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THE ASSESSMENT OF CHANGES IN ATTITUDE
DURING INDUSTRIAL REHABILITATION

by

P. G. HARTMANN

Thesis submitted for the M.Sc. Degree in the
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ABSTRACT

This investigation was undertaken to validate the widely held assumption that a course at a Ministry of Labour Industrial Rehabilitation Unit may improve attitudes in clients. In order to do this, relevant attitudes had to be identified and suitable means of assessing them provided.

As a result of a pilot study two major attitudes, 'Inadequacy' and 'Keeness for Work' were identified. The hypotheses were set up that a reduction in Inadequacy would occur during industrial rehabilitation, but that Keeness for Work would remain unchanged.

Attitude scales were developed to measure Inadequacy and Keeness for Work. Both achieved an acceptable level of reliability and validity. An attempt to use a check list for attitude assessment proved unsuccessful. A shortened form of the Maudsley Personality Inventory was used to help in the interpretation of the other measures and to test the subsidiary hypotheses that a reduction in neuroticism but no change in extraversion would occur during rehabilitation. All measures were administered to 327 male rehabilitees in the first week of their course, and again to the 214 of these still available in the sixth week. Results supported all hypotheses.

Further analysis of the data indicated that Keeness for Work was related to employment status six months later, age, and amount of family responsibility. Inadequacy was related to psychiatric classification. Neither attitude was related to reason for terminating the course, or to length of unemployment. Factor analysis of scale items suggested that nine factors might be involved in the attitudes considered.

Results are discussed in relation to the needs and problems of attitude research in industrial rehabilitation, and suggestions for further research are given.

SECTION A.

INTRODUCTION AND PILOT STUDY:

CHAPTER I

INTRODUCTORY NOTE ON INDUSTRIAL REHABILITATION

In order to "bridge the gap between the completion of hospital treatment and fitness for employment or occupation", the Tomlinson Committee (1943) recommended the establishment of a "reconditioning service" with "special centres with facilities to assist full recovery of physical fitness". The Disabled Persons (Employment) Act, 1944, empowered the Minister of Labour to provide "facilities... for disabled persons ... who by reason of their unfitness arising from their injury, disease, or deformity are in need of such facilities in order to render them fit for undertaking employment..."

The first Industrial Rehabilitation Unit (IRU) was opened at Egham, Surrey, in 1944, and the service grew rapidly after that. The following extract from the Ministry of Labour Gazette (1964) gives the position at the time of the present study and describes the functioning of an IRU.

"Courses of industrial rehabilitation are provided by the Ministry of Labour at 17 Industrial Rehabilitation Units (IRUs) situated in the main centres of population and industry throughout the country. The capacity of each Unit is 100 places except for two which are double-sized. One of the 200-place Units is residential and two others have residential places for men.



Persons attending non-residential Units, who are unable to travel daily, are accommodated in private lodgings or hostels: all parts of the country are therefore served.

"The courses are intended for men and women of any employable age who, on completion of medical treatment or after long unemployment, need special help in adapting themselves mentally and physically to re-employment or in choosing the most suitable job. Admissions are made weekly; there is no set syllabus and the courses are planned to meet the individual need; they usually last about eight weeks and never more than twelve. The courses are controlled by a Case Conference made up of a rehabilitation officer in control of the Unit, a part-time doctor, an occupational psychologist, a social worker, a technical man in charge of the workshops and a disablement resettlement officer. In each Unit there are seven workshop sections including machine-operating, bench engineering, wood-work, assembly and other light work, commercial and clerical work, and gardening combined with heavier work such as concreting. The supervisors in charge of the workshops are craftsmen selected for their personal qualities. The medical officer is assisted by a nurse, and by a remedial gymnast in the Unit gymnasium, and a consultant psychiatrist

visits the Unit regularly.

"An outstanding feature of the IRU system is that rehabilitation is carried out under industrial conditions akin to those which the men and women are likely to encounter when they re-enter industry. The activities are planned with the dual object of restoring the person's mental and physical condition and giving him an opportunity to show what abilities or latent skills he may possess. Vocational assessment is an essential and continuing aspect of the course: a person engaged on production work (sub-contracted from local firms or Government Departments), with an increasing requirement to reach normal working tempo and observe normal industrial conditions, will show whether he has the stamina and temperament required for a particular job as well as the necessary manual dexterity or intellectual ability. There is no segregation by category of disability, age or sex. The general aim is to improve or restore total working capacity and to assess the suitability for various types of employment, including suitability for vocational training or re-training in a skilled trade".

The service caters for all kinds of disabilities, except blindness. Provided there is a reasonable prospect of full-time employment in open industry being available at the end of the course, the criteria of acceptance for a course are that the person should be

likely to benefit from the course, and that he or she should be likely to be fit for work by the time the course is completed. Rehabilitees, as the clients are known, are paid a weekly allowance. The intention is that this allowance should be higher than the normal unemployment or sickness benefit but not as much as the person could expect to earn in employment. In practice these intentions are not always fulfilled, particularly for men with large families.

CHAPTER II

THE CONCEPTION OF REHABILITATION IN RELATION TO

THE EFFECTS OF UNEMPLOYMENT AND DISABLEMENT.

The conception of rehabilitation upon which the Tomlinson Committee (1943) made its recommendations was one of "reconditioning", considered almost entirely as a physical process. Although the report refers to "physical and mental restoration" of disabled persons in defining "reconditioning", its detailed recommendation is for the establishment of "special centres with facilities to assist full recovery of physical fitness by the provision of fresh air, good food, physical training and exercises together with a limited amount of useful indoor occupation". It was broadly on this conception of its functions that the first IRU was set up.

The limitations of this early conception were clearly perceived by Tait and Rodger (1951) in their report to the Medical Research Council on the psychiatric aspects of industrial rehabilitation. After pointing out that 33% of a group of 249 entrants to IRUs in 1950 were psychiatrically ill they add that "psychological factors not amounting to psychiatric illness are of considerable importance in an indefinite larger group of cases, and may be said to vary directly with the intensity of the resettlement problem". They consider that dislocation from employment produces^a psychological state of "unsettlement" which should be regarded as a condition in itself. They distinguish between the official, explicit functions of an IRU and its implicit functions which are of a psychological

nature and "are the chief operative factors in the success achieved by the system in cases of real difficulty". The authors also express the opinion that "The full nature of the IRU function does not seem to have been recognised by authority". It is only fair to add that by this time the emphasis in industrial rehabilitation had already shifted a long way from the fresh air and exercises of the Tomlinson Committee to a concentration on industrial work and a greater awareness of the importance of attitudinal factors.

Official recognition of the implicit, psychological functions of an IRU is quite clear from an article on IRUs in the Ministry of Labour Gazette (1953). The author points to the lack of confidence in their ability and apprehensiveness about the future characteristics of many IRU clients, and to the "deterioration - physical, mental and moral - which enforced idleness had brought about", and goes on to suggest that the industrial rehabilitation process has a remedial effect on these factors.

A similar conception of the nature of the rehabilitation process is embodied in the Ministry of Labour's Handbook (1959) for IRU staff. After quoting the Piercey Committee's (1956) definition of rehabilitation as "medical and surgical treatment designed to restore physical and mental functions, and the process of reconditioning designed to restore the capacity for taking up employment or vocational training", the handbook goes on to distinguish between medical rehabilitation, the earlier part of this process and the responsibility mainly of the health authorities,

and industrial rehabilitation, the later part during which a change is brought about enabling someone who for the time being is incapable of earning his living to become self-supporting again. The importance of overcoming the psychological maladjustment resulting from unemployment and disablement that makes many people difficult to resettle is discussed as part of the function of an IRU. Further attention is given to this feature of industrial rehabilitation in the section of the handbook dealing with the therapeutic element in the work of the Unit Psychologist. Here the effects of disablement and dislocation from employment with the person's resulting inability to find satisfaction for many of his material and psychological needs are discussed. The common deterioration in "attitude and outlook" involving typically a sense of social isolation, lack of confidence, shame and guilt, aggression, resentment, or resignation, are pointed out. An aspect of the psychologist's function in the IRU is to "advise Case Conference how the resources of the unit can be manipulated to achieve some modification of attitude that may be needed to achieve resettlement". It is also stated that such a therapeutic effect in terms of the impact of the IRU on the client's "state of mind and attitude to work" is "implicit in all the activities of the IRU".

Leaving out of account any purely physical benefit that a person may derive from industrial rehabilitation, and the factors of occupational assessment and vocational guidance as such, it is

clear from the foregoing that at least two important conceptions underlie the work of the IRUs of the Ministry of Labour. These conceptions are:

- (i) that unemployment and disablement tend to bring about changes in "attitude and outlook" in people that may make it more difficult for them to find employment, and
- (ii) that, in general, a course of industrial rehabilitation may have the effect of re-modifying these attitudes in a direction consistent with resettlement in employment.

These opinions are widely held among IRU staff and other personnel concerned with industrial rehabilitation.

The first of these assumptions is well supported in the literature. Israeli (1935) compared a group of unemployed persons in Scotland and Lancashire with a group of employed persons and found that the former group were more negative in their attitude and more depressed and expected greater failure than the controls. The unemployed were similar to mental patients in their attitudes though not actually neurotic. Israeli supposes that actual neurotic breakdown did not occur because his subjects were of initially stable personality.

Zawadski and Lazarsfeld (1935) analysed fifty seven autobiographies of persons unemployed in Warsaw and from this compiled what they considered to be the typical sequence of psychological consequences of unemployment. According to the authors dismissal

from work produces a sense of injury followed by a period of numbness and apathy which soon gives way to a calmer, steadier stage with resumption of activity and the seeking of work. When work is not forthcoming an attitude of futility develops followed by poverty and fear, distress, and thoughts of suicide. Finally the unemployed person lapses into a state of sober acquiescence or dumb apathy.

Lewis (1935) examined fifty two consecutive male cases referred to a psychiatric clinic by the Public Assistance Committee and found a fairly uniform pattern of illness which he described as "chronic neurosis in which hysteria predominated". This sample seems to have been neurosis-prone and twelve of the fifty two cases had a history of childhood neurotic traits, but Lewis considers that most of the symptoms at the time of examination were responses to lack of occupation.

Eisenberg and Lazarsfeld (1938) in a discussion of the psychological effects of unemployment state: "Unemployment represents a personal threat to an individual's economic security; fear plays a large role; the sense of proportion is shattered, that is, the individual loses his common sense of values; the individual's prestige is lost in his own eyes, and as he imagines in the eyes of his fellow men. He develops feelings of inferiority, loses his self-confidence, and in general, loses his morale". The authors also suggest that unemployment makes people more introverted and less sociable, and that inferiority feelings are more likely to develop when the individual feels that his unemployment is due to his personal

deficiencies rather than in the case of mass lay-offs. The psychological effects of unemployment are likely to be less marked in well-adjusted people than in individuals initially maladjusted.

The work cited above was all done in the Depression years. Post-war work agrees substantially with the earlier findings. Hewitt (1949) examined fifty unemployed disabled men. By his diagnosis, 7 of them were physically disabled, 17 had psychological disabilities, and the remaining 26 suffered from a combination of psychological and physical disablement. According to the records of the Ministry of Labour disablement resettlement officer, by contrast, only 4 were designated as psychologically disabled, and 46 as suffering from physical disabilities only. According to Hewitt disablement and unemployment brings an "associated loss of self-respect and self-confidence which seemed to give way to depression, aggression, and dissatisfaction with the world in general". He noted a tendency for the zest for seeking work to diminish with length of unemployment, and for the more severely disabled to have more constructive attitudes, and makes the following observation in conclusion; "Unemployment in the midst of full employment is the worst type of unemployment. Present unemployment is a medico-social rather than an industrial problem. The unskilled man is the greatest sufferer and the attitude of mind of the disabled man is the largest single factor in determining the prospects of employment..."

Markowe, Tonge, and Barber (1955) compared a group of 95

unemployed psychiatrically disabled persons with at least six months' unemployment in the previous three years with a group of 127 psychiatrically disabled persons who were in employment at the time and who had had no more than three month's unemployment in the previous three years. Each subject had a one hour interview with a psychiatrist leading to a five-point rating on mental health. They found that certain diagnostic categories had a greater frequency in the unemployed group (e.g. schizophrenia, psychopathy, inadequate and unstable personality). One of the main conclusions of the authors is that "quality of personality" is one of the most important determinants of occupational adaptation. Eighty six of the unemployed group were subsequently followed up over a period of 12 months. At the end of this time 42 of the group were in employment. All of those followed up, except mental defectives and involuntional conditions, showed an improvement in work record during this period compared with the previous twelve months. The improvement was greatest in cases of neurosis of recent onset. Unemployment and psychological maladjustment are thus seen as mutually reinforcing.

The second assumption underlying much of the practice of industrial rehabilitation, that industrial rehabilitation produces a change of attitudes relevant to occupational adjustment, has been the subject of relatively little direct investigation.

Jones (1956) described how an attempt was made to use the IRU

service as a means of rehabilitating mental patients while they were still in hospital. Of 104 such patients whom it was possible to follow up six months after they had completed their IRU courses, 65% were found to be satisfactorily resettled. Mental defectives showed the highest success rate, with psychotics next and neurotics last. Evidence for attitude change through industrial rehabilitation in this study exists only by implication. Jones regarded industrial rehabilitation as a promising technique of value "in the resocialization of the patient so that he receives the best possible adjustment to both work and domestic life". This view is generally accepted and today IRUs are extensively used in this way.

A study by Williams (1958) provides similar suggestive evidence. 200 men and women were followed up one year after they had completed a course at an IRU. Twenty nine predictor variables obtained at the time of the course were then related to two criteria of resettlement, (1) the length of time the person had been in employment since finishing the course, and (2) the investigator's subjective assessment made on a rating scale of the extent of the person's resettlement. The investigator was employed as psychologist at the IRU. The predictors included biographical data, vocational test results, workshop ratings and the investigator's own ratings of attitudes. Attitude ratings that showed significant relationships with the criteria were as follows. Under "attitude to disability" those rated as being "aware of limitations, works within them" did

much better than the others, and those rated "self-conscious and isolated (because of disability)" much worse, judged by criterion (2). The investigator's rating of the subject's own opinion of his fitness for work, on a six-point scale, showed a regular and significant relationship to criterion (2), those who thought they were fit doing better than those who put conditions on their capacity for work. "Attitude to work" rated by the investigator on a five-point scale from "very keen" to "unwilling" likewise showed a direct relationship with the second resettlement criterion, as did his five-point rating of "confidence", the more keen and the more confident doing better than others. Although Williams' work succeeded in its aim of isolating variables predictive of satisfactory resettlement after industrial rehabilitation, it provides no evidence that the industrial rehabilitation process contributes in any way to this resettlement. In other words, the explanation remains tenable that persons having certain characteristics achieve resettlement, while persons lacking these characteristics or having different characteristics and attitudes tend not to, and that the industrial rehabilitation process plays no part in modifying attitudes in a direction favourable to resettlement. Williams clearly does not accept this latter view, for in a preliminary section of this thesis he asserts that the psychological functions of an IRU "often result in a restoration of confidence, in a change of attitude, and in a more realistic outlook towards work".

In an earlier article Williams (1955), described an attempt to evaluate various kinds of group discussion techniques as a means

of facilitating (among other things) the therapeutic function of an IRU. He says,

"It was observed that the disabled person, who has usually been living in hospital and at home for months if not years, tends to feel isolated and often socially rejected. It was expected that the group discussions would help him to become socially readjusted, that they would give him more confidence in himself and in others".

Here again we find the familiar conception of the therapeutic function of the IRU. On the basis of his own impressions and the questionnaire responses of some of his subjects on their reactions to the discussions he concludes that group discussion techniques have potential therapeutic value and merit further investigation.

Some evidence of attitude change during IRU-like processes comes from Feintuch (1955). He studied 52 "difficult to place" individuals in Montreal who underwent a course in a sheltered workshop where they were given vocational guidance and individual counselling. Over the year following the course their work records improved considerably to an average of 116 days worked as compared to only 28 days worked in the year previous to the course. Ratings of seven attitudes made by three judges from the case papers showed a significant relationship with resettlement status. The ratings were

made at admission and at discharge, and it was found that all ratings showed a significant mean change in a positive direction during the course. The "attitudes" were: maintaining good work habits, giving a full day's work, using disability as an obstacle to work, self-confidence, willingness to take low-paid or low-status work, and willingness to do considerable job-hunting.

The most important work on the therapeutic function of IRUs in this country has been done by Wing, whose interest has been mainly in psychiatric patients. In a pilot experiment (Wing, 1960a) he studied 20 male schizophrenic patients aged between 20 and 45 who attended an IRU after being in hospital for at least two years. The patients remained resident at the hospital during their course. Ten "equivalent" patients who remained in hospital acted as controls. The experimental group showed clear superiority over the controls in rated condition on discharge, and in employment status one year later. Both groups were rated by hospital staff on extent of "social withdrawal" and "socially embarrassing behaviour" both before and after the period of attendance at the IRU. The control group showed no change on either rating: whereas the experimental group showed a significant improvement in "socially embarrassing behaviour" but no change in "social withdrawal". Improvement was greater for the "moderately ill" than for the "severely ill". Similar work is reported by Wing and Giddens (1959). In a later article, Wing (1960b), citing these studies as evidence for the value of IRUs in achieving

resettlement of the mentally ill, says, "The change of attitude towards work in the patients studied has been striking and has been a major factor in the success of the experiments".

Wing's most valuable contribution was his study of the industrial rehabilitation process in 212 disabled persons (Wing, 1961, 1965). He constructed a seven-item self-rating questionnaire to measure self-confidence in relation to employment. This he administered to his subjects together with the Maudsley Personality Inventory upon their arrival at the unit and again four weeks later. Independently of these measures judgements were obtained from the rehabilitation officer on whether each subject was entitled to feel confident about his employment future. These judgements, also, were obtained on entry and again four weeks later. On the basis of the rehabilitation officer's judgements the subjects were divided into three groups as follows.

"Group A: 73 entrants who were judged to show behaviour and attitudes which would reasonably entitle them to feel confident about their future employment prospects, on both occasions of rating.

"Group B: 64 entrants who did not show these qualities on the first occasion of rating, but who did so on the second occasion and had therefore, in the opinion of the Rehabilitation Officer, improved.

"Group C: 65 entrants who were not entitled to feel confident on either occasion of rating". (Wing, 1965)."

In addition, Wing himself during the first week rated the subjects' attitudes as "constructive" or "non-constructive" and their emotional reaction to their situations as "accepting" or "affective".

Results were clear-cut, An overall increase in self-rated confidence and a decrease in neuroticism were registered between the first and second administrations of the questionnaires. No change appeared in mean extraversion score. Both changes were greater for groups A and B than for group C. Wing also found a significant relationship between employment status (employed, in training, or unemployed) two months after leaving the unit and improvement in self-rated confidence., and the A, B and C grouping, with a significant interaction between self-confidence score and rehabilitation officer's judgements. A significant interaction was found between the investigator's ratings of attitude (constructive/non-constructive) and his ratings of emotional reaction (accepting or affective) in relation to the groups A, B, and C, and in relation to employment status at follow-up.

Wing's work will be further referred to in later sections.

CHAPTER III

THE NATURE OF THE PROBLEM

It is clear from the foregoing that the work of the IRUs is carried out at least partly on the basis of a presumed change in attitude in the client as a result of the industrial rehabilitation process. If IRU policy is to be formulated and technique devised on the basis of facts interpreted within a scientifically defensible conceptual framework, the present position is far from satisfactory in relation to the therapeutic function of the IRU. At this stage it cannot even be said that the supposed therapeutic modification of attitudes has been convincingly demonstrated.

Much of the available evidence is indirect. In the studies of Jones (1956) and Williams (1958), for instance, the implied argument for attitude change runs more or less as follows. A significant number of people who were difficult to settle in employment before undergoing industrial rehabilitation were satisfactorily resettled after attending an IRU; from this it is inferred that industrial rehabilitation has somehow improved their attitudes, especially since those with better attitudes to start with did better in the long run. It is, however, possible that factors other than attitude change were responsible for the eventual resettlement. For instance, it might be argued that the mere fact that a person has attended an IRU results in greater effort to find

him employment on the part of officials concerned, than if he had not attended the IRU. This alone might account for a substantial number of resettlements.

The studies by Feintuch (1955) and Wing (1960a) included direct attempts to assess attitude change, but the attitude assessments were purely clinical and were recorded in the form of ratings by persons who must be regarded as having some interest in the results obtained and therefore liable to bias.

The only attitude assessment in the literature with a higher claim to objectivity is Wing's (1961) 7-item self-rating questionnaire to measure confidence. This was objective with respect to its scoring and the results were therefore independent of the preferences of the investigator or other interested persons, except possibly the subjects themselves. The Maudsley Personality Inventory, also used by Wing, is the same type of measure. With the IRU process as a field of research as undefined as it is, the attainment of a higher degree of objectivity of measurement than the attitude questionnaire does not yet seem feasible. Wing's confidence questionnaire was, however, very short and had a high level of "visibility", which makes it possible that subjects gave the kind of responses that they thought were expected of them. Even Wing's Group C subjects, who were judged as not entitled to feel confident either at the beginning or the end of the course, showed a substantial improvement in self-rated confidence on the questionnaire.

Wing's demonstration of improvement in confidence during an IRU course by relatively objective means is noteworthy as the only one of its kind. Nevertheless, he has only scratched the surface of the attitude research problem in this field. Wing has measured "confidence" but has provided no similar data for all the other putative "attitudes" averred to be relevant - self-respect, self-esteem, social isolation, shame, guilt, resentment, resignation, "unsettlement", inferiority, deterioration of outlook, keenness for work, insecurity, "morale". It is doubtless because of the difficulty of arriving at satisfactory operational definitions of such nebulous "states of mind" that Wing relied so much on global ratings of behaviour and attitudes by the rehabilitation officer and did not attempt to measure more than self-confidence and the general personality factors of Neuroticism and Extraversion by questionnaire. Other investigators have not even gone this far.

American work on attitudes among the disabled shows the same shortcomings. Although similar assumptions are to be found in the literature about the effect of unemployment and disablement on attitudes, attitude assessment has been no more adequate in America than in Britain. For example, Barker et al (1953) summarise 44 research reports relating to social behaviour and personality correlates of orthopaedic disability. In 24 of these, personality and attitude assessments were made solely by means of subjective techniques variously described as anecdotal, case histories, interviews, ratings and observation. In 9, projective techniques were

used; and 11 used standard personality inventories. In some investigations combinations of these methods were used. On the use of standard personality inventories the authors make the point that to interpret scores of disabled persons in terms of standardisations based on healthy individuals may be misleading because of the "different interpretive significance" of some questionnaire items for the two types of subjects. Clearly the statement "I suffer from aches and pains", endorsed on a questionnaire has a different significance for a physically normal person than for one with chronic arthritis. There is a need for measures specifically designed for disabled populations.

