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Individual and Family Readiness for Separation and Deployment:

Results from the 1992 DoD Surveys of Officers and Enlisted Personnel and Military Spouses

Defense Manpower Data Center
Survey & Program Evaluation Division
1600 Wilson Boulevard, Suite 400
Arlington, Va. 22209-2593

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Daniel M. Aldridge, Tracy T. Sturdivant, Charles L. Smith, and Josefina A. Lago (WCG) and Betty D. Maxfield (DMDC)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Washington Consulting Group
4330 East-West Highway, Suite 1010
Bethesda, Maryland 20814

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To better understand and plan for the needs of a changing military force, the Defense Manpower Data Center (DMDC) conducted the *1992 Surveys of Officers and Enlisted Personnel and Their Spouses.* The objective of this report was to analyze issues related to individual and unit readiness for deployment, recall, and alert. Central questions that were addressed are whether some Service members are more likely than others to experience difficulty in responding quickly to recalls, alerts, or changes in work schedule, and whether some members worry more than others about their families while they are away on assignment. This report presents findings that can guide policies designed to reduce readiness barriers that Service members may experience. Highlights of the report are as follows: a) a higher proportion of dual-military families encounter difficulties responding to short-notice separations or deployments; b) female Service members, younger personnel, and individuals with dependents require more support as they cope with short-notice job demands and deployments; c) Navy personnel have more difficulty responding to quick alerts than members of other Services, d) older, more experience personnel respond to quick alert/deployments with fewer problems and concerns than do younger, less experienced Service members, and e) career satisfaction is positively related to ability to respond to demands of military life.

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INDIVIDUAL AND FAMILY READINESS FOR SEPARATION AND DEPLOYMENT:

RESULTS FROM THE 1992 DOD SURVEYS OF OFFICERS AND ENLISTED PERSONNEL AND MILITARY SPOUSES

Daniel M. Aldridge, Tracy T. Sturdivant, Charles L. Smith, and Josefina A. Lago
Washington Consulting Group

Betty D. Maxfield, Project Director
Defense Manpower Data Center

Defense Manpower Data Center
Survey & Program Evaluation Division
1600 Wilson Boulevard Suite 400, Arlington, VA 22209

Executive Summary

Introduction

To maintain efficiency and effectiveness, the Department of Defense (DoD) must be a responsive employer. As the military becomes more gender-integrated and more family-oriented, DoD must understand and plan for the needs of the changing Service force. To provide input for policies that relate to military families, the Defense Manpower Data Center (DMDC) conducted the *1992 Department of Defense Surveys of Officers and Enlisted Personnel.* The surveys were designed to provide an analysis of issues such as the impact of changing family structures, to guide updates of current policies to accommodate changing needs, and to assist in the development of new policies.

The 1992 surveys included active-duty personnel in all four military Services. They were based on stratified samples of 40,812 officers and 56,015 enlisted personnel, for a total of 96,827 Service members. Responses were received from 59,930 Service members (27,684 officers and 32,246 enlisted personnel). Response rates, based on the number of completed survey returns and the number of eligible members, were 71.6 percent for officers, 62.3 percent for enlisted personnel, and 66.3 percent overall. The stratified samples were drawn from four different sources:

- A longitudinal database consisting of a subsample from the 1985 survey sample,
- A sample of recruiters,
- A sample of active-duty members, and
- A sample of Active Guard/Reserve or Training and Administration of the Reserve (AGR/TAR) members.

The survey questionnaire gathered information on demographics, military background and lifestyles, deployments, retention and career intentions, dependents and child care issues, military compensation, benefits and programs, and family resources.

This report is the second in a series of five analyses based on the 1992 survey results. Its objective is to analyze issues related to individual and unit readiness for deployment, recall, and alert. Unit readiness has typically been measured using the Status of Resources and Training System (SORTS), which assesses unit readiness but does not incorporate the influence of outside factors (e.g., the family) on individual readiness. The 1992 surveys supplement measures of unit readiness used by the Joint Chiefs of Staff and studies by groups such as the Army Family Research Program (AFRP). The work of Segal and Harris (1993) and others gave some insight into the influence of family factors on individual readiness, retention decision-making, job commitment, etc. Still, the body of literature does not adequately address such issues as whether certain groups have more difficulty responding quickly to alerts (as in the Gulf War) or how separations affect Service members and their families.

Central questions that remain unanswered by previous studies include whether some Service members are more likely than others to experience difficulty in responding quickly to recalls, alerts, or

changes in work schedule, and whether some Service members worry more than others about their families while they are away on assignment. Based upon responses to the 1992 surveys, this report describes the kinds of barriers to readiness that Service members may experience, and presents findings that can guide policy changes to reduce such barriers for the changing Service force.

Analysis Methodology

A systematic approach was used for the analysis of the 1992 survey results: devising hypotheses, developing descriptive statistics to test interrelationships among the survey variables, and constructing a series of multivariate models based on relationships identified by the descriptive tests. The hypotheses to be tested for this report were as follows:

- Some Service members are more likely than others to experience difficulty in responding quickly to recalls, alerts, or changes in work schedule.

- Some Service members worry more than others about their families while they are away on assignment.

Explanatory variables (developed from survey responses) included the following:

- Individual, military, and family demographics,

- Whether emergency provisions were in place,

- Satisfaction with military life, and

- Confidence in the spouse's ability to handle matters while the Service member was away.

Simple descriptive tests (e.g., frequency tables and Chi-square tests) were used to explore the relationships among the explanatory variables themselves and between explanatory variables and dependent measures. A series of more complex multivariate models (i.e., regressions) were used to examine directional interrelationships between the explanatory and dependent variables. The objective was to provide information for DoD deployment programs and policies and thereby make individual Service members, as well as their units, more combat-ready.

Findings

The following are highlights of the findings:

- About 64 percent of the Service members who encountered short-notice separations or deployments experienced no problems responding. A higher proportion of dual-military families (Service members with spouses who are also in the military) encountered difficulties responding.

- Those who require more attention and support as they attempt to cope with short-notice job demands and deployments are female Service members, younger personnel (particularly those with families), and individuals with dependents (especially dual-military families).

- Navy personnel appear to have more difficulty responding to quick alert and more concerns while they are away than do other Service members. Characteristics of Navy life seem to contribute to the differences.

- Older, more experienced personnel seem to respond to quick response situations with fewer problems and concerns than do younger, less experienced Service members. This result suggests that experienced personnel may have developed more effective coping mechanisms, and that mentoring and experience-sharing by older individuals may be of value to younger, less-tenured Service members and their families.

- Career satisfaction is positively related to the ability of Service members to respond to the demands of military life, and to having fewer family concerns during periods of separation.

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Introduction

Background

To maintain efficiency and effectiveness, the Department of Defense (DoD) must be a responsive employer. Toward this end, DoD periodically assesses the characteristics, behaviors, attitudes, values, expectations, career intentions, and satisfaction of military Service members and their families and identifies potential areas for improvements in personnel policy. As the military work force becomes more gender-integrated and more family-oriented, DoD must understand and plan for the needs of the changing force. Yesteryear's troops were predominantly single men; in contrast, today's volunteers consist of married men and women, mothers and fathers, dual-military couples, and single parents, as well as single men and women.

Because the military is no longer primarily single individuals, personnel policies, services, and programs must be offered to enable the changing military personnel to manage the burdens of both family life and the bearing of arms. Such policies and programs can contribute to recruitment, morale, readiness, performance, and personnel retention.

A variety of research studies have provided input for structuring DoD policies and programs. Many of those studies, however, have focused on the combat readiness of military units rather than individual readiness. Also, issues such as the influence of outside factors (e.g., the family) on the ability of Service members to respond quickly to recalls or alerts have not been adequately addressed.

To provide further input on family policies (e.g., child care), the Defense Manpower Data Center (DMDC) conducted the *1992 Department of Defense Surveys of Officers and Enlisted Personnel*, which focused extensively on military families. Development of the surveys was coordinated through the Office of the Under Secretary of Defense for Personnel and Readiness (Personnel Support, Families & Education, Office of Family Policy, Support & Services). The surveys were administered to active-duty personnel in all four military Services. They included items on demographics, military background and lifestyle, deployments, retention and career intentions, dependents, military compensation, benefits and programs, civilian labor force experience, and family resources.

To aid in the dissemination and utilization of findings from the 1992 surveys, DMDC has published five topical reports. Other reports in this series address background and characteristics of military families, Operations Desert Shield and Desert Storm (ODS/S), child care, and the military as a career. This report presents findings concerning separation and deployment and their impacts on military families. Specifically, the analysis investigates the extent to which problems are experienced when deployment separates military personnel from their families. The remaining sections of this introduction are a literature review, which describes earlier studies related to deployment and combat readiness, and a survey methodology section, which describes the development of the 1992 surveys.

Literature Review

Researchers have used a variety of methods to measure individual and unit readiness, but none has addressed all aspects of readiness. The most commonly cited measure of unit readiness (used by the Joint Chiefs of Staff) is the Status of Resources and Training System (SORTS). This index includes elements such as the amount and condition of equipment allotted to a unit, the number and type of

personnel who make up the unit's ranks, and the amount of training that those personnel have undergone. The factors that influence SORTS account for unit-level readiness, but they give no indication of how outside factors, such as the family, influence individual readiness.

Because the term "readiness" is somewhat ambiguous, problems arise in developing methodologically sound studies. Reliance must be placed on research that examines one or more of its individual components rather than all. It is difficult to draw broad generalizations from these studies, but some understanding can be developed regarding factors that influence readiness.

Families and Readiness

Several studies have examined the impact of families on individual and unit readiness. The Army Family Research Program (AFRP) developed measures of individual and unit readiness in order to examine how they are affected by family factors. One important finding was that "the variable with the strongest impact on unit readiness is soldier perceptions of the amount of support the unit leaders give soldiers and their families. Having a family support group also has a positive direct effect on unit readiness, as does providing activities for family members, and allowing time off from work for non-urgent family matters" (Segal & Harris, 1993, p. 31).

Another study of individual readiness related to family factors (Burnam, Meredith, Sherbourne, Burciaga Valdez, & Vernez, 1992) used a multivariate approach and considered several objective measures of family self-sufficiency and readiness-related issues (e.g., lost duty time, absence from alerts, inability to deploy for personal or family reasons). Three findings from that report are particularly noteworthy:

- Relative to single soldiers, married soldiers had fewer job-related problems and were more committed to the Army, but they were less likely to be available for duty.
- Families with children had the same problems that childless families had.
- Service members from dual-military families had more job-related problems and more concerns about child care than did those from soldier-civilian couples.

In short, multiple influences on individual readiness were examined, and family status was found to play a significant role.

Another indicator of readiness that has been examined in conjunction with family factors is retention. A DoD study found "to the extent that low attrition and high retention improve the experience level of the force, they also contribute to personnel and training readiness" (Department of Defense, 1993, p. 8-5). According to this study, military members who are married have a lower level of attrition than do single soldiers. Moreover, married personnel tend to be more stable and are more likely to think of the military as a career rather than a brief tour of duty.

AFRP research (Segal & Harris, 1993) also found substantial quantitative and qualitative evidence for a strong role of family-related factors in the retention decision-making process. Of particular importance is the spouse's support for remaining in the military. In fact, a spouse's attitudes toward Army life can play a larger role in reenlistment decisions than the soldier's own inclination to reenlist.

The AFRP research also suggested that the presence of dependents leads to an increase in retention for males but a decrease for females.

In a study of Air Force Family Support Centers (FSCs), Orthner and Pittman (1986) looked at the relationship between organizational support for the family and the employee's job commitment. They hypothesized that organizational and family roles are often at odds, with both competing for the time and energy of an individual. In an attempt to lessen family stressors and strengthen organizational commitment, FSCs provide family and child services, including marriage and family enrichment programs, youth activities, and financial counseling. Results of the study indicated that providing support for Air Force families had some noteworthy effects. First, when members thought that the Air Force supported their families, they were more committed to it. Second, organizational support of families increased the family's support of the military member; this, in turn, led to a greater commitment to the Air Force by the military member.

Families and Deployment Readiness

A major component of individual readiness is the Service member's availability for deployment, both in times of crisis (e.g., no-notice alerts) and for routine tours-of-duty. The nature and frequency of deployments vary to such an extent as to make comparisons across the Services very difficult. For example, the Navy and Marine Corps engage in routine deployments that typically last for 6 months and are scheduled well in advance. First-term sailors and marines spend as much as 50 percent of their time in deployed status.

Deployments in response to crises are unscheduled, with the number and type of units involved being determined by the situation. Typically, certain units are placed on standby so that they can respond rapidly if additional personnel are needed. In deployments for a continuing crisis, the Services must replace or rotate troops. For such arrangements, an attempt is made to provide notice of 2 weeks to 2 months in order to prepare for deployment. The ways in which the Services manage their deployments and the differences in predictability of the advance notice makes it difficult to generalize findings across branches. In addition, the demands placed on Service members vary tremendously in terms of preparation, length of separation from the family, and degree of danger involved.

A key element in deployment readiness is the preparedness of the military spouse "to assume the role and duties of household head to ensure family functioning during deployment" (Campbell et al., 1991, p. 168). Segal and Harris (1993) reported that family problems at home are the primary reason for absent without leave (AWOL) soldiers and for soldiers' concerns while they are separated from their families. These findings suggest that the level of family support that the unit leaders provide has an impact on the members' perceptions that their families are functioning well while they are away.

A spouse's level of readiness and self-sufficiency is affected by concerns about his/her ability to access legal documents and power of attorney. The spouse must know how to obtain and use services such as child care, employment assistance, and financial counseling. She or he must be emotionally prepared to manage the family and to make independent decisions. These aspects of spousal readiness assume that the spouse is also physically able to handle the responsibilities effectively. When a Service member perceives that his/her spouse is prepared to face these challenges and to function independently during the deployment or separation, the member's level of individual readiness improves (Campbell et al., 1991).

Regardless of how well the unit or individual is prepared for deployment, there are likely to be problems and stressors encountered during the separation. Even in situations in which the spouse effectively handles family matters, dealing with the separation tends to be difficult for all involved. For example, one primary problem with deployment involves the amount and accuracy of information received by a spouse or family, especially when the member is deployed to a hostile area. During Operations Desert Shield/Desert Storm (ODS/S), for instance, families often were unable to speak to Service members and, at times, received inaccurate information about the combat situation. In turn, Service members were unable to provide input regarding "problems with child care, finances, behavioral difficulties among children, and additional family responsibilities" (Department of Defense, 1993, p. 7-4).

Navy families separated by deployment prior to, during, and following ODS/S were the subject of a recent study (Kelley, 1994). Kelley noted that the wives and children of deployed sailors showed signs of stress that were exacerbated when the sailors were assigned to a location in or near the Persian Gulf. The behaviors of mothers and children followed slightly different patterns. Wives experienced depressive symptoms before and during deployment, but such symptoms disappeared near the end of the separation. The deployed members' children showed behavioral problems before, during, and after the deployment. Anecdotal evidence suggested that the children were particularly sensitive to the separation because they did not understand all the information they received about activities in the Gulf. The high levels of stress reported in Kelley's study suggest the need for additional support services and, possibly, the availability of counseling services.

A similar study by Milgram and Bar (1993) examined the reactions of Israeli soldiers' wives to their husbands' hazardous duty deployments. Although the conditions of the Israeli soldiers' deployments varied considerably from those of U.S. soldiers, several useful recommendations for stress reduction were made that can be generalized to U.S. soldiers and their families. One recommendation was to provide reliable and frequent communication between the deployed soldier and his/her family. This process helps ease the family's concerns over the soldier's well-being and safety. In addition, the soldier can be involved in problem-solving regarding minor crises at home. Another recommendation was to encourage the use of family support and assistance centers.

Financial problems associated with deployment often result from a spouse's lack of experience in dealing with budgets. This problem becomes more pronounced when additional expenses (e.g., telephone calls to deployed Service members and increased child care costs) occur because one parent is absent.

The child care problem can become magnified both for single parents with custody and for dual-military marriages with children. The increasing number of such households in the military has prompted the Services to provide child care through Child Development Services (Zellman, Johansen, & Meredith, 1992).

The DoD and the individual Services have added to the body of literature with the 1992 surveys and the associated reports. In so doing, they have extended efforts to prepare for deployment contingencies and to prepare troops for quick and smooth departures. The degree of readiness that actually exists, however, can be determined only in times of actual deployment. Data from the 1992 surveys should provide useful indications as to the types of problems military families experience as a result of deployments, recalls, and alerts, as well as possible suggestions for mitigating such problems during future operations.

Survey Sample

The 1992 surveys were based on a probability sample of military personnel on active duty as of December 1991. The sample included 40,812 officers and 56,015 enlisted personnel (a total of 96,827 members) and was stratified by Service, status (officer or enlisted), and gender. Responses were received from 27,684 officers and 32,246 enlisted personnel (59,930 total), which represented a 66 percent overall response rate (respondents as a percentage of eligible members). Surveys similar to the 1992 surveys were also conducted in 1978 and 1985.

The survey sample included four separate samples: (1) longitudinal, (2) recruiters, (3) members, and (4) Active Guard/Reserve or Training and Administration of the Reserve (AGR/TAR) members.

The stratification scheme, sample sizes, and sample selection approach for each of the four samples were similar. All four samples were selected using probability methods; that is, each eligible individual had a non-zero, known probability of selection. Probability sampling allowed for the projection of the survey results to the target population (Service members), using weights developed to reflect variable probabilities of selection and nonresponse bias. The database used in the analyses for this report included all four samples combined, and all analyses were conducted with the weighted data (see Appendix A for more detail on sampling, databases, and weighting).

The sampling frames, sample sizes, and stratification corresponding to each of the four samples selected for the 1992 surveys were as follows:

- The longitudinal sample consisted of a subsample of 11,999 from the personnel selected for the *1985 Department of Defense Survey of Officer and Enlisted Personnel* who were still in the military as of December 1991. The sample maintained the stratification of the 1985 survey (i.e., Service, officer/enlisted status, and gender).

- The recruiter sample consisted of 3,999 recruiters, approximately 1,000 per Service.

- The member sample consisted of members on active duty as of December 1991 who had been in the Service for 4 months or more and were neither recruiters nor included in the 1985 survey. The sample of 75,345 active military personnel was derived by selecting approximately 5,000 members from each of the 16 cells defined by Service, officer/enlisted status, and gender.

- The AGR/TAR sample included approximately 500 AGR/TAR from each of the 14 cells defined by seven levels of Reserve Component and officer/enlisted status. Some cells had fewer than 500 members. A total of 5,484 full-time, support AGR/TAR members were selected.

Barriers to Readiness

Emergency military situations call for prompt action. Yet this need is seriously undermined when personnel cannot respond quickly to a recall or an alert. Critical to the military's ability to assess the readiness potential of its force is an evaluation of the factors that detract from individual and family readiness. Toward that end, descriptive tests and multivariate analyses were conducted to address the following questions:

- Are some Service members more likely than others to experience difficulties in responding quickly to recalls, alerts, or changes in work schedule?[1]

- Do some Service members worry more than others about their families while they are away on assignment?

The analysis first assessed whether difficulties were experienced by Service members in quick-response situations during a 12-month period. Secondly, those family concerns that were experienced by Service members while they were away on assignment were studied.

To examine these questions, certain variables were selected for use as independent measures in multivariate analyses. Table 1 lists the variables selected and the questionnaire items corresponding to the variables, and indicates how the variables were recoded, derived, or combined for use in the models.

Table 1. Items Included in the Analyses

Short Name	Questionnaire/Record Data Item	Scale	Definition of Explanatory Variable
1) Individual Demographics:			
Gender	Are you male or female?	—	Dichotomous numerical variable
Age	How old were you on your last birthday?	00-99 years	Continuous numerical variable for age of respondent
Race/Ethnicity	Are you: American Indian/Alaskan Native Black/Negro/African-American Oriental/Asian/Chinese/Japanese/Korean/ Filipino/Pacific Islander White/Caucasian Other (specify)?	—	Dichotomous variables for Black, White, Hispanic, and other (all other race/ ethnicity categories). For example, when a respondent was Black, the variable BLACK was set to 1; otherwise, BLACK was set to 0.

[1]For ease of discussion in the remainder of the report, these are simply referred to as "difficulties in responding to recall/alert."

Table 1. Items Included in the Analyses (Continued)

Short Name	Questionnaire/Record Data Item	Scale	Definition of Explanatory Variable
1) Individual Demographics (Continued):			
Years of Education	AS OF TODAY, what is the *highest* school grade or academic degree that you have? Less than 12 years of school (no diploma) GED or other high school equivalency certificate High school diploma Some college, but did not graduate 2-year college degree 4-year college degree (BA/BS) Some graduate school Masters degree (MA/MS) Doctoral degree (PhD/MD/LLB) Other degree not listed	10 to 21 years of schooling: 10 years 11 years 12 years 13 years 14 years 16 years 17 years 18 years 21 years 17 years	Continuous numerical variable corresponding to years of schooling
2) Military Demographics:			
Pay Grade	What is your pay grade? Enlisted personnel: E1 to E9 Officers: O1 to O7 and W1 to W5	—	Dichotomous variable for E1 to E4, E5 to E6, and E7 to E9 (for enlisted personnel), O1 to O3, W1 to W3 and O4 to O7, W4 to W5 (for officers)
Military Branch	In what Service are you? Army Navy Marine Corps Air Force	—	Dichotomous variables for each Service
Tenure	Variable taken from the ADMM&L/RCCDDS file	Number of months	The active date was subtracted from the survey date to yield number of days. The result was divided by 30.4 to yield number of months.
ODS/S	Were you deployed for Operations Desert Shield/Desert Storm? Yes, for less than 3 months Yes, for 3 to less than 6 months Yes, for 6 to less than 9 months Yes, for 9 months or more No	—	Dichotomous variable, set to 1 if deployed, 0 if not deployed

Table 1. Items Included in the Analyses (Continued)

Short Name	Questionnaire/Record Data Item	Scale	Definition of Explanatory Variable
2) Military Demographics (Continued):			
Military Occupation	Occupation Enlisted personnel: Infantry Electronic Equipment Repair Comm/Intelligence Specialists Health Care Specialists Other Tech/Allied Specialists Function Support/Administration Elec/Mech Equipment Repair Craftsmen Service/Supply Handlers Non-occupational Officers: General Officers and Executives Tactical Operations Officers Intelligence Officers Engineering and Maintenance Scientists and Professionals Health Care Officers Administrators Supply, Procurement, Allied Officers Non-occupational	—	Dichotomous variable for each occupation
CONUS/OCONUS	Variable taken from the ADMM&L/RCCDDS file: CONUS OCONUS	—	Dichotomous variable, set to 1 if CONUS, 0 if OCONUS
Pay and Allowances	What is your estimate of the total annual value of your pay and allowances? Less than $20,000 $20,001 to $30,000 $30,001 to $40,000 $40,001 to $50,000 $50,001 to $60,000 $60,001 to $70,000 More than $70,000 Don't know	—	Continuous numerical variable, set to $15,000 if less than $20,000; midpoint of each range up to $70,000; $85,000 if more than $70,000; or missing if don't know
Time Separated	In your total military career, how many months were you completely separated from your family?	0 to 60 months:	Continuous numerical variable
	None	0 months	
	Less than 3 months	2 months	
	3 to 4 months	3.5 months	
	5 to 6 months	5.5 months	
	More than 6 to less than 12 months	9 months	
	1 to 2 years	18 months	
	3 to 4 years	42 months	
	More than 4 years	60 months	

Table 1. Items Included in the Analyses (Continued)

Short Name	Questionnaire/Record Data Item	Scale	Definition of Explanatory Variable
3) Family Demographics:			
Family Type	What is your *current* marital status? Is your spouse currently serving on active duty in the Armed Forces or in the Reserve/Guard? How many dependents do you have in each age group?	Single, no dependents Single with dependents Military spouse, no dependents Military spouse with dependents Civilian spouse, no dependents Civilian spouse with dependents	Dichotomous variable for each family type
Spouse's Occupation	Is your spouse currently: a. Full time in the Armed Forces b. In Reserve or National Guard c. Working full-time in Federal civilian job d. Working full-time in other civilian job e. Working part-time in Federal civilian job f. Working part-time in other civilian job g. Self-employed in his or her own business h. With a job, but not at work because of *temporary* illness, vacation, strike, etc. i. Unpaid worker (volunteer or in family business) j. Unemployed, laid off or looking for work k. Not looking for work but would like to work l. In school m. Retired n. A homemaker o. Other	—	Defined five dichotomous variables: Full-time civilian (c, d) Part-time civilian (e, f) Full-time military (a) Reserve/ National Guard (b) Other (g-m, o)
4) Emergency Arrangements in Place:			
Power of Attorney	Does anyone currently hold your power of attorney? Yes, my spouse Yes, someone other than my spouse No Don't know	—	Dichotomous variable, set to 1 if anyone had power of attorney, 0 otherwise
Life Insurance	Do you have life insurance? Yes, SGLI Yes, SGLI and other policy or policies No Don't know	—	Dichotomous variable, set to 1 if yes, 0 otherwise
Will	Do you have a current written will? Yes No Don't know	—	Dichotomous variable, set to 1 if yes, 0 otherwise

Table 1. Items Included in the Analyses (Continued)

Short Name	Questionnaire/Record Data Item	Scale	Definition of Explanatory Variable
5) Constructed Variables:			
Confidence in Spouse's Ability	How well did or would your spouse take care of the following in your absence? Child care Family member's health Family finances Housing Emotional or parenting problems Evacuation of family members	5-point scale, reverse coded (1 = very poorly . . . 5 = very well)	Converted into a single variable, defined as the mean of scores on the six items.
Satisfaction with the Military	Below is a list of issues associated with the military way of life. Please indicate your level of satisfaction/dissatisfaction with each issue: Personal freedom Opportunity to serve one's country Working conditions Co-workers Military job security Friendships Frequency of moves	5-point scale (1 = very dissatisfied . . . 5 = very satisfied)	Since the source variables are on different scales (i.e., 5-point vs. 7-point), the variables were standardized. The composite variable was then computed as the average of the standardized scores.
	How much do you agree with the following statement about military life: "Life in the military is about what I expected it to be."	5-point scale (1 = strongly disagree . . . 5 = strongly agree)	
	Now, taking all things together, how satisfied are you with the military way of life?	7-point scale (1 = very dissatisfied . . . 7 = very satisfied)	

Difficulties in Responding to Recall/Alert

Analysis Methodology

The dependent measure used to examine the factors affecting whether a Service member encountered difficulties in quick response to a recall or an alert was based on the following survey question:

> *Listed below are some reasons why military members sometimes find it difficult to respond very quickly to a recall/alert or a change in work schedule. Have you experienced any of these within the past 12 months?*
>
> *Does not apply, I have not had recall/alert or change in work schedule*
> *Does not apply, have not had problems*
> *Dependent care considerations*
> *Personal health problems other than pregnancy*
> *Pregnancy*
> *Family health problem*
> *Second job*
> *Transportation arrangements*
> *Difficult to reach by phone during off-duty hours*
> *Distance to duty station*
> *Attending school during off-duty hours*
> *Other reason*

All respondents were asked this question, but two *Does Not Apply* options allowed the respondent to indicate no difficulty. One option was *Have Not Had a Recall/Alert in the Past 12 Months*, which acted as a screener that allowed respondents who had not experienced a recall or alert during the relevant time period to skip the question. The other option, *Have Not Had Problems*, indicated that the respondent had been recalled or called to alert in the past 12 months, but there had been no difficulty responding. In other words, these respondents were ready. Approximately 36 percent of respondents who had experienced a quick response in the 12 months prior to the 1992 surveys reported at least one difficulty.

