

Perception of Job Stress among Fighter Controllers in Indian Air Force

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ABSTRACT

The fighter controllers (FC) are an occupational group who deal with a hectic, difficult and highly demanding job. Their occupation entails high levels of responsibility in terms of shouldering the Air Defence operations. These kinds of duties require them to perform optimally at all times and thus impose high grade of an unambiguous occupational stress. In the present study 38 Fighter Controllers of 4 IAF Stations were administered Organisational Role Stress (ORS) scale, Stress Buster Tool Kit and Holmes & Rahe Stress Scale. It was found that 66 per cent of the participants felt Inter Role Distance as a reason for high graded stress, similarly Role Stagnancy (55 %), Role overload (61 %) and Role Isolation (40 %) have severely affected the sample studied. Stress buster tool kit showed that 34 per cent participants perceived severe service related and workplace related stress. Holmes & Rahe questionnaire reported that a total of 31.6 per cent participants were at 90 per cent risk of developing systemic comorbidities due to stress. This study reports that Fighter Controllers perceive their role to be less important with little opportunities for growth. A significant finding that emerged and that needs attention is the possibility that 1/3rd of the participants are prone to stress induced illnesses. The role of Aerospace Medicine Specialists in this context is paramount in alleviating stress and enhancing self-esteem in Fighter Controllers.

Keywords: Organisational role stress; Stress coping; Aerospace safety

1. INTRODUCTION

The primary function of Air Force is to maintain national security by guarding the skies. Air warriors carry out missions and training under a variety of stressful circumstances and are thus expected to perform their duties effusively. It is a well-known fact that stress is recognised as a significant factor affecting performance in military aviation¹. Just like flight crew who work in intensive and stressful environments, Fighter Controllers are also exposed to an unequivocal stress related work.

A Fighter Controller is endowed with responsibilities of upholding air defence operations which involve warranting implementation of all restrictions imposed for flight safety and traffic decongestion, ensuring authorisation of all flights within national airspace, close monitoring of general hostile areas analysing enemy's activity both during peace and war, initiating tactical action with available weapon system in case of unauthorised activity. Therefore, their job entails a complex set of tasks requiring very high levels of technical knowledge and expertise, as well as the practical application of specific skills pertaining to cognition (e.g. spatial perception, information processing, logic reasoning, decision making), communication and human relations.

Fighter Controllers monitor more than one number of aircraft at any given time. Additionally, initiation of tactical

action in case of violation of air defence and surveillance of enemy airspace are exclusively carried out by them. Furthermore, with induction of newer air surveillance systems which function both on ground and in air these tasks will get further compounded, thereby increasing the stress levels.

Stress can be defined as "a condition where an environmental demand exceeds the natural regulatory capacity of an organism"³. It is the difference between the demands of the situation and one's perception of how well one can cope with that situation is what determines how much stressed one feels.

The concept of 'role' is pivotal in understanding how an individual function in any system. This is through his/her role that an individual interacts with and is integrated into a system⁴. In aviation scenario, the role stress refers to the conflict and tension between various roles being enacted by an officer at any given point of time^{5,6}. While facing acute role stress, an officer may pose unfavourable behaviour at the unit, such as performance reduction, burnout and resignation which deserves to be taken seriously. It can influence the perceived well-being, job satisfaction and overall satisfaction of a Fighter Controller, thus making him derive less pleasure from work^{7,8}.

These tendencies when observed in the Fighter Controllers, if not managed well, may manifest into psychosomatic illnesses. Moreover, it becomes a harmful risk factor for health when it is perceived as an imbalance between an excess of demands and the individuals ability to meet them⁹. A number of studies

indicate that the demanding work of air traffic controllers may well be a risk factor in the long term with regards to the development of stress-related symptoms, including headaches, chronic fatigue, heartburn, indigestion and chest pain as well as such serious illnesses as hypertension, coronary heart disease, diabetes, peptic ulcers and psychoneurotic disorders¹⁰.

Stokes and Kite¹¹ have discussed how stress can produce psychological distress, distraction, and worry in the pilot's workplace which might have implications on flight safety. The same could be extrapolated to Fighter Controllers in view of the heavy workload, however stress is not always dysfunctional in nature and if positive, can prove one of the most important factors in improving efficiency⁶. If not positive, stress can lead to a colossal Mental and Physical fatigue.

