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PARTICIPATION IN THE NAVY HUMAN RESOURCE MANAGEMENT CYCLE: EFFECT ON REENLISTMENT RATES

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FOREWORD

This research and development was sponsored by the Commander, Naval Military Personnel Command (NMPC-6). It is part of a continuing project to evaluate the effects of programs in the Navy's Human Resource Management (HRM) Support System and to provide managers with the information required to monitor their programs. The objective of this effort was to determine the effect of HRM Cycle activities on reenlistment rates.

This is the fifth in a series of reports concerning HRM. Previous reports addressed the relationship of HKM to nonjudicial punishment rates (TR 76-5), operational readiness of Navy ships (TR 76-32), organizational climate perceptions of enlisted women and men (TR 76TQ-43), and disciplinary problems (TR 77-38).

The results of this effort have been previously reported to the sponsor. They are being published at this time to provide documentation and wider distribution.

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SUMMARY

Problem and Background

The retention of qualified personnel has been a long-term concern of Navy managers. Since previous research has shown that organizational development (OD) is related to reenlistment rates in the military, it was hypothesized that attempts to improve organizational conditions would improve retention. One such attempt was the implementation of the Navy's Human Resource Management (HRM) Cycle, a command-specific, fleet-wide program for OD. During the Cycle, individual fleet units participate in a multiphased HRM program, which is aimed at improving command leadership and personnel management. The Cycle typically includes a 5-day Human Resource Availability (HRAV), which is dedicated to the development of a Command Action Plan.

Purpose

The purpose of this effort was to determine whether participation in HRM Cycle activities, particularly the HRAV, would have a positive effect on a unit's first-term reenlistment rates.

Approach

An experimental sample of Pacific Fleet ships and air squadrons that had participated in an HRAV was compared on two different measures of reenlistment with a matched (comparison) sample of commands that had not participated. The measures compared were those for four reporting periods: (1) the 6-month period preceding the HRAV, **(2)** the 6-month period including the HRAV, **(3)** the 6-month period following the HRAV, and **(4)** a period from 12 to 18 months after the HRAV. Also, to allow for a more complete perspective on longitudinal changes, reenlistment measures for the experimental group were compared with those for all air and surface units in the Pacific Fleet.

Results

During the HRAV period, the experimental sample showed a significant increase in reenlistment rates when compared to the control sample. Also, during the two post-HRAV comparison periods, reenlistment rates for the experimental sample remained higher than those for the control group. These differences were not large enough to obtain statistical significance, however. The experimental sample also surpassed the Pacific Fleet average during the last three reporting periods, despite being lower during the pre-HRAV period.

Conclusion and Recommendation

Participation in HRM activities by operational Navy units results in small, but significant, initial improvements in first-term reenlistment rates. There are many factors, however, that may influence the degree of effectiveness of HRM Cycle activities. Future research should attempt to identify specific elements that are critical to HRM Cycle success rather than focus on overall effects.

CONTENTS

INTRODUCTION

Problem

The retention of qualified personnel has long been a concern of Navy managers and the target of considerable research. High attrition rates among first-term enlistees have further emphasized the need to develop effective retention strategies. Moreover, increasing levels of equipment technology and sophistication require considerable investments in training that are lost when individuals leave the Navy at or before the end of a single enlistment.

Background

Previous research has shown that the work environment is related to turnover in the civilian sector (Mobley, Griffeth, Hand, & Meglino, 1977; Porter & Steers, 1973; Price, 1977), and to reenlistment rates in the military (Hand, Griffeth, & Mobley, 1977; LaRocco, Gunderson, & Pugh, 1975). Likewise, studies by Bowers (1973), Drexler and Bowers (1973), and Franklin and Drexler (1976) suggest that retention is a predictable outcome of the type of human resource management practiced within a unit. Thus, it appears that efforts directed toward improving organizational conditions within Navy commands could improve retention rates.

In 1973, the Navy implemented the Human Resource Management Support System (HRMSS), a broadly-based program focused on leadership as a means of enhancing naval readiness. A key element of the HRMSS is the HRM Cycle, a command specific, fleet-wide program for organizational development (OD). The HRM Cycle provides consultative assistance for improving command leadership and personnel management. It focuses on issues identified by the commanding officer and senior personnel as hindering full utilization of the command's human resources. This approach is largely an outgrowth of OD efforts employing survey-guided development procedures (CNO, 1975; Forbes, 1976).

