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ABSTRACT

Since the advent of the all volunteer force, the U.S. military has supported research to monitor, understand, and influence the propensity of American youth to enlist in the military. Interest in understanding determinants of military enlistment has increased since 1992 due to the shrinking size of the available youth cohort, competing demands for these youth, and increasing difficulty in meeting military recruitment goals. These trends are likely to continue because personnel accession goals are projected to slowly increase over the next five years. Past research has identified a number of constructs and variables that relate to military enlistment and self-reported propensity to join the military. These variables include the following: economic factors, demographic variables, recruit-reported motivations, attitudes and behaviors relating to career options, the role of important influencers such as parents and peers, military advertising, and enlistment incentives. Less research addressed the role of variables that are conceptually related to military enlistment but pose measurement problems such as general cognitive ability and knowledge of the military. The role of these variables in the enlistment decision is discussed and preliminary military lifestyle knowledge scales are described. (Author/LSR)

# Military Enlistment Propensity: New Directions for Research

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# Military Enlistment Propensity: New Directions for Research

Peter J. Legree & Mark Pifer

## Abstract

Since 1992 interest in understanding determinants of military enlistment has increased due to the shrinking size of the available youth cohort, competing demands for these youth, and increasing difficulty in meeting military recruitment goals. These trends are likely to continue because personnel accession goals are projected to slowly increase over the next five years. Past research has identified a number of constructs and variables that relate to military enlistment and self-reported propensity to join the military. These variables include: economic factors, demographic variables, recruit-reported motivations, attitudes and behaviors relating to career options, the role of important influencers such as parents and peers, military advertising, and enlistment incentives. Less research addressed the role of variables that are conceptually related to military enlistment but pose measurement problems such as general cognitive ability and knowledge of the military. The role of these variables in the enlistment decision is discussed and preliminary military lifestyle knowledge scales are described.

Military Enlistment Propensity: New Directions for Research

Since the advent of the all volunteer force, the U.S. military has supported research to monitor, understand and influence the propensity of American youth to enlist in the military. Without this research and the programs that were developed, the American military would have been hard pressed to recruit sufficient numbers of individuals and a return to a conscription-based force might have resulted. The value of this research is reflected by the continued success of the United States in maintaining its military strength using an all volunteer force.

To appreciate current research projects, it is important to realize that enlistment research has already addressed economic factors, demographic characteristics, recruit-reported motivations, attitudes and behaviors relating to career selection, the role of important influencers such as parents and friends, military advertising, and enlistment incentives. This research has provided critical information used to justify military enlistment incentives contained in the Montgomery GI Bill such as the Army College Fund (C. Moskos, personal communication, July 5, 1996).

An important element in military enlistment research has been the Youth Attitude Tracking Study (YATS). The YATS is a telephone based survey that has been ongoing since the advent of the all volunteer force in 1973. The YATS is used to monitor the extent to which American youth are interested in enlisting in the military. For a number of reasons, YATS data collected after 1991 indicate a decline in enlistment propensity. Initially it was believed that a general decline

had occurred, but subsequent analyses show the decline was concentrated in specific segments of the population. This decrease alarmed the Army and resulted in current projects to: (1) understand the enlistment decision process better, (2) measure more accurately enlistment propensity, and (3) segment the youth market by characteristics such as mental ability and knowledge of the military.

## Current Research Directions

In 1994, the Army Research Institute initiated an effort to identify factors not explored in previous research that might prove valuable in better understanding the individual enlistment decision. Based on the review of enlistment research, it was apparent that the emphasis on population trends had resulted in relatively little research using variables that quantify individual differences and that could be used to segment the recruiting market. General limitations to the previous research were recognized and projects initiated to address these issues. This paper provides an overview of those projects and describes preliminary work with scales designed to assess knowledge of the military lifestyle.

### Refinement of Propensity Measures

The ARI review noted that little effort had been expended on identifying alternative procedures to quantify enlistment propensity. One reason for this is that the YATS estimates trends over time and a change to the enlistment propensity items would necessitate an equating effort. The current YATS survey quantifies enlistment propensity by combining (a) a response to an open ended

question requesting the applicant to state future plans, and (b) a Likert rating of the likelihood of the respondent joining the military.

The predictive value of these propensity items is not trivial. According to the YATS analyses, individuals with the greatest self-reported propensity have a .33 probability of enlisting, while those with the lowest propensity have a .06 probability. On the other hand, limitations to the items are suggested by the fact that a majority of all recruits and a vast majority of all civilians fall into the lowest propensity group. Within the lowest propensity group, individual differences can not be calculated. Given these considerations, it seemed plausible that the predictive power of the propensity scale might be improved by altering the propensity questions.

