General

Predicting and Reducing Voluntary Outflow in the Royal Navy

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Introduction

This research speaks to one of the major concerns facing the modern Royal Navy (RN), especially given the current economic and political climate – that is how to achieve and maintain the correct level of manpower to meet functional and operational requirements. The rate of Voluntary Outflow (VO: previously referred to as Premature Voluntary Release) has remained above the stable long-term level (calculated from historic trends) for years. For RN officers the stable VO rate is 2%, for other ranks it is 5%. In 2009, the VO rate for RN officers increased to 4% and for other ranks to 6% (1).

The cost of trained personnel leaving the Naval Service prematurely is difficult to calculate precisely. However, cost estimates from 2006 average £92,000 for officers and £25,000 for rates up to the completion of Phase 1 training (2). Clearly, the true cost of replacing 'in-service' personnel will be much higher as the individuals who have left prematurely take with them a wealth of training and experience beyond that of a newly trained RN officer or rating. Personnel who leave early are not easily or quickly replaced. High rates of VO can lead to problems associated with loss of productivity and military readiness because of discontinuity in the workforce, particularly within specializations (3). Thus, there are good financial and operational reasons to understand why personnel leave the Naval Service prematurely.

There have been many attempts to pinpoint the factors related to personnel leaving the armed forces prematurely. Indeed, other research suggests that staff retention and VO in military personnel is related to commitment to the organisation (4), external stressors such as death of a spouse (5), job satisfaction (6), quality of leadership (7), and work alternatives (e.g., a better offer of employment) (8). In essence, low commitment to the organization, the presence of external stressors, job dissatisfaction, and poor leadership all have links to low retention in the military (9).

In 2006, the Institute of Naval Medicine (INM) was tasked to conduct a longitudinal study of Work and Well-Being on a cohort of over 2,500 Naval personnel of all rates and ranks (10). The main purpose was to improve our understanding of occupational stress, identify high risk groups and to investigate the operational and manning implications of stress. A key question was whether high levels of stress cause personnel to leave the Naval service prematurely.

Research Aim

The aim of this research was two-fold. To identify the characteristics of individuals in the RN who were more likely to leave early, and to investigate whether any attitudinal or personal factors measured in the 2007 Work and Well-Being Survey, differentiated those who subsequently left voluntarily from those who were still serving in 2011.

Method

Data on 2,596 personnel were captured in January 2007 using a Work and Well-Being Questionnaire (WWBQ) (11). The response rate to the 2007 survey was 57%. The WWBQ contained sections on health and lifestyle, current state of mental well-being, demographics and a number of scales used to measure occupational stress and related factors such as lack of resources, role conflict, work family conflict, dissatisfaction with the physical work environment, support from leaders and peers and autonomy and control. The questionnaires were marked with an anonymous respondent ID code that was linked to service number and stored separately (Data Protection Act, 1998).

The respondents were followed for four years utilising a longitudinal study design. Those that left the Naval Service prematurely (VO) were identified (in total 184 personnel) and compared to a group of retained personnel matched for age, gender, rank and length of service in 2007.

Results

Personnel Likely to Leave the Naval Service Prematurely

As can be seen in Table 1, certain sub-groups of personnel were more likely to VO than others. Females who responded to the 2007 survey were approximately 1.5 times more likely to leave the Naval Service prematurely than males, and junior rates and officers were approximately 3 times more likely to VO than senior rates. Age and marital status were not associated with VO.

	Retained	VO	VO%	Total Sample
N	1811	184	9.2%	1995
Mean age (SD)	38.02 (7.77)	38.40 (7.68)	--	38.06 (8.63)
Females	662	89	11.9%	751
Males	1149	95	7.6%	1244
Junior Rates	472	67	12.4%	539
Senior Rates	731	33	4.3%	764
Officers	607	84	12.2%	691
Single (2007)	926	97	9.5%	1023
Married (2007)	882	86	8.9%	968

Table 1. Demographic information for retained and VO personnel.
Note. VO% refers to the percentage of personnel who VO compared to the total sample.

Reasons for Leaving the Naval Service Early
Where possible match-case controls were used to even out the sample size between the two groups (i.e., n = 151 for VO personnel; and n = 252 for retained personnel), before predictive models were built using significant Pearson r correlations between potential predictors (WWBQ items measured in January 2007) and outcome VO vs. retained.

