

How Does Deployment Affect Retention of Military Personnel?

GROWTH IN DEPLOYMENTS, CONCERN ABOUT RETENTION

In the 1990s, as the size of the active-duty force decreased from 2.1 million to 1.4 million, the number of deployments grew. As a result, deployment rates for personnel in each service were higher in the 1990s than in the 1980s, and this higher level of deployment has continued into the current decade.¹

Some have blamed the growing number of deployments for retention shortfalls and personnel losses. Evidence for this view comes from surveys in which deployment is among the most likely reasons a service member would leave the military. Some also suspect that the growing lengths of deployments, such as those for supporting recent Persian Gulf operations, may be exacerbating whatever deleterious effects deployment has on personnel retention.

If deployment adversely affects retention, the military may face manning shortfalls, higher personnel turnover, and difficulties maintaining readiness. It could also require greater recruiting resources, as lower retention rates trigger an increase in recruiting targets and possibly signal to prospective recruits a dissatisfying aspect of military life. But if deployment increases retention, several positive effects may occur, including higher readiness, lower turnover, and less need for recruiting resources.

RAND researchers analyzed personnel records from the 1990s to determine whether deployments had an effect on the reenlistment of enlisted personnel and the retention of officer personnel. As discussed below, the effect of deployment on enlisted reenlistment and officer retention was typically positive, and there were few instances where the empirical evidence indicated a negative effect.

ENLISTED DEPLOYMENTS AND REENLISTMENT

The relationship between deployments and reenlistment can be complex. A military member may be assumed to have preferences about deployment, but often these preferences may be naive because the member has never been deployed or perhaps has been deployed only once. When deployment does occur, it may bring a sense of satisfaction, yet it may also involve serious risks and costs to the member. To help understand this complexity, the researchers developed a theoretical model of how deployment can affect reenlistment. The model accounts for the expected frequency and duration of deployments, the variance of deployments, the costs borne by the member when deploying, deployment-related special pays received by the member, and the member's satisfaction from deployment. The model assumes that a member has initial expectations about these aspects of deployment and that actual deployment experience enables the member to learn more about deployment and revise his or her expectations accordingly. It is the revised expectations that enter into the reenlistment decision. By accounting for a member's learning about deployment and revision of expectations, the model provides a connection between actual deployment and subsequent reenlistment. The model served as a conceptual basis for the researchers' empirical work.

Deployments were identified at the individual level over a three-year period preceding the reenlistment decision by the receipt of Family Separation Allowance (FSA) or Hostile Fire/Imminent Danger pay. This resulted in a focus on deployments that involve long separation of 30 days or more or hostile duty, i.e., the type of deployments associated with operational missions and a forward posture. (Unit levels of FSA pay were used to impute nonhostile deployments for members without dependents.) The reenlistment decisions occurred between 1996 and 1999.

The effects of deployments on retention were modeled in two ways. One approach considered the direct effects of deployments on retention. A complementary second

¹For example, while the Marine Corps was involved in just 15 contingency operations between 1982 and 1989, it has participated in more than 60 such operations since then.

approach considered the effects of deployment on both retention and promotion. This model helped to evaluate a promotion hypothesis stating that the effect of deployment on time to promotion also affects the reenlistment decision. In isolating the effect of deployments, the models control for the member's branch of service, Armed Forces Qualification Test score, education level, occupational area, gender, race/ethnicity, as well as for fiscal year, unemployment rate, and calendar quarter when service was entered.

In their first term, about half of Army and Air Force enlisted personnel, two-thirds of Marine Corps personnel, and three-quarters of Navy personnel had at least one deployment. In general, personnel who had been deployed in their first term had higher reenlistment rates than those who had not been deployed. Reenlistment typically rose with nonhostile deployments and changed little with hostile deployments (Figure 1).

