THE PSYCHOBIOLOGICAL PROGRAM OF THE WAR
SHIPPING ADMINISTRATION

by

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The War Shipping Administration, created shortly after
Pearl Harbor, is now in control of approximately 90 per
cent of all military cargoes moved in American vessels and
has in its employ approximately 250,000 merchant seamen.
The task of recruiting enough personnel to man an industry
whose manpower requirements increased fivefold in the
course of the war presented selection problems of a psychol-
ogical, medical, and vocational nature which could not be met
by the peacetime organization of the industry.

In order to meet the new needs, an Office of the Medical Di-
rector was created in the War Shipping Administration, and
later the President of the United States recognized the sig-
nificance of this work by promulgating an Executive Order
appointing Dr. Justin K. Fuller as an Assistant Surgeon
General of the U. S. Public Health Service and detailing him
to serve as Chief Medical Officer of the War Shipping Admin-
istration. The present medical staff of the War Shipping Admin-
istration is composed of four types of personnel: (1)
commissioned officers of the U. S. Public Health Service, all
of whom are detailed to the Navy Department and assigned
to the War Shipping Administration; (2) commissioned med-
ical and dental officers of the U. S. Navy; (3) technical per-
sonnel in commissioned and noncommissioned ratings in the Maritime Service; and (4) Civil Service employees.

By calling upon the Public Health Service to provide this medical program, advantage was taken of the existing system of marine hospitals and relief stations which has been serving merchant seamen since 1789. The demands of the war, however, required the supplementation of the existing program with facilities for examining seamen prior to each voyage and for the special treatment of convoy fatigue cases and other types of neuroses. It is the purpose of this paper to describe the two major functions of the Psychobiological Service: that is, (1) the Psychiatric and Psychological Program and (2) the Statistical and Research Program.

Psychiatric and Psychological Program

The screening program, the first important phase of the psychobiological program, was inaugurated at the three major training stations, located at Sheepshead Bay, New York; St. Petersburg, Florida; and Catalina Island, California. The function of these stations is to train apprentice seamen. Extensive screening procedures were established at each of these stations to eliminate enrollees who are unsuitable because of emotional instability or other psychological or psychiatric characteristics.

The results of these screening procedures indicated that a large proportion of the unsuitable candidates could be eliminated at the enrolling office in their home town before government funds were spent on their transportation to the training stations. To make the screening at the enrolling office effective a brief questionnaire, based upon the more elaborate Personal Inventory used at the training stations, was prepared. In addition to the customary questions, this questionnaire includes social history items such as a record of incarceration, draft board classification, previous service in the armed forces, and other items which had been found useful in diagnosing
persons incapable of surviving the routine at training stations. Special instruction was given to the medical officers and pharmacists’ mates in the administration and interpretation of these screening procedures.

The training station screening procedure is as follows: The trainees who survive the screening at the enrolling office are assembled in large groups immediately upon arrival at the training station. Before they are given physical examinations, they are required to complete a Personal Inventory of some 80 items of the forced-choice type. The inventory is supplemented by a short personal history sheet consisting of some 30 items built around family history, educational history, occupational history, and a self-evaluation by the trainee of his present state of health, together with a listing of any previous illnesses, injuries, or operations. The enrollee is also asked to state why he enrolled in the Maritime Service, in an attempt to gain insight into his motivation for entering the service.

Trainees are introduced to these questionnaires by the statement that this is the beginning of their medical examination and that, were sufficient personnel available, each trainee would be individually interviewed, but since this is impossible they are asked to co-operate by filling in these forms as carefully as possible. In this way rapport is established and sufficient motivation aroused for careful completion of the forms.

As a result of some preliminary experiments at the station it was found desirable to select for personal interview all trainees who make a score of 20 or more on the test, that is, those who give 20 or more abnormal answers to the 80 items presented. In addition, several items from the inventory are themselves sufficiently indicative of probable maladjustment. Items dealing with headaches, fainting spells, head injuries, dizziness, enuresis, a visit to a doctor or hospital for nervousness, and convulsions, arrests, and imprisonments are termed
“crucial” items. A trainee who gives a deviant response to even one of these “crucial” items is called in for personal interview regardless of his total score. The personal background data are also scanned for possible indications of mental deviation. The following items in the personal history are considered sufficiently indicative to warrant a personal interview: discharge from military service, arrests or imprisonments, history of mental illness, head injury, sleepwalking, and educational retardation.

