

THE PROVISION OF NURSERY SCHOOLS BY THE PORTUGUESE AIR FORCE AND ORGANIZATIONAL COMMITMENT AMONG AIR FORCE PERSONNEL¹

IMPLEMENTAÇÃO DE CRECHES NA FORÇA AÉREA E COMPROMETIMENTO DOS MILITARES PARA PERMANECEREM NA ORGANIZAÇÃO

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Abstract

In the face of diminishing human resources and strong budgetary constraints, the Portuguese Air Force has had to increase the workload of its personnel. Against this background, there is a pressing need for measures that improve the working conditions and well-being of service members and their families. This study analyses the link between the provision of nursery schools by the Air Force and organizational commitment among Air Force personnel. The study uses inductive reasoning, a quantitative research methodology with qualitative elements, and a case study research design. The results revealed that the service would be widely accepted by service members' even if the monthly fee were similar to that of a private nursery school. Furthermore, availability of this service would increase service members' affective commitment to the PoAF (which can be reflected in the desire to

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stay in the organization) because they would see it as a measure of protection and support (from a caring organization). Finally, because setting up this service will entail considerable costs, the study proposes that a concession be awarded by public tender, which would shift all costs to the selected candidate.

Keywords: Nursery School, Organizational Commitment, Affective Commitment, Acceptance, Acceptance Model.

Resumo

A escassez de recursos humanos na Força Aérea Portuguesa, associada a fortes restrições orçamentais, tem resultado na necessidade de exigir cada vez mais ao efetivo existente na Instituição. Neste enquadramento, torna-se imperioso criar medidas que permitam melhorar as condições de trabalho dos militares, e contribuam para aumentar o seu bem-estar, assim como das suas famílias. Este estudo analisa a associação entre a disponibilização do serviço de creches pela Força Aérea aos seus militares e o seu comprometimento para permanecerem na Organização, com recurso a uma metodologia de raciocínio indutivo, assente numa investigação quantitativa com reforço qualitativo e num desenho de pesquisa de estudo de caso. Dos resultados obtidos, concluiu-se que existe uma grande aceitabilidade por parte dos militares relativamente à disponibilização deste tipo de serviço, mesmo mediante pagamento de uma mensalidade de valor idêntico ao de uma creche privada. Concluiu-se também, que este serviço contribuiria para um maior comprometimento afetivo à Organização (repercutível, p.ex., num desejo para nela permanecer), porque é percecionado como uma medida de proteção e suporte (medida de tutela). Por último, e considerando o investimento avultado que subjaz à implementação deste serviço, propõe-se o recurso à concessão pública, onde todos os seus custos são suportados pelos concorrentes.

Palavras-chave: Creche, Comprometimento Organizacional, Comprometimento Afetivo, Aceitabilidade, Modelo de aceitação.

Introduction

Human Resources (HR) are an organization's most important asset. However, managers consistently fail to understand how to best motivate their employees because they assume that their only motivators are extrinsic or financial rewards (Morse, 2003), that is, rewards that refer to "[...] external reinforcement of a monetary nature" (Andrade, 2015, p. 4).

Therefore, when designing a rewards system, organizations should look at both individual behaviours and organizational aspects, as well as discover what type of reward their employees prefer (Andrade, 2015, p. 3).

Intrinsic rewards (of a non-financial nature) are more strongly linked to organizational commitment than extrinsic rewards. Some examples of intrinsic rewards are "[...] recognition, organizational climate, functional design, management style, opportunities for professional

growth, autonomy, responsibility” (Andrade 2015, p. 4), receiving a promotion, feeling cared for by the organization, among other factors.

Along the same lines, Guerreiro, Lourenço and Pereira (2006) argue that managers who create measures to reconcile their employees’ professional and family life also make an effort to adjust, within reason, the working conditions to the needs (motivations) of those HR. This increases staff satisfaction and individual optimisation, which in turn improves the quality of the work and, consequently, the quality of the organization.

Working conditions are indeed one of the main motivators that allow an organization to achieve its goals (Ferreira, Diogo, Ferreira, & Valente, 2006); another factor is whether an organization’s human resources are satisfied with the work they perform, which is reflected in the link between this variable (job satisfaction) and improved performance (Andrade, 2015).

Job satisfaction is reflected in a “[...] positive emotional state, [which stems from the] appraisal of one’s job or job experiences, [which in turn results from whether employees] have had their expectations met” (Locke, 1969, cited in Andrade, 2015, p. 8). In other words, job satisfaction results from the confrontation between an employee’s expectations and needs and the actual outcomes and benefits (Mason, & Griffin, 2002).

Improving performance depends on striking the right balance between family and career variables, which are interconnected and influence each other either positively or negatively (Chambel, & Ribeiro, 2014). The authors also note that the balance between these two spheres (family and career), which partly depends on the organizational characteristics mentioned above, has an impact on employee well-being, attitudes and behaviour.

As an organization, the Portuguese Air Force (PoAF) is naturally confronted with such issues, which are amplified by the combination of an “economic climate of strong budgetary restrictions” and “diminishing HR”. This means that the PoAF has had to ask increasingly more of its staff, who must make “[...] sacrifices that affect [...] their [...] personal and family life [...]” (Rolo, 2018).

Thus, by addressing “The provision of nursery schools by the Portuguese Air Force and organizational commitment among Air Force personnel”, this study aims to enhance the PoAF’s HR management practices, as this could have a positive impact on retention, attractiveness and recruitment, and could even begin to reverse the problem of diminishing HR described above.

This individual research work will examine the impact of implementing nursery schools at the PoAF. As advised by Santos and Lima (2016), the study is delimited:

- In terms of time, to the present day;
- In terms of space, to the Career Staff (CS) and Contract Personnel (CP) of the PoAF;
- In terms of content, to the provision of nursery schools by the PoAF.

Thus, the general objective (**GO**) of this study is to *Analyse the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel*, and its specific objectives (**SO**) are:

SO1: To assess service members’ acceptance of a nursery service provided by the PoAF;

SO2: To assess the nursery school models which several national organizations offer their staff;

SO3: To analyse the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel.

