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5-7-2019

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Repository Citation

Cabral, L. M., Ribeiro, S. L., Barreto, M. R., Fajer, M., Pereira, M. d., & Santos, C. d. (2019). Psychologists Role in Brazilian Aviation - Present and Perspectives. *20th International Symposium on Aviation Psychology*, 115-120.

https://corescholar.libraries.wright.edu/isap_2019/20

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PSYCHOLOGISTS ROLE IN BRAZILIAN AVIATION - PRESENT AND PERSPECTIVES

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This article describes a Group Discussion occurred on the I National Congress of the Brazilian Aviation Psychology Association (ABRAPAV), in 2016. Among 158 participants on the event, 146 took part of this Group Discussion: 75 psychologists; 6 Psychology students; 25 other aviation professionals; 40 professionals with unidentified formation. They chose one of the following subgroups to discuss about Aviation Psychology activities, facilities, difficulties and suggestions: Regular Aviation; Non-regular/General Aviation; Military Aviation; Regulator Authority/Aeronautical Industry; Clinics/Hospitals; Airclubs/ Aviation Schools/ Universities/Training Centers; Air Navigation/Airports. After the discussion, each subgroup representative presented the results of the main activities, facilities, difficulties and suggestions, respectively, as examples: Aeronautical Accidents Prevention; Managers Recognition, Support and Confidence; Reactive Organizational Cultures, Changes Resistance and Inflexible Manager; Professional Specialization and Specific Standard for Aviation Psychology. This enabled ABRAPAV to map relevant demands in this area and plan strategies for psychologists to minimize constraints and support improvements in their organizations.

Pilots selection, training and researches in aviation environment began in World Wars I/II, when Aviation Psychology started to have a great development with aviation technologies advances (KOONCE, 1984). Since then, several initiatives have emerged all over the world, aiming at strengthening the role of Aviation Psychology, such as: in 1956, the European Association for Aviation Psychology (EAAP, 2019); in 1981, the Australian Aviation Psychology Association (AAVPA, 2019); in 2011, the Journal of Aviation Psychology and Applied Human Factors (HOGREFE, 2019); since 1981, the International Symposium on Aviation Psychology (ISAP) and, in 1991, the International Journal of Aviation Psychology (ISAP, 2019); in 1998, the Spanish Aviation Psychology Association (AEPA, 2019); and in 2013, the Brazilian Aviation Psychology Association (ABRAPAV, 2019), which the Board members are the authors of the present article.

Brazilian Aviation Psychologists Initiatives and ABRAPAV

In Brazil, the Aeronautics Ministry was founded in 1941 and assumed selection, training and research activities in aviation, but others were absorbed by the Selection and Orientation Service (SESO), formed in 1967: work analysis, psychological assistance, in 1970, when renamed as Nucleus of the Selection and Orientation Institute (NUISO); performance evaluation,

organizational diagnosis, aeronautical accidents investigation, in 1980. NUISO was also renamed: in 1981, as Selection and Orientation Institute (ISO); and in 1988, as Institute of Psychology of Aeronautics (IPA) (COELHO et al, 2007).

In 1971, the Aeronautical Accidents Investigation and Prevention Center (CENIPA) was created to coordinate the Aeronautical Accidents Investigation and Prevention System (SIPAER). In 1986, IPA and CENIPA developed the Aeronautical Accidents Prevention Course/Human Factors (CPAA/FH) for civilian and military psychologists of aeronautical institutions to certify them as Certified Element/ Human Factors in Psychology (EC/FHP) for the aeronautical accidents prevention and investigation activity, and compose Aeronautical Accidents Investigation Commissions (BRASIL, 2017). Actually, besides this course, IPA developed the Extension Course on Aviation Psychology (CPAV) for EC/FHP (COELHO et al, 2007). In 2005, the Naval Aviation Center of Instruction and Training (CIAAN), subordinated to the Navy Command, developed the Special Course on Aviation Psychology for Official (C-Esp-PAVO), for military EC/FHP (BRASIL, 2007).

After ICAO regulation on Safety Management Manual (SMM), each member-state had to implement a State Safety Programme (SSP), and each aviation provider had to implement a Safety Management System (SMS) (ICAO, 2013). That's when increased the number of aviation psychologists certified as EC-FHP, because of both opportunity and necessity created for them to develop the aeronautical accidents prevention and investigation activity, in addition to selection, training and others.

Besides, some significant events and publications about Aviation Psychology happened, as well as several meetings, journeys, courses, promoted by different entities in Brazil. Two books were also edited, as follows: "Psychology Flights in Brazil: Studies and Practices in Aviation"; and "Scientific Articles Collection" (RIBEIRO, 2009).

