

PSYCHOLOGICAL DISORDERS IN FLYING

PERSONNEL OF THE ROYAL AIR FORCE.

Investigated during war 1939 - 1945

PSYCHOL
IN FLY

of the
ROYAL AIR FORCE

INVESTIGATED DURING THE WAR 1939-1945

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The following reports on investigations into psychological disorders in flying personnel during the war period 1939-1945 are issued for the information and guidance of the senior executive and all medical officers of the Royal Air Force.

By Command of the Air Council.

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air.

psychological disorders in flying
during the war 1939-1945,
the advice to the executive

In 1942 by Air Vice-Marshal
D.P., Consultant in Neuro-
sis, D.Sc., M.D., F.R.C.P.,
were carried out in the
1, M.D. An assessment
disorders in flying personnel
who could withstand the stress of
breakdown. As this group undoubtedly
not adapting themselves satisfactorily to operational
it was decided that only severely predisposed individuals should be
rejected at entry, and that those with other degrees of predisposition should be
watched carefully during training and eliminated if signs of temperamental
unsuitability appeared.

For this reason the attention of medical officers and flying instructors
was directed to signs of temperamental unsuitability for duties as members of
air crews. Flying instructors are particularly well placed to discern signs of
nervousness in the air from observation of pupils in the mirror, from their
manner of handling the controls and obeying instructions, and from observation
of behaviour on the ground, such as lack of keenness, excuses for putting off
flying, and reporting sick for trivialities.

Surveys of psychological disorder in air crew showed similar findings year by
year: about 3,000 cases of nervous breakdown and 300 of lack of confidence
annually, which indicated that a uniform standard of psychiatric examination
was being maintained.

As regards type of flying duty associated with breakdown, one-third of the
neurosis cases occurred in Bomber and one-third in Flying Training Commands,
the remainder being distributed among flying personnel of Coastal, Fighter and
Transport Commands. One-third broke down without experience of operational
flying, one-third with under 100 hours' and one-third with over 100 hours'
operational flying.

Types of nervous breakdown were chiefly anxiety and hysteria, both
together accounting for over 90 per cent of cases. Practically all cases of nervous
breakdown (98.4 per cent) arose from underlying psychological rather than
physical causes.

Analysis of the disposal of cases of psychological disorder showed that
22½ per cent of cases returned to full flying and 3½ per cent to limited flying;
the majority of cases, 72 per cent, were grounded; 1.9 per cent required to be
invalided.

In 1945, the reliability of the psychiatric method of diagnosing psychological
disorders in R.A.F. flying personnel was investigated by statistical methods by
Professor A. Bradford Hill, D.Sc., Ph.D., and Wing Commander Denis J.
Williams, D.Sc., M.D., F.R.C.P. A fair degree of agreement in psychiatric
diagnosis was found in the assessment of severe predisposition, but in the other
degrees of predisposition the disagreement was such that it was decided that the
psychiatric assessment per se should not be used in selection of air crew at
entry but should be regarded as one medical factor to be taken into account by
the selection board in the final summing-up.

I have the honour to be, Sir,
Your obedient Servant,

H. E. WHITTINGHAM
Director-General of Medical Services,
Royal Air Force.

January, 1946.

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3.

Summary

- (1) The errors in calculating and plotting wind vectors made by navigators engaged in a series of night bomber operational sorties have been analysed.
- (2) By an arbitrary division of the routes to and from the target and plotting the sections where opposition was encountered, it was possible to compare the fluctuations in performance with the times of occurrence of acute hazard.
- (3) Compared with the fluctuations in navigator performance during a series of non-operational flights, the level of efficiency during the operational sorties, which is lower at all stages than in the non-operational controls, varies considerably. The average error rises to a maximum during and after enemy opposition and falls again on the last part of the route back to base.
- (4) It is suggested that these fluctuations are successively due to the effect on performance of anticipatory, acute and persistent anxiety. These effects seem to be larger than the effects of fatigue in the latter stages.
- (5) A caution is given against too confident a translation of laboratory findings in studies of fatigue to operational settings where periods of acute anxiety are usual. The significance of variability of performance is discussed.
- (6) The psychological interpretation of the data is used to explain some inconsistencies of performance in training and operations.
- (7) The importance of stability under stress in the selection of key personnel is re-emphasised.

