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JOB SATISFACTION IN THE ARMED FORCES: DIFFERENCES AMONG RANKS

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ABSTRACT. Human resource management has attracted significant attention among researchers of public management. It is increasingly accepted that committed and satisfied employees are strategic resources in any organization. The idiosyncrasies of the armed forces and the professionalization processes they have undergone necessitate a study of the attitudes of military personnel towards work in the sector. This paper analyses the determinants of job satisfaction in the military. Three factors (“Work itself”, “Economic aspects” and “Personal relationships”) are identified based on data from the International Social Survey Programme (ISSP). Both the composition and the impact of these factors on job satisfaction vary according to the hierarchical rank of a worker. The findings confirm the importance of differentiated human resources policies that take into account the hierarchical diversity of the military. Our results provide new evidence and valuable practical information for human resource management in the armed forces. We provide policymakers and managers of the military sector with recommendations that allow them to reinforce the ability of the armed forces to attract, retain and motivate talent.

JEL Classification: J28, M12, O15, Z10

Keywords: job satisfaction, army, ISSP, job commitment, human resources

Introduction

An organization’s competitive advantage is widely acknowledged to be based on its people. And as stated in the *Theory of Resources and Capabilities* (Barney, 1991), having satisfied and committed employees is an essential strategic resource for any organization, given that it is the key to ensuring the permanence of individuals and the sustainability of a competitive advantage in the long term.

The strategic importance of committed and satisfied employees means that human resource management must be addressed in both public and private organizations. In recent years, human resource management has been gaining prominence in public management research (Osborne, 2017). This broad field includes studies that, among other things, focus on the factors that affect the motivation and job satisfaction of public sector employees (Breaugh et al., 2018; Pecino et al., 2019), often within a context of government cuts, major reforms and organizational change. There are some notable studies in popular sub-sectors, such as

healthcare, government and education (Mura & Vlacseková, 2018), but contextual differences between sectors must be considered (Brown, 2004). Moreover, a wider range of research is needed in areas that are also undergoing significant changes, such as the military (Boselie et al., 2021).

1. Literature review

Over the last few decades, the armed forces have undergone professionalization processes in various countries and contexts (Fors Brandebo et al., 2019; Holmberg, 2015; Holmberg & Alvinus, 2019). The transition from compulsory military service to a professional military poses important challenges, such as talent development, and military personnel should be managed according to new trends in this area.

The military context is characterized by idiosyncrasies that must be kept in mind (Redmond et al., 2015; Thomas et al., 2018). Research on the job satisfaction of military personnel traditionally shows levels that are lower than the satisfaction of civilian personnel (Fredland & Little, 1983). Alvinus, Johansson and Larsson (2017) highlight the demands placed on military personnel in terms of risking their lives for their country, irregular working hours, long absences from home that generate tension between work and family commitments and the possibility of encountering contexts of war and conflict (Makhathini & Van Dyk, 2018).

Job satisfaction refers to the “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1300). It can be considered a multidimensional concept that groups together various factors (Newstrom, 2015), notably including those directly related to the nature of the task performed and those related to the work context (work environment, colleagues, etc.). Jones, Haslam and Haslam (2017) distinguish between basic job characteristics (job security, personal safety and sufficient pay to cover needs) and “job fitting” characteristics (autonomy and opportunity to establish close relationships).

The Job Descriptive Index (JDI) developed by Smith, Kendall and Hulin (1969) is one of the most widely used models for evaluating job satisfaction. In the JDI, the proposed work aspects associated with job satisfaction are related to five dimensions or factors: 1) the present work or work itself (tasks), 2) relationships with colleagues, 3) relationships with management or supervision, 4) pay and 5) promotion opportunities. Studies in the military field, such as those by Lopes et al. (2015), use this framework when analysing job satisfaction. Robbins et al. (2017) relate job satisfaction to rewards, relationships with co-workers and working conditions.

