

COMMITMENT TO SUPERVISORS AS A DETERMINANT OF ORGANIZATIONAL COMMITMENT: A MODERATION ANALYSIS OF MILITARY CATEGORY IN THE PORTUGUESE AIR FORCE¹

O COMPROMETIMENTO COM O SUPERIOR HIERÁRQUICO ENQUANTO DETERMINANTE DO COMPROMETIMENTO ORGANIZACIONAL: UM ESTUDO DE MODERAÇÃO DA CATEGORIA PROFISSIONAL MILITAR NA FORÇA AÉREA PORTUGUESA

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Abstract

Despite the fact that the conceptualization of commitment dates back to 1960, and that a considerable number of empirical studies have been conducted on the topic, the study of commitment to different objects (*foci* or targets) is still recent and studies have yet to address the relationship between different types of commitment, particularly in the context of the military. This study addresses how military category moderates the relationship between commitment to supervisors and organizational commitment in the Portuguese Air Force (PoAF). A convenience sample was drawn from PoAF military personnel, comprising a

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total of 364 participants from the Officers, Sergeants, and Enlisted military categories. A quantitative research was conducted using two scales combined with structural equation modelling. The results revealed the unidimensionality of the commitment to supervisors construct, which was found to be a determinant of the affective and normative components of organizational commitment. The results also revealed that the military category variable moderates the relationship between the commitment to supervisors and organizational commitment constructs.

Keywords: Commitment to Supervisors, Organizational Commitment, Military Category, Portuguese Air Force.

Resumo

Apesar da conceptualização do comprometimento datar de 1960, e de existir um elevado número de estudos empíricos, o estudo de comprometimentos com diferentes objetos (foci ou target) é recente, não havendo ainda muitas investigações que abordem a relação entre diferentes comprometimentos, particularmente em contexto militar. Neste enquadramento, o presente estudo identifica de que forma as categorias profissionais militares na Força Aérea Portuguesa (FA) moderam a relação entre o comprometimento com o superior hierárquico e o comprometimento organizacional. A amostra, de conveniência, é constituída por militares da FA, num total de 364 participantes, distribuídos pelas categorias profissionais militares de oficial, sargento e praça. A investigação é de cariz quantitativo, alicerçada em duas escalas e fazendo recurso a modelos de equações estruturais. Os resultados demonstraram a unidimensionalidade do comprometimento com o superior hierárquico, evidenciando a determinação do constructo sobre as componentes afetiva e normativa do comprometimento organizacional. Os resultados permitiram também aferir a existência de um efeito de moderação da variável categoria militar sobre a relação entre os constructos comprometimento com o superior hierárquico e o comprometimento organizacional.

Palavras-Chave: *Comprometimento com o Superior Hierárquico, Comprometimento Organizacional, Categoria Profissional Militar, Força Aérea Portuguesa.*

Introduction

In this period of great social change, organizations are becoming less stable. This requires them to increase their capacity to adapt in order to boost productivity and competitiveness. Over the last decades, several studies have been carried out on the relationship between individuals and organizations. However, the complexity of those relationships and the constant changes in the economy, in the labour market, and in societal values require a search for new

models and policies of human resource management in order to meet these new challenges. One of the crucial aspects of human resource management is workplace commitment, as the Harvard Model demonstrates (Beer, Boselie, and Brewster, 2015).

Organizations offer much more than simply an occupation because a person's professional activity encompasses not only their relationship with their work, but also with their team, their career, and their organization (Maanen and Schein, 1977; Meyer, Allen and Smith, 1993). Over the last decades, the studies on people's attitudes and behaviour towards their organization have played an important role in human resource management and organizational behaviour, a role that has been increasing due to changes in standards. According to Meyer, Allen, and Topolnytsky (1998), Meyer (2009), and Beer et al. (2015), several factors may influence an individual's organizational commitment, and an employee's commitment to their organization is a determinant of their level of performance and productivity.

Human resource management has kept up with these developments, using them as an organizational strategy to develop their human assets, highlighting and maximizing employee commitment to gain a competitive edge (Barney, 1995; Harter, Schimdt and Hayes, 2002; Rego, 2003; Beer et al., 2015). According to Meyer and Herscovitch (2001) and Meyer (2009), the nature and targets of commitment are changing, and researchers are increasingly interested in studying the relationship between organizational commitment and other types of commitment, such as commitment to occupations, to objectives, to the team, to the work performed, and to the leader, as the studies by Stinglhamber, Bentein, and Vandenberghe (2002) and Stinglhamber and Vandenberghe (2003) show.

According to Allen and Meyer (1996), organizational commitment is a psychological bond of a given intensity and nature between an individual and their organization, which makes them less likely to leave the organization voluntarily. Harter, Schmidt, and Hayes (2002) argue that organizational commitment is influenced by leadership. Although some studies link leadership style to commitment (Bycio, Hackett, and Allen, 1995), few studies have explored commitment to leaders. It should be noted that in their research on professional commitment, Meyer, Allen, and Smith (1993) mention the importance of personal characteristics, opening the door to further studies on commitment to supervisors (CS).

The image of a highly hierarchical organizational structure inspired by strong ethical and moral values, where an order from a supervisor is to be obeyed immediately (as long as it is legal) fits the description of a military institution. Although service members are no different from other people, they must have a particularly honed sense of moral and physical courage, loyalty, and honour because of the strong ties that bind them to the Homeland (Santos, 2012). In addition to intellectual capacity, strength of character, and physical strength, a set of skills that all military personnel must possess, they must also have someone who motivates and inspires them, usually their supervisor, who may even play a crucial role in the relationship between the service member and the military institution.

In the Portuguese Air Force (PoAF), as in all Armed Forces, hierarchy forms the basis for the military institution and the chain of command is the procedure that all members

of the organizational structure must follow. Hierarchy entails military discipline, which is based on strict compliance with military laws and regulations and their stipulations, relying on a “mindset” of patriotism and civic-mindedness that drives an individual to perform the armed forces tasks voluntarily, both within a group and individually (AR, 2009). This environment, which is characteristic of the military, is crucial for the performance of the various workplace commitments (Allen, 2003; Gade, 2013; Meyer, Kam, Goldenberg and Bremner, 2013; Silva, 2016).

Thus, a service member’s commitment to their supervisor is seen as a determinant of organizational commitment, and this relationship may be more or less intense depending on the military category they belong to (Silva, 2016). Therefore, the following research question was posed:

To what extent does military category moderate the relationship between commitment to supervisors and organizational commitment?

This study aims to contribute to the development of a system of human resource development policies that will enhance commitment to supervisors, which in turn will improve organizational commitment, by examining military category as a moderator of the relationship between commitment to supervisors and organizational commitment. The study also aims to determine the levels of the two types of commitment in the PoAF and to assess the psychometric properties of the questionnaire used in the process.

