

Loss of Motivation to Fly in Military Aircrew (Two Case Studies)

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Abstract

Two cases of primary and secondary loss of motivation in military aircrew are discussed. It can manifest as physical symptoms and diagnosis can only be confirmed after psychological interviewing and testing. In the military, aeronautical adaptability is a complex issue involving motivation to fly, ability to fly and emotional stability for a career in aviation. 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. 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.

IJASM 2014; 58(1): 15-20

Key Words: Aeronautical motivation, Intrinsic / Extrinsic factors, Evaluation.

Introduction

Adaptability for military aviation is a complex issue, which involves three psychological attributes; motivation to fly, ability to fly and emotional stability [1]. Clinical assessment has to include the understanding of these three facets. Motivation along with the other two factors therefore has a direct bearing on flight safety, crew co-ordination and mission accomplishment. 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 [2]. This condition ultimately results in attrition with the country having to incur monetary loss of crores of rupees spent on expensive flying training. Two such cases of lack of motivation in helicopter pilots were documented and evaluated at IAM, IAF in 2013. These two cases are presented in this paper.

Theoretical background

Motivation refers to the driving and pulling forces, which result in persistent behaviour directed towards particular goals [3]. Traditionally motivation

has been defined by two dimensions which are energy and direction [4].

McClelland's trichotomy of needs: 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. Need for affiliation is a need for love and belonging.

Need for power is a need for control over one's own work or the work of others. The majority of studies have found aircrew high on achievement and power and low on affiliation [2].

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 [4,5] and Ryan and Deci [6]

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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. Extrinsic motivation occurs when tasks are not freely chosen or are not optimally challenging. Predictions about motivation-performance relationships in aircrew have been based on intrinsic-extrinsic motivation distinctions [7, 8].

Aeronautical motivation

Aeronautical motivation involves the desire to fly. 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 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 [9]. 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 may 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. 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 [2].

Case Studies

CASE 1

A 32 year old male serving helicopter pilot with eight years of total service with 180 hours of total flying hours was a case of (i) Low Motivation for Flying (ii) Sensory Neural Hearing Loss.

The officer was commissioned in 2005 and served for 6 years as an infantry officer. He was inducted into Army Aviation in Nov 2009. He was flying since Nov 2009 and remained asymptomatic till Dec 2011. He got married in 2010 and spouse stayed with him in the same station. He reported to squadron medical officer with a complaint of heaviness in ears on exposure to aircraft noise and radio- telecommunication with ATC. A civil Pure-Tone Audiometry report showed a dip of 30 DB loss at 6,000 Hz in left ear when compared to 2009. He was recommended to continue flying with due precaution on exposure to loud noise. Though he was made fit by ENT specialist at AFCME he did not resume flying, but performed administrative duties as an Adjutant which was satisfactory. The officer then submitted a personal application for being reverted to parent arm. In his personal application he revealed that he was having pressing personal problems and felt uncomfortable to fly. He admitted that his wife was not supportive in his flying career and became extremely anxious every time

he flew. His family members i.e. both parents and in laws supported his wife and he opted to quit flying. He seemed to be influenced by an unusually dominant home front in professional matters. His wife's anxiety was aggravated after the death of one of his instructors in an aircraft accident. This had caused unrest in his marital life. Lack of cooperation from spouse and parents, the apprehension of impending hearing disability, and aspiration to be fighter as a infantry man demotivated him to continue flying. He was referred to IAM, IAF for further evaluation in ENT and for low motivation for flying. The executive report said that "he was reasonably motivated for flying initially but found flying extremely uncomfortable later on".

On examination, general and systemic examinations revealed no abnormality. ENT evaluation was clinically normal. Pure tone audiometry, BERA and speech audiometry tests revealed minimal hearing loss and he was made fit for flying with due precautions on exposure to noise as it did not compromise flight safety or his health.

Psychological evaluation for lack of motivation for flying included for the following tests- 16 Personality Factor test, Millon Clinical Multiaxial Inventory (MCMI) III, Work Need Assessment inventory (WNAI) and Rorschach Ink Blot test. The officer was cooperative throughout the interview and testing. Three sessions were held. Rapport was well established, communication was good and mood was sad at times. On 16 PF he perceived himself as an assertive, expedient, suspicious, shrewd, having undisciplined self conflict and tense person. On WNAI his order of priority needs were the needs for power, achievement and affiliation. On MCMI all scales were non-significant for clinical syndromes and severe personality pathology. The personality pattern was narcissistic (score-104) and histrionic (score-86) in nature. Rorschach protocol revealed under generalisation

and over differentiation of perceptual experiences and introverted tilt. Overall impression was unhealthy motivation to fly and it was felt that he may not be put back in the cockpit.

CASE 2

30 year old married, female, helicopter pilot with 8 years of service and 1100 hours of total flying on Chetak and Cheetah was an old case of 1) Low backache (Myofascial syndrome) 2) Type II Diabetes mellitus 3) Secondary loss of motivation for flying and 4) overweight.

The officer was commissioned in 2005, got married to a flying pilot in 2006 and has a two year old son. She had a long tenure of 6 years at her first unit and posted to second unit in Jan 2012. She was apparently normal and healthy till April 2011, when she developed low back ache, which was insidious in onset and aggravated following a fall from staircase in March 2012. She was treated conservatively and all her reports were within normal limits including Xray spine and MRI. She was observed in ground Medical Category for one year. The present evaluation by rheumatologist and neurosurgeon revealed no clinical, radiological, or functional abnormality and there was no evidence of spondyloarthropathy or myofascial syndrome. She remained asymptomatic even with moderate to severe exercise and tolerated the vibration stress test without any symptoms for 25 minutes. It was then diagnosed as a case of mechanical low backache and was recommended to be upgraded to full flying status.

