THE RETENTION OF HIGH-QUALITY MILITARY PERSONNEL

The retention of skilled enlisted personnel continues to be a major concern of military manpower planners. Based on the military's experience from 1974 to 1981, when over 300,000 men and women entered the services each year as enlisted personnel, over one third of first-term enlistees will attrit before reaching the end of the first term of service and another one third will fail to reenlist after successfully completing their first term. A chief concern is whether the remaining one third are of higher or lower average quality than those who left the service. How successfully are the best personnel among first-term recruits attracted into the career force?

A Rand study analyzes this question directly by identifying "high-quality personnel" and examining their retention behavior. The study is based on a sample of first-term male recruits who enlisted during fiscal year 1974. Using data from the FY74 Entry Cohort file developed by the Defense Manpower Data Center, the Rand researchers constructed each recruit's entire promotion history over the 1974-81 period and determined whether he attrited, completed his first term and then separated from active duty, or reenlisted at the end of the first term. Eight occupations were selected for analysis, two from each service, one specialized and high skilled and the other combat-related.

IDENTIFYING HIGH-QUALITY PERSONNEL

To measure the quality of first-term personnel the Rand researchers constructed an index of quality (Q-index) which merges three variables. The two traditional measures of enlistee quality, Armed Forces Qualification Test (AFQT) scores and educational attainment, are combined with a measure of actual job performance based on the recruit's promotion history. (The method could accommodate additional variables were they available.)

Figure 1 shows how the Q-index of one recruit might change over the first term. The zero point on the vertical axis represents the normalized average quality of the entire entry cohort for this recruit's occupation—in other words, a 50th percentile ranking. (A Q-index of 1.00 corresponds to the 84th percentile; -1.00, to the 16th percentile.) The figure charts the progress of a "typical" recruit who begins with a Q-index of 0 because he has average AFQT scores and a high school diploma.

During the first few months of the term, his predicted quality index remains average since little information has accrued about his actual job performance. At about the one year point, however, his quality index begins to fall as a few other recruits with the same entry characteristics but superior performance begin to receive promotions to paygrade E4. When he is promoted, at the fourteenth month, his quality index jumps. And this general pattern is repeated for the second promotion point.

![Graph](image)

**Fig. 1—Quality change over first term of typical recruit**
(average AFQT and HS diploma)

The empirical results indicate that the relative importance of the three components of the Q-index changes as a recruit proceeds through his first term. The promotion history becomes increasingly important while the predictive value of the entry-level characteristics diminishes. At entry point, high quality can mean only high general ability as measured by AFQT score and education. But by the end of the first term, the actual track record of the recruit makes the largest contribution to
the Q-index. At that point the traditional measures of general ability are relatively unimportant predictors of first-term quality, except in the Air Force, and most of their influence is attributable to differences in education rather than in AFQT scores.

However, the importance of the two measures of general ability varies widely across disciplines and is apparently greater for the Air Force than for the other services. This variation suggests that service-wide guidelines on reenlistment eligibility should not be heavily weighted toward either cognitive ability (as indicated by AFQT) or educational achievement and should in any case allow waivers that vary by occupation. The rank attained at the end of the first term, and perhaps the speed with which that rank is achieved, should receive much larger weight in these decisions.

RETTAINING HIGH-QUALITY PERSONNEL

The study finds that the military is generally successful at retaining high-quality first-term personnel. Individuals who move quickly through the initial enlisted ranks are the most likely to reenlist. Moreover, the reenlistment process also appears to select those whose comparative advantage is in the military. Given two recruits of equal general ability as indicated by AFQT scores and educational levels, the one with the higher military job ability is more likely to stay on. However, given two recruits with the same promotion history, the one with the higher AFQT scores and education is more likely to leave the service. The loss of individuals of high general ability who nevertheless lack a comparative advantage in their military occupations (that is, who apparently suffer from a poor job match) may be regrettable, but as this sorting goes on the military is keeping those personnel of higher overall military quality as measured by the three combined components of the Q-index.

The specific findings vary somewhat across services and occupations. Figure 2 compares the quality (Q-index) of first-term enlisted personnel who attrit, leave at the end of their term of service (separate), or reenlist, for one occupation in each of the four services. Those who reenlist generally have a much higher Q-index than either attritions or separations. Those lost through attrition are of the lowest quality. Although based on a small number of occupations, the results suggest that the military retains much better personnel in the career force than it loses.

![Fig. 2—The military retains better personnel than it loses](image)

The only exception here is in the Air Force occupation, where results differ little between those who attrit, separate, and reenlist. This may be due to the relative homogeneity of Air Force personnel, who almost universally have high school diplomas and high AFQT scores as well; to the relative importance of AFQT and schooling in that service’s promotion process; and to the relatively fixed timing of promotion to E4 in the Air Force.

FUTURE WORK

This study should be viewed as a step toward answering the important policy question of how the military can attract and retain high-quality recruits. While much work has been done on general issues of attrition and retention, little is known about the quality of those who leave and of those who stay. More importantly, little is known about the effects of policy variables in attracting and retaining high-quality enlisted personnel. The methods developed in this study can help document the extent of the loss of high-quality personnel and could form a basis for future research into the causes and consequences of that loss.

Rand’s Defense Manpower Research Center was established in 1976 under contract with the Office of the Assistant Secretary of Defense for Manpower, Installations, and Logistics. The Center conducts interdisciplinary research into the manpower problems facing the armed services. For more information about the research summarized in this brief, see R-3117-MIL, The Retention of High-Quality Personnel in the U.S. Armed Forces, Michael P. Ward and Hong W. Tan, The Rand Corporation, February 1985, or contact Dr. Tan, The Rand Corporation, 1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138, (213) 383-0411.