This study, much like the one carried out by Silva (2016) for the Portuguese Armed Forces, aims to provide a new perspective to the theorization of a new construct – commitment to supervisors – that will benefit both the military and society, while exploring a whole (new) set of theoretical and practical implications (no research was found that compared the three variables).

1. Literature review

1.1. Organizational Commitment

There has yet to be a consensus on the concept of commitment (Klein et al., 2009). Becker (1960) conceptualised it as the outcome of a range of human behaviour that stems from the assimilation of extraneous material interests or “side bets” into a person’s relationship with their organization, and that results in costs if the person leaves the organization. Therefore, the concept is unidimensional.

The behavioural view of commitment, as conceptualised by Becker (1960), was redefined by Mowday, Porter, and Steers (1979, 1982), who described commitment as the extent to which an individual identifies with an organization, with possible attitudinal and affective effects.

Based on the various conceptualisations of commitment, Allen and Meyer (1990) suggested that it could be divided into three major components: affective, normative, and continuance. Affective commitment relies on the existence of an emotional connection to

the organization, in line with Mowday et al. (1979); normative commitment is based on the belief that there is a moral obligation to remain in the organization, in line with Wiener and Vardi (1990); and continuance commitment is related to the costs associated with a possible exit from the organization and is, therefore, in line with Becker (1960). These three clusters of components later led to Meyer and Allen's Three Component Model of Organizational Commitment (1991; 1997), which has obtained stable and consistent results in several empirical studies (Meyer et al., 2002) and therefore serves as the basis for this study.

Meyer and Herscovitch (2001) relied on the Meyer and Allen Three Component Model of Organizational Commitment (1991, 1997) to develop their general model of commitment, showing that the structure of the three components could be applied to various types of commitment regardless of their object. Even if an individual is not committed to the organization, they could/can perform well due to their commitment to other objects (Meyer et al., 1998; Klein et al., 2009) such as their job, their team, or their supervisor (Meyer et al., 2009).

According to Allen (2003), commitment became a more complex construct after the research carried out by Stinglhamber et al. (2002), who argued that commitment could be divided into five foci (the organization, the supervisor, the work group, customers, and the occupation), i.e., commitment to several areas other than the organization.

1.2. Commitment to supervisors

The studies on the relationship between leadership style and organizational commitment have not been conclusive (Drath, McCauley, Palus, Velsor, O'Connor, and McGuire, 2008). One of the effects of the relationship between supervisors and their subordinates is the intensity of the attachment of the subordinate to his superior (Bass and Avolio, 1995). This link is essentially similar to commitment to supervisors.

In addition, the study demonstrated the importance of leadership as an antecedent of organizational commitment and proposed that leadership could increase commitment to the leader, the work team, and the organization (Strauss, Griffin, and Rafferty, 2009).

Although commitment to supervisors is a recent and scarcely theorised construct, some studies already use it as an antecedent of organizational commitment (Stinglhamber et al., 2002; Fonseca, 2014; Manteigas, 2014) and other studies argue that there may be more (Meyer et al., 2015). Workplace behaviour can be explained in more detail by taking into account a person's different commitment foci (Meyer et al., 1998; Allen, 2002; Stinglhamber et al., 2002; Meyer et al., 2013). Acknowledging that an employee may be committed to several organizational objects, such as the occupation, the work, the team, customers, the supervisor, among others, may be crucial to better understand organizational behaviour and commitment (Stinglhamber et al., 2002). Thus, commitment to supervisors can be a determinant of workplace behaviour and organizational commitment.

While studies agree on the relationship between the various types of workplace commitment, that is no longer the case for deterministic relationships (Meyer and Herscovitch, 2001; Cohen, 2003). Commitments linked to personal characteristics can be seen as antecedents of types of commitment that are oriented towards objects not directly related to the person, such as organizational commitment (Meyer *et al.*, 2002; Meyer, Becker, and Vandenberghe, 2004). This presupposes that commitment to supervisors implies an interpersonal relationship, and that it could be an antecedent of organizational commitment.

Meyer *et al.* (2015) came to the conclusion that supervisors enjoy a higher degree of protection within organizations, which can lead to dependencies. Stinglhamber and Vandenberghe (2003), on the other hand, noted that organizations and supervisors are two completely different sources of employee commitment, and that employees engage with them in different ways. However, an employee's perception of support both from the organization and from third parties, especially a direct supervisor, has a positive impact on organizational commitment (Schein 1980; Eisenberger *et al.* 1986; Rousseau, 1989; Wayne *et al.*, 1997; Armeli *et al.*, 1998). It is increasingly important that organizations take into account the fact that an individual's commitment may vary according to their mindset and focus of attention, making it necessary to assess the conditions under which individuals operate in order to elaborate suitable profiles for them (Meyer *et al.*, 2002). A person's characteristics and the nature of their goals can influence the relationship between commitment to supervisors and organizational commitment, making it more complex (Meyer *et al.*, 2015). Thus, as in previous studies (Meyer *et al.*, 1993; Assis and Nascimento, 2014; Manteigas, 2014), the Three Component Model of Commitment by Meyer and Allen (1991) was used to assess commitment to supervisors (CS), which was subdivided into the following components: affective (ACS/AOC), normative (NCS/NOC), and continuance (CCS/ COC).

1.3. Military Category

This study posits that there is a relationship between commitment to supervisors and organizational commitment, which is moderated by military category, i.e., a person's position in the hierarchy of an organization/institution, and proposes that military category amplifies the relationship between commitment to supervisors and organizational commitment.

For the purposes of this research, the term "military hierarchy" refers to the arrangement of the different levels of authority within the (highly ordered) structure of the Armed Forces.

Thus, in military organizations, which naturally includes the PoAF, categories are well delimited, as are subcategories and rank (Table 1).

Table 1 – Ranks, Categories and Subcategories in the Portuguese Air Force

Category	Subcategory	Rank
Officers	Flag Officers	General (GEN)
		Lieutenant General (LTGEN)
	Field Grade Officers	Major General (MGEN)
		Brigadier General (BGEN)
		Colonel (COL)
		Lieutenant Colonel (LTGEN)
		Major (MAJ)
		Captains
	Junior Officers	Lieutenant (LT)
		Second Lieutenant (2LT)
Aspirant (ASP)		
Sergeants		Command Chief Master Sergeant (CCMS)
	Chief Master Sergeant (CMS)	
	Senior Master Sergeant (SMS)	
	Master Sergeant (MS)	
	Technical Sergeant (TS)	
	Staff Sergeant (SS)	
	Sergeant (S)	
Enlisted	Corporal (COR)	
	Senior Airman (SAIR)	
	Airman First Class (AIRFC)	
	Airman (AIR)	

Note: this information is consistent with that available in: <https://en.wikipedia.org/wiki/Military_ranks_of_Portugal#Officers_2>.