These objectives are reflected in the study's research question (**RQ**), *Is there a link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel?*

This paper is organized into five chapters. The first consists of this introduction. The second contains the literature review, the structuring concepts and the analysis model. The third covers the methodology and methods used in the study, identifies the participants, the procedure, the data collection instruments, and the techniques used to analyse the data. The fourth chapter presents the data analysis and research findings, and provides the answer to the research questions. The fifth and final chapter contains the study's conclusions, contributions to knowledge, and limitations, suggestions for future studies and practical recommendations.

1. Theoretical and conceptual framework

This chapter presents the literature review, the structuring concepts and the analysis model.

1.1. State-of-the-art and structuring concepts

The contents of this section will serve as a basis to establish the research framework.

1.1.1. Nursery school

An educational establishment that provides educational support and child care for children between three months and three years of age. These establishments can be autonomous, part of a larger educational establishment, or one of the benefits a firm or service offers its employees. They are regulated and audited by Social Security and are licensed under a specific legislation, namely Decree-Law No. 99/2011 of 28 September.

1.1.2. Acceptance model (perceived usefulness and ease of use)

As this study aims to assess user acceptance, perceived usefulness, and intention to use a new service (the nursery schools that would be implemented at the PoAF Units), it was necessary to analyse this "trio of variables".

Therefore, this study used a model based on these three variables, the Technology Acceptance Model (TAM) developed by Davis (1986). Davis argues that people's acceptance, intentions to use, and subsequent behaviour towards a new service is influenced by two variables: Ease of Use and Perceived Usefulness (Davis, 1986; Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Ferreira, 2014; Hussain, Mkpojiogu, & Yusof, 2016; Minakawa, Neto, & Rodello, 2016; Oliveira & Ramos, 2009).

1.1.3. Organizational commitment

Organizational commitment can be defined as the psychological state that binds an individual to an organization, which strongly influences that individual's decision to remain in it (Herscovitch & Meyer, 2002). The strength of that bond has a direct correlation to turnover intentions (Allen & Meyer, 1996).

The Three-component Model of Commitment proposed by Meyer and Allen (1991, cited in Fachada, 2015) operationalizes the following dimensions:

- Affective Commitment (AC), or “want to”, which refers to the perceived desire to stay in the organization;
- Continuance Commitment (CC), or “need to” (necessity), which relates to the relationship between the costs and benefits of leaving the organization;
- Normative Commitment, or “ought to”, which refers to the perceived obligation to remain in the organization because it is the right thing to do.

In military organizations, AC and CC are determinants for retention (Gade, 2003, cited in Fachada, 2015). Military personnel are expected to endure, among other things, “[...] assignments / deployments away from one's family, frequent travel and deployment, and life-threatening missions”. Therefore, in order to retain its staff the military must keep them highly motivated at all times (Fachada, 2015, p. 25).

1.1.4. Motivation and commitment

Commitment and motivation are different but interrelated concepts (Meyer, Becker, & Vandenberghe, 2004, p. 991). Commitment is associated with energizing forces, and motivation with:

[...] a force that binds the individual to a given course of action, [which] implies that motivation is a broader concept than commitment and that commitment is one among a set of energizing forces that contributes to motivated (intentional) behavior. However, the binding nature of commitment makes it rather unique among the many forces. Indeed, if we consider its use in everyday language, we see that the term “commitment” is generally reserved for important actions or decisions with long-term implications (e.g. [...] commitment to improving employee productivity or satisfaction). By contrast, we refer to an individual as being motivated to do something even in cases that have [...] shorter-term implications [...]. (p. 994)

When these two concepts were transposed to the context of the Portuguese Armed Forces (AAFF) (Silva, 2016, pp. 46-47) and analysed:

- Individually, it was found that service members are more intrinsically motivated (their focus is on “the desire to work, to achieve goals, to complete tasks, and on resistance and resilience”) and more affectively committed to the AAFF, followed by CC;
- In combination,

[...] that organizational commitment [positively] influences service members' motivations across various dimensions, especially affective commitment (and normative commitment, to a lesser degree) [...] and predicts intrinsic motivation behaviour, [while] continuance commitment (and normative commitment, to a lesser degree) [also] positively influences and predicts extrinsic motivation behaviour [...] (p. 47).

1.1.5. Motivation

Of the several definitions of motivation, this study uses the one proposed by Meyer, Becker and Vandenberghe (2004, p. 992):

[...] motivation is identified as an energizing force – it is what induces action in employees. Second, this force has implications for the form, direction, intensity, and duration of behavior. That is, it explains what employees are motivated to accomplish, how they will attempt to accomplish it, how hard they will have to work to do so, and when they will stop [...].

Several authors have addressed the relationship between motivation and other organizational variables. Such studies revealed that motivation promotes behaviours that increase individual and organizational effectiveness. This is the case of effort, work engagement, commitment, creativity, retention, and performance (Gagné, & Deci, 2005; Islam, & Ismail, 2008; Mitchell, 1982).

Moreover, motivation can be intrinsic / internal to the individual (IM) and / or influenced by extrinsic / external factors (EM) (Chiavenato, 2004).

For Ryan and Deci (2000b), EM refers to the desire to obtain an outcome by performing a specific action / activity, wherein “working” is a response to an external element, such as rewards, recognition or orders from others (Amabile, Hill, Hennessey, & Tighe, 1994). By contrast, IM refers to doing an activity simply because it elicits satisfaction (Ryan & Deci, 2000b), which can be inherent to the activity itself or result from the sense of belonging to a given organization (Ryan & Deci, 2000a).

1.2. Analysis model

This study was developed according to the concept map shown in Table 1.

Table 1 – Concept Map.

General Objective	To analyse the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel.		
Specific Objectives	Research Question	Is there a link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel?	
	Subsidiary	Concepts	Dimensions
SO1 To assess service members acceptance of a nursery service provided by the PoAF	SQ1 Are service members willing to use the nursery schools provided by the PoAF?	Acceptance	Provided usefulness
			Ease of use
SO2 To assess the models of nursery schools that several national organization offer their staff.	SQ2 What are the models of nursery schools that several national organizations offer their staff?	Nursery schools (provision)	Functional / organizational model
			Implementation model
SO3 To analyse the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel.	SQ3 Is there a link between commitment and the provision of nursery schools by the PoAF?	Nursery schools (provision)	Functional / organizational model
			Affective commitment
		Commitment	Normative commitment
			Continuance commitment

2. Methodology and method

This chapter describes the methodology and methods used in this study.

