Motivation for flying in military aircrew: A review

Dr Catherine Joseph*, Dr. Ganesh A+

ABSTRACT

Motivation refers to the driving and pulling forces, which result in persistent behaviour directed towards particular goals and which has been explained by various theories such as the drive, incentive, opponent process and optimal level theories. There are different types of motivation such as biological, social, intrinsic, extrinsic, self actualisation and motivation due to job satisfaction. Aeronautical motivation involves the desire to fly, the intensity and direction of which is geared towards flight safety. Motivation is made up of both emotional and cognitive components. It may be considered as a dynamic balance between positive and negative factors. Over a period of time, the pure emotional joy of flying gets to be balanced by a healthy fear of its inherent risk factors. In unhealthy motivation, flying may give rise to anxiety and a number of other psychological reasons may result in a flawed or pathological motivation. Birth order, life-changes and aviator personality characteristics are all factors which affect aeronautical motivation. Motivation can be measured using projective techniques, structured interviews, self report questionnaires and expert ratings based on observed behaviour. Presently there is no objective psychological test, which measures motivation to fly. Loss of motivation for flying can be manifested either as a primary or secondary process. In the primary condition, since there is no accompanying medical problem the aircrew is given an administrative disposal. The secondary process normally calls for medical disposal.

IJASM 2005; 49(2) : 57-67

Keywords: Aeronautical motivation, unhealthy motivation, measurement of motivation

In the military, aeronautical adaptability is a complex issue involving motivation to fly, ability to fly and emotional stability for a career in military aviation. Motivation along with the other two factors therefore have a direct bearing on flight safety, crew co-ordination and mission accomplishment. In most pilots motivation to fly is an important factor, which sustains safe and sterling performance throughout the flying career. However in a small minority of pilots, an atypical loss of motivation due to various reasons may degrade performance, and the pilots may become disinterested in flying. Twelve such cases of “lack of motivation” or “loss of confidence” in fighter flying have been documented and evaluated at Institute of Aerospace Medicine, IAF in the last decade. Motivation for flying can also change after a medical disease/disability. Some other cases may go unreported in the field and therefore the exact statistics of the number of IAF pilots disposed because of this condition is unavailable. However, it is evident that even a small number of such pilots is enough for the country to incur monetary losses of crores of rupees spent on expensive flying training for each of them. More importantly, they

* Scientist 'E', Professor and Head
Department of Aviation Psychology
Institute of Aerospace Medicine, IAF, Bangalore – 560 017

+ Resident, Institute of Aerospace Medicine, IAF, Bangalore-560017
also pose safety hazards as degraded performance is likely to affect the efficiency and safety of flight operations. An important factor influencing sustained motivation is the method of allocation of different streams at trifurcation, during training. This allocation is carried out predominantly on the basis of flying ability. Even though each cadet is allowed to give his/her personal choice, such choice of a stream is not documented. Motivation of these pilots to some extent, is likely to be dependent on whether the allocation matched their personal choice or not. This paper examines the present state of knowledge in the field of motivation to fly in military aircrew.

**THEORIES OF GENERAL MOTIVATION**

Motivation refers to the driving and pulling forces, which result in persistent behaviour directed towards particular goals [1]. Traditionally motivation has been defined by two dimensions which are, energy and direction [2]. The energy dimension of motivation is the driving force behind someone’s effort and persistence during engagement in a particular activity. Direction of motivation determines the area or field of interest in which that effort is projected. Both are necessary elements of a complete motivational act. Energy without direction has no purpose and direction without energy results in a state of amotivation.

The drive theories of motivation contend that behaviour is pushed towards goals by internal drive states within the person. Goal directed behaviour is initiated by a drive state which leads to the attainment of an appropriate goal, leading to the reduction of the drive state and producing subjective satisfaction and relief when the goal is reached. In time the drive state builds up again to push behaviour towards the appropriate goal. This is called the motivational cycle. In contrast the incentive theories say that the goal objects or incentives pull behaviour towards them. The individual expects pleasure from the attainment of positive incentives and avoidance from the negative incentives. The opponent process theory says that individuals are motivated to seek goals, which result in good emotional feelings, and goals resulting in displeasure are avoided. Many emotional motivating states are followed by opposing or opposite states. The optimal level theories contend that behaviour is directed towards seeking an optimal level of arousal or a balanced homeostatic state in internal physiological processes [1].

