CHARACTERISTICS OF CONTRIBUTORS TO THE INFORMATION BASE FOR THE AUTOMATED... (U) WASHINGTON UNIV SEATTLE DEPT OF PSYCHOLOGY L R BEACH ET AL. SEP 84 TR-84-1

UNCLASSIFIED N00014-82-K-0657
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A
CHARACTERISTICS OF CONTRIBUTORS TO THE INFORMATION BASE FOR THE AUTOMATED AID FOR PERSONNEL RETENTION

Lee Roy Beach, Barbara L. Weinstein, and Barbara H. Beach

University of Washington

Technical Report 84-1
September 1984

DISTRIBUTION IS UNLIMITED

Office of Naval Research Contract N00014-82-K-0657

Lee Roy Beach and Jay J. J. Christensen-Szalanski, Investigators

REPRODUCTION IN WHOLE OR IN PART IS PERMITTED FOR ANY PURPOSE OF THE UNITED STATES GOVERNMENT.
DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED.
**DATA**

Data are reported on the characteristics of the 99 Naval enlisted personnel who contributed information to the base upon which an Automated Aid for Personnel Retention will be based. The people are from categories of Surface, Aid, and Submarine personnel and from a wide variety of specific jobs. It was found that there is a significant relationship between participants' intentions about reenlistment and the number of pro and con arguments for and against reenlistment that they report.

**ABSTRACT**

Lee Roy Beach, Barbara L. Weinstein, and Barbara H. Beach, organizational Effectiveness Research Group, Office of Naval Research (Code 442), Arlington, VA 22217, Department of Psychology, Univ. of Washington, Seattle, WA 98195.

**PERIOD COVERED**

September 1984

**GOVERNMENT ACCESSION NUMBER**

AD-A148357

**UNCLASSIFIED**

**REPORT NUMBER**

TR84-1

**AUTHOR**

Lee Roy Beach, Barbara L. Weinstein, and Barbara H. Beach

**TITLE**

Characteristics of Contributors to the Information Base for the Automated Aid for Personnel Retention

**RECEIPT NUMBER**

N00014-82-K-0657

**PERFORMING ORG. REPORT NUMBER**

84-1

**PUBLICATION DATE**

September 1984

**CATEGORY**

Technical Report

**UNIVERSITY NAME AND ADDRESS**

Department of Psychology, Univ. of Washington, Seattle, WA 98195

**CONTRACT OR GRANT NUMBER**

N00014-82-K-0657

**NAME AND ADDRESS OF CONTROLLING OFFICE**

Office of Naval Research (Code 442), Arlington, VA 22217

**STANDARD NUMBER**

UNCLASSIFIED

**DATASET STATEMENTS**

DISTRIBUTION IS UNLIMITED, APPROVED FOR PUBLIC RELEASE

**ABSTRACT**

Data are reported on the characteristics of the 99 Naval enlisted personnel who contributed information to the base upon which an Automated Aid for Personnel Retention will be based. The people are from categories of Surface, Aid, and Submarine personnel and from a wide variety of specific jobs. It was found that there is a significant relationship between participants' intentions about reenlistment and the number of pro and con arguments for and against reenlistment that they report.
Characteristics of Contributors to the Information Base for the Automated Aid for Personnel Retention

Lee Roy Beach, Barbara L. Weinstein and Barbara H. Beach
University of Washington

This report presents data on the characteristics of 99 Naval enlisted personnel who have contributed to the information upon which the ONR sponsored construction of an Automated Aid for Personnel Retention is based. The information was obtained in face-to-face conversations that, while largely unstructured, included various predetermined areas of content. The conversations were conducted over an extended period and each lasted between fifteen minutes and one hour. Participants were obtained through the cooperation of the Base Commanders of various Naval installations in and around the Puget Sound area of Washington State with the help of the career counselors, for which cooperation and help we are very grateful.

In general, participants were solicited by announcements to the effect that a researcher from the University of Washington was available, and willing, to discuss the issues involved in the decision about whether or not to reenlist. Those persons who were in the process of making such a decision were invited to discuss their decision with the researcher; some declined but most were eager to participate when convenient times could be arranged.