No significant differences between gender were found for VO reasons, thus although females are more likely to VO, they did so for the same reasons as males. This is a robust finding as it has been reiterated in the Royal Navy Continuous Attitude Survey (12) which demonstrated that RN men and women VO for the same reasons, but women are more likely to leave prematurely than men. However, different reasons or VO were found dependent upon sub-group of rank (Junior Rates, Senior Rates, and Officers). Each of these sub-groups of rank is examined separately below.

Junior Rates. VO was predicted by low organisational commitment, back problems, and a shorter intended length of service. In fact, those that VO were more than twice as likely to have reported a back problem than retained personnel. These factors were statistically significant but more importantly they were strong predictors (explaining 38% of the variance in responses). This means that targeting these problems should reduce VO and increase retention of trained strength.

Senior Rates. VO was predicted by a lack of autonomy and control at work. The results show that Senior Rates who reported less opportunity to plan, organize and execute their work were more likely to VO. As with the Junior Rates, these predictors were strong (explaining 21% of the variance in responses).

Officers. VO was predicted by a feeling of being disrespected at work and poor coping mechanisms (e.g, unable to seek help and advice from a superior when needed). However, although significant they were not strong predictors (explaining only 7% of the variance in responses). This indicates that other factors not measured in the WWBQ are responsible for Officer VO.

Recommendations
The findings of this study reveal that reasons for VO differ dependent upon sub-group of rank. In order to reduce VO in the RN different strategies need to be employed for each sub-group.

For junior rates, having low commitment to the RN and intending to serve in the RN for a shorter period of time were strong predictors of VO. Back problems were reported using a single, binary response item and so the role of back problems in VO is difficult to interpret. However, there is evidence in the literature of a large psychological component to the reporting of back problems which indicate a lack of physical and psychological robustness which may be the case in those that VO. To reduce rates of VO in junior rates, efforts should be made to recruit individuals with the intention to serve in the RN for long periods and with the demonstrable ability to commit him or herself to an activity or group for a substantial period. The second point underscores the first in that it is not enough to ask an individual their intentions for length of service in the RN. It is expected that most potential recruits would state a substantial period when asked at the careers office. The demonstration of commitment to a sports team or hobby (for example) displays the capacity and willingness of potential RN recruits to commit themselves considerably to

a course of behaviour over time.

The perception amongst senior rates of low autonomy and control at work indicates that in general, senior rates in our study sample felt they had little opportunity to choose what they were working on and how to go about doing their work. This lack of autonomy and control caused senior rates to VO. This could be evidence of inappropriate management style on the part of their superiors, leaving senior rates little opportunity to plan, organise and execute their work. Changing the management style to give senior rates more autonomy and control at work might be expected to improve retention and might be implemented by incorporating additional material on autonomy and control into officer (stress management) training.

The results for officers indicate that VO depends partly upon a lack of reward, recognition, and poor coping styles. Interestingly, although these factors were significant predictors, the strength of these factors suggest that officers VO for reasons other than those measured in the WWBQ survey. They do not VO because of psychosocial stressors (within and outside of the workplace), work-family life balance, or health problems. To fully understand why officers VO, it is necessary to conduct further research which focuses upon factors not measured in the RN WWBQ e.g., the disparity between civilian and private sector careers.

In none of these groups did level of work or life stress measured in 2007 predict VO. This is because repeated measures on the RN cohort have shown that, for most personnel, psychological strain, the adverse reaction to high stress, is temporary (13) and resolves within 6 months to 1 year.

More generally, the findings illustrate some of the benefits of surveys that utilise non-anonymous questionnaires to yield data that can be linked to service number. The method has no effect on survey response rates and enables the data collected to be linked to a range of outcomes (available on other databases e.g., JPA) such as retention, Joint Medical Employment Standard (JMES) etc. Other benefits include the ability to sample from the same individuals over time and thus to differentiate between temporary states and chronic conditions. This has been done in the investigation of accident proneness and of health and lifestyle changes, particularly obesity, as described in a number of recent reports (14,15).

Conclusion

There are sub-groups within the RN who are more likely to VO (junior rates, officers, and females). This study has identified different reasons for VO amongst the sub-groups of rank, and suggests strategies for the reduction of VO within the Royal Navy.

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