Navy Surveys on Quality of Life: An Informational Guide

Ann D. Parcell • Carol S. Moore

Center for Naval Analyses

Approved for distribution: January 2001

Donald J. Cymrot, Director
Workforce, Education and Training Team
Resource Analysis Division

CNA's annotated briefings are either condensed presentations of the results of formal CNA studies that have been further documented elsewhere or stand-alone presentations of research reviewed and endorsed by CNA. These briefings represent the best opinion of CNA at the time of issue. They do not necessarily represent the opinion of the Department of the Navy.

Navy Surveys on Quality of Life: An Informational Guide

Ann Parcell

Carol Moore

The focus of this year's Manpower and Personnel IWAR is on increasing retention and the appeal of naval service. As part of this effort, N813 asked CNA to look at a specific set of tools for recruiting and retention: surveys. In this annotated briefing, we assess the way the Navy keeps track of members' attitudes about Navy quality of life and quality of service.

Background

CNA

- Surveys—a potential tool for retention
- But concerns about
  - "Too many surveys" and Sailors' reactions
  - Quality of information
  - Accessibility to decision-makers
  - Practical value in shaping policy

Quality-of-life (QOL) satisfaction surveys are one of many tools the Navy can use to target resources toward increased retention. The effectiveness of the Selective Reenlistment Bonus and other monetary rewards is well documented. Despite the potential retention value of surveys, less is known about their effectiveness. One problem is that the relationship between a survey and retention is a complex chain of participation, communication, and action.

Many observers believe that personnel are over-surveyed and that the surveys may actually harm retention. They suspect that Sailors are bombarded with different surveys that all seem to ask similar questions but never lead to change. Furthermore, organizations are not likely to account for the impact that their surveys may have on Sailors' willingness to participate in other surveys. Therefore, coordination of survey efforts is crucial.

Another concern is the practical value of surveys. Decision-makers may be unfamiliar with the expertise of those who design and administer surveys. They may also suspect that surveys are simply problematic sources of data. Finally, there is concern that solid results are not accessible to appropriate decision-makers.

2

Sign of a Problem?
Falling Response Rates

CNA

Survey and Year	Response Rates
DMDC Survey of Active Duty Personnel	
1985	77% officer, 72% enlisted
1992	72% officer, 62% enlisted
1999	56% overall (preliminary)
Navy-wide Personnel Survey	
1990, 1994 and 1998	52%, 47%, and 39%
Navy QOL Domain Survey	
1997 and 1999	38% and 34%
NEOSH	
1989 and 1997	60% and 45%

This slide shows how response rates have fallen for some of the major surveys: the DMDC Survey of Active Duty Personnel, the Navy-wide Personnel Survey, the Navy Quality-of-Life Domain Survey, and the Navy Equal Opportunity/Sexual Harassment (NEOSH) Survey.

Does this trend signify a growing unwillingness of personnel to respond? We can't say for sure. Maintaining high response rates on surveys, however, is critical for drawing accurate conclusions about the member population. If the response rate falls too low and the survey results lose validity, the survey fails to inform policy-makers on how to address such issues as retention or, worse, misinforms policy-makers about the opinions of Sailors.

Study Questions

CNA

- Who surveys Sailors about QOL?
- How are the surveys administered?
- Are results accessible to decision-makers?
- Survey results and retention
  - How are results used to help solve problems?
  - What are survey limitations?

The IWAR team asked CNA to start to unravel these issues by documenting the inventory of surveys measuring Sailors' satisfaction with quality of life and quality of service, and assessing their role in diagnosing and correcting retention problems.

This briefing outlines the Navy and DoD surveying organizations and how they relate to each other. It shows how Navy-wide surveys are developed and administered, and how the results of the surveys are disseminated. Finally, we address how the results of the surveys, to greater or lesser degrees, have been used to affect retention.

The briefing is informational and does not make specific recommendations about the survey system. This is in keeping with this year's IWAR focus on educating leadership. We do, however, note where the system may be failing to measure QOL satisfaction adequately and what general measures can be taken to remedy the limitations.

Who in the Navy Surveys Sailors About QOL?

CNA

- Navy Life Assessment Group (NLAG) (PERS-00N)
  - Must approve all Navy-wide surveys (except NAVMAC)
- Navy Personnel Research, Studies, and Technology (NPRST) (PERS-1)
  - Designs, administers, and analyzes results of surveys (especially longer term issues)
- Commands
  - Command climate surveys