In response to this concern, researchers at the University of Michigan used the Monitoring the Future (MTF) database to address this question. The MTF database was developed to monitor illicit drug use among American youth, but it contains career choice data and military enlistment items that are very similar to the YATS items. Within this database, over 60 percent of the most-propensed respondents enlist in the military (J. Bachman, personal communication, January 17, 1996). An important difference between the MTF and YATS databases is that the YATS surveys a much broader segment of the population while MTF only includes high school seniors, a population which incidentally more closely corresponds to the Army's primary recruiting market. Recognition of this difference, tempered with the high enlistment rates associated with the Monitoring

the Future data, suggest that self-reported enlistment propensity is an excellent predictor of enlistment, especially within the more narrowly defined MTF sample.

Cognitive Ability Estimation

The ARI review recognized that past research had not analyzed enlistment propensity as a function of individual characteristics such as cognitive ability. Understanding enlistment propensity as a function of cognitive ability is particularly useful because the military services concentrate on enlisting brighter individuals and maintain minimum cognitive ability entrance standards. Obviously, the enlistment propensity of individuals who can not qualify for military service is much less important to the Army than the propensity of higher quality youth. In addition, brighter individuals may respond to different appeals than the less bright. These considerations show that a method to estimate mental ability within a telephone survey might elucidate factors relating to enlistment propensity

In response to this issue, ARI contractors have collected data to evaluate the utility of administering an adaptive test over the telephone. These data are described in the paper by Janice Laurence (Laurence, McCloy & Legree, 1996).

The Influence of Family and Peers

One ARI effort was to model enlistment using a database that can link the responses of parents and their children. Past work had not quantified the extent to which parents act to influence the career decisions of their children. The results of this analysis is described in the second paper by Veronica Nieva (Nieva, Wilson, Norris & Legree, 1996).

Military Knowledge

The ARI review recognized that existing surveys contain items addressing knowledge of military benefits and slogan recognition to evaluate the impact of military advertising and benefits on enlistment. However, the review also noted that surveys did not contain items measuring knowledge of the military or the military lifestyle. Thus it has not been possible to identify survey respondents with more accurate expectations of military life, and the relationship between knowledge of the military lifestyle, enlistment propensity, and actual enlistment has not been addressed.

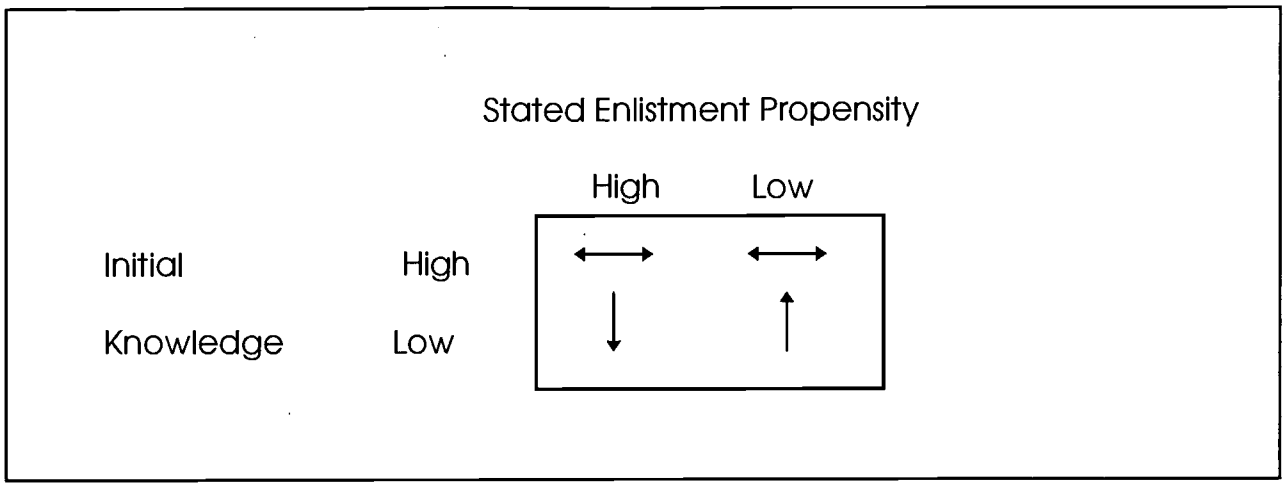
It seems reasonable to speculate that individuals who are more knowledgeable of the military may be more likely to enlist. One reason for this is that military service has been associated with a variety of positive lifetime experiences (Gade, Lakhani & Kimmel, 1991). Individuals who are aware of the positive possibilities that the military offers may be more interested in enlisting. It is relevant that military dependents are believed to enlist at a higher rate than their peers who are not military dependents. Military dependents are likely to be more familiar and knowledgeable with the military and are apparently attracted towards this lifestyle. These considerations suggest a positive correlation between enlistment propensity and military knowledge.