Source: AR (2015).

As stated by Sobral (2008), officers hold a position of authority, exercising the powers legally delegated to them by the State, and that delegation of authority is formalised in a document called *Carta-Patente* [Patent Letter], which describes the officer's rank, powers, duties, and responsibilities. Only Flag Officers, Field Grade Officers, Captains, and Junior

Officers can command units (Sobral, 2008), and thus receive solid leadership training. Sergeants hold some authority – albeit limited and subordinate to the authority of the members of the Officers category –, which is granted to them through a document called *Diploma de Encarte*, and are tasked with supervisory duties within their professional speciality, as well as with providing assistance to officers when so requested (Sobral, 2008). Service members in the Enlisted category are considered operational assets, and usually do not perform leadership duties, that is, if the military hierarchy were depicted as a pyramid, Enlisted personnel would be at the bottom (Sobral, 2008). In spite of this, the study of commitment to supervisors, which this paper analyses, spans the three military categories listed above, as Silva (2016) noted in his study.

Despite the scarcity of studies concerning the deterministic relationship of commitment to supervisors and organizational commitment, some authors, such as Fonseca (2014), Manteigas (2014), and Veiga (2014) state that certain components of commitment to supervisors determine commitment to the organization.

Therefore, this study aims to ascertain if military category is a moderator variable of the deterministic relationship between commitment to supervisors and organizational commitment (Figure 1).

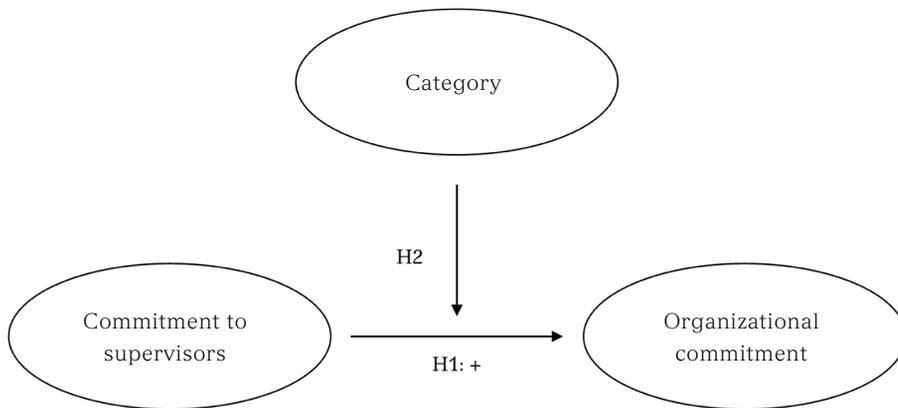


Figure 1 – Proposed theoretical model

Military category is considered a moderator variable because it either amplifies or dampens the relationship between commitment to supervisors and organizational commitment. Thus, the general and specific hypotheses are listed in Table 2, and Figure 2 depicts the model based on those hypotheses.

Table 2 – General hypothesis and specific hypotheses regarding the relationship of commitment with supervisors and organizational commitment

H1	Commitment to supervisors has a positive influence on organizational commitment.
H1a	Affective commitment to supervisors is positively related to affective organizational commitment.
H1b	Affective commitment to supervisors is positively related to normative organizational commitment.
H1c	Affective commitment to supervisors is positively related to continuance organizational commitment.
H1d	Normative commitment to supervisors is positively related to affective organizational commitment.
H1e	Normative commitment to supervisors is positively related to normative organizational commitment.
H1f	Normative commitment to supervisors is positively related to continuance organizational commitment.
H1g	Continuance commitment to supervisors is positively related to affective organizational commitment.
H1h	Continuance commitment to supervisors is positively related to normative organizational commitment.
H1i	Continuance commitment to supervisors is positively related to continuance organizational commitment.

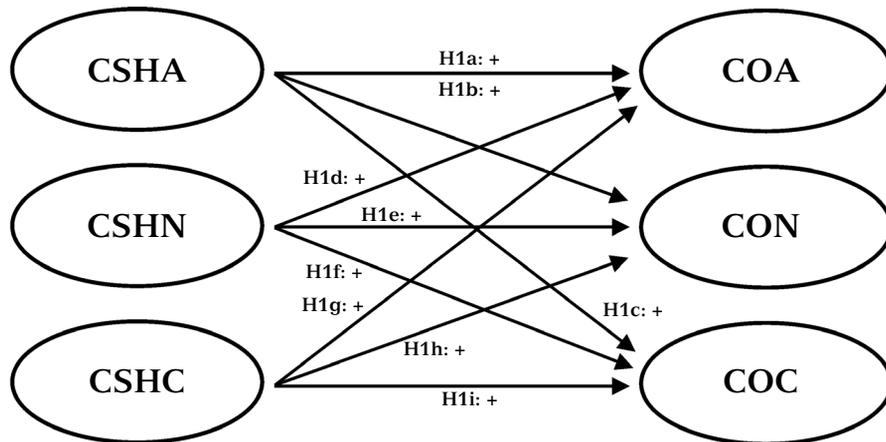


Figure 2 – Proposed model based on the hypotheses

As detailed above, the theoretical framework suggests the possibility that changes in the intensity of commitment may depend on hierarchical position. In the Armed Forces, hierarchical position is represented by military category, with service members in the Officers category being higher in the hierarchy than Sergeants, who in turn have a higher hierarchical position than those in the Enlisted category. Hence, the following general hypothesis was formulated:

H2: Military category moderates the influence of commitment to supervisors on organizational commitment.

2. Methodology

The characteristics of this study led to the selection of a cross-sectional and correlational research design, using a quantitative and hypothetical-deductive approach combined with data collection through a questionnaire, which was then processed using structural equation modelling techniques.

2.1 Method

Participants. Based on the universe of active duty service members in the PoAF serving in national territory and in a non-combat environment (N = 6422), a convenience sample of 364 military personnel was used (corresponding to a 5.7% response rate), distributed among the three military categories (Table 3).

Table 3 – Sample composition by Military Category

Military Categories	N. of respondents
Officers	181 (49.7%)
Sergeants	122 (33.5%)
Enlisted	61 (16.8%)

Of the 181 officers who participated in the study, 151 (83.4%) are Career Officers and 30 (16.6%) have an Enlistment Contract. The average age is 36.96 years (SD = 9.924) and the average seniority is 4.77 (SD = 5.376). On average, respondents serve 2.10 years (SD = 2.501) under the same direct supervisor.

Procedure. The study began with a formal request to the Chief of Staff of the Air Force, accompanied by the respective instruments of data collection. After obtaining authorisation, data were collected during March and April 2015, using Groupwise (GW), i.e., the PoAF's internal mail system. All service members have access to GW, so it was possible to use an online data collection process.