At the beginning of the conversation it was made clear that the researcher was working on a project that was funded by the Office of Naval Research, but that she was employed by the University of Washington and that whatever was said to her would remain confidential and all information obtained would be restricted to use by project
personnel. Insofar as possible, the conversations were kept informal
and an effort was made to limit topics to those relevant to the
reenlistment decision. The researcher engaged in the conversations
was a middle-aged woman who holds a Masters degree in Social Work and
who has had a great deal of interviewing experience.

In the course of the conversation, the researcher made notes on a
xerox of a handwritten form (handwritten to underscore the informal
nature of the conversation); the use of the form insured that all
areas of interest were touched upon. After completion of the
conversation the notes were coded for data analysis. The data that
are to be presented here are based upon these coded notes.

Of major concern in the conversations were the reasons, pro and
con, influencing the participants' thinking about whether or not to
reenlist. The goal was to obtain a pool of commonly considered,
highly relevant reasons to use in the computer based decision aiding
system that is to be the product of the contracted research. In order
to insure that the pool is sufficiently representative of the various
reasons operative for the variety of people involved in making
reenlistment decisions, it was necessary to carefully select
participants who in fact represented that variety of people. To this
end, participants were selected from among (1) Surface Personnel, (2)
Air Personnel, and (3) Submarine Personnel; within each of these
categories a cross section of jobs is represented. Thus, without
having to invest in an extremely large number of conversations with an
extremely large number of participants, it was possible to obtain a
representative cross section of decision makers and jobs. Moreover,
it soon became apparent that, with minor variations, the reasons that
were obtained were not substantially different from one category to
another, or from one job to another. Therefore, it is reasonable to
assume that the information obtained has a suitable degree of generality and is a solid base upon which to build the decision aid.

Results

The purpose of this report is to examine the characteristics of the people who participated in the conversations - the specific reasons relevant to the pros and cons of reenlistment that were obtained in the conversations will be described in a subsequent technical report.

Below are the frequency distributions or descriptive statistics for those variables that were obtained for all the participants during the course of the conversations. All frequency distributions (percentages) and descriptive statistics are based on a sample size of 99 participants.

Sample Sources and Categories of Occupations. The following table indicates from which installation participants were obtained and to which of the three broad job categories they belonged. Note that the submarine base provided both submariners and surface personnel (e.g., crews of sub tenders).

<table>
<thead>
<tr>
<th>Installation</th>
<th>Job Category</th>
<th>Surface</th>
<th>Air</th>
<th>Submarine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipyard</td>
<td></td>
<td>24%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Air Station</td>
<td></td>
<td>0%</td>
<td>29%</td>
<td>0%</td>
</tr>
<tr>
<td>Submarine Base</td>
<td></td>
<td>29%</td>
<td>0%</td>
<td>16%</td>
</tr>
</tbody>
</table>
### Specific Job Types

The specific types of jobs (rates) held by the sample participants were:

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>Aviation Electronics Specialist</td>
<td>16%</td>
</tr>
<tr>
<td>MS</td>
<td>Mess Management-Cook</td>
<td>11%</td>
</tr>
<tr>
<td>AE</td>
<td>Aviation Electrician</td>
<td>8%</td>
</tr>
<tr>
<td>ET</td>
<td>Electronic Technician</td>
<td>8%</td>
</tr>
<tr>
<td>Yeoman</td>
<td>Secretary-Clerk</td>
<td>7%</td>
</tr>
<tr>
<td>AQ</td>
<td>Fire Control Technician</td>
<td>5%</td>
</tr>
<tr>
<td>MM</td>
<td>Machinist’s Mate-Nuclear Engine Mech</td>
<td>4%</td>
</tr>
<tr>
<td>SH</td>
<td>Ship’s Storekeeper</td>
<td>4%</td>
</tr>
<tr>
<td>FTB</td>
<td>Fire Control Technical Balistics</td>
<td>3%</td>
</tr>
<tr>
<td>HT</td>
<td>Hall Maintenance Technician</td>
<td>3%</td>
</tr>
<tr>
<td>JOC</td>
<td>Journalist</td>
<td>3%</td>
</tr>
<tr>
<td>MA</td>
<td>Master at Arms-Military Police</td>
<td>3%</td>
</tr>
<tr>
<td>EN</td>
<td>Engine Mechanic-Diesel</td>
<td>2%</td>
</tr>
<tr>
<td>IC</td>
<td>Instructor</td>
<td>2%</td>
</tr>
<tr>
<td>ICC</td>
<td>Interior Communications Technician</td>
<td>2%</td>
</tr>
<tr>
<td>MR</td>
<td>Machinery Repairman</td>
<td>2%</td>
</tr>
<tr>
<td>GM</td>
<td>Ship’s Movement Coord-Radio Tug Dispatch</td>
<td>2%</td>
</tr>
<tr>
<td>BM</td>
<td>Bos’n’s Mate</td>
<td>1%</td>
</tr>
<tr>
<td>BT</td>
<td>Boiler Technician</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>(Caring for Military Working Dogs)</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>(Construction Electrician-SeaBees)</td>
<td>1%</td>
</tr>
<tr>
<td>EMC</td>
<td>Electrician’s Mate</td>
<td>1%</td>
</tr>
<tr>
<td>GMCS</td>
<td>Gunner’s Mate</td>
<td>1%</td>
</tr>
<tr>
<td>GMT</td>
<td>Gunner’s Mate</td>
<td>1%</td>
</tr>
<tr>
<td>HRMS</td>
<td>Human Resource Management Technician</td>
<td>1%</td>
</tr>
<tr>
<td>LN</td>
<td>Legal Technician-Paralegal</td>
<td>1%</td>
</tr>
<tr>
<td>OS</td>
<td>Operation’s Specialist</td>
<td>1%</td>
</tr>
</tbody>
</table>
PHCS (Photographer's Mate) 1%
RM (Radioman) 1%
RP (Religious Program Specialist-Chap Ass't) 1%
STG (Sonar Technician) 1%

