Yes
- No
- Don't know

SELF CARE

56. How often do you do a testicular self exam?

- Monthly
- Once every few months
- Rarely/Never
- Not applicable

57. About how long has it been since you had a rectal exam?

- Less than 1 year
- 1 year
- 2 years
- 3 or more years
- Never had exam

58. How often do you examine your breasts for lumps?

- Monthly
- Once every few months
- Rarely or never
- Not applicable

LIFESTYLE

59. Do you consider yourself now to be:

- Overweight
- Underweight
- About the right weight

60. Would you like to weigh:

- Less
- More
- Stay about the same

61. During the past 12 months, have you tried to lose weight?

- Yes
- No

62. During the past 12 months, have you changed what you eat because of any medical condition?

- Yes
- No

LIFESTYLE (CONTINUED)

63. Are you satisfied with your eating patterns?

- Yes
- No

64. Do you ever eat in secret?

- Yes
- No

65. During the past 7 days, approximately how many days did you:

DAYS

- a. Eat breakfast 0 1 2 3 4 5 6 7
- b. Eat snacks between meals 0 1 2 3 4 5 6 7
- c. Overeat 0 1 2 3 4 5 6 7
- d. Not eat enough 0 1 2 3 4 5 6 7
- e. Take vitamin pills 0 1 2 3 4 5 6 7
- f. Take anti-oxidants 0 1 2 3 4 5 6 7

66. During the past 7 days, approximately how many times did you:

- More than 7 times per week
- 4 - 6 times per week
- 1 - 3 times per week
- Never

- a. Eat high-fat meats or dairy (e.g. hamburger, hot dogs, steak, bacon, whole milk, cheese, ice cream)
- b. Eat fried foods (e.g. french fries, fried chicken, fried eggs)
- c. Eat refined sugar products (e.g. cakes, pies, cookies, candies)
- d. Eat low-fat meats or dairy (e.g. chicken or turkey without skin, low-fat milk, yogurt)
- e. Eat 'leafy' vegetables (e.g. broccoli, cabbage, greens)
- f. Eat 'starchy' vegetables (e.g. beans, peas, corn, potatoes)
- g. Eat fruits (e.g. apples, oranges, raisins, dried fruit, melons, bananas)
- h. Eat high fiber foods (whole grain breads, cereals, bran)

67. Are you interested in hearing/reading about nutrition?

- Yes, very much
- Yes, sometimes
- Don't really care
- No, not usually
- No, not at all

68. How important do you feel that diet is in terms of your health?

- Probably the most important factor
- Very important, but not the primary factor
- Important
- Not very important
- Of little or no consequence

69. How important to you are the following considerations when you purchase foods?

- Extremely important
- Very important
- Moderately important
- Somewhat important
- Not at all important

- a. Health benefits, nutritional value
- b. Price, cost
- c. Likes or dislikes, eating enjoyment
- d. Convenience, easy to prepare
- e. Calories

70. During the past 30 days, on the average, how many hours of sleep did you get per night?

- 1 2 3 4 5 6 7 8 9 10 or more

71. In an average 7 days, how many times do you engage in exercise or work that lasts at least 20 minutes without stopping and that is hard enough to make you breathe heavier and make your heart beat faster?

- Less than 1 time per week
- 1 or 2 times per week
- At least 3 times per week

72. How long have you been on the exercise or work schedule in question 71?

- Less than 1 month
- 1 - 3 months
- 4 - 11 months
- 1 - 2 years
- 3 - 4 years
- 5+ years

73. How would you rate your current physical fitness?

- Poor
- Fair
- Good
- Very good
- Excellent

74. Have you smoked at least 100 cigarettes in your entire life? (That would be 5 or more packs in your entire life.)

- Yes
- No

75. How would you describe your cigarette smoking habits?

- Never smoked
- Current smoker
- Former smoker

76. During the past 30 days, how many cigarettes did you usually smoke on a typical day?

Did not smoke cigarettes in the last 30 days

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

77. How many times have you tried to quit smoking?

0 1 2 3 4 5 6 7 8 9+

Did not ever smoke

78. If you quit, was it because you had a health problem that was caused or made worse by smoking?

- Quit due to health problem
- Quit due to other reason
- Never quit
- Never smoked

79. If you quit, on average, how many cigarettes did you smoke a day when you last smoked every day?

Did not smoke cigarettes in the last 30 days

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

80. How many years have you used (or did you use) any form of tobacco on a regular basis? Do not count any time when you quit using tobacco.

- Never used tobacco
- Less than one year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- 6 years
- 7 years
- 8 years
- 9 years
- 10 years
- 11 years
- 12 years
- 13 years
- 14 years
- 15+ years

81. How many cigars and/or pipes do you usually smoke per day?

NUMBER

0 1 2 3 4 5 6 7 8 9 10+

82. How many times per day do you usually use smokeless tobacco? (Chewing tobacco, snuff, pouches, etc.)

NUMBER

0 1 2 3 4 5 6 7 8 9 10+

83. During the past 7 days, on the average, how many caffeinated beverages did you have per day? (cola, coffee, tea)

NUMBER

0 1 2 3 4 5 6 7 8 9 10 11 12 13+

84. During the past 30 days, how much alcohol did you drink on a typical day? (Consider a single shot, single mixed drink, glass of wine, or can of beer as one drink.)

- 18 or more drinks
- 15 - 17 drinks
- 12 - 14 drinks
- 9 - 11 drinks
- 8 drinks
- 7 drinks
- 6 drinks
- 5 drinks
- 4 drinks
- 3 drinks
- 2 drinks
- 1 drink
- Didn't drink any alcohol in the past 30 days

LIFESTYLE (CONTINUED)

85. During the past 30 days, on how many days did you drink alcoholic beverages?

- 28 - 30 days (about every day)
- 20 - 27 days (5 - 6 days a week, average)
- 11 - 19 days (3 - 4 days a week, average)
- 4 - 10 days (1 - 2 days a week, average)
- 2 - 3 days in the past 30 days
- Once in the past 30 days
- Didn't drink any alcohol in the past 30 days

86. How many sexual partners have you had in the last six months?

- 0 1 2 3 4 5 6 7 8 9 10 or more

87. What birth control method(s) do you currently use? (Mark all that apply)

- a. Tubal ligation
- b. Vasectomy
- c. Norplant
- d. Depo-Provera
- e. Birth control pills
- f. IUD
- g. Diaphragm
- h. Condom
- i. Spermicide (foam, jelly, cream, suppositories)
- j. Sponge
- k. Douche
- l. Withdrawal
- m. Rhythm
- n. Abstinence
- o. Other (please specify) _____
- p. None

88. If you do not use birth control, please indicate reason: (Mark all that apply)

- a. Religious/moral beliefs
- b. My partner's preference
- c. Inconvenient/interferes with spontaneity
- d. Want to get pregnant
- e. Other (please specify) _____
- f. Use birth control/abstinent

HEALTH PROMOTION SERVICE

89. During the past 12 months, if I had needed it, counseling was readily available to me on:

- Do not know
- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

- a. Quitting smoking
- b. Alcohol abuse
- c. Drug abuse
- d. Birth control/family planning
- e. Weight control
- f. Stress management

FRIENDS AND FAMILY

90. How many close friends do you have (people that you feel at ease with, can talk to about private matters, and can call for help)?

- 0 1 2 3 4 5 6 7 8 9 10 or more

91. How many relatives do you have that you feel close to?

- 0 1 2 3 4 5 6 7 8 9 10 or more

92. How many of these friends or relatives do you see at least once a month?

- 0 1 2 3 4 5 6 7 8 9 10 or more

93. Are you a member of any social clubs or groups?

- Yes
- No

94. Are you an active member of a church, temple, or other religious organization?

- Yes
- No

95. How often have you asked the advice of relatives or friends about your marriage?

- Never
- Seldom
- Several times
- Often
- Very often
- Not married

PSYCHOSOCIAL

96. How often have you gone to a doctor, counselor or clergyman for marriage problems?

- Never
- Seldom
- Several times
- Often
- Very often
- Not married

97. How much time do you spend thinking about marriage problems?

- | | | | | | |
|------|---|------|---|-------|-------------|
| None | | Some | | A lot | Not Married |
| ① | ② | ③ | ④ | ⑤ | ⑥ |

98. I am definitely satisfied with my marriage

- Strongly agree
- Agree
- Neutral (undecided)
- Disagree
- Strongly disagree
- Not married

99. How many children (natural, adopted, stepchildren, or grandchildren) under the age of 21 live in your household? (Mark all that apply)

Children's age	None	1	2	3	4	5+
a. Less than 6 weeks old	0	1	2	3	4	5
b. 6 weeks to under 1 year	0	1	2	3	4	5
c. 12 to 23 months	0	1	2	3	4	5
d. 24 to 35 months	0	1	2	3	4	5
e. 3 to 5 years	0	1	2	3	4	5
f. 6 to 9 years	0	1	2	3	4	5
g. 10 to 12 years	0	1	2	3	4	5
h. 13 to 15 years	0	1	2	3	4	5
i. 16 to 20 years	0	1	2	3	4	5

100. How old were you when your first child was born?

No children

AGE	
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

101. In the last year, how many serious personal losses or difficult problems have you had to handle (e.g., promotion passover, divorce/separation, legal or disciplinary action, bankruptcy, death of someone close, serious illness/injury of a loved one, etc.)?