Two components of the N-1 organization are critical to the Navy personnel survey system and the assessment of quality-of-life satisfaction—the Navy Life Assessment Group (NLAG) (PERS-00N) and Navy Personnel Research, Studies, and Technology (NPRST) (PERS–1).
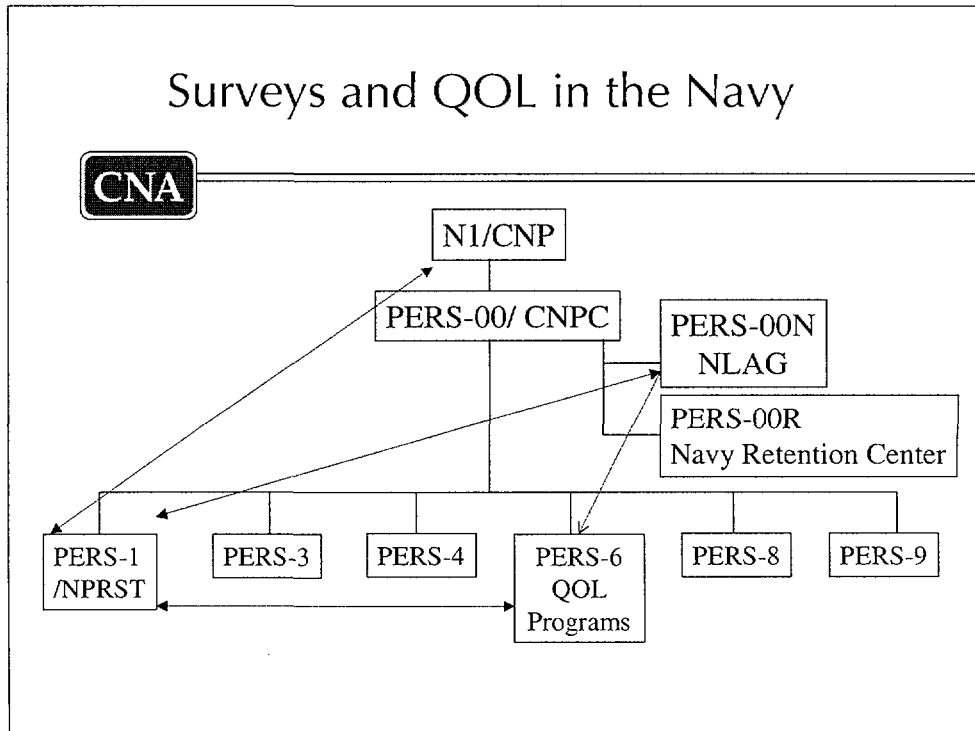
The Navy recently created NLAG as part of a way to consolidate efforts to examine QOL satisfaction through surveys and other means. Part of NLAG's mission is to streamline the survey process and to avoid duplication of surveys.

This office must approve all Navy-wide surveys except those administered by the Navy Manpower Analysis Center (NAVMAC). NLAG uses survey information to address shorter term QOL concerns for PERS-00. Although NLAG does not design or administer surveys itself, it does sponsor surveys to fulfill requests for information.

NPRST is also a fairly new entity that carries out the largest Navy-wide personnel surveys. Although NPRST is new, much of its work used to be performed by the Navy Personnel Research and Development Center (NPRDC), and many of its staff came from NPRDC. Thus, the Navy personnel survey system has a significant history on which NPRST is able to build.

The focus of NPRST tends to be more long term than that of NLAG. NPRST emphasizes repeat surveys, the results of which can be compared over time. Nevertheless, NLAG may turn to NPRST to design, administer, and analyze a quick-turnaround survey. In addition to responding to requests from NLAG, NPRST also often works directly with N1/CNP to address various quality-of-life issues.

Command climate surveys are not administered Navy-wide, but local command surveys are widespread. These surveys are supposed to provide specific, more immediate feedback to command decision-makers so that they can gauge attitudes and beliefs and, if necessary, take action. These surveys lie outside the Navy's survey infrastructure and are not coordinated through NLAG or any other group.

Surveys and QOL in the Navy

CNA

N1/CNP

PERS-00/ CNPC

PERS-00N NLAG

PERS-00R Navy Retention Center

PERS-1 /NPRST PERS-3 PERS-4 PERS-6 QOL Programs PERS-8 PERS-9

This diagram shows the main information-gathering and policy-making offices involved in Navy quality-of-life issues. As previously discussed, NPRST may work directly for N1/CNP, or NLAG and NPRST may work closely together on a request from PERS-00. NLAG may need analysis of the results of an existing survey, or it may need a new survey to be taken to fulfill the request. In either case, NLAG may turn to NPRST for data analysis or for survey design and administration.

The QOL Programs office (PERS-6) has an administrative role in Navy quality-of-life programs. As the arrows suggest, there are gains to NPRST, NLAG, and PERS-6 working together to address specific QOL issues. This would cover the information-gathering, analytical, and administrative aspects of Navy quality of life.

An even more recent addition to those offices already working on QOL issues is the Navy Retention Center (PERS-00R). As the name implies, the focus of this office is on retention, but there is clearly a need for information to flow to and from PERS-00R and offices already engaged in quality-of-life issues.

The Navy Personnel Survey System (NPSS)

CNA

- Funding vehicle for:
  - Navy-wide Personnel Survey (even years)
    - Broader-based survey focused on quality of work life in the Navy
  - Quality of Life Domain Survey (odd years)
    - Focused on quality of life in the Navy

The Navy Personnel Survey System funds two large Navy-wide surveys that address quality-of-life satisfaction. The first survey is the Navy-wide Personnel Survey, which has been in existence since 1990 and was administered annually until 1998. The second survey is the Quality of Life (QOL) Domain survey, which was first given in 1993 to the Marine Corps and then in 1994 to the Navy. After a substantial redesign, the survey was administered in the Navy in 1997 and 1999. Starting in FY 2000, the Navy-wide Personnel Survey will be given in even years and the QOL Domain Survey in odd years.

The focus of the Navy-wide Personnel Survey is on quality of work life. That is, many of the questions have to do with satisfaction with leadership, work environment, job progression, and job satisfaction. The QOL Domain survey focuses on broader issues of overall quality of life in the Navy, including non-work-life issues, such as use of family service centers and morale, welfare, and recreation programs. Some questions on both surveys overlap to achieve an annual benchmark of attitudes toward Navy life.

Who Outside Navy Surveys Sailors About QOL?

CNA

- Defense Manpower Data Center (DMDC)
  - Supports information management needs of OUSD (P&R)
  - Conducts research and analysis, including personnel surveys
- Occasional congressional request for surveys
  - GAO

DOD's Defense Manpower Data Center (DMDC) has been in existence since 1974 and has been administering personnel surveys since the late 1970s. If a military personnel survey is taken across all services, DMDC is very likely to be the administrator and analytical agent or will be very involved with the administrator of the survey.