Hypothesizing interactions between stated enlistment propensity, knowledge of the military, and actual enlistment is also reasonable. For example, individuals who express positive propensity towards the military but who have little knowledge

of military life may find that the military less attractive if they become more knowledgeable; therefore, among individuals expressing positive enlistment propensity, more knowledgeable individuals may be more likely to enlist than less knowledgeable individuals.

Likewise, individuals who express negative enlistment propensity and are highly knowledgeable of the military are not likely to alter their views on military service. However, negatively propensed individuals who initially are not knowledgeable may become more attracted to the military if they become familiar with the positive aspects of military life. Therefore, among individuals expressing negative enlistment propensity, more knowledgeable individuals may be less likely to enlist than less knowledgeable individuals. These hypotheses are represented in Figure 1.

Figure 1. Hypothesized interactions between stated enlistment propensity, knowledge of the military, and enlistment rates.




Military Knowledge Test Development

Given these hypotheses, the development of scales to measure military knowledge is a reasonable methodological goal. These hypotheses can be addressed within a telephone survey, therefore a useful test of military knowledge should be suitable for telephone administration. This constraint effectively precludes a conventional multiple choice test due to time limitations. However, a test using Likert scaling technology could be utilized because this format utilizes time far more efficiently.

Likert-based tests are unusual but not unprecedented (cf. Wagner &, Sternberg, 1990; Legree 1996). Likert tests require subjects to rate a set of statements on a scale for which expert ratings are available. Performance is quantified as the mean distance between the expert and subject ratings across

items. More accurate knowledge is demonstrated by reproducing the expert pattern and is indicated by a lower mean distances.

Test Domains

At present three Likert tests have been developed. The first Likert test, "Jobs" is contained in Figure 2 and requires individuals to estimate the relative number of soldiers assigned to specific jobs within the U. S. Army. On this scale more naive individuals tend to overestimate the proportion of soldiers employed in the infantry. In fact, only 12 percent of enlisted Army soldiers are infantry. It is important to understand that the content of the Likert test allows the correctness of response patterns to be quantified, thus an individual difference score can be computed.

The second Likert test, "Adjustment", requires rating various aspects of military life to which soldiers have trouble adjusting. The third test, "Promotion" requires rating the extent to which various activities are important to being promoted.

The Likert tests were scored by computing the mean distance between an individual's ratings and those ratings established by surveying and averaging the ratings of five subject matter experts.

Although unsuitable for operational use, a 25 item multiple choice test was developed to address and establish convergence between the Likert tests and a traditional scale.

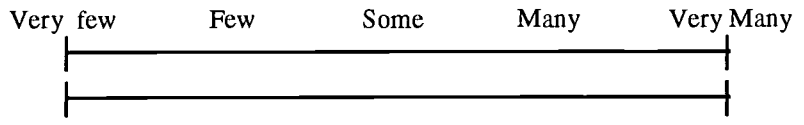
Figure 2. Likert test designed to measure knowledge of military life.

I. Jobs Test

In the following set of questions you are asked to estimate the number of soldiers you think are assigned to specific jobs. Indicate your answer by drawing an "X" by the spot providing the best estimate. Use the entire scale as the items are meant to span the entire range.