2.1. Methodology

The methodology consisted of three phases: an exploratory phase, which includes the literature review, the identification of the RQ and SQ, and the elaboration of the concept map; an analytical phase in which data was collected, analysed and presented; a conclusive phase that outlines the study's contributions to knowledge and limitations, and makes recommendations and suggestions for future studies.

The study uses inductive reasoning, which “[...] looks at specific facts and finds connections between them to establish generalizations” (Santos & Lima, 2016, p. 20), a quantitative research strategy with qualitative elements, and a case study research design.

2.2. Method

This subchapter describes the participants, the procedure, the data collection instrument, and the data processing techniques.

2.2.1. Participants and procedure

Participants. The pre-test phase surveyed 37 officers with the rank of Captain who were enrolled in the 2018 / 2019 Field Grade Officers Course at the PoAF, from different PoAF specialties and Units (U), most of whom are male (76%). Of the 37 respondents, 36 have children (n = 55 children) ≥ 6 years of age (76%; n = 28), ≤ 3 years of age (12%; n = 16), and between 4 and 5 years of age (8%; n = 11). After the questionnaire was delivered to 5 service members (two officers, two sergeants and one enlisted) and validated, the test phase was carried out with 132 service members from the three categories – 51% officers (n = 67), 44% sergeants (n = 59), and 5% enlisted (n = 6) – from the various PoAF specialties and U, most of whom are in the CS (90%; n = 119) and female (64%; n = 84). Forty-two percent (n = 47) of respondents have children between 0 months and 3 years of age. The field study also included 6 nursery school users, distributed as follows: Alfeite Social Support Centre (CASA, n = 1, or one 10-year-old child), Sociocultural and Sports Development Association (ADASD; n = 1, or one 5-year-old child), Basic School and Kindergarden (EB1/JI BA4; n = 1, or one 8-year-old child), Rick&Rock Auchan School (n = 1, or one 3-year-old child), TAP nursery school (n=2, or one 4-year-old child), and the nursery school of the Faculty of Sciences and Technology of the NOVA University of Lisbon (FCT-UNL, n = 1, or one 4-year-old child).

Procedure. The script for the semi-structured interview was sent to the participants by email during the pre-test phase that took place in September 2018. In the test phase proper, after obtaining authorisation from their military commanders, the questionnaire was delivered to the participants via Google forms in November 2018 and the semi-structured interview was sent by email in December 2018. The participants were informed of the purpose of both the questionnaire and the study, and were assured that their answers would be anonymous, confidential, and would be used only for statistical purposes.

2.2.2. Data collection instruments

The pre-test phase consisted of a semi-structured interview with three questions designed to assess the relevance of a study on the provision of nursery schools by the PoAF. In the test phase proper, a questionnaire was prepared based on a version of the TAM model (Davis, 1986, pp. 84-85, 254-255, 258-259; Davis, 1989, pp. 324, 340; Davis et al., 1989, p. 990; Ferreira, 2014, pp. 41, 91-92; Minakawa et al., 2016, pp. 4-5). The questionnaire was divided into two sections. The first section served to collect demographic data. The second was subdivided into three groups of questions. The first two measured Perceived usefulness (7 items) and Intention to use the service (4 items) on a 5-point Likert scale (1 = “Strongly Disagree” and 5 = “Strongly Agree”). The third group of questions assessed Motivating factors (10 items) and used the same Likert scale with an additional “sixth” point – “Not applicable”. In order to supplement the collected data, two open-ended questions were included in the first and third groups (i.e., perceived usefulness and motivating factors). Finally, a semi-structured interview with three groups of questions was added to the questionnaire. The first group contained an open-ended question (*What motive(s) contributed to the decision to enrol your child / children in the nursery / kindergarden (K) provided by your Unit (U) / Firm?*), and the two remaining groups consisted of questions 6 and 8 of the questionnaire.

2.2.3. Data processing techniques

The quantitative analysis was carried out using the software *Statistical Package for Social Sciences* (SPSS 23.0) and the qualitative analysis consisted of content analysis as used by Fachada (2015) and Bardin (1977) to identify emergent coding categories (which were based on an open model and defined as the analysis was carried out) and a priori coding categories (based on a closed model and pre-defined in accordance with a theoretical framework).

3. Data analysis and discussion of the findings

This chapter will examine some military and civilian businesses that offer this type of educational establishment to their staff and analyse financial solutions for implementation.

3.1. Service member acceptance of a nursery service provided by the PoAF

In order to assess user acceptance of this measure, the relevance of conducting a study on this topic was examined, both to determine service member's intention to use the service and the size of the universe of potential users.

3.1.1. Pre-test and universe of potential users

Pre-test data. The content analysis of the interviews (Table 21) revealed three a priori coding categories and two emergent coding categories².

Table 2 – A priori and emergent coding categories.

Categories		No. of occurrences
... a priori	Compatibility of working hours with school hours	2
	Motivation	11
	Distance from workplace	5
... emergent	Less time spent on the trip to the nursery school	12
	Being close to one's children	10

Note: The categories with frequencies ≥ 8 are marked in bold.

Regarding the intention to use the nursery school – Q1: *If there was a nursery school (children between 3 months and 3 years of age) in your U, would you consider using it?* –, all participants (n = 37) answered affirmatively and most: had a positive opinion about the possibility of this service being implemented (Q3: *In your opinion, would the PoAF benefit from providing this type of service to its employees?*) (95%; n = 35); would be willing to pay a monthly fee (Q2: *Would you be willing to pay a monthly fee similar to that of a private nursery school to use the service in your U?*) (78%; n = 29).

"Size" of the universe of potential users (service members) of PoAF nursery schools. Of the 5845 service members in the PoAF (Directorate of Personnel, 2018), 814 (distributed by

² An emergent coding category would have to be mentioned by all respondents at least 8 times (corresponding, in excess, to 20% of the total 37 respondents that participated in this phase, cfr. Fachada, 2015).

the various PoAF U as described in Table 3) have a total of 831 children between 0 and 3 years of age.