The HRM Cycle generally requires 6 to 8 weeks' involvement with an individual command, and includes several distinct activities, such as the following:

1. Preparatory activities and initial visit.

2. Data gathering, using the HRM Survey or other diagnostic techniques to identify areas needing improvement.

3. Analysis of data.

4. Feedback and diagnosis, including identification of areas where improvement is needed.

5. Setting command HRM Cycle objectives and planning for their implementation.

6. A dedicated period, the Human Resource Availability (HRAV) week, to address identified issues. The HRAV typically includes members from throughout the chain of command who participate in workshops and discussions focused on developing an overall Command Action Plan (CAP) for dealing with perceived critical issues and command objectives.

7. Unit actions to improve command conditions.

8. Continuing assistance as requested by the command.

9. Follow-up.

As with most OD efforts (e.g., see Friedlander & Brown, 1974; Huse, 1975; Margulies & Raia, 1978), HRM activities do not address outcome variables such as retention per se. Rather, they concentrate on the intervening organizational processes hypothesized to be causally related to such outcomes. Nonetheless, if OD activities do improve human resources management within a unit, they may also result in positive changes in reenlistment rates.

Purpose

The purpose of the present study was to investigate the effect of HRM Cycle activities on units' first-term enlisted reenlistment rates. Based on previous research and the assumption that OD efforts improve organizational conditions, it was hypothesized that such activities would increase retention; that is, that the reenlistment rates of units that had participated in an HRAV would show more positive changes than those of a matched control group that had not participated.

APPROACH

Criterion Measures

Since the HRM Cycle focuses on individual units, it was both desirable and necessary to use unit-level reenlistment rates as the criterion measure. Commands submit quarterly reports to CINCPACFLT or CINCLANTFLT, as appropriate, providing their reenlistment statistics--both first-term and career. In the Pacific Fleet (PACFLT) only, these data have been compiled since July 1974; thus, sufficient first-term data on PACFLT units were available for use in this study.

Two separate criterion measures were developed as indicators of first-term retention:

1. Actual Reenlistment Rate—The percentage of first-term personnel that reenlisted among the pool of personnel who were eligible and recommended for reenlistment. This statistic corresponds to the "official" reenlistment rate for the command.

2. Gross Reenlistment Rate--It is possible for commands to increase their reenlistment rate by arbitrarily shifting personnel who have completed their enlistment but are not planning to reenlist into the ineligible category. Although there is no empirical evidence to indicate that this practice is followed, the gross reenlistment rate was used to control for this possibility. This rate was computed using all personnel who were completing their enlistment, whether or not they had been recommended for reenlistment.

For both of these measures, individuals who were automatically extended in exchange for receiving advanced training were excluded. Rates were computed by quarters, beginning with July 1974 and ending in December 1975.

Criterion Stability

Drexler and Franklin (1977) have discussed the importance of criterion stability over time. If commands show excessive variability on outcome measures across several

reporting periods, it makes little sense to attempt to relate these outcomes systematically to an activity such as the HRM Cycle. Because the number of individuals eligible for reenlistment (as well as the number who reenlist) on a given unit varies from one quarter to another and is often quite small on many ships, the stability of reenlistment rates across periods can vary for artifactual reasons. For example, if a ship has one person eligible to reenlist in a quarter and he reenlists, the obtained rate is 100 percent. If that same ship has one person eligible during the following quarter and he fails to reenlist, the obtained rate is zero. Thus, over the two-quarter period, the ship has gone from a perfect reenlistment rate to the worst possible rate.

An attempt was made to reduce this type of error in the present study by excluding those units that reported fewer than three reenlistment-eligible individuals for any quarter. As a result, many smaller units (e.g., submarines and fleet tugs) with relatively unstable reenlistment rates were not included. Thus, if the effects of the HRM Cycle are related to the size of the unit, with smaller units showing more improvements than larger ones, the detectable effect would be reduced.

To explore the stability of the data, correlations were computed between unit-level reenlistment rates for about 240 PACFLT units for each quarterly reporting period. In addition, since longer reporting periods tend to result in greater criterion stability (Drexler & Franklin, 1977), correlations were computed between unit-level reenlistment rates based on combined data for two sequential quarters. The results of correlational analyses showed that there was little stability across unit-level rates, regardless of whether 3- or 6-month periods were used. The correlation coefficients between rates for 6-month periods were approximately .20. Those for the 3-month periods, while having a median value of .16, showed more variability, ranging from .03 to .20. Accordingly, data for 6-month periods were used in the present comparisons.[1]

Sample

The experimental sample was chosen from Pacific Fleet commands participating in HRAVs between January and June 1975. For these units, actual and gross reenlistment rates for three six-month periods were obtained: (1) Pre-HRAV (July-December 1974), (2) HRAV (January-June 1975), and (3) Post-HRAV (July-December 1975). Units that had missing information as well as those reporting fewer than three reenlistment-eligible personnel during any of these time periods were excluded from the experimental group.