When addressing this diversity of factors, it is common to make a distinction between extrinsic elements, such as pay, additional benefits or opportunities for professional development, and intrinsic or intangible elements that are derived from the work itself, such as challenging and interesting tasks or job autonomy (Castro & Martins, 2010; Warr et al., 1979). The dimensions of the JDI with the largest extrinsic components are pay and promotion opportunities, while the other three factors are considered to be intrinsic (Rafferty and Griffin, 2009). The majority of research results indicate that intrinsic components are the best predictors of satisfaction (Judge & Church, 2000).

There are only a few studies have sought to identify the factors that influence job satisfaction within the military context. Examples of such studies include a study of Portuguese sergeants and officers by Lopes et al. (2015), a study regarding members of the South African National Defence Force by Makhathini and Van Dyk (2018), a study of the United States Army by Sanchez et al. (2004), studies of the Swedish armed forces by Alvinus et al. (2017) and by Fors Brandebo et al. (2019) and a study of Spanish soldiers by Topa and Moriano (2012).

In the military sector, a relationship has been shown to exist between greater job satisfaction and a greater probability of remaining or intending to remain in the profession (Sanchez et al., 2004). However, as previously mentioned, the level of job satisfaction among military personnel is lower than the level among civilian personnel (Fredland & Little, 1983), which is one of the explanations for the high turnover rate, such as in Sweden, where the rate exceeded 15% in 2014 (Fors Brandebo et al., 2019). According to several authors, job satisfaction can be considered an important antecedent to the organizational commitment of employees (Saha, 2016; Frenkel et al., 2013; Tarigan & Ariani, 2015; Williams & Hazer, 1986; Fu & Deshpande, 2014).

Attitudes towards work and job satisfaction can also be shaped by job levels or categories (Robie et al., 1998). Mottaz (1985) found that extrinsic factors, such as benefits and wages, were only aligned with job satisfaction in the low-level positions of an organization. But personnel in higher-level positions, to the extent that they gained in work experience, became more interested in intrinsic rewards.

The military is known for its hierarchical structure (Loaiza & Posada, 2016; Makhathini & Van Dyk, 2018), and this fact, in conjunction with exposure to the military culture, adherence to the rules and organizational structure of the military and following an established system of ranks and grades (Redmond et al., 2015), could explain the changes in the components of job satisfaction. Some studies have focused on an analysis of employees in the lower levels of military organizations (Topa & Moriano, 2012; Österberg & Leif Rydstedt, 2018; Makhathini & Van Dyk, 2018; Fors Brandebo et al., 2019), while others have focused on employees at the higher levels of these organizations (Lopes et al., 2015; Rashid & Sultan, 2013; Alvinus et al., 2017). However, there are no known studies that incorporate a detailed analysis of the differences in the composition of the explanatory factors of job satisfaction in the military field according to rank.

Finally, it should be noted that the interest in talent management policies—including the study of attitudes towards work – is particularly pertinent at this time, when joining the military is almost entirely voluntary (Strand & Berndtsson, 2015). Armed forces must therefore seek ways to attract and retain talent, given that personnel might leave the organization if their work is not satisfactory or they do not consider it useful (Fors Brandebo et al., 2019).

The main objective of this paper is to provide empirical evidence not only for determining the dimensions that make up the concept of job satisfaction in various military categories but also for determining the importance of those dimensions as determinants of job satisfaction. The paper seeks to answer the following questions: What are the aspects that condition job satisfaction in the military environment? Are there differences in the aspects that condition job satisfaction depending on a worker's hierarchical rank? The hypotheses to be tested are the following:

H1: “The identified dimensions have a positive impact on job satisfaction in the military.”

H2: “The determinants of job satisfaction experienced by military personnel vary across ranks.”

2. Methodological approach

This study utilizes data from the International Social Survey Programme (ISSP), a self-financed association. The ISSP is a cross-national collaboration programme conducting annual surveys on diverse topics relevant to social sciences. In particular, our data come from the latest available survey of the “Work Orientations” database, which provides uniform

information on “Attitudes towards work” and on labour and socio-economic aspects for various countries. The data collection method was a survey taken in 2015 (ISSP Research Group, 2017), in which the original questionnaire consisted of a large number of questions. For the purposes of this study, 17 closed questions were selected (see Annex). There are ten questions on the determinants of job satisfaction, one question that directly measures the level of satisfaction and six questions on the socio-demographic aspects of the sample.