Current study attempts to highlight the self-perceived stress among Fighter Controllers in the IAF.

2. RESEARCH METHODOLOGY

The study was designed with an objective to assess the levels of perceived stress among Fighter Controllers. For this purpose, convenient sampling was adopted and Fighter controllers from four Air Force stations were approached to complete the standardised questionnaires and 38 Fighter Controllers volunteered. Anonymity was maintained and therefore demographic information was also not obtained. Stress levels – organisational, life events, workplace and service related and further, risk of developing systemic co morbidities due to stress was also assessed using standardised questionnaires.

2.1 Data Collection Instruments

2.1.1 The Organisational Role Stress Scale

The organisational role stress scale (ORS) was developed by Udai Pareek⁴. Questionnaire containing 50 statements give the indication of the extent of the presence of each of the ten stresses based on organisation roles. The participants rated their choices on a Likert scale. The following are the domains of the ORS scale.

- Inter-role distance (IRD)
- Role stagnation (RS)
- Role expectation conflict (REC)
- Role erosion (RE)
- Role overload (RO)
- Role isolation (RI)
- Personal inadequacy (PIN)
- Self-role distance (SRD)
- Role ambiguity (RA)
- Resource inadequacy (RIN)

2.1.2 Stress Buster Toolkit

Devised by Sue Cartwright & Cary Cooper¹², this toolkit has the following components

- Sources of stress (service related) – Questionnaire, ascertained a number of potential causes of stress in the service provided by the participants. This mainly assessed the perceived stress while dealing with officers of other branch (flying and technical). There were 10 statements which participants needed to answer on a Likert scale.

- Sources of workplace stress – Questionnaire, identified a number of potential causes of stress in workplace. There were 27 statements which participants needed to answer on a Likert scale.

2.2 Holmes & Rahe Stress Scale

Also known as Social Readjustment Rating Scale¹³ had 43 statements which were answered as either yes or no. Each statement is rated individually and the risk of developing systemic co-morbidities or mounting burnout can be predicted.

3. RESULTS

The scores obtained on the scales were categorised into high, moderate and low groups by K-means cluster analysis. The scores in various dimensions obtained through ORS are as shown in Table 1.

Table 1. Organisational Role Stress Scores (N=38)

Score category	Percentage of participants in		
	Low	Moderate	High
Inter role distance	10	24	66
Role stagnation	19	26	55
Role expectation conflict	29	16	55
Role erosion	66	24	10
Role overload	13	26	61
Role isolation	34	26	40
Personal inadequacy	47	40	13
Self-role distance	32	18	50
Role ambiguity	29	34	32
Resources inadequacy	26	53	21

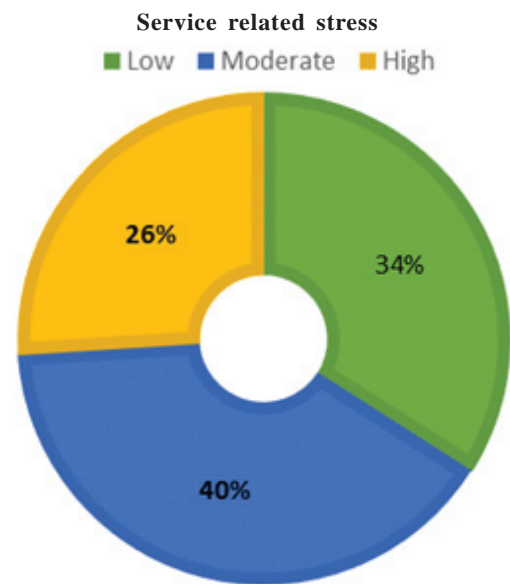


Figure 1. Showing perceived severity of service related stress in the sample.

It can be noted from Table 1 that 66 per cent participants felt inter role distance (IRD) as a reason for high graded stress, similarly role stagnancy (RS) (55 %), role expectation conflict (REC) (55 %), role overload (RO) (61 %) and role isolation (RI) (40 %) severely affected the current sample. On the other hand personal inadequacy (PI) and role erosion (RE) were rated low by the majority of the participants.

Scores obtained on the stress buster toolkit questionnaire are depicted in Fig. 1 and Fig. 2 respectively which denote that 26 per cent of the participants perceived severe service related stress while only 3 per cent reported workplace related stress to be severe.