In their second term of enlistment, about one-third of Navy personnel, one-half of Air Force personnel, nearly two-thirds of Army personnel, and nearly three-quarters of Marine Corps personnel had at least one deployment. For these personnel, the probability of reenlistment was higher for those with some deployment versus those with none (Figure 2). Reenlistment in the Navy and Marine Corps tended to increase with the number of deployments,

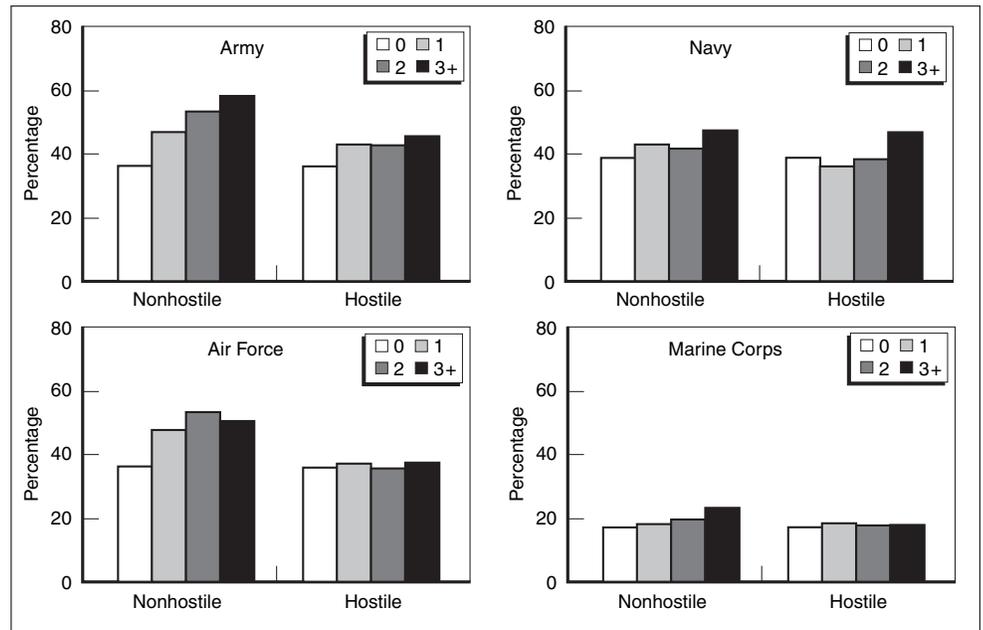


Figure 1—First-Term Reenlistment Probability by Number of Deployment Episodes

whether hostile or nonhostile. Reenlistment in the Army and the Air Force also increased, but only slightly.

There was little evidence to suggest that hostile deployments reduced reenlistment. Predictions based on the empirical models indicated that a 25 percent increase in hostile deployments, randomly distributed, would have virtually no effect on reenlistment rates.

While nonhostile deployment reduced the time to promotion, the researchers found that the indirect effects of deployment on retention through promotion were small compared with the direct effects. Nevertheless, the researchers also found evidence of unobserved variables

exerting a strong influence on both promotion and reenlistment. Controlling for observed variables, first-term reenlistment in all the services is much higher for those whose time to promotion is shorter than usual compared with those whose time to promotion is longer than usual. The unobserved (and hence unknown) variables affecting both promotion and reenlistment likely reflect the quality of match between the member and the service, with well-matched members promoted more rapidly and therefore more likely to reenlist.

OFFICERS AND NUMBERS OF DEPLOYMENTS

Similarly, RAND researchers found nonhostile deployments tended to have a positive effect on retention