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GLOSSARY

A ₁ B	Fit for full flying duties as pilot.
A ₂ B	Fit for full flying duties as combatant passenger.
A.C.H.	Aircraft-hand.
A.D.G.B.	Air Defence of Great Britain.
A.E.A.F.	Allied Expeditionary Air Force.
A.F.U.	Advanced Flying Unit.
A.G.	Air gunner.
A.G.S.	Air Gunnery School.
A.N.S.	Air Navigation School.
A.O.C.	Air Officer Commanding.
A.S.R.	Air Sea Rescue.
Bale-out	Abandon aircraft by parachute.
B. and G.S.	Bombing and Gunnery School.
B.A.T.	Blind Approach Training.
Courage	Quality of persisting with a task despite fear.
Deep penetration	Flying deep into enemy territory.
Ditch, to	Make forced landing on water.
D.R. position	Position estimated by deduced reckoning, usually known as 'dead' reckoning.
Drink, in the	Having made forced landing on water.
E.F.T.S.	Elementary Flying Training School.
F.E.	Flight Engineer.
Fearlessness	Absence of fear where fear might be expected.
Flying stress	The load a man has to carry in the performance of flying duties, including emotional strain, skill fatigue, bodily fatigue, air-sickness, noise, glare, cold and altitude effects.
F.M.A.E.	Flight Mechanic—aero-engine.
Form 48	Medical history.
Freshman	Man on first operational flights.
George	Automatic pilot.
G.R.	General Reconnaissance.
Grading School	Elementary flying school used for selection.
H.C.U.	Heavy Conversion Unit.
Immediate (and non-) awards.	Decorations are usually deferred but may be given immediately after an achievement.
Inhibit	Suppress, prevent.
Innate tendencies	Tendencies to respond to external situations in a way which is determined by inheritance.
Intercom.	Internal telephone system in aircraft.
L.A.C.	Leading aircraftsman.
Lack of moral fibre	Term used in Air Ministry letter on the disposal of members of air crews who forfeit the confidence of their Commanding Officers. Equivalent to lack of courage.
M/U gunner	Mid-upper gunner.
Neurosis	Synonym—nervous breakdown. Illness shown by symptoms which are psychological (mental) and/or physical (bodily). Neurosis is the result of failure to adapt to strain. The symptoms of neurosis are the same whether due to civilian worries, flying stress or other combatant duties. There is no such illness as flying stress.
N.Y.D.N. centres	Neuropsychiatric clinics.
Operation or op.	Flight against the enemy.
Operational limit	Fixed maximum of combat flying.
O.R.S.	Operational Research Section of commands.
O.T.U.	Operational Training Unit.
Overshooting (and under-).	—the runway on landing.

GLOSSARY—*continued*

P.M.O.	..	..	Principal Medical Officer.
P.R.U.	..	..	Photographic Reconnaissance Unit.
Psychologist	..	..	Scientist who specialises in the study of normal mental function.
Psychiatrist	..	..	A doctor who specialises in the diagnosis and treatment of psychological or mental illness.
P.T.	..	..	Physical training.
Put up a black, to	..	..	Commit an error of technique, judgment or discipline.
R. Gunner	..	..	Rear gunner.
Ropey	..	..	Unsatisfactory or defective.
Scrubbing	..	..	Cancelling operational trips.
S.F.T.S.	..	..	Service Flying Training School.
Shell shock	..	..	Term erroneously used to describe neurosis occurring in troops during the 1914–1918 war.
S.M.O.	..	..	Senior Medical Officer.
Sortie	..	..	Flight against the enemy.
Standing-by	..	..	Waiting in or near the aircraft at instant readiness for take-off.
Sweep	..	..	Fighter sortie in formation.
Taylor suit	..	..	Electrically-heated flying suit.
Tour (operational)	..	..	Completed period of operational flying (e.g. 30 sorties or 200 hours).
Trip	..	..	Flight against the enemy.
U/S	..	..	Unserviceable—refers to machines.
U/t	..	..	Under training.
Waverer(-ing)	..	..	Man of defective morale in relation to operational flying.
W/O	..	..	Warrant Officer.
W.Op.	Wireless operator.
W.Op/A.G. (or /M)	Wireless operator air gunner (or mechanic).

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