American rehabilitation practice is different from British practice. There is less standardisation; different disability groups are often dealt with separately; and industrial rehabilitation tends to be less clearly distinguished from physiotherapy, on the one hand, and vocational training, on the other. Despite these differences, it is worth noting that American research seems to be in as unsatisfactory a position as British research. In Garrett and Levine (1962), different authors deal with the psychological factors in the treatment and rehabilitation of twelve disability groups. A recurring theme among these authors is the difficulty of conducting adequate research in this field and the poverty of research results available. The position is well summed up by Shontz in his chapter on severe chronic illness. After discussing at length the psychological effects of chronic disablement in terms essentially the same as those of the authors quoted above, he states

"Little that has been said in this entire chapter was founded on conclusions drawn from the findings of experimental investigation. In fact, very few real findings exist upon which conclusions may be based". (p.440).

Seidenfeld, in his chapter on arthritis and rheumatism, complains of the inadequacy of the measuring techniques commonly employed:

'...the psychologist will have to display a great deal more imagination than has been evinced by his preferences for the less reliable and minimally validated projective tools of assessment". (p. 79).

On research into cardiovascular disability, Whitehouse writes,

"In regard to personality studies, the vast majority have been conducted through clinical observation usually by cardiologists and internists rather than by psychiatrists or psychologists. Psychologists and psychological instruments have played a very small role in this area". (p. 115).

Such comments serve to emphasise the paucity of scientific knowledge based on adequate measurement that pervades this whole area of research.

It is the present writer's contention that research in this field cannot proceed fruitfully until further progress has been made in

the assessment of the whole spectrum of attitudes said to be involved in the disablement-unemployment-resettlement process. In particular, it is necessary to validate the assumption of the therapeutic modification of attitudes upon which so much of the practice of industrial rehabilitation rests. The investigation reported here is a first approach to the identification and measurement of these attitudes and to testing the hypothesis of attitude change during industrial rehabilitation. Until the attitudes in question can be more satisfactorily measured, and until more satisfactory evidence for attitude change is provided than has been available hitherto, it will not be possible to answer scientifically the other important questions about the rehabilitation process: What sort of IRU client shows most improvement in attitude? What are the main dynamic factors in producing attitude change - group pressures, individual experience, counselling? What kind of rehabilitation techniques are the most useful? The answers at present given to these and similar questions are based largely on anecdotal evidence current in the professional lore of the IRUs. It was hoped that this investigation, additionally, would yield data relevant to these questions upon which future hypotheses might be formulated and tested.

CHAPTER IV

OBJECTIVES

In the previous chapter it was argued that although the modification of attitudes is considered to be an important effect of industrial rehabilitation, it has never been satisfactorily shown that industrial rehabilitation does have this effect. It has also been pointed out that the major shortcoming of previous work has been inadequate measurement of the attitudes involved. Accordingly the main objectives of the present investigation were as follows:

1) To identify attitudes relevant in the industrial rehabilitation context and to devise objectively scored measures to assess these attitudes.

2) To apply these measures in testing the hypothesis that industrial rehabilitation brings about a change of attitude in clients.

A third, subsidiary objective was formulated as follows:

3) To examine the relations between these attitudes and the factors,

- (a) employment status six months after completing the course.
- (b) reason for termination of course.
- (c) age
- (d) family responsibility.
- (e) length of unemployment before commencing course.
- (f) psychiatric disability.

In regard to objective 3, many other factors might have been considered such as, type and level of previous occupation, unemployment rate in home area, and level of previous earnings, but it was necessary to choose a limited number of factors and the six chosen were considered to be of greatest immediate interest. The intention in the third objective was to obtain results upon which subsequent more detailed research might be based.

CHAPTER V
THE PILOT STUDY

In order to test the feasibility of developing a measuring device a pilot study was undertaken. A number of measures considered likely to reflect the attitudes concerned were applied to 40 subjects in the first week of their course at the IRU, and again to the 33 of these still available in the sixth week. These measures were devised on the basis of face validity and content validity alone for the sake of assessing whether they were worth developing. The investigator was at this time working as psychologist at the IRU and was able to devote about two hours a week to this project. Ratings made by the investigator were used to provide an estimate of the validity of the measures. The measures used are described below.

The Attitude Questionnaires.

From the outset the attitude questionnaire seemed the most promising type of measure. A preliminary decision had to be taken at this stage about which "attitudes" scales should be constructed to measure. One alternative was to try to measure a number of more or less "specific" attitudes like Wing's Self-confidence. The difficulty in this approach is in distinguishing conceptually between the different attitudes that would have to be considered. At what point, for instance, does 'self-confidence' become 'self-esteem'? Is it reasonable to try to separate them? The other approach is the "omnibus" one where an attempt is made to lump together in one assessment a number of apparently related attitudes,

arriving, perhaps, at something akin to Tait and Rodger's "unsettlement". The danger here is that a psychologically meaningful and practically unseful attitude measure may become lost in a possibly less meaningful, less useful general pool. A further difficulty of the "omnibus" approach is that if the area to be studied is too wide problems of definition and item selection for the attitude scales arise. Without more positive evidence that either of these approaches was to be preferred, the pilot study was designed to yield evidence of which approach to adopt in the research proper.

In an attempt to identify relevant and meaningful attitudes the investigator proceeded on the basis of what G.W. Allport has described as "heuristic realism" (Allport, 1965), by which areas of psychological reality are selected for study on a rational and common-sense basis, this basis being re-evaluated in the light of the results obtained,

In IRU practice, three areas of attitude are given consideration by staff, more or less as a matter of course, when making their assessments of clients. These are "keenness for work", "attitude to disability", and "self-confidence". They were taken into account by Williams (1958), and, in one way or another, by most other writers in the field. It seemed reasonable, therefore, to treat them, at least provisionally, as separate attitude areas. In addition, other attitudes produced by unemployment, including feelings of social

isolation, inferiority, insecurity, inadequacy and loss of self-respect, have been considered by most writers and are recognised as relevant by IRU personnel, though this area of apparently related attitudes is less easily defined than those mentioned above. It was decided, therefore, to construct ad hoc scales to cover these four attitude areas, and to use the results obtained to decide whether to continue to treat these as separate areas or whether to pool some or all of them.

The starting point for these scales was in statements made by rehabilitees themselves in formal and informal interviews with the investigator in the normal course of his work at the IRU. Statements were collected that seemed to reflect attitudes produced by unemployment and disablement and relevant to resettlement, and typical of a large number of rehabilitees. A few statements were also provided in a similar way by other members of the IRU staff. Some statements were rephrased to give them greater generality and to reduce ambiguity and a few were specially constructed by the investigator to reflect attitudes that he considered relevant and common to a significant number of rehabilitees. By constructing the scales from "significant" statements" of this kind the investigator sought to ensure that the scales would reflect attitudes of specific relevance to the IRU situation, rather than attitudes that might be common among people generally.

The statements thus obtained were sorted to eliminate those with insufficient generality to be applicable. This left fifty six statements which were classified according to which of the four attitude areas they seemed to fit best. The task of classification proved a difficult one to perform, for several statements seemed to fit equally well into more than one category. Should the statement, "It is humiliating to be unemployed", for instance, be regarded primarily as an expression of keenness to work^{OR} of lowered self-esteem? Difficult-to-classify statements tended to be placed in the fourth category, 'other reactions to unemployment'. After classification there were seven statements (designated 'D') which seemed to pertain particularly to attitude to disability, nine (designated 'C') pertaining to confidence in regard to work, fourteen 'W' statements reflecting keenness to work, and twenty six 'U' statements relating to self-respect, social isolation, feelings of insecurity and inadequacy and other related reactions to unemployment.

The statements and their designation are given in Appendix I. These were set out in the form of a Likert attitude scale and the subjects were asked to respond 'Strongly Agree', 'Agree', 'Uncertain', 'Disagree', or 'Strongly Disagree' to each of them. Each response was scored from 0 to 4 depending upon the response category checked, the direction of scoring being determined by whether agreement with the statement seemed to bode well or ill for the persons

resettlement. High scores thus indicated attitudes consistent with resettlement. The results were recorded as separate scores for the D, C, W, and U categories, and in addition the D, C, and W scores were combined into a composite score. The U scale, which was presented on a separate sheet, was not included in this composite because with similarities between some of the U statements and some of the D and C statements, and the relatively large number of U statements, this seemed likely to weight the composite unduly with this type of item.

The Investigator's Ratings.

The investigator rated each subject on "keenness for work", "self-confidence", "attitude to disability", and "general reaction to unemployment". As with the questionnaire measures a composite rating was also obtained by adding together the first three of these ratings. The ratings were made on five-point scales during the investigator's normal preliminary interview with each subject during the first six days of the course. Persons who in the investigator's opinion showed attitudes in each of these areas consistent with easy resettlement were rated high, and those with attitudes likely to retard resettlement, were rated low.

The Semantic Differential Scale.

In order to investigate the possibility of developing Osgood's Semantic Differential as a device to reflect attitudes in the IRU

situation, the scale given in Appendix 2 was included in the pilot study. It was surmised that persons with differing attitudes to work, their disability and their future would give different semantic weights to words relating to these areas of experience. (Osgood et al 1957).

Eight items from the Maudsley Medical Questionnaire. (see Appendix 3)

These were included to provide an estimate of whether the attitudes assessed by other means were related to the neuroticism personality factor (Eysenck (1947)). Only eight items were used because time did not permit the use of the full questionnaire. The items were chosen on the basis of their reported correlation with the total scale and their apparent relevance in an IRU context.

The Working Conditions Check List.

From his experience in the IRU the investigator considered that clients' attitudes are often reflected in the number of restrictions they put upon their capacity to work and the range of jobs and working conditions they consider acceptable. This view is supported by the work of Williams (1958), and Feintuch (1955). Over-choosiness seems often to be associated with low motivation for work, low self-confidence or related attitudes, or a combination of these factors. With this in mind, the check list (Appendix 4) was included in the pilot study.

The Workshop Behaviour Check List.

Attitudes are important largely in so far as they represent

behaviour tendencies. It is to be expected, therefore, that a significant attitude will be reflected in the behaviour of the individual. It may even be argued that unless behavioural correlated of an attitude can be demonstrated the attitude has no practical or psychological significance. With this in mind the Workshop Behaviour Check List was constructed.

All occupational supervisors in charge of workshop sections were interviewed by the investigator. After some preliminary discussion to clarify the notions of confidence, attitude to disability, and keenness for work, supervisors were asked to give instances of observable behaviour in rehabilitees that would normally lead them to conclude that one of these attitudes was present to a favourable or unfavourable extent. It was pointed out that supervisors' written reports on rehabilitees frequently contained references to these attitudes and they were asked to make explicit the kind of behaviour in rehabilitees on which they based these assessments.

From the information obtained at these interviews the behaviour check list was compiled. (See Appendix 5). It consisted of 21 items, 2 of which referred specifically to attitude to disability, four to self-confidence, and fifteen to keenness for work. It is noteworthy that supervisors, though normally willing to give opinions on an individual's confidence and attitude to disability, found it difficult to cite behavioural instances upon which such judgements were made. Ratings on this check list were obtained from supervisors

during the second and sixth week of the individual's course.

The reason that this measure, unlike the other measures, was not used during the first week is that the first week of all rehabilitees' courses is spent in the Intake Section where conditions differ somewhat from those on other sections. In particular, during his first week a rehabilitee normally spends a great deal of time away from the section attending interviews, and it was felt that ratings taken under Intake conditions would not be comparable with ratings taken later in other workshop sections.

CHAPTER VI

RESULTS OF THE PILOT STUDY

The Attitude Questionnaires and the Investigator's Ratings.

The attitude questionnaires showed test-retest reliabilities as follows (N = 33):

D:	r	=	.33	
C:	r	=	.34	(; significant at the 5% level,
W:	r	=	.37	; significant at the 1% level.)
Sum (D+C+W)	r	=	.76	
U:	r	=	.82	

The unsatisfactory reliability of the D,C and W, scales is clearly a function of the small number of items used in each scale, apart from the unreliability that must have resulted from the ad hoc nature of the construction of the scales.

When the mean scores obtained on the first and second administrations were compared there was virtually no difference between the means of the W scores. This result was expected since some care is taken in the selection of candidates for the IRU to ensure that only those who want to attend a course are admitted. Since attendance is voluntary those who are not well motivated for work tend to be eliminated from the outset. It is not, therefore, generally expected in IRU practice that an IRU course will make clients more keen to work. Comparative scores for first and second administrations are given in Table I.

TABLE I

	<u>1st Administration</u>		<u>2nd Administration</u>	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
D	14.52	3.6	16.82	4.0
C	19.48	5.4	21.21	5.2
W	39.39	8.2	39.12	6.7
Sum(D+C+W)	73.39	14.4	77.17	11.1
U	58.48	17.2	57.22	16.4

The D, C and U scores all showed differences in mean that were in the expected direction, that is, towards attitudes more consistent with resettlement. Of these differences only that obtained from the D scale reached statistical significance ($t=2.96$ $p/.01$, two-tailed). Considering the low reliability of the scales and the method of scale construction the failure to reach statistical significance with a small sample is not surprising. Though inconclusive, these results are in line with those to be expected and they form the basis of the research hypotheses.

Intercorrelations among the scores obtained on the first administration of the questionnaires were as follows:

	D	C	W	U
D		.38 ^x	.11	.26
C			.06	.48 ^{xx}
W				.00

(^x: significant at the 5% level, ^{xx}: significant at the 1% level).

These figures suggest that while the D, C, and U scales had a certain amount in common, there was little overlap between the W scale and the other three.

The investigator's ratings were used to provide an estimate of the validity of the scales. The rating of keenness for work was in practice found easy to perform and this correlated significantly ($r = .52$, $p < .01$) with the questionnaire W score. It was found extremely difficult, however, to keep ratings of the other three attitudes independent of each other. The correlations between these ratings and the corresponding questionnaire measures were not significant though they were in the expected direction.

(D: $r = .27$; C: $r = .22$; U: $r = .20$.) The sum of the D, C and W ratings gave a correlation of $.47$ with the sum of the D, C and W questionnaire scores, significant at the 1% level.

On the basis of these results it was decided to develop this type of measure further for the main investigation. Two scales were to be developed. One scale, subsequently designated the 'W scale', would be constructed to measure 'keenness for work', as a 'specific' attitude. Another, subsequently designated the 'I scale' would yield a single omnibus score for the other attitudes. The experience of collecting and classifying statements and of making ratings on 40 rehabilitees, the correlations among the scales themselves, and the correlations between the scales and the investigator's ratings support this approach. While it seemed feasible to treat keenness for work as a

separate attitude, it appeared practically impossible to distinguish clearly either conceptually or operationally between the other attitudes considered. Hence the decision to develop only two scales rather than to persist with the four scales originally envisaged.

The Semantic Differential Scale.

This type of measure showed little promise of being of value. The distributions of responses for each word showed very high modal frequencies, and differences between the scores of individuals on the scale were small, and correlations between these scores and other measures were negligible. In addition, a substantial number of subjects had great difficulty in understanding how the scale should be completed. It was decided, therefore, not to proceed with this type of scale.

The Maudsley Medical Questionnaire Items.

This shortened scale distinguished well between subjects with psychiatric disabilities and others. It correlated with the questionnaire scales as follows: D: .24, C: .35^x, W: .17, U: .25, and the sum(D+C+W): .52^{xx}. These figures suggest that there is a component of "neuroticism" in some of the attitudes concerned. This is in accordance with what would be expected from the work of Lewis (1935), Hewitt (1949), Markowe Tonge and Barber (1955) and Wing (1961), discussed in Chapter II. It was decided to

include a similar measure in the main study to assist in the interpretation of the attitude scales.

The Working Conditions Check List.

There was a significant reduction in the mean number of items checked between the first and second administrations of this measure ($t=4.61$, $p/.01$). The check list also showed just-significant correlations with the investigator's ratings of attitude to disability and keenness to work, and a correlation of .49 with the Maudsley questions. Correlations with the attitude scales were insignificant. In view of these results and because of the simplicity in use of this measure, it was considered that it merited further investigation and it was included, in slightly modified form, in the main study.

The Workshop Behaviour Check List.

Total scores obtained from this measure, just failed to reach a significant level of correlation ($r= .31$) with the sum of the investigator's ratings. Its correlation with the sum of the questionnaire scores was only .19. Differences between the first and second administrations were neither consistent nor significant. The failure of this measure is probably due largely to the fact that the ratings were made by six different supervisors on six different workshop sections. Scores obtained varied widely from section to section and seemed often to reflect the particular conditions obtaining on each section. On the Heavy Work section, for instance, most of the rehabilitees are scattered throughout the Unit grounds engaged on gardening work and the section supervisor has much less opportunity

to observe the kind of behaviour described than supervisors of some of the other sections. In addition, a large proportion of rehabilitees are transferred from one section to another in their third or fourth week so that comparisons of first and second ratings become almost meaningless.

Thus while this type of measure seems to hold promise for certain types of usage, particularly if separate norms can be established for each workshop section, it did not seem suitable for this type of investigation and was not developed further.

SECTION B

THE MAIN STUDY

CHAPTER VII

THE RESEARCH HYPOTHESES

On the basis of assumptions underlying the operation of Industrial Rehabilitation Units in Britain, of previous research, and of the results of the pilot study, the following research hypotheses were formulated.

(1) That there is a significant change during industrial rehabilitation in the set of attitudes related to anxiety, self-confidence, self-esteem, self-respect, and feelings of inferiority, insecurity, inadequacy, and social isolation; that may be engendered as a result of unemployment and disablement.

The predicted direction of attitude change was that consistent with resettlement; that is, clients were expected to show a reduction in anxiety, insecurity, and feelings of inferiority and inadequacy, and greater self-confidence, self-esteem and self-respect.

(2) That there is no significant change in the 'keenness for work' of clients.

Two attitude scales were constructed to test these hypotheses. Their construction and validation is described in Chapter VIII. Other measures used in the investigation and interrelationships among the measures are described and discussed in Chapter IX.

CHAPTER VIII

THE CONSTRUCTION OF THE ATTITUDE SCALES

In order to test the research hypotheses two attitude scales were constructed:

(1) The 'I' scale, to assess an attitude called 'inadequacy' considered to be a composite of feelings of inadequacy, inferiority, loss of self-confidence and self-esteem, and related reactions to unemployment and disablement. This was used to test Hypothesis (1).

(2) The 'W' scale, to assess 'keenness for work', used to test hypothesis (2).

The procedure adopted for the construction of the scales was as follows. Firstly, statements were collected that seemed to reflect the attitudes being studied. From these a smaller number were selected for the final form of the scales by a procedure similar to the Scale-Discrimination Technique described by Edwards (Edwards 1957; Edwards and Kilpatrick, 1948). This involves combining the method of equal-appearing intervals first described by Thurstone and Chave (1929) with an item analysis procedure similar to that used by Likert (1932), to select items for a self-rating scale with multiple response categories. The procedure used in the present study is described in detail below.

A total of 87 statements were assembled from which the final selection of items for the I and W scales were to be made. These consisted of most of the original 56 statements used in the pilot study

plus a number of further statements gleaned from interviews. In addition the investigator conducted a series of group discussions with groups varying from six to twelve rehabilitees. In these discussions rehabilitees were encouraged to talk about how it felt to be unemployed and disabled and their expectations for the future, and the investigator recorded unobtrusively any statements that seemed to be significant indicators of relevant attitudes, and a number of these were used in the construction of the scales. Further statements were obtained from essays written by rehabilitees in the Education and Clerical Section. The supervisor of the section was asked to obtain essays from suitable clients on the subjects, "What it Feels like to be Unemployed", and "What it means to me to get back to work" as part of his normal assessment of their standard of written English. These essays were perused by the investigator. As in the pilot study, the investigator attempted to obtain statements used "live" in the IRU context, to ensure that real rather than supposed attitudes would be assessed. It was found easier to obtain statements expressing a high degree of inadequacy and keenness for work than statements expressing 'adequacy' and low motivation for work. The lower extremes of these attitudes would appear to be expressed in an IRU context more by what people do not say than by what they do say.

These statements were then classified according to whether they seemed to pertain to the I or W attitude areas. In this way 42 statements were designated I and 20 W. A further 25 statements seemed

to have possible relevance to both attitude areas, giving a total of 67 potential I scale items and 45 potential W scale items. (See Appendix 7).

Each statement in each of the I & W sets was typed on a card and the card marked I or W. Several batches of these cards were produced. Sets of cards together with sorting envelopes were distributed to a number of judges to be sorted in accordance with a sheet of instructions which accompanied each set of cards.

The instruction sheet (reproduced in Appendix 6) gave a brief explanation of industrial rehabilitation and asked for the judges' co-operation in producing attitude questionnaires. Explanations of the two attitudes, 'Inadequacy' and 'Keeness for Work', were given. Judges were asked to sort each set of statements into the set of nine envelopes provided so that the statements which showed the strongest sense of Inadequacy (as defined) or the greatest Keeness for Work would be placed in envelope number 9, and those which indicated the least degree of the attitude into envelope number 1. Statements expressing intermediate degrees of the attitude were to be placed in intermediate envelopes, with neutral statements in envelope number 5. The first sorting envelope for the I statements was marked 'LEAST INADEQUATE (i.e. most confident; etc).' and the ninth envelope 'MOST INADEQUATE'. Envelope number one of the W set was marked 'LEAST KEEN', and number nine 'MOST KEEN'. The remaining envelopes were numbered but not otherwise marked.

The definitions of the two attitudes given in the instructions were reproduced on separate cards as follows:-

INADEQUACY

This attitude is a general state of mind which seems to develop as the result of unemployment and disablement. A man in this position tends to suffer a loss of personal confidence and to begin to doubt his ability to work or to hold down a job. He feels a loss of status in his community and has to face financial insecurity and a lowered standard of living. He is usually conscious of reduced capacity and the limitations his disability imposes. He might begin to feel socially isolated or even guilty. All these factors combine to produce a general feeling of insecurity, inferiority, or inadequacy. For purposes of this study this general "attitude" is called INADEQUACY.

KEENNESS FOR WORK

The second "attitude" is the straightforward one of KEENNESS FOR WORK denoting the strength of a man's motivation or desire to have a job.

The judges were asked to keep these cards in front of them while sorting. This was done to ensure that the judges made their judgements as far as possible in terms of the particular meanings that 'Inadequacy' and 'Keeness for Work' were intended to have in the context of this

research. This was felt to be particularly necessary in the case of 'Inadequacy' which is not a narrowly-defined, specific attitude, easily comprehended, but a general state of mind, broad and complex.