Before undertaking a multivariate analysis of factors related to difficulties in quick response, descriptive statistics were examined to guide the development and fine tuning of the dependent measure. Because the instruction for the question was "check all that apply," respondents had the opportunity to cite any or all of the reasons for difficulty that were listed. To understand the likelihood of difficulty, a variable measuring the number of reasons given for having difficulty responding was developed. The rationale behind this measure was to assign some quantitative value to how much difficulty the Service member was having; theoretically, citing more reasons should indicate more difficulty. For each respondent, enlisted or officer, the number of reasons cited was tabulated. Then, weighted estimates for the number of military members citing each number of reasons were developed (Table 2). However, as shown in Table 2, of those who experienced difficulties, the vast majority (78 percent) cited only one or two reasons. Rather than using an arbitrary level of difficulty (e.g., more than three reasons cited), a dichotomous measure of individual and family readiness, called "DIFFICULTY," was defined, with a value of 1 if the Service member experienced any difficulties (i.e., all individuals with values of 1 to 10 in Table 2) and a value of 0 if he or she did not. This dependent measure was used to answer the research question, "Are some Service members more likely than others to experience difficulty in

Table 2. Number of Reasons Given for Difficulties in Responding to Recall/Alert

Number of Reasons Given	Weighted Frequency[a]	Percent of Total[b]	Cumulative Percent
1	252,342	51	51
2	131,559	27	78
3	64,362	13	91
4	28,066	6	97
5	10,678	2	99
6	3,394	1	100
7	1,339	—	100
8	772	—	100
9	450	—	100
10	70	—	100

[a]Weighted frequencies have been rounded to the nearest whole number.
[b]A dash indicates a value of less than 1 percent.
Note: Table includes only those personnel who reported difficulties.

responding quickly to recalls, alerts, or changes in work schedule?", by examining the likelihood that DIFFICULTY = 1 for different groups of Service members.

The variables created for the analysis of difficulty responding to recall/alert were primarily demographic in nature. The types of variables constructed for this analysis represented simple categorical groupings (e.g., male/female) or ordinal responses that represented ranges of values (e.g., total value of pay). Key variables, such as gender and race/ethnicity, were converted to numeric, dichotomous variables that were appropriate for the model. For example, a variable HISPANIC was created that had the value 1 when the respondent was of Hispanic descent and 0 when the respondent was not. Ordinal responses representing ranges of values were converted to continuous variables. For example, a pay scale response of 2, which represented total pay value between $20,000 and $30,000, was converted to the number 25,000.

Once the appropriate variables had been developed, a series of tabulations was run to show the weighted numbers of survey respondents and the percentage who reported difficulties in responding to recall/alert (i.e., the number for whom DIFFICULTY = 1). The results are presented separately below for enlisted personnel and officers. The reason for tabulating enlisted personnel and officers separately is that they were expected to be demographically distinct groups. For example, most officers were expected to be college-educated. Therefore, the patterns for the two groups in statistical tests or models were expected to be different.

After the tabulations had been run, simple descriptive tests were performed to determine relationships among explanatory variables (e.g., female and Black) and between explanatory variables and the dependent measure (e.g., White and DIFFICULTY). The most frequently employed test was the Chi-square test of independence, which determines the degree of association between two categorical variables.

Although these simple tests were useful as a preliminary exploration of relationships among the variables, a more complex test was needed to determine which demographic groups were especially

likely to experience difficulties. Unlike the picture obtained when each demographic factor is analyzed separately, multivariate analyses show the unique effects of each variable while holding other variables constant. Since the research questions for this report necessitated a measure of the impact of demographic variables upon the likelihood of an outcome, logistic regression was selected as the appropriate multivariate technique.[2] With logistic regression it was possible (a) to assess statistically the relative importance of each explanatory variable on the outcome measure (in this case, DIFFICULTY), and (b) to determine the applicability of the overall model.

The results of the logistic regression can be expressed in terms of the *relative odds* of experiencing difficulties in responding to recall/alert. Relative odds, expressed as percentages and computed from logistic regression Beta coefficients, indicate the increase or decrease in the likelihood of an event, as compared to a reference group. For example, relative odds of -39 percent for males compared to females (the reference group) indicate that males are 39 percent less likely to have difficulties than females. For a continuous variable, such as age, the relative odds refer to the impact of an increase of one unit (in this case, a year of age).

Results of the simple descriptive tests were useful to guide development of the logistic regression model. Chi-square analysis indicated that certain sets of demographic variables were related statistically and therefore could be grouped together for analysis purposes. For example, gender and race/ethnicity were individual (personal) characteristics, as opposed to pay grade and military branch, which were military in nature. These groupings provided for a systematic approach to building the model, rather than randomly picking explanatory variables for inclusion. The groupings had the additional benefit of being able to distinguish between individual factors related to readiness, which earlier studies had focused upon, and family factors, for which the 1992 surveys could offer more comprehensive analysis.

Three sets of explanatory (independent) demographic variables—individual, military, and family—were used to develop a sequential, or hierarchical, model. The following variables were used: individual demographics—gender, age, race/ethnicity, and years of education; military demographics—pay grade, military branch, tenure, deployment in Operations Desert Shield/Desert Storm (ODS/S), and military occupation;[3] and family demographics—family type (derived from marital status, spouse type [civilian/military], and dependents). Detailed definitions of the variables are provided in Table 1.

The sequential approach first involved regressing the set of individual demographic variables (independent variables) against DIFFICULTY (the dependent variable) and retaining in the model those that were statistically significant. Although the variables were added in sets, the regression results also permitted an analysis of the impact of single variables by examining the *t* statistics and their associated *P* (probability) values.[4] As each set of demographics was added to the model, the incremental strength of the new model in explaining variance in the DIFFICULTY measure was assessed, and insignificant variables were dropped. The goal was to determine the increase in the correlation between the predicted and observed values of the dependent measure (DIFFICULTY), using the weighted simple correlation between the observed and predicted values of the dependent variable, as additional demographic variables were included in the model. The logistic model generated a predicted value between 0 and 1 that could be compared with the actual 0 (no reported difficulties) or 1 (at least one reported difficulty) outcome.

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[2]See Appendix B for a more detailed discussion of logistic regression and relative odds.

[3]Military occupation was defined as the first digit of the DoD occupation code, as described in the *Occupational Conversion Manual*, 1991 (DoD 1312.1-M).

[4]These statistics are presented in Appendix B.

The higher the correlation between the two, the better the model was at explaining the factors causing difficulties in responding to recall/alert.

The explanatory power of the overall model was difficult to assess for two reasons. First, there is no global "goodness-of-fit" measure for logistic regression (such as R^2 for an ordinary least squares regression). Second, because of the large number of observations in the sample, even a small increase in the correlation between observed and predicted values of the dependent variable could have been statistically significant. Therefore, a variant of the Chi-square test was used to test the true statistical significance of the increase in model fit (see Appendix B).

In the tables of results that follow, numbers and percentages are based on weighted data. As such, the numbers in the tables represent the numbers in the entire population of Service members. A significance level of 0.05 ($P < 0.05$) was used to determine which Beta coefficients should be included in the final models and tables.

Results

Enlisted Personnel

The first step in the analysis was to produce tabulations describing the number of enlisted personnel in different demographic groups and the percentages in those groups who reported difficulties in responding to recall/alert. Such tabulations are helpful in characterizing the groups with respect to the dependent measure. Table 3 shows the results for enlisted personnel for the various categories of the explanatory variables ultimately used in the logistic regression model.

As shown, 50.5 percent of enlisted women reported problems with readiness, compared with 36.0 percent of enlisted men. Younger respondents (less than 25 years old) experienced more problems than did older ones, and non-high school graduates were more likely to report difficulties than were those with higher levels of certification and/or education. Tenure and gender undoubtedly play a role in these findings. Older personnel, who probably have more experience with separations and more settled families, were less likely to experience difficulties. Because women often still provide most family support functions, their recall or alert can cause greater problems. These results are most likely compounded by other factors, such as family type (e.g., unmarried parents, dual-military families). With this in mind, multivariate analyses (i.e., the logistic regression model), in which such potential variables are controlled, should provide a more comprehensive and accurate characterization.

Because of the complex survey design, a software package called SUDAAN was used for the logistic regression model. Unlike SAS, a software which is often used for regression models when a survey design is more straightforward, SUDAAN does not provide a traditional goodness-of-fit statistic, such as R^2. The SUDAAN procedure produces a statistic that measures the weighted simple correlation between the observed and predicted values of the dependent variable,[5] which acts as a proxy for the multiple R^2. Fortunately, this statistic can be interpreted in much the same way as a traditional goodness-of-fit measure. Another statistic was used to assess the statistical significance of the *increase* in the model's fit after the inclusion of each new set of independent variables. Table 4 presents the correlations between the observed and predicted values of the dependent variable resulting from the inclusion of each variable set.

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[5]See Appendix B or the SUDAAN Manual (Research Triangle Institute, 1989) for more detail on the use of this procedure.

Table 3. Demographic Characteristics for Enlisted Personnel Reporting Difficulties in Responding to Recall/Alert

Demographic Characteristic	Weighted Total	Percentage Reporting Difficulties
Total Enlisted Personnel	**1,187,428**	**37.6**
Gender		
Male	1,056,311	36.0
Female	131,116	50.5
Age Group		
21 Years or Younger	235,553	40.3
22-25 Years	303,762	42.9
26-34 Years	432,750	37.9
35-44 Years	196,612	27.6
45-54 Years	18,177	15.7
55 Years or Older	572	29.7
Years of Education		
No High School Diploma	4,434	51.6
GED or Other Equivalency Certificate	36,622	37.6
High School Diploma	446,544	39.0
Some College	509,534	36.5
Two-Year College Degree	118,562	37.1
Four-Year College Degree	39,190	34.3
Some Graduate School	14,778	35.1
Masters Degree	4,097	33.8
Doctoral Degree	270	5.0
Pay Grade		
E1 to E4	591,939	41.5
E5 to E6	450,461	36.9
E7 to E9	145,027	23.8
Service Branch		
Army	447,966	36.8
Navy	302,870	42.1
Marine Corps	105,561	38.3
Air Force	331,031	34.3
Family Type		
Single, No Dependents	340,599	31.7
Single with Dependents	70,273	40.7
Dual-Military, No Dependents	35,915	45.4
Dual-Military with Dependents	60,941	56.9
Civilian Spouse, No Dependents	133,714	37.9
Civilian Spouse with Dependents	511,914	38.3

Notes: Weighted percentages (column 3) were computed as the proportion of the estimated totals (column 2). Totals may differ slightly across tables because of missing data.

Table 4. Correlation Between Observed and Predicted Values of the Dependent Variable (DIFFICULTY) in the Sequential Model for Enlisted Service Members

Variable Set in the Sequential Model	Correlation
1. Individual Demographics	0.02
2. Set 1 + Military Demographics	0.03
3. Set 2 + Family Demographics	0.06

Note: A statistically significant increase in the correlation between observed and predicted values of the dependent variable was achieved with the addition of each set of explanatory variables.

In spite of the low correlation for the overall model, the logistic regression model had a distinct advantage over the use of simple odds ratios: it allowed for the exploration of effects while *holding other variables constant.* The regression permitted odds to be expressed relative to a reference group (analogous to a control group in an experimental study), resulting in more useful comparisons. For example, the relative odds could be used to answer such questions as: Does being unmarried and having dependents (e.g., children, grandparents) in the home result in a Service member's being more or less able than a Service member with a civilian spouse and no dependents (the reference group) to respond quickly to a recall/alert?

The logistic regression procedure was used in two ways to answer such questions. First, it determined which demographic variables were significantly related to DIFFICULTY. Variables in the final model that were significantly related to DIFFICULTY (at the 0.05 level of significance) were as follows: gender, age, years of education, pay grade, Service branch, and family type. Second, it predicted the relative odds (percentage likelihood) that certain categories of respondents would have more or fewer difficulties in responding to recall/alert. Table 5 presents the relative odds of experiencing difficulties that are associated with each statistically significant variable in the final model. For each categorical variable, the reference group is shown in parentheses. The reference group in the analysis is analogous to a control group in an experimental study.

As shown in Table 5, the odds of experiencing difficulties in responding to recall/alert are about 39 percent less for males than for females, **holding all other variables constant.**[6] A 1-year increase in age decreases the odds of experiencing difficulties by about 5 percent, supporting the view that more experienced personnel are less likely to have problems. In contrast, each additional year of education *increases* the odds by approximately 6 percent. This result suggests that more highly educated personnel either experience more difficulties or are more likely to report the difficulties that they do experience. Personnel in higher pay grades report fewer difficulties than those in lower pay grades. The odds of Service members in grades E5 to E6 and E7 to E9 reporting difficulties are, respectively, about 19 percent and 43 percent less than those for Service members in pay grades E1 to E4.

Service branch was the only military demographic variable that was significantly related to difficulties for enlisted Service personnel. The odds of experiencing difficulties are approximately 38 percent higher for Navy personnel, who are typically away from home for longer periods, than Army members. The odds for members of the Air Force are about 12 percent lower than for Army members. There is no significant difference in the odds for Marine Corps and Army members in this regard.

[6]Thus, males are only about half as likely as females to experience difficulties. This estimate is derived as follows: [1 + (relative odds / 100)]. Zero percent relative odds would be equivalent to a value of 1, indicating equal likelihood or odds.

Table 5. Relative Odds of Experiencing Difficulties in Responding to Recall/Alert for Enlisted Personnel

Significant Variables	Relative Odds of Experiencing Difficulties (Percent)
Gender (Female)	
Male	-39.3
Age	-4.9
Years of Education	6.2
Pay Grade (E1 to E4)	
E5 to E6	-18.9
E7 to E9	-42.9
Service Branch (Army)	
Navy	37.7
Air Force	-12.2
Family Type (Civilian Spouse, No Dependents)	
Single, No Dependents	-36.9
Dual-Military with Dependents	143.5
Civilian Spouse with Dependents	41.9

Note: Reference groups for dichotomous and categorical variables are shown in parentheses. Groups that were not significantly different from the reference group are not shown in the table; thus, the categories included for each variable may be different in different tables.

As would be anticipated from previous research, family factors are also related to difficulties experienced in responding to recall/alert. Specifically, the odds for single enlisted personnel with no dependents are about 37 percent less than those for Service members with civilian spouses and no dependents. The relative odds are greater for personnel with civilian spouses and dependents (42 percent higher) and for dual-military couples with dependents (144 percent higher) than for those who are married to civilians and have no other dependents. Again, the value of 144 percent for dual-military couples with dependents represents the *relative* odds; that is, it indicates the increase in the likelihood of experiencing difficulties relative to a military-civilian couple who have no other dependents. In other words, enlisted Service members who are married to military spouses and have dependents are about two-and-a-half times more likely to experience difficulties in responding to recall/alert than are enlisted Service members who are married to civilians and have no dependents.

Officers

The same analyses were conducted for officers,[7] using the same variables for descriptive tabulations and the same logistic regression model. Table 6 shows the weighted number of officers in each demographic category and the percentage in each category who experienced difficulties in responding to recall/alert. The percentage of officers reporting difficulties was 24.4 percent, as compared to the 37.6 percent of enlisted personnel who reported difficulties. Within each demographic group, officers reported fewer difficulties across the board.

[7]Officers are defined here to include warrant officers.

Table 6. Demographic Characteristics for Officers Reporting Difficulties in Responding to Recall/Alert

Demographic Characteristic	Weighted Total	Percentage Reporting Difficulties
Total Officers	**191,927**	**24.4**
Gender		
Male	169,458	22.7
Female	22,469	36.7
Age Group		
21 Years or Younger	118	2.3
22-25 Years	18,273	25.4
26-34 Years	80,768	26.6
35-44 Years	73,989	24.0
45-54 Years	17,759	15.5
55 Years or Older	1,021	11.0
Years of Education		
No High School Diploma	0	—
GED or Other Equivalency Certificate	341	10.8
High School Diploma	1,511	13.0
Some College	8,057	23.3
Two-Year College Degree	6,406	26.1
Four-Year College Degree	71,304	24.5
Some Graduate School	32,840	27.4
Masters Degree	57,142	22.7
Doctoral Degree	13,673	24.6
Pay Grade		
O1 to O3, W1 to W3	123,454	26.6
O4 to O7, W4 to W5	68,473	20.4
Service Branch		
Army	72,613	23.4
Navy	39,642	26.6
Marine Corps	12,368	18.1
Air Force	67,304	25.2
Family Type		
Single, No Dependents	36,336	21.4
Single with Dependents	5,372	40.1
Dual-Military, No Dependents	6,995	16.9
Dual-Military with Dependents	8,176	51.0
Civilian Spouse, No Dependents	30,257	19.3
Civilian Spouse with Dependents	101,858	24.6

Notes: Weighted percentages (column 3) were computed as the proportion of the estimated totals (column 2). Totals may differ slightly across tables because of missing data.

Several interesting comparisons can be made between the results for officers and those for enlisted personnel. First, about 37 percent of female officers reported difficulties responding to recall/alert, compared with about 23 percent of male officers. In comparison, the difference for enlisted personnel was about 51 percent of female versus 36 percent of male enlisted personnel. Second, among different age groups, the highest incidence of difficulties (26.6 percent) was found for officers 26 to 34 years old, whereas the highest incidence among enlisted personnel (42.9 percent) was found for those between 22 and 25 years old. As was the case for enlisted personnel, younger officers in general experienced more problems than did older ones; older personnel, who probably have more experience with separations, were less likely to experience difficulties.

One of the most important influences on reported difficulty was family type. For officers, the lowest incidence of reported difficulty (16.9 percent) was found for dual-military families with no dependents, as compared with 21.4 percent for those who were single with no dependents. In contrast, for enlisted personnel, 45.4 percent of dual-military families with no dependents reported difficulties in responding to recall/alert.

For both officers and enlisted personnel, dual-military families with dependents had the highest incidence of reported difficulties in responding to recall/alert: 51.0 percent for officers and 56.9 percent for enlisted personnel. Interestingly, for this family type, the rates for officers and enlisted personnel were not appreciably different. Similarly, virtually the same high rate of difficulties was reported by officers and enlisted personnel in the single with dependents family type: 40.1 percent and 40.7 percent, respectively. The finding that the incidence of difficulties was higher among dual-military couples with dependents than among single parents suggests that the latter group may have developed more flexible support mechanisms than dual-military couples.

The results of the logistic regression model for officers were similar to those for enlisted personnel when identical sets of explanatory variables were entered using the sequential methodology. As described in the results for enlisted personnel (see above), the use of the SUDAAN software necessitated the use of a correlation statistic instead of R^2 (Table 7).

Table 7. Correlation Between Observed and Predicted Values of the Dependent Variable (DIFFICULTY) In the Sequential Model for Officers

Variable Set in the Sequential Model	Correlation
1. Individual Demographics	0.02
2. Set 1 + Military Demographics	0.02
3. Set 2 + Family Demographics	0.06

Note: A statistically significant increase in the correlation between observed and predicted values of the dependent variable was achieved with the addition of each set of explanatory variables. The small but significant increase between steps 1 and 2 does not appear when the results are rounded to two decimal places.

As Table 7 indicates, each step in the model provided a significantly better fit of the data than the previous step. As was the case with the results for enlisted personnel, the significance of the improvements is due in part to the large number of observations in the analysis (15,163 cases). It is noteworthy that the fit of the model more than doubled when family demographics were introduced. This result supports the view that outside influences, such as family type, play a significant role in quick-response difficulties. Again, however, the final correlation statistic (0.06) indicates that the explanatory power of the model is still relatively low. The model indicates that the following variables are

significantly related to the likelihood that officers will experience difficulties in responding to recall/alert: gender, age, pay grade, Service branch, military occupation, and family type.

Not surprisingly, most of the variables that were significant for enlisted personnel were also significant for officers (Table 8). Education was an exception. Because the vast majority of officers are college graduates, there is much less variance in the level of education among this group. The reason that military occupation emerged as a significant predictor of DIFFICULTY for officers is unclear. Table 8 shows the relative odds of experiencing difficulties that are associated with each statistically significant variable in the final model for officers. For each categorical variable, the pre-defined reference group is shown in parentheses.

Table 8. Relative Odds of Experiencing Difficulties in Responding to Recall/Alert for Officers

Significant Variables	Relative Odds of Experiencing Difficulties (Percent)
Gender (Female)	
Male	-46.2
Age	-3.9
Pay Grade (O1 to O3)	
O4 to O7	-17.3
Service Branch (Army)	
Navy	32.3
Air Force	13.9
Marines	-18.1
Military Occupation (Engineering and Maintenance)	
Health Care Officers	53.7
Family Type (Civilian Spouse, No Dependents)	
Single with Dependents	242.1
Dual-Military, No Dependents	-13.9
Dual-Military with Dependents	326.3
Civilian Spouse with Dependents	85.9

Note: Reference groups for dichotomous and categorical variables are shown in parentheses. Groups that were not significantly different from the reference group are not shown in the table; thus, the categories included for each variable may be different in different tables.

As was the case for enlisted personnel, the odds of experiencing difficulties in responding to recall/alert are 46 percent less for male officers than for female officers, holding all other variables in the model constant, and the odds are less for older officers than for younger officers. A 1-year increase in age decreases the odds of experiencing difficulties by almost 4 percent. The odds of officers in pay grades O4 through O7 reporting difficulties are about 17 percent less than for officers in pay grades O1 through O3. Compared with Army officers, Navy officers were 32 percent more likely, Air Force officers were 14 percent more likely, and Marine Corps officers were 18 percent less likely to experience difficulties.

Among officers, occupation was a significant predictor of DIFFICULTY, in that health care workers were about 54 percent more likely to have difficulties in responding to recall/alert than were engineering and maintenance officers. All other officer occupational groups were similar to engineering and maintenance officers with respect to the odds of experiencing difficulties.