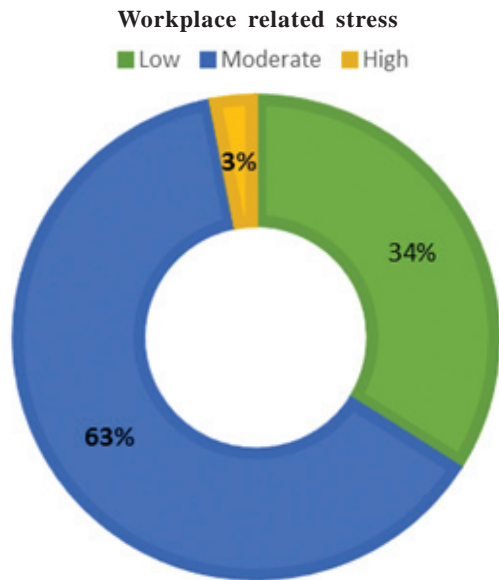


Figure 2. Showing perceived severity of service related stress in the sample.

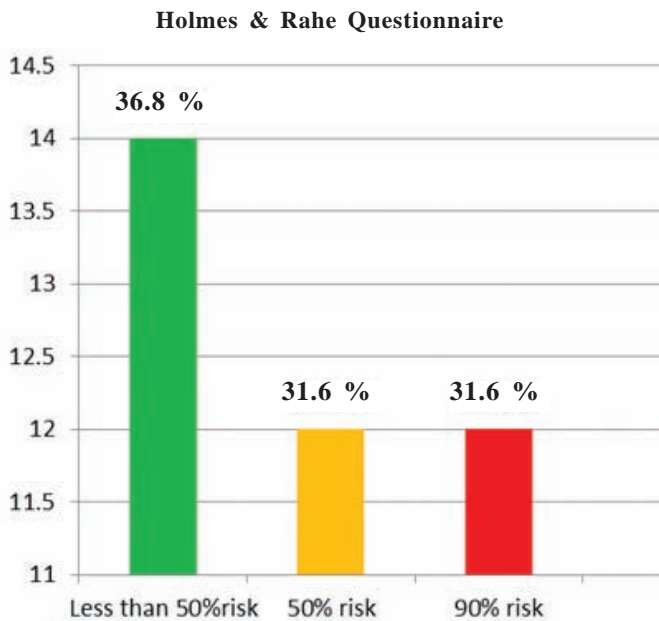


Figure 3. Showing risk of developing co-morbidities in the studied sample.

Holmes & Rahe¹² questionnaire brought out the risk of developing psychosomatic co-morbidities due to specific life events experienced by the participants. Their perception about the level of stress encountered is represented in Fig. 3. It is reported that a total of 31.6 per cent participants were at 90 per cent risk of developing systemic co-morbidities due to stress while 31.6 per cent have 50 per cent risk of suffering ailments.

4. DISCUSSIONS

The current study was taken up with an objective to explore the level of perceived stress among Fighter Controllers. Gray-Toft and Anderson¹⁴ have identified three sources of stress in working environment viz stress from the physical environment, from the psychological environment and from the social environment. The present study was conducted with an aim of classifying perceived stress emanating from service related activities (social environment), workplace related (physical environment) and the role played by an Fighter Controllers (psychological environment).

It was noticed that 66 per cent of the sample have obtained a high percentage score in two categories namely inter role distance (IRD) and role erosion (RE) but IRD was considered as severe source of stress and RE as a mild source. Similar findings were reported in private sector employees by Bhano and Jha¹⁵, when they compared the ORS of public sector employees with private sector employees. This infers that there is a felt conflict between the roles he/she occupies and expectations from the place of work and home. Consequently Fighter Controllers may need to devote adequate time both quantitatively and qualitatively for their personal commitments. Further the role of Fighter Controllers is predominantly to assist the pilot in operational role and hence he/she may feel that their individual contributions related to successful operations and flight safety may go unrecognised leading to perceived role erosion.

Such a belief can lead to resignation and decreased job satisfaction. This finding is corroborated by a similar study on US military personnel which states that 23 per cent of the respondents feel that distances in roles and varied nature of roles is responsible for their ill health⁵.