The procedure of obtaining judges ratings in this way rests upon the assumption that there is a psychological continuum corresponding to each of the attitudes defined, ranging in the case of 'keenness for work', for instance, from a strong desire to work, through a neutral point, to a desire to avoid work.

Each statement is thought of as a stimulus that arouses a 'discriminal process' at some point along that continuum in an individual. By Edwards' (1957) definition,

'a discriminial process ... is a theoretical concept and represents the experience or reaction of an individual when confronted with (a) stimulus and asked to make a judgement of some attribute. It is, as Thurstone (1927) states, whatever it is that goes on when we make a discrimination or response involving a judgement of some attribute'.

Judges are therefore being asked to locate the discriminial process aroused by each statement within one of nine intervals along the particular psychological continuum. All intervals are assumed to be equal in size, and interval 1, for instance, is thought of as extending from a point .5 units to a point 1.5 units along the psychological

continuum, the location of the zero point being arbitrary.

It is assumed that a particular statement will not always arouse the same discriminial process, but that the reactions aroused will be distributed about a most frequently aroused or modal discriminial process. When a number of judges are asked to rate statements, as in the present study, the distribution of judges' ratings may be taken as an approximation to the distribution of discriminial processes, and the median point of the distribution as an estimate of the position of the modal discriminial process along the psychological continuum. The median is known as S, the scale value of the statement, representing the amount or intensity of the attitude associated with each statement. Knowing the S values of statements allows the investigator to select statements whose positions on the attitude continuum are known. The interquartile range, Q, of the distribution of judges' ratings may be used as the basis for rejecting statements about whose position on the attitude continuum the judges do not agree well. Statements with large Q values would appear to arouse a wide range of discriminial processes and cannot be regarded as reliable indicators of attitude.

Altogether 45 judges sorted the statements in the present investigation. The judging group was made up of 20 IRU personnel (including 8 psychologists), 10 third year psychology students, 5 persons studying for the M.Ed.degree, 2 clerks, 1 University Psychologist, 1 schoolteacher, 1 production manager, 1 school attendance officer, 1 accountant, 1 electrical engineer, 1 surveyor, and 1 social worker.

Because of the specialised nature of IRU work it seemed possible that persons not acquainted with it might not be capable of making valid judgements of the attitude content of the statements. To test this possibility S values for each attitude statement were calculated separately for the group of 20 IRU judges and for the 25 non-IRU judges. Kendall's Tau correlation coefficient between the two sets of S values was then computed. (Kendall 1948). For the 45 W items the value of Tau was .88, and for the 67 I items, .64. There was better agreement about the W items than about the I items. An examination of the data showed that the relatively lower figure obtained for the I items was due largely to a number of items with large Q values on both sets of ratings - items that would in any case be eliminated at later stages of the analysis. When the twenty nine items with the largest Q values in the I set were ignored the value of Tau rose to .76. These results were taken as indicating sufficiently close agreement between the two groups of judges to justify the use of non-IRU persons as judges.

The distribution of the ratings of the 45 judges were then plotted and S (median) and Q (interquartile range) values calculated for each statement. The statements and their S and Q values are given in Appendix 7 . The distributions of S and Q values obtained for each set of statements are given below:-

	<u>S Values</u>									Total.
	0.50- <u>1.49</u>	1.50- <u>2.49</u>	2.50- <u>3.49</u>	3.50- <u>4.49</u>	4.50- <u>5.49</u>	5.50- <u>6.49</u>	6.50- <u>7.49</u>	7.50 <u>8.49</u>	8.50 <u>9.49</u>	
I Items	5	3	4	2	6	20	18	8	1	67
W Items	2	4	4	2	5	11	5	6	6	45

Q. Values

	<u>0- .99</u>	<u>1.00-1.99</u>	<u>2.00-2.99</u>	<u>3.00-3.99</u>	<u>4.00-4.99</u>	<u>5.00-5.99</u>	<u>Total.</u>
I Items	2	24	32	5	3	1	67
W Items	3	24	18	0	0	0	45

In both distributions of S values there is a preponderance of items in the upper end of the scales, particularly in the case of the I items. This reflects the difficulty already mentioned of obtaining items expressing 'adequacy' and lack of keenness. Some judges commented that they found the W statements relatively easy to sort, but that the I set contained statements that seemed ambiguous or irrelevant. This is reflected in the distributions of Q values. Some of the I statements had Q values greater than 4 while all the Q values for the W statements were below 3.

The distributions of judges ratings were now used to select statements that could be accepted with reasonable confidence as reflecting the I and W attitudes.

Firstly, the distribution of judges' ratings for each statement was tested to determine whether the S value obtained could be taken as being significantly above or below the midpoint of the scale, that is 5.00, defined for the judges as being the neutral point. Since in its final form the scale was to be scored by summing subjects' ratings of all items it was necessary to use only statements with either a positive or negative attitude content. Neutral statements do not contribute to this

type of scale. On the assumption that a neutral statement is just as likely to be rated above the midpoint as below, it is to be expected that 50% of judges would rate a neutral statement above the midpoint and 50% below. It was assumed that ratings in Category No.5. (representing scale values between 4.50 and 5.49) were evenly distributed about the midpoint. The coefficients obtained by expanding the binomial $(p+q)^{45}$ may be used to compute the probability of a neutral statement being placed above (or below) the midpoint of the scale by any number of the 45 judges. By using the normal distribution as an approximation to the binomial it was calculated that there is less than .05 probability of a neutral statement being rated above or below the midpoint by 15 or fewer judges. All statements that did not meet this criterion were therefore rejected as being probably neutral. 13 I statements and 8 W statements were rejected in this way. These statements are indicated in Appendix 7.

Secondly, statements on whose scale values the judges showed relatively poor agreement in their ratings were rejected on the grounds that less confidence can be placed in such statements from the point of view of attitude measurement than in statements on which the judges agree relatively well. 16 I items and 9 W items were rejected on these grounds on the basis of their Q values, statements with the highest Q values being rejected. The choice of a cut-off Q value in this situation is always arbitrary and must represent a compromise between retaining a sufficiently large number of statements for further analysis and using statements with small Q values. In the event a cut-off Q value of 2.24 was used for the I statements and 2.21 for the W statements.

This left 38 I statements and 28 W statements for further analysis. 5 statements were common to both sets. These 61 statements were then reproduced in the form of a Likert attitude questionnaire (see Appendix 8) The order of statements was random, except for the first statement which was placed in that position because its content made it suitable as a basis for explaining how the questionnaire should be completed, and the last five, which were scored both I and W. Because of the method of item selection employed in its construction the questionnaire could be regarded as a reasonably valid measure of the I and W attitudes. Item analysis was now employed to select from it the most discriminating items for use in the final scales.

The questionnaire was administered to 112 male rehabilitees at various stages of their rehabilitation courses. The instructions to the subjects were standardised and the same in essentials as those described for the group used in the testing of the main hypothesis (See Appendix 13) Subjects were required to respond "Strongly Agree", "Agree", "Uncertain", "Disagree", or "Strongly Disagree" to each statement. The direction of scoring for a statement was determined by its S value, a score of 0 being given for a response that indicated the least degree of the attitude and 4 for the response showing the greatest degree, with scores of 1, 2, and 3 for intermediate responses. 30 'I' statements and 21 'W' statements were scored 4 for "Strongly Agree" and 8 'I' and 7 'W' statements 4 for "Strongly Disagree". High scores indicated high inadequacy and great keenness respectively.

The maximum possible score was 152 for the 'I' scale and 112 for the 'W' scale. I scores for the validation group ranged from 27 to 117, and W scores from 41 to 107. From the 112 questionnaires completed by the validation group the 30 with the highest I scores (range 91 to 117) and the 30 with the lowest I scores (range 27 to 66) were separated for item analysis. The same was done for the W scores: high group range, 86 to 107; low group range 41 to 72. For each statement the number of responses in each response category was then counted for each of these groups and a 2 x 5 frequency table constructed as illustrated below.

Item No.19 (W): 'I feel uneasy if I'm not busy all the time'.

<u>Response category.</u>	<u>Response Frequency.</u>	
	<u>High Group</u>	<u>Low Group</u>
Strongly Agree	8	1
Agree	18	10
Uncertain	1	4
Disagree	2	13
Strongly Disagree	1	2

The response categories were then dichotomised as described by Edwards (1957) to yield a 2 x 2 table minimizing the sum of the frequencies in two diagonally opposite cells. In the example given the response categories are dichotomised between "Agree" and "Uncertain", yielding the table below:-

Item No.19(W)

<u>Response Category</u>	<u>Response Frequency</u>	
	<u>High Group</u>	<u>Low Group</u>
Strongly Agree, Agree	26	11
Uncertain Disagree) Strongly Disagree)	4	19

From each of these 2 x 2 tables a Phi coefficient was calculated as an index of the extent to which the statement discriminated between high and low scoring groups. The distribution of Phi coefficients so obtained was as follows:-

Values of Phi Coefficients.

	<u>0-.09</u>	<u>.10-.19</u>	<u>.20-.29</u>	<u>.30-.39</u>	<u>.40-.49</u>	<u>.50-.59</u>	<u>.60-.69</u>	<u>.70-.79</u>	<u>.80-.89</u>	<u>Total</u>
I State ments	3	0	1	7	7	10	2	6	2	38
W "	1	1	1	4	6	11	3	1	0	28

I statements yielding a phi coefficient less than .42 were then eliminated as having insufficient discriminating power. For W statements a cut-off point of .40 was used. (For 60 cases a phi coefficient of .34 is significant at the 1% level of confidence). This left 24 I statements and 19 W statements. In order to secure an even number of W statements one statement that gave a Phi coefficient of .39 was admitted. The 24 I statements and 20 W statements thus obtained now formed the final versions of the two scales. These statements were printed on two sheets stapled together with 22 statements (12 'I', and 10 'W') on each sheet. The two pages of the questionnaire were matched for each set of attitude.

statements on S, Q and Phi values, and, within the constraints imposed by this, for statement content. The number of positively and negatively scored statements was also equated for each page. The degree of matching may be gauged from the following table.

<u>I Scale</u>	<u>S</u>		<u>Q</u>		<u>Phi</u>	
	<u>Mean</u>	<u>Range</u>	<u>Mean</u>	<u>Range</u>	<u>Mean</u>	<u>Range</u>
Page 1,	6.81	1.45 -8.51	1.73	1.16 -2.15	.58	.42 -.80
Page 2	6.69	1.15 -8.30	1.79	0.69 -2.15	.59	.44 -.81
<u>W Scale</u>	<u>S</u>		<u>Q</u>		<u>Phi</u>	
		1.48		1.20		.41
Page 1	6.13	1.75	1.62	-2.15	.54	-.62
Page 2	6.52	1.16 -8.77	1.38	0.67 -1.83	.54	.39 -.71

Apart from the first statement the order of statements was random. The final form of the questionnaire, therefore, was made up of two equivalent halves. It is shown in Appendix 9 .

The method of attitude scale construction just described has the advantage that it uses a double sifting process to eliminate statements that either do not validly reflect the attitudes being studied, or that do not discriminate well between groups high on the attitude and groups low on the attitude. Thurstone's method of equal-appearing intervals on its own ensures that the statements used can be accepted with fair confidence as representing the attitude, but does not ensure that the statements distinguish well between high and low attitude

groups. The statement, "You can't keep a good man down", in the present study, for instance, was found to have an S value of 1.30 on the I scale, and the judges were in close agreement on this ($Q = 0.96$). Item analysis, however, showed that it did not distinguish at all between high and low groups ($\Phi = -.04$). Thurstone's method on its own would have retained this and similar statements with a resulting loss in validity.

Likert's method of summated ratings ensures that only statements that distinguish well between high and low scoring groups are used, but does not ensure that the scores represent the attitude they are intended to represent. The double sifting process used in this investigation meets both these requirements.

Though the method used here is similar to Edwards' (1957) scale discrimination technique, it differs in some respects. Firstly, it differs somewhat in intention. Edwards devised his technique as a means of producing scales meeting the requirements of a cumulative or 'Guttman' scale. A Guttman scale is a scale measuring a uni-dimensional attribute, from the total score on which an individual's response to each of the separate scale items can be accurately predicted. (Guttman, 1944; Edwards, 1957.) It was not intended that the I and W scales should meet the stringent requirements of a Guttman scale. The I scale, in particular, was not conceived as measuring a unitary attitude, but as yielding a single score re-

presenting a composite of several related attitudes produced by unemployment and disablement. To attempt to construct strictly unidimensional scales for the attitudes being studied, in the present state of knowledge, would, in the investigator's opinion, only have resulted in an undue narrowing of the field to the neglect of the broader area of attitudes of real importance in the IRU situation. A preliminary investigation, on the basis of the present study, towards the ideal of unitary attitude measurement is reported in Chapter XIII.

Secondly, there is a difference of procedure between the method employed here and Edwards' method. Edwards selected statements for item analysis solely on the basis of the Q values yielded by the judges' ratings. He determined the direction of scoring for the statements used in the item analysis by the S value alone.

'The direction of the weights for each statement can be determined easily from the location of the statements on the Thurstone equal-appearing interval continuum". (Edwards, 1957, p.211).

In the present investigation the distribution of ratings for each statement was tested to ensure that the S value obtained was significantly above or below the midpoint of the scale before the statement was included in the item analysis. Statements that are very close to the midpoint of the scale are likely to be ambiguous or irrelevant and will contribute to the error in the total score, particularly if the score is calculated by Likert's

method of summated ratings. Since the item analysis procedure is based on total scores the presence of neutral items is likely to lower the validity of the item analysis. It was for this reason that such statements were removed from the questionnaire before item analysis in the present study.

Reliability.

The reliability of these scales was assessed in two different ways. Firstly, the scores obtained on page one of each scale by 327 rehabilitees were correlated with their scores on page two. This yielded correlation coefficients of .682 for the I scale, and .574 for the W scale. Applying the Spearman-Brown formula to correct for length of test gives reliability estimates of .81 for the I scale and .73 for the W scale.

Secondly, reliability was estimated by correlating total scores obtained by 211 rehabilitees on the I scale and 213 on the W scale, with their scores obtained at re-test five weeks later. This group represented those of the original group of 327 who were available for retest. Reliabilities estimated in this way were .810 for the I scale and .748 for the W scale, very similar to those obtained by the other method. Considering the wide attitude areas that these scales were constructed to assess, these levels of reliability are considered satisfactory for the purpose for which the scales were constructed.

Validity

The main argument for the validity of the scales lies in their method of construction which has been described above. Additional checks of validity were obtained, however.

Ratings were obtained on each rehabilitee during the first week of his course from the Social Worker, the Occupational Supervisor in charge of the Intake Section, and the Psychologist on the two "attitudes" of "Inadequacy" and "Keeness for work". The five-point rating scales shown in Appendix 10 were used for this purpose. The Intake supervisor made his ratings on the basis of the man's total behaviour in the Intake Section during the first week of his course, and the social worker and the psychologist on his behaviour at interview during roughly the same period. All ratings were made without knowledge of the man's questionnaire results so that there was no risk of contamination of the ratings from this source. Raters did not discuss their ratings with each other, but the normal work of the Unit required a certain amount of discussion of rehabilitees among the raters. Intercorrelations between the ratings of the three raters are shown below.

	<u>I Scale</u>		<u>W Scale</u>	
	<u>Psychologist</u>	<u>Supervisor</u>	<u>Psychologist</u>	<u>Supervisor</u>
Social Worker	.387	.407	.235	.228
Psychologist		.398		.291
	<u>Mean: .397</u>		<u>Mean: .251</u>	

Clearly the reliability of these ratings was not very high. The sum of the three ratings was used as criterion in assessing the validity of the scales. In about 50% of the cases, however, only two of the three ratings were available for this purpose because of the absence of one or other of the raters and because the Intake supervisor retired before the end of the investigation. In these cases the sum of two ratings multiplied by 1.5 was used. The sum of ratings can normally be expected to be more reliable than a single rating. Using the mean intercorrelations as estimates of the reliabilities of the ratings of one rater, the reliability of the sum of the ratings of any two raters is estimated by the Spearman-Brown formula as .57 and .40 for the I and W traits respectively. These figures may be taken as minimum reliabilities for the criteria since in many cases three, not two, ratings were combined. The smaller correlations obtained for the W ratings relative to the I ratings are probably partly due to the relatively narrow range of individual differences on this trait. It has already been pointed out that persons who are not in fact keen to work seldom attend the IRU.

The correlations between these criteria and the corresponding questionnaire scores were .311 for the I scale and .281 for the W Scale (N = 327). Corrected for attenuation in the criterion these rise to .41 and .33 respectively. These figures are not high, but given the nature of the "attitudes" under consideration and their probable multi-dimensional structure they are taken as evidence of

validity, particularly when they are taken in conjunction with the other validation evidence presented.

Another check on validity was sought by comparing the scores obtained by the IRU group with those of another group that could be considered a priori as likely to differ significantly in their attitudes. It was not feasible to use normal workers or even disabled workers in employment for a criterion group since many questionnaire items were phrased specifically for persons who were both disabled and unemployed. A group of 42 men attending a training centre for the disabled was therefore used since they met both of these criteria. The only questionnaire item that seemed of doubtful relevance for this group was item No.10. "There is some point in rehabilitation even if you don't get a job immediately afterwards". All of the group, however, seemed to accept the word "rehabilitation" as referring to their training, and none omitted the item. It was not necessary, therefore, to make any adjustment to total scores. It was expected that this group, being already engaged in specific training that would fit them for a job in the foreseeable future, would suffer less anxiety and uncertainty about their future and would, therefore, score lower on the I scale than the IRU group. No significant difference between the groups on the W scale was anticipated. The mean scores of the two groups were compared and the hypothesis of no difference tested by means of the t test. Results were as follows:-

		Training Group (N = 42)	IRU Group (N = 327)	t	P
I Scale	<u>Mean</u>	35.76	45.66	4.70	.00003
	<u>SD</u>	12.69	13.74		(1 tailed)
W Scale	<u>Mean</u>	51.76	56.13	2.68	.008
	<u>SD</u>	9.69	9.61		(2 tailed)

On both scales the mean scores of the criterion group differ significantly from those of the IRU group. The lower mean I score of the criterion group is taken as evidence of the validity of the I scale. The lower mean W score of the criterion group was unexpected as it was anticipated that both groups would show equal keeness for work. The interpretation suggested for this unexpected difference is that individuals are likely to exhibit less generalised motivation for work (which the questionnaire sets out to measure) once the work goal has become specific and the path to it clearly defined and embarked upon. A comparison of motivation towards specific work goals between two such groups would probably show the opposite relationship.

To summarise, the validity of the I Scale is well established by these results. Evidence for the validity of the W Scale is convincing though less strong. When the findings, reported in Chapter XIII, that the W. Scale is related to outcome of course, age, and amount of family responsibility are considered, this scale, also, may be accepted as well validated.

CHAPTER IX

OTHER MEASURES AND RELATIONSHIPS BETWEEN MEASURES

The Working Conditions Check List.

The original form of the checklist was modified as a result of the pilot study and the final form is shown in Appendix 11 . On the basis of the pilot study it was expected that the checklist would be related to the I and W scales, and that there would be a reduction in score on the checklist following a period of industrial rehabilitation. It was therefore regarded as an additional measure of the attitudes under consideration whose precise interpretation would depend on its relationships with the other measures employed. The checklist gave a test-retest reliability of .613 (N = 213) and its correlation with other measures is shown in Table 2, and its interpretation is discussed below:

The Shortened Maudsley Personality Inventory. (see Appendix 12)

In place of the eight items from the Maudsley Medical questionnaire used in the pilot study, the abbreviated 12 item version of the Maudsley Personality Inventory (Eysenck, 1958) was used since it gives measures on both the neuroticism and extraversion dimensions of personality, and since validation evidence for these 12 items already exists, The object of including these measures in the study was firstly to assist in the interpretation of the I and W scales, The I scale in particular appeared to be measuring an attitude related to neuroticism. It was considered desirable to assess the relationships between the I and W attitudes and basic personality dimensions. Secondly, the shortened

MPI was used to replicate Wing's work (Wing, 1961). Wing, using the full scales, found that his subjects showed a reduction in neuroticism during industrial rehabilitation but that their E scores remained substantially the same. Accordingly, subsidiary research hypotheses were set up in respect of these measures as follows:

- (i) that there is a reduction in neuroticism as measured by Eysenck's shortened N scale in clients, following a period of industrial rehabilitation.
- (ii) That there is no significant change in extraversion score on Eysenck's shortened scale following a period of industrial rehabilitation.

The reason that the shortened version of the MPI was used rather than the full scales was that time did not permit more extensive assessment. The reliability and validity of the version used are reported in the following paragraphs.

The test-re-test reliability of the N scale was .613, and of the E scale .601; in comparison with values of .79 and .71 reported by Eysenck (1958). Eysenck's figures are corrected split-half reliabilities, based on scores obtained by scoring each item +1 for "Yes" and -1 for "No". In the present investigation "yes" was scored +1 and "No", 0. The means and variances reported by Eysenck for the two scales are compared below with those obtained in this investigation (these having been converted to the same base as Eysenck's).

	Eysenck's figures (men and women) n = 1600	IRU figures (men only) n = 327
Mean N	0.15	-0.34
Variance N	11.73	13.26
Mean E	1.96	1.96
Variance E	8.83	8.79

The lower mean Neuroticism score of the IRU group is probably accounted for by the fact that the sample consisted of men only. Eysenck's women scored approximately $\frac{1}{2}$ SD above the men on the N scale.

The N and E scores of the 28 rehabilitees of the total sample who entered the IRU with the diagnosis of neurosis as their primary disability and of the 7 with neurosis as a secondary disability, and of the 22 with the diagnosis of psychosis, were compared with those of the remaining 270 considered psychiatrically normal. The scores were as follows:-

	<u>Mean N</u>	<u>SD N</u>	<u>Mean E</u>	<u>SD E</u>	<u>n</u>
Normals	2.69	1.77	4.05	1.47	270
Neurotics	3.69	1.88	3.71	1.32	35
Psychotics	3.27	1.81	3.41	1.72	22

The mean scores stand ⁱⁿ the expected relationship to each other. The majority of the neurotics in the sample had the diagnosis of anxiety state and in Eysenck's terms (Eysenck, 1953) should have higher N scores

and lower E scores than normals. The psychotics were mainly schizophrenics who should stand in the same relationship to normals as the neurotics do. Analysis of variance of N scores yields a significant variance ratio.