As with enlisted personnel, officer family demographics were related to the odds of experiencing difficulties. Single officers with no dependents were similar to officers with civilian spouses and no dependents (unlike the results for enlisted personnel, where single personnel with no dependents were less likely to experience difficulties). The odds of having difficulties for officers with dual-military families and no dependents were about 14 percent less than those for officers with civilian spouses and no dependents. The odds for officers with civilian spouses and dependents were about 86 percent greater than those for officers with civilian spouses and no dependents. Both single officers with dependents and officers in dual-military families with dependents were far more likely than the reference group to experience difficulties—approximately three-and-a-half and four-and-a-quarter times more, respectively.[8] Ranked from highest to lowest odds, the family types most likely to experience difficulties in responding to recall/alert were (1) dual-military families with dependents, (2) single officers with dependents, (3) officers with civilian spouses and dependents, (4) officers with civilian spouses and no dependents, (5) single officers with no dependents, and (6) dual-military families with no dependents.

Overall, the results for officers are consistent with those for enlisted personnel. As such, they mirror the relationship between gender, age, rank, Service, and family type (the independent variables) and DIFFICULTY (the dependent variable). As for enlisted personnel, gender roles, tenure/experience, and Service/family characteristics are likely explanations for the findings.

[8]This estimate is derived as follows: [1 + (relative odds / 100)]. Zero percent relative odds would be equivalent to a value of 1, indicating equal likelihood or odds.

Family Concerns While Separated

Barriers to individual and family readiness may occur when a Service member is concerned about his/her family while he or she is away on assignment or deployment. As previously noted, concerns about family may impair a Service member's ability to perform his or her job effectively. In dealing with this issue, the 1992 survey defined families as consisting of spouses, children, and/or parents. This section of the report examines the issue of family concerns by separately analyzing respondents with families (as defined above) and married couples only.

Analysis Methodology

The 1992 surveys addressed family concerns that Service members might experience while away. Specifically, the following question was asked:

> *Here is a list of feelings or worries some military members have about their family (spouse, children, parents) when they are away on assignment, TDY or deployment. How often did or would you worry about each of the following when you are away?*
>
> *Family's safety in their community*
> *Family's ability to get car or household repairs done*
> *Family having enough money to meet expenses, pay bills, etc.*
> *Child(ren)'s health and well-being*
> *Family's safety in the event of war.*

On a five-point scale from *Very Seldom or Never* (5) to *Very Often or Always* (1), respondents were asked to indicate how often they did or would worry about each issue while away. A composite variable was also created, using factor analysis.

Factor analysis identifies a reduced number of underlying dimensions or "factors" present in a group of variables. It gives the analyst a systematic approach to understanding the interrelationships among items and uncovers groups of items that measure the same concept or issue (see Appendix B for more details).

For two of the independent variables—*satisfaction* and *confidence*—composite variables were constructed across items from questions on different scales. The ordinally scaled responses from several questions were standardized (with a mean of 0 and standard deviation of 1), and the mean of the standardized scores was used as the value of the composite variable. More detail is provided in Appendix B. The number of independent variables was dramatically reduced by constructing conceptually similar and statistically reliable composites for survey questions concerning satisfaction with military life and confidence in spouse's abilities to handle matters while the Service member was absent. Factor analyses for both variables were conducted using the data set containing responses for all Service members.

The constructed variable SATISFACTION WITH MILITARY LIFE combined nine survey items: whether life in the military was as the respondent expected; whether the respondent was satisfied with personal freedom, the opportunity to serve one's country, working/environmental conditions, work group/coworkers, military assignment stability, friendships, and frequency of moves; and overall satisfaction with military life. At least five of the nine items had to be answered for a respondent (case)

to be included in the factor scoring. More details about the results of factor scoring for this and other constructed variables are provided in Appendix B.

The variable CONFIDENCE IN SPOUSE'S ABILITY incorporated answers to the question, "How well did or would your spouse take care of the following in your absence?" Respondents were asked to score confidence in six areas: child care, family members' health, family finances, housing, emotional or parenting problems, and evacuation of family members. Factor analysis was used to combine the scaled answers into a continuous composite variable. At least four of the six items had to be answered for a respondent (case) to be included in the factor analysis.

In an effort to explain expected differences in the CONCERN dependent variable for nontraditional and nuclear families, the model was run separately for (a) all respondents with families (a weighted frequency of 937,949 for enlisted personnel and 200,839 for officers) and (b) respondents who reported being married at the time of the survey (a weighted frequency of 706,896 for enlisted personnel and 175,139 for officers). For the analyses that included all respondents with families, only five sets of variables were examined.

Six sets of explanatory (independent) variables—individual demographics, military demographics, family demographics, confidence in spouse's ability, emergency provisions in place, and satisfaction with military life—were used to develop a sequential, or hierarchical, multiple regression model. The following variables were used: (a) **individual demographics**—gender, age, race/ethnicity, and years of education; (b) **military demographics**—pay grade, military branch, tenure, deployment in Operations Desert Shield/Desert Storm (ODS/S), military occupation,[9] CONUS/OCONUS location, total value of pay and allowances, and time separated from family; (c) **family demographics**—family type (derived from marital status, spouse type [civilian/military], and dependents) and spouse's occupation (married members only); (d) **confidence in spouse's ability** (married members only); (e) **emergency provisions in place**—power of attorney, life insurance, and will; and (f) **satisfaction with military life**. Detailed definitions of the variables are provided in Table 1.

Instead of the logistic regression used to model DIFFICULTY, multiple regression was used because CONCERN was a continuous rather than a dichotomous variable. Multiple regression is used to examine the relationship of a set of independent variables to a dependent variable (as in logistic regression), but the models predict a level of the dependent variable (as opposed to a 1/0 outcome), and the influence of the independent variables is expressed in terms of a Beta coefficient rather than as relative odds. The multiple regression procedure is applied in analyzing survey data when the dependent variable is continuous or consists of ordinal levels—e.g., *Very Dissatisfied* (1), *Dissatisfied* (2), *Neither* (3), *Satisfied* (4), *Very Satisfied* (5). The value of the *t* statistic is used to determine which variables should be kept in the model (i.e., the significance of the coefficients associated with the explanatory variables). The Wald Chi-square (see discussion in Appendix B) is used to assess the overall quality of the model. As in the DIFFICULTY model, groups of related variables were added into the CONCERN model. A similar sequential approach was followed, and the final model was determined by elimination of variables with coefficients that were not statistically significant at the 0.05 level.

[9]Military occupation was defined as the first digit of the DoD occupation code, as described in the *Occupational Conversion Manual*, 1991 (DoD 1312.1-M).

Results

Enlisted Personnel

The variable CONCERN was measured on a five-point scale, where 1 equaled *Very Often or Always Worry* about a given item, and 5 equaled *Very Seldom or Never Worry*. Table 9 indicates that the composite level of CONCERN was around 3 (average) across demographic groups. In the evaluation of Service members' family concerns while separated, two groups were examined: (a) all personnel with family and (b) married personnel. The married subgroup was evaluated separately because it was hypothesized that married personnel might exhibit different patterns of concern as compared with the total group. There were, however, no significant differences for CONCERN between the total group and the married subgroup. As shown in Table 9, the demographic characteristic associated with the highest level of family concern (i.e., the lowest value of the CONCERN variable) was low confidence in the spouse's ability to handle matters in the absence of the Service member.

Table 9. Demographic Characteristics for Enlisted Personnel with Family Reporting Concern Associated with Separation

Demographic Characteristic	All Members with Family		Married Members with Family	
	Weighted Total	Mean of CONCERN	Weighted Total	Mean of CONCERN
Gender				
Male	1,048,729	3.0	838,519	2.9
Female	121,117	3.2	80,052	3.2
Race/Ethnicity				
White	792,819	3.1	628,472	3.0
Black	258,088	3.0	197,424	3.0
Hispanic	74,861	2.9	57,918	2.8
Asian/Pacific Islander	9,067	2.9	6,713	2.9
American Indian/Alaskan	22,373	2.8	17,990	2.7
Other	12,638	2.9	10,055	2.9
Years of Education				
No High School Diploma	3,928	2.9	2,519	2.6
GED or Other Equivalency Certificate	38,842	2.9	32,551	2.8
High School Diploma	421,746	3.0	296,511	2.8
Some College	497,081	3.1	409,283	3.0
Two-Year College Degree	126,214	3.1	108,893	3.1
Four-Year College Degree	45,697	3.0	39,833	3.0
Some Graduate School	16,997	3.3	14,459	3.3
Masters Degree	4,963	3.3	4,318	3.3
Doctoral Degree	222	2.7	209	2.8
ODS/S Deployment				
Not Deployed	777,842	3.1	627,055	3.0
Deployed	335,755	3.0	260,427	2.8
Service				
Army	407,940	3.0	337,094	3.0
Navy	357,970	3.0	257,304	2.8
Marine Corps	110,587	3.1	77,475	2.9
Air Force	293,348	3.2	246,698	3.1

Table 9. Demographic Characteristics for Enlisted Personnel with Family Reporting Concern Associated with Separation (Continued)

Demographic Characteristic	All Members with Family		Married Members with Family	
	Weighted Total	Mean of CONCERN	Weighted Total	Mean of CONCERN
Value of Pay and Allowances				
Less than $20,000	389,743	3.0	252,981	2.7
$20,001-$30,000	476,629	3.0	415,388	3.0
$30,001-$40,000	156,066	3.2	141,306	3.2
$40,001-$50,000	32,827	3.3	29,497	3.3
$50,001-$60,000	8,695	3.3	7,818	3.3
$60,001-$70,000	1,692	3.4	1,618	3.4
More than $70,000	1,614	3.0	1,235	3.0
Military Occupation				
Infantry	193,788	3.1	145,695	2.9
Electronic Equipment Repair	136,785	3.1	107,270	3.0
Comm/Intelligence Specialist	108,594	3.1	87,898	3.0
Health Care Specialist	69,095	3.0	54,623	2.9
Other Tech/Allied Specialist	28,561	3.2	24,320	3.2
Functional Support/Administration	223,572	3.1	182,065	3.1
Elec/Mech Equipment Repair	254,049	3.0	201,089	2.8
Craftsman	46,542	3.0	36,554	2.8
Service/Supply Handler	87,519	3.0	69,700	2.9
Non-Occupational	21,341	3.0	9,359	2.5
Family Type				
Single, No Dependents	158,052	3.7	—	—
Single with Dependents	68,509	2.9	—	—
Dual-Military, No Dependents	39,292	3.2	39,292	3.2
Dual-Military with Dependents	73,691	3.0	73,691	3.0
Civilian Spouse, No Dependents	159,360	3.0	159,360	3.0
Civilian Spouse with Dependents	646,228	2.9	646,228	2.9
Spouse's Occupation				
Homemaker	—	—	313,135	2.9
Full-Time Military	—	—	97,853	3.1
Reserve/National Guard	—	—	13,600	2.9
Full-Time Civilian Employee	—	—	251,210	3.1
Part-Time Civilian Employee	—	—	103,612	2.9
Other	—	—	119,424	2.8
Confidence in Spouse's Ability				
Not Very Confident	—	—	3,522	2.1
Not Confident	—	—	23,763	2.4
Neutral	—	—	141,236	2.6
Confident	—	—	407,265	2.9
Very Confident	—	—	257,540	3.2
Power of Attorney				
No Power of Attorney	657,439	3.1	482,892	3.0
Power of Attorney in Place	480,814	3.0	416,354	2.9
Satisfaction with Military Life				
Very Dissatisfied	—	—	—	—
Dissatisfied	—	—	—	—
Neutral	86,097	2.7	58,464	2.4
Satisfied	1,030,447	3.1	815,034	3.0
Very Satisfied	44,457	3.5	38,006	3.5

Note: A dash indicates no data or data not applicable.

Table 10 shows the progression in the overall explanatory power of the regression model. Because this is a multiple regression model (as opposed to a logistic model), the percent of variance explained (R^2) is used instead of the correlation between the observed and predicted values of the dependent variable. Results are shown separately for all personnel with families and married personnel, for two reasons: (a) the model for married personnel included the CONFIDENCE IN SPOUSE'S ABILITY independent variable; and (b) the pattern of results for the married subgroup was different from that for the total group.

Table 10. Variance in the Dependent Variable (CONCERN) in the Sequential Model for Enlisted Personnel with Family

Variable Set in the Sequential Model	Percentage of Variance in CONCERN Explained by Model	
	All Members with Family	Married Members with Family
1. Individual Demographics	1	3
2. Set 1 + Military Demographics	2	6
3. Set 2 + Family Demographics	13	7
4. Set 3 + Confidence in Spouse's Ability	—	11
5. Set 4 + Emergency Provisions in Place	14	11
6. Set 5 + Satisfaction with Military Life	14	14

Notes: The statistical significance of the overall model was determined by calculating the *F* statistic and its associated probability (see discussion in Appendix B). A dash indicates data not applicable.

Table 10 shows the progression of the model's fit with each step in the sequential model. For both the total with family and the married group of Service members, the R^2 for the final model was 14 percent. There was a large increase in the model's fit for the total with family group (from 2 percent to 13 percent) when family demographics were added. The variable CONFIDENCE IN SPOUSE'S ABILITY added 4 percent to the fit for the married group, but it was not used for the total with family group, because not all Service members with family were married. The variable SATISFACTION WITH MILITARY LIFE had the strongest influence of any variable for either group.

The relationship between CONCERN and the independent variables can be expressed as the change (increase or decrease) in family concern attributable to a unit of change in one independent variable, holding all other variables constant. For example, the relationship between CONCERN and gender can be expressed in terms of how much more or less males experience family concerns as compared with females (the reference group). For continuous variables such as age, the relationship can be expressed as the change in CONCERN for each incremental increase in an independent variable (e.g., an additional year of age). Variables in the final model that were significantly related to CONCERN[10] are as follows: gender, race/ethnicity, years of education (married respondents only), ODS/S deployment status, Service branch, total value of pay and allowances, military occupation (married respondents only), family type, spouse's occupation (married respondents only), confidence in spouse's ability (married respondents only), power of attorney (married respondents only), and satisfaction with military life.

The results of the multivariate analyses are shown in Table 11, which presents the Beta coefficients associated with each independent variable. The Beta coefficients show the direction of the relationship

[10]The 0.05 level of statistical significance was used.

between CONCERN and each of the independent variables with which it was found to be significantly related. The direction of each relationship is indicated as CONCERN relative to the reference group (shown in parentheses in Table 11) for dichotomous variables or as an increase of one unit for continuous variables. For example, the Beta coefficient of -0.22 for married males in Table 11 means that males were *more* likely than females to report family concerns as a result of separation (i.e., the value of CONCERN was lower for married males than for married females).

Table 11. Relative Effects of Independent Variables on Family Concerns While Separated for Enlisted Personnel

Significant Variables	Beta Coefficient	
	All Members with Family	Married Members with Family
Gender (Female)		
Male	-0.11	-0.22
Race/Ethnicity (White)		
Hispanic	-0.17	-0.16
Other	-0.22	-0.14
Years of Education	0.02	0.03
ODS/S Deployment (Not Deployed)		
Deployed	-0.08	-0.09
Service Branch (Army)		
Navy	-0.21	-0.20
Marines	-0.11	-0.10
Value of Pay and Allowances	<0.01	<0.01
Military Occupation (Infantry)		
Craftsman	NS	-0.17
Family Type (Civilian Spouse, No Dependents)		
Single, No Dependents	0.92	—
Single with Dependents	-0.14	—
Dual-Military, No Dependents	0.16	NS
Dual-Military with Dependents	NS	-0.22
Civilian Spouse with Dependents	-0.15	-0.13
Spouse's Occupation (Not Employed Outside Home)		
Full-Time Civilian	—	0.10
Full-Time Military	—	0.18
Confidence in Spouse's Ability	—	0.29
Power of Attorney (No Power of Attorney)		
Power of Attorney in Place	NS	-0.06
Satisfaction with Military Life	2.30	2.23

NS = not significant.
Notes: Reference groups for dichotomous and categorical variables are shown in parentheses. Groups that were not significantly different from the reference group are not shown in the table; thus, the categories included for each variable may be different in different tables. A dash indicates data not applicable.

The magnitude of the coefficients shown in Table 11 is more difficult to interpret, but it does provide useful comparisons. For example, being single with no dependents (Beta coefficient 0.92) was associated with a lower level of concern than being in a dual-military marriage with no dependents (Beta coefficient 0.16). Thus, single Service members with families but with no dependents worried less about their families during periods of separation than did Service members in dual-military marriages with no dependents.

Because married respondents are a large subset of all respondents with families, the results for the two groups were expected to be similar. Results common to the two groups were as follows:

- Males reported more concern than females.
- Blacks and Whites were indistinguishable statistically with respect to their reported level of concern.
- Hispanics and those in other non-Black racial groups reported more concern than Whites or Blacks.
- Enlisted personnel deployed in ODS/S reported more concern than those not deployed.
- Air Force enlisted personnel were similar to Army enlisted personnel with regard to their level of concern.
- Navy and Marine Corps enlisted personnel reported more concern than their Army or Air Force counterparts.
- Higher levels of total pay and allowances were associated with lower levels of concern.
- Higher levels of satisfaction with military life were associated with lower levels of concern.

As noted above, the variable SATISFACTION WITH MILITARY LIFE had the strongest effect on CONCERN. Higher levels of satisfaction dramatically reduced the concern of enlisted personnel about the safety of their families. Evidently, those who were more satisfied with military life had greater confidence in the military's support programs. Given these results, a profile of the Service member least likely to be concerned about family during separation would be as follows: female, Black or White, not deployed in ODS/S, in the Army or Air Force, better paid, with no dependents, with a spouse working outside the home, and satisfied with military life.

Some differences between the two groups were:

- For the total group with families, there was no significant difference in level of concern between enlisted personnel with dual-military families with dependents and those with civilian spouses and no dependents (the reference group); in contrast, there was a significant difference for the married subgroup.
- For the total group, there was no significant difference in level of concern between males and females; in contrast, married males showed a substantially higher level of concern than did married females.

Generally, the relationships between CONCERN and demographic characteristics for enlisted personnel make intuitive sense. Personnel deployed in ODS/S reported greater levels of concern than those not deployed. Service members from the Navy or Marine Corps, which typically deploy members for longer periods, indicated higher levels of concern than did Service members from the Army or Air Force. Service members who lacked confidence in their spouses' ability to handle matters in their absence reported higher levels of concern about their families than those who were confident in their spouses' abilities.

Finally, it is interesting that males showed more concern than females, despite the fact that they generally reported fewer problems in responding to recall/alert. It may be that males feel more responsible than do females for the protection of their families and, thus, are more frustrated when they are separated. Also, women may feel less concerned because they have spent more time with their families and are more confident about the support mechanisms available through the military (e.g., child care) or through the community.

Officers

The results of the analysis for officers were similar to those for enlisted personnel. Table 12 shows the weighted means of the dependent variable CONCERN for the significant independent demographic variables. In general, officers tended to show less concern than enlisted personnel, but response patterns were similar for the same variables. For example, higher levels of education were associated with lower levels of concern (i.e., higher mean values of the CONCERN variable) for both officers and enlisted personnel.

Table 12. Demographic Characteristics for Officers with Family Reporting Concern Associated with Separation

Demographic Characteristic	All Members with Family		Married Members with Family	
	Weighted Total	Mean of CONCERN	Weighted Total	Mean of CONCERN
Gender				
Male	216,188	3.5	201,084	3.5
Female	22,407	3.8	17,341	3.8
Age				
21 Years or Younger	109	3.8	54	3.2
22-25 Years	13,866	3.7	10,319	3.5
26-34 Years	92,081	3.6	83,743	3.5
35-44 Years	103,879	3.5	97,812	3.5
45-54 Years	27,129	3.7	25,169	3.7
55 Years or Older	1,532	3.8	1,327	3.8
Race/Ethnicity				
White	209,532	3.6	192,723	3.5
Black	15,997	3.5	13,955	3.5
Hispanic	6,807	3.3	6,246	3.4
Asian/Pacific Islander	883	3.4	822	3.5
American Indian/Alaskan	3,404	3.3	2,908	3.3
Other	1,973	3.3	1,769	3.3

Table 12. Demographic Characteristics for Officers with Family Reporting Concern Associated with Separation (Continued)

Demographic Characteristic	All Members with Family		Married Members with Family	
	Weighted Total	Mean of CONCERN	Weighted Total	Mean of CONCERN
Years of Education				
No High School Diploma	18	4.4	18	4.4
GED or Other Equivalency Certificate	430	3.1	430	3.1
High School Diploma	2,040	3.2	1,880	3.2
Some College	9,755	3.3	9,224	3.3
Two-Year College Degree	7,996	3.2	7,392	3.2
Four-Year College Degree	74,358	3.6	65,176	3.5
Some Graduate School	39,516	3.6	36,190	3.6
Masters Degree	84,449	3.6	79,679	3.6
Doctoral Degree	19,234	3.5	17,817	3.5
ODS/S Deployment				
Not Deployed	176,697	3.6	162,780	3.6
Deployed	52,795	3.4	48,267	3.4
Service				
Army	88,904	3.6	82,482	3.6
Navy	57,254	3.5	50,548	3.4
Marine Corps	16,023	3.5	14,583	3.4
Air Force	76,415	3.6	70,841	3.6
Total Separation from Family				
None	5,039	3.6	4,654	3.7
Less than 3 Months	17,235	3.6	16,396	3.6
3 to 4 Months	12,025	3.7	11,492	3.7
5 to 6 Months	13,254	3.6	12,636	3.6
>6 Months, <1 Year	39,869	3.5	38,102	3.5
1 to 2 Years	81,121	3.5	77,890	3.6
3 to 4 Years	36,685	3.5	34,884	3.5
More than 4 Years	23,310	3.3	21,913	3.3
Value of Pay and Allowances				
Less than $20,000	4,465	3.4	3,830	3.4
$20,001-$30,000	18,331	3.5	14,648	3.4
$30,001-$40,000	45,389	3.5	40,097	3.4
$40,001-$50,000	60,397	3.5	55,929	3.5
$50,001-$60,000	48,942	3.5	45,929	3.5
$60,001-$70,000	30,184	3.6	28,885	3.6
More than $70,000	26,300	3.7	24,912	3.7
Military Occupation				
General Officer/Executives	4,556	3.7	4,278	3.7
Tactical Operations Officer	69,056	3.6	64,246	3.5
Intelligence Officer	10,107	3.6	9,275	3.5
Engineering/Maintenance	35,533	3.5	32,561	3.5
Scientist/Professional	15,984	3.7	14,790	3.7
Health Care Officer	30,641	3.5	27,241	3.5
Administrator	24,263	3.6	22,121	3.6
Supply, Procurement, Allied Officer	18,694	3.6	17,162	3.6
Non-Occupational	12,476	3.6	11,494	3.5

Table 12. Demographic Characteristics for Officers with Family Reporting Concern Associated with Separation (Continued)

Demographic Characteristic	All Members with Family		Married Members with Family	
	Weighted Total	Mean of CONCERN	Weighted Total	Mean of CONCERN
Family Type				
Single, No Dependents	10,703	4.2	na	na
Single with Dependents	5,741	3.3	na	na
Dual-Military, No Dependents	8,960	3.9	8,960	3.9
Dual-Military with Dependents	10,922	3.6	10,922	3.6
Civilian Spouse, No Dependents	44,761	3.6	44,761	3.6
Civilian Spouse with Dependents	153,782	3.5	153,782	3.5
Confidence in Spouse's Ability				
Not Very Confident	—	—	262	2.6
Not Confident	—	—	3,298	3.0
Neutral	—	—	30,545	3.2
Confident	—	—	97,438	3.5
Very Confident	—	—	71,180	3.8
Power of Attorney				
No Power of Attorney	124,519	3.6	110,667	3.6
Power of Attorney in Place	111,749	3.5	105,579	3.5
Satisfaction with Military Life				
Very Dissatisfied	303	2.4	197	2.6
Dissatisfied	5,426	3.0	4,531	3.0
Neutral	44,363	3.3	39,926	3.3
Satisfied	140,707	3.6	129,626	3.6
Very Satisfied	46,681	3.8	43,118	3.8

Table 13 shows the progression in the overall explanatory power of the regression model for officers with family. Results are shown separately for all officers with families and married officers.

Table 13. Variance in the Dependent Variable (CONCERN) in the Sequential Model for Officers with Family

Variable Set in the Sequential Model	Percentage of Variance in CONCERN Explained by Model	
	All Members with Family	Married Members with Family
1. Individual Demographics	3	2
2. Set 1 + Military Demographics	4	5
3. Set 2 + Family Demographics	8	5
4. Set 3 + Confidence in Spouse's Ability	—	13
5. Set 4 + Emergency Provisions in Place	9	13
6. Set 5 + Satisfaction with Military Life	12	16

Note: The statistical significance of the overall model was determined by calculating the *F* statistic and its associated probability (see discussion in Appendix B).