The survey information was obtained from a universe whose ages ranged from 18 to 93 years. For the purposes of this study, a total of 120 cases were selected. They corresponded to individuals who at the time of the survey were involved in paid work, and their occupation was related to the army, specifically code 110, commissioned armed forces officers; code 210, non-commissioned armed forces officers; and code 310, armed forces occupations, other ranks, according to the ISCO-08 classification (International Standard Classification of Occupations). The data collected for this study were processed using SPSS software.

There was a majority of men in the sample (85.8%), consistent with the lower female presence in this sector (Ustinovich, 2003). The predominant age range was from 18 to 35 years (53.1%), while 11.3% were over 50 years of age. Most of the respondents were married or living as a couple (57.3%). Regarding hierarchical ranks, officers made up one third of the sample (32.5%), non-commissioned officers made up one quarter (26.6%) and positions of lower rank made up the remaining 40.9%.

In order to achieve the proposed objectives, the methodologies used were factor analysis and multiple linear regression. Factor analysis is a technique that consists in reducing the information contained in a data matrix with V variables. To do this, a small number of F factors are identified, where the number of factors is fewer than the number of variables. The factors represent the original variables, with a minimum loss of information. Each variable is expressed as a linear combination of non-directly observable factors, as shown in the following formula:

$$X_{ij} = F_{1i} a_{i1} + F_{2i} a_{i2} + \dots + F_{ki} a_{ik} + V_i$$

Where:

X_{ij} is the score of individual i in variable j .

F_{ij} represents the factor coefficients.

a_{ij} represents the factor scores.

V_i is the single factor for each variable.

A multiple linear regression model was also used to analyse the relationship between the single dependent variable and several independent variables. It can be expressed as the following:

$$Y = \beta_0 + \beta_1 X_1 + \dots + \beta_j X_j + \varepsilon$$

Where:

Y is the dependent variable.

β_0 is the intercept of the model.

β_1 to β_j are the weighed predictor values, with the weights denoting the relative contribution to the overall prediction.

X_1 to X_j correspond to the explanatory variables of the model.

ε is the random error, with expectation 0 and variance σ^2 .

3. Results

In order to identify the underlying dimensions that were comprised in the satisfaction variable of military personnel, an exploratory factorial analysis was used to detect the factorial structure of the analysed items. To determine the existence of a common structure among the

items that were used, a Principal Component Analysis with varimax rotation was used to try to maximize the loads on one of the components.

The results obtained show the existence of three components that explain 68.34% of the variance (Table 1). The items “Your job is safe” and “You can work independently” did not show a load exceeding 0.5 in any of the three components, wherefore they were eliminated from the subsequent analyses.

The first component found explains 29.46% of the variance and reflects the items collected within the JDI as “Work itself (task)” WI. It groups those items related to the usefulness of the work and an interesting job, as well as the possibility of contacting other people and helping them.

The second component that was identified, with two items, accounts for 20.17% of the variance. It includes aspects related to personal relations between employees of the organization, not only among colleagues of the same rank but also relations with hierarchical superiors, so it could be called “Interpersonal Relationships” IR. This factor groups together the dimensions “relations with colleagues” and “relations with management or supervision” in the JDI model.

The third component, which could be called “Economic aspects” EA, explains 18.70% of the variance and includes two items: the salary received and promotion possibilities at work. These items encompass two of the facets proposed by the JDI model, namely “pay” and “promotion opportunities”, which in the JDI are associated with having a greater extrinsic nature (Rafferty & Griffin, 2009).