ANALYSIS OF VARIANCE
N Scores by psychiatric classification

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean square</u>
Between groups	2	35.6111	17.8055
Within Groups	324	1046.1376	3.2288
Total	326	1081.7487	

VARIANCE RATIO = 5.514 (P \angle .01).

Comparison of mean N scores by the t test shows that the significant difference is between the neurotic and the normal groups, (t = 2.95, P \angle .01, 2-tailed), while the other mean differences are not significant.

Relationships among the E scores are not significant.

ANALYSIS OF VARIANCE
E scores by Psychiatric Classification.

	<u>Degrees of freedom</u>	<u>Sum of squares</u>	<u>Mean square</u>
Between groups	2	11,0228	5.5114
Within groups	324	713.7400	2.2029
Total	326	724.7628	

VARIANCE RATIO = 2.502, (Not significant).

The relationship between different measures.

The correlation table (Table 2) below is based on the initial scores of 327 rehabilitees for whom scores on all measures used were available. T2 is the sum of the five tests that make up the Admiralty Test Battery, and has been shown to be a good index of general intelligence and occupational potential. (Vernon and Parry, 1949). The investigator has calculated that its reliability is in the region of .95.

TABLE "2"

	<u>I</u> <u>Scale</u>	<u>W</u> <u>Scale</u>	<u>Check</u> <u>List</u>	<u>MPI</u> <u>N</u>	<u>MPI</u> <u>E</u>	<u>Rating</u> <u>I</u>	<u>Rating</u> <u>W</u>	<u>T2</u>
I Scale		xx .319	.053	xx .286	x -.122	xx .311	.015	xx -.228
W Scale			-.090	-.036	x .141	.082	xx .281	xx -.186
Check List				xx .160	.021	.092	x -.134	-.059
MPI N					xx -.153	xx .158	x -.136	-.108
MPI E						xx -.184	.035	-.013
Rating I							.028	-.036
Rating W								.078

(*: r is significant at 5% level; **: r is significant at 1% level)

Examination of this table is helpful in the interpretation of the measures employed. The first note-worthy feature is that the I and W scales have an intercorrelation of .319. This correlation is probably, in part, an artifact of the questionnaire method, since I and W items were randomly presented in the same questionnaire. "Acquiescence" tendencies in subjects on the I items would show themselves equally on the W items. The correlation is probably also partly due to a real overlap of the attitude areas concerned. It is a reasonable hypothesis that those most unsettled by unemployment (high I scores) will also be likely to be most highly motivated to find work (high W scores). Nevertheless, the correlation is regarded as sufficiently low to justify the original assumption of two more or less independent attitude areas, I and W.

The I scale correlates with the I rating, as previously discussed, and also with the abbreviated MPI N scale and, negatively, with intelligence. The W scale also has a small negative correlation with intelligence. The finding that the I attitude is related to emotional instability is consistent with the general assumptions and expectations underlying this investigation, and the low value of the correlation coefficient is taken as evidence that this scale is not just another measure of "neuroticism" or "anxiety". The relationship between these scales and T2 is difficult to

account for, except possibly in terms of a marginally less naive approach to the questionnaire in the more intelligent, and a consequent smaller tendency to endorse statements "agree" uncritically.

The check list, contrary to expectations, has negligible correlations with the I and W scales. It has a small correlation in the expected direction with the W rating but none with the I rating. Its largest correlation, .160, is with the MPI N scale, and to this slight extent probably functions in much the same way as Eysenck's lists of "annoyances" and "fears" as indices of instability. (Eysenck 1947). Its correlation with the W rating gives some support to the original supposition that persons who limit the range of conditions under which they are prepared to work are less keen than others, though the correlation can probably be accounted for in terms of a tendency for raters to give a low rating to people who seem unduly choosy in their work ambitions. Indeed the rating scale was phrased in these terms. On the whole it must be concluded that ^{the} checklist has little validity as a measure of the attitudes under consideration. At the most, it may be taken at face value, as an index of the number of restrictions people put on the kind of work they are prepared to do.

The ratings I and W are independent of each other and

are more closely related to the I and W scales respectively than to anything else. The significance of these relationships for the validity of the scales has already been discussed. The relationships with the MPI scales suggests that the less stable were likely to receive a higher I rating and a lower W rating, and the extraverted a lower I rating.

To assist in clarifying the nature of the relationships among the different measures factor analysis was employed. A principle components analysis was performed on the correlation matrix by computer (Harman, 1960;) and eight factors were extracted. Their loadings are given in Appendix 13 .

The relatively high loadings obtained here, particularly in later factors, are almost certainly due to the use of unities in the diagonals of a small correlation matrix in which all correlations were low. In these circumstances, interpretation of factors was considered hazardous without additional support for the interpretation. Accordingly a centroid analysis was carried out using the highest coefficient in each row in the diagonals. These coefficients were almost certainly underestimates of the "true" communalities, being in all cases lower than the estimated reliabilities of the measures. It was felt that this procedure would minimize the

risk of producing spuriously high factor loadings. After three factors had been extracted the third residual matrix consisted only of very small correlations and analysis was discontinued. The loadings of the centroid factors thus obtained are shown in Table (13A) below.

TABLE 13A

CENTROID FACTORS

	I	II	III	² h
I Scale	.652	.047	-.064	.432
W Scale	.363	.571	.023	.458
Check List	.110	-.246	-.231	.210
MPI N Scale	.386	-.314	-.216	.295
MPI E scale	-.172	.307	-.189	.231
I Rating	.475	-.200	.228	.318
W Rating	.088	.340	.385	.384
T2	-.297	-.122	.307	.294

These factors are clearly substantially the same as the first three principle components of Appendix 13, though for mathematical reasons the loadings of the latter are higher and, in the case of the first two, reversed in sign. On the basis of the agreement between the two analyses the investigator feels justified in identifying Factor I as an 'I' factor, since it has high loadings on the I Scale, the I Rating, and the N scale. The loading on the W scale is the result of the overlap between the I and W scales already mentioned.

Factor II is clearly a 'W' factor. It may be noted that the attitude questionnaires have higher loadings on these two factors than the respective ratings. This suggests that the questionnaires provide a more valid assessment of these factors than the combined opinions of IRU staff, and that this type of measure is to be preferred to ratings, most commonly employed in previous research in this field.

Factor III is difficult to interpret. With its highest loadings on the W rating, intelligence, and (negatively) the checklist, it may be viewed as a "good impression" or "halo" factor. The suggestion is that more intelligent rehabilitees who are not over-choosy about the kind of work they are prepared to do make a good impression on IRU staff and therefore tend to be rated as keen to work. The negative loadings on the MPI scales may be accepted within this interpretation - stability and slight introversion may help to create a good impression. When the positive loading on the I rating is considered, however, this interpretation becomes less convincing unless it can be argued that IRU staff prefer rehabilitees who show signs of "inadequacy". The case is arguable, but in the absence of stronger evidence, Factor III is probably best disregarded for purposes of this investigation.

Over all, the factor analysis provides good support for the interpretations of the measures offered earlier.

Summary:

The characteristics of the measures employed in testing the research hypotheses may be summarized as follows:

- 1) The I and W scales were the main measures employed. They were designed specifically to assess the attitudes 'inadequacy' and keenness for work considered to be important in the IRU context. They proved to have an acceptable level of reliability, and their validity was assured by their method of construction, and demonstrated by their correlations with the ratings of IRU staff and by the fact that they distinguished well between criterion groups. It has been shown that opinions of IRU staff are likely to be unreliable. The relative loadings for the scales and the ratings of staff obtained in the factor analysis strongly suggest that the I and W scales provide the most valid assessment of significant attitudes available at the present time. All the evidence suggests that the scales can be accepted with confidence as measures adequate for testing the research hypotheses of this investigation.

- 2) The working conditions check list may be taken at face value as an index of "choosiness" about working conditions. There is a slight relationship between the checklist and neuroticism, but, contrary to expectations, it does not seem to reflect, to any useful degree, either 'inadequacy' or keenness for work.

3) The shortened MPI provided a rough measure of the personality factors, neuroticism and extraversion. These measures served to help in the interpretation of the I and W scales, and were also used to test the hypotheses of a reduction in neuroticism, but no change in extraversion, following a period of industrial rehabilitation.

CHAPTER X

THE SAMPLE

The sample on which the measures were standardized consisted of 327 male ~~mah~~abilitees who entered the IRU at Felling, Co. Durham, between 5th October, 1964 and 19th July 1965. Only males were used in the study because it was thought that the attitude characteristics of females in the IRU were likely to differ from those of males. Since the proportion of females in an IRU population seldom exceeds 10% of the total it would have been difficult to obtain a large enough female sample to make meaningful and useful comparisons between the two groups. The difficulty of constructing attitude scales applicable to both males and females was an additional deterrent.

All males entering the IRU during this period were included in the sample with the following exceptions.

(a) Persons (usually youths straight from school) with less than three months work experience were excluded. One of the assumptions underlying this study is that the attitudes investigated are, in part at least, a function of separation from work. Those who have never experienced work cannot be assumed to have the same attitudes as those who have. Twenty persons were excluded on these grounds.

(b) Experience on the pilot study suggested that questionnaire results obtained from persons of very low

intelligence were often of very doubtful validity. A psychometric measure can only meaningfully be applied to those for whom its use is appropriate. An arbitrary criterion was adopted in order to limit the number included in the sample with insufficient intelligence to cope with the questionnaires. Any man with an 'E' score (lowest 10% of the standardization group) on both the Progressive Matrices (timed) and the SPI intelligence tests was excluded. (The SPI is a Shipley-type abstraction test, part of the 'Admiralty' Battery). Ten men fell into this category. Two illiterates were also, of necessity, eliminated from the sample. In addition, nine men proved unable to complete the questionnaires satisfactorily. Only two men refused to attempt the questionnaire. One was a schizophrenic in a very poor state of remission, The other, an ex-miner with an orthopaedic disability, had, in the opinion of IRU staff, a negative attitude to rehabilitation and very low motivation for work. Both of these terminated their courses prematurely.

(c) On seven weeks during this period, either the investigator was absent from the Unit or the intake arrangements had been altered because of the Christmas and Easter holidays. The intakes of these weeks did not form part of the sample.

(d) 17 Persons were absent on the day off which the measures

were administered, and therefore did not form part of the sample.

Altogether, 337 men filled in the questionnaires. Of these, ten were found upon scoring, to have incomplete results on one or other of the measures. The 327 men who satisfactorily completed all the questionnaires were taken as the basic sample which forms the standardisation group for the measures.

Of these 327, 68 terminated their courses before the day of re-test, 38 were absent or otherwise not available on the re-test day, and in the case of seven entrants of a particular week the investigator was absent when they were due for re-test. The remaining 214 completed the questionnaires both on entry and, five weeks later, at re-test, and it is on these that the main hypotheses were tested. A few of these had incomplete results on one or more of the measures at retest and this accounts for the slight variation in numbers in the comparisons between initial and final scores reported in Results (Chapter XII.)

The extent to which the sample might be regarded as representative of the normal male Unit intake and of the unit population throughout the country was assessed by making comparisons on three variables, age, disability classification, and intelligence.

Age.

The age distribution of the sample and the proportional distribution to be expected on the basis of the intake to all units in the country between July, 1964 and December, 1965 (N = 17556) are given below:

<u>Age group</u>	<u>Sample frequency</u>	<u>Expected frequency All Units.</u>
15 - 19	27	44.5
20 - 24	26	40.4
25 - 29	42	32.1
30 - 34	53	34.5
35 - 39	52	43.7
40 - 44	59	48.8
45 - 49	42	36.0
50 - 54	18	28.8
55 - 60	8	18.2
<hr/>	<hr/>	<hr/>
Total	<u>327</u>	<u>327</u>

Chi-squared = 39.46, df = 8, P / .001.

Clearly the sample is different from the national IRU population of the same period in age distribution. The main differences are that the sample contained relatively fewer cases in the younger and older age groups and more in the middle age groups. The relatively low frequency in the younger groups is partly the result of the sampling method,

but other differences appear to be caused by differences between the populations of the Felling unit and other units. Unfortunately, age figures for the Felling unit alone are not available and so it is not possible to check this impression.

Disability

Comparisons in terms of disability categories are given in Table 4. The proportional frequencies for Felling and all units are based on the number of admissions during the period July 1964 to December 1965. (Felling N = 1006; All units N = 17556).

Comparing the sample frequencies with those that might be expected on the basis of the total Felling intake leads to the conclusion that the two distributions do not differ significantly. (Chi-squared = 21.12, df = 13, P $\bar{\text{7}}$.05.) The sampling distribution does, however, differ significantly from that of all IRU_s. (Chi-squared = 41.04, df = 13, P \angle .001). This is not surprising, however, since the Felling distribution differs significantly from that of all units (Chi-squared = 74.1, df = 13, P \angle .001).

(In all these Chi-squared calculations, the categories Subnormal, Able-bodied, Other TB, not recorded, and Other diseases, were grouped together).

Intelligence.

The total score, T2, of the 'Admiralty' test battery was used as a measure of intelligence. Two sets of test norms are in use in IRU_s. Firstly 'general population' norms based on the test results

TABLE 4

Disability	Sample Frequency	Expected Felling	Frequency All units
Amputations	5	7.5	7.3
Arthritis and rheumatism	6	7.8	8.2
Diseases of Digestive system	14	14.0	9.9
Heart and Circu- lation	27	20.5	27.5
Respiratory system (not TB)	34	27.0	22.4
Eye and Ear	11	17.5	11.2
Head and Trunk	8	7.8	6.9
Lower Limb	29	27.9	25.4
Upper limb	22	14.9	16.8
Spine (incl. Paraplegia	55	50.4	34.1
Psychoneurosis	28	28.6	43.3
Psychosis	22	21.8	28.3
Subnormal	1	9.4	7.7
Epilepsy	14	13.0	13.7
Other organic nervous diseases	17	20.2	22.6
Respiratory TB	11	10.1	9.5
Other TB	3	3.2	2.1
Other diseases	16	15.9	17.4
Able bodied	4	6.8	6.6
Not recorded	<u>0</u>	<u>2.6</u>	<u>5.1</u>
TOTAL:	327	327	327

of naval recruits (ordinary seamen) in 1942 (Vernon and Parry, 1949); secondly, norms based on a national IRU sample of 7000 in 1957/58. The IRU norms are considerably lower than the general population norms. In 1962 the present author (Hartmann, 1962) studied the test scores of an apparently unbiased sample of 460 men who entered Felling IRU during 1961/62 and found their T2 scores to be significantly higher than those of the 1957/58 sample of 7,000 but still lower than the general population norms. There is thus good reason to believe that the Felling unit tends to have a more intelligent population than other units, possibly because of the higher unemployment rate in the area; and/or that the 1957/8 IRU norms are no longer valid, perhaps on account of increasing test sophistication, better education and changing patterns of referral to Units. (Increased use of IRU_s for assessment for training in the much expanded Government Training Centres could well be a factor here). It was therefore considered appropriate to use the scoring distribution of the 1961/2 Felling sample of 460 as the basis of the expected frequency with which the distribution of the present sample was to be compared. The Felling sample of 460 seemed likely to provide the most valid comparison in the circumstances. Classification in the table below is based on the original Selection Grades (on a 10, 20, 40, 20, 10% basis) of the naval norms.

	Expected Frequency Felling 1961/2	Sample Frequency
S.G.1.	28.4	37
S.G.2.	70.4	78
S.G.3.	111.6	131
S.G.4.	61.9	44
S.G.5.	54.7	37
	<u>327</u>	<u>327</u>

Chi-squared = 17.74, df = 4, P \angle .01.

Clearly, there is a considerable difference in the distribution of intelligence between the present sample and the 1961/2 unit intake. There are smaller frequencies in the lower categories and larger ones in the higher categories. The exclusion of persons of very low intelligence from the research sample is partly responsible for the observed differences, but even allowing for this it would seem that the sample is more intelligent than might have been expected. Even using the 'general population' norms as the basis of comparison the intelligence of the sample is high. (Chi-squared = 10.59 df = 4, P \angle .05). In the absence of any more recent, relevant test norms it is impossible to decide to what extent the sample is unrepresentative, and to what extent the norms used here are invalid. Probably both possibilities are true to some extent.

One probable important source of the unexpectedly high proportion of cases in the higher Selection Grades is the age structure of the sample. Both the 1957/8 and the 1961/2 studies show that in IRU populations at least, both the younger and

older age groups have relatively low mean T2 scores, the highest scoring groups being those between 25 and 40. As described above, this sample has a preponderance of cases in these high scoring groups, and relatively few cases in the low scoring groups.

From the above examination of the distribution of the sample on the three variables of age, disability classification, and intelligence, two considerations emerge. Firstly, the Felling unit differs from other units in the age and disability distributions of its population; and probably also in the distribution of intelligence. Secondly, the research sample differs in some respects from the normal male Felling intake. The investigator is of the opinion that the differences reported do not seriously restrict the generality of the findings of this research. Nevertheless, the fact that there are differences must be borne in mind, and findings obtained at Felling should not be generalised to other units without due consideration of the possible influence of these differences.

CHAPTER XI.

PROCEDURE

Rehabilitees normally enter the IRU on Monday morning, usually in groups of between ten and fifteen. Shortly after their arrival the Rehabilitation Officer welcomes the group and explains how the Unit operates. The social worker also gives some introductory explanation dealing mainly with matters of pay, and procedure in the case of absence and sickness. The entrants are then conducted to the intake section. During the Monday, Tuesday, and Wednesday of the first week each new entrant is examined by the Unit Medical Officer and interviewed by the social worker. On the Wednesday morning the Psychologist (the investigator in this case) meets the intake as a group and after a short preliminary explanation administers the standard battery of ability tests in group session. New entrants are interviewed by the Disablement Resettlement Officer and by the Psychologist on the Wednesday, Thursday and Friday, and sometimes also on the following Monday.

On the Friday, the Psychologist discusses each case with the Medical Officer, the Intake Supervisor and the Chief Occupational supervisor, and, where necessary, with the social worker and DRO, and on the basis of these discussions each entrant is allocated to one of the workshop sections on the

following Monday. Allocation is made on the basis of the rehabilitation needs of each individual as they appear at this stage. On the following Thursday each case is thoroughly discussed by the Case Conference, his allocation confirmed, a review date fixed, and subsequent transfer to any other workshop sections decided or suggested. Usually the final review by the Case Conference takes place on the Thursday of the sixth week of a man's course, though occasionally the final review takes place earlier, or, more frequently, later, than this. At the Final Case Conference a report on a man's progress and working capacity together with a recommendation for employment or training is approved. This report is sent to his local employment exchange where action is started to resettle him in accordance with the recommendation. Each man is informed of the recommendation of the Case Conference by the DRO, usually on the Thursday afternoon or the Friday immediately following the final Case Conference.

During each man's course and particularly during these first six weeks the Psychologist follows his progress by means of reports received from occupational supervisors at least fortnightly, by informal or formal interview with the man and by discussion with the supervisors.

The above brief description of the normal procedure in the IRU is necessary so that the reader may understand how the

research procedure was fitted into the normal working procedure. The normal procedure represents the framework of constraints within which the research had to be conducted. It is an essential condition of investigations carried out "in the field" that the research operations should not disturb normal conditions, otherwise the validity of the findings may be vitiated. Every care was taken in this investigation to eliminate the possibility of "Hawthorne" effects.

The questionnaires were administered to each intake group for the first time on the Wednesday of the first week of their course, immediately after they had completed the test battery. The choice of this time had the advantage of convenience, and also that, after over an hour of testing, any undue anxiety initially produced by the testing situation was likely to have subsided. There thus seemed relatively little risk that the questionnaire results would reflect attitudes produced by the test situation to any significant extent. Wing's study (1961) may be criticised on this score. He administered his questionnaires on the Monday morning, almost immediately after the subjects had arrived at the Unit. It seems likely that under these conditions, anxiety and stress produced by a new and, for some, traumatic situation may have had a considerable influence on response tendencies. It is a matter of observation that new entrants to an IRU frequently

exhibit anxiety and lack of confidence until they have had time to relate themselves to the situation. On the other hand, if the questionnaires had been administered much later than the Wednesday there was the danger of measuring attitudes already modified by the IRU process.

Immediately the ability tests were finished the questionnaires were administered according to a standardised procedure which is described in detail in Appendix 14 where the standard instructions are reproduced. The standard instructions were designed to enlist the co-operation of the subjects, to destroy any set to "do well" produced by the ability tests and to secure frank, unbiased responses to the questionnaires and to ensure complete understanding of what was required of subjects.

When the session was finished the investigator filed the completed questionnaires away and did not score or peruse them until after the second administration. This procedure was strictly adhered to for the following reasons. Firstly the investigator's ratings were to be used as validation criteria, and knowledge of a man's scores might have contaminated the ratings. Secondly, any modification of a man's attitudes as a result of rehabilitation is likely to be a function to some extent, of the Psychologist's handling of the case, and it is possible that knowing a man's scores

would influence his treatment of individuals and thereby introduce an extraneous factor into the attitude change process.

The questionnaires were administered for the second time on the Wednesday afternoon of the sixth week of a man's course. This time was chosen because it was usually a day or two before the man was told the final recommendation of the Case Conference. It was considered desirable to minimize the number of individuals in the sample who completed the second administration of the questionnaires after they had been told their recommendations, as it seemed likely that this in itself was likely to influence their attitudes, those whose aspirations were confirmed by the Case Conference showing "better" attitudes than those who were disappointed. Since effects of this kind were impossible to control or assess it seemed better to eliminate them as far as possible. In any case, if the second administration had taken place any later than the sixth week the number out of the original sample who were unavailable for retest would have been even greater than it was, through termination.

The instructions given to subjects at retest were the same in essentials as those at the first administration but rather less detailed. On each occasion the investigator started the session by reminding the group that the

questionnaire did not form part of their course and assuring them that he had not yet looked at the first ones they had filled in.

CHAPTER XII

RESULTS

The distributions obtained for the I and W scales and the abbreviated MPI scales on the original sample of 327 were compared with a theoretical normal distribution and chi-square values were calculated. The comparisons are given below.

I Scale.

W.Scale.

Score	Observed Fre.	Expected Freq. (Normal)	Score	Observed Freq.	Expected Freq. (Normal)
Below 20	11	10.12	Below 40	18	15.69
20-30	31	31.36	40-50	61	68.29
30-40	70	67.74	50-60	129	124.68
40-50	83	90.36	60-70	93	89.76
50-60	84	74.44	70-80	26	25.41
60-70	31	37.88			
70-80	17	11.89			

Degrees of freedom = 4 $\chi^2 = 1.972$

Chi squared = 5.423 $df = 6$

P \angle .30, 7 .20.

Degrees of Freedom = 2

Chi-squared = 1.398 \checkmark

P \angle .50, 7 .30.