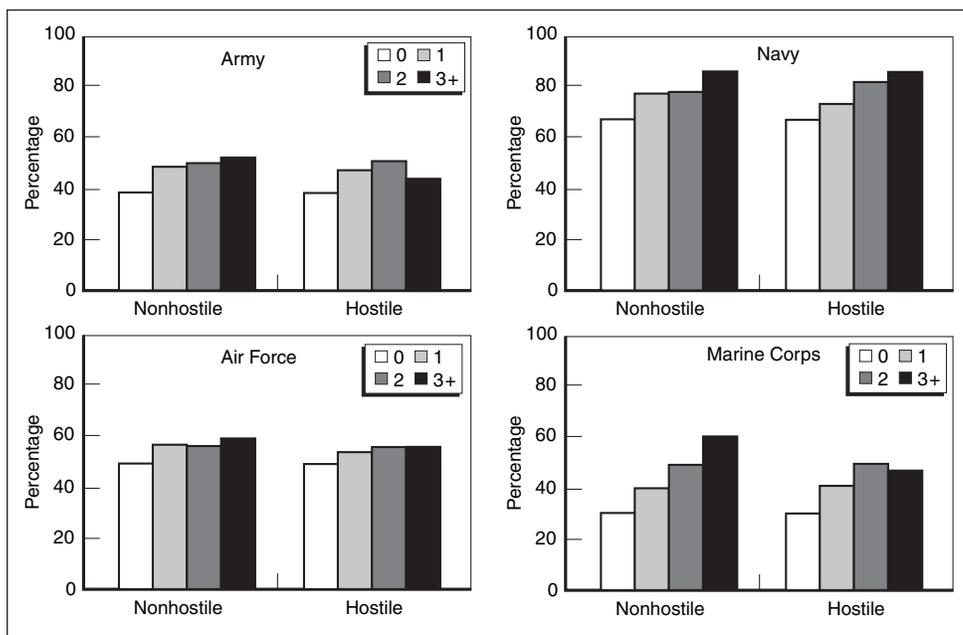


Figure 2—Second-Term Reenlistment Probability by Number of Deployment Episodes

of junior officers (O-2s and junior O-3s with roughly four to five years of service) and midgrade officers (O-3s and O-4s with between five and ten years of service). Deployment to hostile areas affected junior and midgrade officers in different ways.

For junior officers, hostile deployment in the late 1990s tended to lessen, but not eliminate, the positive effects of deployment on retention. By contrast, hostile deployment for junior officers in the early 1990s was associated with higher retention, perhaps because hostile deployments then were perceived as a way to distinguish oneself from one's peers during the drawdown or because hostile deployments of that time (e.g., Operations Desert Shield and Desert Storm) were perceived as more rewarding than those of the late 1990s.

For midgrade officers, hostile deployment in the late 1990s had lesser effects on retention rates. This is not surprising, given that midgrade officers are self-selected, having chosen to remain in the service after an initial obligation. In the early 1990s, by contrast, hostile deployments appear to have reduced retention of midgrade officers, perhaps because such officers, having served in a Cold War military with fewer deployments, were discouraged by increased hostile deployments and fewer career opportunities during the drawdown.

THE EFFECTS OF DEPLOYMENT LENGTH

Deployments vary in length. Deployments of even a few days may require the member to make arrangements to "take care of things" at home while away. Longer deployments mean a longer separation from family and friends as well as prolonged exposure to whatever risks and arduous duty come with the deployment. At the same time, the member may have a preference for deployment, in which case greater satisfaction may accompany longer deployment.

Among enlisted first-term personnel who have had a hostile deployment, for example, the effect of deployment length on retention varies by service. For Army personnel, an increase in deployment length from one month to six increased probability of reenlistment (from 0.40 to 0.46), while such increases in deployment length decreased probability of reenlistment in the Navy (from 0.39 to 0.33), the Air Force (0.39 to 0.36), and the Marine Corps (0.19 to 0.17). The overall effect of increased deployment among enlisted first-term personnel reduced the probability of reenlistment. For all but the longest deployed, this decrease still left the probability of reenlistment above that for personnel who did not deploy. These findings accord with the 1999 Survey of Active Duty Personnel, which found that the likelihood of reenlistment for those who did not deploy was 47 percent; the likelihood of those away less than one month was 57 percent; and the likelihood of those away seven to twelve months was only 46 percent.

OTHER INFLUENCES ON DEPLOYMENT AND RETENTION

Service members must consider other effects of deployment besides number and length. For many members, the impact on family must also be considered. RAND researchers analyzed deployment and retention separately for first-term enlisted personnel with dependents and for those without dependents as of their reenlistment date. (Most second-term enlisted personnel and officers have dependents.) They found that, for any given number of deployments, members with dependents typically had a higher reenlistment probability. Also, their reenlistment increased with the number of deployments, and it did so to a greater extent than for personnel without dependents. Why this occurred remains open to question. A possible explanation is that personnel who derived greater satisfaction from deployment were comfortable enough with military life to marry while in their first term.