- Several
- Some
- Few
- None

102. Have you seriously considered suicide within the last 2 years?

- Yes
- Yes, within the last year
- Yes, within the last 2 months
- No

103. How often do you have any serious problems dealing with your husband or wife, parents, friends, or with your children?

- Often
- Sometimes
- Seldom
- Never

104. How often did you experience a major pleasant change in the last year (for example, promotion, marriage, birth, award, etc.)?

- Often
- Sometimes
- Seldom
- Never

105. What causes the biggest problem in your life? (Darken only one circle)

- Money
- Social life
- Family
- Supervisor
- Job
- Health
- No problem

PSYCHOSOCIAL (CONTINUED)

106. Were you abused prior to entering the military?

(Mark all that apply)

- a. Yes, emotionally abused
- b. Yes, sexually abused
- c. Yes, physically abused
- d. No, not abused

107. Since entering the military, have you been abused?

(Mark all that apply)

- a. Yes, emotionally abused
- b. Yes, sexually abused
- c. Yes, physically abused
- d. No, not abused

108. If abused either prior to entering the military or after entering the military, have you ever received treatment?

- Yes
- No
- Not applicable

Strongly disagree
Disagree
Agree
Strongly agree

- 109. I feel that I'm a person of worth at least on an equal basis with others.
- 110. I feel that I have a number of good qualities.
- 111. All in all, I'm inclined to feel that I am a failure.
- 112. I am able to do things as well as others.
- 113. I feel I do not have much to be proud of.
- 114. I take a positive attitude towards myself.
- 115. On the whole I am satisfied with myself.
- 116. I wish I could have more respect for myself.
- 117. I certainly feel useless at times.
- 118. At times I think I'm no good at all.

TEMPERAMENT

A number of statements people use to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel.

Almost always
Often
Sometimes
Almost never

- 119. I am quick-tempered.
- 120. I have a fiery temper.
- 121. I am a hotheaded person.
- 122. I get angry when I am slowed down by others' mistakes.
- 123. I feel annoyed when I am not given recognition for doing good work.
- 124. I fly off the handle.
- 125. When I get mad, I say nasty things.
- 126. It makes me furious when I am criticized in front of others.
- 127. When I get frustrated, I feel like hitting someone.
- 128. I feel infuriated when I do a good job and get a poor evaluation.
- 129. I feel irritated.
- 130. I feel angry.
- 131. People who think they are always right irritate me.
- 132. I get annoyed when I am singled out for correction.
- 133. My blood boils when I am pressured.
- 134. I feel pleasant.
- 135. I feel nervous and restless.
- 136. I feel satisfied with myself.
- 137. I wish I could be as happy as others seem to be.
- 138. I feel like a failure.
- 139. I feel rested.
- 140. I feel "calm, cool, and collected".
- 141. I feel that difficulties are piling up so much that I cannot overcome them.
- 142. I worry too much over something that really doesn't matter.
- 143. I am happy.
- 144. I have disturbing thoughts.
- 145. I lack self-confidence.
- 146. I feel secure.
- 147. I make decisions easily.
- 148. I feel inadequate.
- 149. I am content.
- 150. Some unimportant thought runs through my mind and bothers me.
- 151. I take disappointments so keenly that I can't put them out of my mind.
- 152. I am a steady person.
- 153. I get in a state of tension or turmoil as I think over my recent concerns and interests.

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WORK

154. How often are you bothered by each of the following in your work?

Nearly all the time
Rather often
Sometimes
Rarely
Not at all

- a. Not having enough help and equipment to get the job done well
- b. Feeling you have too much responsibility for the work of others
- c. Thinking that you'll not be able to meet the conflicting demands of various people you work with
- d. Having to do or decide things where mistakes could be quite costly
- e. Not knowing just what the people you work with expect from you
- f. Thinking that the amount of work you have to do may interfere with how well it gets done
- g. Feeling that you have to do things on the job that are against your better judgement
- h. Feeling that your job tends to interfere with your family life
- i. Feeling unable to influence your immediate supervisor's decisions and his/her actions that affect you
- j. Having to deal with or satisfy too many different people
- k. Being asked to work overtime when you don't want to
- l. Feeling trapped in a job you don't like but can't change and can't get out of

The following ask you about how you feel about your present job overall.

155. Overall, how satisfied would you say you are with your present job?

- Not at all satisfied
- Not too satisfied
- Somewhat satisfied
- Very satisfied

156. Knowing what you know now, if you had to decide all over again whether to join the military, what would you decide?

- Decide definitely not to join
- Have some second thoughts
- Decide without hesitation to join

157. In general, how well would you say that your regular military job measures up to the sort of job you wanted when you took it?

- Very much like
- Somewhat like
- Not very much like

158. If a good friend told you he/she was interested in working in a job like your regular military job, what would you tell him/her?

- Advise him/her against it
- Have doubts about recommending it
- Strongly recommend it

159. How sad/happy do you feel about your job?

Happy ① ② ③ ④ ⑤ ⑥ Sad

CASUALTY EVENTS

Exposure to a disaster or violence can sometimes have long-term effects. The following questions will help to provide a baseline history of exposure to disasters or violence that may help in studying these effects.

160. Have you ever been exposed to a natural disaster involving injuries or fatalities? (e.g., earthquakes, fire, flood, etc.)

(Mark all that apply)

- a. Yes, witnessed
- b. Yes, survivor/victim
- c. Yes, participated in aid, clean-up, rescue, or investigation
- d. No

161. Have you even been exposed to combat or violence involving injuries or fatalities? *(Mark all that apply)*

- a. Yes, witnessed
- b. Yes, survivor/victim
- c. Yes, used deadly force as a part of my military job
- d. Yes, participated in aid, clean-up, rescue, or investigation
- e. No

162. Have you ever witnessed or been involved in a major accident involving injuries or fatalities?

(Mark all that apply)

- a. Yes, witnessed
- b. Yes, survivor/victim
- c. Yes, participated in aid, clean-up, rescue, or investigation
- d. No

ENVIRONMENTAL/OCCUPATIONAL HEALTH

163. Is protective gear available for your use in your current job? Examples of protective gear are gloves, respirator, filter, mask, boots, ear plugs, film badge, hazardous materials suit and fire fighting suit.

- Yes
- No
- Sometimes
- Not applicable

164. When you have contact with substances that might be harmful, how often do you use protective gear?

- Never
- Some of the time
- Most of the time
- Always
- Not applicable

165. Which reasons for not wearing protective gear are the most true for you? (Mark all that apply)

- a. It doesn't work properly
- b. It interferes with job performance
- c. It is uncomfortable
- d. I don't know how to use it
- e. It is not needed
- f. None, always wear protective gear
- g. Not applicable

166. During the past 30 days, have you been exposed to tobacco smoke for an hour or more a day in your immediate work or living area?

- Not exposed
- Work area only
- Living area only
- Both work and living area

167. Are you currently in one or more of the following medical surveillance programs? (Mark all that apply)

- a. Asbestos
- b. Noise
- c. Lead
- d. Chromium
- e. Cadmium
- f. Non-ionizing radiation
- g. Ionizing radiation
- h. Other _____
- i. None

168. For all jobs or hobbies you have had, indicate the known health hazards that are/were present and the number of years you have been/were exposed.

<u>Exposure</u>	5 years or more
	3 - 4 years
	1 - 2 years
	Less than 1 year
	Not exposed
a. Fibrous glass (fiberglass)	○○○○○
b. Asbestos	○○○○○
c. Coal dust or rock dust	○○○○○
d. Silica powder or sandblasting dust	○○○○○
e. Other specific dusts (woods, talc, lime)	○○○○○
f. Respiratory or skin irritants	○○○○○
g. Chemicals (acids, alkalis, solvents)	○○○○○
h. Metal fumes (from molten metal)	○○○○○
i. Welding fumes	○○○○○
j. Coal tar, pitch, asphalt's	○○○○○
k. Engine exhaust, grease, oils, fuel	○○○○○
l. Heat (severe)	○○○○○
m. Cold (severe)	○○○○○
n. Noise (loud)	○○○○○
o. Non-ionizing radiation	○○○○○
p. Ionizing radiation (X-rays, etc.)	○○○○○
q. Vibration (vibrating tools, motors)	○○○○○
r. General shop dust	○○○○○
s. Pesticides, herbicides	○○○○○
t. Acids	○○○○○
u. Alcohol's (industrial)	○○○○○
v. Other (please specify)	○○○○○

ENVIRONMENTAL/OCCUPATIONAL HEALTH continued →

SUPPLEMENT FOR WOMEN

This section is to report female-specific conditions that you had during the past 3 months, whether or not they resulted in a visit to sick call or a health care provider.

