

ARI Research Note 2000-07

Overview of ARI Recruiting Research

Walter C. Borman, Kristen E. Horgen, and Lisa M. Penney
Personnel Decisions Research Institutes

Selection and Assignment Research Unit
Michael G. Rumsey, Chief

January 2000

U.S. Army Research Institute
for the Behavioral and Social Sciences

Approved for public release; distribution is unlimited.

DTIC QUALITY INSPECTED 3

20000313 044

**U.S. Army Research Institute
for the Behavioral and Social Sciences**

A Directorate of the U.S. Total Army Personnel Command

**EDGAR M. JOHNSON
Director**

Research accomplished under contract
for the Department of the Army

Personnel Decisions Research Institutes

Technical review by

M. A. Fischl

NOTICES

DISTRIBUTION: This Research Note has been cleared for release to the Defense Technical Information Center (DTIC) to comply with regulatory requirements. It has been given no primary distribution other than to DTIC and will be available only through DTIC or the National Technical Information Service (NTIS).

FINAL DISPOSITION: This Research Note may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The views, opinions, and findings in this Research Note are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy) January 2000		2. REPORT TYPE Final		3. DATES COVERED (from... to) May 1999 - September 1999	
4. TITLE AND SUBTITLE Overview of ARI Recruiting Research				5a. CONTRACT OR GRANT NUMBER DASW01-98-D-0049, DO 04	
				5b. PROGRAM ELEMENT NUMBER 0602785A	
6. AUTHOR(S) Walter C. Borman, Kristen E. Horgen, and Lisa M. Penney (Personnel Decisions Research Institutes)				5c. PROJECT NUMBER A790	
				5d. TASK NUMBER 6900B	
				5e. WORK UNIT NUMBER C01	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Personnel Decisions Research Institutes Tampa, Florida 33602				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue Alexandria, VA 22333-5600				10. MONITOR ACRONYM ARI	
				11. MONITOR REPORT NUMBER Research Note 2000-07	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES The research presented in this report will subsequently be incorporated into a comprehensive review of military recruiting research. It is being published at this time because of the high importance of recruiting issues to the Army.					
14. ABSTRACT (<i>Maximum 200 words</i>): This report presents in briefing form a summary of the research conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) on Army recruiting and selected recruiting research from other Service laboratories. The briefing is organized around a model of Army recruitment that shows the important factors contributing to successful recruiting. The first section of the briefing outlines and explains the model and the subsequent sections review the research pertinent to each section of the model. The briefing concludes with summaries of the research findings in each area and directions for future research.					
15. SUBJECT TERMS Recruiter, enlistment propensity, recruiter production, advertising, Army recruiting, recruitment model					
SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT Unlimited	20. NUMBER OF PAGES 100	21. RESPONSIBLE PERSON (Name and Telephone Number) Dr. Len White 703/617-0331
16. REPORT Unclassified	17. ABSTRACT Unclassified	18. THIS PAGE Unclassified			

Overview of ARI Recruiting Research

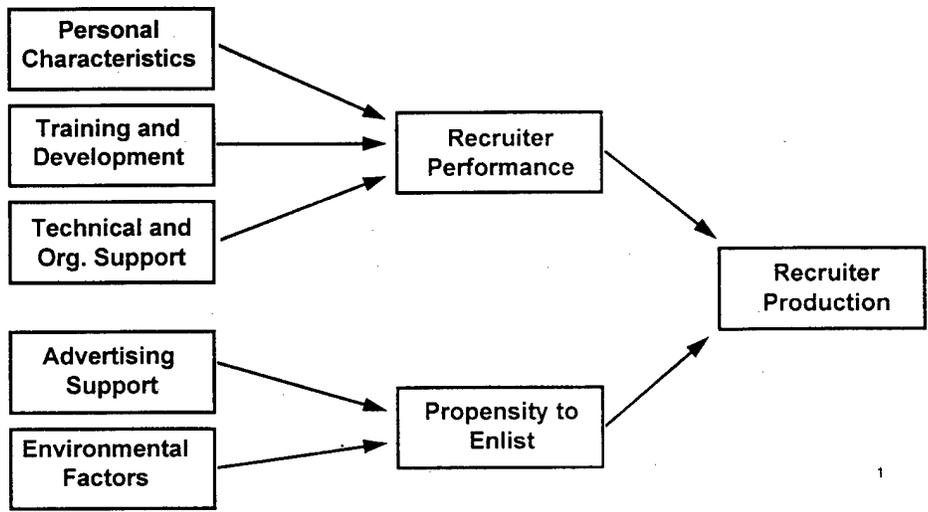
Wally Borman, Kristen Horgen, and Lisa Penney
Personnel Decisions Research Institutes

Introduction

This briefing describes research conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) on Army recruiting and selected recruiting research conducted by other U. S. Military Service laboratories. The briefing is organized around a model of recruitment productivity that shows the important factors contributing to success in the Army recruitment process. The first section of the briefing outlines and explains the model and the subsequent sections review the research pertinent to each section of the model. The briefing concludes with summaries of the research and a brief discussion around the implications of the research findings on future recruiting initiatives.



Recruitment Productivity Model



Briefing: Recruitment Productivity Model

Slide 1

- This model shows the important factors contributing to success in the Army recruitment process.
- The model should help us to place a framework on the research ARI and some of the other services have done around military recruiting.
- First, the box on the far right is the “bottom-line” effectiveness indicator, the number of successful recruitments accomplished per unit time.
- Moving to the left in the model, it shows that successful production is a function of both recruiter performance, i.e., the effort put forth by individual recruiters toward attracting qualified candidates, and the propensity for youths to enlist.
- In turn, recruiter performance is influenced by certain personal characteristics they bring to the recruiting environment, the initial training and subsequent development help they receive, and the technical and organizational support provided by USAREC, and their Brigade, Battalion, Company, and Station.
- Finally, propensity to enlist is a function of local and national advertising support for Army recruiting and several environmental factors.
- The model suggests where our attention should be directed to improve recruiter productivity. Going down the boxes on the left, first, identifying service members with “the right stuff” for success in recruiting may be useful. Second, training new recruiters and providing developmental experiences, as needed later in their tenure as recruiters, should enhance performance and productivity.
- Third, technical support such as computerized systems to provide information on Army MOS, or databases to identify candidates likely to enlist, should be helpful. Together these 3 factors should contribute directly to recruiter performance.
- Advertising may influence propensity to enlist in the Army. Both focused local advertising and larger scale, national campaigns can enhance propensity. Also, a variety of environmental factors probably have an impact on propensity to enlist. Such factors as unemployment rate, local population density, presence of a military facility nearby, traditional feelings toward the military, and ratio of military/civilian pay are examples of environmental factors. An important distinction between environmental factors and the other 4 factors in the model (i.e., person factors, advertising support, etc.) is that these 4 factors can be controlled by USAREC whereas the environmental factors cannot be as easily controlled. Thus, emphasis in determining the factors to focus on should be placed on these 4 factors. However, it will also be important to learn about environmental influences so that we know to what extent recruiter production *can* be enhanced by USAREC actions. USAREC *can* have some impact on a few environmental factors through policy and missioning requirements.
- We now want to examine ARI and certain other service research within each of these boxes to get a good perspective on what we know about Army recruiting and where gaps in our knowledge are evident. I’ll start with the Recruiter Production box and work to the left of the model.



Recruiter Production

Gross Production: Average Number of
Recruits per Month

Production Against Quota: Gross
Production-Individual Quota

Research Shows Stability of Production is
Low to Moderate

Implications for Measuring Recruiter
Performance

2

Briefing: Recruiter Production I

Slide 2

- Some of the recruitment research has used gross production as a criterion or productivity index (i.e., for a recruiter, the average number of recruits signed up per month).
- Production against quota has sometimes been used, albeit infrequently.
- To be used as a productivity index in recruiter research, the index should be reasonably consistent or stable. For example, if a particular recruiter is above average (or average or below average) over a 4-5 month period, we would like to see that recruiter's production at about the same level on average for the next 4-5 months. If stability is very low, the meaning of good or poor performance using production as an index is difficult to interpret.
- Research on stability done in the Navy suggests moderate stability; month to month correlations within district (which holds quota constant) were about .45. More stability exists when we use the average across several months. For example, the average production for 3 months correlated with average production over another 3-month period was .70.¹
- Some research has recognized that the production numbers may be influenced by factors outside the recruiter's control. For example, the local unemployment rate and geographic location may impact production rates.
- Several studies have attempted to adjust production measures to take these factors into account. These efforts usually compare a recruiter's average production to the overall average production for his or her territory (e.g., Company).²
- This kind of adjustment provides an improvement over raw production, but the resulting index still may be a function of not only recruiter performance, but also factors beyond his or her control. For example, some *stations* within the territory might be easier or more difficult to recruit in for some reason.
- There are two implications for measuring recruiter performance using production as an index. First, although it's not a perfect solution, Battalion or Company norms should be employed to correct for differential opportunities to succeed due to different environmental conditions and second, several months' production data should be averaged to provide a stable performance indicator.