Gender. The sample consisted of 90% males and 10% females.

Race/Ethnicity. The racial/ethnic characteristics of the sample participants were:

- Caucasian 85%
- Black 12%
- Hispanic 2%
- Asian/Filipino 1%

Age. The mean age of the sample participants was 28 years, with a standard deviation of 5.8 years and a range of 20 to 42 years.

Marital Status. The marital status of the sample participants was:

- Married 50%
- Single 35%
- Divorced 11%
- Separated 4%

Number of Children. The number of children the sample of participants reported as having was:

- None 54%
- One 15%
- Two 23%
- Three 5%
- Four 1%
- Five 2%
Years in Military. The mean number of years the sample participants spent in the military was 7.80 years, with a standard deviation of 5.20 years and a range of 1 to 23 years.

Pay Grade. The distribution of the pay grades for the sample participants was:

- E1: 0%
- E2: 0%
- E3: 4%
- E4: 30%
- E5: 28%
- E6: 20%
- E7: 10%
- E8: 3%
- E9: 1%
- Missing Info: 3%

Education. The highest level of education completed by the sample participants was:

- 9th Grade: 2%
- 10th Grade: 3%
- 11th Grade: 5%
- 12th Grade: 52%
- G.E.D.: 6%
- Some College: 29%
- College Graduate: 3%
**Father's Occupation.** The occupation of the fathers of the sample participants was:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Laborer</td>
<td>67%</td>
</tr>
<tr>
<td>Professional</td>
<td>21%</td>
</tr>
<tr>
<td>Unskilled Laborer</td>
<td>11%</td>
</tr>
<tr>
<td>Missing Info</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Mother's Occupation.** The occupation of the mothers of the sample participants was:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Laborer</td>
<td>39%</td>
</tr>
<tr>
<td>Housewife</td>
<td>36%</td>
</tr>
<tr>
<td>Professional</td>
<td>18%</td>
</tr>
<tr>
<td>Unskilled Laborer</td>
<td>4%</td>
</tr>
<tr>
<td>Missing Info</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Navy Training.** The following distribution shows the types of training and education received by the sample participants after enlisting (Note: many participants received more than one type of education/training):

<table>
<thead>
<tr>
<th>Type of Training</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One A School</td>
<td>58%</td>
</tr>
<tr>
<td>Two or More A Schools</td>
<td>20%</td>
</tr>
<tr>
<td>One C School</td>
<td>27%</td>
</tr>
<tr>
<td>Two or More C Schools</td>
<td>1%</td>
</tr>
<tr>
<td>Additional Courses</td>
<td>59%</td>
</tr>
<tr>
<td>On Job Training</td>
<td>10%</td>
</tr>
<tr>
<td>G.E.D.</td>
<td>4%</td>
</tr>
<tr>
<td>College</td>
<td>2%</td>
</tr>
</tbody>
</table>
Reasons for Joining the Navy. The most frequently given reasons for joining the navy were (1) Education and Training, (2) Travel and Adventure, (3) Job Security, and (4) Financial.