Variables in the final model that were significantly related to CONCERN[11] are as follows: gender, age (total group only), race/ethnicity, years of education, ODS/S deployment status, Service branch, total time separated from family during career (married respondents only), total value of pay and allowances, military occupation, family type, confidence in spouse's ability (married respondents only), power of attorney, and satisfaction with military life. The mean values of CONCERN for these significant variables are shown in Table 12.

The Beta coefficients from the regression model for officers with family are shown in Table 14. As in the analysis for enlisted personnel, Table 14 reports the direction of the relationship between CONCERN and the significant explanatory variables as well as the magnitude of their effects.

For officers, results common to the total group and the married subgroup were as follows:

- Males reported more concern than females.
- Blacks and Whites were indistinguishable with respect to the reported level of concern.
- Hispanics and those in other non-Black racial groups reported more concern than Whites or Blacks.
- Higher levels of education were associated with slightly lower levels of concern.
- Officers deployed for ODS/S reported more concern than those not deployed.
- Navy, Air Force, and Marine Corp officers reported more concern than Army officers.
- Higher levels of total pay and allowances were associated with lower levels of concern.
- Health care officers reported higher levels of concern than officers in other occupations.
- Officers with power of attorney in place reported slightly *more* concern than those with no power of attorney in place.
- Officers satisfied with military life reported less concern than those who were less satisfied.

In summary, the results in Table 14 show that, for officers with family, the most important factors associated with the lowest levels of reported concern were satisfaction with military life and having no dependents.

[11]The 0.05 level of statistical significance was used.

Table 14. Relative Effects of Independent Variables on Family Concerns While Separated for Officers

Significant Variables	Beta Coefficient	
	All Members with Family	Married Members with Family
Gender (Female)		
Male	-0.19	-0.29
Age	-0.01	NS
Race/Ethnicity (White)		
Hispanic	-0.16	-0.14
Other	-0.18	-0.18
Years of Education	0.02	0.02
ODS/S Deployment (Not Deployed)		
Deployed	-0.10	-0.09
Service Branch (Army)		
Navy	-0.14	-0.12
Air Force	-0.06	-0.08
Marines	-0.15	-0.15
Months Separated from Spouse	—	<0.01
Value of Pay and Allowances	<0.01	<0.01
Military Occupation (Infantry)		
Health Care Officer	-0.13	-0.18
Family Type (Civilian Spouse, No Dependents)		
Single, No Dependents	0.58	—
Single with Dependents	-0.31	—
Dual-Military, No Dependents	0.27	0.11
Dual-Military with Dependents	NS	-0.16
Civilian Spouse with Dependents	-0.13	-0.18
Confidence in Spouse's Ability	—	0.35
Power of Attorney (No Power of Attorney)		
Power of Attorney in Place	-0.08	-0.10
Satisfaction with Military Life	1.14	0.87

NS = not significant.
Note: Reference groups for dichotomous and categorical variables are shown in parentheses. Groups that were not significantly different from the reference group are not shown in the table; thus, the categories included for each variable may be different in different tables.

Summary and Conclusions

The goal of the analyses described in this report was to shed light on the characteristics of those Service members more likely to experience difficulties responding to recall/alert and of those more likely to be concerned about family members during separations. The report focuses on the impact of family factors and individual member attitudes on their combat readiness. It is impossible to say, given the results of the analysis, that members of a certain demographic group are categorically less ready than the members of other groups. It is possible, however, to identify patterns and show that certain groups *tend* to report having more trouble than others. The results provide an indication of who may need additional support in the event of sudden alerts or deployments and, to some degree, the form that such support might take.

Difficulties in Responding to Recall/Alert

Approximately 36 percent of the respondents to the 1992 surveys who were subject to short-notice job demands in the year prior to completing the survey indicated that they experienced difficulty in responding. For those reporting difficulty, the following patterns emerged for groups with different individual, military, and family demographics. In the discussion below, Figures 1 through 6 provide graphic representations of the data shown in Table 3 on page 15 (enlisted personnel) and Table 6 on page 18 (officers) and the corresponding regression results shown in Table 5 on page 17 (enlisted personnel) and Table 8 on page 20 (officers).

Individual Demographics

Males were significantly less likely to report problems with non-routine work demands than were females (Figure 1). This finding probably reflects the fact that females remain primarily responsible for child care and maintaining the home when the male is called away. Another explanation for this finding may be that a much higher percentage of single parents in the military are female; 12.5 percent of women in the military are single parents, compared with 2.9 percent of men (Defense Manpower Data Center, 1992). With no spouse to take on the home-based responsibilities when work demands take a parent away, response difficulties would be greater.

Several of the report outcomes point to the importance of stability and experience in being able to respond quickly to work demands. For example, older Service members were less likely to report difficulties in responding to recall/alert (Figure 2). This result is in agreement with previous research that has shown higher levels of coping skills among older Service members and their spouses (Kelley, 1994).

For enlisted personnel, the relationship between education and the percentage reporting difficulties appears to be flat or slightly negative (Figure 3). However, when other demographic variables are controlled in the logistic model, each additional year of education *increases* the likelihood of experiencing difficulties. This result suggests that more highly educated enlisted personnel either experience more difficulties or are more likely to report the difficulties that they do experience. For officers, the trend appears to be positive, but the model results were not significant for the education variable.

Military Demographics

For enlisted personnel and officers, pay grade was inversely related to reports of quick response difficulties; as grade increased, problems with quick response decreased (Figure 4). It is likely that the

Figure 1. Percentage of Service Members Reporting Difficulties In Responding to Recall/Alert by Gender

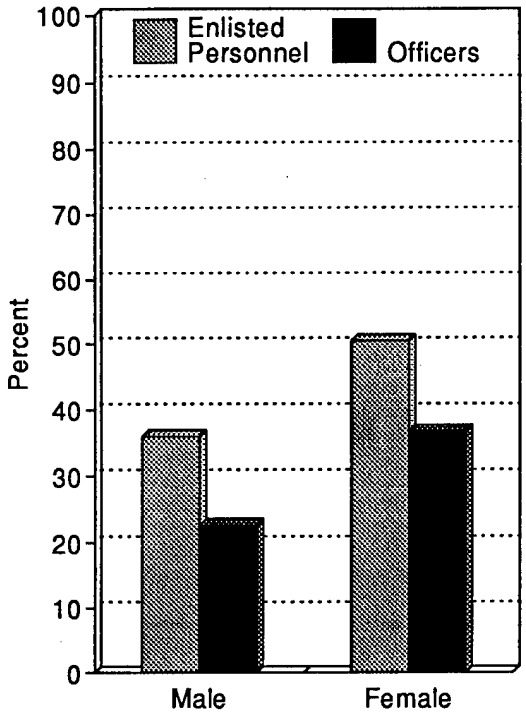


Figure 2. Percentage of Service Members Reporting Difficulties In Responding to Recall/Alert by Age Group

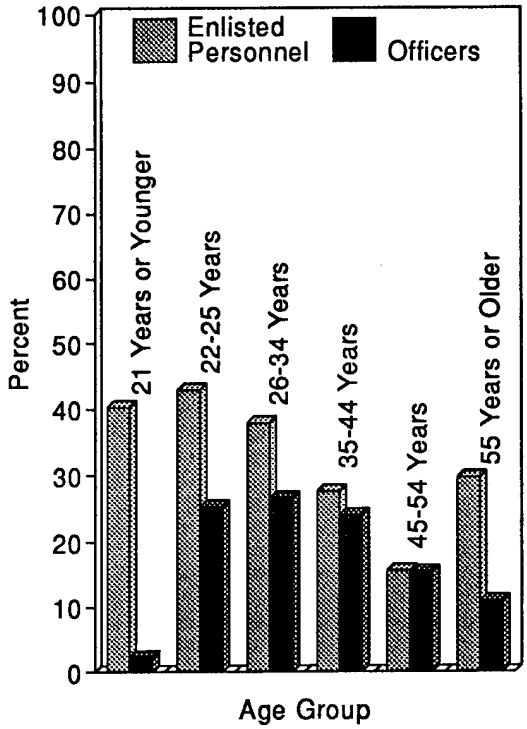


Figure 3. Percentage of Service Members Reporting Difficulties In Responding to Recall/Alert by Years of Education

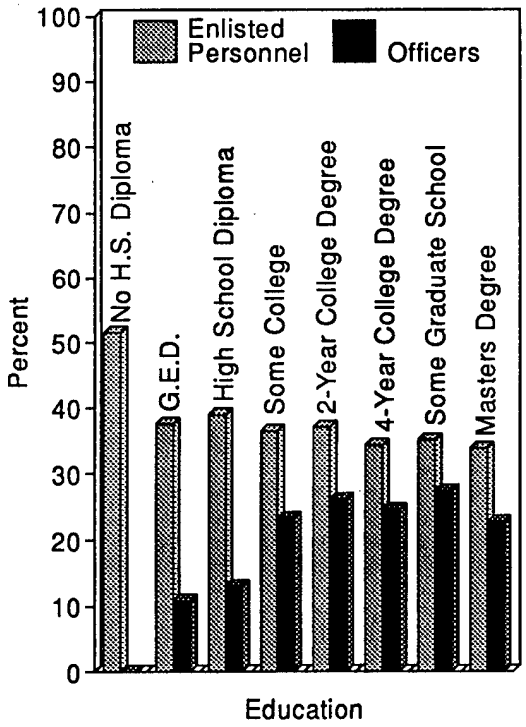
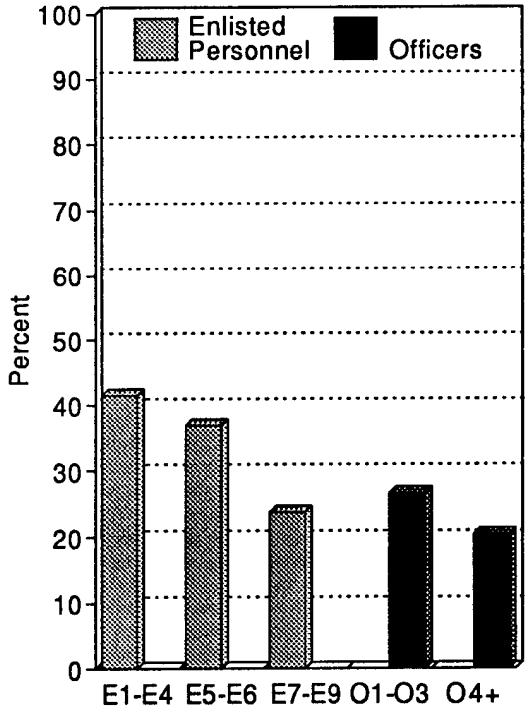


Figure 4. Percentage of Service Members Reporting Difficulties In Responding to Recall/Alert by Pay Grade



relationship between pay grade and response difficulties is mediated by tenure and rank. Those of higher rank have experienced more quick response situations and are better able to deal with the contingencies that the events present.

For both enlisted personnel and officers, those in the Navy appeared to be more likely to experience difficulties in responding to recall/alert than did those in other Service branches (Figure 5). This difference may be a function of several factors, including longer times away from home on the part of Navy personnel, at greater distances, with (typically) fewer opportunities to interact with those left behind. Research has demonstrated that an inability to communicate with loved ones increases the stress associated with separations for those who remain at home (Kelley, 1994; Milgram & Bar, 1993). Presumably, the same is true for those who are deployed. Therefore, Navy personnel, whose travels are wide-ranging and often extend to months at a time, would be expected to have more difficulty preparing for and dealing with separations from their families.

Family Demographics

As compared with Service members with civilian spouses and no dependents, those who had children (including single parents, those with civilian spouses, and those with military spouses) were more likely to have quick response problems (Figure 6). Clearly, the presence of children presents complications that make it harder to respond quickly to abrupt changes at work. For those with children, Service members with dual-military families were more likely to report quick response problems. This result may be due to the inflexibility of the military structure, which makes it difficult for both parents to adjust in the face of unexpected events, or it may be that such events often involve both spouses,

Figure 5. Percentage of Service Members Reporting Difficulties in Responding to Recall/Alert by Service Branch

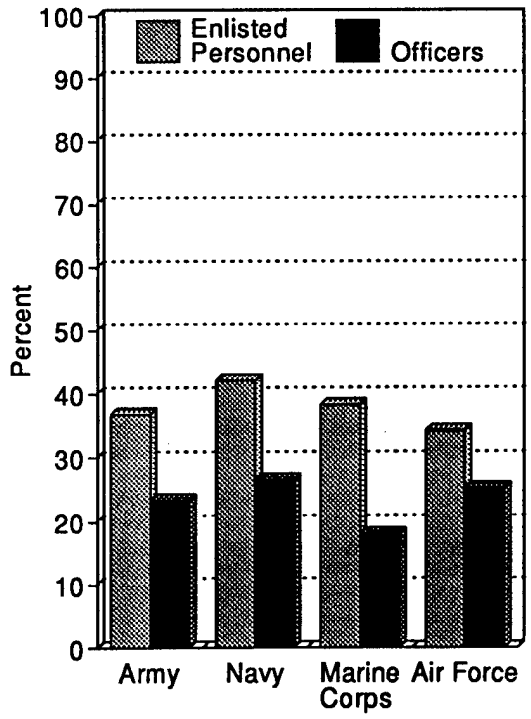
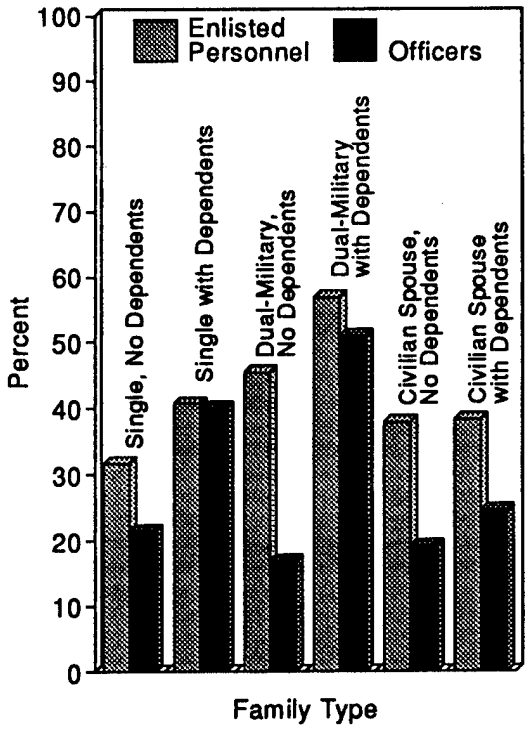


Figure 6. Percentage of Service Members Reporting Difficulties in Responding to Recall/Alert by Family Type



requiring assistance from outside the family to compensate. In either case, this finding supports the conclusion reached in studies after Operations Desert Shield/Desert Storm—that dual-military marriages present special challenges requiring more in-depth attention (see, for example, Presidential Commission on the Assignment of Women in the Armed Forces, 1992). Surprisingly, among enlisted personnel, single Service members with dependents were only slightly more likely to report quick response problems than were married Service members with no dependents. It is possible that single parents (most dependents are children) are more likely to have contingency care plans at all times, so that changes in work schedules or duties present no more challenge than do other aspects of daily life. Single *officers* with dependents reported more difficulties, as expected.

Family Concerns While Separated

The findings with regard to Service members' level of concern about their families while they are away on assignment or deployment are summarized below. For those reporting concern during separation, the following patterns emerged for groups with different individual, military, family, and attitudinal characteristics. In the discussion below, Figures 7 through 12 provide graphic representations of the data shown in Table 9 on pages 24-25 (enlisted personnel) and Table 12 on pages 29-31 (officers) and the corresponding regression results shown in Table 11 on page 27 (enlisted personnel) and Table 14 on page 33 (officers).

Individual Demographics

While men reported experiencing fewer problems in responding to recall/alert, they also reported more concerns when separated from their families (Figure 7). This result may be attributable in part to the fact that men generally feel responsible for the role of family protector and, therefore, feel anxious when they are separated from the family. In addition, there may be less concern on the part of women who are separated from their families, because they generally have spent more time with the family and as a result are more familiar with and more confident in the support mechanisms available through the military (e.g., child care) or through the community.

Service members in both the Hispanic and Other (including all other non-White, non-Black) racial categories reported significantly higher levels of concern than did Whites or Blacks (Figure 8).

Military Demographics

Personnel who were deployed during ODS/S were significantly more likely to report family concerns than those who were not deployed (Figure 9). Whether respondents were thinking about ODS/S when answering the questions regarding concern is unknown.

Both enlisted personnel and officers in the Navy and the Marine Corps were more likely to report concern than those in the Army (Figure 10).

Concerns were less likely to arise among enlisted personnel and officers with a higher estimated value of total pay and allowances (Figure 11). This finding is in line with experience-related explanations for lower concern, since personnel at higher pay levels are typically more tenured.

Family Demographics

As expected, Service members with children reported slightly higher levels of concern than those with civilian spouses and no dependents. What is surprising, though, is that Service members with dual-military families and dependents were not significantly different with respect to reported concern from

Figure 7. Level of Concern Associated with Separation from Family Reported by Service Members by Gender

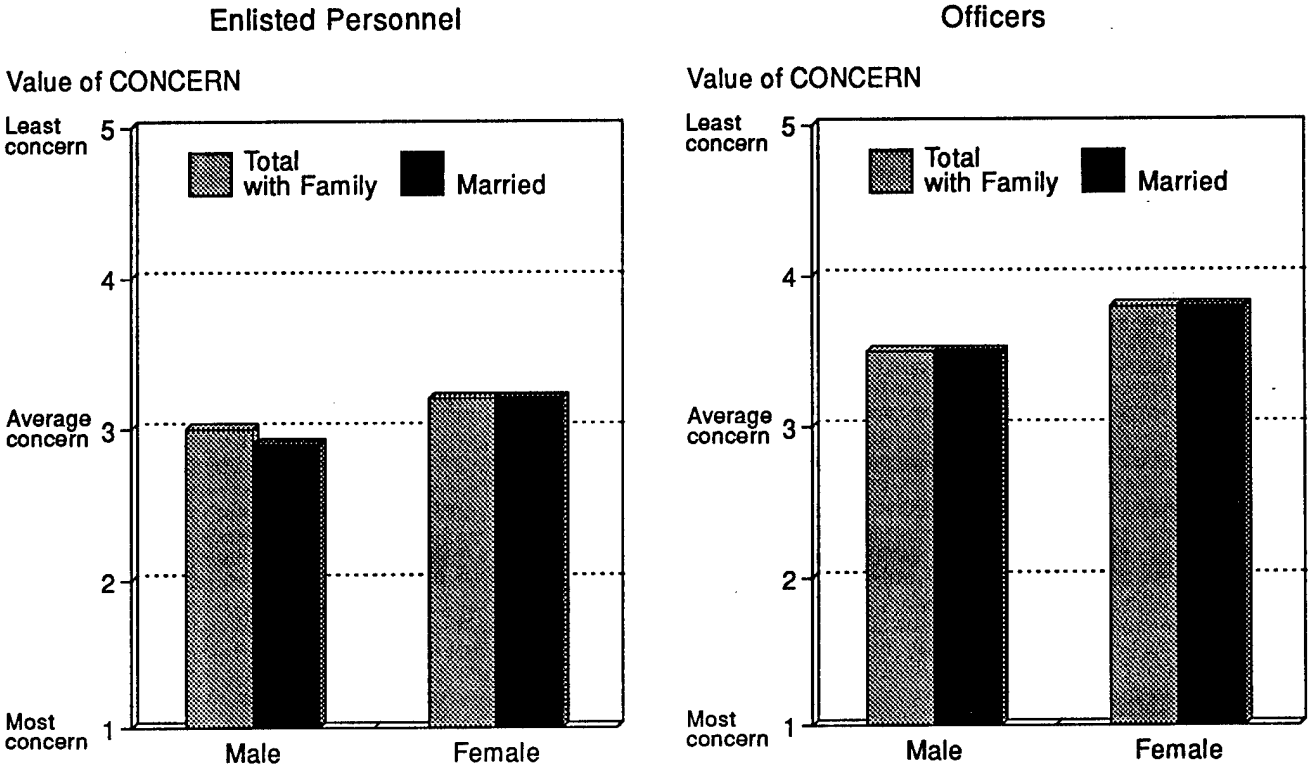


Figure 8. Level of Concern Associated with Separation from Family Reported by Service Members by Race/Ethnicity

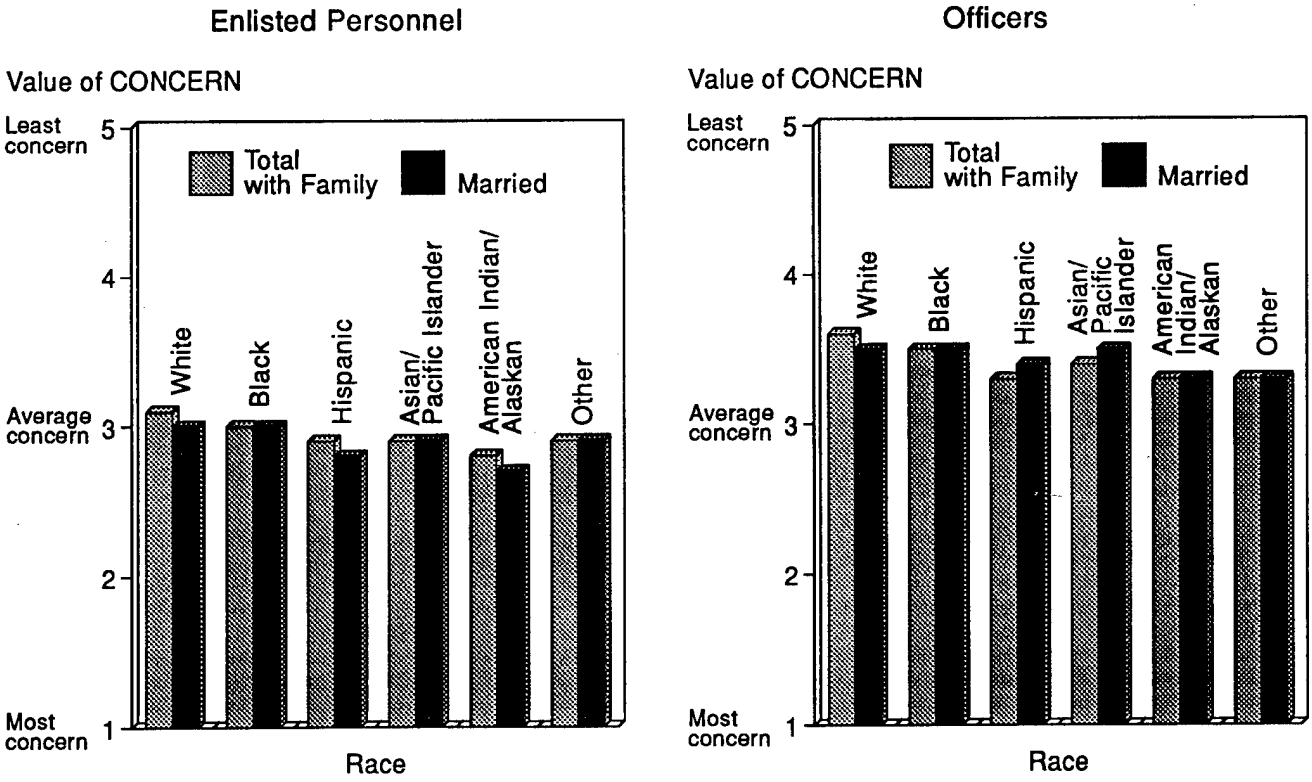


Figure 9. Level of Concern Associated with Separation from Family Reported by Service Members by ODS/S Deployment Status