¹ Borman, Rosse, & Toquam (1982).

² Brown, Wood, & Harris (1975); Borman, Rosse, & Toquam (1982); Larriva (1975).



Recruiter Production

Attempts to Factor Recruit Quality into
Production Index

Navy: Freeman Point Index and Abrahams'
Quality Index

Research Results

Briefing: Recruiter Production II

Slide 3

- Some military research has tried to take into account recruit quality as well as production.
- A Navy study attempted to factor Recruit Quality into two production indices, the Freeman Point Index and Abrahams' Quality Index.¹
- The Freeman Point Index measures both quantity *and* quality of recruits by considering recruit educational level, ability, and early attrition in addition to the number of recruits enlisted.
- The study found that the Freeman Point Index correlated highly with raw production and did little to alter the rank order of recruiters from their rank order on raw production.
- The other index, the Abrahams' Quality Index is a pure indicator of recruit quality, measuring only recruit educational level and ability. However, the results showed that it was unstable over time indicating that recruiters were not consistently bringing in high (or low) quality recruits.
- This research suggests that attempts to include quality measures in production indices are problematic in that indices that adjust for quality either correlate very highly with raw production or they are unstable and unreliable in measuring recruiter performance.
- In addition to environmental contamination issues (e.g. research indicates that the unemployment rate is positively related to accessions²), production measures may not fully represent the recruiter job. For example, recruiter efforts to provide support to other recruiters or to establish and maintain community relations may not emerge.

¹ Borman, Rosse, & Toquam (1982).

² Daula & Smith (1986).



Recruiter Performance

Research at ARI and NPRDC

Eight Important Performance Factors Identified

1. Prospecting
2. Rapport
3. Good Person-Army Fit
4. Salesmanship
5. Relationships in Community
6. Providing Information
7. Organizational Skills
8. Supporting Other Recruiters & USAREC

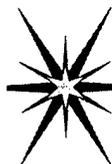
Briefing: Recruiter Performance I

Slide 4

- Work at ARI and NPRDC identified 8 factors important for successful recruiter performance.¹ These factors are:
 1. Locating and Contacting Qualified Prospects
 2. Gaining and Maintaining Rapport
 3. Obtaining Information from Prospects and Determining Their Needs and Interests
 4. Sales Skills
 5. Establishing and Maintaining Good Relationships in the Community
 6. Providing Knowledgeable and Accurate Information about the Army
 7. Organizing Skills
 8. Supporting Other Recruiters and USAREC
- Behavior-based rating scales were developed to measure recruiter performance on each of these 8 factors. Several studies used these scales to gather supervisor and peer ratings of recruiter performance. The scales worked well in that they provided reliable and valid ratings.²

¹ ARI work - Borman, Russell, & Skilling (1986); NPRDC work - Borman, Hough, & Dunnette (1976).

² Borman, Dunnette, & Hough (1976); Borman, Toquam, & Rosse (1978); Borman, Rosse, Toquam, & Abrahams (1981).



Recruiter Performance

Research Shows Three Summary Performance Factors

Selling Skills	Human Relations Skills	Organizing Skills
- Prospecting	- Rapport	- Organizing Skills
- Determining Needs & Interests	- Community Relations	- Supporting Other Recruiters
- Sales Skills		- Providing Information

5

Briefing: Recruiter Performance II

Slide 5

- Additional research done using the rating scales consistently showed 3 summary performance areas: Selling Skills, Human Relations Skills, and Organizing Skills. These summary factors reflect the best depiction of the recruiter performance requirements. The research on recruiter performance is 15-20 years old so some updating of this work is probably in order.¹

¹ Borman, Russell, & Skilling (1986).

Locating and Contacting Qualified Prospects

“Prospecting” effectively; contacting large numbers of persons likely to enlist in the Army; skillfully using the telephone, referrals, DEPs, advertising ideas, special events, etc., to contact and get the attention of civilians eligible for Army service; knowing where and when to prospect; ability to persist in prospecting and following up on leads even under considerable adversity; getting prospects into the office.

9 or 10

Extremely Effective Performance

- Displays exceptional ingenuity and energy in advertising the Army and in locating prospects.
- Makes very judicious use of referrals or persons recruited recently or placed in DEP/DTP to get names of qualified young men and women likely to join the Army.
- Is adept at using a variety of prospecting tools effectively; PDR/prospect cards, advertising, REACT, school contacts, personal appearances, telephone.

6, 7, or 8

Effective Performance

- Uses a number of sources for prospecting such as unemployment offices, sports events, and employees at youth hangouts.
- Often persuades prospects to visit the recruiting office by using the telephone effectively or by talking to prospect in person.
- Follows up promising leads on potential recruits.

Briefing: Recruiter Performance III

Slide 6

- Here is an example rating scale from the ARI research. The rater's task is to compare the observed recruiter performance with the behavioral statements on the scale and make a judgment about where on the 10-point scale the recruiter's performance best fits.
- Because of space limitations, we show only the top half of this scale. Behavioral statements also anchor the "3, 4, 5 somewhat ineffective" and "1, 2 very ineffective levels".

Locating and Contacting Qualified Prospects

"Prospecting" effectively; contacting large numbers of persons likely to enlist in the Army; skillfully using the telephone, referrals, DEPs, advertising ideas, special events, etc., to contact and get the attention of civilians eligible for Army service; knowing where and when to prospect; ability to persist in prospecting and following up on leads even under considerable adversity; getting prospects into the office.

9 or 10

Extremely Effective Performance

Displays exceptional ingenuity and energy in advertising the Army and in locating prospects.

- Makes very judicious use of referrals or persons recruited recently or placed in DEP/DTP to get names of qualified young men and women likely to join the Army.

- Is adept at using a variety of prospecting tools effectively; PDR/prospect cards, advertising, REACT, school contacts, personal appearances, telephone.

6, 7, or 8

Effective Performance

Uses a number of sources for prospecting such as unemployment offices, sports events, and employees at youth hangouts.

- Often persuades prospects to visit the recruiting office by using the telephone effectively or by talking to prospect in person.

- Follows up promising leads on potential recruits.



Personal Characteristics

Personality

- Vocational Interests

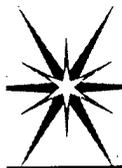
- Cognitive Ability

7

Briefing: Personal Characteristics

Slide 7

- These are personal characteristics or related attributes of people that may contribute to success as a recruiter.
- The way these personal characteristics are examined for their role in successful recruiter performance is typically through “validation research”
- In this research, recruiters are administered tests or other measures of these personal characteristics, the job performance of the same recruiters is measured, and test scores are correlated with job performance scores. A substantial correlation for a personal characteristic with job performance means this personal characteristic is likely important for recruiter performance.
- Personality, vocational interests, and cognitive ability have all been examined in research done in the Army, Navy, and Air Force.
- There is evidence that some of these personal characteristics may be useful in predicting recruiter performance.



Personal Characteristics -Personality-

Army, Navy, and Air Force Research
Personality Characteristics Most Often
Associated With Performance:

- Dominance
- Achievement
- Warm and Outgoing
- Confident and Self-Assured

Briefing: Personal Characteristics -Personality I

Slide 8

- Research on personality predicting recruiter job performance has been conducted in all 3 services.
- The personality factors most often found to correlate with military recruiter performance are measures of Dominance, Achievement Orientation, "Warm and Outgoing" traits, and Confidence and Self Assuredness.¹

¹ Navy work - Borman, Rosse, & Toquam (1979); Krug (1972); Borman, Rosse, & Abrahams (1980); Borman, Rosse, & Rose (1983); Marine Corps - Atwater, Abrahams, & Trent (1986); Larriva (1975).



Personal Characteristics -Personality-

ARI Research on Personality Resulted in an
Assessment Center

Two "Cold Calls"

Follow Up Interview

Speech About the Army

Interview with a Concerned Parent

In-Basket

Assessment Center has Validity for
Predicting Success in Training

9

Briefing: Personal Characteristics -Personality II

Slide 9

- Research at ARI took the approach of first identifying personality characteristics thought to be important for successful performance as an Army Recruiter and then developing an Assessment Center, a series of role play exercises, to measure those characteristics.
- Briefly, the Cold Call exercises had Assessment Center participants (i.e., assessees) call 2 role playing assessors and try to get them to come down to the recruiting office. One of these 2 was very difficult to talk to, raised many objections, and ended up saying "no" to the assessee. The other was easier to deal with and agreed to visit the office. The Follow-up Interview exercise was with this second role player and required the assessee to further "sell" the Army. The Speech exercise gave the assessee 1/2 hour to prepare a persuasive talk about the Army to be delivered to a high school student audience and then to give a 5 minute speech to the assessors.¹
- The Interview with a Concerned Parent exercise had the assessee talking with the father of the prospect interested in joining the Army. This role playing assessor expressed several concerns about his son's signing with the Army. Finally, the In-Basket was a series of phone messages, memos, and letters presenting several problems for the assessee to deal with by writing his or her likely response to each problem.

