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## Perstempo

### Does It Help or Hinder Reenlistment?

Having some duty involving lengthy separations from home base or exposure to hostile conditions—but not too much—is a key to reenlistment in all four branches of the U.S. military. As the Pentagon deploys personnel on a widening array of missions, it consequently should attempt to spread the burden of long separations and hostile duty over broad segments of the enlisted force, make these assignments more predictable, and attune individuals' expectations to new deployment patterns.

Those are the conclusions of a 1998 RAND report, *Does Perstempo Hurt Reenlistment? The Effect of Long or Hostile Perstempo on Reenlistment*, by James Hosek and Mark Totten. Their report, done under the auspices of RAND's National Defense Research Institute, shows that limited deployments—of, say, three months—tend to increase reenlistment among first-term enlisted personnel in the Army and Marine Corps. Limited deployments also increase reenlistment among "early careerists," those who have been in the military more than one term but less than ten years, in all services. The positive retention effect is particularly strong for first-term enlisted personnel in the Army.

However, adding an additional tour of duty atop the first—such as another three months away from home—reduces the likelihood of reenlistment, especially in the Army and Marine Corps. The negative effect of the extra tour is strongest when it involves hostilities.

The study, which looked at long or hostile duty for service members in the early and mid-1990s, is the first cross-service inquiry into the relationship between reenlistment and personnel tempo, or "perstempo." Perstempo as used here is a measurement of tours of duty that station a service member away from home base for

longer than 30 days or in a hostile environment for any duration. In many respects, the study's conclusions counter what many Pentagon insiders and observers have suspected has been a main effect of perstempo: that it has precipitated a drop in reenlistment. In fact, such duty generally has had a positive influence on reenlistment. However, to the degree that perstempo levels have now risen above those prevailing during the study period, the analysis points to the need for the services to spread the burden of peacetime military operations to the maximum extent compatible with readiness.

#### PERSTEMPO MEASURES DIFFER FROM OPTEMPO MEASURES

The frequency with which personnel are sent on long or hostile assignments and the duration, pace, and intensity of work while on that duty have become matters of growing policy debate. Since the end of the Gulf War, the services have seen the pace of their activities quicken and the range of their responsibilities widen. U.S. forces today are expected to handle not only major theater wars, small-scale contingencies, and terrorist threats, but also peacekeeping and humanitarian operations. These broad demands have caused some Pentagon officials to worry that personnel are used too intensively, which is leading to high stress, decreased morale, reduced family stability, and, ultimately, lower retention.

Operational tempo, or "optempo," is one method that the Pentagon has used to portray the demands on its forces. This measure examines an array of data—sorties per day, days steaming per year, tons of cargo transported, number of rounds fired, fuel consumed per week, and the like—to gauge the intensity of operations. But while optempo can tell policymakers whether the pace of opera-

tions has quickened or slackened, it is less precise in revealing the degree to which specific personnel are being used in operations.

As a result, the Pentagon also has turned to perstempo measures to get a handle on how operations affect service members. Perstempo in principle has many dimensions, such as hours of work per day, days per week, weeks per year, hours on alert, and work per hour. However, few actual measures have been available. The Pentagon's 1997 Perstempo Working Group recommended counting the number of days away for deployment or unit training. In 1999, Congress, not yet satisfied with perstempo measurement, mandated that the services develop standard criteria for measuring perstempo—a challenge for the immediate future.

For this study, RAND analysts defined perstempo as long duty of 30 days or more or as hostile duty of any duration. The research focused on enlisted personnel and constructed measures of long or hostile duty for individual enlistees. The measures were built from rosters of personnel who received the Family Separation Allowance for being separated from their families for 30 days or more or Hostile Fire Pay for service in areas deemed hostile or involving a hazardous activity such as mine clearing. This allowed the analysts to track the extent of a service member's long or hostile duty over a 24-month window (around 1993–1995) prior to reenlistment. With this approach, they could determine the number of months and episodes of hostile and nonhostile duty.