Table 3 – Number of children (between 0 and 3) in the PoAF U.

Unidades	Total
Alfragide Complex	141
Sintra Complex	86
Lumiar “Complex”	66
Air Command	83
BA4	34
BA5	73
BA6 and Firing Range	137
BA11	62
General Storage Complex of the Air Force	18
Military and Technical Training Centre of the PoAF and Montejunto	49
Other Units / Corps / Services (U/C/S)_Greater Lisbon	32
Other U/C/S_Greater Porto	31
Other U/C/S_Miscellaneous	19

Source: Data obtained from the Directorate of Personnel of the PoAF (2018).

3.1.2. Study

The reliability analysis of Cronbach’s alpha (Table 4) – according to the classification developed by Hill and Hill (2002), in which the coefficient is considered acceptable if it falls within the range of [0.7; 0.8]; good if within [0.8; 0.9]; and excellent if ≥ 0.9 , and by Marôco and Marques (2006), in which an α above 0.7 is suitable – revealed that the three measured constructs had good to excellent internal consistency.

Table 4 – Reliability analysis.

Construct	Cronbach’s alpha coefficient
Perceived usefulness	.904
Intention to use the service	.824
Motivating factors	.865

Table 5 shows that the implementation of a nursery service would be perceived as very useful (92.4%; n = 122). It was also found that the measure is perceived as being very useful because it would allow service members to: save time (94.7%, n = 125); “care for” and “spend time with” their family (92.4%; n = 122); optimise their work performance (83.3%, n = 110); increase productivity (82.6%, n = 109); and improve the quality of their work (76.5%, n = 101).

Table 5 – Perceived usefulness.

	Agree	Totally agree	Accumulated total
In my opinion, if the PoAF were to provide a nursery service, this would allow me to...			
...save time	15,9%	78,8%	94,7%
...care for my family	23,5%	68,9%	92,4%
...increase my productivity	30,3%	52,3%	82,6%
...improve the quality of my work	30,3%	46,2%	76,5%
...optimise my work performance	31,8%	51,5%	83,3%
...spend more time with my family	28,0%	64,4%	92,4%
Overall, it would be very useful (to me) if my PoAF U had a nursery school.	27,2%	65,2%	92,4%

The following emergent coding categories were identified in the advantages listed in Table 5 (a priori coding categories): more compatibility between working hours and school hours and better quality of life; being closer to one's children; social well-being; attractiveness of the organization (recruitment); safety; support in situations where one parent is deployed or on stand-by; less daily stress.

As Table 6 shows, service members' intention to use this service is high, with 80.3% (n = 106) potential users stating that they would be willing to pay a similar monthly fee to that of a private nursery school, and 95.5% (n = 126) stating that they would choose a "military" option over a similar "civilian" service.

Table 6 – Intention to use the service.

	Agree	Totally agree	Accumulated total
If both offered similar conditions, I would rather use a nursery school in one of the PoAF U than an external service.	16,7%	78,8%	95,5%
If both offered similar conditions, would you be willing to pay a monthly fee similar to that of a private nursery school to use the service in your U?	31,1%	49,2%	80,3%
If I am assigned to another U, I intend to continue to use the nursery schools offered by the PoAF U.	27,3%	56,1%	83,4%
Overall, I intend to use the nursery schools of the PoAF U.	31,1%	60,6%	91,7%

As Table 7 shows, most respondents (75.7%; n = 100) agreed that this service would be a motivating factor to stay in the PoAF because it would be perceived as a measure by an institution that safeguards and cares for the well-being of its staff. Enjoying more quality time with their children and more optimised schedules (Table 7) are highly motivating factors for most respondents (75% $\cong$ n = 99 and 74.2% n = 98, respectively).

Table 7 – Motivating factors.

	Agree	Totally agree	Accumulated total
If the PoAF were to offer a nursery school, this would motivate me to stay in the organization because it would allow me to...			
...save time	18,9%	53,0%	71,9%
...enjoy more quality time with my children	22,0%	53,0%	75,0%
...optimise my home-nursery-work commute	7,6%	59,8%	67,4%
...increasing the quality of my work by saving time / reducing stress in my commute	14,4%	57,6%	72,0%
...more compatible hours	13,6%	60,6%	74,2%
If the PoAF were to offer nursery schools in its U, this would motivate me to stay in the organization because I would perceive it as the PoAF's way of looking out for my well-being.	13,6%	59,8%	75,7%
Overall, if the PoAF were to provide nursery schools in its U, this would increase my motivation to...			
...perform my duties	25,8%	47,0%	72,8%
...stay in the PoAF	22,7%	42,4%	65,1%

In addition to the motivating factors described in Table 7 (a priori coding categories), the following emergent coding categories were identified: extended opening hours and subsequent reduction of delays and (dis)stress associated with managing a tight schedule; greater emotional and financial stability; greater sense of belonging to a “caring” organization.

3.1.3. Brief overview and answer to SQ1

In light of the above, the answer to SQ1 – *Are service members willing to use the nursery schools provided by the PoAF?* – is that the measure would be widely accepted by service members, who perceive it as being very useful and would be willing to use the service (even if the monthly fee were similar to that of a private nursery school).

The most important motivating factors relate to personal and family life (spending more time with ones’ family, being closer to one’s children, social well-being, security, and sense of support from the organization during deployments or when on stand-by / 24-hour shifts, among others), followed closely by organizational factors (less daily (dis)stress, greater emotional stability, greater sense of belonging to a “caring” organization, more compatible schedules , improving work quality, increasing productivity, and improving work performance, among others).

3.2. Models of nursery schools used by several national organizations

This section examines different contexts by comparing them at two levels / from two perspectives:

- A functional / operational perspective in which organizations (military and civilian) that offer similar childcare services are analysed (similar because some establishments are not nursery schools, but rather kindergardens and basic schools);
- The perspective of implementation, providing some examples of financing models that can be used to implement this type of service.

3.2.1. Functional / organizational perspective

3.2.1.1. Military education establishments

The case studies presented here include CASA, a facility integrated in the AAFB, the ADASD of the BA11 District, in Beja, and the EB/JI of BA4 (Terceira, Azores) .