Experienced recruiters were trained to be assessors, and in a pilot test of the Center, they rated the performance of about 60 Sgt.'s in the Center. These ratings correlated highly with these Sgt.'s subsequent performance in the Recruiter School ($r=.50$)²

This Center was called the Recruiter Development Center and was used for about 3 years in the early-80s to help motivate Sgts. for Recruiter School and to give them a head start on building recruiting skills. ARI won an award for this project.

¹Borman (1979); Borman (1982); Borman & Fischl (1980); Borman, Rosse, & Rose (1982).

²Borman (1982).



Personal Characteristics -Personality-

NPRDC Research on Personality

Personality Predicted Performance in Three
Elements of Job

Selling Skills

Human Relations Skills

Organizing Skills

10

Briefing: Personal Characteristics - Personality III

Slide 10

- Selection Research done in the Navy on the personality predictors of recruiter performance focused on paper-and-pencil personality tests.
- Rather than link personality to overall job performance, this research correlated personality traits with the 3 components of recruiter performance you saw earlier in the briefing: Selling Skills, Human Relations Skills, and Organizing Skills.¹

¹ Borman, Toquam, & Rosse (1979); Borman, Rosse, & Abrahams (1980); Borman, Rosse, & Rose (1983); Atwater, Abrahams, & Trent (1986).



Personal Characteristics

-Personality-

Selling Skills

Making a Good Impression

Enjoyment of Being the Center of Attention

Human Relations Skills

Spontaneity

Ambition and Hard Work

Confidence

Organizing Skills

Planful and Organized

“Bad Actor” - Unruly in School (-)

11

Briefing: Personal Characteristics -Personality IV

Slide 11

- This overhead summarizes the traits that correlated highest with each performance element.
- For success in the Selling Skills area of the job, 2 personality factors, Making a Good Impression and Enjoyment of Being The Center of Attention, seem to be most important. Regarding Human Relations Skills, Spontaneity, Ambition and Hard Work, and Confidence were the personality factors most closely linked to success. And for Organizing Skills, the factors Planful and Organized and "Bad Actor" - Unruly in School (in the negative direction) had the highest correlations.¹

¹Borman, Rosse, & Abrahams (1980).



Personal Characteristics

-Vocational Interests-

NPRDC Research

Selling Skills

Interest in Law and Politics

Interest in Sports and Competitive Activities

- Human Relations Skills

Interest in Teaching and Counseling

Interest in News Reporting and Foreign Service

Organizing Skills

Interest in High Level Management Jobs

Interest in Bookkeeping and Detail Work

12

Briefing: Personal Characteristics -Vocational Interests II

Slide 12

- Research conducted by NPRDC found that some fairly specific vocational interest patterns correlated with job performance in the three performance areas.
- For Selling Performance, Interest in Law and Politics and Interest in Sports and Competitive Activities were important.
- For the Human Relations Skills part of the job, the vocational interests related to Teaching and Counseling and News Reporting and Foreign Service were important.
- Finally, for Organizing Skills, Interests in High Level Management Jobs and in Bookkeeping and Detail Work correlated most highly with performance in this aspect of the job.¹

¹ Borman, Rosse, Toquam, & Abrahams (1981).



Personal Characteristics
-Cognitive Ability-

- ARI Research
- Low Correlations with Performance

Briefing: Personal Characteristics - Cognitive Ability I

Slide 13

- ARI research and research in other services has shown very low correlations between general cognitive ability (or intelligence) and performance as a recruiter. As we have seen, personality and vocational interests seem to be more critical in successful recruiter performance.¹

¹Wollack & Kipinis (1960); Brown, Wood, & Harris (1975); Hissong & Plotkin (1998); Vinchur, Schippmann, Switzer, & Roth (1998).



Training and Development

- Training Programs

 - Army Recruiter Training Program

 - On-the-Job Training

 - Realistic Job Previews

Briefing: Training & Development I

Slide 14

- Several reviews of Army Recruiter training programs have been conducted.
- The Army Recruiter Training Program was evaluated in 1988 and it was rated favorably by over 300 students and instructors. The main suggestions for improvement were that more emphasis be placed on salesmanship skills and on real world problems like meeting missions and handling rejection.¹
- A 1991 ARI review of the On-the-Job Training in 15 battalions was not as positive. Several suggestions for the OJT program were provided based on interviews with Station Commanders and recruiting personnel. Complaints included:
 1. OJT was not consistently applied and was not standardized.
 2. Recruiters felt that commitment to training was low, there was little individualized feedback, and too much negative feedback, particularly regarding missions.
 3. Remedial training was perceived as punishment.
 4. And finally, recruiters reported wanting additional training on sales and prospecting.²

Another training recommendation was made in a 1992 ARI report. The authors recommended that Realistic Job Previews be used to help retain recruiters and improve their performance. RJPs may give recruiters a better idea of what to expect in the field and may make the transition to the job smoother, reduce stress, and help recruiters to be more persistent in the face of failure.³

¹Hull, Kleinman, Allen, & Benedict (1988).

²Hull & Nelson (1991).

³Pond, Powell, Norton, & Thayer (1992).



Training and Development

- Attempts to Improve Recruiter Effectiveness Through Training
 - Analysis of Selling Techniques
 - Linguistic Analysis of Selling Strategies

Briefing: Training & Development II

Slide 15

- Research has also been conducted to identify effective recruiting techniques.
- In 1991, an ARI report examined the selling techniques taught by the Army Recruiting School and the practices used in the field. The report suggests that the recruiting model used by USAREC results in recruiters having a large rejection rate. Also, USAREC requirements don't allow time for pursuing important and fruitful community involvement activities.¹
- The authors provided several additional suggestions for the school, including building in more material on how to deal with rejection and stress, and providing more training on administrative skills, building relationships with potential recruits, and networking. They also recommended using a system to quickly classify prospects because successful recruiters were better at terminating unpromising prospects quickly, allowing them to spend more time with promising ones.
- A 1987 ARI study attempted to identify the selling strategies and skills of nine high performing recruiters. A linguistic analysis of their activities in role-playing exercises and in the field found no real theme to their linguistic behavior. The recruiters varied in their personal styles. Apparently, within this small sample, at least, no single "magic" personal style is most effective.²

¹ Chonko, Madden, Tanner, & Davis (1991).

² Jacobson & Frieman (1987).



Technical and Organizational
Support

Technical Support

Computerized Adaptive Screening Test (CAST)

CAST Correlates with AFQT

Short Word Knowledge Test Administered by
Telephone

Briefing: Technical & Organizational Support I

Slide 16

- One of the tools available to recruiters to evaluate prospects is the Computerized Adaptive Screening Test (CAST) which was developed by NPRDC and ARI.
- The CAST assesses the cognitive ability of *prospects* and correlates highly (.79) with candidate AFQT scores. This means that a recruiter can administer the CAST to a prospect to determine how qualified he or she is before spending a lot of time in the recruitment process.¹
- A *telephone* administered test containing the word knowledge items from the CAST correlated highly with AFQT scores, making it possible to determine by phone before even meeting prospects whether they are qualified or not before beginning the recruitment process.²

¹Knapp (1987).

²Legree, Fischl, & Gade (1997).



Technical and Organizational Support

ARI Organizational Analysis of USAREC

Problems:

- Communication
- Mission Assignment
- Motivation and Training
- Low Training Priority
- HQ Out-of-Touch and Unsupportive

Solutions:

- Eliminate Brigade Level
- Limit Officer Involvement
- Rotate Personnel
- Station-Based Missioning
- Increase Lateral Communication
- Train Station Commanders

Briefing: Technical & Organizational Support II

Slide 17

- In 1991, ARI performed an organizational assessment of USAREC. Structured interviews and surveys were administered to NCO's at all levels of USAREC, except HQ. Based on responses to the interviews and about 400 surveys, the authors reached several conclusions about the organization.
- First, they concluded that information is not communicated in an organized and timely manner and recruiters often receive conflicting information from different levels within USAREC.
- Second, surveys indicated an opinion that mission assignments are made unevenly and unfairly.
- Third, the NCO's perceived the "motivation" and "training" efforts as more like harassment and intimidation.
- Fourth, training programs were seen as not administered effectively or given sufficient priority. Little time was provided for On-the-Job Training and some training was perceived as punishment.
- Finally, HQ was perceived as being unsupportive and out of touch with the field.
- The authors made several suggestions, including eliminating the Brigade level in the organization, limiting officer involvement to the Battalion levels and above to reduce micromanagement, rotating NCO personnel from HQ to keep them in touch with the field, implementing Station-based missioning, increasing lateral communication between Battalions and Companies, and focusing on the training skills of Station Commanders.¹

¹ Love, Jex, Richard, & McMullin (1991).