In the current sample high role over load is reflected among 61 per cent of the participants which can lead to burnout. It can be seen that role overload occurs when there exists large variations between the expected output and the actual output. It was also found that 55 per cent of the sample has high role stagnation and role expectation conflict. The Fighter Controllers perhaps may be of the opinion that there are very few opportunities that stimulate them to learn and grow. Further the Fighter Controllers may feel that there are conflicting demands placed on them from several sources at a given time. Similar findings were also reported by Sahota in a subjective analysis of occupational stress of Fighter Controllers in IAF. Wherein it was found that the study reported discontentment due to poor promotions to be 45 per cent and no recognition in job to be 42 per cent in the sample at a particular Air Defence Sector¹⁶. Identical findings were reported by Patwardhan¹⁷, *et al.* among Hotel Managers.

Self-role distance (SRD) refers to the stress due to the

conflict caused between self-concept and the expectations of the role. It is noticed that 50 per cent of the sample have reported such self-role distance. Personal inadequacy (PI) is the individual's perception that he/she is unable to perform the duties effectively and hence experiences stress. It is found that 47 per cent of the sample have reported to experience minimal stress due to PI. These findings are contradictory to the results of Anand et al who found Indian Military aviators to perceive PI as main stressor and SRD as minimal stressor⁸. This finding could be due to the fact that Fighter Controllers under-estimate their capabilities and significance.

Role Isolation occurs due to lack of linkages between one's role and other's roles in the organisation and 40 per cent of the sample has obtained high role isolation scores. Further it is noticed that 37 per cent of the sample have perceived themselves to experience high Role Ambiguity which reveals that they are not clear about the various expectations that people in the organisation have from them. This could be due to conflicting orders they frequently receive while executing the tasks. Similar findings were reported among young nurses by Chang et al in 2003¹⁸. They also reported that Role Ambiguity showed significant negative correlation with Job Satisfaction.

With regard to Holmes & Rahe Stress Scale, 31.6 per cent of the sample have reported both high and moderate levels while 36.8 per cent of the sample reported low levels of stress due to life events (Fig. 3). Therefore it is important to help the participants having moderate levels of stress to be trained to cope up using positive coping strategies. Adopting such constructive measures will prevent further deteriorating of the Fighter Controllers from experiencing moderate to severe levels of stress. When it is evident that they are not responding to these coping strategies then the Station Medical Officer can further refer for therapeutic management.

Yerkes-Dodson Law ratifies that moderate stress in workplace aids to achieve higher order performance¹¹. A moderate level of stress was reported by 63.2 per cent of the sample on sources emanating from work place stress and as low as 2 per cent of the sample has reported high levels of stress on this dimension. This could perhaps be due to the training and good supervision existing at every level in the organisation. An enhanced level of self-control among the Fighter Controllers also may have contributed to this perception.

On the dimension of stress emanating from service issues, 34.2 per cent of the sample have reported low stress, while 39.5 per cent have reported moderate stress and 26 per cent have reported high levels of stress. This could perhaps be attributed to their work experience and training imparted to them at the initial levels as well as intermittently. The ability to understand the requirements of executing an important task and zero error tolerance with high level of co-ordination perhaps could be the reasons for being able to cope up with such stressors.

5. CONCLUSIONS & RECOMMENDATIONS

The current study was carried out with an aim to throw light on the perceived job stress among a group of Fighter Controllers in IAF. Though it is a survey study with relatively less sample size, it appeared that majority of the participants have reported inter role distance, role stagnation and role

overload as sources of severe stress. A significant finding that emerged is the possibility that the operational effectiveness of the 1/3rd of the participants may be impacted. Some of the effective and popular techniques to alleviate stress are autogenic breathing, mindfulness based stress reduction (MBSR) technique, compartmentalising work and home issues and maintaining a healthy life style. However further studies on large samples adopting these interventions would be required to conclude their effectiveness on this population. It is further suggested that CRM training at regular intervals may be conducted involving aviators, Fighter Controllers and ATCOs to enhance interpersonal functioning and optimum output.

It is evident that the nature of work of Fighter Controllers would more or less remain the same nonetheless it is expected that Fighter Controllers thrive and deliver in taxing conditions. Most importantly this research study gives an insight into the stress levels perceived by Fighter Controllers and recommends to encourage the Fighter Controllers to seek professional help when they are stressed.

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