



# Investigation on Psychological Service of Military Pilots

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**Abstract.** Based on the investigation of the present situation of psychological service of military pilots, this paper points out that now the psychological service of pilots is not carried out frequently, and the methods&means are not targeted enough, then analyzes the military pilots' characteristics of psychological stress and their demands for psychological service. It is considered that the psychological service of military pilots should be necessary to strengthen the mechanism construction, cultivate the professional and technical personnel of psychological service, and strengthen the propaganda of psychological knowledge among pilots, highlight the goal and significance of psychological service, in order to achieve the overall service of full coverage and follow-up of the whole process. At the same time, we should pay attention in scientific research, aim at the psychological service needs of pilots, combine with advanced psychological training and evaluation technology, and explore methods of psychological service for pilots with definite purpose and measurable effect.

**Keywords:** Military pilots · Psychological service · Investigation on present situation

## 1 Introduction

In the new era, military struggle requires not only superb military skills, but also excellent psychological quality [1]. In order to achieve the goal of building a strong army and building a first-class army, the army must plan to improve its psychological service ability while strengthening the practical training [2].

As an important part of military combat effectiveness, the mental health level of military pilots is directly related to flight safety. Relevant studies show that the operational errors of military pilots account for 40%~50%. When encountering the special situation threatening flight safety, the decline of mental health level is often the direct and main cause of accidents caused by operation errors if the physical health reasons are excluded [3]. Therefore, paying attention to the needs of psychological characteristics and service of military pilots in the process of training will help to perfect the content of psychological

service with professional pertinence, reduce the professional risk of military pilots, and enhance the combat effectiveness of our troops.

## 2 Objects and Methods

### 2.1 Objects

The study involved 70 military pilots participated in combat training or military recently. The general condition of the subject: all male; Average age  $32.57 \pm 4.42$  years; Average flight time  $1203.92 \pm 527.73$  h. The survey objects are widely distributed in age, position and flight time.

### 2.2 Methods

The questionnaire method was used. The questionnaire was handed out to the pilots face to face by the investigators, explaining the way of filling in and collecting the questionnaire on site. The questionnaire mainly investigates the psychological service related problems of pilots in the new training mode, including the stress related situation of military pilots in flight operation, the types of psychological service often accepted, etc.

### 2.3 Statistical Processing

Use EXCLE for data analysis. The response rate is used as the observation and evaluation index.

$$\text{Response rate} = \frac{\text{Number of people who agree to this option}}{\text{Total number of people who answered this question}} \times 100\%$$

## 3 Results

### 3.1 Psychological Service for Pilots

The types of psychological services that pilots had received before were investigated, and the results are shown in Table 1.

**Table 1.** Types of psychological services received

	Number of answer	Number of agree	Response rate
Never	70	51	72.86%
1~2 types	70	17	24.28%
More than 3	70	2	2.86%

### 3.2 Main Stressors and Stress Degree of Military Pilots in Flight Operation

The stress level and stressors felt by military pilots during flying commission were investigated. The results are shown in Table 2.

**Table 2.** The stress level and stressors of military pilots

		Number of answer	Number of agree	Response rate
Stressors	Special flight environment	38	26	68.42%
	Aviation safety pressure	38	23	60.53%
	Fatigue	20	9	45.00%
	Sleep rhythm disorder	20	8	40.00%
	Rescue in distress	58	13	22.41%
	Exercise subjects	58	16	27.59%
	Others	58	4	6.90%
Stress level	None	38	1	2.63%
	Slight	38	6	15.79%
	Moderate	38	22	57.89%
	Serious	38	7	18.42%
	Very serious	38	2	5.26%

### 3.3 Common Stress Reactions of Military Pilots

Common stress reactions of military pilots during flying commission were investigated. The results are shown in Table 3.

**Table 3.** Common stress reactions of military pilots

		Number of answer	Number of agree	Response rate
Emotional response	Fear	36	4	11.11%
	Lonely	36	5	13.89%
	Anxious	36	22	61.11%
	Angry	36	4	11.11%
	Sad	36	0	0.00%
	Numbness	36	6	16.67%
	Others	36	5	22.22%
Physiological response	Fatigue	38	30	78.95%
	Headache	38	4	10.53%
	Dizzy	38	5	13.16%
	Flustered	38	1	2.63%
	Chest tightness	38	1	2.63%
	Nausea	38	0	0.00%
	Loss of appetite	38	10	26.32%
	Muscle soreness	38	13	34.21%
	Insomnia	38	5	13.16%
	Sexuality decrease	38	6	15.79%
	Others	38	1	2.63%
Cognitive response	Distracted	37	12	32.43%
	Memory decline	37	22	59.46%
	Thinking slow	37	8	21.62%
	Hard to make a decision	37	11	29.73%
	Disorientation	37	2	5.41%
	Others	37	3	8.11%
Behavioral response	Change of living law	37	16	43.24%
	Social withdrawal	37	11	29.73%
	Interpersonal tension	37	2	5.41%

*(continued)*

**Table 3.** (continued)

		Number of answer	Number of agree	Response rate
	Work efficiency decline	37	19	51.35%
	Excessive smoking	37	10	27.03%
	Alcoholism	37	1	2.70%
	Sleep disorder	37	11	29.73%
	Ritualized behavior	37	5	13.51%
	Others	37	2	5.41%

## 4 Conclusion

Psychological service, means use of psychological principles, methods and techniques to maintain the mental health of officers and soldiers, which is an important link to improve the combat effectiveness [4], and has been highly valued by the multinational army in recent years [5–7]. The literature shows that due to the imperfect psychological service mechanism in our army, the pilots' psychological service is not carried out frequently, and the methods&means are not targeted enough [3]. In this survey, more than 70% of pilots consider that they have never received special psychological service, or think that psychological service is mental health test or simple relaxation exercise guidance. they are all lack of personal experience about the effect of psychological service methods.

Compared with the single means of psychological service, there is a strong demand for psychological service. Military pilots often face multiple physical and psychological challenges due to their professional particularity. On the one hand, the overload caused by high intensity and long-time training mission, as well as various environmental factors like high altitude hypoxia, acceleration, noise, radiation and others; for another, the higher requirements for the combat training of pilots results by the constantly improving fighter performance [2], all above making them suffer more psychological stress [8]. The results showed that about 82% of pilots felt more than moderate stress during flight mission. The pressure mostly comes from the special flight environment (such as flight on the sea or at night, long-distance flight, etc.) and the anxiety of flight safety, at the same time, fatigue and sleep rhythm disorder are also important stressors in flight mission. This is basically consistent with the research results that the psychological problems exposed in training mainly focus on the bad psychology induced by flight fatigue and other reasons [9]. The main stress reactions of pilots are anxiety, fatigue, memory decline, change of life pattern and decreased work efficiency. These problems should be the focus of psychological service.

In conclusion, the psychological service of military pilots should be more purposeful, scientific and targeted. On the one hand, it is necessary to strengthen the mechanism construction, cultivate the professional and technical personnel of psychological service, and strengthen the propaganda of psychological knowledge among pilots, highlight the

goal and significance of psychological service, in order to achieve the overall service of full coverage and follow-up of the whole process; On the other hand, we should pay attention in scientific research, aim at the psychological service needs of pilots, combine with advanced psychological training and evaluation technology, and explore methods of psychological service for pilots with definite purpose and measurable effect.

**Compliance with Ethical Standards.** The study was approved by the Logistics Department for Civilian Ethics Committee of Air Force Medical Center, PLA.

All subjects who participated in the experiment were provided with and signed an informed consent form.

All relevant ethical safeguards have been met with regard to subject protection.

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