Technical and Organizational
Support

Recruiter Incentives and Bonuses
Army College Fund

Briefing: Technical & Organizational Support III

Slide 18

- 1997 and 1998 GAO reports have indicated that recruiters do not have sufficient incentives to screen out applicants who may not complete basic training and recommended that recruiters receive partial credit for screening out these "high risk" prospects.
- The GAO also recommended that recruiters receive bonuses for recruiting top quality enlistees, and for screening prospects relative to all established criteria.
- Finally, GAO's analysis of the Army College Fund indicated that it was cost effective, especially for males eligible for the program.¹

¹ GAO, Military Attrition, (1997).



Propensity to Enlist

- ARI Research on Several Topics

Trends in Propensity

Relations Between Propensity and Enlistment
Behavior

Person-Factors Important for Intentions to
Enlist/Enlistment

Briefing: Propensity to Enlist

Slide 19

- ARI research has been conducted on three major topics in this area.
- A couple of studies examined trends in propensity over time, some research has looked at relationships between propensity and enlistment behavior, and other research has examined person-factors that influence either intentions to enlist or actual enlistment decisions.



Trends in Propensity

- The Response, “Definitely *Not* Join the Armed Forces” Significantly Increased from 1976-96

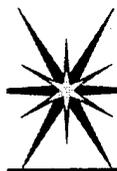
Propensity Declined in 90s: Primarily Because of African-American Reductions

Briefing: Trends in Propensity

Slide 20

- The main result of this research is that propensity has been declining. From 1976 to 1996 the percent of youths who reported they would *definitely not* join the Armed Services went from 59% to over 70%.
- Throughout the 1990s propensity has declined, but a major contributor to the decline has been the decline in propensity among African-Americans. The percentage of African-Americans who indicated they “definitely will” or “probably will” enlist was around 50% in the 1980s, but has remained below 30% since 1991.¹

¹ Segal, Bachman, Freedman-Doan, & O'Malley (1999).



Relations Between Propensity and Enlistment Behavior

- Propensity Strongly Predicts Enlistment
- ACOMS Survey (1997): Intent to Enlist → Enlist ($r = .48$)
- Survey of 9000 Males (1980-86): 1/3 Enlist of Those Intending To

Briefing: Relations Between Propensity and Enlistment Behavior I

Slide 21

- Some ARI research has shown a strong relationship between propensity and the enlistment act. For example, in a 1998 study the correlation (η) was .57 for men and .38 for women.¹ In a 1998 publication on the Army Communications Objectives Measurement System (ACOMS), the intentions to enlist → actual application path coefficient was .48.²
- But in an interview survey of 9000 male senior and sophomore HS students in 1980 with follow-ups in '82, '84, and '86, about 1/3 of those who said they intended to enlist had actually done so two years after graduation.³

¹ Bachman, Segal, Freedman-Doan, & O'Malley (1998).

² Nieva, Wilson, Norris, Greenlees, Laurence, & McCloy (1997).

³ Morrison & Myers (1998).



Relations Between Propensity and Enlistment Behavior

Definitely Intend to as HS Senior

70% of Males Enlist

40% of Females Enlist

Probably Will Serve as HS Senior

29% of Males Enlist

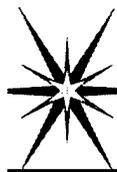
8% of Females Enlist

Briefing: Relations Between Propensity and Enlistment Behavior II

Slide 22

- In still another survey study conducted from 1984-1991, senior male and female HS students were asked about their intentions regarding enlisting in the Armed Forces. For males, of those who reported they definitely intended to enlist, 70% did so as of 5-6 years later. Of those who said they *probably* would serve, 29% actually did.¹ For females, the comparable percents are 40 and 8, respectively, for definitely and probably will enlist.

¹ Bachman, Segal, Freedman-Doan, & O'Malley (1998).



Important Person Factors

Significant Influences

Parents (Especially Father)

Friends and Relatives Associated with Military

Provide Personal Character

Gain New Perspective on Life

- Pragmatic: Means to an End

Desire to Serve Others

Escape From Problems

23

Briefing: Important Person Factors I

Slide 23

- There have been seven ARI studies that examine personal reasons for joining (or not joining) the Armed Forces. These motives for enlisting (i.e., person-factors), are important to learn about because of the guidance such knowledge might provide for advertising appeals. Results of these studies can also help recruiters find candidates' "hot buttons" for special appeals to them. Recruiters should also be aware of how these "hot buttons" may differ for different genders and ethnic groups.
- A 1996 ARI review of enlistment research¹ indicates that the following factors are often identified as the most important influencers of the enlistment decision: parents (especially the father); and friends and relatives who are associated with the military can be important in the process. The last five points reflect the rationales often used to make the decision to enlist:
 1. the military will provide me with more personal character
 2. it will help me gain a new perspective on life
 3. it's a means to an end (e.g., receive money for more education)
 4. it fulfills a desire I have to serve others
 5. it provides an escape from problems

¹ Lawrence & Legree (1996).



Important Person Factors

Direct Influences

- Financial Inducements
- Educational Benefits
- Unit Assignment
- Career Commitments

Briefing: Important Person Factors II

Slide 24

- A 1996 ARI study reported that direct influences on enlistment decisions include financial and educational benefits, unit assignment, and commitment to a military career.¹
- Notice that these factors are out of the control of recruiters, although they can emphasize their positive features.

¹ Lawrence & Legree (1996).



Important Person Factors

Indirect Influences

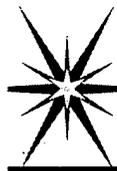
- Patriotic Appeals
- Comradeship
- Feeling of Self-Worth
- Quest and Adventure
- Escape from Boredom or Problems

Briefing: Important Person Factors III

Slide 25

- Indirect or more psychological factors important in enlistment decisions are patriotic appeals, likely comradeship, a feeling of self-worth, a sense of adventure, and possibly escape from boredom or problems.¹
- If recruiters can determine which of these “buttons” are important to a prospect, they can (and should) use them to motivate enlistment.

¹ Lawrence & Legree (1996).



Important Person Factors

Research Predicting Intent to Enlist (Fishbein Model)

Affect: Feels Right

Attitudes: Toward Pay/Benefits, Service to Country, etc.

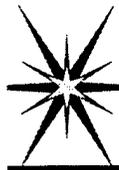
Norms: Feelings of Parents and Friends

Briefing: Important Person Factors IV

Slide 26

- A psychological theory put forth by Fishbein has been useful in understanding intentions to enlist.
- The theory says that affect (feelings about the military), attitudes (toward benefits, serving country, etc.), and norms (for example, how parents and friends feel about the military) all make a difference in prospects' intentions to enlist.¹

¹ Rakoff, Adelman, & Mandel (1987). Also Zirk, McTigue, Wilson, Adelman, & Pliske (1987).



Important Person Factors

ACOMS Survey Results

· Attitudes Toward Army (.29)

· College Intentions (-.40)

· Parent Approval (.44)

· Peer Approval (.28)

Briefing: Important Person Factors V

Slide 27

- A 1997 ARI study used the theory to analyze ACOMS surveys of 16-20 year old males collected from 1986 through 1988.
- In a test of the Fishbein model, the authors found that, especially, attitudes and norms had an influence on intentions to enlist in the Army.
- Attitudes toward the Army in general and level of parent and peer approval were positively related to intentions to enlist and plans to attend college were negatively related to Army enlistment intentions.¹

¹ Nieva, Wilson, Norris, Greenlees, Laurence, & McCloy (1997).



Important Person Factors

Monitoring The Future (MTF) Survey Results

Enlistment Rates Lower for:

- Students With College Educated Parents
- Students With High HS Grades
- Students With College Plans
- African Americans and Hispanics
- Students Who View Military Work as Unattractive
- Females Expectations and Desire to Serve

28

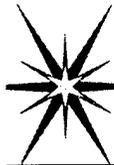
Briefing: Important Person Factors VI

Slide 28

- In another ARI-sponsored study published in 1998, Monitoring the Future survey data gathered in the early 1990s from about 15,000 respondents in the 8th and 10th grades found that enlistment rates were lower 6-7 years later for youths with college educated parents, those who earned higher HS grades and had college plans, African-Americans and Hispanics, and those who viewed military work as unattractive.¹
- Other MTF results from a 1998 report, suggested that females have more *desire* to serve in the Armed Forces, than they have *expectations* that they will serve. In the 1990's, 8-9% of women indicated a desire to serve, while only 5-6% expected to serve. This is contrary to the result for males who have about the same expectations (17-20%) about serving compared to their *desire* to serve (16-19%).²

¹ Bachman, Segal, Freedman-Doan, & O'Malley (1998).

² Segal, Segal, Bachman, Freedman-Doan, & O'Malley (1998).