170. Did you have any of these conditions?

- | | Yes | No |
|--|-----------------------|-----------------------|
| a. Bleeding between periods | <input type="radio"/> | <input type="radio"/> |
| b. Cramps or pain during menstrual period requiring medication or time off of work | <input type="radio"/> | <input type="radio"/> |
| c. Excessive frequency of periods (time between periods too short) | <input type="radio"/> | <input type="radio"/> |
| d. Heavy periods (excessive menstrual flow) | <input type="radio"/> | <input type="radio"/> |
| e. Period lasting longer than a week | <input type="radio"/> | <input type="radio"/> |
| f. Missed period | <input type="radio"/> | <input type="radio"/> |
| g. No menstrual periods for 2 or more months | <input type="radio"/> | <input type="radio"/> |
| h. Scanty menstrual flow | <input type="radio"/> | <input type="radio"/> |
| i. Abdominal pain (from known cysts) | <input type="radio"/> | <input type="radio"/> |
| j. Abdominal pain (from other unknown cause) | <input type="radio"/> | <input type="radio"/> |
| k. Endometriosis | <input type="radio"/> | <input type="radio"/> |
| l. Discharge from breast | <input type="radio"/> | <input type="radio"/> |
| m. Breast lump | <input type="radio"/> | <input type="radio"/> |
| n. Premenstrual symptoms or pain (PMS, premenstrual cramps) | <input type="radio"/> | <input type="radio"/> |
| o. Vaginal rash, discharge, or other disorder <u>except</u> yeast infection or sexually transmitted diseases | <input type="radio"/> | <input type="radio"/> |
| p. Yeast or vaginal infection | <input type="radio"/> | <input type="radio"/> |
| q. Problem with uterus (womb) | <input type="radio"/> | <input type="radio"/> |

171. If you missed a period in the last 30 days, have you had a pregnancy test?

- Yes
- No, not yet
- No, hysterectomy
- No, menopausal
- No, other
- Not applicable/Did not miss a period

172. At what age did your menstrual cycles begin?

- Younger than 10 years old
- 10 - 12 years old
- 13 - 15 years old
- 16+ years old
- Don't know

173. What is the total number of years you have taken birth control pills in your lifetime?

- 0 1 2 3 4 5 6 7 8 9 10
 11 12 13 14 15 16 17 18 19 20 or more

174. During the past 30 days, have you taken replacement estrogens?

- No
- Yes, hormone pills
- Yes, hormone creams or other hormone preparation such as the skin patch

175. Have you had a mammogram in the past 5 years?

- Yes
- No

176. How long has it been since you had a Pap smear?

- Less than 1 year
- 1 year
- 2 years
- 3 years or more
- Never had a Pap smear

177. Have you ever had a Pap smear where the result was NOT normal?

- Yes
- No
- Don't know

178. About how long has it been since you had your breasts examined by a physician or nurse?

- Less than 1 year
- 1 year
- 2 years
- 3 years or more
- Never had breasts examined

179. Have you received training from a medical provider on breast self-exam (BSE)?

- Yes
- No

180. Have you ever had an operation to remove a lump from your breast that was found to be noncancerous?

- Yes
- No

SUPPLEMENT FOR WOMEN continued →

SUPPLEMENT FOR WOMEN (CONTINUED)

181. For your last OB/GYN visit in a military medical facility, how satisfied were you with each of the following?

- Not applicable
 Very dissatisfied
 Dissatisfied
 Neither satisfied nor dissatisfied
 Satisfied
 Very satisfied

- a. The quality of medical services provided
- b. The amount of time it took you to get to the medical facility
- c. The amount of time you waited at the facility to see a health care provider
- d. The priority you were shown as an active-duty member
- e. The priority you were shown when you had orders to deploy
- f. The variety of medical services available to you
- g. The type of medical professionals whom you saw
- h. The amount of privacy you had during the visit
- i. The consideration and respect shown to you
- j. The timeliness of follow-up care

182. Do you know where to get information about pregnancy and possible risks from your job and job environment?

- Yes
- No
- Not applicable

183. When you are pregnant, do you feel there are enough OB/GYN trained personnel available to see you when necessary?

- Yes
- No
- Not applicable

184. When you are pregnant, do you feel you are given enough time off from your job to be seen in OB/GYN when necessary?

- Yes
- No
- Not applicable

185. While on OCONUS orders, has it been difficult to receive the kind of OB/GYN care you would like?

- Yes
- No
- Not applicable

PREGNANCY HISTORY

186. How many times have you been pregnant?

- 0 Never
- 1 time
- 2 times
- 3 times
- 4 times
- 5 times
- 6 times
- 7 times
- 8 times
- 9 or more times

187. Have you been pregnant in the past 12 months?

- Yes
- No

188. Have you become pregnant since coming on active duty?

- Yes
- No

189. Are you pregnant now?

- Yes
- No
- Not sure

190. If yes, was this a planned pregnancy?

- Yes
- No
- Not applicable

191. In the past 12 months, have you had:

	Yes	No	Not Applicable
a. Problems becoming pregnant?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Pregnancy complications?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A miscarriage/spontaneous abortion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. An elected abortion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. A stillbirth?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Childbirth problems? (e.g. hemorrhaging, Cesarean section, induced labor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Post-partum complications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

192. How happy or unhappy would you be if you were to become pregnant in the next year?

- Extremely happy
- Moderately happy
- Neither happy nor unhappy
- Moderately unhappy
- Extremely unhappy

PREGNANCY HISTORY continued →

PREGNANCY HISTORY (CONTINUED)

193. How convenient or inconvenient would it be for you to get pregnant in the next year?

- Extremely convenient
- Moderately convenient
- Neither convenient nor inconvenient
- Moderately inconvenient
- Extremely inconvenient

194. How many live births have you had?

- 0 1 2 3 4 5 6 7 8 9 or more

195. Were any of the babies born prematurely or under 5 pounds?

- Yes
- No
- Not applicable

196. Did any of the babies stay in the hospital after you came home?

- Yes
- No
- Not applicable

197. Did you breast feed at least one of your children?

- Yes
- No
- Not applicable

198. How healthy would you say your children are relative to other children their age?

- Less healthy
- Same
- More healthy
- Not applicable

Thank you for the extra effort to complete these questions. Please take a moment to complete the special handout page. Place the completed handout and questionnaire in the enclosed postage-free envelope. Thank you for your time and cooperation.

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Appendix B

POWR 1995 Measurement Form

POWR 1995 MEASUREMENT FORM

ID: _____

SEX: M F

BIRTHDAY: _____

Date: _____

Mo Day Yr

Mo Day Yr

BLOOD PRESSURE:

SYSTOLIC DIASTOLIC (Machine # _____)

1. _____/_____ mmHG 2. _____/_____ mmHG 3. _____/_____ mmHG

AVERAGE _____/_____ mmHG

HEART RATE:

1. _____ bp 2. _____ bpm 3. _____ bpm

AVERAGE _____ bpm

Blood pressure refused? Yes No Reason right arm not used? _____

STATURE:

1. Weight: _____ KG _____ LBS (Scale # _____)

2. Height: _____ CM _____ IN

Is female pregnant? Yes No

<u>CIRCUMFERENCES</u>	Measurement 1	Measurement 2	AVERAGE
3. Waist (women): Abdomen (men):	_____cm	_____cm	_____cm
4. Hip:	_____cm	_____cm	_____cm
5. Neck:	_____cm	_____cm	_____cm

DOMINANT HANDGRIP STRENGTH:

6. Righthand: _____ KG _____ KG _____ KG Highest: _____ KG

OR

7. Lefthand: _____ KG _____ KG _____ KG Highest: _____ KG

SKINFOLDS:

AVERAGE

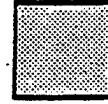
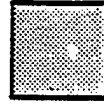
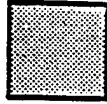
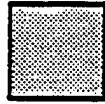
8. Triceps: _____mm _____mm _____mm

9. Subcap: _____mm _____mm _____mm

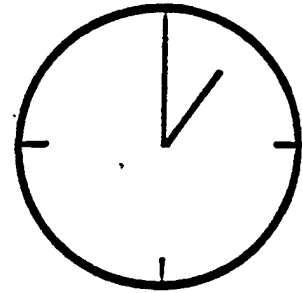
Appendix C

Quick Diagnostic Interview Schedule III-R (Version 1.0)

**(Questionnaire is not complete; the appendix includes
only sections relevant to the telephone survey study.)**

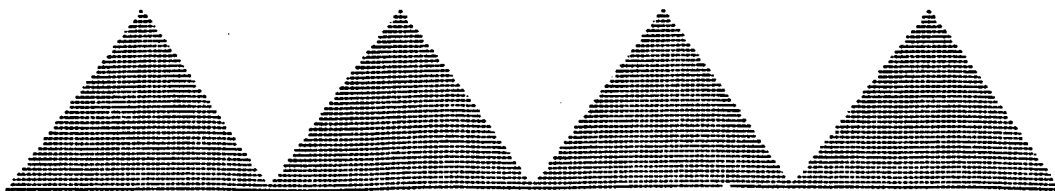


Quick Diagnostic Interview Schedule III-R



Version 1.0

Steven Marcus
Lee N. Robins, Ph.D.
Kathy Bucholz, Ph.D.