The Congress can request that its investigative arm, the General Accounting Office (GAO), either administer its own military personnel surveys or analyze the results of a DOD-wide military personnel survey. A recent example of a GAO-administered survey is detailed in [1]. Reference [2] is a recent example of a GAO analysis of an existing DOD military personnel survey.

Inventory of NLAG-Approved QOL Surveys for FY00

Navy Prior Service Recruit Survey	Advanced Practice Nurse Function Assessment Survey	Navy College Program (NCP) Questionnaire	Relocation Assistance Program Participant Questionnaire
FSC Navy Leadership Survey	Assessing Military Leader's Change Facilitator Styles Survey	Child Care Patron Questionnaire	Spouse Employment Assistance Program Participant Questionnaire
Exclusion of Mildly Ill Children From Navy Child Development Centers Survey	Consequences of Neuropathy in Vietnam POWs	Counseling Client Questionnaire	Transition Assistance Management Program Participant Questionnaire
Health Perceptions of Navy Service Members Survey	Stabilized Manning Survey (Leadership Version)	Deployment Support Participant Questionnaire	Financial Management Participant Questionnaire
Navy Equal Opportunity/Sexual Harassment Survey	Stabilized Manning Survey (Crew Version)	Food and Hospitality Program Patron Questionnaire	Recreation Program Patron Questionnaire
Virtual Navy Hospital Survey	PERS-40 Customer Satisfaction Survey	CREDO Program Participant Questionnaire	Youth Programs Questionnaire
Trauma Readiness Survey	Command Financial Specialist Questionnaire	Nutrition Education & Galley Questionnaire	**Navy -Wide Personnel Survey**

This chart lists the NLAG-approved surveys for FY 2000. The studies shown in bold include some of the largest Navy-wide surveys that were taken in FY 2000—namely, the Navy Equal Opportunity/Sexual Harassment Survey (NEOSH) and the Navy-wide Personnel Survey, for which there are sample sizes of at least 15,000 Sailors.

As can be inferred by the titles, most of these surveys cover fairly specific topics on quality-of-service and/or quality-of-life satisfaction.

Inventory of DMDC QOL and Related Surveys

Survey Name	Frequency	Survey Name	Frequency
Survey of Active Duty Personnel and Spouses	1978,85,92,99	Financial Services Survey	1987, 1997
Survey of Spouses of Junior Enlisted Personnel	1997	Overseas Housing Allowance	1991,94,95,96
Status of the Armed Forces Survey-Information Services Survey	NA	Relocation Assistance Program	1992
Military Exit Survey	outgoing members	Commissary and Exchange	1989,90,92
Recruiter Survey	1989,91,94,96,98	Living Patterns	1996
Status of the Armed Forces Survey-Equal Opportunity Survey	1996-7 (preparing for 00-01)	Overseas Military Banking Facilities	1987
Surveys of Reserve Components Personnel and Spouses	1986,91,92 (scheduled for 2000)	Financial Services	1997
Survey of Schools Serving Military Families in the U.S.	1995-96	Post-Retirement Income	1977,96
Youth Attitude Tracking Study (YATS)	annually since 1975		

If we look beyond Navy, we can see that DMDC has also administered a variety of surveys over the years to members and potential members of all services. Like the Navy-wide surveys, these cover a variety of topics on military quality of life. In some cases, they try to follow the attitudes and expectations of potential military members about military life. This list can be found on www.dmdc.osd.mil/surveys. For those with appropriate clearances, the website also provides some detail on the purpose of each study, an overview of the survey instrument and the sample population, the users and uses of the survey, and the reports/studies published using the survey results.

Although the above is not quite a complete list, those surveys that are missing are special supplements to the ones listed.

11

Who Develops the Surveys?

CNA

- NPRST
  - Questionnaire and survey design done in-house
  - Some IT issues of newer web-based surveys are sub-contracted
    - *Newest Navy-wide Personnel Survey*
- DMDC
  - Most questionnaire design done in-house
  - Some survey design issues (e.g., sampling issues) are subcontracted

The development of military personnel surveys is fairly closely held. NPRST in particular relies very little on outside advice for survey development; the instrument and sample design is done almost entirely by NPRST staff. One area of survey design that has required outside help is the interface of surveys and information technology. As NPRST migrates toward internet–based products, it is using outside consultants to aid in the implementation of the new web-based surveys [3].

DMDC also does much questionnaire development on its own. However, DMDC may bring in contractors for some of the survey development, particularly for technical sample design issues [4].

Who Administers the Surveys?

CNA

- NPRST
  - Most administration is done in-house
  - Scans data itself
    - Allows preliminary analysis to be done before all responses are collected ("flexibility")
  - More technical analysis of data is outsourced
- DMDC
  - Administration of survey and data collection are outsourced
  - Much data analysis is done in-house, but some requires other expert input

NPRST administers the surveys largely on its own, including collecting the survey responses in-house. This allows NPRST researchers to observe the preliminary results of a survey to provide information to the survey sponsor in a timely manner. However, NPRST may bring in outside help at the data analysis level. NPRST may contract with an expert (academic and/or consultant) for specific modeling/statistical analysis of the survey results.

By contrast, DMDC outsources much of the survey administration (respondent contacts, mailings, follow-ups, and data collection). Like the staff at NPRST, DMDC staff tends to do its own data analyses until a specific analytical problem requires outside help.