Advertising Support

- Impact on Enlistment

Indirect Influencers

- Patriotic Appeals; Coming-of-Age
- Comradeship; Self-worth
- Quest and Adventure
- Escape from Boredom or Problems

Other Factors

- Self-Improvement; Money for Education
- Work-related Opportunities; Benefits for Women

29

Briefing: Advertising Support I

Slide 29

- Advertising research has focused on understanding the impact of advertising on the enlistment decision and on determining the best way to influence that decision through advertising.
- Advertising may not directly influence the decision, but may affect enlistment behavior more indirectly through other factors, such as beliefs about the Army and intention to enlist.
- Surveys conducted in the 1980s and early 90s identified several advertising factors that may influence enlistment decisions.
- For example, in a 1996 ARI review of enlistment research we mentioned earlier, several indirect influencers of the enlistment decision were found - Patriotic Appeals, Coming-of-Age, Comradeship, Self-Worth, Quest and Adventure, and Escape from Boredom. The Army may have more control over these indirect influencers, particularly through advertising.¹
- A 1990 ARI study examined the impact of advertising on the perceptions of Army opportunities among youth, and new and experienced soldiers. The advertising attribute items from three surveys were used for the analyses: ²
 1. The Army Communications Objectives Measurement System (ACOMS), a 30-minute computer assisted telephone interview of 16-24 year old youth conducted in 1986 and 1987
 2. The New Recruit Survey (NRS), a survey of new soldiers conducted at Army reception battalions from 1986 through 1989
 3. The Recruit Experience Tracking Survey (RETS), a survey administered to active Army soldiers in 1989
- Opportunities for Self-improvement and Education, Work-Related Opportunities and Opportunities and Benefits for Women were factors found to be most important in the surveys.

¹ Lawrence & Legree (1996).

² Baker (1990).



Advertising Support

Other Enlistment Motivators

Money for College

Escape Unemployment

Parents Support Enlistment

Advertising Recall

Research on T.V. Viewing and Radio

Listening Habits

30

Briefing: Advertising Support II

Slide 30

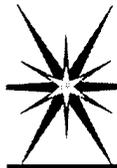
- A 1984 ARI study compared recruit motivation for enlisting in 1979, a poor recruiting year, versus 1982 and 1983, two good recruiting years. The authors found that the percentage of new Army recruits indicating Money for College and Escaping Unemployment as their primary enlistment motives increased from 1979 to 1982 and 1983. ¹ It's possible that advertising targeting these topics was especially effective in the early 1980s.
- In 1997, based on ACOMS survey results which determined that parents have a large influence on enlistment intentions and behavior, ARI researchers suggested that advertising should convey the message that parents support their sons' Army enlistment. ²
- In a 1988 study of Army advertising, ARI researchers found that youth *do* recall the messages presented in both print and TV advertising. However, different attributes of the Army were recalled in the different media. For example, advertising messages about Army opportunities to work with high-tech equipment, to gain experience to be proud of, and to develop one's potential were recalled more in video ads. Messages about money for education and pride in the Army experience were recalled more in print ads. ³
- A 1988 study examined the TV viewing and radio listening habits of 16-24 year old males to help guide future advertising initiatives. For example, the ARI researchers found racial differences in self-reported television program viewing. They also found that more high school graduates watch Monday Night Football and college football than non-high school graduates. ⁴ However, these results are over 10 years old and may need to be updated.

¹ Dale & Hill (1984).

² Nieva, Wilson, Norris, Greenlees, Laurence, & McCloy (1997).

³ Baxter & Gay (1988).

⁴ Elig (1988).



Environmental Factors

- ARI Study in 1989: Prime Market Candidates Will Decrease by 21%, 1985-95
- DEP Loss Related Negatively to Economy and Pay

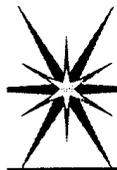
Briefing: Environmental Factors I

Slide 31

- Recall what we said earlier about Environmental Factors. For the most part, USAREC has less control over these factors, so research on these factors provides little guidance on what USAREC can do better to improve production.
- However, it is important to learn about how environmental factors influence production to understand the magnitude of these influences and to understand how USAREC policies and missioning requirements affect the impact of these influences
- First, an ARI study of census data done in 1989 suggested that Prime Candidates (i.e., Category Is and IIs) were going to decrease by 21% from 1985 to 1995.¹ This turned out to be quite accurate.
- In addition, two ARI studies found that low unemployment rates and low military pay were related to higher DEP losses. Labor market conditions influence not only the enlistment decision but also the decision to leave the DEP.²

¹ Verdugo & Berliant (1989).

² Kearl & Nelson (1990).



Environmental Factors

Accessions Among High Quality Recruits
Correlate Positively With:

Military Pay

Unemployment Rate

Number of Army Recruiters Deployed

Fewer Other Service Recruiters Deployed

Briefing: Environmental Factors II

Slide 32

- Another ARI study conducted in 1984, found that higher military pay raises and high unemployment rates were associated with increases in the number of high quality (i.e., Category I and II) accessions over 7 years. Similarly, larger numbers of Army recruiters deployed in a particular region, and fewer other service recruiters in a region were associated with higher numbers of quality accessions across 4 regions in the US. Regarding number of Army recruiters, as we would expect, simply having more recruiters deployed has a positive impact on recruitment results.¹

¹ Brown (1984).



Environmental Factors

- Accessions Correlate With

· Military/Civilian Pay Ratio (.36)

· Unemployment Rate (.30)

· Attitudes Toward Military (.23)

Environmental Factors Account for 12.4%
of Variance

Briefing: Environmental Factors III

Slide 33

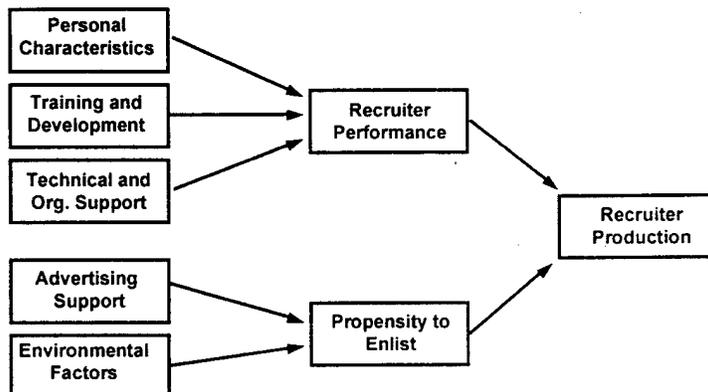
- Another study, done in the Navy, found that 3 environmental factors correlated significantly with number of accessions: Military to Civilian Pay Ratio, Unemployment Rate, and Youth Attitudes Toward the Military. All environmental factors taken together accounted for only about 12-1/2% of the variability in number of accessions across the 43 Recruiting Districts.¹ This is a positive finding in that it means more than 87% of accession variability is a function of factors more under the military's control such as recruiter selection, training and development, and advertising support.

¹ Borman, Rosse, & Toquam (1982).

Conclusions

The Model Revisited

Usefulness in Understanding Recruiting Production



34

Briefing: Conclusions

Slide 34

- The model provides a good framework for helping to understand the “causes” of recruiter productivity. Basically, recruiter production is a function of recruiter performance, the effort and skill recruiters demonstrate in their role, *and* the propensity of youth to enlist; i.e., their willingness and motivation to join the Army.
- Recruiter performance is, in turn, a function of the personal characteristics recruiters bring to the job, the training and development provided to recruiters, both at the beginning of their assignment and later OJT or other developmental experiences, and technical and organizational support provided by USAREC and other organizational levels.
- The propensity of young people to enlist has as its two primary antecedents, advertising which is obviously under the control of USAREC and environmental factors over which USAREC has less control.



Conclusions: Production

- The Bottom-Line Productivity Indicator
- Quality Indices

Briefing: Conclusions — Production

Slide 35

- We know that recruiter productivity is the central way we keep score in the Army recruiting business. However, there has been some effort to reflect recruit quality in productivity measures. This has a certain appeal but research to date has been rather negative on these attempts. Either the production indices adjusted for recruit quality are so highly correlated with raw production, making the effort not really worth it, or the quality index turns out to be highly unstable over time, with individual recruiter “scores” on quality fluctuating considerably from month to month.
- Nonetheless, if USAREC anticipates that incentives might be introduced for enlisting high quality recruits, research into other ideas for quality indices might be in order.



Conclusions: Recruiter Performance

- Eight Dimensions Reflecting the Important
Performance Requirements
- Applications for the Dimensions
- Need for Updating

Briefing: Conclusions — Performance

Slide 36

- In the 1970s and 80s, we learned a considerable amount about the performance requirements of the military recruiter job. An 8-dimension system of measuring job performance was appealing to the Army *and* to the Navy and Marine Corps.
 1. Locating and Contacting Qualified Prospects
 2. Gaining and Maintaining Rapport
 3. Obtaining Information from Prospects and Determining Their Needs and Interests
 4. Sales Skills
 5. Establishing and Maintaining Good Relationships in the Community
 6. Providing Knowledgeable and Accurate Information about the Army
 7. Organizing Skills
 8. Supporting Other Recruiters and USAREC
- For example, in the Navy the behavior-based descriptions of the 8-dimensions were used informally for self-development and the development of new recruiters. The dimensions basically laid out in unambiguous terms the behaviors that are effective and desirable and those behaviors that are ineffective and should be avoided in each element of the job. The dimensions as rating scales were also used to collect peer and supervisor ratings of recruiter performance as part of test validation research to identify personal characteristics associated with effective performance.
- Assessment of individual recruiter performance is at the heart of many human resource applications (e.g., selecting & training), so this is an important topic for research. For example, a performance appraisal system based on the 8-dimensions would be helpful in identifying specific developmental needs. Training could then be designed to assist recruiters in those performance areas where they would benefit most.
- The most recent work on these performance dimensions was approximately 14 years ago so the behavior-based scales probably need updating. However, the effort should be minimal because of the research already accomplished.