3.2.1.1.1. Alfeite Social Support Centre (CASA).

CASA is a social support facility integrated in the Social Action Institute of the Portuguese Armed Forces (IASFA) located at the Lisbon Naval Base, which serves the three branches of the AAFB.

CASA develops a set of Social Action initiatives for Beneficiaries and Family Members as part of a Supplementary Social Action programme that provides social, clinical and socio-educational support. The latter include Nursery and Kindergarden services for children from 4 months up to 5 years of age (normal opening hours run from 08h00 to 17h30 and can be extended until 19h00) and primary school services, which are not provided by CASA but by the Ministry of Education (MinEd).

The cost per child is defined annually on the basis of the Beneficiary's household income per capita. To provide a few examples, Table 8 shows the values charged in the 2018 / 2019 school year.

Table 8 – Fees charged by CASA (2018 / 2019 school year).

		Nursery	Kindergarden
Entry fee		61€*	61€*
Renewal fee		51€*	51€*
Monthly fee	Children of IASFA beneficiaries / employees	31% of per capita income Minimum: 132€ Maximum: 284€	31% of per capita income Minimum: 122€ Maximum: 264€
	Children of EBA teachers and others	325€	294€
Sibling discount		20%	20%
Children of beneficiaries - 2nd, 3rd child and more		25%	25%
Extended hours	Children of IASFA beneficiaries / employees	17h30 - 19h00 26€*	17h30 - 19h00 26€*
	Children of EBA teachers and others	17h30 - 19h00 26€*	17h30 - 19h00 26€*

* Defined annually.

Source: IASFA (n.d.).

3.2.1.1.2. Sociocultural and Sports Development Association of the BA 11 District³

ADASD is a non-profit organization established on 18 August 2015 with the mission of supporting and developing sociocultural and sports activities and fostering and promoting the well-being of its members from the BA11 District, in Beja. Among other duties, it is responsible for managing the social programmes of the kindergarden establishment “O Avião”. It also offers pre-school education, After School Activities (ATL) and social support to the community families.

The K accepts children between 3 and 6 years of age, has a capacity for approximately 50 children and is open from Monday to Friday, from 07h45 to 19h00, although children can stay in the facilities from 19h00 pm to 20h00 for an extra fee of 10€. The monthly fee, which includes meals, transportation and mandatory extracurricular activities, is 190€ (or 170€ without meals). ADASD members (the military and civilian residents of BA11) are entitled to a 20% discount, and local entities (PSP, GNR, Infantry Regiment and Caixa Agrícola) have a 10% discount.

Employees are hired directly by ADASD and are not considered employees of the MinEd.

The school’s facilities are provided by the PoAF through a protocol signed between BA11 and ADASD, the latter being responsible for maintaining the facilities in working order, performing routine maintenance, and repairing the infrastructure and equipment. ADASD also supports all costs related to the use of the facilities.

3.2.1.1.3. BA4 Primary School and Kindergarden⁴

The establishment is owned by the MinEd and operates within the premises of BA4, which is only responsible for performing maintenance on the building.

The establishment was created to serve the Portuguese military community but also accepts children from the Serra de Santiago district, adjacent to the airport fence. Opening hours are from 9h00 to 15h00 and the school does not offer extended hours or an ATL option. As this is incompatible with the working hours of BA4, some service members have chosen not to enrol their children there.

3.2.1.2. Civilian education establishments

This section includes the Pão de Açúcar Foundation (Rik&Rok schools), TAP Air Portugal - SA (TAP), and the Faculty of Sciences and Technology of the NOVA University of Lisbon (FCT-UNL).

³ The data provided here were taken from the Protocol signed between the Air Force and the Sociocultural and Sports Development Association of the BA11 District and from the internal rules of the kindergarden establishment “O Avião”.

⁴ Data obtained from A. Teles (face-to-face interview, 20 November 2018)

3.2.1.2.1. Pão de Açúcar Foundation - Auchan⁵

In order to “increase the work-life compatibility of the Auchan Group employees [...], the Foundation has set up the Rik & Rok schools for children up to the age of six (children of staff and others), which accommodate the extended work hours of the Auchan group employees – the schools are open seven days a week, 12 months a year, from 07h00 to 18h30, although children can stay at the establishment for a maximum of five days a week, 11 months a year and 11 hours a day.

In accordance with the statutory regulations (and the social support mission of the Foundation, which is registered as a Private Institution of Social Solidarity), the monthly fee is set according to the per capita income of the child’s household, up to a maximum monthly fee of 340€ (2018 / 2019 school year).

Pursuant to the legislation regulating services of this nature, the school’s operations are subject to audits by various official entities (such as the Institute of Social Security, the MinEd, the Municipal Technical Services and the Fire Department).

3.2.1.2.2. TAP Air Portugal, SA

In order to mitigate the difficulties that its staff encountered when attempting to find childcare while working shifts, TAP has provided this service since the beginning of the 1970s. The company considers it a positive investment inasmuch as it improves employee motivation and productivity and reduces absenteeism. On their part, employees see it as a valuable benefit (CESIS, 2008).

The service was created for children of staff up to school age whose parents have non-traditional work schedules and is open 24 hours a day, 365 days a year at the company premises (with capacity for about 250 children). It is managed by a duly certified concessionaire. The costs are borne by the company and by the employees who use the service, who pay 7% of their salary for one child, 10% for two children and 13% for three or more children.

3.2.1.2.3. Faculty of Sciences and Technology of the NOVA University of Lisbon (FCT-UNL)⁶

Although the child care facilities of the FCT-UNL were created for children whose parents or guardians are members of the Faculty’s academic community (FCT-UNL students, teachers and non-teaching staff, employees of the Social Action Services of the UNL, employees of the IPDSC Pre-School Education Centre, employees of the entities operating in the Caparica campus and Madan Parque), children from outside the University community are also accepted if vacancies are available.

The establishment offers three services – nursery, from 4 months of age until walking age), crèche (from walking age up to ± 3 years of age) and K (from 3 to 6 years of age). Opening hours are from Monday to Friday, from 08h00 to 19h00.

⁵ Data taken from Pão de Açúcar Foundation – Auchan (n.d.).

⁶ The data provided here were obtained from the internal regulations of the Pre-School Education Centre (2007).