Are Survey Results Disseminated Widely?
NAVY

CNA

- NPRST
  - Briefs sponsor and makes recommendations for public release
  - Dissemination is poor at best
    - Release may cause media problems
    - Don't want to create respondent expectation that there will be a "fix"

Dissemination of survey results has been difficult. Although NPRST briefs the sponsor on the survey results and makes recommendations for public release, it is up to the sponsor to decide how widely and under what circumstances the results will be shared. The sponsor, however, may face trade-offs with releasing survey results. Results may draw attention to issues that are of interest to the media but may be best solved by the Navy without a great deal of publicity. Also, sponsors may fear that releasing survey results that identify dissatisfaction with a particular aspect of Navy life may raise expectations that the issue will be remedied. That is, release of the results may give respondents the impression that the Navy will take a particular action, when in fact it cannot or will not.

Some survey researchers believe that there is a connection between survey response rates and dissemination of results. They believe that response rates are falling because survey results are poorly disseminated, and respondents never know if their responses alter policy. There may be general discouragement among Sailors about surveys as a method for effecting change.

DMDC operates similarly to NPRST in the dissemination of survey results—the survey sponsor has the final say in how and when the results are distributed. DMDC does have a tradition of circulating reports and studies of surveys results, and it has recently added website access to seven studies that use survey results pertaining to various aspects of quality of life.*

One concern about the dissemination of DMDC-produced surveys is that it is not always very timely. Note, for example, that a study of the 1995 Sexual Harassment Survey did not appear until 2000. Some have questioned how useful the results of the study are when there is such a long delay in the release of the data.

*Studies on the Armed Forces Equal Opportunity Survey, Financial Services Survey, Sexual Harassment Survey, Study of Schools Serving Military Families in the U.S., 1997 Survey of Spouses, Comments from 1997 Survey of Spouses, and the Youth Attitudes Tracking Survey are currently available on www.dmdc.osd.mil/surveys.

Where Can Information Be Accessed?

CNA

- **NPRST**
  - Website (unclassified)
    - Bibliography of survey technical reports and notes
    - Directs reader to DTIC and NTIS websites
  - Published trend summaries
- **DMDC website (unclassified)**
  - List of seven recent reports on surveys

Decision-makers' access to results is uncertain, but certain information is easily accessible. The NPRST website contains a bibliography of some of the unclassified reports it has produced. The list can be found at www.rst.navy.mil.

NPRST makes public some of the trends in the survey results as well as cross-tabulations of responses of various questions and demographic characteristics of the respondents. We cite some of these in a backup slide that describes the organization's general dissemination efforts in more detail.

NPRST, however, does not distribute the actual reports. It relies instead on two databases maintained elsewhere in the federal government—the Defense Technical Information Center (DTIC) at www.dtic.mil, and the National Technical Information Service (NTIS) at www.ntis.gov—to distribute its findings.

As mentioned in the previous slide, DMDC does distribute some of its own reports, which can be found at www.dmdc.osd.mil.

- When other data can't answer the question or are not available
  - Reasons why people leave Navy
- Mix of methods may be appropriate
  - *Administrative data* capture behavior, but not opinions
  - *Focus groups* identify issues but are not representative

We next turn to the ability of the Navy's surveys to help decision-makers better understand, and manage, issues that affect retention.

Surveys are not appropriate for all occasions, and there are times when other techniques are best. Certain kinds of information are difficult, if not impossible, to extract from a survey. For example, surveys are a good way to find out why people are leaving the Navy, but they are a bad way to estimate time trends in retention or to predict how many are going to leave.

Administrative records, when properly maintained, are usually the best measures of actual behavior. This is because people's opinions and intentions do not always correspond with actual behavior. For example, examining administrative data is clearly the best way to verify that Sailors are leaving the Navy in larger numbers than in previous time periods. Also, survey results often show that the reasons for discontent about the Navy are the same for those who leave and those who stay. The next slide discusses this divergence (of opinion and behavior) and convergence (of opinion between leavers and stayers) in more detail.

When administrative data do not answer the question, focus groups can be convened fairly quickly to help identify reasons why we are seeing changes in behavior. However, results from focus groups cannot always be applied to broader groups of Sailors or to the Navy as a whole, as is possible with a *large* survey.

17

- Divergence: stated intention is best single predictor of retention behavior but far from perfect
  - One sample says:
    - 96% of those intending to stay in Navy did stay
    - 50% of those intending to leave did so
    - 90% of undecided stayed
  - Caveat: study is dated
- Convergence: Leavers and stayers cite same reasons for discontent with the Navy

Although the results of this study are somewhat dated (the data come from the early/mid-1980s), they show that intentions and behavior can differ significantly [5]. In particular, those who said they would leave the Navy actually did so at half the intended rate. Also, those who were undecided about their continuation in the Navy ended up staying in large numbers.

We do qualify these results with a caveat. From the mid-1990s forward, civilian employment opportunities and the overall health of the national economy are much better than in any period of the 1980s. It is possible that the deviation of intentions to actual behavior is less in these stronger economic times. However, the point still holds that, while stated intention may be the best predictor of behavior, it is far from perfect.

A 1994 CNA study shows that responses on the Navy Retention/Separation Questionnaire in the early 1990s don't really help to distinguish between those who are leaving and those who are staying in the Navy [6]. Both groups rank the following as the top "reason for thinking about leaving" the Navy—base pay, family separation, leadership/management, promotion/advancement, and overall quality of Navy life. Leavers and stayers rank the top 5 reasons slightly differently. (Leavers ranked family separation first and base pay second; stayers ranked base pay first and family separation second. Ranks 3-5 were the same for both groups and are as listed above.)

Although this type of questionnaire confirms that pay and family separation seem to be of general concern, the questionnaire is limited in identifying future leavers or *stayers*, or for implementing policy that might affect leavers on the margin.

What Makes Surveys Most Effective?