Data collection instrument. The questionnaire by Meyer and Allen (1997), adapted to the Portuguese context by Nascimento, Lopes, and Salgueiro (2008), was used to measure the three components of organizational commitment, and the questionnaire was further adapted to the target context by replacing the term “Organization” with “PoAF” (Table 4).

Table 4 – Organizational commitment scale

Affective Organizational Commitment Subscale	
AOC_21	I do not feel “emotionally attached” to the PoAF
AOC_25	The PoAF has a great deal of personal meaning for me
AOC_26_I	I do not feel like “part of the family” at the PoAF
AOC_28	I really feel as if the PoAF’s problems are my own
AOC_30	I would be very happy to spend the rest of my career with the PoAF
AOC_34_I	I do not feel a strong sense of belonging to the PoAF
Normative Organizational Commitment Subscale	
NOC_23	I would not leave the PoAF right now because I have a sense of obligation to the people who work here
NOC_24_I	I do not feel like I have a moral obligation to remain in the PoAF
NOC_27	Even if it were to my advantage, I do not feel it would be right to leave the PoAF now
NOC_29	The PoAF deserves my loyalty
NOC_31	I would feel guilty if I were to leave the PoAF now
NOC_37	I owe a great deal to the PoAF
Continuance Organizational Commitment Subscale	
COC_20	I feel that I have too few options to consider leaving the PoAF
COC_22	It would be financially very hard for me to leave the PoAF right now, even if I could
COC_32	One of the major reasons I continue to work for the PoAF is that leaving would require considerable personal sacrifice — another organization may not match the overall benefits I have here
COC_33	Right now, staying with the PoAF is a matter of necessity as much as desire
COC_35	One of the serious consequences of leaving the PoAF would be the scarcity of available alternatives
COC_36	My life would be greatly disrupted if I decided to change supervisors right now
COC_38	I have already given too much to the PoAF to consider working for another organization

Source: Adapted from Nascimento, Lopes, and Salgueiro (2008, p. 121).

A version of the questionnaire used by Meyer, Allen, and Smith (1993) to measure commitment to occupations, adapted to the military and to the construct under study, was used to measure commitment to supervisors. In essence, the methodology used was similar to the one used by Meyer, Allen, and Smith (1993) in their study on commitment to occupations (CO), but the items were reworded based on the (new) object of study, which in practice consisted in replacing the term “Occupation” with “Supervisor” (Table 5).

Table 5 - Scale of commitment to supervisors

Scale of Affective Commitment to supervisors	
ACS_2_I	I do not identify with my supervisor
ACS_4	My supervisor has a great deal of personal meaning for me
ACS_6_I	I do not feel a connection to my supervisor
ACS_11	I really feel as if my supervisor’s problems were my own
ACS_14	I would be very happy to spend the rest of my career with my supervisor
ACS_15_I	I do not feel “emotionally attached” to my supervisor
Scale of Normative Commitment to supervisors	
NCS_1	I owe a great deal to my supervisor
NCS_3	Even if it were to my advantage, I do not feel it would be right to leave my supervisor now
NCS_8	My supervisor deserves my loyalty
NCS_9	I would feel guilty if I left my supervisor now
NCS_16	I would not leave my supervisor right now because I have a sense of obligation to them
NCS_17_I	I do not feel any obligation to remain with my direct supervisor
Scale of Continuance Commitment to supervisors	
CCS_5	One of the few negative consequences of changing supervisors would be the scarcity of available alternatives
CCS_7	As I had not already put so much of myself into working with my supervisor, I might consider working with a different one
CCS_10	It would be financially very hard for me to change supervisors right now, even if I could
CCS_12	Too much of my life would be disrupted if I decided I wanted to change supervisors now
CCS_13	I believe that I have too few options to consider changing supervisors
CCS_18	Right now, remaining with my supervisor is a matter of necessity as much as desire
CCS_19	One of the major reasons I continue to work for my supervisor is that leaving would require considerable personal sacrifice — another supervisor may not match the overall benefits I have here

Source: Adapted from Meyer, Allen and Smith (1993).

The answers to both questionnaires were scored on a seven-point Likert scale, where (1) corresponds to “Totally Disagree” and (7) to “Totally Agree”.

2.2 Data Processing

The data were processed using SPSS 22 and LISREL 9.2 and processing occurred in three different steps. In the first step the validity of the measurement models for the sample under analysis was tested. In the second step, the structural relationships in the proposed model were estimated. In the third and final step, the moderating effect of the military category variable was analysed.

The validity of the measurement models for the sample was tested through Confirmatory Factor Analysis using a completely standardised solution. The measurement models were successively respecified, and items with factor loadings less than 0.6 and/or high modification indices were removed. The goodness of fit of the validated measurement model was found to be statistically significant (Salgueiro, 2007; Hair et al., 2010; Marôco, 2010).

The structural relationships of the proposed model were estimated using the Maximum Likelihood method to produce a completely standardised solution, and using the measurement models that were validated for the sample. The initial model was successively respecified, and the structural relations that did not obtain a statistically significant value were removed. The second condition for the model to be deemed acceptable was that its goodness of fit had to be statistically significant.

In the third data processing step, the moderator effect of the military category variable was tested by conducting a multi-group analysis and an invariance analysis on the final model (Salgueiro, 2007; Marôco, 2010).

The following goodness of fit indicators were used for each of the above three phases: Chi-Square (χ^2), Degrees of Freedom (DF), Root Mean Square Error of Approximation (RMSEA ≤ 0.08), Goodness of fit Index (GFI ≥ 0.90), Incremented Fit Index (IFI ≥ 0.90), Comparative Fit Index (CFI ≥ 0.90), the relationship between ChiSquare and Degrees of Freedom ($\chi^2/DF \leq 3$), and Akaike’s Information Criterion (AIC, in which the model with the lowest value is the one with the best fit). The goodness of fit measures selected included absolute fit measures (χ^2 , GFI, RMSEA), incremental fit measures (IFI and CFI), and parsimony and model comparison measures (χ^2/DF and AIC) (Salgueiro, 2007; Hair et al., 2010; Marôco, 2010).

3. Data presentation and analysis of results

3.1 Validity of the instruments of measurement for the sample

Of the four measurement models used to test commitment to supervisors, the last model (M4) presented an acceptable goodness of fit (Table 6).