**Types of Motivation**

(a) **Biological and social motivation.** Biological motives such as hunger, thirst and sex have their origins in the physiological state of the body. These motives can be aroused by departures from the balanced homeostatic levels of bodily processes by certain hormones or by sensory stimuli. Social motives are learned motives that involve other people. According to McClelland’s trichotomy of needs there are three types of social motives- need for achievement, need for affiliation and need for power. Need for achievement is a need to accomplish and demonstrate competence or mastery in a field. A person who as an ongoing process asks for and masters increasingly difficult tasks, shows the need for achievement. Need for affiliation is a need for love and belonging, which is seen in persons who seek jobs high in social interaction. Need for power is a need for control over one’s own work or the work of others. The people who insist on autonomy in their work or who seek supervisory responsibilities show the need for power. The detailed attributes of these three types of people are outlined elsewhere [3].
These manifest needs have been studied in aircrew using the Edward’s Personal Preference Schedule (EPPS) and has been explained in more detail previously [3,4]. The majority of studies have found aircrew high on achievement and power and low on affiliation. Results of a current Indian study [3] indicated that a significant majority of aircrew assigned the needs for achievement and affiliation almost equally in first and second positions. Another recent study [4] found Indian military pilots are lower on their need for achievement and higher than US pilots on their need for affiliation. These findings could be because of cultural differences. The importance of achievement and individualism is higher in the US culture compared to Indian society. On the other hand the Indian society places more emphasis on affiliation. The self, once it is shaped by culture directs behaviour and gives meaning to a person’s life experience including motivation [5]. People in individualistic cultures (e.g. North Americans and Europeans) base their self-view on the characteristics that make them unique. They view themselves as distinct, autonomous and self-reliant. Personal achievement and self-assertion are valued. In contrast, people in collectivist cultures (e.g. Asia, Africa and Latin America) base their self-view on their interdependence with others. Harmony and connection with others are emphasized and bringing honour to the group is more strongly linked to self-esteem. To what extent this cultural variation could aggravate lack of motivation for flying, is a topic for future research. Two groups of pilots- one of high performers and the other of low performers need to be compared to observe whether they differ on achievement, affiliation and power.

(b) Intrinsic and extrinsic motivation. Researchers have categorized various types of motivation, based on whether the motivational states are internally or externally derived. These two global motivational states are called intrinsic and extrinsic motivational states. Deci and Ryan [2,6] and Ryan and Deci [7] theorized about both intrinsic and extrinsic motivational states and about correlates of those states. In their self-determination theory, they defined intrinsic motivation as originating from within the self and fulfilling the psychological needs for autonomy and optimal challenge [2]. States of intrinsic motivation are highly self-rewarding and are described as enjoyable, satisfying, challenging, exhilarating and exciting. Intrinsic motivation has been positively related to task persistence, task enjoyment and task performance in laboratory studies.

Extrinsic motivation occurs when tasks are not freely chosen or are not optimally challenging [2]. These authors elaborated on various forms that extrinsic motivation can take. This typology refers to the levels of regulation ranging from completely external to more self-determined. At the lowest level of external regulation, behaviour is engaged in as a result of direct coercion or pressure. When this is withdrawn, participation ceases. At the next level of regulation one is said to be in a state of introjected regulation. Introjection occurs when the individual acts to gain approval or to alleviate guilt or anxiety. Behavioural regulation becomes internalized and is less contingent on direct coercion by others. Extrinsic motivation was related to less task persistence, more negative effect and even lower levels of self esteem. The third level of self regulation is referred to as identification when behaviour is engaged in, because it meets the individual’s future plans or goals. No external force is
necessary at this point to determine behaviour. This stage marks the beginning of self-determination. One study examined the relationship between pilot motivation and flight performance in student pilots. Predictions about motivation-performance relationships were based on intrinsic-extrinsic motivation distinctions. Results indicated that there was a robust relationship between motivation and performance, in that the greater the number of student cancellations during a course of training, the lower the student performance in actual flight training [8].

(c) Self actualisation motivation. Maslow stated that individuals have five types of needs arranged in a hierarchy from the most basic to the highest level; physiological, safety, belongingness and love, esteem and self actualization [9]. Esteem needs relate to a person’s desire to master his or her own work, demonstrate competence and accomplishment, build a reputation as an outstanding performer, hold a position of prestige and feel self esteem. Self actualization needs reflect an individual’s desire to develop his or her fullest potential. In his scheme, the lowest unsatisfied need becomes the prepotent or the most powerful and significant need. The prepotent need motivates an individual to act to fulfill it; satisfied needs do not motivate. Maslow pointed out that the hierarchy is dynamic; the dominant need is always shifting.