MPI N ScaleMPI E Scale.

Score	Obs.freq.	Expected freq. (Normal)	Score	Obs. freq.	Expected frequ. (normal)
0	36	27.05	0 & 1	22	15.44
1	53	43.27	2	34	36.75
2	63	63.95	3	59	70.08
3	57	70.44	4	78	86.28
4	49	57.82	5	79	68.59
5	35	35.37	6	55	35.21
6	34	16.12			

Degrees of freedom = 4

Chi-squared = 28.90

P / .001.

Degrees of freedom = 3

Chi-squared = 18.248

P / .001

Both the I and W distributions approximate fairly closely to normality but those of the MPI N and E scales are clearly non-normal. This latter finding is not surprising in view of the small number of items in these scales.

The null hypotheses were set up that there was no difference between the mean scores of the sample obtained at the initial testing and those obtained at retest, on the I scale, the W scale, (and the abbreviated MPI N and E scales). There proved to be no significant differences between the variances. The significances of differences between means were tested by means of the t test.

In accordance with Research Hypothesis (1) (Chapter VII) it was predicted that the mean score on the I Scale would be

lower at retest than at first testing. In accordance with Research Hypothesis (2) no difference was predicted for the means of the W scale. For the MPI Scales, a reduction in Neuroticism score but no change in Extraversion score were predicted, in accordance with the subsidiary hypotheses set up in respect of these measures (Chapter IX). The results are set out in Table 5, below.

TABLE 5

Comparison between mean scores at first and second administration

Scale	N	Mean 1st Admin	Sd 1st Admin	Mean 2nd Admin	Sd 2nd Admin	Difference	t	P
I Scale	211	45.65	13.58	41.39	14.97	4.26	6.99	1-tailed / .00001
W Scale	213	56.40	9.53	56.73	10.23	.33	0.27	2-tailed .787
MPI N	213	2.66	1.86	2.28	1.89	.38	3.58	1-tailed .0002
MPI E	212	3.89	1.52	4.06	1.49	-.17	-1.835	2-tailed .070

The null hypothesis is rejected at a high level of confidence in the case of the I scale and the MPI N scale. The research hypotheses and subsidiary hypotheses are thus fully supported by these results.

In view of the fairly marked departure from normality in the distribution of the N and E scores, the use of the t test in

testing the significance of the differences between these means may be questioned; since one of the assumptions underlying the use of this test is that the variables concerned should be normally distributed in the sample. According to McNemar (1962), violation of this assumption need not in practice cause serious misgivings since the t test has been shown to be very "robust" even in cases of marked departures from normality, and he mentions Boneau's (1960) work in support of his view. Nevertheless, it was considered appropriate to test the hypotheses in the case of the N and E scales by means of a "distribution-free" test for which no untenable assumptions need be made. The sign test (Siegal, 1956) was used. The null hypothesis here is that there is no difference between the number of scores increasing and the number of scores decreasing, from the first administration of the questionnaires to the second. Results were as follows:

	<u>MPI N Scale</u>	<u>MPI E Scale</u>
No.of scores increasing	49	81
No.of scores decreasing	94	61
No.with no change	<u>70</u>	<u>70</u>
Total:	213	212

$$z = 3.68$$

$$P \neq .0002$$

(1-tailed)

$$z = 1.595$$

$$P = .12$$

(2-tailed)

The null hypothesis is thus rejected at a high level of

confidence in the case of the N scale but not in the case of the E scale. Testing the subsidiary hypotheses by this technique leads to essentially the same conclusions as when the t technique is used.

The checklist, on the basis of the validation evidence, cannot be accepted as a measure suitable for the testing of the research hypotheses. It may be taken at face value as an index of the number of conditions people put on their working capacity. For the sake of completeness the scores on the checklist obtained at first and second administrations are compared below.

N	Mean 1st Admin.	SD 1st Admin.	Mean 2nd Admin.	Sd 2nd Admin.	Difference	t	P
214	12.32	5.88	11.60	5.81	.72	2.54	2-tailed .011

It may be concluded, then, that there is a slight tendency for people to become less choosy about the kind of work they are prepared to do following industrial rehabilitation. The significance of this in terms of the more general attitudes studied remains obscure, however.

CHAPTER XIII.

FURTHER ANALYSIS

With the testing of the research hypotheses the main objective of the investigation was achieved. A subsidiary objective was to explore and clarify the relationships between the attitude questionnaire scores and follow-up status, reason for termination, age, amount of family responsibility, length of time since last employment, and psychiatric classification. An item analysis of the I and W scales was also carried out in an attempt to clarify the structure of these attitudes. It was hoped to provide results upon which future research might be based. This further analysis is reported in the following sections.

Follow-up Status.

Firstly, the I and W scores obtained by rehabilitees on entry to the IRU were analysed in relation to their employment status six months after completing the course. Information on employment status is obtained by the Ministry of Labour by sending out questionnaires to ex-rehabilitees six months after completion of the course. Of the 327 rehabilitees in this investigation for whom initial scores were obtained on the I and W scales, follow-up information was available for 254.

Williams (1968) found a significant relationship between his

1958

ratings of attitudes on entry to the IRU and his own assessment of extent of resettlement made twelve months later. Those rated as having constructive attitudes to their disability, who were confident and keen to work and thought themselves fit for work did better than those who were "self-conscious and isolated", lacked confidence, doubted their fitness or showed lack of keenness. On the basis of these findings and the notions generally held about the IRU process it was anticipated that those in employment or training at follow-up would have lower mean I scores than those unemployed. No hypothesis was held regarding those classified as sick. That this expectation was not entirely borne out is shown in the table below.

<u>I Scores</u>	<u>Follow-up status</u>			
	Unemployed	Employed	In Training	Sick
Mean	46.87	47.72	42.42	43.12
SD	13.15	13.27	13.29	15.05
N	45	117	59	33

Those in employment had a slightly higher mean score than those unemployed, though the mean of the "employed" and "training" groups combined (46.00) is just lower than that of the unemployed group. Analysis of variance of these data yielded a nearly significant variance ratio. ($F=2.60$ is significant at the 5% level).

Analysis of Variance.

	<u>Degrees of Freedom</u>	<u>Sum of squares</u>	<u>Mean Square</u>
Between groups	3	1390.0352	463.34505
Within groups	250	46282.815	185.13126
Total	253	47672.850	

VARIANCE RATIO = 2.508 (P / .05)

Similarly it was expected that men employed or in training at follow-up would have higher W scores than those unemployed or sick. A lower W score was anticipated in those classified as sick because it was suspected that some disabled persons with low motivation for work "go sick" rather than persist in seeking employment. The mean W scores for the four groups were as follows:

<u>W Scores</u>	<u>Follow-up status</u>			
	Unemployed	Employed	In Training	Sick
Mean	54.36	58.48	55.28	53.30
SD	8.52	9.21	9.02	10.46
N	45	117	59	33

The relationship between mean scores here was as expected. Analysis of variance yielded the following results.

Analysis of Variance

	<u>Degrees of Freedom</u>	<u>Sum of squares</u>	<u>Mean Square</u>
Between groups	3	1089.1836	363.06120
Within groups	250	21602.330	86.40932
Total	253	22691.5136.	

VARIANCE RATIO = 4.202 (P / .01)

The analysis of scores on the two scales in relation to subsequent employment status thus provides general confirmation for the notion that rehabilitees who show greater keenness for work are more likely to achieve resettlement, though the relationship between I score and resettlement status is less clear.

In particular the W scale does distinguish between those who find employment following their IRU course and all other groups. There are no significant differences between variances. (Comparing the employed group with the others, $t = 2.53$, $P / .012$ for the unemployed group, $t = 2.16$, $P / .03$ for the training group, $t = 2.83$, $P / .005$ for the sick group.) The scale does not distinguish between those who remain unemployed and those who are recommended for training, however. ($t = .50$ $P = .60$). The reason for the comparatively low W scores of the training group is probably that many of those who are recommended for training come to the Unit with this aim in view and have training as their immediate goal rather than work. (All tests mentioned in this paragraph are two-tailed, and the calculation of t is based upon the "within groups", variance).

The differences in mean I score between the groups are no more than suggestive. Specific comparison of means yields one significant t ratio, ($t = 2.44$, $P / .02$) for the employed and training groups, but no reliance should be placed on this result in view of the non-significant results of the analysis of variance. If

anything the low I score of the training group probably reflects the better employment potential of this group. Those recommended for training tend to be younger, more intelligent, less severely disabled and more stable than the rest. Indeed, recommendations for training are normally made with these factors in mind. The type of person recommended for training is therefore likely to have less^{to}worry about as regards employment and is likely to show a relatively low I score.

It should be noted that this analysis provides, further evidence for the validity of the W scale, in that expectations held about the relationship between attitude and subsequent employment status are confirmed. Relationships between employment status and the I scale have not been conclusively established.

Reason for Termination.

It was of interest to discover whether there were any systematic differences in attitude between those rehabilitees who terminated their courses early, for various reasons, and those (the majority) who completed the course normally. The early terminees were divided into three groups; those who left because they were placed in employment or found work for themselves, those who terminated because of disability, and those terminating early for other reasons, including personal and domestic reasons, "lack of adaptability", and "lack of interest". It was also of interest to find out whether there were differences in attitude among the different early termination groups themselves. It might

be expected, for instance, that those who found work would show greater keenness for work than those who left for "other reasons".

Scores for the different categories were as follows:

	<u>Reason for Termination</u>			
	<u>Placed or found work</u>	<u>Disability</u>	<u>Other Premature Termination</u>	<u>Normal termi- nation</u>
N	14	37	17	259
Mean I	42.21	44.70	43.29	46.14
SD I	6.79	14.65	12.57	13.91
Mean W	57.71	56.19	52.12	56.30
SD W	9.36	12.11	6.51	9.32

Analysis of variance shows that there are no significant relationships:

ANALYSIS OF VARIANCE

I Scores by Reason for Termination

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Within groups	323	61414.661	190.138
Between groups	3	354.658	118.219
Total	326	61769.319	

Variance ratio = 0.6 (not significant)

ANALYSIS OF VARIANCE

W Scores by Reason for Termination

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Within groups	323	29878.739	92.504
Between groups	3	316.660	105.553
Total	326	30195.399	

Variance ratio = 1.14 (not significant)

No conclusions, therefore, may be drawn from these data. Some of the relationships are suggestive, however. Those who find work might be expected to show less inadequacy and greater keenness than others; and the suggestion that those who terminate for "other reasons" are less keen than others is in line with IRU experience, where "other reasons" is thought frequently to conceal a basic lack of willingness to work. There is also the interesting suggestion from the data that those who find work are a relatively homogeneous group with respect to attitude (small variance), while those terminating for reasons of disability may be relatively heterogeneous. At the moment, these ideas can be considered only as hypotheses. What is required is research, using a much larger sample of premature terminees, specifically designed to test these hypotheses.

Age.

The sample was divided into age groups and I and W mean scores

calculated for each group. These are shown in the table below.

<u>Age Group</u>	<u>I Scale.</u>		<u>W. Scale.</u>		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>N</u>
Under 20	44.85	13.73	50.19	9.92	27
20 - 29	44.68	11.32	53.91	8.61	68
30 - 39	45.18	14.13	55.50	8.92	105
40 - 49	46.83	14.11	58.53	9.62	101
Over 50	46.46	15.99	61.15	9.38	26

There is a slight tendency for the I score to rise with age, and for the 20 - 29 year age group to be more homogenous with respect to I score than the rest. Analysis of variance, however, shows these tendencies to be insignificant.

Analysis of Variance
I scores by age.

	<u>Degrees of freedom</u>	<u>sum of squares.</u>	<u>Mean square</u>
Between groups	4	262.87109	65.717774
Within groups	322	61506.448	191.01382
Total	326	61769.319	

Variance ratio = .34404 (Not significant).

For practical purposes, then, we may regard the I score as being independent of age.

The W scores on the other hand show a marked and consistent rise with age, totalling more than one standard deviation over the whole age range. Analysis of variance of the data gives a highly

significant variance ratio.

ANALYSIS OF VARIANCE
W Scores by Age

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Between groups	4	2570.0469	642.51172
Within groups	322	27625.352	85.793019
Total	326	30195.399	

Variance ratio = 7.49 (P / .001)

There are no significant differences between variances of different groups and therefore the size of the variance ratio must be accounted for entirely in terms of differences between means.

The increase in motivation for work with age is probably the effect of a number of factors. Firstly the older members of the sample will have spent more of their lives working than the younger and might therefore be said to have a stronger work habit and might be expected to exhibit a greater psychological need for work when unemployed. Secondly, work is more difficult to obtain for the older man than the younger, and sustained effort to obtain work probably requires a higher level of motivation in older men. It seems possible that the less highly motivated of the older disabled and unemployed lapse into premature retirement and therefore tend not to enter IRUs. This explanation accords well with the finding of Feintuch (1955) that willingness to do considerable job hunting and to take low paid or low status work was positively related to



resettlement. Thirdly, there is reason to believe that there are cultural differences in the social evaluation of work between the older and younger age groups. Men over forty five will have entered the labour market in the days of depression and high unemployment, while younger men are more likely to have come to accept full employment as the norm. It is a matter of popular opinion that younger people, not having experienced "the bad old days" place less value on being in work than their fathers, and the figures obtained here would support this view. This same point is raised by Hearnshaw (1954) in an article referred to in more detail in the final chapter. He notes that the poor whites of South Africa are an example of a European group whose characteristic attitude to work eroded in unfavourable circumstances, and goes on, "Whether in Great Britain attitudes to work have slowly eroded is difficult to determine scientifically, though anecdotal evidence is not hard to come by". The author does not want to overemphasize this possible source of the observed differences since if it was an important factor it might have been expected to show up on the I scale as well, but the hypothesis seems worthy of further investigation.

A further contributory factor to the increase of motivation for work with age might be the increase of family responsibilities with age and the consequent need for income. The influence of this factor is probably small, however, since family responsibilities normally decrease after a certain age, while W scores in this

sample did not, and also because the analysis below shows that the relationship between motivation and family responsibility is not linear.

Family Responsibility.

The sample was classified into three groups by amount of family responsibility; single men, married men with two dependent children or fewer, and married men with more than two dependent children. In this classification divorced, separated, or widowed men without dependent children were included in the "single" category, but those in these groups with dependent children were included in the appropriate "married" category. The mean scores for the three groups were as follows:

<u>Category</u>	<u>I Scale</u>		<u>W Scale.</u>		<u>N</u>
	<u>Mean.</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	
Single	45.37	11.87	54.23	8.91	115
Married, 2 chldn or less	45.96	14.48	57.77	10.78	135
Married 3 " or more.	45.57	14.95	55.36	9.07	77

The I score remains relatively unchanged over the three groups while the W score shows some variation. Analysis of variance gives the following results.

ANALYSIS OF VARIANCE

I Score by Family Responsibility

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Between groups	2	22.988281	11.494141
Within groups	324	61746.331	190.57510.
Total	326	61769.319	

Variance Ratio = .0603 (Not significant)

W Score by Family Responsibility

Between Groups	2	815.57813	407.78906
Within Groups	324	29379.821	90.678
Total	326	30195.399	

Variance Ratio = 4.49 (P \leq .05)

As with age, the W score is significantly related to amount of family responsibility but not the I score. Greater motivation for work in the married group with two children or less than in the single group is in line with common sense expectation. The lower mean W score of the group with three or more children than in the other married group is less easy to explain. The most feasible explanation seems to be an economic one. A man with a relatively large family may obtain through state benefits an income equal to or greater than what he might earn in relatively unskilled work, and under these circumstances his motivation for work is likely to be low. What is perhaps surprising is that this relationship, which already operates as a working assumption in IRUs,

should show up at all in this sample, since the number of men with large negative discrepancies between state benefits and likely earning capacity who enter IRUs is relatively small, precisely for this reason.

Length of time since last employment.

An important question that needs to be considered is the effect of length of unemployment on attitudes. One of the principles of IRU work is that it is desirable for rehabilitation to start as soon after a person's disablement as possible in order to arrest the progressive deterioration of attitude that is likely to occur with long unemployment. The general hypothesis held by the investigator is that both inadequacy and keenness for work are likely to increase with length of time out of work up to a maximum as the frustration and unsettlement produced by unemployment increase. Beyond a certain length of unemployment, however, it is hypothesized that the strength of these attitudes will decrease as the individual adjusts himself to his position and resigns himself to unemployment. This hypothesis is in accord both with IRU experience and with the work of Zawadski and Lazarsfeld (1935) referred to in the introduction. This is a general hypothesis only and does not preclude the possibility that attitude development in any particular individual might not conform to this pattern at all. The predicted trend is clearly evident in the results detailed below:

<u>No. of months since last employment.</u>	<u>I Score</u>		<u>W Score</u>		<u>N</u>
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	
0 - 3	44.04	13.68	55.56	9.80	50
4 - 6	44.45	12.28	57.63	8.62	49
7 - 12	47.46	13.04	56.41	10.61	87
13 - 24	46.72	13.79	55.99	9.62	74
Over 24	44.49	15.31	53.74	9.41	61

(There were six individuals in the sample for whom the relevant information was not available).

Analysis of variance, however, shows that the relationships are not significant.

ANALYSIS OF VARIANCE
I Score by months since last employment.

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Between groups	4	649.01953	162.25488
Within groups	316	59907.940	189.58209
Total	320	60556.959	

Variance ratio = .8559 (Not significant)

ANALYSIS OF VARIANCE
W Scores by months since last Employment

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Squares</u>
Between groups	4	461.08984	115.27246
Within groups	316	29429.603	93.132
Total	320	29890.693	

Variance ratio = 1.24 (Not significant).

No conclusions, therefore, can be drawn from the results, but the general hypothesis remains tenable. A possible reason that the trend of scores was not more marked in this investigation is that length of time since last employment is not an accurate measure of the time during which significant attitudes might develop. Time since last employment might represent time spent undergoing medical treatment, plus time seeking work. It is a reasonable hypothesis that the greatest attitude change develops when the individual is actively seeking work. Subsequent research might take actual time on the unemployment register as the basis of classification.

Psychiatric Classification

A feature of growing importance in industrial rehabilitation today is the industrial rehabilitation of persons with psychiatric disabilities. Nationally, neurotics formed the largest single disability group in IRUs between July 1964 and December 1965 (see Chapter X) comprising 13.2% of the total intake. Neurotics

and psychotics together made up 21.9% of the national intake. At Felling the percentage of neurotics and psychotics was somewhat lower for the same period but still sizeable, namely, 15.4%. It is clearly of interest, therefore, to know whether these psychiatric groups differ in their attitudes from the general IRU population. The mean scores of the 28 rehabilitees in the present sample with neurosis as their primary disability plus the 7 with neurosis as their secondary disability, and of the 22 psychotics were calculated and compared with the mean scores of the non-psychiatric cases. Results are shown below.

	<u>Non-psychiatric</u>	<u>Neurotics</u>	<u>Psychotics</u>
N	270	35	22
Mean I	44.50	53.97	46.64
SD I	14.01	9.30	11.50
Mean W	55.95	58.80	55.05
SD	9.87	8.18	6.53

Analysis of variance gives a significant variance ratio for the I scores but not for the W scores.

ANALYSIS OF VARIANCE
I Scores by Psychiatric Classification

	<u>Degrees of Freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Between groups	2	2799.757	1399.8785
Within groups	324	58969.562	182.005
Total	326	61769.319	

Variance Ratio = 7.69 (P \angle .001)

ANALYSIS OF VARIANCE
W Scores by Psychiatric Classification

	<u>Degrees of freedom</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Between groups	2	283.091	141.546
Within groups	324	29912.308	92.322
Total	326	30195.399	

Variance Ratio = 1.53 (not significant)

Specific comparison of mean I scores for the different groups by means of the t test (using the "within groups" variance estimate as the basis of the calculation of t, and two-tailed tests), gives t values as follows: Neurotic vs. Normal, $t = 3.91$ (P \angle .001); Neurotic vs. Psychotic, $t = 1.99$ (P \angle .05); Psychotic vs. Normal, $t = .715$, (P \angle .10). The difference between the mean I scores of the neurotic and normal groups appears here as the significant one, with the neurotic-psychotic difference approaching significance.

There is a statistical difficulty in these calculations in that there is a difference in variance between the neurotic and normal groups, significant at the 0.2% level ($F = 2.23$, $df = 34/269$). Since the assumption of homogeneity of variance underlies both the analysis of variance procedure and the t test, conclusions drawn from the results reported are suspect. McNemar (1962) quotes the work of Boneau (1960) as indicating that even gross violation of the assumption of homogeneity of variance is likely to have the effect of simply reducing the level of confidence at which results may be accepted. (Scheffe (1959) has reached essentially the same conclusion. At the same time, the disparity between the numbers in the different groups in the present analysis is also likely to increase the chances of wrongly rejecting the null hypothesis.

The solution to this statistical difficulty is, of course, to design an investigation specifically to assess differences in attitude among groups with different psychiatric classifications, ensuring that numbers in the different groups are evenly balanced and that all statistical assumptions are met. In the present circumstances, the author is inclined to accept the results reported above on a provisional basis in the absence of any other evidence on the question. Specifically, it seems justifiable to accept the difference between the mean I scores of the Neurotic and Normal groups at, say, the 5% level of confidence rather than the obtained 0.2% level.

The higher I score of the neurotics compared with the normals

is what might be expected if only because the I attitude has been shown to be correlated with a questionnaire ^{measure} of neuroticism. More generally, neurotics are likely to be more susceptible to the stresses involved in unemployment and can be expected to develop a greater sense of "inadequacy".

The psychotic group appears to have a lower mean I score than the neurotic group. This result is in accordance with what might be expected in view of the typical flatness of affect and lack of drive in psychotics (mainly schizophrenics) entering the IRU, compared with the typical high emotionality of neurotics. If supported by subsequent research this would support the author's view that a different kind of handling is required for each of these psychiatric groups in IRUs, and that the tendency to think of them in terms of the single category, 'psychiatric cases' is mistaken.

The finding that the neurotics are relatively homogeneous (small variance) with regard to I attitude compared with the normals suggests that the study of attitudes of neurotics in IRUs might produce a conclusion having general applicability to neurotics as a group.

The Analysis of Scale Items.

The I and W scales were constructed to measure two fairly broad attitude areas generally accepted, and now demonstrated, to be relevant in industrial rehabilitation. Ultimately, however more detailed knowledge of the structure of these attitudes and

more precise measurement is required. The research reported here is only an initial sally into the field of problems presented by attitude assessment in IRUs. In order to provide a basis from which future work might proceed factor analysis was employed to provide more detailed information about the probable structure of the attitudes involved.

