
The Relationship Between Pilot Fatigue And Social Hierarchy In The Korean Context

Introduction

The debate over pilot fatigue has been continuously ongoing ever since the start of air traveling (Houston, S. 2019:1). Up until today, the problem is ceaseless as the majority of the aviation companies and international aviation organizations such as the National Transportation Safety Board (NTSB) are trying to search for a standardized solution to decrease the major risks involved with fatigue. Fatigue in aviation is a pivotal aspect as a major risk for safety and it is associated with “lack of quality sleep, sleep disturbances, interruption of circadian rhythm, mental or emotional stress (such as family problems, anxiety, or check-ride stress), physical exertion, such as heavy exercise and poor health, including dehydration or poor diet”. The symptoms are falling asleep, yawning, poor visual acuity, feeling “sluggish” or “drowsy,” decreased reaction time, and decreased concentration. The phenomenon places great risk on the flight crew and passengers of a commercial airplane in all sizes because it could intensify the chance of pilot error. According to Boeing, “approximately 80 percent of commercial airplane accidents are due to human error, which includes pilots, air traffic controllers, mechanics, etc.” These studies related to the effects of fatigue have been studied by Federal Aviation Administration (FAA) since 1978. In addition, pilot fatigue is closely intertwined with the issue of sustainability in aviation. Although the term sustainability is often associated with ecological and environmental sustainability in natural resources, in this study, sustainability is defined and investigated in terms of safety in individual flights and in overall air space as a series of major accidents in national and international contexts can threaten sustainability in aviation. This study is also concerned with pilots’ personal sustainability, as the above-mentioned symptoms can potentially cause serious diseases disabling pilots from sustaining their professional careers.

Literature review

According to International Civil Aviation Organization (ICAO), fatigue is defined as a physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and/or workload (ICAO, 2013:1). Under thorough investigation, the FAA (Federal Aviation Administration) has concluded that pilot fatigue is closely linked with air carrier accidents and is a continuing problem that the flight crews face. “Fatigue degrades most aspects of performance, including judgement, decision making, memory, reaction time, concentration, selective attention, fixation and mood. Low arousal produced by sleep loss is accompanied by a greater performance decrement on simple rather than on complex tasks. The technological simplification of the aviation process may contribute to this performance decrement” (Jackson and Earl, 2006:1). In Europe, a qualitative data on experienced pilot fatigue was collected from 6,000 pilots in Austria, Denmark, France, Germany, the Netherlands, Norway, Sweden and the UK. Remarkably, 60-90% of European pilots experienced fatigue while on duty (i.e., micro-sleep and/or dozing), (Barometer on pilot fatigue. 2012).

Significance

Despite the available records of pilot fatigue management from its conception to its current efforts, the impacts of pilot fatigue by power-distance under national culture (Hofstede 1980) remain under-studied by academia, leaving out the voices of subordinate pilots whose lives are intimately affected by the power-distance (captains), especially in Asia. To elaborate further, in Korean culture, the subordinates are often expected to show respect to their superiors under any circumstances. The purpose of this qualitative study is to examine the perceptions of Korean subordinate pilots (co-captains) regarding the usage of linguistic politeness in the cockpit that could aggravate pilot fatigue within their national culture.

Research questions

1. Is (are) there any relation(s) between pilot fatigue and the way pilots communicate in the Korean aviation context?
2. Does the hierarchical use of the Korean language aggravate pilot fatigue?

Methods and Data Analysis

Qualitative data will be collected through the contribution of the narrative approach from the participants to capture various opinions and experiences regarding the usage of linguistic politeness in the cockpit that could aggravate pilot fatigue within their national culture. Qualitative interviews are needed to discuss a set of topics in depth as the researcher has a general plan of inquiry, including the topics to be covered (Babbie, E. R., 2000:318).

Participants

Questionnaires and interview data will be collected from 10 to 15 Korean civil aviation pilots in Korea. The recruitment method will initiate from the researcher's personal contact as the researcher has personal connection with current Korean airline pilots and carry on via snowball sampling. The range of surveyed participants' age will be between thirty-three and sixty-five. All participants are proficient in understanding English in reading, listening, writing, and speaking. However, the interviews will be conducted under their comfortable language to delve deep into the fatigue related opinions to ensure that language does not become a barrier in explanation of personal opinions and experiences of the pilots.

Data

Interviews with participants will be recorded and transcribed with the consent of their agreement (See Appendix 2). Each of the interviews will be conducted within 30 to 60 minutes in a comfortable and reachable venue selected by the participants. In the case of failure to meet face to face, the interviews will be conducted under internet-based conversation software such as Skype, LINE or Kakaotalk. After initial contact with participants, e-mails will be sent out to each participant to set up a time, date, and public place, in order to conduct the interviews. Prior to engaging into the interview questions, the researcher will verbally explain and record the consent agreement with the participants alongside with a list of the survey questions regarding their work and daily routine(s). Followed by their agreement, the researcher will answer the

participants' concerns or questions regarding the interview or pause at any time during the meeting if they feel any discomfort. Prior to the interview questions, focus will be given on building rapport so that participants and the researcher can put themselves at ease and make the rest of the interview flow smoothly. Finally, at the end of the interview, the researcher will bring up an optional question of firsthand exploitation on cultural hierarchy system in the cockpit, with no obligation of needing to answer the question. Subsequently, the researcher will remind the participants about confidentiality and their rights to withdraw from the study at any point.

Timeline for Completion

1. Completing the literature review (begun in the fall semester of 2018) about pilot fatigue and national culture; identify the factors and causes of pilot fatigue; identify the distinctive factor(s) compared to Korean pilot fatigue and Euro-American pilot fatigue; measuring national culture among Korean pilots by using the Hofstede's scales and identifying distinctive pilot fatigue that exist only in Korean pilots. (End of January)
2. Conducting interviews and survey data. (End of February)
3. Analyze the qualitative data (survey data and interviews). (End of March)
4. Conclude a set of recommendations and feedback from supervisor(s) and write. (End of April)

Expected outcomes of the research

This research aims to furnish the upmost and cultural information for future references and research. This research is a qualitative content analysis of interviews of Korean airline pilots. This research will allow the researcher to fill in the gap of sustainability in aviation literature for future references and researches; identify the distinctive fatigue factors that only exist among Korean pilots by obtaining samples from Korean pilots. The researcher will dedicate himself to every stage of the process, from development of a concrete research question to the final write-up. The researcher is deeply dedicated and motivated in conducting this research as he will pursue his career as an airline pilot in the near future. Because of this combination of professional and personal interest in the research, the researcher believes his participation will give him deep satisfaction at uncovering the answers to some interesting and perplexing findings.

The researcher will be working closely with his supervisor(s) to conduct this research. In addition, the researcher will structure the questionnaires and interview questions by referring to online resources, books and feedbacks from his supervisor(s).

References

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