



ORGANISATION SCIENTIFIQUE ET TECHNIQUE INTERNATIONALE DU VOL À VOILE



ISTANBUL AYDIN
UNIVERSITY



TURKISH AERONAUTICAL
ASSOCIATION



ISTANBUL TECHNICAL
UNIVERSITY



TURKISH STATE
METEOROLOGICAL SERVICE

OSTIV 2013, Meteorological Panel

20-21 September, 2013

WMO Regional Training Center, Alanya / Antalya-Turkey

FLIGHT PSYCHOLOGY and FLIGHT PHYSIOLOGY

SEÇİL ULUFER, Head of Civil Aviation Cabin Service Program

ŞÜKRÜ EMİR ÖZORPAK, Eurodesk Turkey Coordinatorship

Istanbul Aydın University Florya Campus İnönü Str.No:40 Sefaköy-

Küçükçekmece/İSTANBUL

FLIGHT PSYCHOLOGY and FLIGHT PHYSIOLOGY

Because it is the symbol of freedom, flying has attracted people from past to present. In order to be able to free and to feel eternity in the sky, until today, many people have tried to fly with different techniques. The planes which were ones used as a war tool, were then started to be used in transportation and their importance was enhanced gradually. Thus, aviation became a great sector in itself. The flight which is a field all by itself, has both positive and negative effects on people. People should be knowledgeable with these effects of this sector which arouses a strong interest and according to these effects they should begin to prepare in their own way.

Flight psychology occurs with different effects on people. Besides the pleasant feelings that it evokes, we can also see personally negative reactions. The most important example of this is aviophobia. Nowadays, transportation by air is an ominous case for some people. While it supplies some easiness to people, transportation by air also occurs as an ominous factor because of lack of control, acrophobia, claustrophobia and the thought of less chance of survival in the case of emergency. Apart from this, flight is an extra contradiction to the people who are acrophobic. However, we have to deal with this broadly. Avoidance from aircraft is some sort of solution if you have aviophobia. However this situation is completely different for the staffs who make flights as a profession.

Because they;

- 1- Undergo training for a long time in the field of aviation industry.
- 2- Carry out a serious working schedule by experimentations and experiential learning methods.
- 3- Take exams by clinching all these experiences and trainings with each other.
- 4- Are supposed to be successful in these examinations.

Most of the staffs can't give their job up so readily because all these trainings are regularized sequentially and extended over a period of time.

In fact, having such a fear in an overt or covert way, is the gospel truth for the flight attendants. Because the people who deal with unusual professions and notice that they are under risk, can show such reactions like timidity and fear. These feelings, generally, can be said for all of the people but the flight crews do not like fear in general and they oppose to admit it. Because they are aware of the importance of their job and know that they will spend life on it. Flight attendants who fear may run into many troubles because of lack of motivation and insufficient defense. These people either try to subdue their fear for a long time or experience a lot of different fears like behavior disorders, interpersonal communication disorders, excessive use of alcohol, tension and stressful reactions. There is a special treatment strategy for these people. Because aviation has a high importance, flight surgeons have been started to be educated after World war 1. They received support from Dr. Kaver who was the flight surgeon of Germans. It was observed that flight attendants feel less fear with the help of this treatment method in a period of time. Today, many countries provide training in order to provide expertise on this issue. Because the flight psychology should be kept separate from normal psychology issues. Therefore, the people who provide flight psychology trainings should study in a different area of expertise. Preparing for the flight psychology sometimes requires to keep away from a lot of events around. Any negative event, can endanger the flight. The psychology of the flight attendants should always be positive because a sudden omission can create a big trouble. We shouldn't let the negative influences of any pre-flight events effect us. Because it requires a great care and accurateness to carry out responsibilities in a confined space within a period of time.

Among the critical situations related with the psychology of flight attendants;



STRESS: Stress includes everything that affects person in a negative way and decreases his performance. It can arise from both the person himself and the external effects. Although external factors are involuntary, the solution can be inside the person. Our view is broad for this issue for the flight attendants. Because stress can be observed at different degrees in all people in the World. However, flight attendants are also face with pressure, heat changes and hard flight situations apart from familial, financial and professional problems. When all these cluster, stress pressure effects more. The people who can't deal with these problems encounter behavior disorders, psychosomatic disorders and psychological breakdown.

These people should avoid the situations like cigarette, alcohol, unhealthy nutrition, irregular sleep, distractibility, focus problems, irrational drug usage.