In Brazil, the Federal Council of Psychology (CFP) does not recognize Aviation Psychology as an official specialization, so ABRAPAV main goals are to promote conditions for: this professional specialization recognition; researches and Brazilian aviation psychologists database creation; knowledges/experiences exchange by periodic activities; interdisciplinarity among aviation psychologists; study groups formation in this area; and Brazilian Aviation Psychology history preservation (ABRAPAV, 2019).

I National Congress of ABRAPAV of 2016 and its Group Discussion

Group Discussion Purpose and Methodology

The I National Congress of ABRAPAV, in 2016, at SP, promoted a Group Discussion (ABRAPAV, 2019), which main purpose was to raise issues about Brazilian aviation psychologists activities, facilities, difficulties and suggestions, in order to identify main demands in this area and project necessary actions. The questions of the form given to participants and subgroups for discussion and answering were: "Are you psychologist?"; "What are the main activities you perform at work?"; "Which are the main facilities to perform these activities?";

“Which are the main difficulties to perform them?”; “Do you have any suggestion to minimize or solve the difficulties cited?”.

The Group Discussion methodology was divided in five phases: Registration; Orientation; Execution; Presentation; Conclusion. On the Registration Phase, participants chose one of the subgroups: Regular Aviation; Non-regular/General Aviation; Military Aviation; Regulator Authority/Aeronautical Industry; Clinics/Hospitals; Airclubs/Aviation Schools/Universities/Training Centers; Aerospace/Airports. The Orientation Phase consisted of instructions by the global coordinator to all participants in an auditory. The Execution Phase consisted of explanations by the specific coordinator of each subgroup to participants in different rooms: the subgroup will elect a representative to present the discussion results; each participant will receive a form with questions to answer; each subgroup will discuss the individual answers and make a presentation with main results; each subgroup representative will present the answers in the first auditory, based on the discussion results. The Presentation Phase consisted of all discussion results presentations by each subgroup representative. The Conclusion Phase consisted of main points of all results comments by the global coordinator in the same auditory.

Group Discussion Results

The results were divided in: quantitative, based on the number of the global and the specific participation; and qualitative, based on the answers to the questions of the form distributed to each subgroup and each participant. Although the quantitative and qualitative results were classified in high, intermediate and low, this article will limit to comment on the high results, considered as main, to the detriment of the intermediate and low ones.

Quantitative results. Table 1 shows the quantitative results of the Group Discussion.

Table 1.
Global and Specific Participation per Subgroup.

Subgroups	Global Participation		Specific Participation		
	Signatures	Forms answered	Psychologists	Students	Other professionals
Regular Aviation	30 (20,55%)	28 (26,42%)	18 (24,00%)	1 (16,67%)	9 (36,00%)
Non-regular/General Aviation	17 (11,64%)	15 (14,15%)	8 (10,67%)	3 (50,00%)	4 (16,00%)
Military Aviation	22 (15,07%)	19 (17,92%)	17 (22,67%)	0	2 (8,00%)
Regulator Authority/Aeronautical Industry	4 (2,74%)	5 (4,72%)	1 (1,33%)	0	4 (16,00%)
Clinics/Hospitals	34 (23,29)	12 (11,32%)	11 (14,67%)	0	1 (4,00%)
Airclubs/Aviation Schools/Universities/Training Centers	24 (16,44%)	17 (16,04%)	10 (13,33%)	2 (33,33%)	5 (20,00%)
Air Navigation/Airports	15 (10,27%)	10 (9,43%)	10 (13,33%)	0	0
Total	146	106	75	6	25
Percent (%)	100	72,6 (of 146)	70,75 (of 106)	5,6 (of 106)	23,58 (of 106)

Table 1 shows the quantitative results related to the global and specific participation of each subgroup, which, among 146 participants who signed the frequency list (100%), 106 returned the form fulfilled (72,6%): 75 (70,75%) psychologists; six (5,66%) students; 25 (23,58%) other professionals. Forty participants with unidentified formations will not be cited. Besides, there was a high participation of subgroups: 34 (23,29%) by Clinics/Hospitals; 30 (20,55%) by Regular Aviation; 24 (16,44%) by Airclubs/Aviation Schools/Universities/Training Centers. Considering the total of 75 psychologists, there was also a high participation of: 18 (24,00%) in Regular Aviation; and 17 (22,67%) in Military Aviation.

Qualitative results. The qualitative results refer to the responses of Aviation Psychology activities, facilities, difficulties and suggestions by the subgroups, which represents a valious portrait of Brazilian Aviation Psychology practices to guide ABRAPAV Board Members in future actions. First, we will comment on Aviation Psychology activities with more than 50% of answers covered by subgroups.