Table 6 – Goodness of fit measures of the Commitment to Supervisors model

Measures	Reference values	M1 (original model)	M2 (2nd order factor analysis)	M3 (unidimensional)	M4 (final model)
Df		149	149	152	5
X ²		660.31	660.31	1002.34	9.63
RMSEA	≤ 0.08	0.129	0.129	0.159	0.074
GFI	≥ 0.9	0.739	0.739	0.577	0.983
IFI	≥ 0.9	0.96	0.96	0.934	0.997
CFI	≥ 0.9	0.96	0.96	0.934	0.997
χ ² / df	≤ 0.3	4.431	4.431	6.594	1.926
AIC Model	< value	3254.03	3254.03	3758.74	713.964

The first model (M1) was the original three-dimensional model comprising the affective, normative, and continuance latent variables. In addition to not being a good fit (Table 4), this model obtained excessively high correlations between the three components ($r_{(ACS;NCS)}=0.90$); $r_{(ACS; CCS)}=0.70$); ($r_{(NCS;CCS)}=0.62$), which suggested the possibility of unidimensionality. Hair et al. (2010) and Marôco (2010 and 2014) advise that when the correlations between two variables are higher than 0.70 this suggests that we are in the presence of the same variable with different names.

Thus, a second measurement model (M2) was tested using second order factor analysis to measure the influence of each variable (ACS, NCS, CCS) on the emergence of commitment to supervisors (CS). Not only was this model not a good fit (Table 4), the values obtained by the affective and normative components were high (respectively 1.01 and 0.89), while the value obtained by the continuance component was less accentuated, but still high (0.70). These results also point to the unidimensionality of the construct under analysis.

Taking into account these results, a third model (M3) that corresponded to a unidimensional view of the construct was analysed, but it was also not an acceptable fit. Thus, based on the results obtained by the unidimensional model, the items with low factor loadings and/or with high modification indices were removed, which led to the elaboration of a fourth measurement model (M4), comprising five items, four from the normative scale and one from the affective scale (Figure 3). This model presented a statistically significant goodness of fit (Table 6).

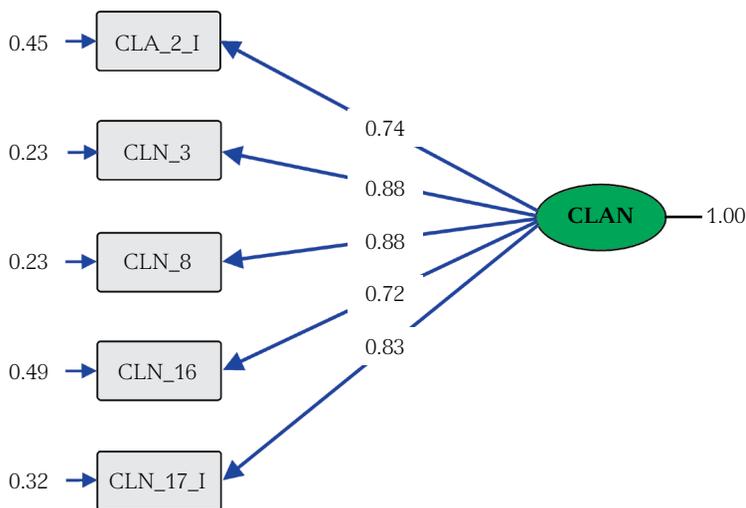


Figure 3 – Diagram of the final model of commitment to supervisors (M4)

As for the Organizational Commitment construct, two models were tested. M1 did not present an acceptable goodness of fit and, after undergoing successive respecifications, the final model was tested (M2), and was found to have an acceptable goodness of fit (Table 7).

Table 7 – Goodness of fit measures of the Organizational Commitment model

Measures	Reference values	M1 (original model)	M2 (final model)
Df		149	33
X ²		798.34	67.17
RMSEA	≤ 0.08	0.152	0.093
GFI	≥ 0.7	0.694	0.931
NC	< 289	88.335	146.257
IFI	≥ 0.9	0.935	0.95
CFI	≥ 0.9	0.935	0.949
χ ² / df	≤ 0.3	5.357	2.035
AIC Model	< value	3541.11	1729.33

The relationship between the affective and continuance components was removed, but the relationship between the affective and normative components (0.30) and between normative and calculative components (0.41) was maintained. Thus, the affective and normative components were measured by three items each and the continuance component by four items (Figure 4).

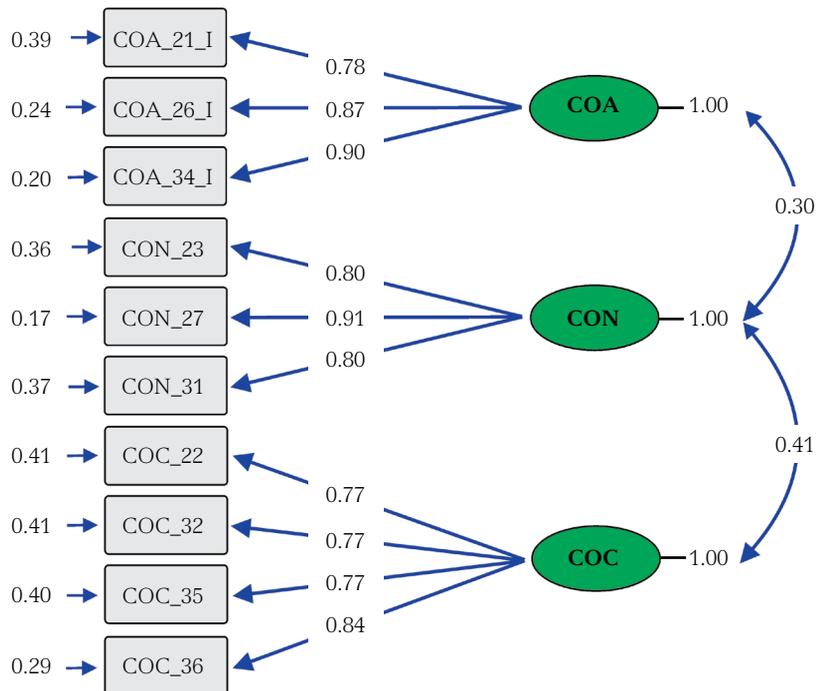


Figure 4 – Diagram of the final measurement model of organizational commitment

The results met the three-dimensionality criteria established in the initial theoretical framework, and the final measurement model of Organizational Commitment was validated (Salgueiro, 2007; Hair et al., 2010; Marôco, 2010).

3.2. Testing the hypotheses and estimating the structural relationships of the proposed model

The process to validate the above constructs enabled the verification of the threedimensionality of organizational commitment in its affective, normative, and continuance components. However, the same did not occur with the results obtained by the Commitment to supervisors AFC, which suggests that this is a unidimensional construct where the normative and affective components predominate, although the latter is

represented by a single item. In light of these results, the specific hypotheses were revised taking into account the unidimensionality of the independent variable (Table 8).

Table 8 – Hypotheses in the final global model

H1	Commitment to supervisors is positively related to affective organizational commitment.
H2	Commitment to supervisors is positively related to normative organizational commitment.
H3	Commitment to supervisors is positively related to continuance organizational commitment.