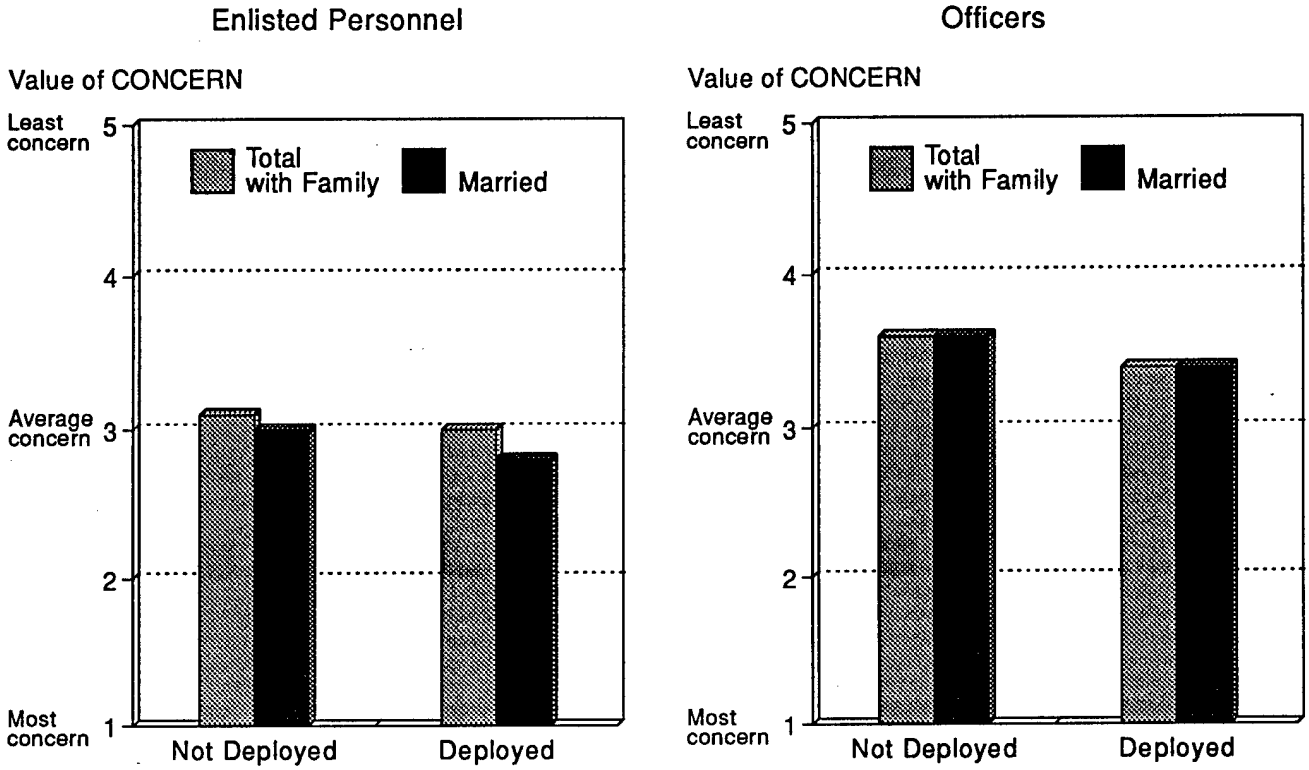
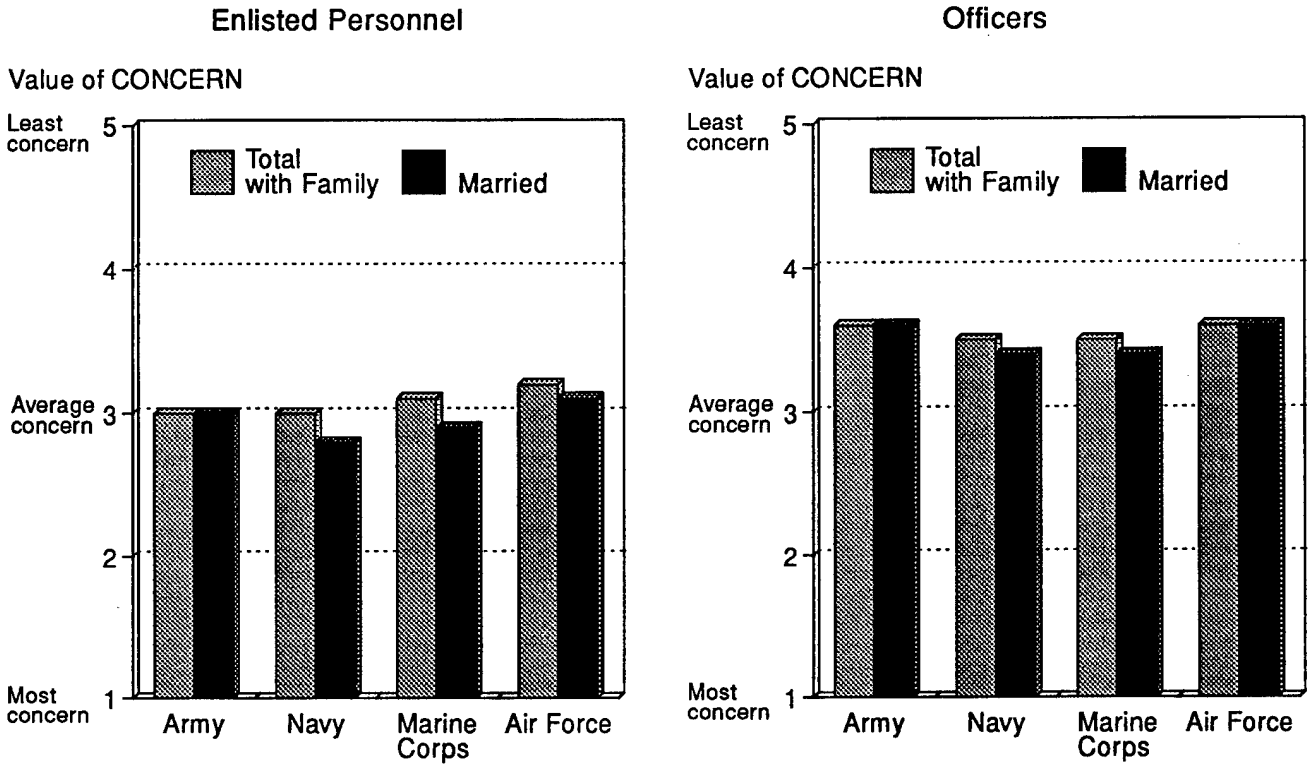


Figure 10. Level of Concern Associated with Separation from Family Reported by Service Members by Service Branch



those with civilian spouses and *no* dependents. Perhaps the military has been successful at allaying worries of dual-military families.

For married enlisted personnel, those whose spouses were employed full-time indicated fewer concerns during separation. This may also be a stability-related finding; a working spouse may have a greater degree of entrenchment in the community (e.g, through civic groups), enjoy greater levels of community support (e.g., baby sitting help) and have fewer financial concerns (because of a dual income).

Other Variables

For both enlisted personnel and officers, those who were more satisfied with their military careers reported fewer concerns when separated from their families (Figure 12). The question arises whether having fewer concerns leads to higher levels of career satisfaction or whether being satisfied with one's career serves to decrease family-related concerns. The former would seem to be the more likely relationship, because stress over family situations could cause a lowering of an individual member's satisfaction, whereas that individual's satisfaction with his/her military career in general would be unlikely to quell family concerns. Again, concern over family does appear to affect a member's outlook about military life.

Those who had confidence in their spouse's abilities, regardless of whether they were enlisted personnel or officers, reported fewer concerns.

Conclusion

In summary, analysis of the survey results suggests the following about who may require support, and how or whether additional support should be provided.

- Those who may require more attention and support as they attempt to cope with short-notice job demands and deployments are female Service members; younger personnel, particularly those with families and individuals with dependents; and dual-military families.
- Characteristics of Navy life seem to contribute to greater difficulties responding to changing job demands and increased concerns while deployed. Prior research suggests some steps that might be taken to alleviate such stressors (e.g., increased communication during separation), but it may be that this is simply a problem inherent to the Navy mission about which little can be done.
- The fact that older, more experienced personnel seem to be able to respond with less difficulty and lower concern suggests that they may have developed coping mechanisms that work in these situations. Mentoring and experience-sharing by these individuals could be of value to younger, less-tenured Service members and their families.
- Satisfaction with one's career is related to the ability to respond to the demands of military life and to the degree to which such demands result in concerns about family. Thus, the attention given to alleviating such stressors is warranted and should continue.

The models used in this and other of the five reports identify the direction and magnitude of influences upon combat readiness. Military policies and procedures can be structured to pay special attention to disproportionately affected groups. The combat readiness of the military can be improved by accommodating the needs of individual Service members and their families in addition to satisfying mission requirements.

Figure 11. Level of Concern Associated with Separation from Family Reported by Service Members by Value of Pay and Allowances

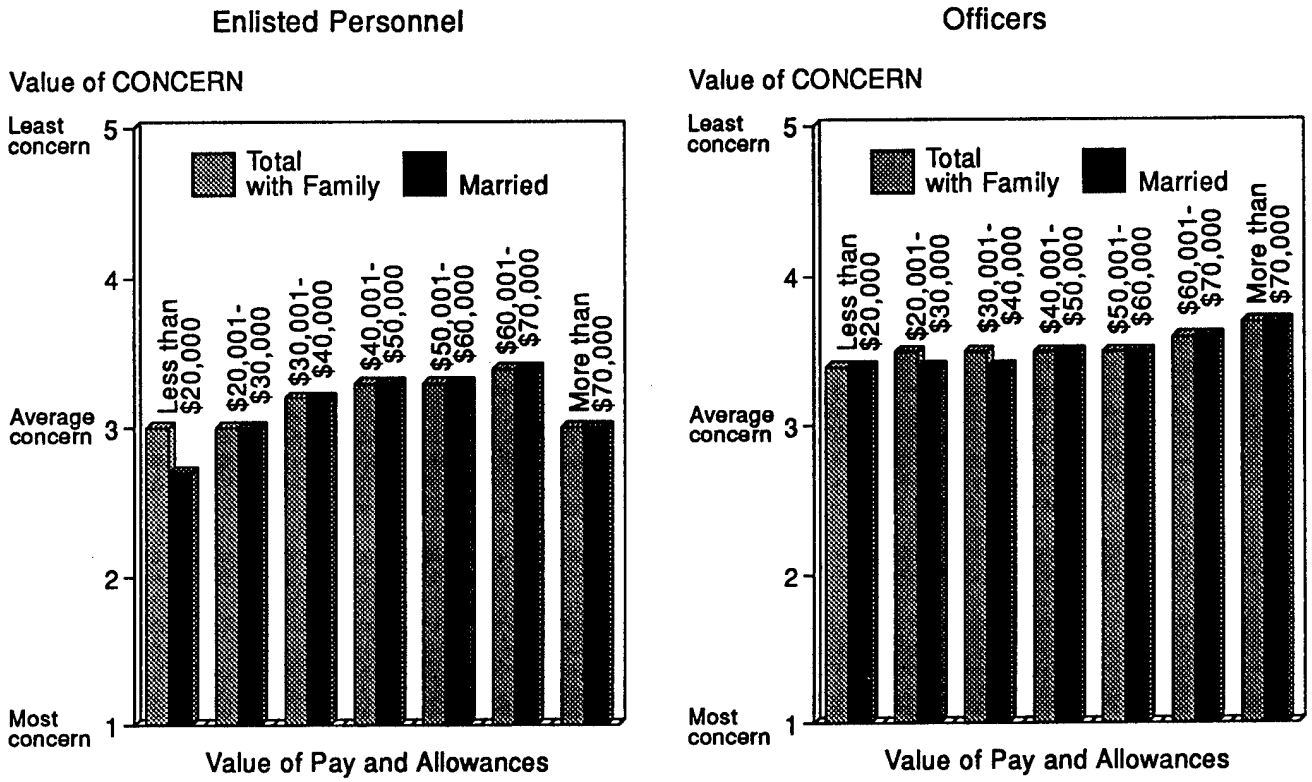
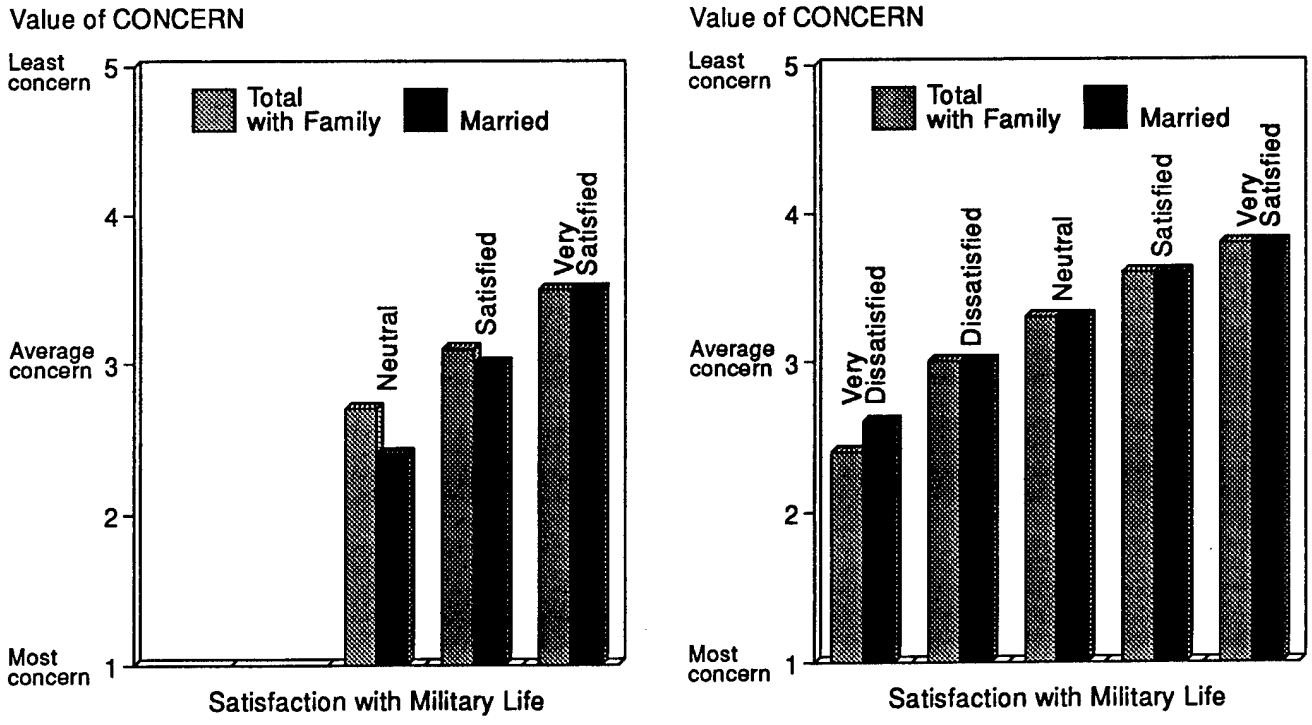


Figure 12. Level of Concern Associated with Separation from Family Reported by Service Members by Satisfaction with Military Life



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Appendix A. Study Design

The *1992 Department of Defense Surveys of Officer and Enlisted Personnel* comprised four separate samples: longitudinal, recruiters, members, and Active Guard/Reserve or Training and Administration of the Reserve (AGR/TAR) members. The sample design for this survey was a stratified sample selected from active duty personnel as of December 1991. The database used in the analysis for this report included all four samples combined.

Sample Design

The samples were selected by probability methods. That is, each eligible individual had a non-zero, known probability of selection. This procedure allowed for the projection of the survey results to the target population. Sampling design for the 1992 surveys proceeded as follows: identify sampling frames, devise stratification scheme, select sampling methodology, decide sampling sizes, select sample, and develop weights. These steps are described in the following sections.

Target population and sampling frames. The target population is the group being estimated by the sample. For example, the target population for the recruiter sample was all recruiters. A sampling frame is a database that represents the target population from which a sample is drawn.

Stratification. Stratification is a sample design feature that seeks to reduce the variance of sample estimates by defining homogeneous subgroups of sampling units and selecting the samples independently within each stratum. In addition, stratification may be used to control subgroup sample sizes. For the 1992 surveys, the stratification variables were identifiers present in the Active Duty Military Master and Loss (M&L) File and in the Reserve Component Common Personnel Data System (RCCPDS). The longitudinal sample was not stratified, but it reflected the stratification carried out in the selection of the 1985 sample. The definitions of the stratification cells for the other three samples are identified below.

The target populations, sampling frames, stratification schemes, and sample sizes corresponding to each of the four samples selected for the 1992 surveys were as follows:

- The longitudinal sample consisted of a subsample of 11,999 from the personnel selected for the *1985 Department of Defense Survey of Officers and Enlisted Personnel* who were still in the military as of December 1991. The sampling frame was based on the file of the 1985 sample and the 1992 M&L File.

- The recruiter sample consisted of 3,999 recruiters, approximately 1,000 per Service. The sampling frame was extracted from the 1992 M&L File.

- The member sample consisted of members on active duty as of December 1991 who were in the Service for 4 or more months and were neither recruiters nor included in the 1985 survey. The sample of 75,345 active military personnel was derived by selecting approximately 5,000 members from each of the 16 cells defined by Service, officer/enlisted status, and gender. The sampling frame was constructed from the M&L File.

- The AGR/TAR sample consisted of members included in the RCCPDS. The sample included approximately 500 AGR/TAR from each of the 14 cells defined by seven levels of Reserve

Component and officer/enlisted status (some cells had fewer than 500 members). A total of 5,484 full-time, support AGR/TAR members were selected.

Sample selection. The longitudinal sample was selected using simple random (equal probability) sampling of eligible from the 1985 survey. The recruiter sample was selected with simple random sampling from within each of the four Services. The member sample was selected with simple random sampling within each of the 16 previously cited strata. If there were fewer than 5,000 Service members in a member-sample stratum, all members were included in the sample. The AGR/TAR sample was selected by simple random sampling from within each of 14 sampling strata defined by Reserve Component and enlisted/officer status.

Weighting. Weights were developed to reflect the variable probabilities of selection and nonresponse adjustments. Weighting in sample surveys has several objectives: (a) to reflect varying probabilities of selection; (b) to adjust for sample losses due to nonresponse; and (c) to adjust for deficiencies in the sampling frame that may introduce bias.

Each sample selected for the 1992 surveys consisted of only a subset of its respective target population. Therefore, to represent the entire population, it was necessary to derive base weights that projected the sample to the populations covered by the sampling frames. The base weight is the reciprocal of the probability of selection. For the longitudinal sample, which did not involve stratification, the base weight (*BWT*) was computed as:

$$BWT = (\text{number in population in 1992}) \,/\, (\text{sample size}) \quad .$$

For the other three samples that were stratified, the base weight was computed within stratum as:

$$BWT_S = (\text{number in the stratum}) \,/\, (\text{stratum sample size}) \quad .$$

To account for nonresponse, the base weight was adjusted by a nonresponse factor. Nonresponse adjustment through weighting implies that, within adjustment cells, nonrespondents are similar to respondents with respect to the characteristics being measured by the survey. To develop the nonresponse adjustment, respondents and nonrespondents were partitioned into adjustment cells based on Service, status, and gender. For each of the four samples, the nonresponse adjustment was developed as all eligible (respondents and nonrespondents) divided by all respondents. The nonresponse adjustment cells corresponded to the sampling strata. That is, for sampling stratum *S*, the nonresponse adjustment factor, F_S, is:

$$F_S = (\text{eligible})_S \,/\, (\text{respondents})_S$$

Multiplying the base weight by the corresponding nonresponse adjustment factor (i.e., $BWT_S \times F_S$) made the respondents represent not only the segment of the population they were sampled to represent but also nonrespondents in adjustment cell *S*.

The last phase of the weighting process involved raking to known population totals for various key characteristics. (Raking is a computational procedure that adjusts the final weight so that the weighted estimate from the sample corresponds to known totals for the groups defined by the raking variables.) Three levels of raking were performed. The first level of raking was indexed by Service, enlisted/officer status, and gender. Status was not used in raking the recruiters sample. The second level was indexed

by pay grade and race/ethnicity, and the third level by marital status. This process adjusted the weights so that the sum of the weights for respondents over the raking variables corresponded to the known counts of eligible respondents in the respective cells.

Data Collection

Questionnaire development. Each of the 1992 survey instruments was constructed around a core set of questions comparable to those used in previous personnel surveys, particularly the *1985 Surveys of Officers and Enlisted Personnel.* The questionnaire content focused on information about personal and military background, family composition, economic status, preparedness, career plans, satisfaction with various aspects of military life, and assessment of military programs and services. In addition, the 1992 surveys included questions regarding Operations Desert Shield/Desert Storm. Separate instruments were administered to enlisted personnel and officers. The enlisted and officer questionnaires were nearly identical, except on questions relating to enlistment intentions and promotions.

Administration. The data collection for the 1992 surveys was conducted by the Defense Manpower Data Center (DMDC) from May to October 1992. First, the total sample was aggregated by unit. Any unit with more than one member selected for the survey was sent a pre-notification letter, advising the unit commander of the survey and requesting that a point-of-contact (POC) be appointed to receive and distribute the surveys. A total of 10,973 pre-notification letters were mailed to units in April 1992. Address correction was required for 667 (6 percent) of the units.

The first questionnaires were mailed to units for distribution to members beginning in late April and continuing through May 1992. If only one member from a unit was selected to participate in the survey, that member was sent the survey package directly (approximately 7 percent of the sample).

Although nonresponse is present in all voluntary surveys, the potential bias caused by nonresponse can be reduced by thorough nonresponse follow-up. In the 1992 study, nonresponse at the unit level was handled by sending three follow-up letters. The first letter notified the POCs of the units from which DMDC had not received the survey check lists; the second letter informed the POC that the roster of survey participants had not been received; and the third letter was a notification that the completed surveys had not been returned to DMDC. Follow-up questionnaires were mailed 1 to 2 months later to nonrespondents directly at their units.

Response rates. The initial 1992 sample consisted of 40,812 officers and 56,015 enlisted personnel, for a total of 96,827 members. According to POC-provided information, 6,557 individuals in the sample had separated from the military by the time the survey was administered. Ultimately, the number of eligible members was 90,270.

At the close of the data collection in October 1992, a total of 59,930 completed surveys (27,684 officers and 32,246 enlisted) had been received. The level of nonresponse varied by Service, pay grade, and gender. Response rates were calculated based on the number of completed returns and the number of eligible members. The adjusted response rates were 72 percent for officers, 62 percent for enlisted personnel, and 66 percent overall. Response rates by gender were 67 percent for males and 66 percent for females. Response rates for the Services were 72 percent for the Air Force, 71 percent for the Navy, 62 percent for the Marine Corps, and 59 percent for the Army.

Although the overall level of participation was quite high, response rates differed by subgroups (Table A1). In general, officers in the Navy and male officers in the Air Force had the highest response rates, while enlisted members in the Army had the lowest response rate.

Table A1. Questionnaire Completion and Response Rates by Status, Gender, and Service Branch

Status and Gender	Service Branch				
	Army	Navy	Marine Corps	Air Force	Total
Total Complete (Number)					
Officers	**7,349**	**8,160**	**4,189**	**7,986**	**27,684**
Male	4,178	4,343	3,910	4,420	16,851
Female	3,171	3,817	279	3,566	10,833
Enlisted Personnel	**7,237**	**8,517**	**6,995**	**9,497**	**32,246**
Male	4,236	4,899	4,254	5,257	18,646
Female	3,001	3,618	2,741	4,240	13,600
Total	**14,586**	**16,677**	**11,184**	**17,483**	**59,930**
Male	8,414	9,242	8,164	9,677	35,497
Female	6,172	7,435	3,020	7,806	24,433
Response Rate (Percent)					
Officers	**65.7**	**76.5**	**70.6**	**73.5**	**71.6**
Male	67.3	76.8	70.7	74.3	72.2
Female	63.6	76.3	68.6	72.5	70.7
Enlisted Personnel	**53.3**	**66.4**	**58.4**	**71.1**	**62.3**
Male	53.8	66.4	58.6	70.2	62.2
Female	52.6	66.4	58.1	72.2	62.6
Total	**58.9**	**71.0**	**62.4**	**72.2**	**66.3**
Male	59.8	70.9	63.8	72.0	66.6
Female	57.7	71.1	58.9	72.4	65.9

Appendix B. Analysis Methodology

Analysis Database

The initial database used for the series of reports on the *1992 Department of Defense Surveys of Officer and Enlisted Personnel* was prepared using Statistical Analysis System (SAS) software for DoD use and served as the basis for a public-use tape. In the preparation of this file, the survey data were thoroughly edited, and analysis was carried out for key variables such as gender and race/ethnicity. In addition, constructed variables were developed from survey answers (e.g., total number of dependents), and from RCCPDS extracted information (e.g., location of current assignment—CONUS/OCONUS). Additional recodings and composite variables created during the course of this analysis are discussed in the next two sections.

Extracting and recoding. The first step in the construction of the analysis database was to extract from the original DoD file a SAS file that included only the variables identified in the analysis plan. During this extraction step, all SAS character variables were converted to numeric variables so that they could be used in SAS procedures. Several variable types need to be defined in order to explain the conversion. A categorical variable (e.g., race/ethnicity) has character values (e.g., 1 = *White*, 2 = *Black*) that represent possible categories or items. These variables were converted to numeric dichotomous (1 = *Yes*, 0 = *No*) variables, one for each category. To use the race/ethnicity example, dichotomous variables were created for *White* (1 = *White*, 0 = *Non-white*), *Black* (1 = *Black*, 0 = *Non-black*), and so on. An ordinal variable contains characters (e.g., 1 = *Very Well*, 2 = *Well*) that represent levels on a scale. These variables were simply made numeric in the analysis data set; some were used as is and some were subject to further recoding. A continuous variable is a numeric variable that has significant digits to the right of the decimal point; in other words, a continuous variable can have non-whole-number values. In contrast to categorical variables, continuous variables in the analysis data set were appropriate for models without modification.