The scores are computed immediately after the questionnaires are administered, and the results are used in selecting candidates for interview by the psychobiological team stationed on the main examination line. The men so selected are given a short interview by the psychologist or psychiatrist to determine whether they are grossly abnormal, mildly abnormal, or essentially normal but accidentally caught in the screening net, i.e., the “false positives.” These interviews usually last approximately four minutes. The grossly abnormal are placed on immediate recall by the Psychobiological Unit which studies the cases quite intensively, utilizing for this purpose the psychometric scores supplied by the Classification Division, neurological findings made by the psychiatrist of the Psychobiological Unit, physical findings supplied by the Medical Department, and other psychological tests of a clinical nature administered by the psychologists of the Psychobiological Unit. Individuals who show some mental deviation but who do not give concrete evidence of being unable to succeed in training and sea duty are asked to return for follow-up therapy within a week after beginning training. These men are followed for several weeks. Some cases eventually make an adjustment; others are subsequently disenrolled. The “false positives” enter training immediately along with the normals and receive only the routine group mental hygiene.
The results of the screening procedure as used to date indicate that 65 out of every 100 men arriving at the training station were emotionally stable and required no further screening than that afforded by the written Inventory and Personal History Sheet. Of the remaining 35, only about 1 or 2 were found after interview to possess personality defects making it mandatory that they be immediately excluded from training. Some 6 or 7 were found to have temporary or mild emotional conditions which after a short stay at the station under the guidance of the Psychobiological Unit became sufficiently ameliorated to permit them to continue training. The remaining number were essentially normal individuals who were caught in the screening net because of some type of misunderstanding of the questionnaire. Thus, within one or two days after the arrival of a given group the vast majority of misfits have been disenrolled, while those requiring therapy are given follow-up appointment schedules.

It should be noted, however, that the screening procedure is not perfect. In the course of the first month of their stay some individuals not detected by the initial screening procedure are likely to be found having conditions or defects which require their elimination from the station. Among these are included small groups of individuals who misrepresented themselves, either intentionally or unintentionally, in their responses to the written part of the screening procedure. These are the enuretics, somnambulists, epileptics, and others who refrain from indicating their true condition for one reason or another. In addition there may be several individuals who develop severe emotional disturbances and even have psychotic episodes after their admission to the station. Such persons, of course, are not likely to be detected on admission by the screening procedures now in use, since the disqualifying condition is not fully present at the time, and only
intensive observation over long periods can reveal the presence of the incipient psychopathic trend.

The efficiency of the screening procedure as a whole is approximately 85 per cent. That is to say, approximately 85 per cent of the men eventually disenrolled are caught in the initial screening net and are forthwith eliminated soon after arriving at the station. Of the 15 per cent who escape the initial screening net, but who eventually are disenrolled, the majority "get by" the psychobiological screening procedures through misrepresentation or falsification of a conscious or unconscious sort. It is hoped eventually to reduce the number of such individuals by utilizing a pattern analysis of item responses.

It should be noted at this point that even those who are disenrolled are not summarily dismissed but are given a careful exit interview which aims to prepare them emotionally and vocationally for finding a better outlet for their patriotic motives.

Screening does not stop at the enrolling office or at the training station but continues throughout the active career of the seaman. A special wartime order requires that each seaman receive a sign-on examination before each voyage to determine whether he is mentally and physically capable of making the trip. As part of this examination a special psychobiological screening technique has been introduced. The screening questionnaire used consists of some 20 questions and deals chiefly with traumatic episodes such as torpedoings and air raids, as well as hospitalization overseas, treatment at rest centers, and special problems which may have developed since leaving the training stations and while employed in the Merchant Marine. Upon completion of these questionnaires, the seamen are interviewed very briefly by a psychologist on the sign-on examination line, and those who are found
to be grossly unstable are given intensive psychological and psychiatric study in order to make the best possible disposition of their cases. Since August 1944, 41,000 sign-on screenings have been conducted at the Port of New York alone, and from these interviews it is hoped that we can eventually determine the various personality patterns of successful seamen, and on the basis of these findings reorient our selection program so as to obtain for the industry the most suitable and most effective types of personality.