Conclusions: Personal Characteristics

- Considerable Research on Personal
Characteristics-Recruiter Performance
Links
Applications Related to Selecting Recruiters

Briefing: Conclusions — Personal Characteristics

Slide 37

- We learned a lot in the 1960s through the 80s about the personal characteristics important for successful military recruiting. For example, cognitive ability seems largely unrelated to recruiter performance. However, personality and to some extent vocational interests were more successful in predicting recruiter performance. The relationships between recruiter personal characteristics and their performance are not large, but under the right circumstances it might be useful to use tests or inventories targeting these personal characteristics to help select NCOs for recruiting duty. One idea is to have soldiers routinely take a test battery at the time of their first re-enlistment and use scores on that battery to help in the classification process later on in their careers.
- But more broadly, it would be *most* effective to initiate a program of research to identify the personal characteristics important for succeeding in the current recruiting environment and how we might evaluate NCOs on these important characteristics.



Conclusions: Technical and Organizational Support

- Past ARI Survey Research
- Possible Future Support from ARI

Briefing: Conclusions — Technical and Organizational Support

Slide 38

- There has been only one ARI study in this category. Results of a survey of 400 NCOs in the field concluded that there may have been certain organizational support problems within USAREC.
- It should be noted that (1) the study was conducted almost 10 years ago, and the current support environment may be very different; and (2) field surveys like this often elicit complaints and negativism, painting an overly dark picture of an organization.
- Regarding the future, ARI could certainly help USAREC with a more comprehensive and current organizational assessment to identify the organization's strengths to be built upon and areas where improvements might be made, with the goal of creating an even more effective USAREC.



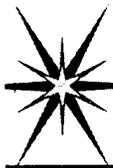
Conclusions: Training and Development

- Effectiveness of the Recruiter School
- Effectiveness of OJT and Subsequent
Developmental Opportunities
- Potential ARI Training and Development
Support

Briefing: Conclusions — Training and Development

Slide 39

- A 1988 ARI report was generally quite positive about the Recruiter School. Then current students, recent graduates, and instructors at the School responded favorably to many aspects of the training. However, another ARI report, published in 1991, was critical of the basic sales model used in USAREC.
- OJT was reviewed more negatively than the Recruiter School. Reasons for this view were discussed previously.
- Finally, the Recruiter Development Center was developed to motivate new recruiters and build recruiting skills.
- On balance, there seem to be some definite strengths in the recruiter training process. USAREC can probably build on these strengths to improve, especially, the developmental support recruiters receive after they reach the field.
- The approach most likely to result in significant improvements to the training and development of the recruiting force is programmatic research to identify the most effective strategies that provide both successful initial, out-of-the-box training and potent skill building and motivational experiences later in their recruiting tenure.



Conclusions: Propensity to Enlist

ARI Research on Trends in Propensity and
Person Factors in the Enlistment Decision

Several Person Factors Identified

College Intentions

Parental Approval

Briefing: Conclusions — Propensity to Enlist

Slide 40

- First, ARI research shows that propensity is definitely related to the enlistment decision. The strength of the relationship varies somewhat by time period and gender, but the main conclusion here is that because of this link, propensity data are important to gather.
- Second, ARI research identified several person factors that influence both propensity to enlist and, most important, the enlistment decision itself. The factors most highly related to the enlistment act are college intentions (negative relation) and parent approval. But other factors are also important when a young person thinks about enlisting; e.g., joining will provide character, will help me gain new perspectives on life, and may help me escape from problems.
- This research is important because it provides information relevant to advertising strategies and it should help recruiters with “hot buttons” that will motivate prospects to enlist.



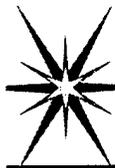
Conclusions: Advertising Support

- Advertising Likely an Indirect Influence on Enlistment
- Factors to Target in Advertising

Briefing: Conclusions — Advertising Support

Slide 41

- As mentioned, advertising is likely to have an indirect affect on the enlistment decision through other factors such as beliefs about the Army and intentions to enlist.
- The ARI research on person factors associated with intentions to enlist is the most relevant to identifying targets for advertising. Such factors as serving country, comradeship, and opportunities for self-improvement are important for many potential recruits, and showing them that the Army can provide these outcomes is likely to be helpful to the recruitment effort.
- Nonetheless, a more comprehensive market research initiative may be even more effective in pinpointing the advertising approaches that result in a higher "hit rate" and identifying those approaches that are less successful or cost effective.



Conclusions: Environmental Factors

- Environmental Factors are Related to
Accessions
- Highest Relations: Military/Civilian Pay
Ratio and Unemployment Rate

Briefing: Conclusions — Environmental Factors

Slide 42

- Environmental factors do influence propensity to enlist, which is, in turn, related to accessions.
- The highest relationships between environmental factors and the number of accessions seem to be for military/civilian pay ratio and the unemployment rate.
- It is important to understand links between these factors and accessions for several reasons. First, it's useful to know *how much* environmental factors affect accessions so that we know how much we can improve productivity through other interventions (e.g., selecting and training recruiters, advertising, etc.). Fortunately, the answer here is that environmental factors don't have an overwhelming influence on production. Second, it's important to understand how recruiting policies, such as quality requirements, can impact these environmental factors. Finally, there are a variety of issues around setting quotas for individual recruiters and for recruiting units, and environmental factors might be considered in this goal-setting process.



Army Recruiting Initiatives

- Upgrading the Recruiting Sales Force
- Geographic Positioning of the Sales Force
- Restructuring the Army's Media Mix

43

Briefing: Army Recruiting Initiatives

Slide 43

- As you know, the Secretary of the Army established six major initiatives to eliminate recruiting shortfalls, and we understand that the need to address these issues is urgent . While a programmatic research plan is essential to meet the recruiting challenges over the long term, there are some areas of research that can help with the Army's immediate recruiting needs and inform the Working Groups as they develop plans to move forward with these initiatives. That is, some of the previous ARI research should provide a platform or a "base" to more quickly address some of the immediate problems confronting USAREC.
- The Secretary's first initiative, Upgrading the Recruiting Sales Force, addresses the selection, training, and management of the recruiting sales force. These areas have been examined in past ARI and other-service research on Recruiter Performance , Personal Characteristics associated with successful recruiting,, Training and Development of recruiters, and Technical and Organizational Support of the recruiting force. One example here is the behavior-based rating scales for measuring recruiter job performance. These scales could be quickly updated and used to evaluate members of the current recruiting force to identify strong and weak areas of performance for immediate management attention, for example, training toward the weaknesses or reassigning to take advantage of strengths.
- The second initiative, Geographic Positioning of the Sales Force to maximize recruiting efforts in the best markets could be informed by what we already know about Environmental Factors and Enlistment Propensity. For example, research has shown that the unemployment rate has a consistent negative correlation with accessions, so special recruiting efforts in territories with a relatively high unemployment rate may be productive.
- Similarly, the third initiative, Restructuring the Army's Media Mix, might benefit immediately by attending to the research results on Advertising Support. Research has identified the "hot button" issues important for different groups as they make enlistment decisions, and these can certainly inform on how best to deploy advertising strategies.
- The main point here is that programmatic research is our best bet for realizing sustained improvements in recruiter productivity, but past research findings generated by ARI may also help us more quickly support some of the Secretary's initiatives.

Bibliography

- Abrahams, N. M., Neuman, I., & Rinland, B. (1973). *Preliminary validation of an interest inventory for selection of Navy recruiters* (NPTRL Research Memorandum SRM-73-3). San Diego, CA: Navy Personnel and Training Research Laboratory.
- Achatz, Mary. *Understanding women's propensity: Perspectives from in-depth interviews*. <http://www.internationalmta.org/1998/9812c.html>.
- Arima, J. K. (1977). *Determinants and a measure of Navy recruiter effectiveness*. Prepared for the Navy Personnel Research and Development Center. San Diego.
- Asch, B. J. & Hosek, J. R. (1999). *Military compensation: Trends and policy options*. A documented briefing by RAND's National Defense Research Institute.
- Asch, B. J., Kilburn, M. R., & Klerman, J. A. (1999). *Attracting college-bound youth into the military: Toward the development of new recruiting policy options*. RAND: National Defense Research Institute.
- Atwater, D. C., Abrahams, N. M., & Trent, T. T. (1986). *Validation of the Marine Corps Special Assignment Battery (SAB)*. San Diego: Navy Research and Development Center.
- Bachman, J. G., Segal, D. R., Freedman-Doan, P., O'Malley, P. M. (1998). Does enlistment propensity predict accession? High school seniors' plans and subsequent behavior. *Armed Forces and Society*, 25(1), 59-80.
- Bachman, J. G., Segal, D. R., Freedman-Doan, P., & O'Malley, P. M. (1998). *Military propensity and enlistments: Cross-sectional and panel analyses of correlates and predictors*. Monitoring the Future Occasional Paper Series #41, Institute for Social Research, University of Michigan.
- Bachman, J. G., Segal, D. R., Freedman-Doan, P., & O'Malley, P. M. (in press). *Who chooses military service? Correlates of propensity and enlistment in the United States Armed Forces*. Unpublished paper. Institute for Social Research, University of Michigan.
- Baker, T. A. (1990). *A cross-sectional comparison of Army advertising attributes*. (Research Report 1578). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A233 737)
- Baxter, S. & Gay, N. L. (1988). *The message content of advertisements for active army enlistments*. (Research Report 1473). U. S. Army Research Institute for the Behavioral and Social Sciences.