Incidentally, during the present medical board she was detected to have Type II Diabetes mellitus on biochemical evaluation(blood sugar (Fasting)- 123mg/dl and post prandial sugar- 225mg/dl) and she was overweight by 25.8%.

The executive report suggested that her flying

qualification and experience were not commensurate with flying hours. The low quantum of flying was attributed to her low medical category and low motivation for flying caused by personal reasons. She was regularly counseled to get back to flying but did not do so. Her performance in administrative duties that involved good amount of work was satisfactory.

Psychological evaluation included WNAI, 16 PF test, and MCMI III. She was cooperative and rapport was well established. Communication was good and mood was normal. She could not satisfactorily explain why her number of flying hours and qualifications were lower than the expected level for a pilot of her number of years of service. She denied that she was unable to balance her personal and professional life. On WNAI her order of priority of needs was affiliation, achievement and power. On 16 PF Test she perceived herself as an assertive, trusting, forthright and conservative person. She was low on alert, poise and independence. All scales on MCMI were non significant for any clinical syndromes or severe personality pathology. The personality pattern was compulsive (score-77) and histrionic (score-60) in nature. It was opined personality and coping strategies did not provide her with enough psychological resources that a flying profession demanded as she had not been able to adequately balance her personal and professional roles. Therefore it was primarily her emotional suitability for the job which is inadequate, with the above situation also resulting in secondary loss of motivation.

Discussion

Two cases that manifested lack of motivation have been discussed. Case 1 showed primary loss of motivation and case 2 manifested secondary loss of motivation because of inadequate emotional suitability and poor coping strategies. Various

factors like age, life changes, and personality characteristics, flying history, intrinsic or extrinsic factors, healthy versus unhealthy motivation have to be considered when evaluating pilots with suspected loss of motivation.

Age

There is a normal change in motivation to fly with age [10]. Twenty two to twenty four years are considered the glamorous years where the pilot flies for the thrill and joy and denies the inherent dangers of flying. Twenty four to thirty years are considered years of increasing caution and starts to recognize the dangers of flying. Thirty to thirty eight years are the years of controlled fear of flying where his priorities in life change with diverse interests like military/civil career, marriage, family etc. He/she may become more cautious due to personal experiences/others experiences in incidents or accidents or death of fellow aviators in mishaps. More than the normal loss of motivation takes place 95% of the time during the 2nd and 3rd stages of flying. Both the pilots belonged to the 3rd stage of flying where they had begun to have diverse interests.

Life changes

Various life changes can affect ones flying career such as marriage, attitude of family, spouse, parents, children, physical illness and experience in mishaps [2]. In case1 the pilot did not want to fly because his wife and parents discouraged him to continue his flying career, he was influenced by this and could not take an independent decision. The family was even more affected after the death of one of his flying instructors in an aircraft accident. In case 2 the priorities of the pilot changed after marriage, childbirth and her illness.

Aviator characteristics- motivation and personality

The majority of studies have found aircrew

high on achievement and power and low on affiliation. In case 1, the pilot had his need priority as power, achievement and affiliation. He has a strong need to compete, dominate and to be totally in control of the situation. When he found that flying may not fulfill his needs, he wanted to revert back to a career in the infantry, and opted to quit an aviation career. In case 2, the lady officer had a dominant affiliation need as opposed to achievement. In addition to this she was emotionally less suitable without adequate coping skills. She has a compulsive and histrionic personality with a strong need for affiliation than achievement. While motivation to achieve as a military pilot is very important in the completion of assigned tasks they also require the emotional stability and coping skills to balance family and social life.

Intrinsic and extrinsic motivation

Both these cases appear to have been governed by extrinsic factors as compared to intrinsic factors. In case 1 the executive report furnished inadequate details but it can be presumed that the pilot stopped flying all together once he had decided that he did not want to fly. He was more interested in joining the infantry as he thought that it would help him in furthering his career in the army. In case 2, extrinsic goals like marriage, childbirth and physical illness changed her priorities and she could not keep up with gaining the number of flying hours and qualifications that an officer of her experience would have. She was happy doing ground duties.

Healthy and unhealthy motivation

Some factors related to a healthy motivation to fly are that pilots should never have contemplated a non-aviation career, and have a supportive family-spouse/ parents [11]. In case 1 the pilot contemplated about an alternative career to fulfill

his ambition in infantry i.e. his parent arm. He did not have support from the family either. Similarly, in case 2 the pilot made no effort to get back to flying and was happy to be out of flying. Unhealthy motivation includes various extrinsic factors that motivate pilots. Case 1 thus clearly depicts an unhealthy motivation for flying as he had an immature wish to be an aviator to get ahead in his career, whereas Case 2 must have initially gone into aviation for the social status and glamour associated with it.

Conclusion

Two helicopter pilots who were referred for loss of motivation were reviewed at the Dept of Aviation Psychology, IAM and both were confirmed to have loss of motivation. Case 1 had a primary lack of motivation because of an extrinsic motivational orientation that could not be fulfilled. Case 2 had a secondary loss of motivation as the pilot had inadequate emotional suitability and poor coping skills making her unable to balance her professional and personal issues.

Recommendations

Loss of motivation for flying as a condition is becoming more common with a total of five cases having been referred to IAM in the last five months. Cases need to be confirmed with the use of psychological testing (as proposed in the IAP 4303) by an experienced aviation psychologist. Clinicians would benefit from concise executive reports on flying. Attrition can be controlled if more emphasis is placed on rigorous pilot selection. Pilot selection needs to include tests of flying ability, motivation for flying, and emotional stability. Separate tests need to be developed for motivation for flying and personality (especially stress coping and resilience) which are presently not being used.

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