- Highest possible participation
- Highest possible response rates to all questions
- Short, carefully worded questions and answers
- Reliable data validation methods
- Caution in evaluating analytical results

If time and resources were unlimited, the ideal survey would have such features as the highest possible participation of those Sailors selected for the survey, as well as the highest possible response rates to all questions by survey respondents. Survey questions should be short and easy to understand to get responses that are most indicative of beliefs. Regardless of resources, surveys should strive for these features. Reliable data validation methods, such as comparison with administrative records wherever possible, are essential. Also, as with any research, evaluation of the analytical results should always be done cautiously.

We add a cautionary note on mandatory participation and response to all questions. Such a practice may lead to problems with the accuracy of responses. For example, sailors who resent having to take a survey may respond to all opinion questions with "does not matter" or "neutral" even if they feel otherwise. Such a practice should be reviewed carefully.

One way to encourage people to participate and to respond accurately is to convey how important their input is on policy decisions. Also, some survey administrators in the private sector provide incentives to attract people to take surveys in order to raise participation rates.

Lately, NPRST has asked respondents of some surveys to voluntarily report their social security numbers (SSNs). Several research projects are in place to test for the validity of responses for those who did and did not give SSNs. In addition, if voluntary responses of SSNs are high, NPRST may also be able to track how many surveys a Sailor fills out annually.
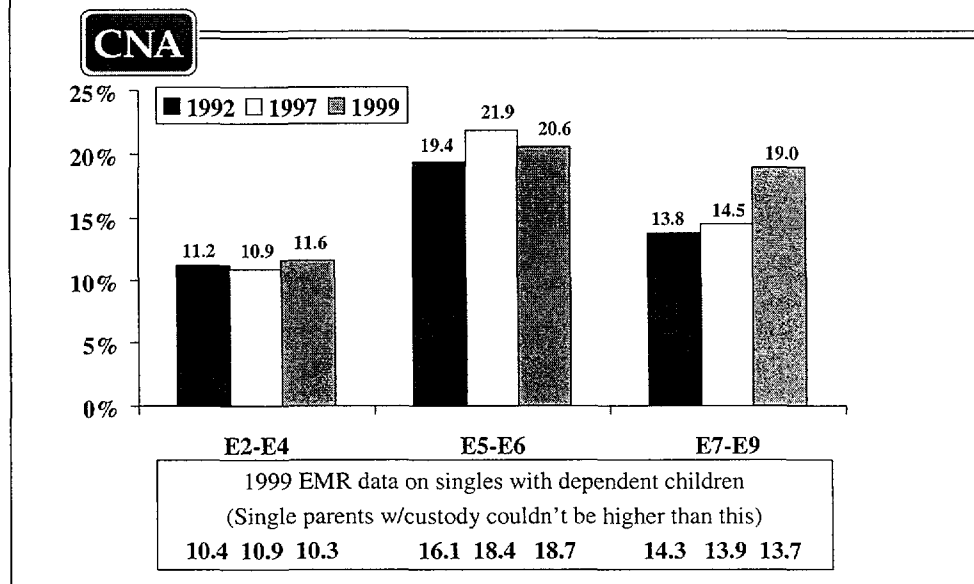
19

When Surveys Fail

CNA

- Recent single parent example
  - Insufficient sampling methods
  - Readily available administrative data
- Navy Retention/Separation Questionnaire
  - Very low response rates
  - Biased sample
  - Poor question design

The next several slides illustrate surveys that have yielded results that were misleading and/or of limited value. We follow with illustrations of positive experiences.

Errors From Relying on Survey Data
Female Enlisted Single Parents with Custody

CNA

	1992	1997	1999
E2-E4	11.2	10.9	11.6
E5-E6	19.4	21.9	20.6
E7-E9	13.8	14.5	19.0

25% — 20% — 15% — 10% — 5% — 0%

1999 EMR data on singles with dependent children
(Single parents w/custody couldn't be higher than this)

| E2-E4	E5-E6	E7-E9
10.4 10.9 10.3	16.1 18.4 18.7	14.3 13.9 13.7

The graph above is a good example of why administrative data, when available and complete, are usually better suited than survey data for informing decision-makers. Survey data can be prone to sample bias.

The bar charts summarize results from a survey on parenthood status in the Navy that was largely a voluntary exercise for Sailors. A summary of administrative data, the Enlisted Master Records (EMR), on the parenthood status of Navy personnel appears beneath the bar charts.

The bar chart of survey data and calculations from the EMR show distinctly different patterns of female enlisted single parents with custody over the 1990s. Survey data summarized in the bar chart suggest a substantial increase in female E7-E9 single parenthood with custody from 1997 to 1999. Administrative data show that this is not possible. The survey results, probably tainted by fluctuating response rates over time, give an incorrect picture of female single parenthood in the Navy over time.

Although the EMR data are not entirely error-free, they are widely recognized as accurately representing many characteristics of enlisted personnel. For example, the EMR data help allocate BAH and verify qualification for base housing.