The extracted data set was split into data sets for enlisted personnel and officers. Since the analysis was to be performed separately for these two groups, these restricted data sets were more manageable and facilitated processing. In addition to the general character to numeric conversions described above, a series of recodes had to be performed to prepare variables for use in tabulations or models, and to facilitate interpretation of the results. The following types of recodes were done:

- Valid skips were originally coded as SAS "special" missing values (.S). Following this convention, all "not applicable" responses were also recoded to the same special missing code (.S). This conversion differentiates these types of respondents from respondents who did not answer the question. A regular missing value is coded ".".

- For multiple-response categories measured with an ordinal scale, codes were reverse-scored when the highest code indicated a negative response. For example, one question asked how well a spouse would take care of family finances in the member's absence. It was answered using a scale that varied from *Very Well* (1) to *Very Poorly* (5). After recoding, *Very Well* was scored a 5, *Very Poorly* was scored a 1, and intermediate values were adjusted accordingly. This recoding facilitated interpretation of the results by making responses uniform in their direction.

- Dichotomous variables were created for variables that had a *No* response and several options for the *Yes* response. For example, in the Operations Desert Shield/Desert Storm (ODS/S) deployment

question, the four *Yes* responses (i.e., fewer than 3 months, 3 but fewer than 6 months, 6 but fewer than 9 months, and 9 months or more) to the ODS/S deployment question were collapsed into a single *Yes* category.

- Response categories that had one-character codes representing ranges of values were assigned a numerical value corresponding to the midpoint of the range. This conversion captured the different widths of the ranges. For example, one pre-specified response option for "Total Value of Pay" ranged from $20,000 to $30,000. The original code of 2 was changed to a value of $25,000.

Constructed variables. New variables were developed using combinations of possible responses to a single question or of multiple questions (composite variables). One type of new variable consisted of combining categorical responses to several parts of a question. For example, respondents were asked how many dependents they had in each of several age groups (e.g., under 1 year, 1 to under 2 years). A continuous variable for youngest dependent was constructed by identifying the lowest non-missing answer (e.g., 2 dependents in the 1 to under 2 category) and entering the midpoint of the range (1.5 in this case) as the value of the new variable.

Composite variables were created in order to capture the information from several multiple-item questions with response categories consisting of ordinal scales, thereby reducing the number of variables to analyze. Factor analysis, a statistical technique that is used to identify a reduced number of dimensions or "factors" present in a group of variables, was used for this purpose. Factor analysis gives the analyst a systematic approach to understanding the interrelationships among items and uncovers groups of items that measure the same concept or issue.

The factor identification was performed with the SAS procedure PROC FACTOR, using the principal component approach to factor extraction (Mardia, Kent, & Bibby, 1979) and incorporating the final weight. Each principal component calculated is a linear combination of the original variables and has an eigenvalue which indicates how much variance is explained by that component or factor. "Factor loadings" describe the correlation of each original variable with the factor and indicate how much weight is assigned to each factor.

The initial matrix of factor loadings is difficult to interpret because many of the variables have moderate-size correlations with several factors. Through a process of rotation, the matrix is transformed by applying a nonsingular linear transformation which groups the coefficients more closely around 0, 1 or -1. Rotation makes assigning names to the common factors, which is always a subjective process, more objective by highlighting patterns. We used an orthogonal rotation, which maintains the axes of the matrix at a right angle. A variety of algorithms are used for orthogonal rotation. The most commonly used is the varimax method, which maximizes the variance of squared loadings and attempts to minimize the number of variables that have high loadings on a factor. We used the varimax method to enhance the interpretability of the factors. A statistic called Cronbach's coefficient Alpha was used to assess the reliability of the factors identified through interpretation of the rotated matrix. High coefficient Alphas (0.7 and above) indicated a reliable composite variable.

The construction of the variable PROBLEMS ENCOUNTERED WITH PCS MOVES is an example of using factor analysis to develop composite variables. Each of 18 different potential problems was rated by the respondent on a scale of *Very Serious Problem* to *Not a Problem.* A preliminary factor analysis reduced the 18 items to five dimensions, as shown in Table B1. Based on a member's response to each of the 18 items, a "factor score" for each of the five dimensions was computed. The factor score

consisted of the mean of the codes associated with the individual items in a particular factor. The mean score was a continuous variable that could be used as a dependent or independent variable in the analysis.

Table B1. Factors Identified as Problems Associated with Members' Most Recent PCS Moves

Factor 1: Spouse/Dependent Considerations	
Item	
N	Finding dependent medical care
M	Finding dependent dental care
R	Spouse adjusting to new environment
Q	Children adjusting to new environment
G	Finding civilian employment for spouse and dependents
O	Finding child care
Factor 2: Financial	
Item	
C	Costs of setting up new residence
B	Temporary lodging expense
E	Transportation costs incurred during move
D	Costs of selling/moving from old residence
K	Finding permanent housing
A	Adjusting to higher cost of living
Factor 3: Career/Education	
Item	
H	Continuing your education
J	Transferring college credits
F	Finding off-duty employment for yourself
Factor 4: Personal Adjustment	
Item	
S	Adjusting yourself to new environment
L	Finding shopping, recreational facilities
Factor 5: Dual-Service Couple	
Item	
P	Military treatment of dual-service couples

In some cases a composite variable was constructed across items from questions on different scales. In these situations, the scales were standardized (with a mean of 0 and a standard deviation of 1) using the SAS procedure PROC STANDARD before doing factor analysis. The variable SATISFACTION WITH MILITARY LIFE was constructed in this fashion. It combined nine survey items: whether life in the military was as the respondent expected (5-point scale); whether the respondent was satisfied with personal freedom, the opportunity to serve one's country, working conditions, coworkers, military job stability, friendships, and frequency of moves (5-point scales); and satisfaction with overall military life (7-point scale). After standardization, factor analysis yielded factor loadings of 0.4 and above, which were significant enough to allow identification of common factors. Cronbach's coefficient Alpha was 0.81 for enlisted personnel, 0.79 for officers, and 0.81 for enlisted personnel and officers combined, which indicated reliable composite variables for all three data sets. The final composite was calculated

based on the mean of these standardized items for cases with at least five of the nine survey items present.

The variable CONFIDENCE IN SPOUSE'S ABILITIES TO HANDLE MATTERS DURING (A MEMBER'S) ABSENCE incorporated issues of child care, family members' health, family finances, housing, emotional or parenting problems, and evacuation of family members. A factor analysis conducted on the data set containing all Service members yielded factor loadings of 0.71 and above. Cronbach's coefficient Alpha was 0.90 for enlisted personnel, 0.89 for officers, and 0.90 for enlisted personnel and officers combined. Again, a continuous composite was calculated based on the mean of the standardized scores.

Statistical Procedures

The choice of statistical procedures used for the analyses conducted for this report was determined by the nature of the variables and the research questions. In general, the analysis began with descriptive tabs, proceeded to simple descriptive tests (i.e., Chi-square), and then concluded with a complex model (either logistic or multiple regression).

A *Chi-square test* of independence, which is a test for the degree of association between two categorical variables, was used as a first step in the analysis to identify statistically significant relationships between pairs of categorical variables.

Logistic regression was used to determine the relative importance of particular sets of dichotomous or continuous independent variables on whether an event (e.g., experiencing difficulty responding to recall or alert) occurred or not. In developing the model, the dependent variable was represented by a dichotomous variable. With this procedure it was possible: (a) to statistically assess the relative importance of each explanatory (independent) variable on the outcome measure (i.e., the dependent variable); and (b) to test the applicability of the overall model. Relative odds, expressed as percentages, were computed from the Beta coefficients $[(e^B - 1) \times 100]$ to indicate the increase or decrease in the likelihood of an outcome compared to a reference group. For example, relative odds of -39 percent for males compared to females (the reference group) indicate that males are 39 percent less likely to have difficulties than females. For a continuous variable, such as age, the relative odds refer to the impact of an increase of one unit (in this case, a year of age).

Multiple regression was used to examine the relationship of a set of independent variables with the expected level of a dependent variable. This statistical procedure was applied when the dependent variable was continuous or ordinal. The value of the *t*-statistic was used to determine which variables should be kept in the model by examining the significance of the coefficients associated with the explanatory variables. The significance of the overall model was measured using the *F* statistic, which was based on the Wald Chi-square statistic, and an additional *F* test was used to assess the significance of the *increases* in the overall quality of the model when new sets of variables were entered. Variables were entered in related groups; that is, a systematic, hierarchical modeling approach was used. The final model was determined by eliminating variables with coefficients that were not statistically significant at the 5 percent level.

Computing Software

The SAS® software was used to extract data from the initial database provided by the DoD, construct variables, and run descriptive tabulations. When the analysis graduated to descriptive tests and models, however, SAS was not appropriate. The sample design and estimation procedure for the 1992 surveys had to be incorporated into the estimation of test statistics. Since survey data sets were based on a complex sample design and estimation approach, the SUrvey DAta ANalysis (SUDAAN) software was used to perform the modeling and compute test statistics used in the analyses

SUDAAN calculates model parameters, sampling errors, and test statistics for a variety of statistical procedures, including coefficients of linear regressions and loglinear models. The software uses Taylor series linearization to approximate functions of linear statistics (e.g., means and linear regression coefficients) estimated from the sample data. It also accommodates weights that reflect varying probabilities of selection and other adjustments.

Three SUDAAN procedures—CROSSTAB, REGRESS, and LOGISTIC—were used in the analysis for this report. These procedures allow for specification of the levels of stratification and the incorporation of the final weight associated with each observation when doing estimation and variance calculations. CROSSTAB produces estimates of population totals and proportions, and a test of independence for each two-way table. The test statistic is based on the Wald statistic, which is distributed as Chi-square with $(R - 1)(C - 1)$ degrees of freedom, where R = row and C = column. The REGRESS procedure fits multiple regression models to survey data. The statistical approach consists of estimating the regression coefficients by first forming the Horvitz-Thomson estimators of the population sums of squares and cross product matrices, and then using the Taylor series method to estimate the variance-covariance matrix of the coefficients. The LOGISTIC procedure fits logistic regression models to sample survey data so that the model parameter estimates and their variance-covariance matrix accurately accounts for the survey design. The Beta coefficients can be interpreted as linear regression coefficients and expressed as relative odds by $(e^B - 1) \times 100$.

Statistical Backup

Tables B2 through B5 show the regression coefficients (estimated Betas) and associated P values for the test of the hypothesis that the Beta coefficient is zero for each of the two dependent variables presented in the report. The results for enlisted personnel and officers are presented separately.

Table B2. Logistic Regression Results for Difficulties in Quick Response (Dependent Variable = DIFFICULTY): Enlisted Personnel

Explanatory Variable	Beta Coefficient		*P* Value for H:B = 0	Relative Odds		
	Value	S.E.		Percent	Upper Bound	Lower Bound
Gender (Female)						
Male	-0.50	0.05	<0.01	-39.3	-33.1	-45.0
Age	-0.05	0.01	<0.01	-4.9	-3.0	-6.7
Years of Education	0.06	0.02	0.02	6.2	10.4	2.1
Pay Grade (E1 to E4)						
E5 to E6	-0.21	0.07	<0.01	-18.9	-7.0	-29.3
E7 to E9	-0.56	0.12	<0.01	-42.9	-27.7	-54.9
Service Branch (Army)						
Navy	0.32	0.07	<0.01	37.7	58.0	20.1
Air Force	-0.13	0.06	0.03	-12.2	-1.2	-21.9
Marines	0.09	0.07	0.23	NS	—	—
Family Type (Civilian Spouse, No Dependents)						
Single, No Dependents	-0.46	0.09	<0.01	-36.9	-24.7	-47.1
Single with Dependents	0.18	0.12	0.13	NS	—	—
Dual-Military, No Dependents	0.09	0.14	0.54	NS	—	—
Dual-Military with Dependents	0.89	0.12	<0.01	143.5	208.1	92.5
Civilian Spouse with Dependents	0.35	0.08	<0.01	41.9	66.0	21.3

Note: Reference groups for dichotomous and categorical variables are shown in parentheses.
NS = not significant.

Table B3. Logistic Regression Results for Difficulties in Quick Response (Dependent Variable = DIFFICULTY): Officers

Explanatory Variable	Beta Coefficient		*P* Value for H:B = 0	Relative Odds		
	Value	S.E.		Percent	Upper Bound	Lower Bound
Gender (Female)						
Male	-0.62	0.06	<0.01	-46.2	-39.5	-52.2
Age	-0.04	0.01	<0.01	-3.9	-2.0	-5.8
Pay Grade (O1 to O3)						
O4 to O7	-0.19	0.07	0.01	-17.3	-5.1	-27.9
Service Branch (Army)						
Navy	0.28	0.07	<0.01	32.3	51.8	15.3
Air Force	0.13	0.06	0.05	13.9	28.1	1.2
Marines	-0.20	0.08	0.01	-18.1	-4.2	-30.0
Military Occupation (Engineering/Maintenance)						
General Officer/Executive	-0.24	0.22	0.29	NS	—	—
Tactical Operations Officer	0.14	0.08	0.08	NS	—	—
Intelligence Officer	0.18	0.14	0.19	NS	—	—
Scientist/Professional	0.09	0.13	0.48	NS	—	—
Health Care Officer	0.43	0.09	<0.01	53.7	83.4	28.9
Administrator	0.10	0.11	0.35	NS	—	—
Supply, Procurement, Allied Officer	0.07	0.11	0.52	NS	—	—
Non-Occupational	-0.30	0.16	0.06	NS	—	—
Family Type (Civilian Spouse, No Dependents)						
Single, No Dependents	-0.09	0.10	0.36	NS	—	—
Single with Dependents	1.23	0.15	<0.01	242.1	359.1	155.0
Dual-Military, No Dependents	-0.51	0.14	<0.01	-13.9	13.2	-34.6
Dual-Military with Dependents	1.45	0.12	<0.01	326.3	439.4	237.0
Civilian Spouse with Dependents	0.62	0.09	<0.01	85.9	121.8	55.8

Note: Reference groups for dichotomous and categorical variables are shown in parentheses.
NS = not significant.

Table B4. Multiple Regression Results for Concern About Families When Away (Dependent Variable = CONCERN): Enlisted Personnel with Family

Explanatory Variable	Total			Married		
	Beta Coefficient		*P* Value for H:B = 0	Beta Coefficient		*P* Value for H:B = 0
	Value	S.E.		Value	S.E.	
Gender (Female)						
Male	-0.11	0.03	<0.01	-0.22	0.04	<0.01
Race/Ethnicity (White)						
Black	-0.05	0.03	0.15	0.02	0.04	0.65
Hispanic	-0.17	0.05	<0.01	-0.16	0.05	<0.01
Other	-0.22	0.06	<0.01	-0.14	0.06	0.02
Years of Education	0.02	0.01	0.03	0.03	0.01	0.01
ODS/S Deployment (Not Deployed)						
Deployed	-0.08	0.03	0.01	-0.09	0.03	<0.01
Service Branch (Army)						
Navy	-0.21	0.03	<0.01	-0.20	0.04	<0.01
Air Force	0.02	0.03	0.51	0.03	0.04	0.40
Marines	-0.11	0.04	<0.01	-0.10	0.04	0.02
Value of Pay and Allowances	<0.01	0.00	<0.01	<0.01	0.00	<0.01
Military Occupation (Infantry)						
Electronic Equipment Repair	*	*	*	-0.01	0.06	0.89
Comm/Intelligence Specialist	*	*	*	<0.01	0.06	0.98
Health Care Specialist	*	*	*	-0.11	0.07	0.12
Other Tech/Allied Specialist	*	*	*	0.07	0.08	0.39
Functional Support/Administration	*	*	*	-0.01	0.05	0.80
Elec/Mech Equipment Repair	*	*	*	-0.08	0.05	0.09
Craftsman	*	*	*	-0.17	0.08	0.03
Service/Supply Handler	*	*	*	-0.07	0.06	0.26
Non-Occupational	*	*	*	-0.28	0.24	0.23
Family Type (Civilian Spouse, No Dependents)						
Single, No Dependents	0.92	0.05	<0.01	na	na	na
Single with Dependents	-0.14	0.06	0.02	na	na	na
Dual-Military, No Dependents	0.16	0.07	0.03	-0.07	0.11	0.51
Dual-Military with Dependents	-0.06	0.06	0.27	-0.22	0.09	0.01
Civilian Spouse with Dependents	-0.15	0.04	<0.01	-0.13	0.04	<0.01
Spouse's Occupation (Not Employed)						
Full-Time Civilian	na	na	na	0.10	0.03	<0.01
Part-Time Civilian	na	na	na	-0.01	0.04	0.80
Full-Time Military	na	na	na	0.18	0.09	0.04
Confidence in Spouse's Ability	na	na	na	0.29	0.02	<0.01
Power of Attorney (No Power of Attorney)						
Power of Attorney in Place	*	*	*	-0.06	0.03	0.02
Satisfaction with Military Life	2.30	0.16	<0.01	2.23	0.10	<0.01

Note: Reference groups for dichotomous and categorical variables are shown in parentheses.
na = Variable not included in model.
* = Not statistically significant at the 0.05 level.

Table B5. Multiple Regression Results for Concern About Families When Away (Dependent Variable = CONCERN): Officers with Family

Explanatory Variable	Total			Married		
	Beta Coefficient		*P* Value for H:B = 0	Beta Coefficient		*P* Value for H:B = 0
	Value	S.E.		Value	S.E.	
Gender (Female)						
Male	-0.19	0.02	<0.01	-0.29	0.03	<0.01
Age	-0.01	<0.01	<0.01	*	*	*
Race/Ethnicity (White)						
Black	0.02	0.04	0.61	0.01	0.04	0.76
Hispanic	-0.16	0.05	<0.01	-0.14	0.05	0.01
Other	-0.18	0.05	<0.01	-0.18	0.05	<0.01
Years of Education	0.02	0.01	<0.01	0.02	0.01	<0.01
ODS/S Deployment (Not Deployed)						
Deployed	-0.10	0.02	<0.01	-0.09	0.02	<0.01
Service Branch (Army)						
Navy	-0.14	0.02	<0.01	-0.12	0.02	<0.01
Air Force	-0.06	0.02	<0.01	-0.08	0.02	<0.01
Marines	-0.15	0.02	<0.01	-0.15	0.03	<0.01
Months Separated from Spouse	na	na	na	-0.00	0.00	<0.01
Value of Pay and Allowances	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Military Occupation (Engineering/Maintenance)						
General Officer/Executive	0.04	0.06	0.54	0.02	0.06	0.72
Tactical Operations Officer	0.01	0.03	0.84	0.03	0.03	0.33
Intelligence Officer	0.00	0.04	0.96	-0.05	0.05	0.30
Scientist/Professional	0.04	0.04	0.24	0.03	0.04	0.47
Health Care Officer	-0.13	0.03	<0.01	-0.18	0.04	<0.01
Administrator	-0.02	0.03	0.51	-0.04	0.03	0.26
Supply, Procurement, Allied Officer	0.05	0.03	0.13	0.05	0.04	0.14
Non-Occupational	-0.03	0.04	0.46	-0.04	0.04	0.36
Family Type (Civilian Spouse, No Dependents)						
Single, No Dependents	0.58	0.04	<0.01	na	na	na
Single with Dependents	-0.31	0.05	<0.01	na	na	na
Dual-Military, No Dependents	0.27	0.04	<0.01	0.11	0.05	0.02
Dual-Military with Dependents	-0.07	0.04	0.07	-0.16	0.04	<0.01
Civilian Spouse with Dependents	-0.13	0.02	<0.01	-0.18	0.02	<0.01
Confidence in Spouse's Ability	na	na	na	0.35	0.02	<0.01
Power of Attorney (No Power of Attorney)						
Power of Attorney in Place	-0.08	0.02	<0.01	-0.10	0.02	<0.01
Satisfaction with Military Life	1.14	0.05	<0.01	0.87	0.05	<0.01

Note: Reference groups for dichotomous and categorical variables are shown in parentheses.
na = Variable not included in model.
* = Not statistically significant at the 0.05 level.

Appendix C. Survey Questionnaire

1992 Department of Defense
Survey of Enlisted Personnel

The Department of Defense is conducting a survey of military personnel from the Army, Navy, Marine Corps and Air Force. You have been selected to participate in this important survey. Please read the instructions before you begin the survey.

PRIVACY NOTICE

AUTHORITY: 10 U.S.C. 136

PRINCIPAL PURPOSE OR PURPOSES: Information collected in this survey is used to sample attitudes and/or discern perceptions of social problems observed by service members and to support additional manpower research activities. This information will assist in the formulation of policies which may be needed to improve the working environment.

ROUTINE USES: None

DISCLOSURE: Voluntary. Failure to respond will not result in any penalty to the respondent. However, maximum participation is encouraged so that the data will be complete and representative. Your survey instrument will be treated as confidential. All identifiable information will be used only by persons engaged in, and for the purposes of, the survey. Only group statistics will be reported.

OFFICE USE ONLY
- ○ PND
- ○ NR
- ○ R
- ○ NE

INSTRUCTIONS FOR COMPLETING THE SURVEY

- Please use a No. 2 pencil.

- Make heavy black marks that fill the circle for your answer.
- Please do not make stray marks of any kind.

INCORRECT MARKS ○ X ✓ CORRECT MARK ●

- Sometimes you will be asked to "Mark ALL that apply." When this instruction appears you may mark more than one answer.

Example:

If you attended (or are now attending) college, what kind of school was/is it? Mark ALL that apply.

- ○ Does not apply. do/did not attend college
- ○ Vocational. trade, business, or other career training school
- ● Junior or community college (two-year)
- ● Four-year college or university
- ○ Graduate or professional school
- ○ Specialized Service Career School
- ○ Professional Military Education Institution
- ○ Other

If your answer is "junior or community college (two-year)" and "four-year college or university," then mark two circles clearly.

- Sometimes you will be asked to "Mark One." When this instruction appears mark the answer that best applies.

Example:

What is your pay grade? Mark One.

○ E1	○ E5	○ E9
○ E2	● E6	
○ E3	○ E7	
○ E4	○ E8	

- If your answer is E6, then just mark one circle as shown above.

- If you are asked to give numbers for your answer, please record as shown below.

Example:

As of today, how many months have you been assigned to your present post, base, ship or duty station?

If your answer is 35 months . . .

- Write the numbers in the boxes. making sure the last number is always placed in the right-hand box.
- Fill in the unused boxes with zeros.
- Then, mark the matching circle below each box.

Number Months

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

- Answers to some of the questions will be on a SEVEN-POINT SCALE.

Example:

How would you describe the morale of military personnel at your current location? Mark One.

MORALE IS VERY LOW — 1 — 2 — 3 — 4 — 5 — 6 — 7 — MORALE IS VERY HIGH

- If your answer is "MORALE IS VERY LOW," you would mark the circle for number 1.
- If your answer is "MORALE IS VERY HIGH," you would mark the circle for number 7.
- If your opinion is somewhere inbetween, you would mark the circle for number 2 or 3 or 4 or 5 or 6.

- Sometimes you will be asked to mark one answer for each item.

Example:

THE NEXT QUESTION IS ABOUT YOUR FEELINGS ABOUT THE PERMANENT LOCATION WHERE YOU LIVE. If you live on base, answer for that base. If you live off-base, answer for that community.

LOCATION CHARACTERISTICS

Mark each item as:	Excellent	Good	Fair	Poor	Very Poor	Does Not Apply	Don't Know
Climate	○	○	○	●	○	○	○
Distance to population centers	○	●	○	○	○	○	○
Family's ability to handle cost of living	○	○	●	○	○	○	○
Availability of military housing	○	○	○	○	●	○	○
Quality of military housing	○	○	○	○	○	○	●

USE NO. 2 PENCIL ONLY

I MILITARY INFORMATION

1. **In what Service are you?** Mark One.
   - ◯ Army
   - ◯ Navy
   - ◯ Marine Corps
   - ◯ Air Force

2. **Are you currently assigned to a ship as your permanent duty station?** Mark One.
   - ◯ Yes
   - ◯ No

3. **What is your pay grade?** Mark One.
   - ◯ E1
   - ◯ E2
   - ◯ E3
   - ◯ E4
   - ◯ E5
   - ◯ E6
   - ◯ E7
   - ◯ E8
   - ◯ E9

4. **In which enlistment period are you serving?** If you received an EXTENSION to your current enlistment period, do not count this as a new enlistment period. Mark One.
   - ◯ 1st
   - ◯ 2nd
   - ◯ 3rd
   - ◯ 4th
   - ◯ 5th or more

5. **How soon will you complete your current enlistment INCLUDING ANY EXTENSIONS YOU HAVE NOW?** Mark One.
   - ◯ Less than 3 months
   - ◯ 3 months but less than 6 months
   - ◯ 6 months but less than 9 months
   - ◯ 9 months but less than 12 months
   - ◯ 1 year but less than 2 years
   - ◯ 2 years but less than 3 years
   - ◯ At least 3 years or more

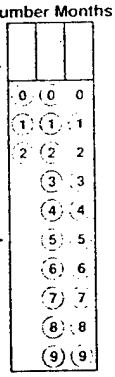
6. **Were you deployed for Operation Desert Shield/Desert Storm?** Mark One.
   - ◯ No
   - ◯ Yes, for less than 3 months
   - ◯ Yes, for 3 months or more but less than 6 months
   - ◯ Yes, for 6 months or more but less than 9 months
   - ◯ Yes, for 9 months or more

II PRESENT AND PAST LOCATIONS

7. **As of today, how many months have you been assigned to your present permanent post, base, ship or duty station?** Please include any extensions you may have had.