Reenlistment Intentions. When asked about whether or not they intended to reenlist, the sample participants responded:

- Not Reenlist: 35%
- Undecided: 23%
- Reenlist: 41%

Number of Pro and Con Reasons Reported in Considering Reenlistment Decision. The mean number of pro reenlistment reasons reported by the sample participants was 10.97, with a standard deviation of 5.72 and a range of 1 to 40. The mean number of con reenlistment reasons reported by the sample participants was 9.93, with a standard deviation of 5.94 and a range of 0 to 30.

Relationship Between Number of Pro and Con Reasons Reported and Intentions About Reenlistment. If the reported reasons are to be appropriately used in building a decision aid, they should bear a reasonable and orderly relationship to participants' reenlistment decisions. Previous research would suggest that participants who report the most con reasons should be least likely to intend to reenlist, participants who report the most pro reasons should be most likely to intend to reenlist, and participants who are undecided about reenlistment should report intermediate numbers of pro and con reasons. Figure 1 shows the relationship between intention and numbers of reported pro and con reasons; the expectation is upheld (One-way ANOVA for pro reasons, Not Reenlist $\bar{x} = 8.31$, Undecided $\bar{x} = 11.91$, Reenlist $\bar{x} = 12.71$, $F(2,96) = 6.67$, $p = .002$; One-way ANOVA for con reasons, Not Reenlist $\bar{x} = 12.37$, Undecided $\bar{x} = 9.61$, Reenlist $\bar{x} = 8.02$, $F(2,96) = 5.58$, $p = .005$). Of course, sheer number of reasons
is but a rough measure of the impact of the reasons upon the reenlistment decision. Subsequent research will examine the relative contributions of the various reasons and what these weightings imply for counseling for reenlistment decisions.
Fig. 1. Relationship between intention about reenlistment and number of reported pro and con reasons contributing to the intention.
Manpower R&D Program - List A

(One copy to each addressee except as otherwise noted)

Director Technology Programs
Office of Naval Research (Code 200)
Arlington, VA 22217

Director Research Programs
Office of Naval Research (Code 400)
Arlington, VA 22217

Manpower, Personnel and Training Technology Project Manager
Office of Naval Research (Code 270)
Arlington, VA 22217

Mathematics Group
Office of Naval Research (Code 411MA)
Arlington, VA 22217

Leader Information Sciences Division
Office of Naval Research (Code 433)
Arlington, VA 22217

Associate Director for Life Sciences
Office of Naval Research (Code 440)
Arlington, VA 22217

Leader Psychological Sciences Division
Office of Naval Research (Code 442)
Arlington, VA 22217

Engineering Psychology Group
Office of Naval Research (Code 442EP)
Arlington, VA 22217

Organizational Effectiveness Group
Office of Naval Research (Code 4420E)
Arlington, VA 22217

Personnel and Training Group
Office of Naval Research (Code 442PT)
Arlington, VA 22217

Defense Technical Information Center
(12 copies)*
DTIC/DDA-2
Cameron Station, Building 5
Alexandria, VA 22314

Science and Technology Division
Library of Congress
Washington, DC 20540

Commanding Officer
Naval Research Laboratory
Code 2627
Washington, DC 20375

Psychologist
Office of Naval Research Detachment
1030 East Green Street
Pasadena, CA 91106

Special Assistant for Projects
Office of the Assistant Secretary of the Navy (Manpower & Reserve Affairs)
5D800, The Pentagon
Washington, DC 20350

Assistant for Long Range Requirements
CNO Executive Panel (Op-00K)
2000 North Beauregard Street
Alexandria, VA 22311

Head, Manpower, Personnel, Training and Reserve Team
Office of the NCO (Op-914D)
4A578, The Pentagon
Washington, DC 20350

Asst. for Personnel Logistics Planning
Office of the CNO (Op-987H)
5D772, The Pentagon
Washington, DC 20350

Assistant for Planning and MANTRAPERS
Office of the DCNO(MPT) (Op-0187)
Department of the Navy
Washington, DC 20370

Asst. for MPT Research, Development and Studies
Office of the DNCO(MPT) (Op-0187)
Department of the Navy
Washington, DC 20370