A False Signal of Change
Male Enlisted Single Parents with Custody
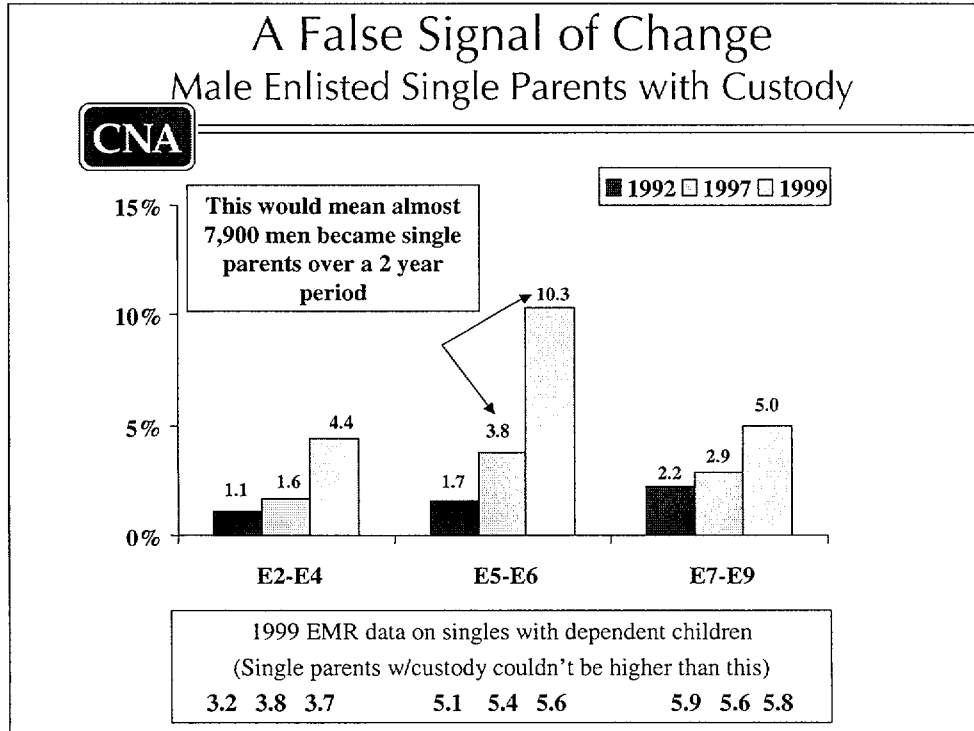
As with the prior slide, the survey results (in bar chart form) would suggest a very large increase in male E5-E6 single parents with custody in a two-year period. Administrative data clearly show that this is not the case. Had policies been undertaken to "address the issue of fast-growing male single parenthood at the E5-E6 level" based on the survey data, they would have been misguided and potentially costly.

Example of Poor Survey Design

CNA

- Retention/Separation Questionnaire
  - Responses not mandatory
    - Bias toward most dissatisfied
  - Not uniformly administered across commands
- Will ultimately be phased out for ARGUS survey

A 1994 CNA report detailed a number of flaws in the Navy Retention/ Separation Questionnaire [6]. The survey suffered from selection bias, measurement error, non-response bias, and physical error.

An OPNAV instruction directs commands to have all exiting, PCS, or re-enlisting service personnel complete the Retention/Separation Questionnaire. In reality, there are few exiting personnel who fill out the survey (less than 10 percent). At response levels this low, it becomes very unlikely that the survey results are representative of the views of all exiting Navy personnel.

The ARGUS survey addresses a number of the faults of the Navy Retention/Separation Questionnaire. It is briefly described in the next slide.

New Navy Transition Survey

CNA

- ARGUS
- In development at NPRST
  - Replaces the Retention/Separation Questionnaire
  - Expected to go on-line sometime in FY01
    - Will also test a paper and stand-alone computer version
  - Designed to address many problems with the Navy Separation/Retention questionnaire

To address the shortcomings of the survey system, in particular the Navy Retention/Separation Questionnaire, a new transition survey called ARGUS has been designed and tested. It will be ready for Navy-wide application in early 2001. The ARGUS survey should also make collection and dissemination of the results to key decision-makers much more timely. Some of its other features are described in more detail at the end of the briefing.

When Surveys Succeed:
Survey Results and Retention

CNA

- Uses
- Policy recommendations from survey results

The following pages describe how to use successful survey results and how such results can lead to specific policy recommendations.

Uses of Survey Results

CNA

- Identify Sailors' views at a point in time or trends over time
- Shape requests for Congress
  - Such as base and/or retired pay changes
- Help allocate Navy resources efficiently
  - Where should the Navy invest dollars to increase retention?

Survey results can be especially useful when a problem has been identified with administrative data (e.g., retention), but the reasons for the problem are not well understood. Survey results may indicate why Sailors are changing their behavior and can allow Navy leadership to take their concerns to DOD and congressional leadership with more specific suggestions for solving the problem.

Regardless of whether DOD or congressional leadership needs to be informed about Sailors' opinions, it is useful for the Navy to have a sense of how Sailors view their work lives over time. The ongoing Navy-wide Personnel Survey and the QOL Domain Survey are especially suited for spotting trends in opinions over time (e.g., asking the same questions about leadership on every survey). These trends can help shape longer term Navy-wide policies and can be used to garner support for those policies among Navy leadership.

In addition, the Navy-wide Personnel Survey allows for respondents to address questions that are of particular interest to CNP at a point in time. For example, the 1991 Navy-wide Personnel Survey had a series of questions about AIDS education, while the 1997 Survey had a series of questions about hazing and extremist/hate groups. Although it could be useful to track opinions about these very important topics over time, it may be even more critical for the Navy to respond by quickly providing training and/or information to commanders and the fleet.

Finally, survey responses can be useful for guiding Navy policy toward the most cost-effective response to a problem. For example, a CNA study has shown that marginal investment in morale, welfare, and recreation (MWR) programs and family service centers (FSC) has a positive, cost-effective effect on retention [7].

An important part of ongoing surveys, such as the Navy-wide Personnel Survey (and now the QOL Domain Survey), is that they can track changes in opinions over a period of years. This can aid in devising longer term strategies that help retention. The NPS Summary of Trends, including the results cited on this slide, should always be viewed with the following caveat, which prefaces the report [8]:

"The responses on eight Navy-wide Personnel Surveys have been compared and charted in this report. Items with consistent wording have been analyzed, and the results are depicted in figures and tables beginning on page 6. Only those questions that remained the same during two or more years have been included in the comparisons. Not every figure and table is addressed in the text. When interpreting results, only items that show two consecutive downturns or upturns should be considered trends. The statistical significance of each directional shift on the graph is purposefully omitted in favor of letting the reader decide on the practical significance of each trend. The reason for this decision is that the large number of respondents in the surveys cause even small differences in trends to be statistically significant, although many of those differences may not be practically meaningful. In interpreting these trends, a conservative estimate of error (+3% to –3%) in the data may be used. This means that if a 50 percent agreement with a statement changes from one year to another, such change should not be considered meaningful unless it changed to 47 percent or less or to 53 percent or more. Between 47 percent and 53 percent is considered the same as 50 percent, no change."