The second important phase of the Psychiatric and Psychological Program is that of therapy. The maladjusted trainees are cared for by the Psychobiological Units of the training stations. The maladjusted seamen are cared for by the medical program of the Recruitment and Manning Organization of the War Shipping Administration and the medical program of the United Seamen's Service, both of which are headed by Sr. Surgeon (R) Daniel Blain. His program gives psychiatric and medical services to seamen who show evidence of occupational stress such as convoy fatigue, war neuroses, and other psychopathological symptoms. The psychiatrists of this unit work very closely with the Psychobiological Service and serve as psychiatric consultants to the medical examination program for seamen. In connection with its program the Recruitment and Manning Organization has established on the East, Gulf, and West coasts informal noninstitutional types of rural residence units called rest centers, each under the direction of a psychiatrist. These centers provide care for all seamen requiring a brief therapeutic regimen of rest and recuperation. As Dr. Blain has so well pointed out, "the aims of this short-term therapeutic program are to build up the seamen, eliminate their symptoms, give them psychological security and prophylaxis against the hazards of subsequent voyages, and send them back to sea."

The vast majority of the trainees and seamen active in the
industry are essentially normal and require no special therapeutic attention. Those who do require therapy fall into two categories—the mildly maladjusted and the grossly maladjusted. In the training stations the more grossly deviant are usually disenrolled and returned home immediately after their diagnostic work-up is completed. Therefore, no extensive therapeutic procedures need be provided for them by the War Shipping Administration. The group of mildly maladjusted trainees, who are to be kept in the industry if this can be profitably accomplished, are provided with a well-planned therapeutic program.

This group is admitted to training on a trial basis and kept on a carefully planned therapeutic regimen. Weekly or more frequent treatments are given until they are fully adjusted and have demonstrated that they are definitely incapable of adjustment. By the time of the second follow-up interview, the majority of the trainees have shown marked improvement. The normal fears and apprehensions which are expected with the beginning of a highly regimented life have been dissipated by actual station contacts, and the trainee no longer resents the restrictions on his personal liberty which station life demands.

Some of the trainees, however, present more persistent problems before becoming independent and self-sufficient. The most prominent syndromes presented by these trainees are: (1) homesickness, especially in cases of men who have never been away from home before; (2) psychosomatic complaints; (3) dizzy spells, blackouts, and other symptoms which either prevent the trainee from making a satisfactory adjustment or are themselves produced by the maladjustment.

The manner of dealing with these types of men varies from station to station. At some of the stations these trainees are given individual therapy and attention over a period of weeks until they become capable of making a desirable adjustment.
At other stations there is a growing tendency to employ recently developed group therapy approaches which serve the double purpose of saving the time of the therapist and providing a socially beneficial atmosphere for group discussion and catharsis. These group sessions treat such topics as homesickness, causes of nervousness, the futility of worry, sex and social adjustment during training, fear of water and high places, and a wide variety of similar topics. Considerable success in the organization of such groups was attained in one station by asking the incoming trainees to list their chief worries. These worries were classified by members of the Psychobiological Unit in such major categories as homesickness and insecurity. These constituted the basis for lectures and discussion groups which helped considerably in ridding the majority of the trainees of their difficulties. Trainees presenting especially persistent problems were asked to visit the Psychobiological Unit for more thorough individual study and guidance.

The outstanding advantage of treating such problems through group approaches is that it enables the individual to realize that he is not alone in his difficulties, that others have similar problems. This sets the stage for a catharsis which is beneficial to all those who participate and brings about a reduction in the extent of the problem.

Thus far we have described only the work with the deviant trainee who is in need of care and special treatment. There are, however, problems arising in the station life of the average normal trainee which require attention and are provided for through a special mental hygiene program. These problems may be divided into the following categories: (1) those arising from the stresses and strains of group living in general; (2) those arising from the special nature of regimented station life; and (3) those reflecting the future hazards and dangers of life at sea. The general requirements of normal
group living that become apparent at the stations include general adjustment to the group, recognition and adoption of group goals, a sense of "belonging," tolerance, co-operation with fellow trainees, and other factors which are prerequisite to good *esprit de corps* and a high level of group morale.

The special problems of life aboard a maritime training station grow out of the necessity for regimentation, obedience to authority, acceptance of discipline, and the need for inculcating in the trainee the importance of the Maritime Service as an integral part of the war effort and providing him with necessary motivation to survive the rigors of training.

In order to prepare the trainee successfully to meet these problems, he is given an understanding of the role of the psychiatrist and the psychologist as counselors who can provide him with insight into his own emotional reactions as well as into the underlying causes of deviant behavior in others. Armed with this insight, he is better able to cope with such problems as hypochondriasis, chronic homesickness, etc., which may confront him during his subsequent career.