### PERSTEMPO HAS BEEN RISING

As background, the study also computed trends in the monthly incidence of long or hostile duty. The Army and the Air Force have seen the largest increases. Between 1988 and 1996, the proportion of the Army's enlisted force on long or hostile duty assignments in a given month doubled, to 13 percent; in the Air Force, that proportion more than tripled, to 7 percent. The Navy and Marines experienced smaller increases in the proportion of their forces assigned to long or hostile duty, climbing from 10 to 13 percent and from 14 to 16 percent, respectively.

These assignments are given both to individuals in their first term of service and to early careerists serving beyond their first terms. During the 24-month period around 1993–1995—which included deployments to Haiti, Somalia, and Bosnia, and unaccompanied tours to Korea—more than two-thirds of first-term Navy personnel faced long or hostile duty, compared with 61 percent of first-termers in the Marine Corps, 39 percent in the Army, and 31 percent in the Air Force. As expected, the total months of long or hostile duty were greatest in the

Navy, with its posture of forward presence, and the Marine Corps, which regularly sends units aboard Navy ships. More surprising, however, were the high percentages of personnel who had some long or hostile duty over 24 months, as compared to the monthly rates. These 24-month rates were three to five times higher than the monthly rates. Monthly rates alone, therefore, might give the false impression that only a small fraction of the force is needed for today's level of peacetime operations. Early careerists experienced relatively similar duty patterns during the study period.

### PERSTEMPO'S EFFECT ON REENLISTMENT DEPENDS ON HOW MUCH AND HOW OFTEN

Using regression analyses, RAND researchers tested whether and to what degree long or hostile duty influenced reenlistment. Service members, especially first-termers, who were exposed to some long or hostile duty initially showed an increased propensity to reenlist. However, further additions of long or hostile duty had the opposite effect, incrementally reducing their reenlistment propensity, with the rate of decline being faster when duty was hostile. The regression model was then used to predict the change in reenlistment probability for personnel who had no prior long or hostile duty (see Figure 1) and, alternatively, for personnel who had some such duty (see Figure 2).

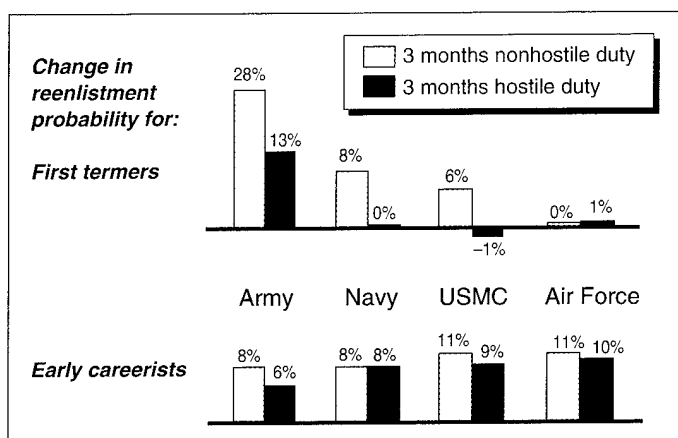


Figure 1—With No Prior Perstempo, Adding Three Months Often Helps Reenlistment

First-term Army, Navy, and Marine Corps personnel with no prior long or hostile duty were more likely to reenlist if given an initial three months of nonhostile duty—28 percent more likely in the Army, 8 percent in the Navy, and 6 percent in the Marines. But similar Air Force personnel were no more likely to reenlist when given the same type and duration of duty.

On the other hand, if given an initial three-month assignment of hostile duty, only Army first-termers were more inclined—13 percent more inclined—to reenlist. Such initial hostile duty assignments did not appreciably change the reenlistment probabilities among first-term Navy, Marine, or Air Force personnel.

The reenlistment probability story differed for first-termers with a long or hostile duty stint under their belts. Assigning such personnel in the Army, Navy, and Air Force to an additional three months of nonhostile duty reduced reenlistment probabilities between 3 and 5 percent, but had no appreciable effect on Marine Corps reenlistment. However, if those additional assignments involved hostilities, reenlistment probabilities dropped—by 17 percent in the Army, 11 percent in the Navy, 6 percent in the Marines, and 2 percent in the Air Force.