The monthly fee is updated at the beginning of every school year and depends on the student's status and household income, with prices ranging from 195.00€ to 285.00€, including meals.

3.2.2. Implementation perspective

Given the economic challenges facing the PoAF over recent years, an investment of this magnitude cannot be funded from the State Budget. In light of this, the case studies presented below describe financial solutions that could overcome this limitation.

3.2.2.1. Public Service Concession - Leiria Hospital Centre, E. P. E.

In order to “[...] improve staff motivation and support the minor children of its employees by making work schedules more compatible with family responsibilities”, that is, to foster a sound organizational climate that will benefit the service's users and improve the well-being of the people who work there (Roque, cited in National Health Service, n.d.), the Leiria Hospital Centre (LHC) launched a call for tenders (Procurement notice 4990/2018 of 28 June) inviting private entities to build / concession nursery and K facilities at the Santo André Hospital.

This solution – awarding the construction and operation of the service to private entities for a given period (20 years) – will have no cost for the CHL.

As the deadline to submit proposals was 26 December 2018, and given the time required to analyse every submission, the results of the tender could not be included here. In other words, it was not possible to determine the acceptance of this solution by private entities.

3.2.2.2. Service concession contract – PoAF

The PoAF has several service concession arrangements, namely the companies operating the bars of the various U. These concession contracts are different than the one mentioned above because the infrastructure and equipment already exist. The contract covers only the use of the infrastructure and equipment, and usually involves the payment of a monthly fee.

For example, the arrangement concerning the bars specifies that the PoAF is responsible for providing and covering the cost of power (gas and electricity) and water, in addition to performing maintenance on the facilities and equipment provided to the concessionaire.

3.2.3. Brief overview and answer to SQ2

In light of the above, the answer to SQ2 – *What are the models of nursery schools that several national organizations offer their personnel?* – is that, from a functional / organizational perspective, the nursery school models of CASA ADASD, Pão de Açúcar Foundation, TAP and FCT-UNL (Table 9) have the most flexible opening hours. From the perspective of implementation, a Public Service Concession similar to the call for tenders issued by the Leiria Hospital seems to be the most feasible solution, given the current situation of the PoAF (strong budgetary restrictions, among other challenges and constraints).

Table 9 – Comparative overview of educational establishments.

Institution	Opening hours		Monthly fee		Available services (*)		
	Regular hours	Extended hours	Minimum fee	Maximum fee	Nursery school	K	Basic school / Primary School
CASA	08h00 - 17h30	17h30 - 19h00	122€	284€	Yes	Yes	Yes
ADASD	07h45 - 19h00	19h00 - 20h00	170€	190€	No	Yes	No
EB/JI da BA4	09h00 - 15h00	-	0€	0€	No	Yes	Yes
Fundação Pão de Açúcar	07h00 - 00h30		According to per capita income	340€	Yes	Yes	No
TAP	24h/day		7% of income		Yes	Yes	No
FCT-UNL	08h00 - 19h00		195€	285€	Yes	Yes	No

(*) Although this study is delimited to nursery schools, the information regarding kindergarden and basic / primary schools is included here as it could be useful for future studies.

3.3. Provision of nursery schools by the PoAF and organizational commitment

In this section, the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel is examined: from a theoretical and conceptual perspective (essentially a documentary / literature review); from the perspective of experience. The latter was ascertained to complement the analysis / provide examples of how the service is perceived / appraised by its users in the six case studies (or similar settings) identified in the study.

3.3.1. Theoretical and conceptual analysis

The difficulties faced by PoAF service members when attempting to find a school with opening hours compatible with their work schedules, as well as the emotional distress that this situation entails for their life in the military and for the well-being of their families “[...] can affect their productivity and, in extreme cases, their relationship with supervisors and fellow service members [...]” (Pires, 2013, pp. 2-2).

Thus, according to Fachada (2015), employee **commitment** refers to:

[...] rewarding work experiences and career opportunities that reinforce a sense of professional accomplishment and meet their expectations, [and] access to greater specialisation and parsimonious management of assignments / deployments [are strategies] typically and positively [associated with] commitment [...] (pp. 102-103). [Furthermore,] it is necessary to “invest” in practices such as: providing means of support and organizational fairness, developing a type of transformational leadership in staff, managing stress factors such as ambiguity and conflicting roles, supporting the need for autonomy and individual competence as well as interpersonal relationships, providing relevant and timely feedback (performance assessments), [...] equitable rewards, organizational support, decentralisation (where possible) of decision making and formalization of policies and procedures [...], increasing satisfaction and commitment to those (bodies and / or persons) who are closest to them [...] such as peers and direct supervisors, their assigned service, squadron,

or Unit, etc. [...] and recognising high-quality performances through honourable mentions or commendations [...]. (pp. 154-156)

In fact, one of the strongest ties that binds CS officers to the PoAF is affective commitment (AC) one (Machado, & Fachada, 2018).

Braga and Fachada (2018) studied motivation and retention among medical doctors in the AAFB CS and concluded that the “[...] feeling of affective commitment to the military and the desire to remain [...]” (i.e. AC) are the primary motivators to stay, rather than simply not wanting to pay a financial compensation (damages) (Braga, & Fachada, 2018, pp. 172).

Furthermore, Silva (2016) concluded that, in the Portuguese AAFB, organizational commitment influences service members’ motivations across all dimensions: AC positively influences intrinsic motivational behaviour and CC positively influences extrinsic motivational behaviour.

3.3.2. “Experiential” analysis (how users perceive / evaluate the service)

The analysis presented here focuses on how the current users of these services perceive them / their level of satisfaction, and serves to complement (by providing examples) the conclusions drawn from the questionnaires delivered to potential users of the service in the PoAF. Therefore, it was deemed sufficient to interview only one user, randomly selected, for each of the six case studies presented above.

These interviews and the semi-structured interview conducted with users whose children attend the military establishments CASA, ADASD, and EB / JI of BA4 revealed that the main factors behind the decision to enrol their children in the educational establishments provided by their employers were: the quality of the establishment (employees, activities, facilities, food, curricula); opening hours, greater safety and comfort, and being close to one’s family and therefore having more quality time with them. On the other hand, the users of the civilian establishments (TAP, Rick & Rock School and FCT-UNL) identified the following factors: being close to one’s family, extended opening hours and, in the case of TAP, the cost, as the monthly fee is partially reimbursed by the company.