Problems of special importance to satisfactory adjustment at sea are dealt with in lectures and group discussions which analyze such psychological phenomena as fear, showing the trainee what fear is, how it is brought about, what physical and mental signs it can produce, and setting forth practical suggestions for dealing with it when it arises. In this way the seaman is both instructed in proper conduct in times of stress and psychologically fortified against such harrowing experiences as bombing, torpedoing, strafing, and being set adrift in lifeboats.

The special problems of living aboard ship with the resulting close contact and working relations with other men are analyzed in group discussions, and an attempt is made to give practical suggestions for meeting these problems.

One of the most important elements in maintaining group
morale is competent leadership. With the rapid expansion of the maritime industry, the need for a large number of capable leaders of all types arose. The dictum that no chain is stronger than its weakest link can be truly paraphrased to "No service is stronger than its weakest officer." An inept officer in a strategic location aboard ship may be the unwitting cause of a sea tragedy. The problem of training leaders is twofold: first to prepare them with the basic professional knowledge and information which is prerequisite to good leadership, and second to develop within them traits essential to the attainment of effective leadership.

The Psychobiological Service has devoted its chief efforts to the development of those leadership traits that make for stamina and dependability in the management of crews, leaving to the other divisions of the training organization the development of specific leadership techniques.

**Statistical and Research Program**

The second major function of the psychobiological program is its statistical and research activities. These activities are devoted to gathering statistical information on the mental and physical health of trainees and seamen, evaluating these data, and conducting research projects intended to provide improved techniques for selection and therapy.

A continuous survey of the health of the men in the industry is maintained through the mandatory annual examination of each seaman, as well as through regular interim sign-on examinations.

The annual type of examination consists of a thorough physical and mental examination, including microfilm x-ray of the chest, serology, urinalysis, personality evaluation through the combined use of personality inventories and follow-up personal interviews, dental examination and emergency treatment, immunization, and any other special studies
such as electrocardiography or electro-encephalography that may be indicated. The results of this annual survey are punched into the I.B.M. cards, and periodic tabulations of these cards provide the Office of the Medical Director with up-to-date statistics on the basis of which medical policies can be formulated.

A special feature of these statistical procedures is the Central WSA Medical Register of the War Shipping Administration. This register provides for interchange of significant medical information between the WSA medical facilities and co-operating agencies. Its initial function is to distribute I.B.M. punch-file cards on seamen who are found at the time of the sign-on examination to be medically unfit for sea duty, and to disseminate information about seamen with chronic diseases dangerous to themselves and to others, if not properly or continuously treated. The purpose of this clearing-house is to prevent seamen who are unsuitable for sea duty from shipping out through ports where the medical examination facilities are not sufficient to diagnose all possible diseases and defects. This register has become necessary because of the high mobility of seamen from port to port. When a seaman whose name appears on the register comes for a sign-on examination, the examining physician obtains from the Central Register a complete history of the seaman's previous medical condition, treatments and disposition.

The research activities of this unit are based upon the particular needs arising within the Psychobiological Service. During the past year the greatest need was to develop the most effective screening techniques possible for the maritime industry. This was effected by the co-operative efforts of all the Psychobiological Units working in conjunction with the Research Unit, and resulted in the development of the Maritime Service Inventory now in use at all stations.

The Research Unit co-ordinates the research efforts of the
separate Psychobiological Units and disseminates the results of these researches throughout the Medical Division. This unit also serves in an advisory and consulting capacity for all researches undertaken within the service.

A special type of research carried on by this unit deals with follow-up studies of the sea career of trainees after graduation. As more and more of the trainees have taken their places in the Merchant Marine, follow-up studies have been initiated to validate the screening procedures and other psychobiological and medical therapeutic techniques against subsequent performance at sea. These studies are still in progress, but when completed they will constitute a basis for sounder selection procedures than those now in use.

The ultimate goal of the Research Unit is to provide an integrated picture of the various types of men who make successful seamen. From the data we are now accumulating, we hope to be able to discover the particular characteristics that make for success at sea. About the eventual picture of the successful seamen that may emerge, we can now only hazard a guess, but sufficient clinical evidence has already been accumulated to indicate that the negative traits traditionally attributed to peacetime merchant seamen do not hold true for the present wartime cross section of the industry. On the whole, the merchant marines of the moment are capable, industrious men who compare favorably with any other industrial group doing work requiring the same degree of capacity and skill.