Similar units that had not participated in the HRM Cycle were selected as controls. These units were matched as closely as possible with the experimental units based on type (e.g., escort, destroyer, tactical air squadron) of unit. The composition of the final sample, comprising 60 units (30 experimentals and 30 controls), is shown in Table 1.

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[1] A note seems in order concerning acceptable levels of stability in criterion data. Very low correlations between reporting periods (e.g., $r \approx .00$ to .10) would suggest that either the measurement process is unreliable or that the criterion measure is inherently unstable; that is, units may not consistently rank either high or low on the measure. On the other hand, very high correlations (e.g., over .90) would suggest that the particular measure is not sensitive to situational factors, including OD efforts, and is a relatively permanent characteristic of the organization. Hence, either extremely high or extremely low correlations can be problematic in terms of focusing on longitudinal organizational change and OD effects within Navy units.

Table I

Experimental and Control Units by Type

Type	Experimental Units	Control Units
Ships:		
Aircraft Carrier	1	1
Amphibious Warfare	5	5
Auxiliary	0	1
Escort	3	3
Destroyer	2	2
Underway Replenishment	5	4
Total	16	16
Air Squadrons:		
Tactical	8	7
Antisubmarine	5	3
Support	1	4
Total	14	14
Grand Total	30	30

Data Analysis

Comparisons were made between changes in first-term reenlistment rates of the experimental and control units for the pre-HRAV, HRAV, and post-HRAV periods. Also, to explore the long-term effects of participation in the HRM Cycle, reenlistment rates for the period approximately 12 to 18 months following the HRAV for 21 experimental units and 21 control units were compared. This sample was smaller than the original because nine of the control units participated in the HRM Cycle during the final time period and had to be excluded, together with their corresponding matched experimental units. The result was a reconfigured sample of 11 ships and 10 air squadrons in both the experimental and control groups.

Statistical analyses performed included correlated t-tests, which are appropriate when experimental and control groups are formed using matched unit pairs (see McNemar, 1969, p. 116). This t-test represents a comparison of change scores for experimental and control units. A one-tailed test was used to determine significance, since it was hypothesized that the HRM Cycle would have a positive impact on both reenlistment rates.

Finally, to allow for a more complete perspective on longitudinal changes, reenlistment rates of experimental and control units were compared with those of unit totals from all air and surface Pacific Fleet commands for the four reporting periods. No significance tests were computed since the data were used for descriptive purposes only.

RESULTS

Table 2 provides first-term actual and **gross** reenlistment rates for the experimental and control groups for the four reporting periods. As shown, experimental units showed increases in reenlistment rates between the pre- and HRAV periods, while the rates decreased for the control units. The actual and gross reenlistment rates of the experimental units improved approximately 9 and 7 percent relative to those of the control units. Both differences are statistically significant. Fifty-seven percent of the experimental units improved, compared to 37 percent of the control units; nine percent of the experimental units experienced a decline in actual reenlistment rates, compared to 63 percent of the control units. (Thirty-four percent of the experimental units stayed the same.)

No significant differences were found between changes in rates between pre- and post-HRAV periods for the two groups. Although the actual and gross reenlistment rates for both groups declined, the decline was much less for the experimental units than for the control units (4.6 and 3.4% vs. 7.1 and 6.9%).

Analyses undertaken to compare changes on actual and gross reenlistment rates between the pre-HRAV period and the reporting period approximately 12 months later showed no significant differences between the experimental and control groups. The results, however, were in the predicted direction, since the experimental units showed more positive change.

Comparisons were also made between experimental units and Pacific Fleet (PACFLT) units at large. As shown, between the pre- and HRAV periods, experimental units showed increases of ***5.8*** and 3.9 percent in actual and gross reenlistment rates, respectively, as compared to 0.6 and -0.1 percent for the PACFLT units. Decreases between the pre- and post-HRAV periods were 4.6 and 3.4 percent for experimental units, compared to 7.7 and 6.1 percent for PACFLT units. Using PACFLT units as a baseline, HRAV units showed a relative gain of 7.7 and 5.3 percent in actual and gross reenlistment rates, respectively, between pre-HRAV and the final reporting period. Overall, these findings were consistent with those presented above.