The proposed model and the specific hypotheses that support it, listed in Table 8, are depicted in Figure 5.

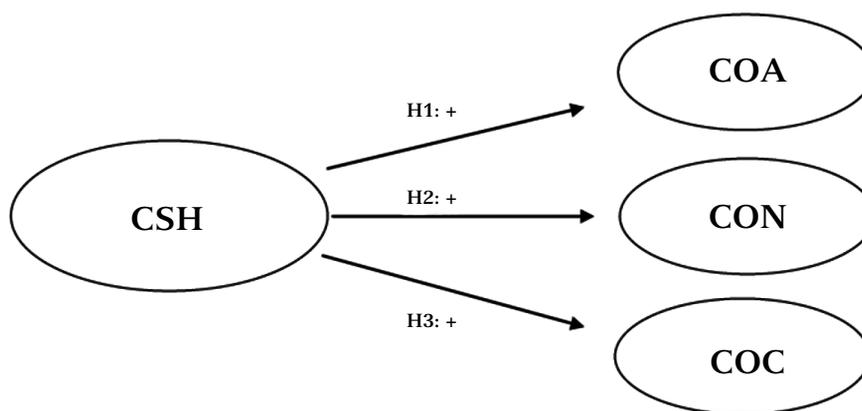


Figure 5 – Proposed model supported by specific hypotheses

Based on the final measurement models of the two constructs and the four variables under analysis, the reliabilities (generally acceptable at $\alpha \geq 0.70$) and the descriptive statistics were determined. The highest mean values were obtained by the affective component of organizational commitment, and the lowest mean values by the normative component of organizational commitment (Table 9).

Table 9 – Mean, standard deviation, and correlation coefficient of Commitment to supervisors and of the organizational commitment variables

Variable	Mean	Standard Deviation	ANCS	AOC	NOC	COC
ANCS	3.72	1.07	(0.762)*			
AOC	4.72	1.27	0.302	(0.835)*		
NOC	2.72	1.47	0.227	0.238	(0.836)*	
COC	3.13	1.32	0.014	- 0.012	0.349	(0.834)*

Notes: The value of Cronbach's Alpha coefficient is given in parentheses.

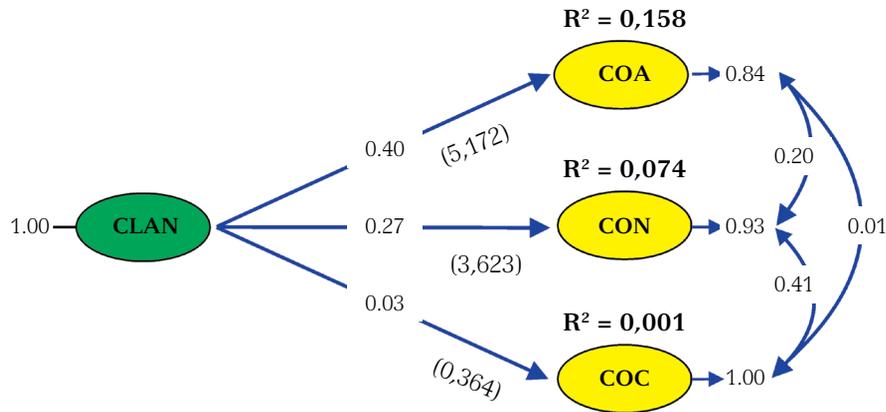
Commitment to supervisors is positively related to all the components of organizational commitment, although the values do not represent statistically significant correlations. All components of organizational commitment are positively related to each other, except for the affective and continuance components, which are negatively related.

The goodness of fit indicators for the proposed model were not deemed acceptable (Table 10).

Table 10 – Goodness of fit indicators for the proposed model

Measurements	Reference values	MP1
Df		84
χ^2		229
RMSEA	≤ 0,08	0,105
GFI	≥ 0,9	0,864
CN	< 289	101,366
IFI	≥ 0,9	0,882
CFI	≥ 0,9	0,881
χ^2/ df	≤ 0,3	2,726
AIC Model	< value	2991,1298

The estimated model (Figure 6) presented statistically non-significant structural relationships, and the values of the Determination Coefficients of the dependent variables were lower than those deemed acceptable ($R^2 = 0.50$) (Marôco, 2014).



R2: Determination coefficient;

Notes: The *t-value* is given in parenthesis. For the relationship to be statistically significant, this value should be equal to or greater than 1.96 (Salgueiro, 2007; Hair, et al., 2010).

Figure 6 - Diagram of the proposed model

In light of the results obtained, it was possible test the hypotheses (Table 11).

Table 11 – Test of specific hypotheses

Hypotheses	Standardised estimate	<i>t-value</i>	Conclusion
H1: Commitment to supervisors is positively related to affective organizational commitment	0.089	5.605	Not rejected
H2: Commitment to supervisors is positively related to normative organizational commitment.	0.075	2.184	Not rejected
H3: Commitment to supervisors is positively related to continuance organizational commitment.	0.071	0.364	Rejected

In light of the results obtained, a second model was estimated in which the relationship supported by H3 was removed. In this new model, the continuance organizational commitment variable did not benefit the model. Therefore, in line with the recommendations on the use of parsimony in the formulation of structural models, it was also decided that this variable would be removed. As a result, the goodness of fit of the final model falls within the established parameters (Table 12).

Table 12 – Goodness of fit measures of the final global model

Measurements	Reference values	Final Model
Df		32
X ²		49,31
RMSEA	≤ 0,08	0,076
GFI	≥ 0,9	0,951
CN	< 289	197,052
IFI	≥ 0,9	0,961
CFI	≥ 0,9	0,961
X ² / df	≤ 0,3	1,541
AIC Model	< value	2017,445

Once the hypotheses that support the relationships between the latent variables were verified, the model depicted in Figure 7 was elaborated.