Therefore, the three identified components group together the five dimensions of job satisfaction included in the JDI: work itself (WI), supervision and relations with others at work (IR) and pay and promotion opportunities (EA). Subsequently, the potential effects of these three components on job satisfaction levels in the military were determined through a regression analysis using the Enter method (Hair et al., 2014). To carry out the corresponding regression analysis, the three factors previously obtained were used as independent variables. The dependent variable, job satisfaction, was determined directly in the survey through the item “How satisfied are you in your job?”.

The results obtained, which are shown in Table 2, indicate that the three analysed components have a positive and statistically significant effect on the level of job satisfaction reached by military personnel.

The aspects related to “Interpersonal Relationships” with workers in the same or a different category are those that have the greatest influence on the level of overall worker satisfaction. The aspects having the next-strongest influence are those related to “Work itself”, and finally, “Economic aspects” have the least influence. These three components explain 28.6% of worker satisfaction with their jobs, as shown by the value of the adjusted R^2 . These findings are consistent with the idea that intrinsic job characteristics are apparently a better predictor of job satisfaction than rewards (Judge & Church, 2000). Likewise, the results of the regression show how the three identified factors positively affect overall satisfaction, which allows hypothesis 1 to be accepted.

Table 1. Results of the total sample factor analysis by respondent rank

	Total			Commissioned officers			Non-commissioned officers			Other ranks		
	WI	IR	EA	SI	IR	EAI	WI	EA	IR	WI	IR	EA
Job involves helping other people	.778			.857			.812			.775		
Job is useful to society	.839			.809			.906			.830		
Personal contact	.590			.566			.638			.495		
Management-employee relations		.858			.804				.869		.837	
Coworker relations		.879			.794				.861		.867	
Interesting job	.774					.626	.868			.861		
Pay			.797			.743		.908				.772
Promotion opportunities			.769			.553		.878				.780
Eigenvalue	2.872	1.536	1.058	2.063	1.704	1.498	2.761	1.838	1.618	2.330	1.762	1.512
Variance-Factor %	29.463	20.169	18.703	25.790	21.304	18.728	34.512	22.970	20.229	29.122	22.023	18.901
Cumulative Variance %	29.463	49.632	68.335	25.790	47.094	65.822	34.512	57.482	77.711	29.122	51.145	70.046

WI: Work itself; IR: Interpersonal relationships; EA: Economic aspects; SI: Social impact; EAI: Economic aspects and interest

Source: own compilation

Table 2. Regression results: Satisfaction-dependent variable. Total sample and three sub-samples

	Total			Commissioned officers			Non-commissioned officers			Other ranks		
	Standardized beta	t value	Sig.									
Constant		49.711	.000		37.945	.000		25.546	.000		26.352	.000
Work itself / Social impact	.335***	4.331	.000	.127	.894	.378	.632***	4.354	.000	.313**	2.588	.013
Interpersonal relationships	.397***	5.127	.000	.478**	3.364	.002	.057	.395	.696	.383**	3.164	.003
Economic aspects / Economic aspects & interest	.183**	2.367	.020	.260*	1.832	.076	.222	1.531	.138	.356**	2.944	.005
	R2 = .304; Adjusted R2 = .286			R2 = .313; Adjusted R2 = .252			R2 = .452; Adjusted R2 = .389			R2 = .371; Adjusted R2 = .327		

*** $p < .001$, ** $p < .05$, * $p < .1$

Source: own compilation

In order to check whether there are differences in the composition of the factors that determine job satisfaction according to the rank of the surveyed military personnel, a factorial analysis was carried out (Table 1). In so doing, the sample was divided between officers, non-commissioned officers (NCOs) and troops (Table 1, columns 5 to 13). This division is important, given that, according to the meta-analysis carried out in various contexts by Robie et al. (1998), when differences between levels are not taken into account, “contaminated” job satisfaction results can be obtained. The results show that the items having an influence on satisfaction are clustered slightly differently according to rank.