DEMOGRAPHICS

DEMOGRAPHICS

- A1** Are you male or female?
1) MALE
2) FEMALE
- A2** How old are you?
- A4** Are you presently married or are you widowed, separated, divorced, or have you never been married?
1) MARRIED
2) WIDOWED
3) SEPARATED
4) DIVORCED
5) NEVER MARRIED
- A9** Have you ever lived with someone for at least a year as though you were married?
- A11** Have you had any children, not counting any who are yours by adoption or were born dead?
- A11A** Have you ever acted as a parent for children who were not your own natural children?
- A13** Are you employed now?
1) YES
2) NO
- A14** What is the highest grade in school you completed?
00-12 CODE ACTUAL GRADE
13 1 YR OF COLLEGE OR TECHNICAL SCHOOL
14 2 YRS COLLEGE
15 3 YRS COLLEGE
16 4 YRS COLLEGE: B.A., B.S.
17 POST GRAD, M.D., PH.D
- A15** What ethnic group do you belong to?
1) AMERICAN INDIAN
2) ASIAN
3) PACIFIC ISLANDER
4) BLACK-NOT OF HISPANIC ORIGIN
5) BLACK-HISPANIC ORIGIN
6) WHITE-NOT OF HISPANIC ORIGIN
7) WHITE-HISPANIC ORIGIN
8) OTHER

TOBACCO

- B1AA** Now I'm going to ask you some questions about using tobacco. Have you ever smoked cigarettes daily for a month or more?
- B1AB** Did you smoke as many as 20 cigarettes per day during the period when you were smoking most?
- B1BA** Have you ever smoked cigars daily for a month or more?
- B1BB** Did you smoke as many as 3 cigars per day during the period when you were smoking most?
- B1CA** Have you ever smoked a pipe daily for a month or more?
- B1CB** Did you smoke as many as 4 pipes per day during the period when you were smoking most?
- B1DA** Have you ever used snuff or chewed tobacco daily for a month or more?
- B1DB** Did you do that as much as 4 times per day during the period when you were using most?
- B3** Have you often had periods when you smoked a lot more or used a lot more tobacco than you intended to?
- B4** Have you more than once wanted to quit or cut down on smoking or using tobacco?
- B5** Have you ever tried to quit or cut down on smoking or using tobacco?
- B6** Did you ever find you couldn't quit or cut down?
- B7** Did you try to cut down several times?
- B91** I'm going to ask you about some problems you might have had in the first day or two after you quit or cut down. For instance, did you crave tobacco?
- B92** Were you irritable or angry?
- B93** Were you nervous?
- B94** Were you restless?
- B95** Did you have trouble concentrating?
- B99** Did your heart slow down?
- B910** Did your appetite increase or did you gain weight?
- B10** In weeks, what is the longest any of these problems from cutting down lasted?
- B10A** Did you have these problems several times after cutting down?
- B11** You said you've had problems with (INSERT POSITIVE SYMPTOMS HERE). Have you ever kept using tobacco or started up again to avoid any such problem or to avoid gaining weight or getting irritable?
- B11X** Did you ever keep using tobacco or start up again to avoid problems like gaining weight or getting irritable?

TOBACCO

- B12** Did tobacco cause you any health problems like coughs, problems with your heart or blood pressure, or lung trouble?
- B12A** Did you continue to use tobacco after you knew it caused you health problems?
- B13** Have you ever continued to smoke or use tobacco when you had a serious illness that you knew made it unwise to use tobacco?
- B14** Did using tobacco make you nervous or jittery or cause you any other emotional or mental problems?
- B14A** Did you continue to use tobacco after you knew it caused you problems with your nerves?
- B15** Have you ever given up or greatly reduced important activities like work or sports or associating with friends or relatives, so you could smoke or use tobacco?
- B15A** Have you repeatedly given up important activities to smoke or use tobacco or have you done so for at least a month?
- RECTOB** Within the last 12 months, have you smoked or used tobacco every day for a month or more?

SOMATIZATION

- C36** Now I'm going to ask you some questions about your health. Has your physical health been pretty good or have you been sickly for the majority of your life?
- 1) PRETTY GOOD MOST OF LIFE
2) SICKLY MOST OF LIFE
- AOC36** How old were you the FIRST time you considered yourself sickly?
- ARC36** How old were you the LAST time you considered yourself sickly?
- C1** Have you ever had a lot of trouble with abdominal or belly pain not counting times when you were menstruating?
- AOC1** How old were you the FIRST time you had abdominal or belly pain?
- ARC1** How old were you the LAST time you had abdominal or belly pain?
- C2** Have you ever had a lot of trouble with back pain?
- AOC2** How old were you the FIRST time you had back pain?
- ARC2** How old were you the LAST time you had back pain?
- C3** Have you ever had pains in the joints?
- AOC3** How old were you the FIRST time you had pains in the joints?
- ARC3** How old were you the LAST time you had pains in the joints?
- C4** Have you ever had pains in your arms or legs other than in the joints?
- AOC4** How old were you the FIRST time you had pains in your arms or legs?
- ARC4** How old were you the LAST time you had pains in your arms or legs?
- C5** Have you ever had chest pains?
- AOC5** How old were you the FIRST time you had chest pains?
- ARC5** How old were you the LAST time you had chest pains?
- C7** Have you ever had a lot of trouble with excessively painful menstrual periods?
- AOC7** How old were you the FIRST time you had painful menstrual periods?
- ARC7** How old were you the LAST time you had painful menstrual periods?
- C8** Have you ever had pain when you urinated, that is, passed your water?
- AOC8** How old were you the FIRST time you had pain when you urinated?
- ARC8** How old were you the LAST time you had pain when you urinated?
- C9** Have you ever been completely unable to urinate, or pass water, or had great difficulty urinating for 24 hours or longer, other than after childbirth or surgery?

SOMATIZATION

- AOC9** How old were you the **FIRST** time you were unable to urinate?
- ARC9** How old were you the **LAST** time you were unable to urinate?
- C10** Have you ever had burning pain around your private parts?
- AOC10** How old were you the **FIRST** time you had burning pain around your private parts?
- ARC10** How old were you the **LAST** time you had burning pain around your private parts?
- C11** Have you ever had pain anywhere else other than in the places we've already talked about?
- AOC11** How old were you the **FIRST** time you had these other pains?
- ARC11** How old were you the **LAST** time you had these other pains?
- C14** Have you ever had a lot of trouble with vomiting (**FEMALES**: when you were not pregnant)?
- AOC14** How old were you the **FIRST** time you had trouble with vomiting?
- ARC14** How old were you the **LAST** time you had trouble with vomiting?
- C15** During any pregnancy did you vomit all through the pregnancy?
- AOC15** How old were you the **FIRST** time you vomited throughout your pregnancy?
- ARC15** How old were you the **LAST** time you vomited throughout your pregnancy?
- C16** Have you ever had a lot of trouble with nausea—feeling sick to your stomach but not actually vomiting?
- AOC16** How old were you the **FIRST** time you had trouble with nausea?
- ARC16** How old were you the **LAST** time you had trouble with nausea?
- C17** Have you ever had a lot of trouble with loose bowels or diarrhea?
- AOC17** How old were you the **FIRST** time you had trouble with diarrhea?
- ARC17** How old were you the **LAST** time you had trouble with diarrhea?
- C18** Have you ever had a lot of trouble with excessive gas or bloating of your stomach or abdomen?
- AOC18** How old were you the **FIRST** time you had trouble with excessive gas?
- ARC18** How old were you the **LAST** time you had trouble with excessive gas?
- C19** Have you found that there were several kinds of foods that you couldn't eat because they made you ill?
- AOC19** How old were you the **FIRST** time you felt ill because of foods you ate?
- ARC19** How old were you the **LAST** time you felt ill because of foods you ate?

SOMATIZATION

- C20** Have you ever been blind in one or both eyes where you couldn't see anything at all for a few seconds or more?
- AOC20** How old were you the FIRST time you had blindness?
- ARC20** How old were you the LAST time you had blindness?
- C21** Has your vision ever become blurred for some period, when it wasn't just due to needing glasses or changing glasses?
- AOC21** How old were you the FIRST time you had blurred vision?
- ARC21** How old were you the LAST time you had blurred vision?
- C22** Have you ever been deaf when you completely lost your hearing for a period of time?
- AOC22** How old were you the FIRST time you became deaf?
- ARC22** How old were you the LAST time you were deaf?
- C23** Have you ever had trouble walking?
- AOC23** How old were you the FIRST time you had trouble walking?
- ARC23** How old were you the LAST time you had trouble walking?
- C24** Have you ever been paralyzed—that is, completely unable to move a part of your body for at least a few minutes?
- AOC24** How old were you the FIRST time you were paralyzed?
- ARC24** How old were you the LAST time you were paralyzed?
- C25** Was there ever a time when you lost your voice for 30 minutes or more and couldn't speak above a whisper?
- AOC25** How old were you the FIRST time you lost your voice?
- ARC25** How old were you the LAST time you lost your voice?
- C26** Have you ever had a seizure or convulsion since you were 12 where you were unconscious and your body jerked?
- AOC26** How old were you the FIRST time you had a seizure?
- ARC26** How old were you the LAST time you had a seizure?
- C27** Have you ever had fainting or falling out spells where you felt weak or dizzy and then passed out?
- AOC27** How old were you the FIRST time you had a fainting spell?
- ARC27** How old were you the LAST time you had a fainting spell?
- C28** Have you ever been unconscious for any reason other than those already mentioned?
- AOC28** How old were you the FIRST time you were unconscious?