Overall, respondents perceive the service as useful and as a motivating factor for the decision to stay in their organization.

3.3.3. Brief overview and answer to SQ3

In light of the above, the answer to SQ3 – *Is there a link between the provision of nursery schools at the PoAF and organizational commitment among Air Force personnel?* – is that, based on the theoretical and conceptual analysis of recent studies developed in military settings, if the PoAF were to offer this service, which service members would perceive as a form of (organizational) support, it would increase their AC to the military and lead to higher intrinsic motivation. In other words, the measure would increase retention and service member’s willingness to stay in the military.

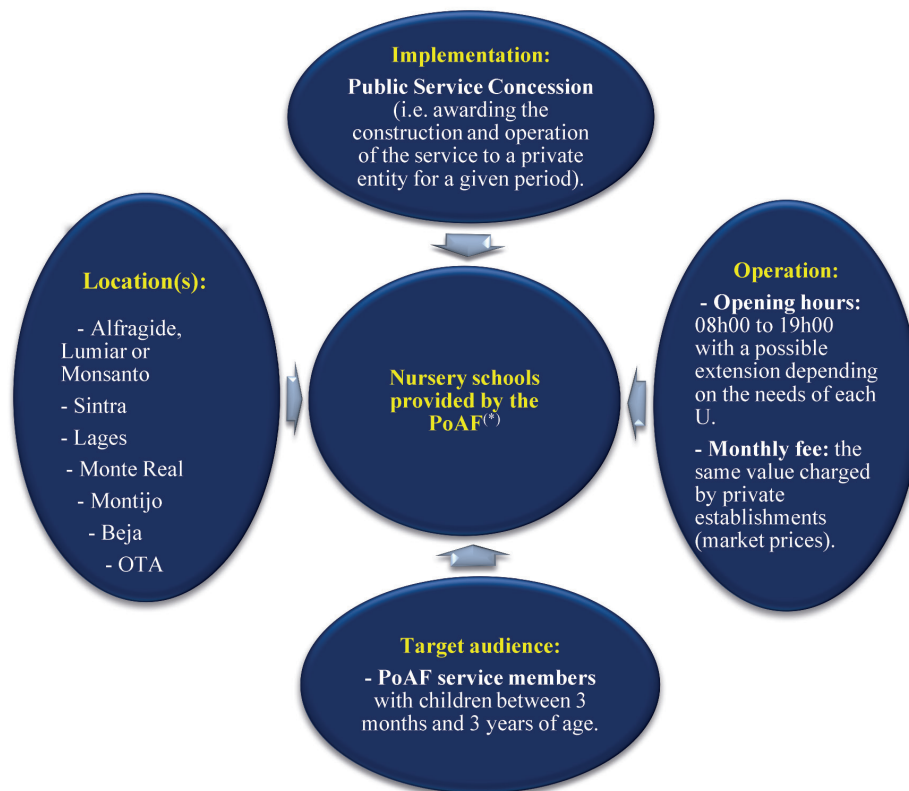
This was confirmed by the users of similar services offered by the military (CASA, ADASD and EB/JI) and by civilian organizations (especially TAP and FCT-UNL employees).

3.4. Implementation of nursery schools at the PoAF

This subchapter proposes a nursery school model tailored to the PoAF and answers the RQ.

3.4.1. Nursery school model tailored to the PoAF

Figure 1 shows the nursery school model proposed for the PoAF.



(*) Ordinance No. 262/2011 of 31 August.

Figure 1 – Proposed nursery school model for the PoAF.

3.4.2. Brief overview and answer to the RQ

In light of the above, the answer to the RQ – *Is there a link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel* – is that service members perceive the service as being very useful and that they would be willing to use it even if the monthly fee were similar to that of a private nursery school, provided that the services offered are also similar. This perception is strongly associated with personal and family reasons, followed closely by organizational factors.

The study also revealed that the provision of nursery schools by military establishments – which service members perceive as a form of (organizational) support – is linked with higher AC to the organization and, consequently, with higher intrinsic motivation. In other words, the measure would increase service member's intrinsic motivation and their desire to stay in the military (i.e. retention).

Conclusions

Faced with an economic climate of strong budgetary restrictions and diminishing human resources, the PoAF has had to ask more of its remaining staff both in terms of workload and work schedule, which can take a toll on service members' private and family life.

To address this problem, the PoAF should examine both organizational aspects and individual behaviours and needs because it knows that its HR are not only attracted or motivated by extrinsic (financial) rewards, but also by intrinsic (non-financial) rewards, which are more strongly associated with organizational commitment. In other words, the rewards that have the strongest effect on the psychological state that binds an individual to an organization (in this case, a service member to his or her branch of the military) and influences their desire to stay with the organization.

An organization that creates measures to reconcile the professional and family life of its human resources – adjusting, within reason, the working conditions to the needs of those resources – tends to elicit greater satisfaction and individual optimisation, which in turn improves the quality of the work they perform and, consequently, the quality of the organizational outcomes.

Therefore, the military must create / implement measures that service members view as protective and supportive (caring measures) because those measures are motivating factors for the decision to stay in the military.

To that end, this study analysed the possibility of implementing nursery schools at the PoAF. The study was delimited in terms of: time, to the present day; space, to the PoAF's CS and CP; content, to the implementation of nursery schools at the PoAF.

The study was guided by the following RQ: *Is there a link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel?*

The work was carried out in three phases (exploratory, analytical, and conclusive) and the methods used were inductive reasoning, a quantitative research strategy with qualitative elements, and a case study research design.

In terms of structure, this document divided into five chapters.

The first chapter contains the introduction.

The second provides the theoretical and conceptual framework and presents the literature review, the structuring concepts and the analysis model.

The third covers the methodology and methods used in the study, identifies the participants, the procedure, the data collection instruments, and the techniques used to analyse the data.

The last two chapters review the results of the data analysis and discuss the findings, answer the research questions and objectives (fourth chapter), and present the conclusions (fifth chapter).