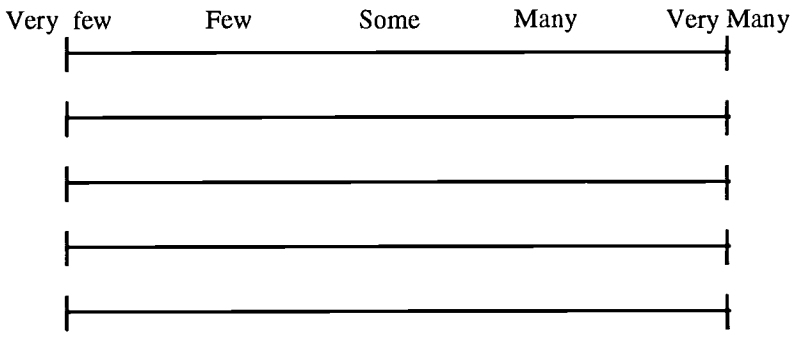
**Example**

This example regarding the circus shows how to use the scale

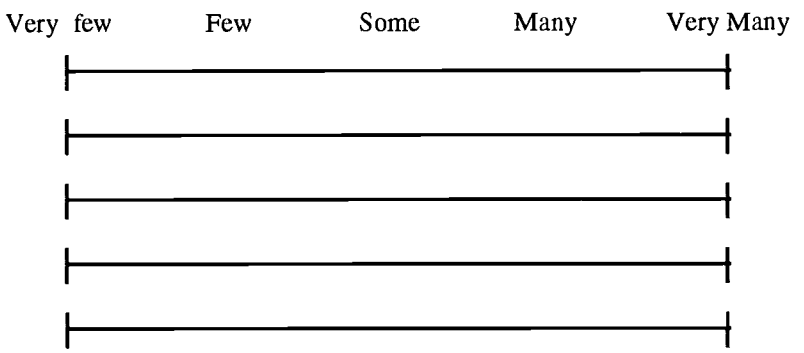



*1. Clowns*

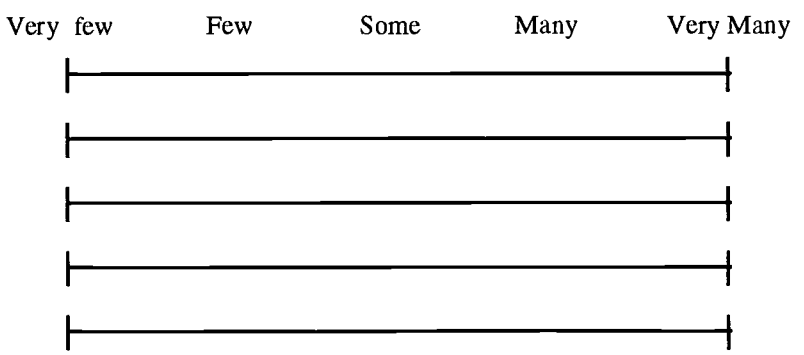
*2. Lion Tamers*




1. Medical Corps
2. Infantry
3. Tanks/Armor
4. Military Police
5. Artillery




6. Helicopters
7. Mechanics
8. Legal
9. Special Operations
10. Military Intelligence




11. Communications
12. Clerical
13. Supply
14. Computer specialists
15. Builders/Engineers

Subjects

Pilot data have been collected using 19 students from George Mason University and the four experimental scales.

Results and Discussion

Table 1 contains reliability and intercorrrelations for the four scales. Table 1 provides test length, remembering that parsimony in number of words is a desirable attribute for telephone administration.

Table 1. Correlations, reliabilities and lengths of the military knowledge scales.

| | Jobs | Adjjustment | Promotion | Multiple Choice |
|---|---|---|---|---|
| Jobs | .61 | .30 | .10 | .62 |
| Adjustment | | -.27 | .11 | .17 |
| Promotion | | | -.49 | .26 |
| Mulitple Choice | | | | .80 |
| Length (words) | 135 | 166 | 131 | 706 |

The most important inference that can be drawn from these data is that the correlation between the multiple choice and the first Likert test, Jobs, is significant and substantial. The correction for attenuation due to lack of perfect reliability

reinforces this view and yields a value of .89. Despite the small sample size on which these values are based, these data suggest that the construct being measured by these two tests is moderately to highly similar.

From a practical perspective, it seems unlikely that an estimate near or above .90 is reasonable and a replication would probably produce a more moderate estimate. Therefore it is important to continue research with this format and consider including this and/or other Likert tests in future survey administrations. Ideally several scales would be developed that measure different aspects of military knowledge to more accurately assess individual differences in this domain.

As reported in Table 1, the other two Likert tests did not correlate significantly with the multiple choice test. However, these scales were associated with low reliability estimates.

It is important to recognize that a characteristic of all the Likert tests is their brevity. Test lengths are reported in Table 1 and these values are consistent with the expectation that administration time for the Likert tests would be much less than that required for traditional multiple choice scales. This is a critical issue because administration time within a telephone survey such as the YATS is extremely limited and it is difficult to involve a respondent for over 30 minutes. To obtain useful data, a military knowledge test would be administered with a number of other items and only a small segment of the 30 minute survey could be used for this purpose.

None of the Likert tests have been administered over the telephone. Therefore, a subsequent step in this exploration of new directions for research in military enlistment propensity is to empirically investigate the feasibility of administering the Likert tests by telephone.

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