(d) Motivation due to job satisfaction. Herzberg and his associates suggest that motivators, features of a job’s content, including responsibility, autonomy, self esteem and self actualization opportunities are factors that satisfy higher order needs, motivate a person to exert more effort, and hence encourage a person to perform better. Hygiene factors i.e. factors that can meet physiological, security or social needs, including physical working conditions, salary, company policies and practices, benefits or other features of a job’s content satisfy the lower order needs and prevent dissatisfaction. There are two independent outcome dimensions; no satisfaction-satisfaction, which is addressed by motivators and dissatisfaction-no dissatisfaction which is addressed by hygiene factors. A single dimension does not exist. This two factor theory focuses on increasing overall satisfaction rather than relying on meeting individual needs. It is primarily the motivators that serve to bring about the kind of job satisfaction and the kind of improvement of performance that industry seeks from its work force.

Hygiene factors do not encourage individuals to exert more effort, in part because they have been relatively available in organizations. But hygiene factors must be addressed first to bring the individual to a point of no dissatisfaction; so that motivators can then increase satisfaction and ultimately motivate. In the military organization these factors must be looked into, if fighter pilots are to be motivated to stay on in their stream and not change to the transport/ helicopter/ ground-duty streams. Hygiene factors need to be considered seriously; otherwise military pilots are also likely to shift over to civil flying where hygiene factors are so much more attractive. The military organization can attempt to meet individuals’ needs through good leadership and designs of both the reward system and jobs. Changes in a job’s content through increasing challenge, autonomy and responsibility, address the higher order needs of esteem, achievement and growth. Changes in the reward system such as pay and new benefits influence the lower level physiological and security
needs. Pay is a particularly powerful organizational change, it can meet both lower order and higher order needs.

**Aeronautical Motivation**

Aeronautical motivation involves the desire to fly; and this, along with ability and stability are considered as positive attributes of a good flier [10]. There are two aspects of this motivation that are important. Firstly the intensity or zeal to observe, organize, control and stay aware of the situation in flight and to learn more about aviation and safety. Secondly, direction which is equally important. Motivation should be directed to flight-safety, as opposed to other goals including commitment to flying, adventure, peer admiration, competition and so forth [11]. Elsewhere, aeronautical motivation has been described as a mental force capable of directing drives and inducing specific behaviours. Motivated behaviours are selective, active and persistent. They increase in intensity according to deprivation and they tend to keep internal balance and harmony with the environment [12]. They operate at the conscious, preconscious and unconscious levels.

**Healthy and Unhealthy Motivation to Fly**

Young fliers may be truly fearless either because they do not understand the dangers of flight or they can consider them only as abstractions. As these realities are understood early in their flying careers through their own near misses, or through the death of their friends in aircraft accidents, the fears become part of their emotional lives and must be dealt with differently. These fliers must move from the fearlessness of those who do not understand the truth of the matter, to the courage of those who understand it well and choose, even so, to continue to fly. Experienced fliers deal with their feelings about these real dangers by defence coping mechanisms, which usually include a combination of denial, humour, suppression, intellectualization and rationalization [13]. Unhealthy ones are reaction formation, evasion, displacement and isolation [12].

Fliers are not afraid to fly because of the pure joy they derive from flying, the amount of anxiety mixed with natural fear, the extent to which the fliers’ defences have been challenged by circumstance and the adequacy and maturity of the fliers’ psychic defenses. The emotion of joy is always present in the personal memories of fliers. This joy has a sense of power, control and freedom. Flying affords an opportunity for a person to experience a ‘three-dimensional freedom’ like that of a bird. This is not within the reach of a non-flier. The sense is one of mastery and is so basic as approaching a physical sensation [13].

The motivation to fly usually begins at an early age in the form of converting fear to thrill. While it can initially be counter phobic, it must eventually be transformed to thrill and/or joy. This learned ability is positively reinforced with further mastery and eventually becomes a second nature. Cognitive, social and intrapsychic factors further add to the motivation to choose aviation as a career. The dangers and hardships of a career in aviation must be out-weighed by its joy and benefits.