- Benedict, M. E. (1987). *The 1986 ARI survey of U.S. Army recruits. Technical Manual*. (Technical Report 735). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A182 738)
- Benedict, M. E. (1989). *The soldier salesperson: Selection and basic recruiter training issues in the U. S. Army*. (Research Report 1534) U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A212 827)
- Bennett, J. T., & Haber, S. E. (1973). *Selection, development, and evaluation of Marine Corps recruiters*. Washington, DC: The George Washington University, School of Engineering and Applied Science, Institute of Management Science and Engineering, Project NR347020, Office of Naval Research.
- Borman, W. C. (1979). *Development of an assessment program for selecting Army recruiters*. (Technical Report #33) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C. (1982). Validity of a behavioral assessment for predicting military recruiter performance. *Journal of Applied Psychology*, 67(1). See also Borman, W. C. & Fischl, M. A. (1980). *Evaluation of an Army recruiter assessment program*. (Technical Report #57) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C., Dunnette, M. D., & Hough, L. M. (1976). *Development of behaviorally based rating scales for evaluating the performance of US Navy recruiters*. (Institute Report #6). Personnel Decisions Research Institute, Minneapolis, MN.
- Borman, W. C., Eaton, N. K., Bryan, J. D., & Rosse, R. L. (1983). Validity of Army recruiter behavioral assessment: Does the assessor make a difference? *Journal of Applied Psychology*, 63(3).
- Borman, W. C. & Fischl, M. A. (1980). *Evaluation of an Army recruiter assessment program*. (Technical Report #57) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C. & Fischl, M. A. (1981). *Recruiter assessment center: Candidate materials and evaluator guidelines*. (Research Product 81-10). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Borman, W. C., Hough, L. M. & Dunnette, M. D. (1976). *Development of behaviorally based rating scales for evaluating the performance of U. S. Navy recruiters* (NPRDC Technical Report 76-31). San Diego, CA: Navy Personnel Research and Development Center.
- Borman, W. C., Rosse, R. L., & Abrahams, N. M. (1980). An empirical construct validity approach to studying predictor-job performance links. *Journal of Applied Psychology*, 65, 662-671.
- Borman, W. C., Rosse, R. L., & Rose, S. R. (1982). *Predicting performance in recruiter training: Validity of assessment in the recruiter development center*. (Institute Report #73). Personnel Decisions Research Institute, Minneapolis, MN.

- Borman, W. C., Rosse, R. L., & Rose, S. R. (1983). *Development and validation of an inventory battery to predict performance in Navy Officer recruiting*. (Institute Report #85). Personnel Decisions Research Institute, Minneapolis, MN.
- Borman, W. C., Rose, S. R., & Rosse, R. L. (1985). *Identifying persons likely to be successful at recruiting minorities for the Navy*. (Technical Report #98) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C., Rosse, R. L., & Toquam, J. L. (1982). *The impact of environmental factors and consideration of recruit quality on Navy recruiter production*. (Technical Report #78) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C., Rosse, R. L., Toquam, J. L. & Abrahams, N. M. (1981). *Development and validation of a recruiter selection battery*. (Institute Report #30). Personnel Decisions Research Institute, Minneapolis, MN.
- Borman, W. C., Russell, T. L., & Skilling, N. J. (1986). *Development of behavior-based rating scales and analysis of recruiter selection battery data for the Army recruiter job*. (Institute Report #126). Personnel Decisions Research Institute, Minneapolis, MN.
- Borman, W. C., Toquam, J. L., & Rose, S. R. (1982). *Evaluation of three programs to assist Navy recruiters*. (Technical Report #75) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C., Toquam, J. L., & Rosse, R. L. (1976). *Dimensions of the Army recruiter and guidance counselor job*. (Technical Report #10) Personnel Decisions Research Institute: Minneapolis, MN.
- Borman, W. C., Toquam, J. L., & Rosse, R. L. (1978). *Development and validation of an inventory battery to predict Navy and Marine Corps recruiter performance*. (Institute Report #22). Personnel Decisions Research Institute, Minneapolis, MN.
- Brogden, H. E. & Taylor, E. K. (1949). *The validity of recruiter selection instruments at various points of cut* (Report No. 781). Washington, DC: Personnel Research Section.
- Brown, C. (1984). *Military enlistments: What can we learn from geographic variation*. (Technical Report 620). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A165 663)
- Brown, G. H., Wood, M. D., & Harris, J. D. (1975). *Army recruiters: Criterion development and preliminary validation of selection procedure* (FR-ED-75-8). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- Buchs, T. A. (1994). *Validation and justification of the use of a sales-aptitude test for U. S. Army recruiter selection*. Unpublished Master's Thesis, Navy Postgraduate School.

- Chonko, L. B., Madden, C. S., Tanner, J. F., & Davis, Roger (1991). *Analysis of Army recruiter selling techniques*. (Research Report 1589) U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A240 841)
- Dale, C. & Gilroy, C. (1985). Determinants of enlistments: A macroeconomic time-series view. *Armed Forces and Society*, 10(2), 192-210.
- Dale, C. & Gilroy, C. (1985). Enlistments in the all-volunteer force. *American Economic Review*, 75(3), 547-551.
- Dale, C. & Hill, L. G. (1984). *Military and civilian lifetime earnings comparisons*. (Technical Report 619). US Army Research Institute for the Behavioral and Social Sciences. (AD A148 844)
- Daula, T. & Smith, D. A. (1986). Recruiting goals, enlistment supply, and enlistments in the U.S. Army. In C. L. Gilroy (Ed.), *Army Manpower Economics* (pp. 101-126). Boulder, CO: Westview Press.
- Drillings, M. & Fischl, M. A. (1999). *Predicting enlistment propensity of young African-Americans*. Scientific Parallel Processing Applied Research Center: University of the District of Columbia.
- Elig, T. W. (1988). *Targeting the delivery of Army advertisements on television*. (Research Report 1484). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A199 495)
- Elig, T. W., Johnson, R. M., Gade, P. A., & Hertzbach, A. (1984). *The Army enlistment decision: An overview of the ARI recruit surveys, 1982 and 1983*. (Research Report 1371). U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A164 230)
- Elig, T. W., Weltin, M. M., Hertzbach, A., Johnson, R. M., & Gade, P. A. (1985). *U. S. Army advertising from the recruits' viewpoint*. (Research Report 1407). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A163 824)
- Freedman-Doan, P. & Bachman, J. G. (1999). *Analysis of linkages between military enlistment plans and behaviors*. (Research Note 99-12). US Army Research Institute for the Behavioral and Social Sciences.
- Freedman-Doan, Bachman, P., O'Malley, P. M. (1999). *Is there a gap between soldiers and civilians? Comparing the political attitudes of young recruits with their non-service peers, 1976-1997*. (Research Note 99-19). US Army Research Institute for the Behavioral and Social Sciences.
- Friedland, J. E. & Little, R. D. (1984). Educational levels, aspirations, and expectations of military and civilian males, ages 18-22. *Armed Forces and Society*, 10(2), 211-228.