As an example, the performance of the flight attendants who didn't get enough sleep or quarreled with their families, decreases. This can endanger the flight. In fact, stress is an ordinary case. Anticipating a stress-free life is not possible. However, we shouldn't be under control of stress but we should keep it under control. We shouldn't forget that low degree stress generally helps person from the viewpoint of motivation, discipline and a serious work and we have to adjust its proportion.

CONFRONTATIONAL- COMPETITIVE and PERFECTIONIST Personality Characteristics:



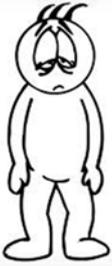
The people who hold these personality characteristics aren't accessible to differences and various alternatives. Generally, they think that they know the best and the truest. However, flight attendants are crews and all of them are on team work. No one can act without others. Everybody should Show respect to other's ideas and work in order and act in line with the consensus. The thought of ' my idea is the best' mostly harms person and causes a damage to the company and everyone who Works together. In such cases one should always keep cool, overthink the issues and act in accordance with the plan. Each decision that is applied together will improve individuals' motivation and steady the feeling to be sure of oneself.



RAGE – ANGER and CONTROL PROBLEMS:

Rage shows the decrease of the patience. Lashing out at somebody is a conclusion of rage. It is impossible to zone out the challenges that flight attendants are exposed. Sometimes they have to discharge the responsibility in a confined space in a short time. Disruption that they face with can cause delay in other Works. In such cases, they can lose their control. In such cases person should use his patience carefully. Especially, in aviation, one should always keep cool. Because rage causes limitations in problem solving ability and causes waste of time to grasp the nettle and to get to the root of the problem.

FLIGHT PHYSIOLOGY



FATIGUE: In aviation there is a psychological fatigue besides physical fatigue. The physical fatigue can go away when the person has some rest, but psychological fatigue is more serious. It is the outstanding cause of distractibility. The people whose profession is related to aviation confront with some psychological problems because of the hardship of their job. In order to deal with this, they should prefer a regular, a planned life in accordance with the differences that their job owns. In addition, they should join some funny sport activities. Although they carry out this for a short period of time, these activities will help the motivation.



FORM: In order to increase the oxygen usages of the tissues, speed up the circulation, open vessels and decrease the body fat doing some regular exercises are needed. It is for sure that flight attendants' inconstancy within the context of place, time and location is normal, but sports effect their life in a positive way; thus, doing sports without exerting themselves, will effect their psychology in a positive way. It will make them feel fit and in this way they will have a lot of facilities in their dynamic career. Especially, form of the flight attendants, who make an effort should be high.



MEDICINE: Flight personnel are not allowed to take medicine before flight because every medicine has side effects at the least. If these side effects emerge during the duty in-flight, they may encounter big problems. Therefore no medicine including painkiller should be taken before flight. If any health problem occurs before flight, necessary precautions should be taken.



CIGARETTE: Tar in tobacco causes throat and lung cancer, nicotine and venicotine cause vascular diseases. When carbon monoxide combines with blood, it causes very serious problems. At the same time, in the performance of a smoker, continuous decreases are observed. Especially flight personnel who are constantly under different pressure should be more cautious about this matter. In order not to have a respiration problem, one should continually do breathing exercises, not smoke cigarette and keep away from negative conditions which may affect health.



NUTRITION: Every flight personnel should have a balanced diet. Therefore flight personnel are not allowed to have a heavy diet or fast and they can never skip a meal since performance is in direct proportion to nutrition. If nutrition is poor, it causes some problems like hypotension and low blood glucose. One should pay attention to liquid consumption in case body is dehydrated, one should keep away from high-calorie and flatulent foods because of atmospheric pressure and take care of taking vitamin, protein and mineral. Especially in the breaks between flights, starchy foods are suggested as they give energy and mix with blood quickly.

When we examine aviation generally, we see that there are some aviation illnesses. Some of these are:



JET – LAG: Jet-Lag is a syndrome which emerges in people who come long distances in a short time because of time differences and which affects the biologic order of people badly. It generally emerges in intercontinental and transoceanic flights. It could be defined as the disturbing of person's balance by a lot of conditions like the time difference of the place you are in and its geographical position. Jet-Lag has symptoms like disturbed sleep and eating pattern, various headaches, fatigue, anorexia, indisposition, blurred vision, various physical aches, perspiration and problem in time perception. The effects of Jet-Lag are mostly seen in the flights to the east because time zones increase while flying to the east, and as a result, people have the first day shorter than 24 hours in the city they reach.