There is no technological aid, which helps pilots fully adapt their minds to atypical flying conditions. They must rely on their own psychic resources i.e. aeronautical motivation in the three levels of consciousness and defence mechanisms to counteract their aeronautical anxiety. According to Patt [12], various relationships of motivation and defence give rise to the Flying Adaptation
Motivation for flying: Joseph & Ganesh

Syndrome (FAS) or various forms of flying disadaptation syndromes when pilots must face the dangers of flight. FAS = aeronautical motivation x defence mechanisms/ aeronautical anxiety. These alterations of psychic balance may cause temporary or permanent disqualification due to the impairment of safety which they provoke.

Aeronautical motivation is made up of both emotional and cognitive components. For most fliers it is a combination of both; but one will be dominant. Motivation may be considered a dynamic balance between such positive factors as joy, emotional meaning and coping skills and such negative factors such as fear, anxiety and anticipated or experienced danger. Other factors such as financial rewards, social status and opportunities for travel may also apply but these are generally not the basis for psychological difficulties in the military. The pure emotional joy of flying is balanced by a healthy fear of its true dangers. Flying may also give rise to anxiety if these elements are threatened. Finally, the flier’s coping skills involved in basic resilience, hardiness and stress tolerance maybe be overcome by the actual dangers of flight as encountered in near-misses and mishaps involving self or friends or in combat situations where complete control is impossible [12,13].

Some fliers choose to fly not so much because they love it, but on a more rational, less emotional basis; it’s a good job, with many benefits. Such ‘rational choice’ fliers are not as emotional about flying. They may quit more easily, without much internal struggle when they are overwhelmed about the real dangers of flight.

Some fliers have flawed or pathological motivation to fly which may include living out a parent’s fantasy, becoming more powerful than a parent, because of low self-esteem and inferiority, attempts to fulfill the desires of others, proving that they are not afraid, risk taking in search of thrills or neurotic drives arising from early childhood experiences involving power, control, authority and similar issues. Such pathological motivations contrast with the healthy motivational factors, and may underlie significant symptoms that lead to ineffective or dangerous flying behaviours, which may cause administrative disqualification if no diagnosable psychopathology is present. Weak or flawed motivation, or poor defences against the real dangers of flying, may be recognized during flying training, where they are termed “manifestations of apprehension” or in operational flying, where they may present as an emergent or acquired fear of flying.

Applicants for flying training have usually thought of becoming pilots since latency or adolescence. In adulthood, flying training is viewed as a growth experience and a step towards autonomy. This normal motive should be contrasted with impulsive and short-lived decisions to enter flying school. Such persons may enter aviation because of family problems, or to escape work, school or romance; their motivation is often evanescent [14].

A pilot with healthy motivation must have the ability to recognize the real dangers of flying and the realistic demands of flight training and have the ability to transform the aggressive drives into well-calculated risk taking. Other factors are that he/she never contemplated a non aviation career, accepts implications of combat flying (being killed, killing enemies and civilians) and has a supportive family. The family or spouse’s attitude can influence an aviator’s career in either direction.

Historical clues to healthy motivation to fly are long-standing desire to fly, participation in
aviation related activities, having an aviator role model and participation and involvement in risky hobbies. Past behaviour also predicts success in aviation. Good impulse control, good track record of accomplishments, healthy stress coping skills, group participation and leadership skills are predictive factors.

Factors Affecting Aeronautical Motivation

(a) Birth order. Motivation for aviation is strongly determined by the influence of birth order on personality development. Reinhardt observed that most superior jet aircraft pilots were first-born children with unusually close father-son relationships [16].

(b) Life changes. A specific flier’s proportion of emotional and cognitive elements may change with age, experience and other life factors such as marriage, children and other events of a normal life. For an individual flier, the answer to the question “what do you tell yourself about the dangers of flying?” change from one decade of his/her life to another, as well as after certain life events such as a mishap or an illness. Pilots progress through four stages; glamorous years (22-24 years), years of increasing caution (24-28 years), controlled fear of flying (30-38 years) and the safe years (after 38 years) [15].

(c) Aviator characteristics. Such personality characteristics as calculated risk taking also influences motivation. When these people succeed they enjoy the status of successful risk takers, and their image is advanced in their own eyes, others’ eyes and in the eyes of their peers [14]. Aviators are commonly accident and injury free by virtue of this ability to only take well-calculated risks. They are physically and mentally healthy and are usually free of intrapsychic and interpersonal conflicts. Confidence and autonomy are a common finding; they enjoy mastery of complex devices and are achievement oriented. They are team players, emotionally controlled and have unconflicted relationship with peers. Some specific psychological characteristics are that aviators avoid and deny difficulties and ambiguity; they externalize personal problems. Pioneer aviators were described as having little or no introspection but contemporary ones are capable of introspecting. They are compulsive (not impulsive), driven and have a healthy dose of narcissism.