Activities. Taking, as a reference, the total of seven subgroups, six subgroups (85,71%) indicated as main activities: Psychological Evaluation & Aeronautical Accidents Prevention & Training, Teaching etc., not cited only by Regulator Authority/Aeronautical Industry; and Work Health/Safety Programmes, not referred only by Air Navigation/Airports. Five subgroups (71,42%) cited Coach for Abilities Development as the main activity, only not mentioned by Non-regular/General Aviation and Regulatory Agency/Aeronautical Industry. Other main activities were considered by four groups (57,14%). All activities were cited by Regular Aviation and Military Aviation. Regulator Authority/Aeronautical Industry cited Work Health/Prevention Programmes as the main activity.

Facilities. Five subgroups - Regular Aviation, Non-regular/General Aviation, Military Aviation, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports (71,42%) - indicated Managers Recognition, Support and Confidence as the main attribute to facilitate psychologists performance. Three subgroups (42,85%) indicated other facilities as important to aid pscologists activities development in aeronautical context: Regular Aviation, Non-regular/General Aviation and Regulator Authority/Aeronautical Industry cited HF Multidisciplinary/Interdisciplinary Interface as a main facility. Military Aviation, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports indicated Continuous Knowlegde, Experience and Learning as a main facility.

Difficulties. Four subgroups (57,14%) indicated the following main difficulties in the psychologists performance at aeronautical environments: Regular Aviation, Military Aviation, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports cited Reactive Organizational Cultures, Changes Resistance and Inflexible Managers & Lack of Personell and Material Investiments on Prevention as main difficulties; Regular Aviation, Regulator Authority/Aeronautical Industry, Clinics/Hospitals, Air Navigation/Airports referred to Standards Deficiency as a main difficulty; Regular Aviation, Military Aviation, Clinics/Hospitals and Airclubs/Aviation Schools/Universities/Training Centers indicated Lack of Knowledge and Doubts about Psychologists Role & Lack of Specific Specialization and Professional Up-grade & Few Theorectic References, Research and Data-base in Aviation

Psychology as main difficulties; Regular Aviation, Military Aviation, Regulator Authority/Aeronautical Industry and Clinics/Hospitals indicated Lack of Instruments and Minimum Standardized Scores for Psychological Evaluation as a main difficulty.

Suggestions. Six subgroups - Regular Aviation, Non-regular/General Aviation, Military Aviation, Clinics/Hospitals, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports (71,42%) - cited Professional Specialization and Specific Standard for Aviation Psychology as a main suggestion to minimize or solve difficulties in psychologists activities. Four subgroups (57,14%) indicated other main suggestions: Regular Aviation, Clinics/Hospitals, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports indicated Qualified Aviation Psychologists Employment in the Organizational Staffs as a main suggestion; Military Aviation, Regulator Authority/Aeronautical Industry, Clinics/Hospitals and Air Navigation/Airports indicated ABRAPAV Exchange with Aeronautical Institutions for Psychological Evaluation Standards Definition & Improvements and Formation/Post-graduation Courses in Aviation as main suggestions; Military Aviation, Clinics/ Hospitals, Airclubs/Aviation Schools/Universities/Training Centers and Air Navigation/Airports indicated ABRAPAV Partnerships for Trainings/Improvement Courses for Psychologists and other Aviation Professionals as a main suggestion; Non-regular/General Aviation, Military Aviation, Regulator Authority/Aeronautical Industry and Airclubs/Aviation Schools/Universities/Training Centers indicated ABRAPAV Proximity to Academics Activities/HF Research Investments/Aviation Psychology Dissemination as a main suggestion.

Conclusion

The Group Discussion of the I National Congress of ABRAPAV, in 2016, had the participation of different segments, as: students; psychologists; and other aviation professionals. The results enabled to map relevant Brazilian Aviation Psychology demands and plan strategies to assist aviation psychologists, for better performance and improvements projections, indicating that the main purpose of the Group Discussion was achieved. Besides, all activities, facilities, difficulties and suggestions were considered for the adequate comprehension of this area.

Acknowledgements

ABRAPAV thanks to: all psychologists, who helped to found our Association; every participant of the I National Congress of ABRAPAV, who, in 2016, contributed to the Group Discussion results, realized on the referred event; all sponsors, who made possible and easier the event to occur; the speakers and presenters, who shared their knowledge and experiences on this occasion; the associate members, who trusted on ABRAPAV to increase the development of Aviation Psychology in our country; ISAP, which has approved this article; and you, who is interested on reading it.

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