Figure I graphically illustrates the actual reenlistment rates for all three groups. (The gross reenlistment rates are not graphically presented since they were similar to the actual rates.) It can be seen that the experimental units, although slightly lower in reenlistment rates when compared to the control units and Pacific Fleet before the HRAV, reached a higher rate in the HRAV period and maintained relative superiority during the post-periods. The dramatic decline in the Pacific Fleet rate for the reporting period covering the post-HRAV time frame (second half of 1975) undoubtedly accounts for the unexpected decline suffered by the experimental units.

Figure 2 is an alternative graphic presentation that uses the PACFLT reenlistment average as a baseline. That is, the graph represents the difference between the actual reenlistment rates for PACFLT and the other groups during all four time periods. As shown, the experimental units reached and maintained a higher average reenlistment rate compared to PACFLT and control units.

Table 2

Actual and Gross First-Term Reenlistment Rates for Experimental, Control, and PACFLT Groups

Group	Mean Rate During Reporting Period[a]				Change in Rate from Pre-HRAV				
					HRAV		Post-HRAV		
	Pre-HRAV %	HRAV %	Post-HRAV %	Fourth Period %	%	t-test	%	t-test	Fourth Period %
Actual Reenlistment Rate									
Experimental	**30.1**	**35.9**	25.5	**37.1**	**5.8**	**2.61"**	**-4.6**	**0.57**	**7.0**
Control	**31.8**	**28.2**	**24.7**	**32.0**	**-3.6**		**-7.1**		**0.2**
PACFLT	**32.0**	**32.6**	**24.3**	**31.3**	**0.6**		**-7.7**		**-0.7**
Gross Reenlistment Rate									
Experimental	**22.4**	**26.3**	19.0	**28.6**	**3.9**	**2.41***	**-3.4**	1.19	**6.2**
Control	**23.7**	**20.6**	**16.8**	**26.1**	**-3.1**		**-6.9**		**2.4**
PACFLT	**22.5**	**22.4**	**16.4**	**23.4**	-0.1		**-6.1**		**0.9**

[a]Means for the pre-HRAV to post-HRAV periods for experimental and control units are based on **30** units for each group; whereas the mean for the fourth period is based on **21** units. Experimental and control rates represent the means of the individual unit data for each group. PACFLT rates are based on input from air and surface commands only and represent the mean of the aggregated totals across all units of these types.

*$p > .01$.