Reinhardt carried out psychological testing of some outstanding jet aviators [16]. From the Maudsley Personality Inventory he concluded that the majority were extroverted and had low neurotic traits. The EPPS revealed that they desire success, score high on achievement and consider it undesirable to give or to accept help, accept blame and introspect. Their Minnesota Multiphasic Personality Inventory (MMPI) showed primarily high energy and self-esteem. Clinically he found most of his study group to be physically fit, thin, warm, direct, easy going, candid, graceful and comfortable. Certain negative personality traits were also observed. They avoid interpersonal relationships, keep an emotional distance, isolate affect and rarely mention relationships with females. They prefer to be very independent, autonomous, focus on external events and use rational (versus emotional) problem solving skills.

Retzlaff and Gibertini [17] studied aviation students who completed flight training and identified three groups. The first group they called the right stuff, which comprised individuals who were identical with Reinhardt’s outstanding jet aviator possessing strong traits of aggression, dominance and playfulness. The second group was OK stuff included individuals who were motivated,
EVALUATION OF MOTIVATION TO FLY

Motivation can be measured in a variety of ways, including projective techniques, self report surveys or questionnaires, expert ratings based on observed behaviour and objective measures of behaviour. A projective test known as the “TAT Aero” was devised by Dr Hadni in 1970 and was used for understanding cases of pilots presenting with loss of professional motivation [18]. However it was not considered accurate enough and the test was not commercially available. The second and third methods are also subjective and may involve asking the participants questions regarding the extent to which they like to engage in a particular behaviour or the extent to which performing certain tasks may lead to desired outcomes. Measurement of three social motives i.e., achievement, affiliation and power is carried out because previous research has shown that pilots who were successful and outstanding in their jobs expressed a greater need for achievement. However, this is an indirect measure, which may not reflect motivation to fly. It has been found that when answering questionnaires, aircrew have distinctive test taking response styles, which correlate with positive personality traits [19]. The high motivation of aviators may lead to “reverse malingering”; a tendency not to report symptoms, signs or traits lest it might medically disqualify or ‘ground’ them from flying duties, temporarily or permanently [10].

Certain authors have contended that the method for assessing motivation for flying should be by means of a structured interview [20, 13]. Questions are asked regarding when the pilot first became interested in flying, why he/she wants to fly, what fears are there when they think about flying, what their friends and family think about his/her flying career, what is thought about the risks, goals for the future and what would happen if he/she could not fly [20]. When there are psychosomatic symptoms arising from anxiety Jones has proposed that three questions be asked, “what do you think will happen if you continue to fly with this problem?”, “will you fly after we fix you up?” and “what do you think about this problem?”. The way the pilot answers these questions can help the clinician decide about motivation to fly [13]. Some authors have even suggested that "sensitivity to counter transferential feelings provides the best diagnostic tool in examining basically healthy individuals”[14]. However, these methods are subjective and this is their main shortcoming. Objective tests would be more reliable and valid.

Squadron and Flight Commanders and seniors can assess junior pilots for motivation for flying with the help of three parameters:-

(a) **Attitude to flying.** Includes keenness to fly, the interest one takes in learning various aspects of flying, flying discipline and flight safety record

(b) **Present performance.** This is measured by observing how the pilot performs various flying exercises, briefing and debriefing standards, gunnery and cine scores and knowledge of ground subjects

(c) **Flying record.** This includes the number of solo hours flown on type and total solo hours and flying qualifications with respect to his/her years
of service. This evaluation must be included in the executive report so that it provides necessary information for the clinician to evaluate such cases.

More objective techniques are available to measure general motivation, such as counting the number of times an expected behaviour is neglected or implementing controlled laboratory studies in which behaviours related to motivation are manipulated to determine measureable changes in behaviour. Performance is seen as an outcome of a motivated act [8]. An objective clinical test for ‘motivation to fly’ does not presently exist either in India or abroad. This needs to be developed. For this, motivation, ability and stability need to be measured in the top thirty percent of high performers in current flying and compared with the bottom thirty percent of current fliers. This will help in identifying the important factors which govern motivation for flying. When these factors are identified they can be measured over time for their predictive validity in a population of aviators. Objective tests for motivation for flying can then be constructed. Of these, the questionnaires should also have an inbuilt scale for detecting and correcting for socially desirable responding.