Survey Results Cited in Congressional Testimony

CNA

- VADM Oliver testimony, 24 March 1999
- Cited results on Sailor discontent with pay/retirement from:
    - One-time 1998 Navy Personnel Pay Survey
    - Navy Retention/Separation Questionnaire
- DOD-sponsored compensation reforms became law in late 1999

Survey results can help shape policy internal to the Navy (or to all of DOD). Or, once a policy position has been decided, survey results can be used to bolster support from other decision-makers. VADM Oliver, then CNP, testified before the Subcommittee on Personnel of the Senate Armed Services Committee on 24 March 1999. The testimony is an example of both types of survey uses.

The 1998 Navy Personnel Pay Survey was specifically taken to aid CNP in making congressional requests for DOD-backed compensation reforms. These reforms included a 4.4-percent basic pay increase, pay table reform, and reform of the REDUX retirement package. This NPRST survey was initiated, designed, administered, and analyzed in approximately eight weeks. The CNP testimony states that:

"Results from the Navy Personnel Pay Survey indicate that our mid-grade petty officers place nearly equal importance on basic pay and retirement pay (82 percent/78 percent). More importantly, 90 percent of the respondents felt they were not adequately paid for the job they do. This was more than a perception; it was overwhelmingly (78 percent) based on knowing someone in a similar job in the civilian sector or from their own job hunting experience. According to Navy's Retention/Separation Questionnaire data (FY 94 through FY98), Basic Pay is cited as one of the most important reasons for enlisted Sailors leaving the Navy."

Each of these compensation reforms was realized in October 1999 in the FY 2000 Defense Authorization Act. Although we cannot say that CNP's testimony was the critical factor in passage of the legislation, it is plausible that his testimony and citation of survey results had a positive effect on passage of compensation reform.

It is noteworthy that the Congressional Budget Office (CBO) testified 3 weeks earlier than CNP (Statement of Christopher Jehn, Assistant Director, National Security Division, Congressional Budget Office, on Military Pay and Benefits before the Subcommittee on Personnel Committee on Armed Services, United States Senate, March 3, 1999) and stated:

"CBO's recent analysis concluded that REDUX is not causing a large exodus of midcareer personnel. That finding comes from comparing the retention decisions of thousands of service members who began active duty shortly after REDUX was implemented but who, because of their participation in different accession or commissioning programs, were under different retirement systems. Using standard statistical methods, CBO isolated the effects of being under REDUX from the effects of other factors that might influence retention. The analysis controlled for such demographic variables as age, sex, marital status, and education as well as for occupation in the military and the possible effects of changes in the services' personnel policies during the reductions that followed the Cold War.

If the new retirement system was having a marked effect on retention, as the Joint Chiefs of Staff have reported, CBO's analysis would most likely have shown that effect. Instead, CBO found that, in general, being under REDUX had no discernible effect on the midcareer retention decisions of people who began active duty in 1987. The Navy was the only service in which REDUX had a statistically significant impact on retention of enlisted personnel between their 6th and 11th years of service. For enlisted members of the Army, Marine Corps, and Air Force, CBO found no statistically significant link between REDUX and retention in those years of service. The analysis of officer retention, which focused on years of service 8 through 10, identified a negative effect for the Air Force but not for the Navy."

Survey Analysis Can Lead to Specific Policy Recommendations

CNA

- CNA study using Navy-wide Personnel Survey
  - Increased satisfaction with all QOL programs (except child care) has a significant effect on overall satisfaction
  - Investing in military vs. civilian housing or child care has about the same effect on satisfaction
  - Increases in satisfaction with MWR and FSC increases the probability of continuing for 12, 24, and 36 months
  - Marginal changes in QOL programs are cost effective

Careful analysis of views about quality-of-life programs in the Navy collected by surveys shows that higher satisfaction with all QOL programs except child care does have a statistically significant effect on stated overall satisfaction with Navy life [7].

The authors also found that the satisfaction levels of Navy personnel were equally affected by investment in either military or civilian housing The authors found the same result with child care—satisfaction levels were affected in about the same way if the Navy invested in either civilian or military child care.

The study also shows that increases in satisfaction with Morale, Welfare, and Recreation (MWR) services, as well as with Family Service Centers (FSC), have a statistically significant positive effect on the average probability of continuing in the Navy for an additional 12, 24, and 36 months. Finally, the study shows a simulated increase in average continuation rates of 3.2 to 6.7 percentage points due to FSC and MWR programs.

A related follow-up study for DOD found substantially less effect (and in some cases no effect at all) of MWR and FSC on 12-, 24-, and 36-month post-survey retention in the other military services [9].

ARGUS: Designed to Overcome Current Survey Limitations

CNA

- Mandatory for all Sailors in transition
- Eventual web-based system
- Will give commanders access to survey results from their commands
- Planned link of survey database to personnel files through social security number

The new ARGUS surveying system is designed to address many of the problems with current Navy surveying systems. The goal of ARGUS is to make the survey mandatory for all Sailors undergoing transition. This feature is designed to overcome a key drawback to the current Navy Retention/Separation Questionnaire: sample bias (i.e., when the sample is over-represented by those who are least happy with Navy life).