- Frieman, S. R. (1987). *Sales Training for Army Recruiter Success: Interviews with excellent recruiters*. (Research Product 87-37). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A192 326)
- Frieman, S. R., (1987). *Sales Training for Army Recruiter Success: Modeling the Sales Strategies and Skills of Excellent Recruiters*. (Research Product 87-38). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A191 691)
- GAO: *Military attrition: DoD could save millions by better screening enlisted personnel*. Chapter Report, 01/06/97, GAO/NSIAD-97-39. <http://frwebdgate.access.gpo.gov/>.
- GAO: *Military attrition: DoD needs to better analyze reasons for separation and improve recruiting systems (testimony, 3/12/98, GAO/T-NSIAD-98-117)*. <http://frwebgate.access.gpo.gov...>
- Goldberg, L. & Greenston, P. (1986). Economic analysis of Army enlistments: Policy implications. In C. L. Gilroy (Ed.), *Army Manpower Economics* (pp. 61-91). Boulder, CO: Westview Press.
- Graf, R. G. & Bower, D. B. (1976). *The development of an interest inventory for the selection of Marine Corps recruiters*. San Diego, CA: Navy Personnel Research and Development Center.
- Guthrie, T. J. (1991). *First-term soldiers' attitudes and behaviors regarding reenlistment and reenlistment policies*. (Research Report 1596). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A240 581)
- Hissong, Jerry B., & Plotkin, Harris M. (1998). *Successful Recruiter Profile Project*. The United States Army Recruiting Command. Contract No. TCN 97-010, Scientific Services Program.
- Horne, D. K. (1984). An economic analysis of Army enlistment supply (DRAFT-MMPPRG 84-5). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Howell, R. D., Wilcox, J. B., & Wilkes, R. E. (1988). *Modeling the effects of Army advertising*. (Technical Report 821). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A207 289)
- Hughes, A. O. & Khatri, D. S. (1996). *Exploratory research on African-American youth's propensity to join the military*. (ARI Research Note 96-12). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A307 050)
- Hull, G. L. & Benedict, M. E. (1988). *The evaluability assessment of the recruiter training program*. (Research Report 1479). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A197 782)

- Hull, G. L., Kleinman, K., Allen, G., & Benedict, M. E. (1988). *Evaluation of the US Army Recruiting Command Recruiter Training Program*. (Research Report 1503). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A206 844)
- Hull, G. L. & Nelson, W. A. (1991). *Instructional needs analysis of the US Army Recruiting Command (USAREC) on-the-job recruiter training program*. (Research Report 1590). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A237 800)
- Jacobson, S. (1987). *Sales Training for Army Recruiter Success: Interviews with excellent recruiters*. (Technical Report 780). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Kearl, C. E., & Nelson, A. (1990). *Delayed Entry Program (DEP) attrition: A microdata model*. (Technical Report 889). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A223 800)
- Kelly, W. G., & Tobias, Catherine W. *Using YATS to recruit for the 21st Century*.
<http://www.internationalmta.org/1998/9838.html>
- Knapp, D. J. (1987). *Final report on a national cross-validation of the Computerized Adaptive Screening Test (CAST)*. (Technical Report 768). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A192 020)
- Krug, S. E. (1972) *Psychological and demographic predictors of success as a Naval recruiter* (final report). Washington, DC: Navy Recruiting Command.
- Lancaster, Anita R., & Lehnus, Jerry. (1997). *Declining interest in military service: Qualitative insights*. Defense Manpower Data Center.
- Larriva, R. F. (1975). *U. S. Marine Corps recruiter performance prediction study*. Unpublished manuscript.
- Lawrence, G. H., & Legree, P. J. (1996). *Military Enlistment Propensity: A review of recent literature*. (ARI Research Note 96-69). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A319 605)
- Legree, P. J., Fischl, M. A., & Gade, P. A. (1997). *Estimating AFQT by telephone using a computer adaptive test*. (Technical Report 1058). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A328 971)
- Legree, P. J., Fischl, M. A., & Gade, P. A., & Wilson, M. (1998). Testing word knowledge by telephone to estimate general cognitive aptitude using an adaptive test. *Intelligence*, 26(2), 91-98.
- Legree, P. J., Gade, P. A., Martin, D. E., Fischl, M. A., Wilson, M. J., Nieva, V. F., McCloy, R., & Laurence, J. (in press). Military enlistment and family dynamics: Youth and parental perspectives. *Military Psychology*.

- Love, K. G., Jex, S. M., Richard, R. L., & McMullin, C. (1991). *Organizational assessment to support the USAREC On-the-Job (OJT) Recruiter Training Program*. (ARI Research Note 91-89). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Massey, I. H. & Mullins, C. J. (1966). *Validation of the recruiter-salesman selection test*. Lackland Air Force Base, TX: Personnel Research Laboratory, Aerospace Medical Division, Air Force Systems Command.
- McBride, J. R. & Cooper, R. R. (1999). *Modification of the Computerized Adaptive Screening Test (CAST) for use by recruiters in all military services*. (ARI Research Note 99-25). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A362 350)
- Military recruiting: DOD could improve its recruiter selection and incentive systems* (1998). General Accounting Office, Report to the Subcommittee on Personnel, Committee on Armed Services, U. S. Senate.
- Military recruiting: More innovative approaches needed*. (1994). General Accounting Office, Report to the Honorable David Pryor, U.S. Senate.
- Morrison, D. R. & Myers, D. E. (1998). *Factors influencing the enlistment aspirations and decisions of Hispanic, Black and White male youth*. (Research Note 98-19). US Army Research Institute for the Behavioral and Social Sciences. (AD A349 410)
- Nelson, A. (1988). *Delayed Entry Program (DEP) loss behavior*. (Technical Report 823). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A205 400)
- Nieva, V. F., Wilson, M. J., Norris, D. G., Greenlees, J. B., Laurence, J., & McCloy, R. (1997) *Enlistment intentions and behaviors: Youth and parental models*. (Contractor Report 97-13) US Army Research Institute for the Behavioral and Social Sciences. (AD A326 054)
- Nord, R. D., Schmitz, E. J., & Weiland, T. A. (1986). *Propensity and the enlistment decision*. (Technical Report 723). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A178 444)
- Phillips, C. E. & Schmitz, E. J. (1985). *A microdata model of delayed entry program (DEP) behavior*. (Technical Report 666). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Pliske, R. M., Elig, T. M., & Johnson, R. M. (1986). *Towards an understanding of Army enlistment motivation patterns*. (Technical Report 702) U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A173 817)
- Pond, S. B., Powell, T. E., Norton, J. J., & Thayer, P. W. (1992). *Feasibility of using realistic job previews in the Army recruiter training process*. (Research Report 1630). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A257 914)

- Rakoff, S. H., Adelman, L., & Mandel, J. S. (1987). *A quantitative model of the considerations determining enlistment and reenlistment behavior*. (Technical Report 773). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A192 029)
- Russell, T. L. & Borman, W. C. (1986). *Predicting military recruiter effectiveness: A literature review*. (Research Note 87-23). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A181 830)
- Schmitz, E. J. (1990). *The Army College Fund and military manpower: A review of existing research*. (Research Report 1572). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A229 049)
- Schmitz, E. J. & Nelson, A. (1984). *Modeling the enlistment process for personnel planning*. (Research Report 1416). U. S. Army Research Institute for the Behavioral and Social Sciences.
- Segal, D. R., Bachman, J. G., Freedman-Doan, P., & O'Malley, P. M. (in press). Propensity to serve in the US Military: Temporal trends and subgroup differences. *Armed Forces and Society*.
- Segal, M. W., Segal, D. R., Bachman, J. G., Freedman-Doan, P. & O'Malley, P. M. (1998) *Gender and the propensity to enlist in the U.S. Military*. *Gender Issues*, 64-87.
- Tarver, S. M., Miller, A. E., & Ginexi, E. M. (1994). *A qualitative evaluation of reasons for enlisting in the military: Interviews with new active-duty recruits*. Arlington, VA: Defense Manpower Data Center, Program Evaluation Branch.
- Taylor, J. G., Lindsay, G. F., Manager, B. K., & Weitzman, R. A. (1995). *Development of a model to predict recruiter success (initial results)*. Naval Postgraduate School: Monterey, CA.
- Verdugo, N. & Berliant, K. R. (1989). *Estimating the Army's prime recruiting market*. (Technical Report 832). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A210 850)
- Vinchur, A. J., Schippmann, J. S., Switzer, F. S., & Roth, P. L. (1998). A meta-analytic review of predictors of job performance in salespeople. *Journal of Applied Psychology*, 83(4), 586-597.
- Weiss, H. M. (1988). *Evaluation of recruiter performance measures and policy*. (Research Report 1485). U. S. Army Research Institute for the Behavioral and Social Sciences. (AD A201 344)
- Weiss, H. M., Citera, M., & Finfer, L. (1989). *Evaluation of an Army recruiter selection program*. (Research Report #1514) U. S. Army Research Institute for the Behavioral and Social Sciences.
- Wilson, Michael J., Berkowitz, Susan., Lehnus, Jerry. *The meanings of propensity: Perspectives from in-depth interviews*. <http://www.ijoa.org/imta96/paper26.html>

Wilson, Michael J., Gay, Nancy L., Allen, Bruce F., and Celeste, Jan F. (1988). *The Army enlistment decision: A selected annotated bibliography*. (Research Note 88-65). U.S. Army Research Institute for the Behavioral and Social Sciences.

Wilson, M. J. & Perry, M. Shelley (1988). *The career decision survey: Modeling the Army enlistment decision*. (Research Report 814). U. S. Army Research Institute for the Behavioral and Social Sciences.

Wollack, L., & Kipnis, D. (1960). *Development of a device for selecting recruiters* (Task assignment PF-016-003-W2). Washington, DC: U.S. Naval Personnel Research Field Activity.

Zirk, D. A., McTeigue, R. J., Wilson, M., Adelman, L, & Pliske, R. (1987). *Alternative approaches to modeling the individual enlistment decision: A literature review*. (Research Report 738). U. S. Army Research Institute for the Behavioral and Social Sciences.