*If report is ready for unlimited public distribution.
Manpower R&D Program

Head, Workforce Information Section
Office of the DCNO(MPT) (Op-140F)
Department of the Navy
Washington, DC 20370

Head, Family Support Program Branch
Office of the DCNO(MPT) (Op-156)
1300 Wilson Boulevard, Room 828
Arlington, VA 22209

Director, Research & Analysis Division
Navy Recruiting Command (Code 22)
4015 Wilson Boulevard
Arlington, VA 22203

Naval School of Health Sciences
National Naval Medical Center (Bldg. 141)
Washington, DC 20314
Attn: CDR Karen Reider

Headquarters U.S. Marine Corps
Code MPI-20
Washington, DC 20380

Program Manager for Manpower,
Personnel, and Training
Naval Material Command/Office of
Naval Technology (Code 0722)
Arlington, VA 22217

Director, Decision Support Systems Div.
Naval Military Personnel Command (N-164)
Department of the Navy
Washington, DC 20370

Technical Director
NPRDC (Code 01)
San Diego, CA 92152

Deputy Technical Director
NPRDC (Code 01A)
San Diego, CA 92152

Fleet Support Office
NPRDC (Code 301)
San Diego, CA 92152

Asst. for Evaluation, Analysis, & MIS
Naval Military Personnel Command (N-6C)
Department of the Navy
Washington, DC 20370

Director, Overseas Duty Support Program
Naval Military Personnel Command (N-62)
Department of the Navy
Washington, DC 20370

Asst. for Evaluation, Analysis, & MIS
Naval Military Personnel Command (N-6C)
Department of the Navy
Washington, DC 20370

Director, Overseas Duty Support Program
Naval Military Personnel Command (N-62)
Department of the Navy
Washington, DC 20370
Manpower R&D Program

List A

Director, Human Factors and Organizational Systems Laboratory
NPRDC (Code 07)
San Diego, CA 92152

Department of Administrative Sciences
Naval Postgraduate School (Code 54Fa)
Monterey, CA 93940

Department of Operations Research
Naval Postgraduate School (Code 55mt)
Monterey, CA 93940

Technical Director
U.S. Army Research Institute for the Behavioral and Social Sciences
5001 Eisenhower Avenue
Alexandria, VA 22333

Director, Manpower Support and Readiness Program
Center for Naval Analyses
2000 North Beauregard Street
Alexandria, VA 22311

Scientific Advisor to the DCNO(MPT)
Manpower Support and Readiness Program
Center for Naval Analyses
2000 North Beauregard Street
Alexandria, VA 22311

Dr. Irwin C. Sarason
Department of Psychology (NI-25)
University of Washington
Seattle, WA 98195

Dr. Michael Borus
Center for Human Resource Research
The Ohio State University
5701 North High Street
Columbus, OH 43085

Dr. Richard C. Morey
Graduate School of Business Admin.
Duke University
Durham, NC 27706

Dr. Eric Flamholtz
Graduate School of Management
UCLA
Los Angeles, CA 90024

Dr. David G. Bowers
Institute for Social Research
The University of Michigan
P.O. Box 1248
Ann Arbor, MI 48106

Dr. David Kieras
Department of Psychology
University of Arizona
Tucson, AZ 85721

Manpower Research & Advisory Services
Smithsonian Institution
801 North Pitt Street
Alexandria, VA 22314

Military Assistant for Training and Personnel Technology
Office of the Under Secretary of Defense for Research and Engineering
3D129, The Pentagon
Washington, DC 20301

Personnel Analysis Division
AF/MMPX
5C360, The Pentagon
Washington, DC 20330
Manpower R&D Program

Dr. R. Darrell Rook
National Opinion Research Center
University of Chicago
6030 South Ellis Avenue
Chicago, IL 60637

Center for Research
College of Business Administration, RABII
The Pennsylvania State University
University Park, PA 16802

Dr. Brian K. Waters
Human Resources Research Organization
1100 South Washington Street
Alexandria, VA 22314

Dr. Lee Roy Beach
Department of Psychology (NI-25)
University of Washington
Seattle, WA 98195

Dr. Cynthia D. Fisher
Texas A&M Research Foundation
Texas A&M University
College Park, TX 77843

Dr. Barbara Means
Human Resources Research Organization
1100 South Washington Street
Alexandria, VA 22314