SOMATIZATION

- ARC28** How old were you the **LAST** time you were unconscious?
- C29** Have you ever had a period of amnesia—that is, a period of several hours or days where you couldn't remember anything afterwards about what happened during that time?
- AOC29** How old were you the **FIRST** time you had amnesia?
- ARC29** How old were you the **LAST** time you had amnesia?
- C30** Have you ever had problems with double vision?
- AOC30** How old were you the **FIRST** time you had double vision?
- ARC30** How old were you the **LAST** time you had double vision?
- C31** Have you ever had shortness of breath when you had not been exerting yourself?
- AOC31** How old were you the **FIRST** time you had shortness of breath?
- ARC31** How old were you the **LAST** time you had shortness of breath?
- C32** Has your heart ever beat so hard that you could feel it pound in your chest?
- C32A** Has that happened only when you were exerting yourself or at other times too?
1) ONLY UPON EXERTION
2) OTHER TIMES TOO
- AOC32** How old were you the **FIRST** time your heart beat hard when you were not exerting yourself?
- ARC32** How old were you the **LAST** time your heart beat hard when you were not exerting yourself?
- C33** Have you ever been bothered by dizziness?
- AOC33** How old were you the **FIRST** time you were bothered by dizziness?
- ARC33** How old were you the **LAST** time you were bothered by dizziness?
- C34** Have you ever been bothered by periods of weakness, that is, when you could not lift or move things you could normally lift or move?
- AOC34** How old were you the **FIRST** time you had periods of weakness?
- ARC34** How old were you the **LAST** time you had periods of weakness?
- C35** Have you ever felt as though there was a lump in your throat that made it difficult to swallow?
- AOC35** How old were you the **FIRST** time you experienced a lump in your throat?
- ARC35** How old were you the **LAST** time you experienced a lump in your throat?
- C37** Other than your first year of menstruation, have your menstrual periods ever been irregular?
- AOC37** How old were you the **FIRST** time you had irregular menstrual cycles?
- ARC37** How old were you the **LAST** time you had irregular menstrual cycles?

SOMATIZATION

- C38** Have you ever had excessive bleeding with your menstrual periods?
- AOC38** How old were you the FIRST time you had excessive bleeding?
- ARC38** How old were you the LAST time you had excessive bleeding?
- R22** In general, has your sex life been important to you or could you have gotten along as well without it?
1) SOMEWHAT IMPORTANT OR NO SEXUAL EXPERIENCE
2) GOTTEN ALONG AS WELL WITHOUT IT
- R25** Has having sexual relations ever been physically painful for you?
- AOR25** How old were you the FIRST time sexual relations were painful?
- ARR25** How old were you the LAST time sexual relations were painful?
- R27** Have you had any other kind of sexual difficulties (MALES: such as a period of two months or more when you had trouble having an erection)?
- AOR27** How old were you the FIRST time you had sexual difficulties?
- ARR27** How old were you the LAST time you had sexual difficulties?
- RECSOM** You said you have had problems or experiences with: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

PANIC DISORDER

- D1** Have you ever had a spell or attack when all of a sudden you felt frightened, anxious or very uneasy in situations when most people would not be afraid or anxious—that is when you were not in danger, or the center of attention or anything like that?
- D3AI** During one of your worst spells of suddenly feeling frightened or anxious or uneasy, did you ever notice that you were short of breath—having trouble catching your breath?
- D3BI** During this spell did your heart pound?
- D3CI** During this spell were you dizzy or lightheaded?
- D3DI** During this spell did you have tightness or pain in your chest?
- D3EI** During this spell did your fingers or feet tingle?
- D3FI** During this spell did you feel like you were choking?
- D3GI** During this spell did you feel faint?
- D3HI** During this spell did you sweat?
- D3II** During this spell did you tremble or shake?
- D3JI** During this spell did you have hot flashes or chills?
- D3KI** During this spell did you or things around you seem unreal?
- D3LI** During this spell were you afraid that you might die?
- D3MI** During this spell were you afraid that you might act in a crazy way?
- D3NI** During this spell did you have nausea?
- D3OI** During this spell did you have belly pain?
- D3PI** During this spell did you feel like you were smothering?
- D7A** Have you ever had four or more of these spells within a four week period, that is, four or more spells where you felt anxious and had some of these other problems like (INSERT POSITIVE SYMPTOMS).
- D8** After having an attack, did you ever have a month or more when you were afraid that you might have another attack?
- D9** During at least several of your attacks of feeling frightened or anxious, did some of those problems begin suddenly, and get worse within the first few minutes of the attack?
- RECPAN** You said you've had sudden attacks of being afraid or anxious during which you had problems like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

GENERALIZED ANXIETY

GENERALIZED ANXIETY

- E1A Have you ever had a period of at least 6 months when you felt worried or anxious?
- E2 During one of these periods, were you worrying about things that were unlikely to happen?
- E2A Were you worrying a great deal over things that were not really serious?
- E3 During any of those periods, did you have different worries on your mind at the same time?
- E3A Were any of your worries about not having enough money or about bad things that might happen to family members or to you?
- E3B Were all your worries about how you looked or behaved, or how you were feeling?
1) YES
2) NO, OTHER THINGS
- E41 I'd like to ask you about other problems you might have had when you were worried and anxious—problems that could not be entirely explained by a physical illness or any medication, drugs or alcohol you had taken. When you were worried and anxious, were you also easily tired?
- E42 When you were worried and anxious, were you also easily startled?
- E43 When you were worried and anxious, were you also trembly or shaky?
- E44 When you were worried and anxious, were you also restless?
- E45 When you were worried and anxious, were you also bothered by tense, sore, or aching muscles?
- E46 When you were worried and anxious, were you also having a lot of trouble keeping your mind on what you were doing?
- E47 When you were worried and anxious, were you also keyed up or on edge?
- E48 When you were worried and anxious, were you also particularly irritable?
- E49 When you were worried and anxious, were you also sweating a lot?
- E410 When you were worried and anxious, were you also aware of your heart pounding or racing?
- E411 When you were worried and anxious, were you also having cold and clammy hands?
- E412 When you were worried and anxious, were you also feeling dizzy or light-headed?
- E413 When you were worried and anxious, were you also having a dry mouth?
- E414 When you were worried and anxious, were you also having nausea or diarrhea?
- E415 When you were worried and anxious, were you also having to urinate too frequently?
- E416 When you were worried and anxious, were you also having hot flashes or chills?
- E417 When you were worried and anxious, were you also short of breath or feeling like you were smothering?

GENERALIZED ANXIETY

- E418** When you were worried and anxious, were you also having trouble swallowing?
- E419** When you were worried and anxious, were you also having trouble falling asleep or staying asleep?
- RECGAD** You said that during a period of six months or more of feeling anxious and worried about several things, you also have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a month or more like that in the last 12 months?

AGORAPHOBIA

- F1** Some people have such an unreasonably strong fear of being in a crowd, leaving home alone, traveling in buses, cars or trains, or crossing a bridge that they always get very upset in such a situation or avoid it altogether. Did you ever go through a period when being in such a situation always frightened you badly?
- F4D** When you were in any situation like that, did you ever feel dizzy, like you might fall?
- F4E** When you were in any situation like that, did you ever feel your heart pound?
- F4F** When you were in any situation like that, did you ever get nauseated or vomit?
- F4G** When you were in any situation like that, did you ever feel like you couldn't control your bodily functions?
- F4I** When you were in any situation like that, did you ever feel that you or things around you were unreal?
- F8** Have you ever been unable to travel some place because of any of these fears?
- RECAP** You said you feared situations like being in a crowd, or having to cross a bridge, or ride in public transportation, so much that you would (INSERT POSITIVE SYMPTOMS). Have you had a bad fear like that in the last 12 months?

SOCIAL PHOBIA

- F11** Some people have such an unreasonable fear of speaking in public, or using public toilets, or eating or drinking in front of others, or writing while someone watches, that they avoid those things or feel extremely uncomfortable or uneasy about doing them. Have you ever had a strong unreasonable fear of doing any of those things?
- F13** Did any of these fears continue for months or even years?
- F14C** Did any of those fears or having to avoid those situations interfere with your life or activities a lot?
- F15** Have you ever been very upset with yourself for having such a fear?
- F16** Has an unreasonable fear of doing any of these things ever kept you from carrying out a task at work, taking on new responsibilities at work, or taking on a new job?
- F17** When you had to do any of those things in public, did it almost always make you extremely nervous or panicky?
- F17A** Did it sometimes?
- F18** Has an unreasonable fear of doing any of these things ever kept you from going to a party, social event or meeting?
- RECSCP** Have you had a problem with any of those fears within the last 12 months?

SIMPLE PHOBIA

- F19** There are other things that frighten some people so much that they try to avoid them. Things like heights, flying, seeing blood, being near an insect, or a snake, or a bird, a rat, a cat, or a dog, getting a shot, being in an open space, hearing thunder or seeing lightning, or being in water. Have you ever had such an unreasonable fear of something like that, that you tried to avoid it?
- F21** Did any of these fears continue for months or even years?
- F22C** Did any of those fears or having to avoid those situations interfere with your life or activities a lot?
- F23** Have you ever been very upset with yourself for having such a fear?
- F24** Has an unreasonable fear of any of these things ever kept you from carrying out a task at work, taking on new responsibilities at work, or taking on a new job?
- F25** When you had to be in such a situation, did it almost always make you extremely nervous or panicky?
- F25A** Did it sometimes?
- F26** Has an unreasonable fear of any of these things ever kept you from going to a party, social event or meeting?
- RECSMP** Have you had a problem with any of those fears within the last 12 months?