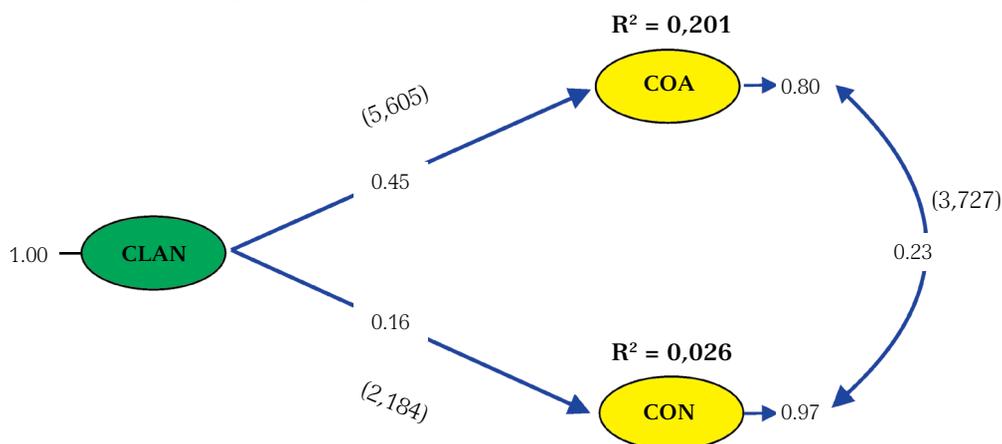


Figure 7 - Diagram of the final global model

The extent to which commitment to supervisors can explain organizational commitment was not found to be statistically relevant, since the R² coefficient of determination is substantially low (0.201 for AOC and 0.026 for NOC) in comparison to the standard (≥ 0.4) proposed by Hair et al. (2010).

3.3 Analysis of the Moderating Effects of the Military Category variable

The moderation relationships were tested using multi-group analysis, namely: Officers/Sergeants, Officers/Enlisted and Sergeants/Enlisted. According to the procedure established for these situations (Salgueiro, 2007; Hair et al., 2010) the ChiSquare test was performed using the values obtained in the multi-group analysis with and without restriction. The Chi-Square differences were not statistically significant in the three groups, which led to the rejection of the three moderation hypotheses (Table 13).

Table 13 – Moderation Relationships and Chi-Square Test ($\chi^2=12.59$; $\Delta df=6$; $\alpha=0.05$)

Categories	$\Delta\chi^2$	Conclusion	CLAN/COA	CLAN/CON
H4a: Officers/Sergeants	2,03	Rejected	0,19 0,20	0,33 0,19
H4b: Officers/Enlisted	6,56	Rejected	0,17 0,32	0,28 0,68
H4c: Sergeants/Enlisted	8,64	Rejected	0,19 0,33	0,17 0,71

Conclusions

Because commitment to supervisors is a recent construct, there are not many empirical studies that provide a clear and in-depth approach. Thus, this research aimed to contribute significantly to the study of commitment, more precisely commitment to supervisors and to the Military Institution, and specifically to the Portuguese Air Force. This was done by analysing the deterministic relationship between supervisors and the military institution, with military category as moderator variable.

The results pointed to the unidimensionality of the construct, as there was a strong correlation between the three components of commitment. In other words, the evidence found in this research supports the unidimensionality of commitment to supervisors rather than its three-dimensionality, as argued in the theoretical framework advanced by Meyer, Morin, and Vandenberghe (2015). The results obtained may be related to the fact that the military environment has highly specific characteristics, since rules must be complied with and orders, as long as they are legal, must be obeyed without question. In fact, in this

context it makes sense that the normative component is somewhat predominant, while the affective component is also present.

In addition, the model describing the relationship between commitment to supervisors and organizational commitment was tested, revealing that although commitment to supervisors is unidimensional it is positively related to the affective and normative components of organizational commitment. The relationship between commitment to supervisors and the affective component of organizational commitment was the stronger of the two components. This suggests that when service members are committed to their supervisors, they tend to feel a strong desire to pursue a certain course of action that benefits the military institution, in line with the findings of Fachada (2015) in her study of the positive effects of integrating individuals (in this case, service members) into small “niches” – composed of a small number of individuals in close proximity, such as “their peers and immediate supervisor, their service, their squadron, and the Unit they are assigned to” (p.156) – on their “levels of satisfaction and commitment to the Branch as a whole” (p.100). The positive relationship between commitment to supervisors and the affective and normative components of organizational commitment reveals that affective and normative organizational commitment increases in proportion with normative commitment to supervisors.

Evidence was also found that members of the Enlisted category clearly distinguish between the affective and normative components, and that commitment to supervisors is a greater determinant in this category than in the Officers category. This may be largely related to the rigid hierarchy of the military. In other words, since the Enlisted military category is, by definition, trained to comply with the orders issued by the Sergeants category, it is only natural that they feel a greater degree of identification and proximity, that is, commitment, which becomes a variable that influences their actions.

As for the Officers and Sergeants category, no statistically significant differences were found in the way they moderate the relationship between commitment to supervisors and organizational commitment.

Works cited

- Assembleia da República (AR), 2009. *Regulamento de Disciplina Militar* (RDM). (Organic Law n. 2/2009, 22 July). Lisbon: Diário da República.
- Assembleia da República (AR), 2015. *Estatuto dos Militares das Forças Armadas* (EMFAR). (Decree-Law n. 90/2015, 29 May). Lisbon: Diário da República.
- Allen, N., 2003. Organizational Commitment in the Military: A Discussion of Theory and Practice. *Military Psychology*, 15(3), pp. 237
- Allen, N. and Meyer, J., 1990. The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63, pp. 1-18.

- Allen, N. and Meyer, J., 1996. Affective, continuance and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, 49, pp. 252-276.
- Armeli, S., Eisenberger, R., Fasolo, P. and Lynch, P., 1998. Perceived organizational support and police performance: the moderating influence of socioemotional needs. *Journal of Applied Psychology*, 83, pp. 288-297.
- Assis, D. and Nascimento, J., 2014. "O papel do comprometimento profissional na relação entre o cinismo e o comprometimento organizacional: um modelo conceptual". XXIV Jornadas Luso-Espanholas Scientific Management, February.
- Bass, B. e Avolio, B., 1995. MLQ Multifactor leadership questionnaire. Redwood City, CA: *Mind Garden*, 84, pp. 11-19.
- Becker, H., 1960. Notes on the concept of commitment. *American Journal of Sociology*, 66, pp. 32-42.
- Beer, M., Boselie, P. and Brewster, C., 2015. Back to the Future: Implications for the Field of HRM of the Multistakeholder Perspective Proposed 30 Years Ago. *Human Resource Management*, 54 (3), pp. 427-438.
- Bycio, P., Hackett, R. and Allen, J., 1995. Further assessments of Bass's (1985). Conceptualization of transactional and transformational leadership. *Journal of Applied*, 80(4), pp. 468-479.
- Cohen, A., 2003. *Multiples Commitments in the workplace: A Integrative Approach*. Mahawah. New Jersey, CA: Lawrence Erlbaum Associates, Publishers.
- Drath, W., McCauley, C., Palus, C., Velsor, E., O'Connor, P. and McGuire, J., 2008. Direction, alignment, commitment: Toward a more integrative, ontology of leadership. *The Leadership Quarterly*, 19, pp. 635-653.
- Eisenberger, R., Huntington, R., Hutchison, S. and Sowa, D., 1986. Perceived organizational support. *Journal of Applied Psychology*, 71, pp. 500-507.
- Esteves, R., 2012. *A Lealdade e o Comprometimento Afectivo após a saída dos pilotos da Força Aérea Portuguesa*. Unpublished Licentiate's thesis. Instituto Superior de Ciências Sociais e Políticas: Lisbon.
- Fachada, C., 2015. *O Piloto Aviador Militar: Traços Disposicionais, Características Adaptativas e História de Vida*. PhD Thesis in Psychology, specialization in Social Psychology. Faculdade de Psicologia da Universidade de Lisboa: Lisbon.
- Fonseca, A., 2014. *O Comprometimento com a Chefia enquanto determinante do Comprometimento Organizacional em funcionários da Administração Central e Local do Estado*. Unpublished Licentiate's thesis. Instituto Superior de Ciências Sociais e Políticas, Lisbon
- Gade, P., 2003. Organizational commitment in the military: An overview. *Military Psychology*, 15(3), pp. 163-166