Fifty completed questionnaires were selected randomly from the original 327 and intercorrelations computed among all 44 scale items. A principle components analysis was then carried out on the correlation matrix and ten factors extracted accounting for 68% of the total variance. These ten factors were rotated to a varimax solution (Harman, 1960, Kaizer, 1958). In Appendix 15 the seven items with the highest loadings on each factor are given, together with the factor loadings. The letter I or W indicates whether the item comes from the I or W scale. Only seven items are reported because on most factors these accounted for most or all of the high or moderate loadings, subsequent loadings tending to be very low. The suggested interpretations of factors given below are based on the seven items reported in Appendix 15 in each case.

FACTOR I

A consideration of the content of the items with loadings on this factor suggests that the factor is defined primarily by a sense of social isolation with a related loss of self-confidence. All the items loaded are I items.

FACTOR II

This factor has loadings on both W and I items though W items predominate. It is not easy to label but seems most satisfactorily interpreted as distress at unemployment possibly related to the loss of companionship involved.

FACTOR III

All items except one in this factor are I items. The factor seems to represent a reaction bordering on the pathological, involving depression, a sense of personal inadequacy, hopelessness, pessimism and social withdrawal.

FACTOR IV

Both I and W items appear in this factor with I items predominating. The factor seems to combine pessimism about the future because of disability with a lack of motivation. It seems very close to what is known colloquially in IRUs as 'disability consciousness' which implies the tendency to use disability as a barrier to work.

FACTOR V

8 This factor also combines items from both the I and W scales. The items are suggestive of an essentially normal reaction to unemployment and disablement combined with a constructive attitude to the future.

FACTOR VI

This clearly is a factor contained mainly in the W scale,

and represents, negatively, a sense of boredom and frustration at unemployment, desire for activity, need for occupation, and, generally a dislike of unemployment.

FACTOR VII

Like Factor VI, this one belongs mainly to the W scale. It appears to involve keenness for work and desire for independence with a preparedness to take steps to obtain work. The negative loading of the item, 'A man can be happy in any job he can manage' suggests that it involves a maintained level of aspiration, unlike factor IX, below.

FACTOR VIII

The items, in this factor, mainly from the W scale, refer mainly to how it feels to be out of work, and appear to define a factor of emotional upset possibly involving a sense of disorientation in response to unemployment.

FACTOR IX

This factor involves mainly W items. It appears to represent an attitude of 'work at all costs'. The items and their loadings suggest a positive evaluation of work as work, irrespective of status, related, perhaps, to loss of self-esteem and a sense of guilt at being unemployed. Unlike Factor VII, the goal of aspiration here seems to be work, any work, rather than 'suitable work' or 'some kinds of work'.

FACTOR X.

This factor does not seem to be capable of meaningful inter-

pretation and is therefore probably best ignored. The fact that after the loading of $-.784$ on item 44, all subsequent loadings are relatively low supports this view.

The factor analysis of scale items provides confirmation for the expectation that the attitudes studied are dimensionally complex. It also provides a firmer basis than has been available hitherto from which further research into attitudes in this field may proceed. The present research had to rely on intuitive notions supported only by relatively slender empirical evidence.

Three of the factors (II, IV, and V) have their highest loadings more or less evenly divided between items from the I scale and the W scale; the remainder appear to be fairly 'pure' I factors or W factors. This is the sort of picture one would expect to emerge, considering the way the scales were constructed and the fact that there is some correlation between the two scales. It would appear that factors II, and V account for most of the correlation between the scales, since on these factors I and W items are loaded in the same direction. Factor IV, however, has positive loadings on I items and negative loadings on W items. This illustrates both the complexity of the relationship between the two scales and the difficulty of devising wholly satisfactory attitude measures.

It would seem that any attempt to improve upon the present scales should be directed towards trying to measure factors, therefore, rather than intuitively defined "attitudes". Unfortunately, the

scales as they stand are not suitable for the measurement of factors, firstly because of the reliability problems that would arise, and secondly because the nine interpretable factors described above can at this stage only be regarded as tentative. Much more sophisticated analysis and a larger number of items will be required to confirm their identity and to provide reliable measurement. A decision will need to be made, for instance, on whether it is preferable to pursue orthogonal factors as reported here or whether rotation to oblique positions would provide factors that are more psychologically meaningful. Extensive analysis and further test development of this kind are beyond the scope of the present study. The implications for future research are further discussed in the next section.

SUMMARY.

In summary, then, the further analysis undertaken has shown that the W Scale has predictive validity in terms of the outcome of rehabilitation course. The analysis has also shown that the I scale is relatively independent of the antecedent variables, age and family responsibility, but that the W scale is related to these variables. Evidence for a relationship between either scale and length of unemployment is indefinite, and more detailed investigation is required to clarify any relationships that exist here.

Differences in I score between neurotics, psychotics and normals have been found, but these differences require confirmation and more sophisticated investigation.

The relationships found may be taken as further evidence of the validity of the W scale, showing, in addition to the validation studies reported in Chapter VIII, that this scale is in fact measuring an attitude significant in the industrial rehabilitation situation.

In addition, the nature of attitudes involved has been further explored by factor analysis, providing a basis from which subsequent research might proceed.

CHAPTER XIV.

DISCUSSION AND CONCLUSIONS

The aim of this investigation was to test the hypothesis that a change in attitude occurs in clients undergoing industrial rehabilitation. This hypothesis was generated by the practice of industrial rehabilitation in the IRUs of Great Britain where it is assumed that a change in attitudes is frequently a significant part of the industrial rehabilitation process. IRU experience, and a perusal of the relatively small literature on the subject, indicated that the area of attitudes requiring study was both broad and vaguely defined. The study was conceived as a first approach to the identification of significant attitudes and their measurement by objectively scored means in order to test the hypothesis of attitude change.

It has been described how a pilot study led to the identification of two more or less independent attitudes. The first, called "Inadequacy", was an amalgam of attitudes variously described as unsettlement, lack of confidence, insecurity, inadequacy, inferiority, and loss of self-esteem. The second was called "keenness for work". Scales were developed to assess these two attitudes, designated the I and W scales respectively. Attempts to develop other attitude measures were unsuccessful.

Both scales achieved an acceptable level of reliability of

measurement. The validity of the scales is inferred from their method of construction, and from the results of the validation studies reported. In addition, further cumulative evidence of validity has accrued from the further analysis undertaken of the relationship between the scales and other variables.

On the basis of the assumptions underlying IRU work, previous research, and the indications from the pilot study, it was hypothesised that a reduction of the I attitude would take place during the course of industrial rehabilitation, but that the W attitude would remain unchanged. In addition, a shortened, approximate, version of a standard measure of the two personality dimensions of neuroticism and extraversion was included, as a help in the interpretation of the attitude measures, and as a partial replication of the work of Wing (1961). It was hypothesised that a reduction of neuroticism but not of extraversion would occur during industrial rehabilitation. The results obtained support all these hypotheses, in the case of the I scale, at an extremely high level of statistical significance. It may be said therefore that the research has succeeded in its objectives.

We may conclude, then, that the notion that industrial rehabilitation may "improve" attitudes is justified. What has been for twenty years, strictly speaking, an assumption, now has the status of a scientific fact. We now have secure ground for believing that a course of industrial rehabilitation may help to restore a man's self-confidence, improve his self-image, reduce his

anxiety and feelings of insecurity and inadequacy, and generally enable him to cope with his occupational future in a more integrated and adaptive manner. Furthermore, the assumption that industrial rehabilitation is not likely to engender greater keenness for work, is supported.

This investigation may be regarded as a successful first approach to the scientific study of attitudes in industrial rehabilitation. It is, however, only a first approach, and a large number of questions still remain to be answered. The following part of this section is devoted to a consideration of some of the research problems in the area in the light of this investigation.

The first problem tackled in the present study was the identification and measurement of relevant attitudes. The main difficulty here lies in producing technically acceptable measures, while at the same time including in the measurement the whole spectrum of attitudes accepted as being relevant. It would have been relatively easy, for instance, to produce scales of unimpeachable respectability from the technical point of view, to measure highly specific attitudes (of the "for" or "against" type, perhaps), such as "attitude to rehabilitation", "attitude to the Ministry of Labour", or "confidence in working capacity", rather after the fashion of Wing (1961). The inadequacy of this approach is that it merely touches the fringes of the problem, and fails to get at the whole attitude complex, call it "inadequacy", "unsettlement", or what you will, that is clearly operative in the situation. It is

unnecessary to repeat here the indications set out in the introduction, or from the subsequent factor analysis of scale items, that it is a broad attitude complex of several dimensions that is involved. It is claimed that the attitudes scales developed do represent an attack on the problem on this broad front.

Hearnshaw (1954), discussing research into attitudes to work, has said:

"A general attitude to work is something different from the specific attitudes which are commonly investigated in attitude surveys. The problem in its simplest terms is the place of work in a more comprehensive "belief-value" system. Judging from the literature this problem has received no systematic treatment; it has suffered from the general neglect of values by psychology".

The approach to the measurement of attitudes adopted in this investigation is essentially in sympathy with this point of view. Although "general states of mind", such as what has here been called 'inadequacy', have been less popular subjects for study among psychologists than single traits or specific attitudes, it is a matter of experience that general states of mind may be of considerable practical importance. It is the present author's opinion that an attempt should be made to assess them, in spite of the practical and theoretical difficulties that such an attempt is likely to involve.

The I and W scales, while adequate for the purpose for which they were constructed, are nevertheless, blunt instruments, The I scale has a standard error of measurement of 5.98 and the W scale, 4.99, (respective SDs being 13.74 and 9.61). This means, for instance, that if a person obtains a score of 45 on the I scale we can be nearly certain that his "true" score lies somewhere between 33 and 57, nearly two SDs. Clearly such a measure has a limited usefulness in individual use, except in the case of extreme scores, or possibly by a clinical consideration of the items endorsed. (It should be pointed out that many widely used personality measures such as the Eysenck Personality Inventory do not do much better in practice. The five per cent confidence limits of the N score of the A or B form of the EPI (Eysenck, 1963) for instance, represent a range of approximately 1.7 SDs.) The main usefulness of the present scales is in making group comparisons. It has been shown, for instance, that different age groups and groups with different family responsibilities have different mean W scores, and that diagnosed neurotics may differ from normals and psychotics on I score. Similarly, the scales might be used to investigate differences in attitude between different diagnostic groups, groups with different social, occupational or trade union backgrounds, or between different areas of the country. It would be interesting to know, for instance, whether attitudes in the disabled unemployed vary from areas of high unemployment to areas of low unemployment, or from rural to industrial areas.

and Eysenck

It should also be possible to investigate the relation between the I and W Attitudes and the nature and quality of relationships and attitudes within the family and local community. Williams (1955) found no relationship between the attitude of rehabilitees to their spouse at the time of rehabilitation and his own ratings of extent of resettlement twelve months later. Apart from this the investigator knows of no systematic research into the effect of social relationships on industrial rehabilitation, much less on the formation of attitudes. Yet it is widely accepted that such relationships may be crucial in determining attitudes important to industrial rehabilitation. As Wing (1965) puts it,

"The change in attitude of contemporaries, the need to accept public assistance, and the necessity of cutting a different figure in the family, where his wife may become the breadwinner, may have far more lasting effects than the severity of the handicap itself".

Provided adequate means of assessing such social relationships can be employed it is now possible to relate them to attitudes as measured by the I and W scales.

For the type of study discussed above the scales as they stand are capable of providing meaningful results.

For use in the guidance and rehabilitation of individual cases much more precision of measurement is required, and the first task will be to develop more accurate measures. Here, two kinds

of approach seem appropriate.

Firstly, the existing scales could be extended and refined along the lines suggested by the factor analysis of scale items. Firstly, the factors or derivatives of these, suggested by the analysis reported in the previous section should be confirmed by using a larger computer to analyse the items from a larger number of questionnaires. Then additional carefully chosen items could be added for the purpose of improving the measurement of each factor. The much larger scales obtained in this way could then be administered to a representative group and the results refactored, the identity of the factors confirmed or reinterpreted, and unsuitable items eliminated. This approach or one of many possible variants of it should result in scales providing reliable measurement of a broad attitude complex of known structure.

Secondly, different techniques of measurement might be applied, possibly in conjunction with the approach outlined above. The Q-sort (Stephenson 1953) suggests itself as a promising method capable of application under IRU conditions, as does Kelly's repertory grid technique (Kelly, 1955).

A further question that requires careful exploration is the relationship between the attitudes under consideration and basic personality structure. The present evidence, (Table 2), based on the shortened MPI, is that the I attitude has a small positive correlation with neuroticism and a small negative correlation with extraversion, and that the W attitude has a small positive correlation

with extraversion. The small size of the correlation coefficients obtained suggests that the attitudes measured by the I and W scales are relatively independent of basic personality, but the relationship needs to be more fully investigated through more precise measurement. If improved attitude measurement could be related to more detailed personality measures such as Cattell's 16 Personality Factor Questionnaire, or his Motivational Analysis Test, a considerable increase in knowledge might result. (Cattell, 1957), 1965).

In this connection, however, Barker's (1953) warning should be heeded, that such standard measures may have a different interpretive significance for disabled persons as compared with normals.

At this point the question might be raised as to whether it is appropriate or worthwhile to attempt to measure attitudes with precision in an IRU situation. It might be argued that significant attitudes in any given case are likely to be highly individual, and that the handling of a particular case requires an understanding of that individual's attitudes in the context of his particular life situation. In other words, the argument might run, there are no attitudes of general incidence in the IRU population worth measuring; all that is worth knowing about an individual in an IRU situation is peculiar to that individual and must be discovered by methods best adapted to the individual case. All this amounts to sayingⁱⁿ Allport's terminology, (Allport, 1937,) that IRU casework, like all therapeutic work, is essentially an "idiographic" procedure, where "nomothetic" methods have little relevance. As far as

the modification of attitudes is concerned, IRU work is idiographic; indeed this is a declared feature of IRU procedure. In the Ministry of Labour Gazette (1964) it is stated, "There is no set syllabus: courses are planned to meet individual need ..." The question, therefore, is whether it is possible to identify significant attitudes of general incidence in the IRU population. The answer seems to be "Yes". The construction of the I and W scales which have been shown to be significantly related to biographical data, personality variables, and success of the IRU process, demonstrates clearly the generality and relevance of these attitudes. Whether it is now possible to refine the measurement of the attitudes so that the measures will have predictive value for individual cases can only be discovered by attempting such refinement along the lines suggested. The work reported here suggests that this is possible and that suitable attitude measures routinely administered might come to have great usefulness in IRU work.

There is a further reason for attempting more refined attitude measurement in IRUs. It seems likely that in the future, as in the past, the success of IRU casework will depend largely on the skill and clinical insight of IRU personnel, and that the improved measurement of attitudes will serve directly only as a small additional aid to personnel in making decisions. The improvement of this skill and insight and the development of better IRU procedures will, however, need to rely on the results of relevant research. Practically useful results are likely to come out of

research to the extent that accurate measurement is employed.

So while the present day-to-day running of IRUs may be able to get by without accurate attitude measurement, research cannot; and in the long run the improvement of IRU methods will depend on research.

Quite apart from the specific usefulness that attitude measurement might have in IRU work as such, research in this field has a much wider relevance. Hearnshaw (1954) has discussed the importance of more detailed study of attitudes to work, and particularly of relating attitudes surrounding work in our society to the "belief-value matrix" of the society as a whole. He points out that the type of attitudes to work that are typical in our society are historically a rare phenomenon.

"We have insufficiently realised the unusualness, and perhaps the precariousness, of the kind of attitudes to work upon which our civilization rests.... Attitude to work, then, is fundamental to the very continuance, still more to the progress, of society".

Hearnshaw quotes cross-cultural evidence in support of the view that attitude to work is a basic determinant of the prosperity of a society. He also makes the point that the great majority of attitude studies in the past have hardly touched the really important questions.

"Their main limitation is that they deal exclusively, or almost exclusively, with attitudes to specific aspects of the

working situation and not with attitudes to work as contrasted with other areas of life. They throw little light, therefore, on the place of work in the "belief-value matrix" as a whole, and there are reasons for thinking that this is one of the really crucial questions".

Clearly, the research reported here falls a long way short of the objectives envisaged by Hearnshaw, though it may be regarded as a useful start along one possible line of attack. It does provide a basis for more ambitious and more widely relevant research. IRUs can serve as a very valuable source of data for attitude research. Their usefulness lies not only in the fact that they provide an easily accessible captive population about which a great deal of information is available, but also in that they provide a population in which attitudes normally taken for granted tend to become heightened and more explicit and therefore available for study, or in which "abnormal" attitudes develop, the study of which can throw light on the nature of "normal" attitudes. A detailed examination of attitudes in this type of population can therefore provide valuable understanding of attitudes dominant in our society as a whole.

Finally, there is one important question towards which research into attitudes in IRUs ought ultimately to be directed, namely; What are the dynamics of attitude change in industrial rehabilitation?

Wing (1961) favours an explanation in terms of social pressure to adopt group-approved attitudes, interpreted within the framework of dissonance theory (Festinger, 1955). According #57 to this view the individual with inadequate attitudes comes under pressure to conform to the group-approved posture, and as a result develops more adequate attitudes. IRU staff maintain and foster a social climate in the unit that produces this attitude change, which, for the individual, serves as a means of dissonance reduction.

The present author agrees that the influence of the group is an important factor in producing attitude change, at any rate in some individuals, but finds the view that it is the main factor unconvincing. It seems more likely that in many cases it is the individual's experience of being able to cope during his IRU course that leads directly to an improvement of attitude, independently of the effect of social pressures. In terms of learning theory it might be said that inadequate attitudes become extinguished through non-reinforcement when the person finds that he can cope, while more adequate attitudes are reinforced when he finds that his efforts are successful. Furthermore, the social pressure approach fails to take account of changes in attitude that may come about through the simple acquisition of new information, better self-insight, and the adoption of different goals, all of which may result from counselling and nothing else.

In any case, the author is skeptical of the adequacy of

dissonance theory itself, and finds himself largely in agreement with Chapanis and Chapanis (1964) who have criticized the theory on the grounds that it oversimplifies social processes, that cognitive dissonance itself is usually impossible to relate unambiguously to operational variables, and that much of the work on which the theory is based has serious methodological shortcomings. The theory operates at such a high level of abstraction that it is virtually incapable of disproof. With dissonance theory you can't lose. In an investigation such as the present one, for instance, if you find attitude change you explain it as a means of dissonance reduction; if the predicted attitude change does not occur, you may say that no dissonance was produced in the first place, or that the individuals are reducing their dissonance in other ways. Either way, the theory stands.

Considering the complexity of the IRU process and the present state of ignorance about how it works, the author is of the opinion that to adopt any particular theoretical framework for research into the process is premature. Such an attempt seems likely to result in an unwarranted narrowing of the field studied, both in terms of the type of data collected, and of the interpretation of results. It seems more important, for the present, to establish some facts, and to clarify relationships that may be practically useful, than to strive after theoretical elegance.

Whatever the theoretical considerations, the fact remains that at present we have no evidence about the relative influence of social

pressure, individual experience in the IRU workshops, and counselling, in producing attitude change during industrial rehabilitation. It seems probable that all of these factors (and others) operate, but that different factors are important in different kinds of case. It is conceivable, for instance that some cases will benefit maximally from intensive counselling alone, without recourse to workshop experience, while others may require exposure to carefully controlled social situations. At present we just do not know what kinds of cases benefit most from what kinds of treatments, and it is only through research that this can be discovered.

While more sensitive methods of attitude measurement as discussed above are a desideratum for this type of research, it should be possible, even with the existing I and W scales, to plan and conduct an experiment on a factorial design to assess the relative effectiveness of different kinds of treatments and combinations of treatments on different types of case, in terms of attitude change and resettlement criteria.

Another approach that suggests itself is the examination of the frequency and type of social interactions in the workshops, by observation on a random sampling basis, perhaps. The social processes observed in this way might then be systematically related to personality, attitude change, outcome of course, and other variables by the appropriate statistical techniques. Other lines of research might include the setting up of new procedures on an experimental basis, such as intensive counselling without attendance

at an IRU, or group discussions or therapy sessions, similar to those reported by Williams (1955) within the IRU. If try-outs of new procedures are to be useful, however, it is essential that some kind of systematic evaluation of their effectiveness be incorporated in their design.

In conclusion, the investigator would like to offer a brief comment about the organisation of psychological research in industrial rehabilitation. So long as research is left to the individual initiative of psychologists in IRUs, progress will be piece meal and slow, as it has been since IRUs were first established. It seems remarkable that in a field of social work as far-reaching and important as industrial rehabilitation systematic knowledge should be so lacking. It seems to the investigator that the situation could easily be remedied by a co-ordinated research programme directed from Ministry of Labour Headquarters, and utilizing the training and skill of all the psychologists in IRUs throughout Britain. Research data that would take the individual investigator twelve months to collect could be collected in one month through the co-ordinated effort of all IRU psychologists. A centrally co-ordinated research programme could produce more in the way of practically useful results in five years than all the efforts of isolated individuals have done in the last twenty years. Any significant expansion in knowledge of the psychology of industrial rehabilitation is only likely to come about through an official research policy of the kind suggested.

APPENDIX I

Questionnaire items used in the pilot study.

(The letters D, C and W in Sheet I indicate which scale the items belonged to. All items in Sheet II were designated U. The symbol, "+", indicates that an item was scored 4 for "Strongly agree", and "-" indicates 4 for "Strongly disagree").

SHEET I

- 1 (W)- I'd rather not work than do a job I don't like.
- 2 (C)- I will need to be trained before I am able to do a job.
- 3 (C)- A disabled man has little chance of getting a job at present.
- 4 (W)- The government is not doing enough for disabled and unemployed people.
- 5 (W)- I am not fussy whether I get a job or not.
- 6 (D)- The number of welfare services for disabled people should be greatly increased.
- 7 (D)- I doubt whether I am fit enough for work yet.
- 8 (W)+ There is some point in rehabilitation even if you don't get a job afterwards.
- 9 (C)- These days I feel selfconscious when I am with other people.
- 10(D)- There are better welfare services for ex-prisoners than for disabled people.
- 11(D)- There should be a disabled workers' trade union.
- 12(W)+ I'd go to work tomorrow if I had a job to go to.
- 13(C)- Employers don't like taking on disabled people.
- 14(W)+ I'd rather be here than on the dole.
- 15(D)- I find it difficult to get up in the morning.
- 16(W)- I would rather be on the dole than working for a low wage.
- 17(W)+ I'm pleased to be here because it gives me something to occupy my mind.