HYPOXIA: Hypoxia is a dysfunction occurring in blood, cells and tissues as a result of anoxia. It is an acute syndrome in aviation taking place by inhaling inadequate oxygen, thus it is an element of anxiety for pilots. Among the factors which affect hypoxia, there are altitude, the time spent in altitude, rate of elevation and personal factors. In case of hypoxia, the person should be given oxygen, if the illness is discovered in critical conditions, it may cause very serious problems up to black out.



HYPERVENTILATION: It is an abnormal increase in the number and depth of inhalation, briefly; it is to inhale more frequently and deeply than necessary. It has many symptoms like pins and needles in body, muscle contractions, hearing problems, visual impairments and a feeling of faint. One should do regular breathing exercises and try to keep breath under control. Its treatment method is the same with that of hypoxia. Oxygen system should be controlled and normal respiration order should be protected.



VERTIGO (SPATIAL DISORIENTATION): Human balance is provided by 3 systems. These are: Vision system, vestibular (inner ear) system, proprioceptive (deep feeling and subcutaneous sense) system. In foreign surroundings like air and space, in cloud or mist, these balance rates may sometimes show difference and this causes some illusions. Pilots encounter this situation many times in their flight lives. It emerges as a result of the weakness of a pilot's vestibular balance system in inner ear. In order to prevent this, head is kept fixed, cruise mode is activated and control is transferred to automatic pilot or the other pilot if available.



AIRSICKNESS (MOTION SICKNESS): Stomach disorder, paleness, light-headedness, cold perspiration, ptyalism, nausea, vomiting and fatigue are the most important symptoms of this illness. When such a situation takes place, patient is lain back, enabled not to move and to give cool air to patient's face would be beneficial. People who think that they may experience such a situation should prefer plane's waist since the acceleration force affecting human body is more powerful in boat tail than in waist. This disorder is observed more often in women. This sensitivity is thought to be about endocrine system. Some researchers have brought out that especially in their menstruation period women are more affected because of hormonal changes.

Apart from this, it has been observed that physiologically women flight personnel are slightly different than men. The situations which affect the performances of women flight teams could be explained as:



Aging: It has been observed that within years women flight teams are aged more severely and quickly in physical terms, that there are more muscle aches in those who carry out their duties constantly on foot and that fatigue and its effects are found more in women than in men.



Menstruation conditions: Formerly women flight teams were constrained from flight in their menstruation period but today there is not such limitation. During dysmenorrhea showing itself within the first three days of menstruation, there may be painful cramps related to the expansion of stomach gases in altitude but there are medicines available which prevent this and are not going to obstruct flight.



Endurance to stress during flight: Women are generally more endurable to altitude illness, chronic hypoxia and low temperatures but decompression illness is more frequently found in women than in men in relation to the surplus in body fat index. In addition to this, women are known to be more sensitive to airsickness.

If we generally deal with the issue, Flight Physiology and Flight Psychology have a separate area of specialization. Even if planes are used as the most reliable means of transport in the infinity of air or people are somehow within the aviation sector (glider, air taxi, flight school, air ambulance etc.) as conscious individuals, we must act insofar as our health permits and in accordance with what we can do.

We must know all health conditions required by flight, go for check-up periodically and always be ready for every situation we will be in. From time to time we should attend refreshing seminars and courses about medical issues. We should not forget this:

"Flying freely necessitates a confident health."



ORGANISATION SCIENTIFIQUE ET TECHNIQUE INTERNATIONALE DU VOL À VOILE



ISTANBUL AYDIN
UNIVERSITY



TURKISH AERONAUTICAL
ASSOCIATION



ISTANBUL TECHNICAL
UNIVERSITY



TURKISH STATE
METEOROLOGICAL SERVICE

OSTIV 2013, Meteorological Panel

20-21 September, 2013

WMO Regional Training Center, Alanya / Antalya-Turkey

SEÇİL ULUFER, secilulufer@aydin.edu.tr

ŞÜKRÜ EMİR ÖZORPAK, sukruozorpak@aydin.edu.tr

Istanbul Aydın University , Florya Campus İnönü Str.No:40 Sefaköy-
Küçükçekmece/İSTANBUL

THANK YOU !!!!