In the case of officers, three factors that explained 65.82% of the variance were obtained. The “Interpersonal relationships” factor explains 21.30% of the variance, and it includes the

same two items as for the total sample (Management-employee relations, Coworker relations). The other two identified factors present some differences with respect the other sub-samples by rank. Thus, the “Work itself” factor identified for the total sample does not include the item “Your job is interesting”, and therefore in the sub-sample of officers it only incorporates the social aspects of that factor. Specifically, the “Work itself” factor is measured by 3 items—usefulness of the job, the ability to help and contact with other people—and it explains 25.79% of the variance. Thus, this factor could be called “Social impact”. Likewise, the last factor identified for officers not only takes into account economic aspects, such as pay or promotion opportunities, but also interest in the job itself. This factor could be called “Economic aspects and interest”, and it explains 18.73% of the variance.

In the second analysed subgroup (non-commissioned officers), three factors were also identified. They explain 77.71% of the variance, which is almost ten points more than what these same factors explain for the total sample. Each factor includes the same items as those that are included for the whole sample, namely “Work itself” (4 items), “Interpersonal relations” (2 items) and “Economic aspects” (2 items), but the order of importance of these factors is different, as measured by the explained variance. While the “Work itself” factor continues to have the greatest weight, the order of importance of the second and third factors is changed. Thus, in the total sample, the factor with the second-greatest weight is “Interpersonal Relations”, and “Economic Aspects” is the third-most important, but for non-commissioned officers this order is reversed.

Finally, for the subgroup formed by troops, three factors were also obtained, which explain 70.05% of the variance, a percentage similar to the figure for the total sample. In this case, the composition of the three factors is identical to the factors obtained for NCOs and for the total sample. However, the order of importance of each of the identified factors is the same as the order obtained for the sub-sample of officers.

The results obtained allow hypothesis 2 to be accepted only partially, given that for officers, the composition of the factors differs from the composition that is identified for the total sample.

The next step was to study the differences in the impact by the previous factors on job satisfaction according to rank. To this end, regressions were carried out for the three sub-samples, using the previously obtained factors as the independent variables and the level of overall job satisfaction as the dependent variable.

As it can be seen in Table 2, the factors “Interpersonal relations” and “Economic aspects and interest” were significant and positive for officers, explaining 25.2% of their job satisfaction. The “Interpersonal relations” dimension presents a standardized beta of 0.478, which for “Economic Aspects and Interest” is 0.260. And the literature provides evidence showing that not only do peer relationships offer social support (Simon et al., 2010), they are also one of the factors that have an influence on satisfaction (Chiaburu & Harrison, 2008; Mathieu & Zajac, 1990).

In the case of NCOs, the “Work itself” factor is the only one that has a positive and statistically significant effect on job satisfaction. This result is in line with studies that indicate that job satisfaction is the facet most closely related to total satisfaction (Hulin and Judge, 2003, p. 262). The other two factors have no influence on job satisfaction. And even though only one of the identified factors significantly affects job satisfaction, it is capable of explaining 38.9% of the job satisfaction of NCOs.

Finally, in the case of troops, the three identified factors (“Work itself”, “Interpersonal relations” and “Economic aspects”) have a positive and very similar impact on job satisfaction, explaining 32.7% of this satisfaction.

When the results of these models are compared with those of the initial model (Table 2), a greater fit is observed. This shows that it is appropriate to carry out a detailed analysis according to the rank of employees.

Discussion and conclusion

This paper has focused on the military context, and it achieves several useful results for human resource management at public institutions. On the one hand, it has served not only to learn the composition of the factors that can determine job satisfaction but also discover how those factors affect job satisfaction. It has also served to identify differences in the composition of those factors and the influence thereof on job satisfaction in relation to military rank. The importance of this subject is justified not only by the concern for the health and psychological well-being of military personnel (Brooks & Greenberg, 2018) but also by the consequences of job satisfaction in terms of performance and retention.