The goal of ARGUS is also to create a web-based system to make response, data collection, database management, and analysis of results as easy and fast as possible. This helps address the trade-off between timeliness and depth of analysis of survey results.

Another feature of the ARGUS system plan is to allow commanders access to results from his/her command. This feature, along with the gains from making the system web-based, is also designed to alleviate difficulties with dissemination of results.

A key difference in the ARGUS system and prior personnel survey systems is the planned link of responses to personnel files. The first planned link is of ARGUS system responses to the Enlisted Master File, where the link will be made through the social security number. If successful, this will greatly aid the analysis of opinions and actual behavior.

Summary

CNA

- Information value of surveys depends partly on design but also on appropriate use
- Decision-makers' access to results limited
- Surveys have had practical value in policy
- Significant change is under way to help Navy better understand members' satisfaction and retention

The Navy and DOD make significant investments of technology, human capital, and time in their survey systems. Some of these surveys are well designed; others, less so. The information value of the surveys depends not only on design, but also on appropriate use. For example, validating survey results with administrative data can help to avoid errors.

We also found that access to survey results is limited, for both technological and other reasons. A number of websites and publications summarize the key points; however, these can be difficult to locate, and information is not always timely.

We found examples of surveys that have had practical impacts on policy; most important, the information would have been difficult to retrieve any other way. The Navy's interest in what surveys have to offer is growing for informing the issue of retention. Several problems now stand in the way. The Navy-wide exit questionnaire lost much of its validity in the 1990s, and response rates on nearly all other repeated Navy-wide surveys dropped significantly throughout the same period.

The difficulties that the survey system has faced in producing valid, useful information in a timely manner should not be surprising. During the drawdown, there was far less concern about why Sailors were leaving the Navy; the focus was on encouraging them to leave. Very quickly, however, the environment changed, and the Navy found itself trying to retain Sailors in the tightest labor market in decades.

Recent changes have addressed many of these problems. The ARGUS survey is a promising replacement to the exit questionnaire, but it still needs to be tested Navy-wide. The establishment of NLAG may give decision-makers greater access to survey information, and may reduce the duplication of survey effort.

CNA

Backup Slide

NPRST (NPRDC) Survey Analysis

CNA

- Briefs for sponsors
- Reports on trends in survey results
- Publication of statistical tables of results
- More in-depth analysis of results
  - Quality of life
  - Written comments on surveys

NPRST (formerly NPRDC) summaries of survey results have been a part of policy recommendations to senior decision-makers over the years. NPRST briefs the sponsors of the surveys. It also makes public some of the trends in the survey results as well as cross-tabulations of responses of various questions and demographic characteristics of the respondents (see [8] and [10].)

NPRST also does more in-depth analysis of the results. For example, researchers found positive and significant correlations between four QOL measures and intent to stay in the Navy [11].

Also, then-NPRDC researchers analyzed responses from the Navy-wide Personnel Surveys from 1990 to 1992 [12]. This research relied on cross-tabulations and found that middle and high enlisted pay grades reported a more favorable effect of their living conditions on job performance and continuation decisions than did those Sailors in low pay grades. Other studies using different statistical techniques do not find this relationship [7]. Several NPRDC studies over the 1990s also summarized the written comments on the Navy-wide Personnel Surveys. These are the most qualitative analyses of the surveys.

References

[1] *Perspectives of Surveyed Service Members in Retention Critical Specialties*, August 1999, U.S. General Accounting Office, GAO/NSIAD-99-197BR

[2] *Preliminary Results of DOD's 1999 Survey of Active Duty Members, Testimony before the Subcommittee on Military Personnel, Committee on Armed Services, House of Representatives*, March 2000, U.S. General Accounting Office, GAO/T-NSIAD-00-110

[3] Phone conversation with Michael Schwerin, Ph.D., Research Psychologist, NPRST, July 2000

[4] Phone conversation with Jacquelyn Scarville, Ph.D., Deputy Director—Personnel Surveys, DMDC East, July 2000

[5] Edward S. Cavin. *A Study of the Marine Corps Family Programs*, September 1987 (CNA Report 139)

[6] Ravi Sharma. *The Navy Retention/Separation Survey: Enlisted Responses for FY 1990 Through FY 1992*, August 1994 (CNA Research Memorandum 94-28)

[7] Martha E. Koopman and Dan D. Goldhaber. *Return on Quality-of-Life Investment*, March 1997 (CNA Research Memorandum 96-147)

[8] John Kantor and Murrey Olmstead. *Navy-wide Personnel Survey (NPS) 1990-1997: Summary of Trends*. November 1998 (Navy Personnel Research and Development Center, TN-99-1)

[9] Dan D. Goldhaber and Jeremy Arkes with David L. Reese. *Return on Quality-of-Life Programs in DOD*, June 1999 (CNA Research Memorandum 98-102)

[10] John Kantor, Michael Ford, and Murrey Olmstead. *Navy-wide Personnel Survey (NPS) 1996: Statistical Tables for Enlisted Personnel*, February 1997 (Navy Personnel Research and Development Center)

[11] Gerry L. Wilcove. *1994 Navy Quality of Life Survey*, April 1996 (Navy Personnel Research and Development Center, TR-96-41)

[12] Gerry L. Wilcove. *Quality of Life in the Navy, Findings From 1990 to 1992: The Navy-wide Personnel Survey, Volume 1: Research Report*, October 1994 (Navy Personnel Research and Development Center, TR-95-1)

THIS PAGE INTENTIONALLY LEFT BLANK

Distribution list

Annotated Briefing D0002755.A2

OPNAV

N1D
N12
N13
N13T
N132C
N132C1
N81
N813
N813D