**Manifestation and Differential Diagnosis**

There are basically two types of manifestation of loss of motivation for flying. The first is the loss of motivation in which the primary sign is the healthy aviator who has adequate ability and emotional stability but lacks the desire for flying. Various reasons could be attributed for this loss of interest and it may vary from a spouse/parent insisting that the aviator give up his/her flying, to disagreements with the authorities. The following case is typical and representative of this rare phenomenon in the IAF.

**Case Example**

A 28 year old Flight Lieutenant from the fighter stream was referred for loss of motivation and unsuitability for flying. He had five years of service with a total of 448 hours of flying experience. He was a MiG 21 pilot and was to change over to flying MiG 29. He was posted to a MiG 29 Squadron where he did three solo checks with the Commanding Officer and was then assessed to be unfit for solo flying on that aircraft. Therefore he was posted back to the MiG 21 Squadron. He did not agree with the MiG 29 Commanding Officer’s evaluation and put up a redress of grievance (ROG) against him. This ROG was not accepted citing that it was devoid of matter. The pilot subsequently put in an application for discharge from service. He expressed demotivation to fly and to continue in service. He had no health problem. On psychometric analysis his other personality functions were within normal limits. He lacked motivation for flying due to his thought patterns and perceptions that he insisted on adhering to. He was not open to counselling since he perceived that he had been wronged. The medical board considered him fully fit and the case was recommended for administrative/executive disposal.

The second type of manifestation happens in clinical conditions where the loss of motivation can be a secondary process in response to having some disease or some disability. Motivation for flying plays an important role in latent and manifest fear of flying [21], however in this condition the loss of motivation for flying is secondary to the fear. An analysis was done in the Department of Aviation Psychology at IAM, on aircrew who suffered from musculoskeletal disabilities. It was
found that in these physical conditions, emotional factors such as under/over developed affectional needs, emotional over reactivity and emotional over/under stimulation appeared to be influencing the recovery of the physical illness, sometimes also resulting in anxiety or somatization. Contrary to the common understanding of Aviation Medicine Specialists, generally the reduction of motivation was not more than what normally occurs in different stages of the pilots’ lives. Reduced motivation, if it was present, was secondary to the emotional issues. Management in such cases needs to address the emotional processes first, and pilots should not be branded as having lost their motivation to fly.

Disposal

Any aircrew who is referred with an executive report indicating low motivation for flying will be evaluated at IAM only along with a detailed report of the Commanding Officer, the Flight Commander and local Medical Officer or unit Aviation Medicine Specialist. The medical board will include all these reports in its proceedings. If no abnormality is detected the pilot will be awarded the medical category A1G1. Further disposal and employability of the aircrew will be as decided by the administrative/executive authority of IAF.

Conclusion

Motivation refers to the driving and pulling forces, which result in persistent behaviour directed towards particular goals and which has been explained by various theories such as the drive, incentive, opponent process and optimal level theories. There are different types of motivation such as biological, social, intrinsic, extrinsic, self actualization and motivation due to job satisfaction. Previous studies have found aircrew high on the social motives of achievement and power and low on affiliation. However recent studies done on Indian military pilots have shown a cultural variation; they were lower on achievement and higher on affiliation than the US pilots.

Aeronautical motivation involves the desire to fly, the intensity and direction of which are geared towards flight safety; and is made up of both emotional and cognitive components. It may be considered as a dynamic balance between such positive factors as joy, emotional meaning and defence coping skills and negative factors such as fear, anxiety and anticipated or experienced danger. Over a period of time the pure emotional joy of flying is balanced by a healthy fear for its real and concomitant dangers. In unhealthy motivation, flying may give rise to anxiety and a number of other psychological reasons may result in a flawed or pathological motivation. Birth order, life- changes and aviator personality characteristics are all factors, which affect aeronautical motivation. Motivation can be measured using projective techniques, structured interviews, self report questionnaires and expert ratings based on observed behaviour. Presently there is no objective psychological test, which measures motivation to fly. Loss of motivation for flying can be manifested either as a primary or secondary process. In the primary condition, since there is no accompanying medical problem the aircrew is given an administrative disposal. The secondary process generally calls for medical disposal.

References