APPENDIX I SHEET I (Continued)

- 18(C)+ Any man can find a job to suit him provided he looks hard enough for it.
- 19(C)- I feel selfconscious in company these days.
- 20(C)- I don't think I'll ever find a job to suit me.
- 21(D)- I find it difficult to get to sleep at nights.
- 22(W)+ I like being here because it gives me the company of other men.
- 23(W)+ It's better to move away for work than to stay in an area where there are not many jobs.
- 24(W)- Rehabilitation is a waste of time.
- 25(W)+ A man can be happy in any job he is able to do.
- 26(C)- I feel inferior to my friends.
- 27(C)+ There are plenty of jobs disabled people can do.
- 28(W)+ Being here is better than doing nothing.
- 29(W)- It's unreasonable to expect a man to travel more than five miles to work every day.
- 30(D)- I am not feeling very well.

- 1 (U)+ People don't understand what it's like to be unemployed.
- 2 (U)+ When a man's out of work he's not the same fellow in company.
- 3 (U)+ An unemployed man is at a disadvantage because he can't dress as well as the next man.
- 4 (U)+ A man out of work gets into a little world of his own.
- 5 (U)+ It is humiliating to be unemployed.
- 6 (U)+ A man's status drops when he's out of work.
- 7 (U)+ After being out of work for a time a chap begins to think he's no good.
- 8 (U)+ Unemployment is regrading.
- 9 (U)+ No one wants to mix with a man socially when he's out of work.
- 10 (U)+ When you have no job your friends think you don't want to work.
- 11 (U)+ Unemployment preys on your mind.
- 12 (U)+ Each town should have a social centre where unemployed people can get together.
- 13 (U)- Unemployment is nothing to be ashamed of.
- 14 (U)+ The worst thing about being out of work is that you've got nothing to do.
- 15 (U)+ Any kind of work is better than unemployment.
- 16 (U)+ I'd rather stop at home than go out and have people pay for me.
- 17 (U)+ When you're out of work you feel unsettled.
- 18 (U)- Men get used to being out of work after a while.
- 19 (U)+ When a man's out of work he loses faith in himself.
- 20 (U)+ A man who is injured at work is usually unfairly treated when it comes to compensation.
- 21 (U)+ When you're unemployed you lose your friends.
- 22 (U)+ Some areas of the country get all the advantages while others are neglected.

- 23(U)+ You don't feel like mixing with other people when you're out of work.
- 24(U)+ A man on the dole comes in for ridicule from others.
- 25(U)+ Unemployment creates idleness and laziness.
- 26(U)+ Being on the dole effects your health.

APPENDIX 2

The Semantic Differential Scale
used in the Pilot Study

Please put a 'x' in the box where each of the following seems to fit best.

Examples:-

SUNSHINE
WINTER
FOOTBALL

	Very good	Good	Neutral	Bad	Very bad
SUNSHINE					
WINTER					
FOOTBALL					

Now do these:-

OVERTIME
IGNORANCE
DIFFICULTY
WORK
HOSPITAL
THE DOLE
DISABILITY
LABOUR
UNSKILLED
UNEMPLOYMENT
REHABILITATION
ME

OVERTIME					
IGNORANCE					
DIFFICULTY					
WORK					
HOSPITAL					
THE DOLE					
DISABILITY					
LABOUR					
UNSKILLED					
UNEMPLOYMENT					
REHABILITATION					
ME					

APPENDIX 3

Items from the Maudsley Medical Questionnaire used
in the Pilot Study.

Under-line the answer which suits you best.

- | | | | | | | | |
|----|--|-----|------|-----|-----|-----|----|
| 1. | I suffer from sleeplessness | ... | ... | ... | ... | YES | NO |
| 2. | I suffer from severe headaches... | ... | ... | ... | ... | YES | NO |
| 3. | I often feel just miserable | ... | | ... | ... | YES | NO |
| 4. | I am subject to attacks of shaking or trembling | ... | | | ... | YES | NO |
| 5. | I am rather a nervous person | ... | ... | ... | ... | YES | NO |
| 6. | I often feel selfconscious in the presence of
superiors | ... | ... | ... | ... | YES | NO |
| 7. | I am troubled by aches and pains | ... | ... | ... | ... | YES | NO |
| 8. | I get nervous in places such as lifts, trains, or
tunnels | ... | ... | ... | ... | YES | NO |

APPENDIX 4

Working Conditions Check List
Used in the Pilot Study.

Cross out any of the conditions listed below that you would NOT like to work in.

A PLACE WHICH IS:- Hot, noisy, dark, damp, stuffy, cold, crowded
draughty, closed in, ugly, lonely, old, dusty.

WORK WHICH IS:- Dangerous, dirty, heavy, finicky, outdoors,
tiring, exacting, repetitive, complicated, indoors.

WHERE YOU ARE:- Working with women, near machinery, alone, on
piece rates, in a group, on night shift, under a
supervisor, always in the same place.

APPENDIX 5

Workshop Behaviour Check List used in
the Pilot Study.

(Designation of item and direction of scoring are indicated after item number, "+" indicates a score of 2 for "Often").
(Raters were required to respond 'NEVER', 'SOMETIMES', or 'OFTEN' to each item.)

During the past week, has the rehabilitee

- 1 (W)- Stopped work as soon as he thought your back was turned?.
- 2 (W)- Made unnecessarily frequent visits to the lavatory?
- 3 (W)- Been ready to go home well before the bell?
- 4 (D)- Refused or complained about work given him because of his disability?
- 5 (W)- Had to be told to get started in the morning?
- 6 (W)+ Sought a new job when he had finished the previous one?
- 7 (C)- Sought reassurance from you?
- 8 (C)- Showed nervousness or embarrassment when he knew he was being watched?
- 9 (C)- Complained of a lack of confidence?
- 10(W)- Preferred to talk to others rather than work?
- 11(W)- Wandered off the section?
- 12(W)+ Spontaneously assisted someone else with a job?
- 13(W)-, Thrown the tools down?
- 14(W)- Left his bench or workplace untidy in the evening?
- 15(W)- Been late in the morning?
- 16(W)- Been late from lunch or tea?
- 17(C)- Spoken boastfully about his achievements or ability?
- 18(D)- Discussed his disability with the other men?
- 19(W)- Preferred to use his own method to do a job despite being shown the correct one?

APPENDIX 5. Continued

20(W)- Spoken aggressively or rebelliously to you?

21(W)- Failed to start a job immediately, after being given it?

APPENDIX 6

INSTRUCTIONS TO JUDGES

You are asked to assist in the construction of psychometric scales to measure certain "attitudes" in men attending a Ministry of Labour Industrial Rehabilitation Unit.

Background:

Men attending the Unit are usually disabled through injury or illness and are out of work as a result of their disablement. Many of them have been incapacitated and unemployed for a considerable period and few of them are able to return to their normal occupations. A man usually spends about eight weeks at the Unit where he is employed on work suited to his capacities; he is required to observe normal factory hours and normal industrial discipline. The object of an industrial rehabilitation course is to help a disabled man adapt once more to normal work routine, to restore working confidence, to improve attitudes relevant to work, and to test his working capacity and provide vocational guidance for his future. For this purpose the Unit employs a specialist staff including a medical officer, a social worker, a psychologist, specially trained workshop supervisors, and an officer responsible for placing the man in suitable employment at the end of his course. Please note that the Unit does NOT provide training in a particular trade or skill.

The Judging Task:

In the large envelope marked 'I' are a number of cards bearing statements made by men undergoing industrial rehabilitation. Each statement is believed to express to a greater or lesser degree the attitude of "Inadequacy" or its reverse.

This attitude is a general state of mind which seems to develop as the result of unemployment and disablement. A man in his position tends to suffer a loss of personal confidence and to begin to doubt his ability to work or to hold down a job. He feels a loss of status in his community and has to face financial insecurity and a lowered standard of living. He is usually conscious of reduced capacity and the limitations his disability imposes. He might begin to feel socially isolated or even guilty. All these factors combine to produce a general feeling of insecurity, inferiority or inadequacy. For purposes of this study this general "attitude" is called "INADEQUACY".

The second "attitude" is the straightforward one of "WILLINGNESS FOR WORK" denoting the strength of a man's motivation or desire to have a job.

You are asked to sort these statements into the nine small envelopes provided according to the degree to which they would seem to denote the attitude, if made by a disabled unemployed man in the

APPENDIX 6 Continued

context of Industrial Rehabilitation. Those statements which show the strongest sense of "Inadequacy" will go into envelope No.9; those which show the least feeling of "Inadequacy" or the greatest degree of self-assurance and security will go into envelope No.1. Neutral statements will go into No.5. Intermediate statements will be sorted into intermediate envelopes according to the degree to which they imply the attitude.

You are then asked to sort the statements in the large envelope marked W into the nine small envelopes enclosed according to the degree of "Keeness for Work" that they express. Those which seem to indicate the greatest keeness for work will go into envelope No.9 and those indicating the least keeness into No.1.

Some of the statements in the 'I' set appear again in the 'W' set. This is because they are considered to express both attitudes to some extent. Please keep your 'W' judgements independent of your 'I' judgements.

Before sorting each set please read again the definitions given for "Inadequacy" and "Keeness for Work" respectively. To help you keep in mind the meanings that "Inadequacy" and "Keeness for work" are intended to have in this study, their definitions have been provided on separate cards which you should keep in front of you while sorting the statements. Refer to these definitions as often as you need to, especially in cases of doubt. After you have sorted the cards into the nine envelopes please go back to each envelope and consider each card again in case you want to alter your judgement of any statement. Remember that you must consider each statement as being made by a man who is unemployed, disabled, and attending an Industrial Rehabilitation Unit. Please do not discuss this task with other people until you have completed it as this could interfere with the validity of your judgements. Your assistance is greatly appreciated.

APPENDIX 7

Statements given to judges for sorting.

(S and Q values are given after each statement. The final column shows those statements rejected on the basis of judges ratings; "N" indicates "neutral" S value, "Q" indicates large Q value).

I ITEMS.

	S.	Q.	
1. Sometimes on my way to the dole I have tried to avoid meeting people that I know.	7.54	1.81	
2. It is humiliating to be unemployed.	7.40	2.89	Q
3. When you're unemployed you lose your friends.	7.18	1.89	
4. I worry a great deal about my future.	7.02	2.12	
5. After being out of work for a time a chap begins to think he's no good.	7.62	1.6	
6. Any man can find a job to suit him provided the looks hard enough for it.	1.36	1.16	
7. There's a bright side to every situation	2.08	2.00	
8. Unemployment is degrading.	6.96	2.72	Q
9. A man on the dole comes in for ridicule from others.	6.64	2.12	
10. I know I'm as good as the next man, if only I'm given the opportunity.	2.17	1.84	
11. When a man's out of work he loses faith in himself.	7.01	1.93	
12. You can't keep a good man down.	1.30	0.96	
13. I couldn't care less what other people think of me.	3.26	5.50	Q
14. You don't feel like mixing with other people when you're out of work.	6.60	1.79	
15. There's no place in industry for disabled men.	8.30	1.86	

APPENDIX 7 Continued.

	S	Q	
16. I just don't feel my old self any more.	6.60	1.87	
17. To me the future always looks bright.	1.45	1.80	
18. I'd rather stop at home than go out and have people pay for me.	6.40	2.24	
19. There should be a disabled workers' trade union.	5.65	2.66	N
20. A man's status drops when he's out of work.	6.34	1.60	
21. I find it embarrassing to have to go down to the Dole and the National Assistance every week.	6.32	2.81	Q
22. A man who is injured at work is usually unfairly treated when it comes to compensation.	6.40	1.29	
23. When you have no job people think you don't want to work.	6.05	2.79	Q
24. When a man's out of work he's not the same fellow in company.	6.55	2.15	
25. I see no cause for despondency.	2.71	4.51	Q
26. These days I feel selfconscious when I am with other people.	6.16	4.46	N
27. Every dark cloud has a silver lining.	2.46	2.07	
28. I find my disablement a great embarrassment.	7.46.	2.15	
29. An unemployed man is at a disadvantage because he can't dress as well as the next man.	6.54	1.56	
30. No one wants to mix with a man socially when he's out of work.	7.45	1.56	
31. Employers don't like taking on disabled people	6.47	1.89	
32. Each town should have a social centre where unemployed people can get together.	5.77	2.96	N
33. A disabled man has little chance of getting a job	7.90	2.09	
34. For a disabled man a lowered standard of living is the most difficult thing to accept.	5.74	2.32	N

APPENDIX 7 continued

	S	Q	
35. I feel inferior to my friends.	7.72	1.68	
36. Recently I have been feeling irritable with people	5.94	1.62	
37. These days I feel nervous of going out of the house.	8.20	2.00	
38. A man out of work gets into a little world of his own.	6.44	2.42	Q
39. I doubt whether I am fit enough for work yet.	6.37	3.02	Q
40. I like being here because it gives me the company of other men.	4.56	2.06	N
41. Unemployment preys on your mind.	7.10	2.00	
42. When you're out of work you feel unsettled.	6.55	2.71	Q
43. Men get used to being out of work after a while.	5.67	2.90	N
44. The number of welfare services for disabled people should be greatly increased.	5.40	2.92	N
45. People don't understand what it's like to be unemployed.	5.95	1.29	
46. I will need to be trained before I am able to do a job.	5.82	3.45	N
47. Unemployment is nothing to be ashamed of.	3.80	3.67	Q
48. I don't think I'll ever find a job to suit me.	8.51	1.31	
49. Unemployment creates idleness and laziness.	4.98	2.01	N
50. Until I get a job I will have no peace of mind.	6.18	4.39	N
51. After being out of work for a while you feel sort of lost.	6.64	1.70	
52. Sometimes I think I'll never get a job.	7.70	1.90	
53. Just to be back among ordinary working men again will make all the difference.	3.78	3.10	Q
54. Nothing will prevent me from getting back to normal life.	1.15	0.69	

APPENDIX 7 Continued.

	S	Q	
55. I feel bad about getting money that I haven't earned from the Dole or the National Assistance.	6.20	2.63	Q
56. You get to brooding about having no job.	6.80	1.82	
57. Employers should be forced by law to take on more disabled men.	6.18	2.89	Q
58. It upsets me to have to stay at home when I see others going out to work.	6.10	1.92	
59. When a man's disabled he begins to feel that he's not needed.	7.45	2.11	
60. I like to feel that I've done a good week's work for my money.	3.17	2.79	Q
61. One of my strongest wishes is to be fully independent again.	2.90	3.63	Q
62. I see no reason why I should not be back at work within a couple of months.	1.46	2.22	
63. It feels so strange to be out of work.	4.93	2.35	N
64. The Labour Exchange is the most depressing place I've ever had the misfortune to enter.	5.24	2.43	N
65. Sometimes you get sick of your life.	8.46	1.16	
66. Lately there's been nothing but hardship.	6.67	2.53	Q
67. The rising crime rate can be partly blamed on unemployment.	5.17	1.48	N

APPENDIX 7 continued.

W ITEMS.

	S	Q	Q
1. I doubt whether I am fit enough for work yet.	2.78	2.52	Q
2. I like being here because it gives me the company of other men.	4.94	2.0	N
3. Unemployment preys on your mind.	6.73	2.21	
4. When you're out of work you feel unsettled.	5.86	1.58	
5. Men get used to being out of work after a while	2.70	1.84	
6. The number of welfare services for disabled people should be greatly increased.	3.16	2.61	Q
7. People don't understand what it's like to be unemployed.	5.22	2.73	N
8. I will need to be trained before I am able to do a job.	3.95	2.77	Q
9. Unemployment is nothing to be ashamed of.	1.89	2.87	Q
10. I don't think I'll ever find a job to suit me.	2.12	1.92	
11. Unemployment creates idleness and laziness.	5.50	2.30	N
12. Until I get a job I will have no peace of mind.	8.40	1.36	
13. After being out of work for a while you feel sort of lost.	5.33	1.79	N
14. Sometimes I think I'll never get a job.	3.96	2.96	Q
15. Just to be back among ordinary, working men again will make all the difference.	7.40	1.14	
16. Nothing will prevent me from getting back to normal life.	8.91	0.58	
17. I feel bad about getting money that I haven't earned from the Dole or the National Assistance.	7.01	2.15	
18. You get to brooding about having no job.	6.20	2.49	Q
19. Employers should be forced by law to take on more disabled men.	6.07	2.36	Q

APPENDIX 7 continued

	S	Q	
20. It upsets me to have to stay at home, when I see others going out to work.	6.96	1.78	
21. When a man's disabled he begins to feel that he's not needed.	5.08	2.45	N
22. I like to feel that I've done a good week's work for my money.	7.93	1.24	
23. One of my strongest wishes is to be fully independent again.	8.70	1.16	
24. I'd go to work tomorrow if I had a job to go to.	8.77	1.19	
25. There is some point in rehabilitation even if you don't get a job immediately afterwards.	6.05	1.94	
26. I find it difficult to get up in the morning.	2.66	1.83	
27. It's better to move away for work than to stay in an area where there are not many jobs.	8.57	1.23	
28. A man can be happy in any job he can manage.	7.92	1.61	
29. I would rather be on the dole than working for a low wage.	1.48	1.40	
30. I am not fussy whether I get a job or not.	1.16	0.67	
31. Any kind of work is better than unemployment.	8.75	1.39	
32. The worst thing about being out of work is that you've got nothing to do.	5.93	2.30	Q
33. Being here is better than doing nothing.	5.46	2.50	N
34. I'd rather not work than do a job I don't like.	1.59	1.53	
35. I'd rather be here than on the Dole.	5.71	2.52	N
36. It's unreasonable to expect a man to travel more than ten miles to work every day.	1.88	1.20	
37. I'm pleased to be here because it gives me something to occupy my mind.	6.00	2.60	Q
38. The worst thing about my present position is that I'm not able to do the things I've been used to doing.	5.55	1.66	N

APPENDIX 7 Continued.

	S	Q
39. I'd take any job rather than remain unemployed.	8.85	0.59
40. I would do anything to relieve the boredom of unemployment.	8.28	1.64
41. I see no reason why I should not be back at work within a couple of months.	8.05	1.24
42. It feels so strange to be out of work.	5.84	2.10
43. I feel uneasy if I'm not busy all the time.	7.40	1.69
44. When you're out of work time hangs heavy on your hands.	6.20	1.55
45. An unemployed man misses the satisfaction of a job well done.	7.90	1.37.

APPENDIX 8

Statements administered to 112 subjects for item analysis.

(Whether the statement belonged to I or W scale, direction of scoring - "+" means 4 for "Strongly agree" - and phi coefficient obtained from item analysis are given in that order after statement number).

- 1(W)+.50 Any kind of work is better than unemployment.
- 2(I)+.59 A disabled man has little chance of getting a job.
- 3(W)+.54 I'd go to work tomorrow if I had a job to go to.
- 4(W)-.57 I find it difficult to get up in the morning.
- 5(I)+.57 When a man's out of work he's not the same fellow in company.
- 6(I)-.04 You can't keep a good man down.
- 7(I)+.30 Recently I've been feeling irritable with people.
- 8(W)-.31 I'd rather not work than do a job I don't like.
- 9(W)+.62 It feels so strange to be out of work.
- 10(W)+.42 An unemployed man misses the satisfaction of a job well done.
- 11(I)-.03 I know I'm as good as the next man if only I'm given the opportunity.
- 12(I)+.44 I feel inferior to my friends.
- 13(I)+.59 You get to brooding about having no job.
- 14(W)+.47 There is some point in rehabilitation even if you don't get a job immediately afterwards.
- 15(W)+.65 When you're out of work you feel unsettled.
- 16(I)+.46 A man's status drops when he's out of work.
- 17(I)-.39 There's a bright side to every situation.
- 18(I)+.50 I find my disablement a great embarrassment.

APPENDIX 8 Continued.

- 19(W) +.51 I feel uneasy if I'm not busy all the time.
- 20(I) +.35 An unemployed man is at a disadvantage because he can't dress as well as the next man.
- 21(I) +.24 A man who is injured at work is usually unfairly treated when it comes to compensation.
- 22(W) -.62 I would rather be on the dole than working for a low wage.
- 23(I) +.37 After being out of work for a time a chap begins to think he's no good.
- 24(I) +.33 I'd rather stop at home than go out and have other people pay for me.
- 25(I) +.57 These days I feel nervous of going out of the house.
- 26(W) -.26 Men get used to being out of work after a while.
- 27(I) +.34 When you're unemployed you lose your friends.
- 28(W) -.39 I'm not fussy whether I get a job or not.
- 29(I) +.71 When a man's disabled he begins to feel that he's not needed.
- 30(W) +.59 A man can be happy in any job he can manage.
- 31(I) +.31 I worry a great deal about my future.
- 32(W) +.71 Just to be back among ordinary working men again will make all the difference.
- 33(I) +.78 You don't feel like mixing with other people when you're out of work.
- 34(W) +.50 I like to feel that I've done a good week's work for my money.
- 35(I) +.70 When a man's out of work he loses faith in himself.
- 36(I) -.24 Every dark cloud has a silver lining.
- 37(W) +.41 I feel bad about getting money that I haven't earned from the Dole, or the National Assistance.
- 38(I) -.48 To me the future always looks bright.
- 39(I) -.34 Any man can find a job to suit him provided he looks hard enough for it.

APPENDIX 8 Continued

- 40(W) +.42 One of my strongest wishes is to be fully independent again.
- 41(W) +.58 Until I get a job I will have no peace of mind.
- 42(I) +.42 People don't understand what it's like to be unemployed.
- 43(I) +.54 A man on the dole comes in for ridicule from others.
- 44(I) +.66 No one wants to mix socially with a man when he's out of work
- 45(W) +.12 I'd take any job rather than remain unemployed.
- 46(I) +.81 I don't feel my old self any more.
- 47(W) -.50 It's unreasonable to expect a man to travel more than ten miles to work every day.
- 48(I) +.44 There's no place in industry for disabled men.
- 49(W) +.59 I would do anything to relieve the boredom of unemployment.
- 50(I) +.62 After being out of work for a while you feel sort of lost.
- 51(I) +.70 Sometimes on my way to the Dole I have tried to avoid meeting people that I know.
- 52(I) +.80 Sometimes you get sick of your life.
- 53(W) +.36 It's better to move away for work than to stay in an area where there are not many jobs.
- 54(I) +.70 Sometimes I think I'll never get a job.
- 55(I) +.50 Employers don't like taking on disabled people.
- 56(W) +.59 When you're out of work time hangs heavy on your hands.
- 57(W) + 38 I see no reason why I should not be back at work within a few months.
- 57(I) -.01 - ditto -
- 58(W) +.42 Unemployment preys on your mind
(I) +.58 " " " " " "
- 59(W) +.58 It upsets me to have to stay at home when I see others going out to work.
(I) +.39 " " " " " " " " " "

APPENDIX 8 continued

- 60(W) +.07 I don't think I'll ever find a job to suit me.
(I) +.44 - ditto -
- 61(W) +.42 Nothing will prevent me from getting back to normal life.
(I) -.51

APPENDIX 9

The Final Scales

The inserts are the I and W scales presented to subjects.