- Gefen, D., Straub, D.W. and Boudreau, M.C., 2000. Structural equation modeling and regression: Guidelines for research practice. *Commun AIS*, 4, pp. 1-77.
- Hair, J., Black, W., Babin, B. and Anderson, R. (2010), *Multivariate data analysis: a global perspective*. Pearson Prentice Hall, New Jersey.
- Harter, J., Schmidt, F. and Hayes, T., 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87 (2), pp. 268-279.
- Klein, J., Molloy, C. and Cooper, T., 2009. Conceptual foundations: construct definitions and theoretical representations of workplace commitments. In H. J. Klein, T. E. Becker and J. P. Meyer (Eds.), *Commitment in organizations: Accumulated wisdom and new directions*. New York: Routledge Taylor and Francis Group, pp. 3-36.
- Maanen, J. and Schein, E., 1977. Toward a Theory of Organizational Socialization. *Massachusetts Institute of Technology Human Performance*, 26, pp. 81-96.
- Manteigas, M., 2014. *O Comprometimento com a Chefia como determinante do Comprometimento com a Organização na Administração Central*. Unpublished Licentiate's thesis. Instituto Superior de Ciências Sociais e Políticas, Lisbon.
- Marôco, J., 2010. *Análise de equações estruturais: Fundamentos teóricos, software & aplicações*. Lisbon: Report Number, Lda.
- Marôco, J., 2014. *Análise Estatística com o SPSS Statistics* (6ª ed.). Lisbon: Report Number, Lda.
- Meyer, J. and Herscovitch, L., 2001. Commitment in the workplace toward a general model. *Human Resource Management Review*, 1, pp. 299-326.
- Meyer, J., Allen, N. and Smith, A., 1993. Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of applied psychology*, 78(4), pp. 538.
- Meyer, J., 2009. Commitment in a change world of work. In: H. J. Klein, T. E. Becker, e J. P. Meyer (Eds.), *Commitment in organizations. Accumulated wisdom and new directions Cap: 2*, pp. 37-68.
- Meyer, J. and Allen, N., 1997. *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, California, USA: Sage Publications.
- Meyer, J. and Allen, N., 1991. A Three-Component conceptualization of Organizational Commitment. *Human resource management review*, 1, pp. 61-89.
- Meyer, J., Allen, N. and Topolnytsky, L., 1998. Commitment in a changing world of work. *Canadian Psychology/Psychologie canadienne*, 39(1-2), p. 83.
- Meyer, J., Becker, T. and Vandenberghe, C., 2004. Employee commitment and motivation: a conceptual analysis and integrative model. *Journal of applied psychology*, 89(6), p. 991.
- Meyer, J., Kam, C., Goldenberg, I. and Bremner, N., 2013. Organizational commitment in the military: Application of a profile approach. *Military Psychology*, 25 (4), pp. 381-401.

- Meyer, J., Stanley, D., Herscovitch, L. and Topolnytsky, L., 2002. Affective, Continuance, and Normative Commitment to the Organization: A Meta-analysis of Antecedents, Correlates, and Consequences. *Journal of Vocational Behavior*, 61, pp. 20-52.
- Mowday, R., Porter, L. and Steers, R., 1979. The measurement of organizational commitment. *Journal of Vocational Behavior*, 14(2), pp. 224-247.
- Mowday, R., Porter, L. and Steers, R., 1982. Employee-Organization linkages: The psychology of commitment, absenteeism, and turnover. New York: Academic Press, pp. 224-246.
- Nascimento, J., Lopes, A. and Salgueiro, M., 2008. *Estudo sobre a validação do “Modelo de Comportamento Organizacional” de Meyer e Allen para o contexto português*. *Comportamento Organizacional e Gestão*, 14(1), pp. 115-133.
- Rego, A., 2003. Comprometimento organizacional e ausência psicológica – afinal, quantas dimensões? *Revista de Administração de Empresas*, 43 (4), pp. 25-35.
- Rousseau, M., 1989. Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal*, 2, pp. 121-139.
- Salgueiro, M., 2007. *Modelos de equações estruturais: aplicações com LISREL*. ISCTE, Lisbon.
- Santos, A., 2012. *As Forças Armadas em Portugal*. Francisco Manuel dos Santos Foundation.
- Schein, E., 1980. *Organizational Psychology*, 3rd Ed.. Englewood Cliffs, NJ: Prentice Hall.
- Silva, M. (2016). *O Comportamento Organizacional nas Forças Armadas*. [pdf] Lisbon: Military University Institute. Retrieved from: https://comum.rcaap.pt/bitstream/10400.26/17392/1/TII_O%20Comportamento%20Organizacional%20nas%20For%C3%A7as%20Armadas%20Final.pdf [Accessed 2 March 2016].
- Sobral, J., 2008. *Postos e Cargos Militares Portugueses*, *Audaces*.
- Stinglhamber, F., Bentein, K. and Vandenberghe, C., 2002. Extension of the Three Component Model of Commitment to Five Foci Development of Measures and Substantive Test. *European Journal of Psychological Assessment*, 18 (2), pp. 123-138.
- Stinglhamber, F. and Vandenberghe, C., 2003. Organizations and supervisors as sources of support and targets of commitment: a longitudinal study. *Journal of Organizational Behavior*, 24 (3), pp. 251-270.
- Strauss, K., Griffin, M. and Rafferty, A., 2009. Proactivity Directed Toward the Team and Organization: The Role of Leadership, Commitment and Role breadth Self efficacy. *British Journal of Management*, 20 (3), pp. 279-291.
- Wayne, J., Shore, M. and Liden, C., 1997. Perceived organizational support and leader-member exchange: a social exchange perspective. *Academy of Management Journal*, 40, pp. 82-111.
- Wiener, Y. and Vardi, Y., 1990. Relationships between Organizational Culture and individual Motivation and a Conceptual Integration. *Psychological Reports*, 67, pp. 295-306.