POST-TRAUMATIC STRESS

- G1 A few people have terrible experiences that most people never go through — things like being attacked (*FEMALES: or raped*), being in a fire or flood or bad traffic accident, being threatened with a weapon, or seeing someone being badly injured or killed. Did something like this ever happen to you?
- G1X Have you ever suffered a great shock because something like that happened to someone close to you?
- G1A What was the worst thing that like this that you experienced?
- 1) MILITARY COMBAT
 - 2) RAPE
 - 3) BEING ATTACKED
 - 4) SEEING SOMEONE HURT OR KILLED
 - 5) BEING IN A FIRE, FLOOD OR OTHER DISASTER
 - 6) BEING THREATENED WITH A WEAPON
 - 7) BEING ALMOST KILLED OR BADLY HURT
 - 8) BEING IN AN ACCIDENT
 - 9) GETTING NEWS OF SOMEONE ELSE'S SUDDEN DEATH OR BAD ACCIDENT
- G2A Bad experiences can cause changes in the way some people feel. You might or might not have experienced any of these changes. For example, did you keep remembering *EVENT** when you didn't want to?
- G3A Did you keep having dreams or nightmares about it afterwards?
- G4A Did you ever suddenly act or feel as though it was happening again, even though it wasn't?
- G5A After *EVENT**, did you ever experience something that was similar or that reminded you of it?
- G5AA Did that upset you very much?
- G5BA Afterwards, when you would experience something that was similar to or reminded you of *EVENT**, did you sweat or did your heart beat fast or did you tremble?
- G6A Did you go out of your way to avoid activities or situations that might have reminded you of it?
- G7A After *EVENT** did you try hard not to think about it?
- G8A Do you remember it well or is your memory blank for all or part of it?
- 1) REMEMBER WELL
 - 2) BLANK FOR ALL OR PART OF IT
- G9A Were you injured during *EVENT**?
- G9AA Did you suffer a head injury as a result of it?
- G9BA Were you unconscious for more than 10 minutes?
- G10A After *EVENT**, did you lose interest in doing things that used to be important to you?
- G11A Afterwards, did you find that you no longer had loving or warm feelings toward anyone?
- G12A After *EVENT**, did you feel isolated or distant from other people?

POST-TRAUMATIC STRESS

- G13A** After *EVENT**, did you begin to feel that there was no point in thinking about the future anymore?
- G14A** Afterwards, did you have more trouble sleeping than is usual for you — either trouble falling asleep, or staying asleep?
- G15A** After *EVENT**, did you act unusually irritable or lose your temper a lot?
- G16A** Afterwards, did you have more trouble concentrating than is usual for you?
- G17A** After *EVENT**, did you become overly concerned about danger or overly careful and watchful?
- G18A** Afterwards, did you become jumpy or easily startled so that ordinary noises or movements would make you jump or put you on guard?
- G20AA** Did you continue to have any of these problems for at least a month because of *EVENT**?
- G1B** Have you had any other terrible or shocking experience?
- G1B1** What did you experience?
1) MILITARY COMBAT
2) RAPE
3) BEING ATTACKED
4) SEEING SOMEONE HURT OR KILLED
5) BEING IN A FIRE, FLOOD OR OTHER DISASTER
6) BEING THREATENED WITH A WEAPON
7) BEING ALMOST KILLED OR BADLY HURT
8) BEING IN AN ACCIDENT
9) GETTING NEWS OF SOMEONE ELSE'S SUDDEN DEATH OR BAD ACCIDENT
- G2B** Did you keep remembering *EVENT2** when you didn't want to?
- G3B** Did you keep having dreams or nightmares about it afterwards?
- G4B** Did you ever suddenly act or feel as though it was happening again, even though it wasn't?
- G5B** After *EVENT2**, did you ever experience something that was similar or that reminded you of it?
- G5AB** Did that upset you very much?
- G5BB** Afterwards, when you would experience something that was similar to or reminded you of *EVENT2**, did you sweat or did your heart beat fast or did you tremble?
- G6B** Did you go out of your way to avoid activities or situations that might have reminded you of it?
- G7B** After *EVENT2** did you try hard not to think about it?
- G8B** Do you remember it well or is your memory blank for all or part of it?
1) REMEMBER WELL
2) BLANK FOR ALL OR PART OF IT
- G9B** Were you injured during *EVENT2**?
- G9AB** Did you suffer a head injury as a result of it?

POST-TRAUMATIC STRESS

- G9BB** Were you unconscious for more than 10 minutes?
- G10B** After *EVENT2**, did you lose interest in doing things that used to be important to you?
- G11B** Afterwards, did you find that you no longer had loving or warm feelings toward anyone?
- G12B** After *EVENT2**, did you feel isolated or distant from other people?
- G13B** After *EVENT2**, did you begin to feel that there was no point in thinking about the future anymore?
- G14B** Afterwards, did you have more trouble sleeping than is usual for you — either trouble falling asleep, or staying asleep?
- G15B** After *EVENT2**, did you act unusually irritable or lose your temper a lot?
- G16B** Afterwards, did you have more trouble concentrating than is usual for you?
- G17B** After *EVENT2**, did you become overly concerned about danger or overly careful and watchful?
- G18B** Afterwards, did you become jumpy or easily startled so that ordinary noises or movements would make you jump or put you on guard?
- G20AB** Did you continue to have any of these problems for at least a month because of *EVENT2**?
- RECPTS** You said you have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

*NOTE: The specific event in G1A is substituted for *EVENT*. The specific event in G1B1 is substituted for *EVENT2*.

MAJOR DEPRESSIVE EPISODE

MAJOR DEPRESSIVE EPISODE

- H1** In your lifetime, have you ever had two weeks or more when nearly every day you felt sad, blue, or depressed?
- H6I** Has there ever been a period of two weeks or longer when you lost your appetite?
- H7I** Have you ever lost weight without trying to — as much as two pounds a week for several weeks or as much as ten pounds altogether?
- H8I** Has there ever been at least 2 weeks when you had an increase in appetite?
- H9I** Have you ever had a period when your eating increased so much that you gained as much as two pounds a week for several weeks or 10 pounds altogether?
- H10I** Have you ever had two weeks or more when nearly every night you had trouble falling asleep, staying asleep, or waking up too early?
- H12I** Have you ever had two weeks or longer when nearly every day you were sleeping too much?
- H13I** Has there ever been a period lasting 2 weeks or more when you lacked energy or felt tired out all the time even when you had not been working very hard?
- H15I** Has there ever been two weeks or more when nearly every day you talked or moved more slowly than is normal for you?
- H16I** Has there ever been two weeks or more when nearly every day you had to be moving all the time — that is, you couldn't sit still and paced up and down?
- H19I** Has there ever been 2 weeks or longer when you lost all interest in things like work or hobbies or things you usually liked to do for fun?
- H21I** Has there ever been two weeks or more when nearly every day you felt worthless, sinful, or guilty?
- H25I** Has there ever been two weeks or more when nearly every day you had a lot more trouble concentrating than is normal for you?
- H26I** Have you ever had two weeks or more when nearly every day your thoughts came much slower than usual or seemed mixed up?
- H27I** Have you ever had two weeks or more when nearly every day you were unable to make up your mind about things you ordinarily have no trouble deciding about?
- H28I** Has there ever been a period of two weeks or more when you thought a lot about death — your own, someone else's, or death in general?
- H29I** Has there ever been a period of two weeks or more when you felt like you wanted to die?
- H30I** Have you ever felt so low you thought about committing suicide?
- H31I** Have you ever attempted suicide?

MAJOR DEPRESSIVE EPISODE

- H34 You said you've had a period of (*FEELING DEPRESSED / LOSING INTEREST IN THINGS*) and also said you've had some other problems with (*INSERT POSITIVE SYMPTOMS*). Has there ever been a time when (*FEELING DEPRESSED / LOSING INTEREST IN THINGS*) and some of these other problems occurred together — that is, within the same month?
- H34A So you've never had a period of (*FEELING DEPRESSED / LOSING INTEREST IN THINGS*) at the same time you were having some of these other problems?
1) NEVER BEEN A PERIOD
2) HAS BEEN A PERIOD
- H35 You said you have had periods of: (*INSERT POSITIVE SYMPTOMS*). Was there ever a time when several of these problems occurred together — that is, within the same month?
- H35A When you were having some of these problems, at about the same time were you feeling okay or were you feeling low, gloomy, blue, or uninterested in everything?
1) OKAY
2) GLOOMY, LOW, ETC.
- H36 Have you ever had a period of three months or longer when you were feeling low and had several of these other problems at the same time?
- H38D Was any spell so bad that it kept you from working or from seeing friends or relatives?
- H40 Did any of these spells occur just after someone close to you died?
- H40A Did you ever have a period like this, other than after a death?
1) NO, ONLY AFTER A DEATH
2) YES, OTHER TIMES
- H6II During that spell of depression did you lose your appetite?
- H7II During that spell of depression did you lose weight without trying to — as much as two pounds a week for several weeks or as much as 10 pounds altogether?
- H8II During that spell of depression did you have an increase in appetite?
- H9II During that spell of depression did your eating increase so much that you gained as much as two pounds a week for several weeks or 10 pounds altogether?
- H10II During that spell of depression did you have trouble falling asleep, staying asleep, or waking up too early?
- H12II During that spell of depression were you sleeping too much?
- H13II During that spell of depression did you feel tired out all the time even when you had not been working very hard?
- H15II During that spell of depression did you talk or move more slowly than is normal for you?
- H16II During that spell of depression did you have to be moving all the time — that is, you couldn't sit still and paced up and down?
- H19II During that spell of depression did you lose all interest in things like work or hobbies or things you usually liked to do for fun?
- H21II During that spell of depression did you feel worthless, sinful, or guilty?