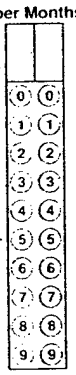
   ◯ Less than one month

   - **Record the number of months in the boxes.**
   - (For example, if your answer is 35 months, enter 035.)
   - **Mark the matching circle below each box.**



8. **How much longer do you expect to be at your present permanent post, base, ship or duty station?**
   - ◯ Does not apply, I do not have a specified tour length.
   - ◯ Less than one month
   - ◯ Not sure

   - **Record the number of months in the boxes.**
   - **Mark the matching circle below *each* box.**

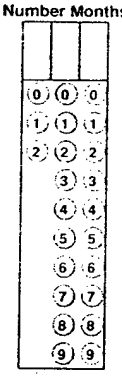


9. **If you had the option of extending your tour at your present permanent post, base, ship or duty station, how much longer would you stay there?** Mark One.
   - ◯ Does not apply, I do not have a specified tour length.
   - ◯ I would not extend my current tour
   - ◯ Stay 3 months beyond my tour
   - ◯ Stay 6 months beyond my tour
   - ◯ Stay 12 months beyond my tour
   - ◯ Stay 18 months beyond my tour
   - ◯ Stay 24 or more months beyond my tour

USE NO. 2 PENCIL ONLY

10. In all the time you have been on active duty, how many *months* have you spent *at an overseas location*? NAVY AND MARINE CORPS PERSONNEL: Please count total time assigned both ashore and to ships homeported at overseas locations, including extended TDYs and schools.

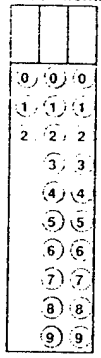
Number Months



○ No time at an overseas location

11. FOR NAVY AND MARINE CORPS PERSONNEL ONLY: In all the time you have been on active duty, how many *months* have you been on *sea duty*?

Number Months



○ No time on sea duty

12. THINK ABOUT YOUR PCS MOVE TO YOUR CURRENT *PERMANENT* POST, BASE, SHIP OR DUTY STATION. Answer even if this is your first assignment.

For each item below, mark if it was:	Serious Problem	Somewhat of a Problem	Slight Problem	Not a Problem	Does Not Apply	Don't Know
Adjusting to a higher cost of living	○	○	○	○	○	○
Temporary lodging expenses	○	○	○	○	○	○
Costs of setting up new residence, e.g., curtains, carpeting, paint	○	○	○	○	○	○
Costs of selling/moving from old residence	○	○	○	○	○	○
Transportation costs incurred during the move	○	○	○	○	○	○
Finding off-duty employment for yourself	○	○	○	○	○	○
Finding civilian employment for your spouse or dependents	○	○	○	○	○	○
Continuing your education	○	○	○	○	○	○
Continuing spouse/dependent education	○	○	○	○	○	○
Transferability of college credits	○	○	○	○	○	○
Finding permanent housing	○	○	○	○	○	○
Finding shopping areas, recreational facilities, etc.	○	○	○	○	○	○
Finding dependent dental care	○	○	○	○	○	○
Finding dependent medical care	○	○	○	○	○	○
Finding child care	○	○	○	○	○	○
Military treatment of dual-Service couples	○	○	○	○	○	○
Children adjusting to new environment	○	○	○	○	○	○
Spouse adjusting to new environment	○	○	○	○	○	○
Adjusting yourself to new environment	○	○	○	○	○	○

13. At your permanent post, base, ship or duty station, what type of housing do you live in?

○ Base/government housing (include BEQ, BOQ, MOQ, Transient Personnel Billeting, Barracks)
○ Leased by the military for Service families
○ Owned or being bought by you or someone in your household
○ Rented for cash
○ Owned by someone else and let without payment of cash rent
○ Live on-board a Navy ship
○ Navy lodge

14. If you are presently deployed/TDY, what kind of housing do you live in?

○ Does not apply, I am not deployed/TDY
○ Base/government housing (include BEQ, BOQ, MOQ, Transient Personnel Billeting, Barracks)
○ Leased by the military for Service families
○ Owned or being bought by you or someone in your household
○ Rented for cash
○ Owned by someone else and let without payment of cash rent
○ Live on-board a Navy ship
○ Navy lodge

USE NO. 2 PENCIL ONLY

15. THE NEXT QUESTION IS ABOUT YOUR FEELINGS ABOUT THE PERMANENT LOCATION WHERE YOU LIVE. If you live on base, answer for that base. If you live off-base, answer for that community.

Please mark each item below as:

LOCATION CHARACTERISTICS	Excellent	Good	Fair	Poor	Very Poor	Does Not Apply	Don't Know
Climate	○	○	○	○	○	○	○
Distance to population centers	○	○	○	○	○	○	○
Family's ability to handle cost of living	○	○	○	○	○	○	○
Availability of military housing	○	○	○	○	○	○	○
Quality of military housing	○	○	○	○	○	○	○
Availability of civilian housing	○	○	○	○	○	○	○
Quality of civilian housing	○	○	○	○	○	○	○
Affordability of civilian housing	○	○	○	○	○	○	○
Attitudes of local residents toward military members and families	○	○	○	○	○	○	○
Availability of Federal employment for spouse or dependents	○	○	○	○	○	○	○
Availability of other civilian employment for self, spouse or dependents	○	○	○	○	○	○	○
Quality of schools for dependents	○	○	○	○	○	○	○
Availability of medical care for you	○	○	○	○	○	○	○
Quality of medical care for you	○	○	○	○	○	○	○
Availability of medical care for spouse or dependents	○	○	○	○	○	○	○
Quality of medical care for spouse or dependents	○	○	○	○	○	○	○
Availability of a good house of worship	○	○	○	○	○	○	○

16. HOW MUCH OF A PROBLEM IS EACH OF THE FOLLOWING AT THE LOCATION WHERE YOU PERMANENTLY LIVE? If you live on-base, answer for the base. If you live off-base, answer for that community. If you live onboard ship, answer for your ship. If you live in an on-station operational location, answer for that location.

For each item below, mark if it is:

	Serious Problem	Somewhat of a Problem	Slight Problem	Not a Problem	Don't Know
Drug use	○	○	○	○	○
Alcohol use	○	○	○	○	○
Crime	○	○	○	○	○
Racial tension	○	○	○	○	○
Child abuse	○	○	○	○	○
Spouse abuse	○	○	○	○	○
Other family violence	○	○	○	○	○
Juvenile delinquency	○	○	○	○	○
Rape	○	○	○	○	○
Gang activity	○	○	○	○	○
Pornography	○	○	○	○	○

17. In all the time you've been on active duty, how many times did *your spouse/dependents move* to a new location because of your permanent change of station (PCS)?

○ Does not apply, I don't have any spouse/dependents

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

18. In all the time you have been on active duty, how many times did *you move* to a new location because of your permanent change of station (PCS)? Do not count permanent change of assignment (PCA).

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

USE NO. 2 PENCIL ONLY

19. **If your spouse is in the military, are you presently assigned to the same permanent base or geographic location as your spouse?**
- ○ Does not apply, I do not have a spouse (GO TO Q21)
- ○ Does not apply, my spouse is not in the military (GO TO Q21)
- ○ Yes
- ○ No, but I expect my spouse will be assigned to this location soon
- ○ No, but I expect to be assigned to my spouse's location soon
- ○ No, we were unable to get assigned to the same location
- ○ No, for other reasons

20. **If future assignments require long separations from your spouse, what will you do?**
- ○ Does not apply, I already plan to leave the Service
- ○ Does not apply, my spouse already plans to leave the Service
- ○ I will accept them
- ○ I will leave the Service
- ○ My spouse will leave the Service

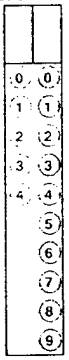
21. **Listed below are some reasons why military members sometimes find it difficult to *respond very quickly* to a recall/alert or to a change in work schedule. Have you experienced any of these within the past 12 months?** Mark ALL that apply.
- ○ Does not apply, I have not had recall/alert or change in work schedule
- ○ Does not apply, have not had problems
- ○ Dependent care considerations
- ○ Personal health problems other than pregnancy
- ○ Pregnancy
- ○ Family health problem
- ○ Second job
- ○ Transportation arrangements
- ○ Difficult to reach by telephone during off-duty hours
- ○ Distance to duty station
- ○ Attending school during off-duty hours
- ○ Other reason

22. **If you were deployed for Operation Desert Shield/Desert Storm, what kinds of problems did you have responding?**
- ○ Does not apply, I was not deployed
- ○ Dependent care considerations
- ○ Personal health problems other than pregnancy
- ○ Pregnancy
- ○ Family health problem
- ○ Second job
- ○ Attending school during off-duty hours
- ○ Other problem
- ○ Does not apply, I had no problems

III REENLISTMENT/CAREER INTENT

23. **When you finally leave the military, how many *total* years of service do you expect to have?**

No. of Years



24. **When you finally leave the military, what pay grade do you think you will have?** Mark One.

Enlisted Grades		Warrant Grades	Officer Grades	
○ E1	○ E6	○ W1	○ O1	○ O5
○ E2	○ E7	○ W2	○ O2	○ O6
○ E3	○ E8	○ W3	○ O3	○ O7 or above
○ E4	○ E9	○ W4	○ O4	
○ E5		○ W5		

25. **When you finally leave the military, do you plan to join a National Guard or Reserve unit?** Mark One.
- ○ Does not apply, I am already a member
- ○ Definitely yes
- ○ Probably yes
- ○ Don't know/Not sure
- ○ Probably no
- ○ Definitely no
- ○ Does not apply, I am not eligible to join

26. **If you had the freedom to select another career field or leave the Service next month, which of the following would you choose?** Mark One.
- ○ Select a totally new military specialty/occupation
- ○ Leave the Service
- ○ Remain in Service in current career field
- ○ Return to a previous military specialty/occupation

27. How likely are you to reenlist at the end of your current term of service? Assume that all special pays which you currently receive are still available. Mark One.

- ○ Does not apply, I plan to retire
- ○ Does not apply, I plan to leave the Service

- ○ (0 in 10) No chance
- ○ (1 in 10) Very slight possibility
- ○ (2 in 10) Slight possibility
- ○ (3 in 10) Some possibility
- ○ (4 in 10) Fair possibility
- ○ (5 in 10) Fairly good possibility
- ○ (6 in 10) Good possibility
- ○ (7 in 10) Probable
- ○ (8 in 10) Very probable
- ○ (9 in 10) Almost sure
- ○ (10 in 10) Certain

- ○ Don't know

28. How much influence does your spouse have on your decision about reenlisting at the end of your current term of service?

- ○ Does not apply, I am not married (GO TO Q30)
- ○ A good deal of influence
- ○ A little influence
- ○ No influence

29. Has your spouse's support for your decision about reenlisting changed in the past year?

- ○ Yes, increased
- ○ Yes, decreased
- ○ No, has not changed

30. If you were *guaranteed a choice of location* for your next tour, how likely would you be to reenlist at the end of your current term? Assume that all special pays which you currently receive are still available. Mark One.

- ○ Does not apply, I plan to retire
- ○ Does not apply, I plan to leave the Service

- ○ (0 in 10) No chance
- ○ (1 in 10) Very slight possibility
- ○ (2 in 10) Slight possibility
- ○ (3 in 10) Some possibility
- ○ (4 in 10) Fair possibility
- ○ (5 in 10) Fairly good possibility
- ○ (6 in 10) Good possibility
- ○ (7 in 10) Probable
- ○ (8 in 10) Very probable
- ○ (9 in 10) Almost sure
- ○ (10 in 10) Certain

- ○ Don't know

31. If you were *guaranteed a promotion* to the next higher pay grade, how likely would you be to reenlist at the end of your current term? Assume that all special pays which you currently receive are still available. Mark One.

- ○ Does not apply, I plan to retire
- ○ Does not apply, I plan to leave the Service
- ○ Does not apply, I do not expect any more promotions

- ○ (0 in 10) No chance
- ○ (1 in 10) Very slight possibility
- ○ (2 in 10) Slight possibility
- ○ (3 in 10) Some possibility
- ○ (4 in 10) Fair possibility
- ○ (5 in 10) Fairly good possibility
- ○ (6 in 10) Good possibility
- ○ (7 in 10) Probable
- ○ (8 in 10) Very probable
- ○ (9 in 10) Almost sure
- ○ (10 in 10) Certain

- ○ Don't know

32. If you were *guaranteed retraining in a skill with better career opportunities than your current one*, how likely would you be to reenlist at the end of your current term? Assume that all special pays which you currently receive are still available. Mark One.

- ○ Does not apply, I do not wish to retrain into another skill
- ○ Does not apply, I plan to retire
- ○ Does not apply, I plan to leave the Service

- ○ (0 in 10) No chance
- ○ (1 in 10) Very slight possibility
- ○ (2 in 10) Slight possibility
- ○ (3 in 10) Some possibility
- ○ (4 in 10) Fair possibility
- ○ (5 in 10) Fairly good possibility
- ○ (6 in 10) Good possibility
- ○ (7 in 10) Probable
- ○ (8 in 10) Very probable
- ○ (9 in 10) Almost sure
- ○ (10 in 10) Certain

- ○ Don't know

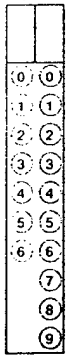
USE NO. 2 PENCIL ONLY

IV INDIVIDUAL AND FAMILY CHARACTERISTICS

33. Are you male or female?
- ○ Male
- ○ Female

34. How old were you on your last birthday?

Age Last Birthday



35. Where were you born?
- ○ In the United States
- ○ Outside the United States to military parents
- ○ Outside the United States to non-military parents

36. Are you:
- ○ American Indian/Alaskan Native
- ○ Black/Negro/African-American
- ○ Oriental/Asian/Chinese/Japanese/Korean/Filipino/Pacific Islander
- ○ White/Caucasian
- ○ Other (specify):

_____

37. Are you of Spanish/Hispanic origin or descent?
- ○ No (not Spanish/Hispanic)
- ○ Yes, Mexican/Mexican-American/Chicano
- ○ Yes, Puerto Rican
- ○ Yes, Cuban
- ○ Yes, Central or South American
- ○ Yes, other Spanish/Hispanic

38. Are you currently pregnant?
- ○ Does not apply
- ○ Yes
- ○ No

39. When you FIRST ENTERED ACTIVE SERVICE, what was the *highest* school grade or academic degree that you had? DO NOT INCLUDE DEGREES FROM TECHNICAL/TRADE OR VOCATIONAL SCHOOLS. Mark One.
- ○ Less than 12 years of school (no diploma)
- ○ GED or other high school equivalency certificate
- ○ High school diploma
- ○ Some college, but did not graduate
- ○ 2-year college degree
- ○ 4-year college degree (BA/BS)
- ○ Some graduate school
- ○ Master's degree (MA/MS)
- ○ Doctoral degree (PhD/MD/LLB)
- ○ Other degree not listed above

40. AS OF TODAY, what is the *highest* school grade or academic degree that you have? DO NOT INCLUDE DEGREES FROM TECHNICAL/TRADE OR VOCATIONAL SCHOOLS. Mark One.
- ○ Less than 12 years of school (no diploma)
- ○ GED or other high school equivalency certificate
- ○ High school diploma
- ○ Some college, but did not graduate
- ○ 2-year college degree
- ○ 4-year college degree (BA/BS)
- ○ Some graduate school
- ○ Master's degree (MA/MS)
- ○ Doctoral degree (PhD/MD/LLB)
- ○ Other degree not listed above

41. If you attended (or are now attending) college, what kind of school was/is it? Mark ALL that apply.
- ○ Does not apply, I do/did not attend college
- ○ Vocational/trade/business, or other career training school
- ○ Junior or community college (2-year)
- ○ Four-year college or university
- ○ Graduate/professional school
- ○ Specialized Service Career School or Professional Military Education Institution
- ○ Other

42. During 1991, did you attend a civilian school?
- ○ No, was not interested in attending
- ○ No, could not get tuition assistance for the program I wanted
- ○ No, due to conflict with work schedule
- ○ No, for personal reasons
- ○ Yes, attended at own expense
- ○ Yes, attended at Service expense
- ○ Yes, attended partially at Service expense, partially at own expense

USE NO. 2 PENCIL ONLY

43. Which of the following Educational Assistance Programs are you eligible to receive benefits under? Mark ALL that apply.

- ○ The Montgomery GI Bill (MGIB)
- ○ The Veterans Educational Assistance Program (VEAP)
- ○ Vietnam Era GI Bill (converted to MGIB)
- ○ Educational Assistance Test Program (EATP)
- ○ I am not eligible under any of these programs
- ○ I don't know if I am eligible under any of these programs

44. What is the highest grade or year of regular school or college that your MOTHER (or FEMALE GUARDIAN) and FATHER (or MALE GUARDIAN) have completed and gotten credit for? Mark your best estimate.

	MOTHER	FATHER
ELEMENTARY GRADES		
1st	○	○
2nd	○	○
3rd	○	○
4th	○	○
5th	○	○
6th	○	○
7th	○	○
8th	○	○
HIGH SCHOOL GRADES		
9th	○	○
10th	○	○
11th	○	○
12th (include GED)	○	○
COLLEGE (YRS OF CREDIT)		
1	○	○
2	○	○
3	○	○
4	○	○
5	○	○
6	○	○
7	○	○
8 or more	○	○
Don't know/unsure	○	○

45. What is your *current* marital status? Mark only one answer.

- ○ Married for the first time
- ○ Remarried
- ○ Separated
- ○ Widowed (GO TO Q52)
- ○ Divorced (GO TO Q52)
- ○ Never Married (GO TO Q59)

46. Is your spouse currently serving on active duty in the Armed Forces or in the Reserve/Guard?

- ○ No
- ○ Yes, in a Reserve/Guard Component

Yes, on active duty in the:

- ○ Army
- ○ Navy
- ○ Marine Corps
- ○ Air Force

47. Is your spouse currently living with you at your present permanent post, base or duty station?

- ○ Yes
- ○ No

48. Is your spouse currently living on or near a military base?

- ○ Yes
- ○ No

49. When were you and your current spouse married?

Year

19 ⓪⓪ ①① ②② ③③ ④④ ⑤⑤ ⑥⑥ ⑦⑦ ⑧⑧ ⑨⑨

50. How well do you and your current spouse agree upon *his/her* career plans?

- ○ Very well
- ○ Well
- ○ Fairly well
- ○ Not well at all

51. How well do you and your current spouse agree on *your* career plans?

- ○ Very well
- ○ Well
- ○ Fairly well
- ○ Not well at all

52. How many times have you been married? (Include your present marriage).

- ○ One
- ○ Two
- ○ Three
- ○ Four
- ○ Five or more

53. Did any of these marriages end in divorce?

- ○ Yes
- ○ No (GO TO Q59)

54. Did any of these divorces occur while on active duty?

- ○ Yes
- ○ No (GO TO Q59)

55. How many times have you been divorced while on active duty?

- ○ One
- ○ Two
- ○ Three
- ○ Four
- ○ Five or more

56. Did the court consider your retirement pay to be part of any divorce settlement? Mark ALL that apply.

- ○ Yes, child support payments
- ○ Yes, alimony payments
- ○ Yes, community property payments
- ○ No, my spouse received other property to offset interest in retirement
- ○ No, it's all payable to me

USE NO. 2 PENCIL ONLY

57. To what extent has any divorce settlement influenced your decision to stay in the military until retirement?

- ○ Very great extent
- ○ Great extent
- ○ Moderate extent
- ○ Slight extent
- ○ Not at all

58. To what extent do you feel that your serving in the military contributed to any divorce?

- ○ Very great extent
- ○ Great extent
- ○ Moderate extent
- ○ Slight extent
- ○ Not at all

V DEPENDENTS

59. How many dependents do you have in each age group? ***Do not*** **include yourself or your spouse.** For the purpose of this question, a dependent is anyone related to you by blood, marriage, or adoption, and who depends on you for over half their support.

- ○ Does not apply, I have no dependents (GO TO Q77)

	Number of Dependents					
Age of dependent	None	1	2	3	4	5 or more
Under 1 year	○	○	○	○	○	○
1 year to under 2 years	○	○	○	○	○	○
2-5 years	○	○	○	○	○	○
6-13 years	○	○	○	○	○	○
14-22 years	○	○	○	○	○	○
23-64 years	○	○	○	○	○	○
65 years or over	○	○	○	○	○	○

60. How many dependents in Question 59 do you have in each of the following age groups who ***currently live with you*** **at your permanent post, base or duty station?** Do not include yourself or your spouse.

	Number of Dependents					
Age of dependent	None	1	2	3	4	5 or more
Under 1 year	○	○	○	○	○	○
1 year to under 2 years	○	○	○	○	○	○
2-5 years	○	○	○	○	○	○
6-13 years	○	○	○	○	○	○
14-22 years	○	○	○	○	○	○
23-64 years	○	○	○	○	○	○
65 years or over	○	○	○	○	○	○

61. If you have dependent children in Question 59 who ***do not*** **currently live with you at your permanent post, base or duty station, with whom do these dependents live?** Mark ALL that apply.

- ○ Does not apply (GO TO Q63)

- ○ Spouse
- ○ Ex-spouse
- ○ Grandmother
- ○ Grandfather
- ○ Other relative
- ○ Friend
- ○ School
- ○ Other (specify):

_____

62. Do you give child support to the person(s) your children live with?

- ○ Yes
- ○ No

63. How many of your dependent children have you adopted?

- ○ None
- ○ One
- ○ Two
- ○ Three
- ○ Four or more

64. If you are a single-parent or a military member married to a military member, do you have a military family care plan?

- ○ Does not apply
- ○ No
- ○ Yes

65. Are arrangements for your dependent children realistically workable for each of the following situations? Mark one category for each item.

- ○ Not applicable, my children do not live with me.

	Yes	Probably	No
Short-term emergency situation such as a mobility exercise	○	○	○
Long-term situation such as a unit deployment	○	○	○
Evacuation due to conflict or wartime situation	○	○	○

66. Who took care of your dependent children during your longest TDY/deployment in the past 12 months? Mark ALL that apply.

- ○ Does not apply, have not been on TDY or deployed (GO TO Q68)
- ○ Does not apply, my children did not live with me at the time (GO TO Q68)
- ○ Child took care of his/herself
- ○ Spouse or ex-spouse
- ○ Immediate family member (e.g. grandparent, brother or sister)
- ○ Other family member
- ○ Friend or neighbor
- ○ Public or private agency
- ○ Other person(s) (specify):

_____

USE NO. 2 PENCIL ONLY

67. **How satisfied are you with the care your child(ren) received in your absence?**
- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Dissatisfied
- Very dissatisfied

IF YOU HAVE NO CHILDREN UNDER AGE 15 WHO USUALLY LIVE WITH YOU OR DO NOT USUALLY USE CHILD CARE SERVICES, GO TO Q73.

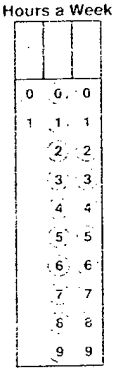
68. **During the last month, who usually took care of your youngest or only child while you and/or your spouse worked, looked for work, or was in school?** Mark the arrangement in which the child spent the most hours.
- My spouse or I did
- Child's brother/sister over age 15
- Child's brother/sister under age 15
- Child's grandparent
- Other relative of child
- Child cares for self
- Nonrelative
- Child was in school or day care

69. **Where was your youngest or only child *usually* cared for under this arrangement?** Mark One.