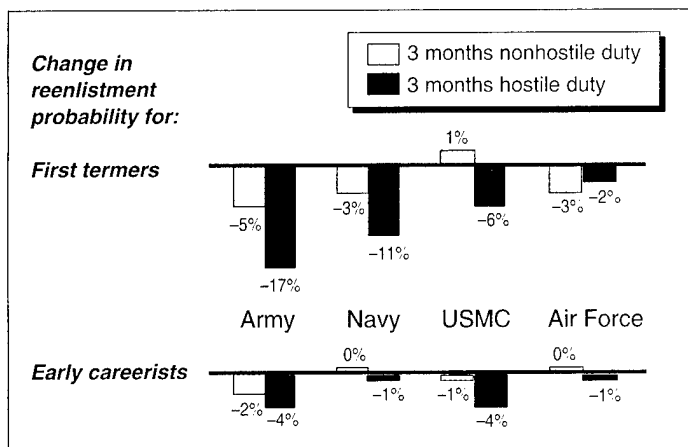


Figure 2—With Prior Perstempo, Three Months Can Hurt Reenlistment

Early-career personnel were not impervious to changes in perstempo: some long or hostile duty increased reenlistment probabilities in all services by 6 percent to 11 percent. However, the prospect of hostile duty beyond that initial amount reduced reenlistment likelihood typically to slightly below the level it would have been if the service member had no long or hostile duty.

In short, small doses of perstempo appear to boost reenlistment. However, additional perstempo, particularly involving more hostile activity, appears to take a toll on retention. To put this in perspective, the decreases in reenlistment hypothesized above stemming from additional hostile duty tours were larger than what could have been expected from a 5-percent cut in military pay relative to civilian pay—an appreciable cut.

The pace of peace operations has not slackened since the study period. Personnel remain quite busy, what with a multiyear U.S. presence shaping up in the Balkans, growing commitments to humanitarian and disaster-relief operations, and other missions. As a result, perstempo today could be having a less beneficial, or even a negative, impact on retention. Further, changes in compensation, such as the advent of federal tax forgiveness for personnel serving in Bosnia, may be changing the relationship between long or hostile duty and reenlistment.

### PERSTEMPO'S OVERALL EFFECT IS POSITIVE

While the discussion above outlines evidence of long or hostile duty hurting reenlistment among some personnel, it should be noted that this research found that perstempo had an overall positive reenlistment effect. RAND's regression analyses suggest that reenlistment probabilities for more than 90 percent of first-term Army and Marine Corp personnel were positively affected by their long or hostile duty. Just under half of Navy and Air Force first-termers were positively affected. Nearly all early career personnel showed increased reenlistment probabilities as a result of long or hostile duty.

How does this translate into overall reenlistment probabilities? Among first termers, perstempo caused reenlistment probabilities to climb by 18 percent in the Army and by 6 percent in the Marine Corps, while causing them to fall 1 percent in the Navy and Air Force, compared with personnel who had no long or hostile duty. Among early career personnel, perstempo's impact was positive in all services, boosting reenlistment probabilities by 6 to 10 percent.

### SPREADING THE PERSTEMPO BURDEN

This research suggests that the impact of adding duty tours differs depending on whether personnel already have had or not had prior perstempo and on whether the additional tour is hostile or nonhostile. The findings suggest that if added hostile duty can be spread to troops who have not yet been deployed, the effect on reenlistment is likely to be positive. If the added duty falls to those who have already been deployed, then the effect on reenlistment may be negative. The research also suggests that the services may be able to better manage service members' expectations by forewarning them early in their careers about the prospects and dimensions of such duty.

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*RAND research briefs summarize research that has been more fully documented elsewhere. This research brief describes work done in the National Defense Research Institute and documented in Does Perstempo Hurt Reenlistment? The Effect of Long or Hostile Perstempo on Reenlistment, by James Hosek and Mark Totten, MR-990-OSD, 1998, 110 pp., \$15, ISBN: 0-8330-2659-3, available from RAND Distribution Services (Telephone: toll free, 877-584-8642; FAX: 310-451-6915; or Internet: [order@rand.org](mailto:order@rand.org)). Abstracts of all RAND documents may be viewed on the World Wide Web (<http://www.rand.org>). RAND publications are distributed to the trade by NBN. RAND® is a registered trademark. RAND is a nonprofit institution that helps improve public policy and decisionmaking through research and analysis; its publications do not necessarily reflect the opinions or policies of its research sponsors.*

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RB-7532 (1999)