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- H25II** During that spell of depression did you have a lot more trouble concentrating than is normal for you?
- H26II** During that spell of depression did your thoughts come much slower than usual or seem mixed up?
- H27II** During that spell of depression were you unable to make up your mind about things you ordinarily have no trouble deciding about?
- H28II** During that spell of depression did you think a lot about death — your own, someone else's, or death in general?
- H29II** During that spell of depression did you feel like you wanted to die?
- H30II** During that spell of depression did you feel so low you thought about committing suicide?
- H31II** During that spell of depression did you attempt suicide?
- RECDEP** In the last 12 months, have you had one of the spells of feeling low or sad, along with some of the other problems you have mentioned?

MANIC EPISODE / BIPOLAR DISORDER

- J1** Has there ever been a period of days when you were so happy or excited or high that you got into trouble, or your family or friends worried about it, or a doctor said you were manic?
- J2I** Has there ever been a period when you were so much more active than usual that you or your family or friends were concerned about it?
- J3I** Has there ever been a period of several days when you couldn't sit still and paced up and down?
- J4I** Has there ever been a period when you went on spending sprees — spending so much money that it caused you or your family some financial trouble, or had a period when you made foolish decisions about money?
- J5I** Have you ever had a period when your interest in sex was so much stronger than is typical for you that you wanted to have sex a lot more frequently than is normal for you or with people you normally wouldn't be interested in?
- J6I** Has there ever been a period when you talked so fast that people said they couldn't understand you or when you had to keep talking all of the time?
- J7I** Have you ever had a period when thoughts raced through your head so fast that you couldn't keep track of them?
- J8I** Have you ever had a period when you felt that you had a special gift or special powers to do things others couldn't do or that you were a specially important person?
- J9I** Has there ever been a period when you hardly slept at all but still didn't feel tired or sleepy?
- J10I** Was there ever a period when you were easily distracted, so that any little interruption could get you off the track?
- J14** You said you had a period of feeling high or excited and also said you've had some feelings or experiences like (INSERT POSITIVE SYMPTOMS). Has there ever been a period when the feelings of being excited or manic and some of these other feelings or experiences occurred together?
- J14A** So there's never been a period when you felt high or excited at the same time you were having any of these other experiences?
1) NEVER BEEN A PERIOD
2) HAS BEEN A PERIOD
- J15** You said you've had some feelings or experiences like (INSERT POSITIVE SYMPTOMS). Was there ever a period when some of these feelings or experiences occurred together?
- J15A** When you were feeling that way, were you unusually irritable or likely to fight or argue?
- J18** Were you ever in the hospital overnight because of any such spell?
- J19C** Did any such spell interfere with your life, work or activities a lot?
- J2II** During that spell of being high or irritable were you more active than usual?
- J3II** During that spell of being high or irritable were you unable to sit still and did you pace up and down?

MANIC EPISODE / BIPOLAR DISORDER

- J4II** During that spell of being high or irritable did you go on spending sprees?
- J5II** During that spell of being high or irritable was your interest in sex stronger than is usual for you?
- J6II** During that spell of being high or irritable did you talk so fast that people couldn't understand you?
- J7II** During that spell of being high or irritable did your thoughts race through your head so fast that you couldn't keep track of them?
- J8II** During that spell of being high or irritable did you feel that you had a special gift or special powers?
- J9II** During that spell of being high or irritable did you hardly sleep but didn't feel tired?
- J10II** During that spell of being high or irritable were you easily distracted?
- RECMAN** In the last 12 months, have you had one of these spells of feeling high or irritable, along with some of these other problems?

ANOREXIA

- L1 Have you ever worried a lot about eating too much, gaining too much weight, or being too fat?
- L2 Have you ever lost a lot of weight — that is, 15 pounds or more, either by dieting or without meaning to. Do not count having a baby or an operation.
- L4LB What is the lowest weight you ever dropped to after losing 15 pounds or more?
- L5 Did relatives or friends ever say that you were much too thin or looked like a skeleton?
- L7FT How tall were you then? Enter as feet and inches. So, for example, if you are 5 feet 7 inches tall, enter 507.
- L9 Did you ever think you were overweight when other people such as your parents or friends said you had gotten too thin?
- L10 Did you ever miss three menstrual periods in a row around the time you were losing weight?
- RECANR You said you have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

BULIMIA

BULIMIA

- L1** Have you ever worried a lot about eating too much, gaining too much weight, or being too fat?
- L11A** Have you had several periods when you would eat abnormally large amounts of food within a few hours — that is, binge eating?
- L11B** Have you ever had a period of 3 months or more when you went on eating binges at least twice a week?
- L14** Have you ever been afraid that you might not be able to stop one of these eating binges?
- L15** When you ate unusually large amounts, have you ever had to do something special to make yourself quit — like going to sleep, leaving the house or making yourself vomit?
- L16** Have you sometimes stopped only because your stomach hurt?
- L21** Have you several times tried fasting in order to make up for eating binges — not eating at all or only taking liquids?
- L22A** Have you ever done anything regularly in order to keep from gaining weight — like exercising?
- L22B** Have you regularly stayed on a strict diet in order to keep from gaining weight?
- L22C** Have you regularly taken water pills or diuretics in order to keep from gaining weight?
- L22D** Have you regularly taken laxatives or enemas in order to keep from gaining weight?
- L22E** Have you regularly made yourself vomit in order to keep from gaining weight?
- REC8UL** You said you have had problems or experiences like (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

ALCOHOL

ALCOHOL

- M3** Now I'm going to ask you some questions about your use of alcoholic beverages. Have you had any wine, beer, or any mixed drink or drink that contains alcohol at least once a month for six months or more? If so, what is the largest number of drinks that you've ever had in one day? (Enter 0 if you have not had at least one drink per month for six months or more)
- M6** Have you ever gone on binges or benders where you kept drinking for a couple of days or more without sobering up?
- M6A** Did you neglect some of your usual responsibilities then?
- M6B** Did you do that several times or go on a binge that lasted a month or more?
- M7** Did you ever get tolerant to alcohol, that is, you needed to drink a lot more in order to get an effect, or found that you could no longer get high on the amount you used to drink?
- M7A** Some months or years after you started drinking, did you begin to be able to drink a lot more before you would get drunk?
- M7B** Did your ability to drink more without feeling its effect last for a month or more?
- M8** Have there been many days when you drank much more than you expected to when you began, or have you often continued drinking for more days in a row than you intended to?
- M9** Have you more than once wanted to quit or cut down on your drinking?
- M9A** Have you ever tried to quit or cut down on drinking?
- M9B** Did you find you couldn't quit or cut down?
1) NO, I WAS ABLE TO QUIT
2) COULD NOT QUIT
- M9C** Were you unable to quit or cut down more than once?
- M10** Some people try to control their drinking by making rules, like not drinking before 5 o'clock or never drinking alone. Have you ever made rules like that for yourself?
- M10A** Did you make these rules because you were having trouble limiting the amount you were drinking?
- M10B** Did you try to follow those rules for a month or longer or make rules for yourself several times?
- M11** Has there ever been a period when you spent so much time drinking alcohol or getting over its effects that you had little time for anything else?
- M11A** Did the period when you spent a lot of time drinking last a month or longer?
- M12** Have you ever given up or greatly reduced important activities in order to drink—like sports, work, or associating with friends or relatives?
- M12A** Did you give up or cut down on activities for a month or more, or several times, in order to drink?
- M13** Has your drinking or being hung over often kept you from working or taking care of children?
- M13A** Have you often worked or taken care of children at a time when you had drunk enough alcohol to make your speech thick or make you unsteady on your feet?

ALCOHOL

- M14** Were there ever objections about your drinking from your family, friends, your doctor, or your clergyman, your boss or people at work or school? Or have you gotten into fights while drinking or have the police stopped or arrested you or taken you to a treatment center because of drinking?
1) NONE OF THOSE THINGS HAPPENED
2) AT LEAST ONE OF THOSE THINGS HAPPENED
- M16** Did you drink more than once after having any of these problems?
- M17** Have you ever had trouble driving because of drinking—like having an accident or being arrested for drunk driving?
- M17A** Have you several times had trouble driving because of drinking?
- M18** Have you ever accidentally injured yourself when you had been drinking, for example, had a bad fall or cut yourself badly?
- M18A** Did that happen several times?
- M19** Have you several times been high from drinking in a situation where it increased your chances of getting hurt—for instance, when driving a car or boat, using knives, machinery, or guns, crossing against traffic, climbing or swimming?
- M21** People who cut down or stop drinking after drinking for a considerable time often have withdrawal symptoms. Common ones are the 'shakes', being unable to sleep, feeling anxious or depressed, sweating, having your heart beat fast or having the DTs, or seeing or hearing things that aren't really there. Have you had any problems like that when you stopped or cut down on drinking?
- M21A** Have you had withdrawal symptoms several times?
- M23A** Did you ever take a drink right after you woke up to keep from having a hangover or the shakes?
- M23B** Have you ever taken a drink to keep from having a hangover, the shakes, or any withdrawal symptoms or taken a drink to make them go away?
- M23C** Have you several times taken a drink to keep from having withdrawal symptoms?
- M25** There are several health problems that can result from drinking. Did drinking ever cause you to have liver disease, or yellow jaundice, give you stomach disease, or make you vomit blood, cause your feet to tingle or feel numb, give you memory problems even when you weren't drinking, or give you pancreatitis?
- M26** Did you continue to drink more than once knowing that drinking caused you to have a health problem or an injury?
- M27** Have you continued to drink when you knew you had a serious physical illness that might be made worse by drinking?
- M29** Has alcohol ever caused you emotional or psychological problems, such as feeling uninterested in things, depressed, suspicious of others or paranoid, or caused you to have strange ideas?
- M29A** Did you continue to drink more than once after you knew that drinking caused you psychological or emotional problems?
- RECALC** You said you have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