This study makes several contributions to the area of human resource management in public administrations. First, the results expand upon academic knowledge on job satisfaction in the public sector by providing new empirical evidence, thereby supplementing research in the field. This responds to one of the recommendations made by Boselie et al. (2021) regarding the future agenda for research in public management and public administration, which includes the need for human resources studies in the area of military services, where there is a lack of empirical research. Consequently, based on a sample of military personnel, we have analysed the determinants of job satisfaction in different hierarchical ranks and have provided an in-depth study. Likewise, this work helps to cover a gap in current literature regarding a scarcity of research in the military field, where the gradual transition towards professionalization and voluntary enlistment is generating new needs in talent management, including the improvement of job satisfaction.

The analysis of the military sample as a whole suggests three determinants of satisfaction: “Work itself”, “Interpersonal relationships” and “Economic aspects”. And in the analysis differentiated by hierarchical ranks, individual characteristics are detected at each level. On the one hand, there are differences in the composition of the factors that determine the satisfaction of military personnel of higher rank. In this case, the factor referring to an interesting job is grouped together with the economic aspects of the job. On the other hand, there are also differences in the impact by these factors on the level of satisfaction according to the rank of the employee. All the identified factors have a positive impact on job satisfaction, and this impact is very similar manner among all personnel. For NCOs, satisfaction is explained exclusively by the “Work itself”. In general, Hulin and Judge (2003) indicate that this facet is the one most highly correlated with overall satisfaction, and in the case of NCOs it is the only significant one. Therefore, in this group, reinforcing the aspects related to an interesting job and the social impact thereof will improve the satisfaction levels of NCOs. For officers, there are two aspects that affect their job satisfaction. On the one hand, there are aspects related to an interesting job and economic rewards, and on the other, aspects related to interpersonal relationships. Social support derived from peer relationships will help mitigate the negative effect of stressful situations on the attitudes of officers towards their work (Terry et al., 1993). Overall, as Yeh (2015) found in other contexts, non-economic aspects have a greater effect on job satisfaction than purely economic aspects, with the exception of troops, where economic factors are slightly more important than the social impact.

The study does have some limitations that need to be pointed out. The cross-sectional nature of the study prevents making inferences about the causality of the examined relationships. Furthermore, the measurements—obtained from self-reports provided by the

surveyed persons themselves – could be affected by common method variance. However, the use of a recognized questionnaire such as the ISSP and the anonymity of the responses allow solving the possible variance problems of the method, as well as correcting for responses conditioned by social desirability biases. The existence of other aspects that could affect the results, such as personal or job characteristics, should also be considered (Dormann et al., 2006). The limited available information prevents additional variables from being included, which could explain the job satisfaction of military personnel to a greater extent. Considering the limitation of the data offered by the ISSP, in subsequent studies a questionnaire should be designed to collect information on other factors cited in the literature review that would allow improving the explanatory power.

Nevertheless, the results of this research provide valuable practical information on the most appropriate initiatives in professional human resource management in the armed forces, both for policymakers and for military corps managers.

In order to improve job satisfaction in the military, attention must be paid to economic and career benefits, to the relationships between members of the organization and to the social aspects of the work. The evidence confirms the importance of differentiated human resources policies that take into account the varying factors that are comprised in the job satisfaction of military personnel and the importance of those factors between hierarchical levels.

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ANNEX

Q1. For each of these statements about your main job, please tick one box to show how much you agree or disagree that it applies to your job.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My job is safe	1	2	3	4	5
My income is high	1	2	3	4	5
My opportunities for advancement are high	1	2	3	4	5
My job is interesting	1	2	3	4	5
I can work independently	1	2	3	4	5
In my job I can help other people	1	2	3	4	5
My job is useful to society	1	2	3	4	5
In my job, I have personal contact with other people	1	2	3	4	5

Q2. In general, how would you describe relations at your workplace...

	Very good	Quite good	Neither good nor bad	Quite bad	Very bad
between management and employees?	1	2	3	4	5
between management and employees?	1	2	3	4	5

Q3. How satisfied* are you in your main job?

Completely satisfied	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	Completely dissatisfied
1	2	3	4	5	6	7

*This scale was recoded for the objectives of the study, so that higher scores in this measure indicate increased job satisfaction.