These are followed by a summary of the S, Q and Phi values of the items used in the I and W Scales.

APPENDIX 9.I SCALE

	<u>S.</u>	<u>Q.</u>	<u>Phi.</u>
2. Employers don't like taking on disabled people.	6.47	1.89	.50
3. These days I feel nervous of going out of the house.	8.20	2.0	.57
6. People don't understand what it's like to be unemployed.	5.95	1.29	.42
7. Sometimes you get sick of your life.	8.46	1.16	.80
9. When a man's disabled he begins to feel that he's not needed	7.45	2.11	.71
11. When a man's out of work he's not the same fellow in company.	6.55	2.15	.57
13. Sometimes on my way to the Dole I have tried to avoid meeting people that I know.	7.54	1.81	.70
15. I don't think I'll ever find a job to suit me	8.51	1.31	.44
16. You don't feel like mixing with other people when you're out of work.	6.60	1.79	.78
18. To me the future always looks bright	1.45	1.80	.48
19. I feel inferior to my friends	7.72	1.68	.44
21. You get to brooding about having no job.	6.80	1.82	.59
25. I don't feel my old self any more.	6.60	1.87	.81
26. I find my disablement a great embarrassment	7.46	2.15	.50
29. Sometimes I think I'll never get a job	7.70	1.90	.70

APPENDIX 9 continued.

	<u>S</u>	<u>O</u>	<u>Phi.</u>
30. A disabled man has little chance of getting a job	7.90	2.07	.59
32.No one wants to mix socially with a man when he's out of work	7.45	1.56	.66
34.A man on the Dole comes in for ridicule from others	6.64	2.12	.54
36.Unemployment preys on your mind.	7.10	2.00	.58
37.There's no place in industry for disabled men.	8.30	1.86	.44
39.After being out of work for a while you feel sort of lost.	6.64	1.70	.62
41.When a man's out of work he loses faith in himself.	7.01	1.93	.70
43.A man's status drops when he's out of work.	6.34	1.60.	.44
44.Nothing will prevent me from getting back to normal life.	1115	0.69	.51

W SCALE.

1. Any kind of work is better than unemployment	8.75	1.39	.50
4. When you're out of work time hangs heavy on your hands.	6.20	1.55	.59
5. I feel bad about getting money that I haven't earned from the Dole or the National Assistance	7.01	2.15	.41
8. I would rather be on the Dole than working for a low wage.	1.48	1.40	.62
10.There is some point in rehabilitation even if you don't get a job immediately afterwards.	6.05	1.94	.47
12.I like to feel that I've done a good week's work for my money.	7.93	1.24	.50
14.It feels so strange to be out of work.	5.84	2.10	.62
17.It's unreasonable to expect a man to travel more than ten miles to work every day.	1.88	1.20	.50

APPENDIX 9 continued.

	<u>S.</u>	<u>Q</u>	<u>Phi</u>
20. A man can be happy in any job he can manage.	7.92.	2.61	.59
22. I would do anything to relieve the boredom of unemployment.	8.28.	1.64	.59
23. I find it difficult to get up in the morning.	2.65	1.83	.57
24. I'd go to work tomorrow if I had a job to go to.	8.77	1.19	.54
27. It upsets me to have to stay at home when I see others going out to work.	6.96	1.78	.58
28. When you're out of work you feel unsettled.	5.86	1.58	.65
31. I feel uneasy if I'm not busy all the time.	7.40	1.69	.51
33. An unemployed man misses the satisfaction of a job well done.	7.90	1.37	.42
35. One of my strongest wishes is to be fully independent again.	8.70	1.16	.42
38. Just to be back among ordinary working men again will make all the difference.	7.40	1.14	.71
40. Until I get a job I will have no peace of mind.	8.40	1.36	.58
42. I'm not fussy whether I get a job or not.	1.16	0.67	.39

APPENDIX 10

The Rating Scales

(The rating scales were presented to IRU staff members as shown below)

11

A general state of mind seems to develop in men as a result of unemployment and disablement. A man in this position tends to suffer a loss of personal confidence and to begin to doubt his ability to work or to hold down a job. He feels a loss of status in his community and has to face financial insecurity and a lowered standard of living. He is usually conscious of reduced capacity and the limitations his disability imposes. He might begin to feel socially isolated or even guilty. All these factors combine to produce a general feeling of insecurity, inferiority, or inadequacy. It is realized that a number of related attitudes are involved here, varying with each man's personality and circumstances. You are asked, however, to treat this general "attitude" as one thing and to rate each rehabilitee as accurately as possible on the scale below.

Name and number ...															
No sign of this type of reaction.															
Some indication, but has adjusted emotionally better than is usual.															
Showing signs of this state of mind but no more than is average for rehabilitees.															
Shows signs to a greater extent than is usual.															
Shows this state of mind to an abnormal degree to an extent likely to retard his resettlement.															

Please also rate each rehabilitee's keenness to work on the scale below.

Try to keep your 'I' and 'W' ratings independent of each other.

Name and number.....

Appears not to want work.										
Would probably take a job that appealed to him if he were offered it, but unlikely to go out of his way to 'look' for work.										
wants to work but would not take "just anything"										
Very keen for work, would take anything suitable even if it's not what he really wants to do.										
Over-keen; would take <u>anything</u> , even obviously unsuitable work.										

APPENDIX II

The Working Conditions Check List

Cross out any of the working conditions listed below that you would NOT like to work in:-

A place which is:-

Work which is:-

Where you are:-

HOT

DANGEROUS

WORKING WITH WOMEN

NOISY

DIRTY

NEAR MACHINERY

DARK

HEAVY

ALONE

DAMP

FINICKY

ON PIECE RATES

STUFFY

OUTDOORS

IN A GROUP

COLD

TIRING

ON NIGHT SHIFT

CROWDED

EXACTING

UNDER A SUPERVISOR

DRAUGHTY

REPETITIVE

ALWAYS IN THE SAME PLACE

CLOSED IN

COMPLICATED

UGLY

INDOORS

LONELY

OLD

DUSTY.

APPENDIX 12

The Shortened Maudsley Personality Inventory

Please answer the questions below. Put a ring round the answer that suits you best.

1. Do you sometimes feel happy, sometimes depressed, without any apparent reason? YES NO
2. Do you prefer action to planning for action?... .. YES NO
3. Do you have frequent ups and downs in mood, with or without apparent cause? YES NO
4. Are you happiest when you get involved in some project that calls for rapid action? YES NO
5. Are you inclined to be moody? YES NO
6. Does your mind often wander while you are trying to concentrate? YES NO
7. Do you usually take the initiative in making new friends? YES NO
8. Are you inclined to be quick and sure in your actions? YES NO
9. Are you frequently "lost in thought" even when supposed to be taking part in a conversation? YES NO
10. Would you rate yourself as a lively individual? YES NO
11. Are you sometimes bubbling over with energy and sometimes very sluggish? YES NO
12. Would you be very unhappy if you were prevented from making numerous social contacts? YES NO

APPENDIX 13

Principle Components Analysis of Correlations
between Measures.

	<u>FACTORS</u>							
<u>Measures</u>	I	II	III	IV	V	VI	VII	VIII
I Scale	-.794	-.164	.003	.046	-.107	-.164	-.289	.468
W Scale	-.382	-.741	-.138	-.053	-.056	-.018	-.310	-.429
Check List	-.225	.415	-.382	-.671	.182	.340	-.182	-.007
MPI N	-.565	.388	-.046	.024	-.652	.099	.252	-.172
MPI E	.294	-.356	-.624	-.329	-.194	-.413	.259	.121
Rating I	-.589	.063	.389	-.303	.369	-.382	.326	-.131
Rating W	.021	-.663	.363	-.293	-.106	.467	.286	.178
T2	.443	.124	.548	-.443	-.354	-.267	-.308	-.087

APPENDIX 14

Instructions to Subjects.

The Investigator said:

"Well, that's the end of the tests..... Now there's something else I would like you to do. This is not a test; it is something quite different. The tests that you have been doing were in order to get an idea of your abilities, so as to help you in getting back to work. What I want you to do now hasn't really got anything to do with your course here and it won't influence what goes on while you are at the Unit, or when you leave it, in any way. In fact I shan't even be looking at it until after you have left. This is really something that you will be doing for me personally. So if you don't want to do it you don't have to; it's not part of your course. But I'd be most grateful if you'd co-operate.

"I'm trying to find out what sort of opinions people have about certain things. If we can find out a bit more about what people think about things, this will help us in running the rehabilitation unit. I would like you to fill in a couple of pieces of paper on which you are asked to give your opinions. The first one is this; I'll give it out and you can have a look at it. (Here the first sheet containing the check list and the MPI questions was handed out). Would you put your number in the space at the left on the top - I don't want your name, just your number - and put the date in the space on the right. The date is Now look at

the top half of the form and you will see that there is a list of working conditions. Now we know that different people have different ideas about the kind of conditions that they don't like to work under. I want you to go through that list and cross out any of those conditions that you would not like to work under. If you wouldn't mind any of those conditions, leave it alone - but any of those conditions that you would not like to work under, cross it out.

"When you've finished that, go on to the bottom half of the form. There you'll find a list of questions about yourself. These I want you to answer 'Yes' or 'no' by putting a ring round the answer that suits you best. There are no right or wrong answers here; this is not a test, You just have to put a ring round the answer that suits you best. Even if it doesn't suit you perfectly, try to choose the one that comes closest to describing you. Go ahead; if you have any difficulties, ask me. Try not to spend too long over it.

(There were seldom many queries. On the check list the most common question was of the form "What do you mean by 'dusty'? What some people call 'dusty' I don't call 'dusty'." In this case the questioner was told that he must interpret the words as he understood them. There were occasional queries about the meaning of words such as "finnick", upon which a brief definition was given. Occasionally, individuals were

helped in cases of indecision over the MPI items, but in a non-directive fashion. The most common difficulty here was in understanding question one, "Do you sometimes feel happy, sometimes depressed, without any apparent reason?" Some subjects found the question ambiguous and explanation had to be given. As soon as a subject had completed the form it was collected by the investigator and placed face downwards on a table. When all had finished, the investigator proceeded).

"The next sheet is this one, which I'll hand out. Will you put your number and the date at the top... (The I and W scales were then handed out). On this sheet are a number of statements - things people have said at one time or another. I want you to go through them, and indicate whether you agree or disagree with each statement, and also how strongly you agree or disagree... Have a look at the first statement. It says, "Any kind of work is better than unemployment". Do you agree with this, or do you disagree? There's no right or wrong answer; different people have different ideas. If you agree, and feel strongly about it, put a mark - a tick or a cross - in the first box on the right under "Strongly agree". If you disagree strongly, put a mark in the last box under "strongly disagree". If you just agree more or less, without feeling strongly about it, put a mark under "Agree", and if you disagree more or less, put a mark under "Disagree". If you are uncertain, or feel completely neutral about it,

put a mark in the middle box under "Uncertain". Don't forget there are no right or wrong answers; I want to know what you think. Go ahead; try to do it as quickly as you can; don't spend too long over each statement".

While the group was busy, if the investigator noticed any individuals taking unduly long about it, he would say to the group at large, "Try not to spend too long over each statement. If you have to spend a long time thinking about it, you must be uncertain; so mark "Uncertain" and go on". The papers were collected as they were completed.

APPENDIX 15.

Factor loadings from Analysis of Scale Items (Varimax
Rotation of Principle Components).

FACTOR I

Item No. Loading.

43 I	.761	A man's status drops when he's out of work.
34 I	.706	A man on the Dole comes in for ridicule from others.
41 I	.686	When a man's out of work he loses faith in himself.
32 I	.595	No one wants to mix socially with a man when he's out of work.
25 I	.578	I don't feel my old self any more.
11 I	.462	When a man's out of work he's not the same fellow in company.
15 I	.442	I don't think I'll ever find a job to suit me.

FACTOR II

22 W	.787	I would do anything to relieve the boredom of unemployment.
21 W	.666	You get to brooding about having no job.
11 I	.454	When a man's out of work he's not the same fellow in company.
28W	.435	When you're out of work you feel unsettled.
38W	.401	Just to be back among ordinary working men again will make all the difference.
27 W	.305	It upsets me to have to stay at home when I see others going out to work.
15 I	.381	I don't think I'll ever find a job to suit me.

APPENDIX 15 continued.

FACTOR V

- 6 I .760 People don't understand what it's like to be unemployed.
- 23W- -.589 I find it difficult to get up in the morning.
- 12W .502 I like to feel that I've done a good week's work for my money.
- 20W .330 A man can be happy in any job he can manage.
- 11I .293 When a man's out of work he's not the same fellow in company.
- 9 I .271 When a man's disabled he begins to feel that he's not needed.
- 26I .261 I find my disablement a great embarrassment.

FACTOR VI

- 31W -.741 I feel uneasy if I'm not busy all the time.
- 33W -.622 An unemployed man misses the satisfaction of a job well done.
- 10W -.513 There is some point in rehabilitation even if you don't get a job immediately afterwards.
- 9 I ~~442~~ 442 When a man's disabled he begins to feel that he's not needed.
- 12W -.435 I like to feel that I've done a good week's work for my money.
- 27W -.433 It upsets me to have to stay at home when I see others going out to work.

APPENDIX 15 continued.

FACTOR VII

- 42 W +.791 I'm not fussy whether I get a job or not.
- 35 W .742 One of my strongest wishes is to be fully independent.
again.
- 12 W .394 I like to feel that I've done a good week's work for
my money.
- 17 W -.342 It's unreasonable to expect a man to travel more than
ten miles to work every day.
- 20 W -.299 A man can be happy in any job he can manage.
- 24 W +.298 I'd go to work tomorrow if I had a job to go to.
- 3 I -.288 These days I feel nervous of going out of the house.

FACTOR VIII

- 40 W -.725 Until I get a job I will have no peace of mind.
- 36 I -.709 Unemployment preys on your mind.
- 39 I -.658 After being out of work for a while you feel sort of
lost.
- 28 W -.656 When you're out of work you feel unsettled.
- 38 W -.602 Just to be back among ordinary working men again will
make all the difference.
- 14 W -.541 It feels so strange to be out of work.
- 27 W -.505 It upsets me to have to stay at home when I see others
going out to work.

FACTOR IX

- 1 W .687 Any kind of work is better than unemployment.
- 5 W .632 I feel bad about getting money that I haven't earned, from the Dole or the National Assistance.
- 13 I .631 Sometimes on my way to the Dole I have tried to avoid meeting people that I know.
- 24 W .565 I'd go to work tomorrow if I had a job to go to.
- 20 W .502 A man can be happy in any job he can manage.
- 8 W- -.417 I would rather be on the Dole than working for a low wage.
- 3 I .401 These days I feel nervous of going out of the house.

FACTOR X

- 44 I- -.784 Nothing will prevent me from getting back to normal life.
- 25 I .392 I don't feel my old self any more.
- 17 W- -.333 It's unreasonable to expect a man to travel more than ten miles to work every day.
- 2 I -.285 Employers don't like taking on disabled people.
- 27 W -.281 It upsets me to have to stay at home when I see others going out to work.
- 9 I .277 When a man's disabled he begins to feel that he's not needed.
- 32 I -.270 No one wants to mix socially with a man when he's out of work.

BIBLIOGRAPHY

- ✓ ALLPORT G.W. (1937) "Personality: A psychological interpretation"
Constable and Co., London (Reprinted, 1956).
- ALLPORT, G.W. (1965): "Traits Revisited". Paper read to the North
East of England Branch of the British Psychological Society,
2 July, 1965. Reported in B.P.S. Bulletin, 18, No.61, 1965.
- BARKER, R.G. Wright B.A., MEYERSON, L., and GONICK, M.R. (1953).
"Adjustment to Physical Handicap and Illness: A Survey
of the Social Psychology of Physique and Disability".
Social Science Research Council, Bulletin 55, New York.
- BONEAU, C.A. (1960): "The Effects of Violations of Assumptions
underlying the t test". Psychol. Bull. 57, pp.49-64
- CATTELL, R.B. (1957): "Personality and Motivation Structure and
Measurement". World Book Co.
- ✓ CATTELL, R.B. (1965): "The Scientific Analysis of Personality"
Penguin Books.
- CHAPANIS, N.P. and CHAPANIS, A. (1964): "Cognitive Dissonance:
Five Years Later". Psychol. Bull. 61, pp. 1-22.
- DISABLED PERSONS (EMPLOYMENT) Act, (1944) H.M.S.O.
- EDWARDS A.L. (1957): "Techniques of Attitude Scale Construction" ^{B.F. 36}
Appleton-Century-Crofts. _{e 21}
- EDWARDS A.L. and KILPATRICK F.P. (1948): "A Technique for the
Construction of Attitude Scales" J. appl. Psychol.
32, p.374-384.
- EISENBERG, P and LAZARSELD, P.R. (1938): "The Psychological Effects
of Unemployment". Psychol. Bull. 35, p.358.
- EYSENCK, H.J. (1947): "Dimensions of Personality" Routledge.

- EYSENCK. H.J. (1953): "The Structure of Human Personality"
Methuen.
- ✓ EYSENCK, H.J. (1958): "A Short Questionnaire for the Measurement
of Two Dimensions of Personality" J. Appl. Psychol.
42. No.1.
- EYSENCK, H.J. and EYSENCK S.B.G. (1963): "Manual for the
Eysenck Personality Inventory". University of
London Press.
- FEINTUCH, A. (1955): "Improving the Employability and Attitudes
of "difficult to place" Persons". Psychol. Monogr.
Gen. and Appl. 69, No.7.
- ✓ FESTINGER, L. (1957): "A Theory of Cognitive Dissonance". Evanston:
Row. Peterson.
- GARRETT, J.F. and LEVINE, E.S. (Ed) (1962): "Psychological Practices
with the Physically Disabled". Columbia University
Press, New York. *1953 2d. Pead
airport J 1064
disorder*
- ✗ GUTTMAN, L.A. (1944): "A Basis for Scaling Qualitative Data".
Amer. Sociol. Rev., 9, p.139-150.
- HARMAN, H.H. (1960): "Modern Factor Analysis" Univ. Chicago Press.
- HARTMANN, P.G. (1962): "Test Performance of Felling IRU Entrants,
1961/1962". Unpublished report.
- HEARNSHAW, L.S. (1954): "Attitudes to Work" Occ. Psychol. 28,
pp.129-139.
- HEWITT, M. (1949): "The Unemployed Disabled Man". Lancet 2 p.523
- ISRAELI, N. (1935): "Distress in the outlook of Lancashire and
Scottish Miners". J. Appl. Psychol. 19, p.67.

- x JONES, M. (1956): "Industrial Rehabilitation of Mental Patients still in Hospital". Lancet, Nov.10.
- KAISER, H.F. (1958): "The Varimax Criterion for Analytic Rotation in Factor Analysis". Psychometrika, 23, pp. 187-200.
- ✓ KELLY G.A. (1955): "The Psychology of Personal Constructs". Norton and Co.Inc. New.York.
- ✓ KENDALL, M.G. (1948): "Rank Correlation Methods". Griffin. GA 2m3
K31
- LEWIS, A (1935): "Neurosis and Unemployment". Lancet, Aug.10.
- LIKERT, R. (1932): "A Technique for the Measurement of Attitudes". Arch. Psychol. No.140.
- ✓ MCNEMAR, Q. (1962): "Psychological Statistics" 3rd Edition, John Wiley and Sons.
- x MARKOWE, E., TONGE, W.L. and BARBER, L.E.D. (1955). "Psychiatric Disability and Employment". Brit.J.prev. Soc.Med. 9 p. 39, 46.
- x MINISTRY OF LABOUR (1959). "Industrial Rehabilitation, a handbook for the use of staff in industrial rehabilitation units."
- MINISTRY OF LABOUR GAZETTE(1953) "Industrial Rehabilitation Units" H.M.S.O.
- MINISTRY OF LABOUR GAZETTE(1964): "Industrial Rehabilitation, Report for 1963". November H.M.S.O.
- OSGOD, C.E. SUCI, G., and TANNENBAUM, P.W. (1957): "Measurement of Meaning" Univ. Illinois Press.
- x PIERCEY COMMITTEE (1956): "Report of the Committee of Enquiry on the Rehabilitation, Training and Resettlement of Disabled Persons". H.M.S.O.

- SCHEFFÉ, H. (1959): "The Analysis of Variance", John Wiley and Sons.
- < SIEGEL, S. (1956): "Nonparametric Statistics for the Behavioural Sciences". McGraw Hill.
- ✓ STEPHENSON, W. (1953): "The Study of Behaviour", Univ. Chicago Press. BP39
583
- TAIT, A.C. and ROGER T.F. (1951): "Psychiatric Aspects of Industrial Rehabilitation". Mimeographed report, Medical Research Council.
- THURSTONE, L.L. (1927): "A law of Comparative Judgements" Psychol. Review, 34, 273-286.
- ✓ THURSTONE, L.L. and CHAVE, E.J. (1929) "The Measurement of Attitude" Univ. of Chicago Press.
- TOMLINSON G. (1943): "Report of Inter-departmental Committee on the Rehabilitation and Resettlement of Disabled Persons". H.M.S.O.
- × VERNON P.E. and PARRY J.B. (1949): "Personnel Selection in the British Forces". University of London Press.
- WILLIAMS, I.S. (1955): "Group Discussion in Industrial Rehabilitation: "A Pilot Study". Occ. Psychol. 29, 2, p.104.
- × WILLIAMS, I.S. (1958): "A Follow-up Study of 200 Men and Women one year after a Course of Industrial Rehabilitation". Ph.D. Thesis. University of London.
- WING, J.K. (1960a): "Pilot Experiment in the Rehabilitation of Long Hospitalized Male Schizophrenic Patients" Brit.J. prev. Soc.Med., 14.
- WING, J.K. (1960,b): "Rehabilitation and Resettlement of the Mentally Ill" Public Health, LXXV, No.2.

WING, J.K. (1961): "A Study of the Process of Industrial Rehabilitation in 212 Disabled Persons". M.D. Thesis, Univ. London.

WING, J.K. (1965): "Social and Psychological Aspects of Rehabilitation of the Disabled in the United Kingdom". Rehabilitation. No.53.

WING, J.K. and GIDDENS, R.G.T. (1959): "Industrial Rehabilitation of Male Chronic Schizophrenic Patients". Lancet. 2. p.505.

ZAWADSKI, & LAZARFELD P.R. (1935): "The Psychological Consequences of Unemployment". J.Soc. Psychol., 6