OBSSESSIONS

- N1** I want to ask you next about whether you have ever been bothered by having certain unpleasant thoughts all the time. An example would be the persistent idea that your hands are dirty or have germs on them, no matter how much you wash them, or that relatives who are away have been hurt or killed. Have you ever had any kind of unreasonable thought like that?
- N1A** Was this only for a short time or was it over a period of at least 2 weeks?
1) LESS THAN TWO WEEKS
2) TWO WEEKS OR MORE
- N2** Were these thoughts only about feeling guilty, losing weight, or using drugs, alcohol or tobacco?
1) ONLY THESE THINGS
2) OTHER THINGS
- N3** Did these unreasonable thoughts keep coming back into your mind again and again no matter how hard you tried to get rid of them?
- N5** Another example of an unpleasant thought would be the persistent idea that you might harm or cause the death of someone you loved, even though you really didn't want to. Or that you had accidentally done something that harmed or endangered someone. Or you might have had thoughts you were ashamed of, but couldn't keep out of your mind. Have you ever been bothered by these or by any other unpleasant and persistent thoughts?
- N5A** Was this only for a short time, or did these thoughts keep coming into your mind over a period of at least two weeks?
1) LESS THAN TWO WEEKS
2) TWO WEEKS OR MORE
- N6** Were these thoughts only about feeling guilty, losing weight, or using drugs, alcohol or tobacco?
1) ONLY THESE THINGS
2) OTHER THINGS
- N7** Did these unpleasant thoughts keep coming back into your mind again and again no matter how hard you tried to get rid of them?
- N9** Did these thoughts often bother you for more than an hour at a time?
- N9A** Did thinking about these ideas interfere with your life or work, or cause you difficulty with your relatives or friends, or upset you a great deal?
- RECOBS** Have you had an unreasonable or unpleasant thought like this within the last 12 months?

COMPULSIONS

COMPULSION

- N10** Some people have the unpleasant feeling that they have to do something over and over again even though they know it is really foolish—but they can't resist doing it—things like washing their hands again and again, or going back several times to be sure they've locked a door or turned off the stove. Have you ever had to do something like that over and over?
- N11** Was there a time when you felt you had to do something in a certain order, like getting dressed perhaps, and had to start all over again if you did it in the wrong order?
- N12** Has there ever been a period when you felt you had to count something, like the squares in a tile floor, or always touch a particular thing, and couldn't resist doing it even when you tried to?
- N15** Did you have to do this several times over a period of at least two weeks?
1) NO, SHORTER TIME
2) YES, TWO WEEKS
- N16** When you did this, did it often take you more than an hour a day?
- N17** Did this interfere with your life or work, or cause you difficulty with your relatives or friends, or upset you a great deal?
- RECCOM** You said you have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

ANTISOCIAL PERSONALITY

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- R5** Now I'd like to ask you about your life as a child before you were 15 years old. Did you ever skip school or play hooky at least twice in one year?
- R5A** Was that only in your last year in school or before that?
1) LAST YEAR ONLY
2) BEFORE LAST YEAR
- R5B** Before you were 15, did you skip school or play hooky as much as 5 days a year in at least two school years, not counting your last year in school?
- R6** Before you were 15, did you often get into fights that you had started?
- R7** Did you more than once use a weapon in a fight or threaten someone with a weapon before you were 15?
- R8** Before you were 15, did you sometimes try to physically hurt anyone?
- R9** Did you ever hurt or kill an animal on purpose before you were 15? (Do not include hunting, fishing, or exterminating rats, mice or insects.)
- R10** Before you were 15, did you ever run away from home overnight?
- R10A** Did you run away more than once before 15?
- R10B** Did you return home to live after running away?
1) YES
2) NO
- R11** Of course, no one tells the truth all the time, but did you tell a lot of lies before you were 15 years old?
- R12** Before you were 15 years old, did you more than once swipe things from stores or from other children or steal from your parents or from anyone else?
- R13** Before you were 15, did you ever rob or mug anyone or snatch a purse or threaten to hurt anyone if they didn't give you money or jewelry?
- R14** Since you've been 15, have you stolen anything or robbed or threatened anyone?
- R15** Before you were 15, did you intentionally damage someone's car or do anything else to destroy or severely damage someone else's property?
- R16** Before you were 15, did you intentionally start any fires? Don't count fires that you were supposed to start like bonfires, or fires in stoves or fireplaces.
- R17** Since age 15, have you intentionally set any fires or tried to destroy something that belonged to someone else?
- R19A** Have you more than once been arrested for anything other than traffic violations since 15?
- R20** Have you ever been convicted of a felony?
- R21** Have you had at least four traffic tickets in your life for speeding or running a light or causing an accident?

ANTISOCIAL PERSONALITY

- R31B Before you were 15, did you ever force someone to have sex with you?
- R33 Have you ever been faithful for more than a year — with no other sexual relationships at all during that period?
1) YES, OR NEVER HAD A PROLONGED PARTNERSHIP
2) NO
- R35 Have you ever been paid for having sex with someone?
- R36 Have you ever made money by finding customers for male or female prostitutes?
- R37 Have you ever made money illegally by buying or selling stolen goods, selling drugs, or being part of a gambling or betting operation?
- R38 Have you ever moved to avoid paying rent or borrowed money without making any payments on it?
- R39A Have you more than once been sued for a bad debt or had things you bought taken back because you didn't meet the payments?
- R42B Have you more than once hit or thrown things at your wife/husband or partner first, regardless of who started the argument?
- R43 Have you ever spanked or hit any child hard enough so that he or she had bruises or had to stay in bed or see a doctor?
- R44 Since age 15, have you been in more than one fight that came to swapping blows, other than fights with your wife/husband or partner?
- R45 Since you've been 15, have you ever used a weapon like a stick, knife, or gun in a fight?
- R46 Since you were 15, have you ever physically attacked anyone other than while fighting?
- R48 You mentioned (INSERT POSITIVE SYMPTOMS). Did you feel that doing that was okay because you had been mistreated or the person deserved it?
- R51 Have you ever quit a job three times or more before you already had another job lined up?
- R52 On any job you have had since 18, were you late or absent an average of 3 days a month or more?
- R52 Was your being absent 3 days or more a month always due to a physical illness or injury?
- R54 In the last 5 years, have you been out of work for six months or more not including times you were retired, in school full-time, a housewife, or too physically ill to work?
- R55 Have you ever used an alias or assumed name? Do not include pen names or stage names.
- R56 Since you've been 15, have you thought you lied pretty often?
- R57 Since you've been 15, have you ever traveled around for a month or more without having any arrangements ahead of time and not knowing how long you were going to stay or where you were going to work?
- R58 Since you've been 15, has there ever been a period when you had no regular place to live, for at least a month or so?

ANTISOCIAL PERSONALITY

- R60** Has there ever been a period when you did not provide your child with the financial support you were supposed to?
- R61** Since you've been 15, have you sometimes left young children under 6 years old at home alone while you were out shopping or doing anything else?
- R62** Since you've been 15, have there been times when someone else fed a child of yours or a child you were caring for because you didn't cook or have food in the house, or has someone kept your child overnight because no one was taking care of him or her at home?
- R63** Since you've been 15, has a nurse or social worker or teacher ever said that any child of yours or a child you were taking care of wasn't being given enough to eat or wasn't being kept clean enough or wasn't getting medical care when it was needed?
- R64** Since you've been 15, have you more than once run out of money for food for your family because you had spent the food money on yourself or on going out?
- M17** Since you've been 15, have you ever had trouble driving because of drinking — like having an accident or being arrested for drunk driving?
- RECAP** You said you have had problems or experiences like: (INSERT POSITIVE SYMPTOMS). Have you had a problem or experience like that within the last 12 months?

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13. ABSTRACT (Maximum 200 words) This report describes the methodology for the assessment of Perceptions of Wellness and Readiness (POWR) among active-duty Navy and Marine Corps personnel. Supported by the Defense Women's Health Research Program, the purpose of this study was to obtain baseline prevalence and risk factor information on a representative sample of active-duty Navy and Marine Corps women and men worldwide and to provide relevant comparative data with civilian populations. The POWR Assessment consisted of three separate, but complementary components. The first and most comprehensive component was a large-scale survey in which respondents completed an in-depth self-report questionnaire that assessed six key issues including reproductive health, medical history and nutritional status, mental health, lifestyle issues, occupational/environmental risks, and health services issues. This questionnaire study was based on a probability sample of approximately 10,000 active-duty Navy and Marine Corps personnel. The second component consisted of physical measurements taken on a subsample of approximately 1,200 respondents to the main survey. The third component was a telephone interview drawn from volunteers responding to the main survey. This report includes background about the study and discussions of the sampling design, the data collection instruments, data collection methods, and sample weighting and estimation procedures.				
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