Service members also differ in the work they perform. Civilian opportunities vary by each military occupation, and hence the likelihood that a member will leave the service to pursue civilian opportunities varies by military occupation. Nevertheless, RAND researchers found the effects of deployment on retention do not vary much by occupation. In other words, the finding that members with some deployment are more likely to reenlist does not stem from deployment being concentrated among certain occupations whose members are more likely or less likely to accept deployment.

DIRECTIONS FOR FUTURE RESEARCH

The findings indicate deployment can increase retention for both officers and enlisted members. The effect of deployments depends on the duty involved and the length of deployment. Deployments with hostile duty have a less positive effect on retention, and long, hostile deployment reduces the positive effect of deployment in most services.

Questions remain about how deployment affects retention. Existing data do not include information on type, conditions, or origin and destination of deployment. Deployment data are not linked to data about the member's dependents or family support received during deployment. The data do not reveal how members with multiple deployments were selected for these deployments. It may be, for example, that personnel selected for multiple deployments were selected based on their qualifications, in which case the positive effects seen of deployment on enlistment would actually have more to do with the caliber of the members. Finally, although there is overwhelming evidence of higher retention for members who deployed, we do not know why these deployments were apparently more satisfying than the members initially expected and therefore why the deployment had a positive

effect on the their decision to remain on active duty. What were the members' initial expectations, how were they formed, what aspects of deployment led to an upward revision, and why was this more prominent for nonhostile than for hostile deployment?

These issues point to directions for future research. Such research should evaluate the effect of short and unplanned deployments that could not be analyzed with extant data. New data currently being collected by the services on short deployments will permit future research on this topic. Information on type of deployment—whether for peacemaking or peacekeeping, humanitarian assistance, disaster relief, nation-building, a major exercise, a large contingency, education or training, an unaccompanied tour of duty, or still some other type of deployment—could also help in identifying any relationships between types of deployment and retention rates.

Additional information on the extent of self-selection would help analysis of deployment and retention, particularly research on how members are able to position them-

selves in job assignments and how such self-selection affects both the likelihood of deployment and the probability of remaining in active duty. More analysis of deployment and retention within each service might also help determine what causal relationships exist between deployment and retention.

Finally, more attention should be given to deployment and specific characteristics of officers and enlisted personnel. Little is known about how deployment affects the quality of the officer corps. It may be that lower-quality officers, having fewer civilian opportunities, will tolerate a level of deployment that would cause higher-quality officers to leave. Among enlisted personnel, approximately 30 percent of new recruits do not complete their first term of service. It remains to be seen whether deployment affects their departure and whether attrition is a factor in how deployment influences retention. Longitudinal models and data following individual members throughout their service careers could help answer such questions.

*RAND research briefs summarize research that has been more fully documented elsewhere. This research brief describes work done for the National Defense Research Institute; it is documented in *The Effects of Perstempo on Officer Retention in the U.S. Military*, by Ronald D. Fricker, Jr., MR-1556-OSD, 2002, 94 pp., \$18.00, ISBN: 0-8330-3176-7, and in *Serving Away from Home: How Deployments Influence Reenlistment*, by James Hosek and Mark Totten, MR-1594-OSD, 2002, 154 pp., \$20.00, ISBN: 0-8330-3215-1, available from RAND Distribution Services (Telephone: 310-451-7002; toll free 877-584-8642; FAX: 310-451-6915; or email: order@rand.org). Abstracts of RAND documents may be viewed at www.rand.org. Publications are distributed to the trade by NBN. RAND® is a registered trademark. RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis; its publications do not necessarily reflect the opinions or policies of its research sponsors.*

RAND

1700 Main Street, P.O. Box 2138, Santa Monica, California 90407-2138 • Telephone 310-393-0411 • FAX 310-393-4818
1200 South Hayes Street, Arlington, Virginia 22202-5050 • Telephone 703-413-1100 • FAX 703-413-8111
201 North Craig Street, Suite 202, Pittsburgh, Pennsylvania 15213-1516 • Telephone 412-683-2300 • FAX 412-683-2800

RB-7557-OSD (2003)