	On Base	Off Base
Child was in nursery or preschool	○	○
Child was in elementary or secondary school	○	○
Child Development Center/Day Care Center	○	○
Child's home	○	○
Licensed family day care home	○	○
Other private home (not licensed)	○	○
Other place	○	○

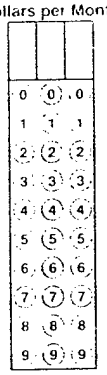
70. **How many hours a week was your youngest or only child usually cared for under this arrangement?**

Hours a Week



71. **How much did you pay for child care during the last month for your youngest or only child?**

Dollars per Month

$ 

72. **What was the one most important reason for choosing the type of child care arrangement used?**
- Prefer family
- Cost
- Convenient hours
- Convenient location
- Quality
- Availability
- Trust in caregiver
- Other (specify): _____

73. **Do any of your children attend a Department of Defense school?**
- No (GO TO Q75)
- Yes, attending an overseas school
- Yes, attending a CONUS Section VI school
- Don't know (GO TO Q75)

74. **If yes, how satisfied are you with the quality of education your child(ren) receive in the DoD school?**
- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Dissatisfied
- Very dissatisfied

75. **Are any of your dependents physically, emotionally, or intellectually handicapped requiring specialized treatment or care?**
- No
- Yes, temporarily
- Yes, permanently

76. **Are any of your dependents elderly (over 65 years old)?**
- No
- Yes

77. **Do you have elderly relatives for whom you have responsibility even if they are not your legal dependent(s)?**
- No
- Yes

78. **Are you currently in the process of adopting a child?**
- No
- Yes

USE NO. 2 PENCIL ONLY

79. Here is a list of feelings or worries some military members have about their family (spouse, children, parents) when they are away on assignment, TDY or deployment. How often did or would you worry about each of the following when you are away?

○ Does not apply, I do not have any family (GO TO Q82)

	Very Seldom or Never	Seldom	Sometimes	Often	Very Often or Always	Does Not Apply
Your family's safety in their community	○	○	○	○	○	○
Your family's ability to get car or household repairs done	○	○	○	○	○	○
Your family having enough money to meet expenses, pay bills, etc.	○	○	○	○	○	○
Your child(ren)'s health and well-being	○	○	○	○	○	○
Your family's safety in the event of war	○	○	○	○	○	○

80. How well did or would your spouse take care of the following in your absence?

○ Does not apply, I do not have a spouse

	Very Well	Well	Neither Well nor Poorly	Poorly	Very Poorly	Does Not Apply	Don't Know
Child care	○	○	○	○	○	○	○
Family member's health	○	○	○	○	○	○	○
Family finances	○	○	○	○	○	○	○
Housing	○	○	○	○	○	○	○
Emotional or parenting problems	○	○	○	○	○	○	○
Evacuation of family members	○	○	○	○	○	○	○

81. *In the past year*, how many months were you completely separated from your spouse or dependents because of your military assignment? Include TDYs, remotes, deployments, schools, etc.

○ Does not apply, I do not have a spouse or dependents

○ None
○ Less than 1 month
○ 1 month
○ 2 months
○ 3 months
○ 4 months
○ 5 months
○ 6 months
○ 7 months
○ 8 months
○ 9 months
○ 10 months
○ 11 months
○ 12 months

82. In your *total military career*, how many months were you completely separated from your spouse or dependents because of your military assignments? Include TDY, remotes, deployment, schools, etc.

○ Does not apply, no spouse or dependents during military career

○ None
○ Less than 3 months
○ 3-4 months
○ 5-6 months
○ More than 6 months but less than 1 year
○ 1-2 years
○ 3-4 years
○ Over 4 years

83. Did the government pay for your spouse/dependents to accompany you to your present permanent post, base, or duty station?

○ Does not apply, I have no spouse/dependents
○ Yes
○ No

USE NO. 2 PENCIL ONLY

VI MILITARY COMPENSATION, BENEFITS, AND PROGRAMS

EVERYONE SHOULD ANSWER THIS SECTION

84. **Do you receive a MONTHLY Basic Allowance for Quarters (BAQ)?** (BAQ is a payment for housing.)
- ○ Does not apply, I live in base/government housing
- ○ Yes, partial BAQ
- ○ Yes, full BAQ
- ○ No

85. **Do you receive a Basic Allowance for Subsistence (BAS) or Separate Rations?** (These are payments for food.)
- ○ Yes
- ○ No

86. **What is the amount of the MONTHLY Federal Tax Advantage of your combined Quarters and Food Allowances (BAS or Separate Rations and BAQ)?** If you are uncertain of the exact amount, please give your best estimate.
- ○ I do not receive BAS or Separate Rations and BAQ.
- ○ I never heard of the Federal Tax Advantage.
- ○ I don't know the amount of the Federal Tax Advantage.

MONTHLY FEDERAL TAX ADVANTAGE $ ___

87. **Which of the following special monthly pays or allowances do you *currently* receive?** Mark ALL that apply.
- ○ I don't receive *ANY* special monthly pays.
- ○ Jump Pay
- ○ Sea Pay
- ○ Submarine Pay
- ○ Flight Pay
- ○ Foreign Duty Pay
- ○ Overseas Cost of Living Allowance
- ○ Variable Housing Allowance
- ○ Overseas Housing Allowance
- ○ Selective Reenlistment Bonus (SRB)
- ○ Overseas Tour Extension Incentive Pay
- ○ Deployment Related Allowances
- ○ Other Special Pays or Allowances

88. **As an alternative to CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) for your dependents would you join a prepaid local health maintenance organization (HMO)?** Assume you would be required to pay a total monthly fee of $20.
- ○ Does not apply, I have no dependents
- ○ Yes
- ○ No
- ○ Don't know

89. **Do you personally have any current health coverage from any civilian health insurance or health maintenance organization (HMO)?** Mark ALL that apply.
- ○ No
- ○ Yes, through my current/former civilian employer
- ○ Yes, through my spouse's current/former civilian employer
- ○ Yes, purchased separately
- ○ Yes, through other (specify): _____

90. **In the past year, what portion of *your spouse's and/or dependent's* health care was received from each of the following sources?** Include prescription drugs as well as visits to physicians and other health care professionals for check-ups/treatment.

○ Does not apply. I have no spouse or dependents.

	PERCENT					
	None	1-20	21-40	41-60	61-80	81-100
From military hospital medical facility/PRIMUS/NAVCARE	○	○	○	○	○	○
Through CHAMPUS (include CHAMPUS REFORM INITIATIVE PROGRAM)	○	○	○	○	○	○
Through civilian plan/HMO	○	○	○	○	○	○
Purchased directly	○	○	○	○	○	○
Through other (specify): _____	○	○	○	○	○	○

USE NO. 2 PENCIL ONLY

91. In the past year, what portion of *your* health care was received from each of the following sources? Include prescription drugs as well as visits to physicians and other health care professionals for check-ups/treatment.

	PERCENT					
	None	1-20	21-40	41-60	61-80	81-100
From military hospital medical facility/PRIMUS/NAVCARE	○	○	○	○	○	○
Through CHAMPUS (include CHAMPUS REFORM INITIATIVE PROGRAM)	○	○	○	○	○	○
Through civilian plan/HMO	○	○	○	○	○	○
Purchased directly	○	○	○	○	○	○
Through other (specify): _____	○	○	○	○	○	○

92. How much did you spend on health care services and products (for you and your family) last year? Include CHAMPUS deductibles, civilian insurance premiums, drugs, etc. Do not include dental care.

- ○ Less than $100
- ○ $101 - $200
- ○ $201 - $300
- ○ $301 - $500
- ○ $501 - $800
- ○ $801 - $1,000
- ○ More than $1,000

93. Are you currently enrolled in the Delta Dental Program or some other dental benefits program? Mark ALL that apply.

- ○ No
- ○ Yes, the Delta Dental Program
- ○ Yes, my spouse's civilian dental program
- ○ Yes, other private dental insurance

94. How much did you spend for dental treatment (for you and your family) last year? (Include Delta Dental Program and civilian premiums as well as direct payments for treatment.)

- ○ Less than $100
- ○ $101 - $200
- ○ $201 - $300
- ○ $301 - $500
- ○ $501 - $800
- ○ $801 - $1,000
- ○ More than $1,000

95. Comparing your job level to a comparable civilian position, do you feel your health (including dental) benefits are:

- ○ Better than most
- ○ About the same
- ○ Worse than most
- ○ Don't know

96. Do you have Life Insurance?

- ○ No
- ○ Yes, SGLI
- ○ Yes, SGLI and other policy or policies
- ○ Yes, a policy or policies other than SGLI
- ○ Don't know

97. Do you have a current written will?

- ○ Yes
- ○ No
- ○ Don't know

98. Does *anyone* currently hold your power-of-attorney?

- ○ Yes, my spouse
- ○ Yes, someone other than my spouse
- ○ No
- ○ Don't know

99. Do you plan to elect the Survivor Benefit Plan upon retirement? Mark One.

- ○ Uncertain, am not aware of the plan at all
- ○ Uncertain, am aware of the plan but want to study it
- ○ Uncertain, do not understand the plan clearly
- ○ No, I plan to leave the Service before retirement
- ○ No, no survivors
- ○ No, can get better coverage elsewhere
- ○ No, too expensive
- ○ Yes, will only elect minimum coverage
- ○ Yes, will elect more than minimum coverage but less than full
- ○ Yes, will elect full coverage

100. How valuable is the current retirement system to you?

- ○ Very valuable
- ○ Moderately valuable
- ○ Of some value
- ○ Of no value

101. Comparing your job level to a comparable civilian position, do you feel the military retirement system is:

- ○ Better than most
- ○ About the same
- ○ Worse than most
- ○ Don't know

102. What is your estimate of the total annual value of your pay and allowances and benefits? (Pay, allowances, medical, exchange, commissary, retirement, etc.):

- ○ Less than $20,000
- ○ $20,001 - $30,000
- ○ $30,001 - $40,000
- ○ $40,001 - $50,000
- ○ $50,001 - $60,000
- ○ $60,001 - $70,000
- ○ More than $70,000
- ○ Don't know

USE NO. 2 PENCIL ONLY

103. For each program or service listed below, please mark (a) whether you have ever used it at your present permanent location and (b) how important its availability is to you.

	A) Used the Service/Program		B) Importance				
	Yes	No	Very Important	Important	Neither Important nor Unimportant	Un-important	Very Un-important
Bowling centers	○	○	○	○	○	○	○
Golf courses	○	○	○	○	○	○	○
Marinas	○	○	○	○	○	○	○
Stables	○	○	○	○	○	○	○
Fitness centers—	○	○	○	○	○	○	○
Youth activities	○	○	○	○	○	○	○
Libraries	○	○	○	○	○	○	○
Arts and crafts center	○	○	○	○	○	○	○
Tours and tickets	○	○	○	○	○	○	○
Recreation gear issue	○	○	○	○	○	○	○
Main exchange	○	○	○	○	○	○	○
7-Day Store/Shoppette	○	○	○	○	○	○	○
Clubs	○	○	○	○	○	○	○
Temporary lodging facilities (e.g., Navy lodge, transient billeting)	○	○	○	○	○	○	○
Cabins, cottages and cabanas	○	○	○	○	○	○	○
Laundry/dry cleaning	○	○	○	○	○	○	○
Photo hobby shop	○	○	○	○	○	○	○
Auto repair centers	○	○	○	○	○	○	○
Auto hobby shop	○	○	○	○	○	○	○
Rentals/equipment	○	○	○	○	○	○	○
Animal care clinics	○	○	○	○	○	○	○
Auto/truck rental	○	○	○	○	○	○	○
Commissary	○	○	○	○	○	○	○

104. Did you vote in the last local election? In the last Presidential election?

Last local election	Last Presidential election
○ Yes, in person at the polls	○ Yes, in person at the polls
○ Yes, by absentee ballot	○ Yes, by absentee ballot
○ No	○ No

USE NO. 2 PENCIL ONLY

105. For each family program or service listed below, please mark (a) whether you have ever used it at your present permanent duty location and (b) your level of satisfaction if you have used it.

	A) Used the Service/Program		B) Satisfaction				
	Yes	No	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dis-satisfied	Very Dis-satisfied
Family Support Centers/Family Service Center/Army Community Service	○	○	○	○	○	○	○
Individual counseling/therapy	○	○	○	○	○	○	○
Marriage and family counseling/therapy/ enrichment	○	○	○	○	○	○	○
Services to individuals or families concerning military separation/deployment	○	○	○	○	○	○	○
Chaplain services/religious opportunities	○	○	○	○	○	○	○
Parent education	○	○	○	○	○	○	○
Youth/adolescent programs	○	○	○	○	○	○	○
Child care services	○	○	○	○	○	○	○
Financial counseling	○	○	○	○	○	○	○
Single-parent programs	○	○	○	○	○	○	○
Pre-marital programs	○	○	○	○	○	○	○
Services for families with special needs (e.g. handicapped, gifted)	○	○	○	○	○	○	○
Crisis referral services	○	○	○	○	○	○	○
Spouse employment services	○	○	○	○	○	○	○
Spouse/child abuse services	○	○	○	○	○	○	○
Alcohol treatment/drug abuse programs	○	○	○	○	○	○	○
Rape counseling services	○	○	○	○	○	○	○
Legal assistance	○	○	○	○	○	○	○
Relocation assistance services	○	○	○	○	○	○	○
Information and referral services	○	○	○	○	○	○	○
Stress management programs	○	○	○	○	○	○	○
Suicide prevention programs	○	○	○	○	○	○	○
Transition assistance/pre-retirement/separation from military	○	○	○	○	○	○	○
Housing Office services	○	○	○	○	○	○	○

USE NO. 2 PENCIL ONLY

VII CIVILIAN LABOR FORCE EXPERIENCE

A. YOUR OWN EXPERIENCE

106. In the last month, how many hours did you perform volunteer work for an on- or off-base activity? Mark one in each column.

No. of Hours	On-base	Off-base
Did not perform volunteer work	○	○
Less than 5 hours	○	○
5 to 10 hours	○	○
More than 10 hours	○	○

107. What would increase your interest/ability to volunteer? Mark ALL that apply.

- ○ Parking privileges
- ○ Volunteering with a friend
- ○ More volunteer assignments of interest
- ○ Reimbursement of expenses
- ○ Child care
- ○ More recognition for volunteer assignments
- ○ Opportunity for useful training for the future
- ○ Better leadership of volunteers
- ○ Better organization of volunteers
- ○ Other (specify):

_____

- ○ Nothing would increase interest/ability

108. During 1991, how many hours a week did you spend *on the average* working at a civilian job or at your own business *during your off-duty hours*?

○ None (GO TO Q111).

AVERAGE NUMBER HOURS PER WEEK

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

109. Altogether in 1991, what was the total amount that you earned before taxes and other deductions, for *working during your off-duty hours*?

Amount

$

1991 OFF-DUTY EARNINGS

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

○ $100,000 or more

110. How much did each of the following contribute to your having a second job or your own business?

Mark each item as:	No Contribution	Minor Contribution	Moderate Contribution	Major Contribution
Needed additional income to meet basic expenses	○	○	○	○
Nice to have extra income to use now	○	○	○	○
Saving extra income for future needs	○	○	○	○
Independence	○	○	○	○
Self-esteem	○	○	○	○
Enjoyment of work itself	○	○	○	○
To gain experience for a non-military second career	○	○	○	○
Other (specify):	○	○	○	○

_____

USE NO. 2 PENCIL ONLY

111. In the past 12 months, have you received any job offers for a civilian job which you could take if you leave the Service?

- Yes
- No

112. Have you actively looked for civilian employment within the past 12 months?

- Yes
- No

113. Do you expect to be involuntarily separated within the next 12 months during force reductions?

- Yes
- No
- Don't know

114. If you were to leave the Service NOW and tried to find a civilian job, how likely would you be to find a *good civilian job*? Mark One.

- (0 to 10) No chance
- (1 in 10) Very slight possibility
- (2 in 10) Slight possibility
- (3 in 10) Some possibility
- (4 in 10) Fair possibility
- (5 in 10) Fairly good possibility
- (6 in 10) Good possibility
- (7 in 10) Probable
- (8 in 10) Very probable
- (9 in 10) Almost sure
- (10 in 10) Certain

- Don't know

115. How concerned are you about the following as a result of the current talk about force reductions in the military strength?

	Very Greatly Concerned	Greatly Concerned	Moderately Concerned	Somewhat Concerned	Not At All Concerned
Your long-term opportunities in the military	○	○	○	○	○
The kind of work you plan to go into if you leave the military	○	○	○	○	○
Whether you will be able to get a civilian job quickly if needed	○	○	○	○	○
The financial burden on you and/or your family should you have to leave the military unexpectedly	○	○	○	○	○
Ability to adjust to civilian life	○	○	○	○	○

B. YOUR SPOUSE'S EXPERIENCE. IF NOT MARRIED, GO TO Q118

116. Is your SPOUSE currently: Mark ALL that apply.

- Full-time in the Armed Forces
- In Reserve or National Guard
- Working full-time in Federal civilian job
- Working full-time in other civilian job
- Working part-time in Federal civilian job
- Working part-time in other civilian job
- Self-employed in his or her own business
- With a job, but not at work because of TEMPORARY illness, vacation, strike, etc.
- Unpaid worker (volunteer or in family business)
- Unemployed, laid off, or looking for work
- Not looking for work but would like to work
- In school
- Retired
- A homemaker
- Other

117. To what extent does your spouse's job interfere with your military job?

- Does not apply, spouse not employed

- Completely
- A great deal
- Somewhat
- Very little
- Not at all

USE NO. 2 PENCIL ONLY

VIII FAMILY RESOURCES

118. During 1991, did *you or your spouse* receive any income from the following sources? Mark 'YES' or 'NO' for each item.

RECEIVE Yes	RECEIVE No	INCOME SOURCE
○	○	Alimony, child support or other regular contributions from persons not living in your household
○	○	Supplemental Security Income
○	○	Public Welfare or Assistance
○	○	WIC (food program for women, infants, and children)
○	○	Government Food Stamps

119. During 1991, how much did you and/or your spouse receive from the income sources listed in Q118? Do not include earnings from wages or salaries in this question. Give your best estimate.

○ No income from sources in Q118.

Amount

$ | | | | | |

AMOUNT

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

○ $100,000 or more

120. During 1991, did you or your spouse receive any income from the following sources? Mark 'YES' or 'NO' for each item.

RECEIVE Yes	RECEIVE No	INCOME SOURCE
○	○	Interest and Dividends on Savings
○	○	Stocks, Bonds or Other Investments
○	○	Unemployment Compensation or Worker's Compensation
○	○	Pensions from Federal, State or Local Government
○	○	Pensions from Private Employer or Union
○	○	Social Security or Railroad Retirement
○	○	Anything else *not including earnings from wages or salaries*

121. During 1991, how much did you or your spouse receive from the income sources listed in Q120? Do not include earnings from wages or salaries in this question. Give your best estimate.

○ No income from sources in Q120.

Amount

$ | | | | | |

AMOUNT

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

○ $100,000 or more

122. As of today, what is your estimate of your mortgage debt? (Include all properties and any second mortgages or home equity loans).

○ Does not apply, I do not own any property.

Amount

$ | | | | | | |

AMOUNT

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

○ $1,000,000 or more

123. As of today, what is your estimate of the value of your current properties?

○ Does not apply, I do not own any property.

Amount

$ | | | | | | |

AMOUNT

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

○ $1,000,000 or more

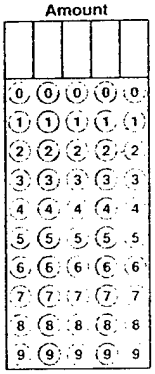
USE NO. 2 PENCIL ONLY

124. As of today, what is your estimate of the total amount of any other outstanding debts? *Exclude* any mortgages shown in Q122.

Amount

$

AMOUNT



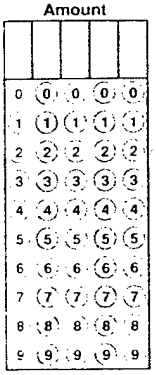
○ $100,000 or more

125. As of today, what is your estimate of the total amount of your assets? *Exclude* your current property counted in Q123.

Amount

$

AMOUNT



$100,000 or more

126. Overall how do you feel about your/your family income; that is all the money that comes to you and other members of your family living with you?

○ Very satisfied
○ Satisfied
○ Neither satisfied nor dissatisfied
○ Dissatisfied
○ Very dissatisfied

IX MILITARY LIFE

127. How would you describe the morale of military personnel at your current location? If you are currently assigned to a ship, indicate the morale of personnel on board ship. Mark One.

MORALE IS VERY LOW — 1 — 2 — 3 — 4 — 5 — 6 — 7 — MORALE IS VERY HIGH

128. In the event of combat, how would you describe your *confidence* in your unit members? Mark One.

○ Does not apply, not in combat or combat support unit (GO TO Q130)

VERY LOW — 1 — 2 — 3 — 4 — 5 — 6 — 7 — VERY HIGH

129. How would you describe your unit's readiness for combat? Mark One.

VERY LOW — 1 — 2 — 3 — 4 — 5 — 6 — 7 — VERY HIGH

USE NO. 2 PENCIL ONLY

130. How much do you agree or disagree with each of the following statements about military life?

Mark each item as:	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Does Not Apply
Life in the military is about what I expected it to be	○	○	○	○	○	○
My family could be better off if I took a civilian job	○	○	○	○	○	○
Members of my family were well prepared by my Service for the requirements and demands of my job	○	○	○	○	○	○
Military personnel in the future will not have as good retirement benefits as I have now	○	○	○	○	○	○
My military pay and benefits will not keep up with inflation	○	○	○	○	○	○
Skills attained in my job are helpful in securing a good civilian job	○	○	○	○	○	○
My current job assignment is important work	○	○	○	○	○	○
My current job assignment is challenging work	○	○	○	○	○	○
My promotion opportunity is better than it would have been without this assignment	○	○	○	○	○	○
I receive good support from my chain-of-command	○	○	○	○	○	○
I receive good support from my supervisors	○	○	○	○	○	○

131. On the average, what is the total number of hours per week you work at your military job?

- ○ 40 hours or less
- ○ 41 - 50 hours
- ○ 51 - 60 hours
- ○ 61 - 80 hours
- ○ More than 80 hours

132. What percent of your work hours are spent on duty-related tasks?

- ○ Less than 20 percent
- ○ 21 - 40 percent
- ○ 41 - 60 percent
- ○ 61 - 80 percent
- ○ 81 - 100 percent

133. During the past year have the demands of your military job prevented you from taking annual leave?

- ○ Yes
- ○ No

134. In general, how satisfied are you with your current job?

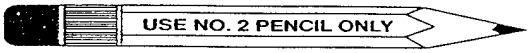
- ○ Very satisfied
- ○ Satisfied
- ○ Neither satisfied nor dissatisfied
- ○ Dissatisfied
- ○ Very dissatisfied

135. In the last year, how much stress has each of these factors caused you?

	A Great Deal	Fair Amount	Some	Little	None
Separation from family	○	○	○	○	○
PCS move	○	○	○	○	○
Job situation	○	○	○	○	○
Family situation	○	○	○	○	○
Personal safety	○	○	○	○	○
Health	○	○	○	○	○

136. What are the primary sources of any uncertainty you have right now about what you could expect from a military career? Mark ALL that apply.

- ○ My lack of experience in the military
- ○ My career goals are unclear
- ○ Unclear promotion and assignment criteria
- ○ Changes in military manpower needs
- ○ Possible Congressional actions (budget, RIFS, etc.)
- ○ Uncertainty about senior leadership
- ○ Personal safety
- ○ Other
- ○ Not applicable, I do not have any uncertainty



137. Below is a list of issues associated with the military way of life. Considering current policies, please indicate your level of satisfaction/dissatisfaction with each issue.

For each item, mark if you are:	Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	Very Dissatisfied
Personal freedom	○	○	○	○	○
Acquaintances/friendships	○	○	○	○	○
Work group/co-workers	○	○	○	○	○
Assignment stability	○	○	○	○	○
Pay and allowances	○	○	○	○	○
Environment for families	○	○	○	○	○
Frequency of moves	○	○	○	○	○
Retirement benefits	○	○	○	○	○
Opportunity to serve one's country	○	○	○	○	○
Satisfaction with current job	○	○	○	○	○
Promotion opportunities	○	○	○	○	○
Job training/in-service education	○	○	○	○	○
Job security	○	○	○	○	○
Working/environmental conditions	○	○	○	○	○

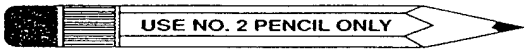
138. Now, taking all things together, how satisfied are you with the military way of life?

- ○ Very dissatisfied
- ○ Dissatisfied
- ○ Somewhat dissatisfied
- ○ Neither dissatisfied nor satisfied
- ○ Somewhat satisfied
- ○ Satisfied
- ○ Very satisfied

139. We're interested in any comments or recommendations you would like to make, whether or not the topic was covered in this survey. Do you have any comments?

- ○ Yes - Use the comment sheet on the next page
- ○ No

THANK YOU VERY MUCH FOR ANSWERING THIS SURVEY. PLEASE SEAL THE SURVEY IN THE ENVELOPE PROVIDED.



COMMENT SHEET FOR ENLISTED PERSONNEL

Please provide us with any comments you may have regarding military policies or military life in general in the space below. Before commenting, please fill in one bubble in each section.

Location:
○ CONUS ○ Overseas

Service:
○ Army ○ Air Force
○ Navy ○ Marines

Thank you for completing this survey!
Please seal the survey in the envelope provided.