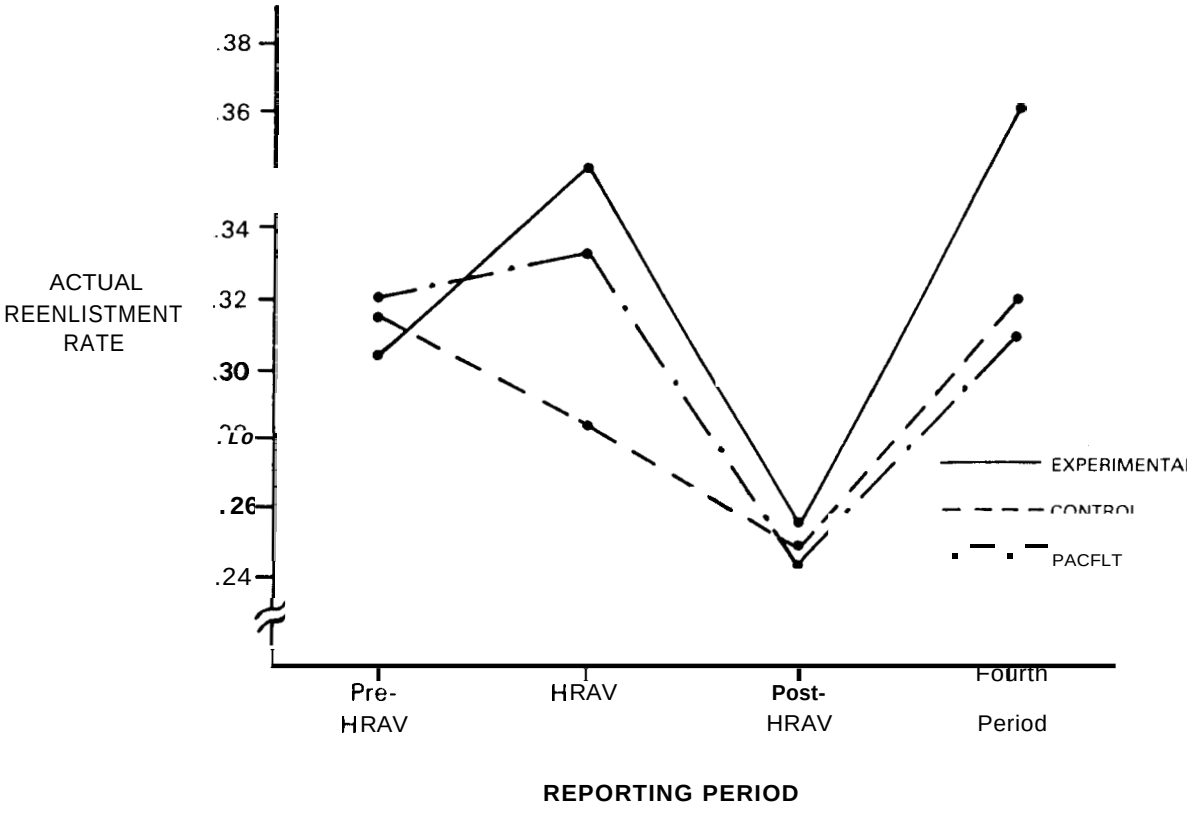

Figure 1. Average reenlistment rates of experimental, control, and PACFLT units across four 6-month reporting periods.

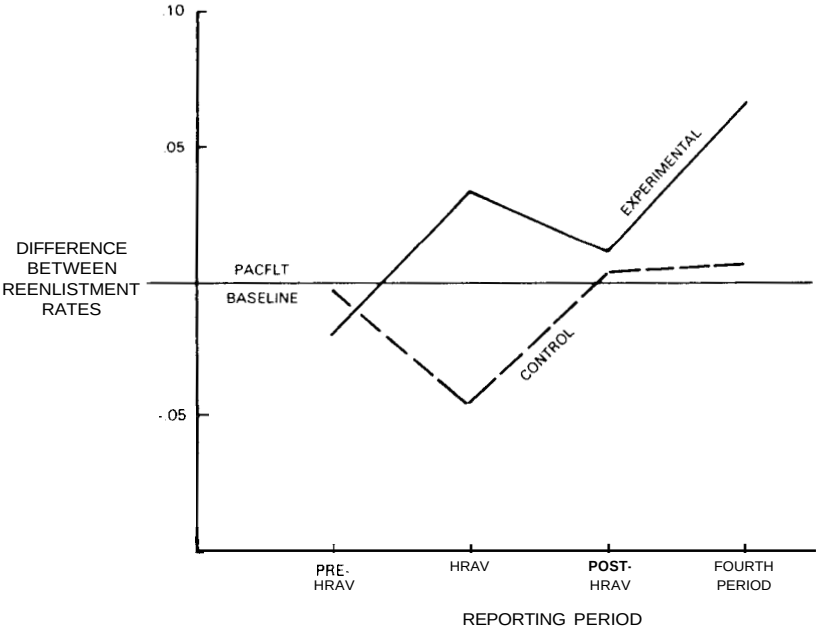

Figure 2. Difference between the reenlistment rates of PACFLT and the experimental and control groups.

CONCLUSIONS AND RECOMMENDATIONS

Participation in the HRM Cycle by operational Navy units results in small, but significant, initial improvements in first-term reenlistment rates. This significant improvement, however, is not sustained over long periods although participating units continue to show slightly higher reenlistment rates than control units.

As is typical of research that relies on historical data, this effort raises a number of questions. A framework for categorizing these questions can be developed in light of two basic orientations for evaluating organizational development programs (Bowers, 1976). The first, called "bottom-line" evaluation, focuses solely on performance outcomes. The second, sometimes labeled "mid-course correction," is designed to use evaluation as a method for further development or modification of existing programs. This type of evaluation requires in-depth knowledge of specific activities and processes that occur during an organizational intervention.

The current study clearly falls within the "bottom-line" evaluation category. The research design and hypotheses were presented as if the HRM Cycle were a static process. In reality, there are numerous variables that can influence the success and impact of Navy OD activities (Crawford, 1977). Thus, future research should attempt to isolate those variables that are important to the effectiveness of the HRM Cycle. Such research should consider: (1) the roles of factors such as scheduling, CO/XO rotation, and command mission, (2) workshop effectiveness as related to recognized outcomes (e.g., productivity, operational readiness, retention, etc.), and (3) alternatives to survey-guided diagnosis and development as a means of improving organizational conditions within commands.

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