SO1, *To assess service members' acceptance of a nursery service provided by the PoAF*, was achieved by answering the corresponding SQ1. This was done by conducting a semi-structured interview with 37 officers (pre-test phase designed to assess the relevance of conducting a study on the implementation of nursery schools at the PoAF) and by administering a questionnaire to 132 service members (officers, sergeants and enlisted) from

various Units / Corps / Services of the PoAF (test phase proper). The qualitative (content) and quantitative (statistical) analyses revealed that a service of this type would be widely accepted by PoAF service members, as most respondents perceive it as being very useful and state that they intend to use the service if it is implemented. Their intention to use the service is such that they would be willing to use it even when faced with the possibility of having to pay a monthly fee similar to that of a private nursery, provided that it offers similar conditions. In other words, user acceptance stems less from financial motives, as service members (potential users) do not question the fact that the PoAF cannot offer the service free of charge, and more to the fact that the service will be provided in their place of work. Essentially, the perceived usefulness of the service and the intention to use it are associated with personal and family factors (spending more time with ones' family, being closer to one's children, greater sense of social well-being and security, and of having the support of the organization during deployments or when on stand-by / 24-hour shifts, followed by organizational factors (such as less daily (dis)stress, greater emotional stability, greater sense of belonging to a "caring" organization, more compatible schedules, work quality, productivity, and improving work performance).

In order to accomplish SO2, *Assessing the models of nursery schools that several national organizations offer their personnel*, and answer the corresponding SQ2, some examples of military and civilian Establishments / Organizations that offer this type of service to their staff were analysed. Specifically, three case studies of military establishments were identified. Two of those establishments are PoAF facilities (ADASD of BA11, Basic School and Kindergarden of BA4), which do not offer nursery services. The third establishment, CASA (located in Alfeite), includes nursery, kindergarden, and primary school services (the latter being the responsibility of the Ministry of Education). The only establishments that do not offer extended hours are the two educational facilities of BA4, which limits their usefulness to the personnel serving in this Unit due to incompatible working hours. As for the civilian establishments, of the several organizations that offer this type of service to their staff, three case studies were analysed – the Pão de Açúcar Foundation - Auchan (Rik&Rok Schools), TAP and FCT-UNL, which offer nursery and kindergarden services as well as extended opening hours. In order to address the strong budgetary restrictions facing most organizations, and specifically the PoAF, case studies of financial solutions for this type of implementation were also analysed. Two possible solutions were examined. The first is a service concession arrangement in which the contract covers only the use of PoAF infrastructure and equipment in exchange for the payment of a monthly fee. The second solution has no cost for the PoAF and consists of a public tender, which would shift all costs to the selected tenderer – that is, a Public Service Concession similar to the call for tenders issued by the Leiria Hospital. In light of the current situation of the PoAF (strong budgetary restrictions, among other challenges and constraints), the latter seems to be the most feasible solution as it would carry no cost to the PoAF.

In regards to SO3 - *Analysing the link between commitment among Air Force personnel and the provision of nursery schools by the PoAF*, the answer to SQ3 showed that, in line with several earlier studies developed in military settings and according to the answers provided

by service members during the present study, the provision of this type of service by the PoAF would increase affective commitment to the organization because such a measure would be perceived as signifying protection, support and care from the organization. This was confirmed by the assessments of users of similar services provided by the military (CASA, ADASD and the BS/K of BA4) and by civilian organizations (especially TAP and FCT-UNL).

The study's GO – *To analyse the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel* – was achieved by answering the corresponding RQ, which revealed a strong correlation. The military must find ways to retain its staff that go beyond financial penalties (damages) and instead involve the adoption / implementation of conditions and measures of protection and care which improve the (social) well-being of service members and their families. To that end, this study devised a model of nursery schools tailored to the PoAF. The model proposes:

- In terms of implementation, that the construction and operation of the service be awarded to a private entity for a given period;
- That opening hours run from 08h00-19h00 with the possibility of extending that period, and that the maximum monthly fee be similar to the fees charged by private establishments;
- That several facilities be set up across the country, according to ease of access and number of potential users (such as Alfragide, Lumiar, or Monsanto for the city of Lisbon);
- That the service be available to children of PoAF service members (from three months to three years of age).

This study's main contribution to knowledge is providing empirical evidence of the link between the provision of nursery schools by the PoAF and organizational commitment among Air Force personnel. That is, the PoAF is now aware of the highly positive impact that such a measure could have and will be able to use that knowledge when defining its policies.

Another theoretical and practical contribution of this study is demonstrating that the technology acceptance model proposed by Davis (1986) can be applied to various fields.

The study has two **limitations** that must be listed here although they are unrelated to it and do not take away from its conclusions. The first limitation refers to time constraints. In order to submit this document within the deadline, it was not possible to wait for the publication of the results of the Public Tender launched by the Leiria Hospital Centre. Therefore, the number of private entities that applied to the project could not be included here.

The second limitation refers to the fact that, for convenience's sake, the study used a non-probabilistic sample, that is, the sampling process does not guarantee the representativeness of the sample, which means that the findings cannot be generalised. Despite the fact that, due to this limitation, the conclusions drawn are only valid for the sample under study, they can be used in future studies.

In regards to **future studies**, it would be important to conduct similar studies in all three branches of the AAFB, as the realities experienced by service members can be considered identical, as well as analyse how this issue would influence recruitment. Furthermore, it would be relevant to analyse the implementation of an educational establishment that offers

both nursery and kindergarden services, as both services have areas in common. This service could prove to be another “commitment factor” and thus increase the interest of private companies in this business project. Moreover, in cases where the user pool is small, either because the Unit has low staff numbers or because there are few requests for extended opening hours (these requests tend to come from service personnel, personnel on stand-by or deployed personnel), it would be relevant to analyse the option of a nanny service. Finally, it is necessary to examine alternative solutions, such as optimising existing protocols with private nursery schools (which already exist in some U), implementing ATL services (similar to those offered at BA1, OTA CFMTFA, and Alfragide Complex), and providing a transport service to drive the children from the U to the nursery and back.

As a **practical recommendation**, the study suggests that the Air Force General Staff carry out a study to elaborate a business plan and determine the economic and financial feasibility of establishing a service concession partnership with a private entity.

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