A SOCIAL INVESTIGATION OF FEMALE WORKERS AND A RELATED STUDY OF THEIR ABSENTEEISM

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degree of Master of Social Science

by

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CHAPTER ONE

INTRODUCTION

In recent decades there has developed in the commercial and industrial communities of the western world a practice commonly referred to as personnel management. It is not by chance that this practice has developed most rapidly in the highly industrialised countries of the west for this development has been the logical outcome of the increasingly important place taken by large industrial and commercial establishments in the economic structures of these countries. Personnel management is a practical recognition of the fact that labour is a distinct factor in the production and distribution of goods, and that as such it warrants specialised managerial attention whenever it is used on a large scale.

The knowledge which personnel management requires to put the labour force of a country, industry, or firm to its most effective and economical use, is drawn from many fields, but more especially from the social sciences. Of these, Psychology has perhaps been the principal contributor to date, and the term Industrial Psychology has come to be well accepted as denoting certain psychological principles on which are based many of the fundamentals of sound personnel management. Closely related to the field of Industrial Psychology is the field of what may be termed Industrial Sociology. Rigid definition of these fields is difficult for they

overlap, and deciding exactly where the dividing line between the two should fall is partly an arbitrary matter. Certainly personnel management is little interested in distinguishing one from the other for in planning personnel policies and improving techniques for handling people, all available knowledge is pooled and used irrespective of where it came from and how it was discovered. But, for the research worker a broad distinction is of value. The approaches of the two sciences to industrial problems are different. Industrial Psychology studies the behaviour of individuals in industry with particular reference to their psycho-biological reactions, whereas the emphasis of Sociology is on the structure of the worker population both inside and outside industrial establishments. These differing approaches require different research methods. In the past there has been comparatively little conscious endeavour to discover sociological principles which may be of value in the practice of personnel management. This particular study is an attempt to view the everyday problem of absenteeism as one which is partly sociological in nature.

The general hypothesis on which this investigation is based is that absenteeism, like labour turnover and many other problems of industrial relations, is conditioned by a multiplicity of factors, some of which are rooted in the social structure of the population from which the workers are drawn. This broad working hypothesis has been adopted as a result of the study of a number of reports of scientific investigations into

varying aspects of absenteeism.[1] These reports were selected so as to convey as complete a picture as possible of the phenomenon, but it is realised that they do not by any means cover the whole field. They represent researches undertaken in several countries under a wide divergence of circumstances over the past 30 years. They include investigations in a number of manufacturing industries, in the coal mining industry, and in clerical and light occupations. They represent findings in numbers of commercial and industrial organizations employing hundreds of thousands of workers in Britain, the United States of America, Canada, Australia and South Africa. The variety of conditions under which these researches were conducted and the wide differences in their approaches, definitions, aims, and methods, makes it impossible for the results of these investigations to be compared statistically, but their collective content traces a useful pattern of absenteeism as a phenomenon of our present system of economy. As this pattern is the basis of the working hypothesis of our investigation two of its main features are outlined below.

Firstly, it is evident from these several reports that even when allowing for differences in definitions and methods of measurement, the amount of absenteeism occurring in different establishments, industries, and countries is highly variable. Professor Sargant Florence

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1 See Bibliography Section I for a complete list of these reports.

estimated during the period in between the two world wars that the "unavoidable loss of time due to sickness and non-industrial accidents" - factors generally accepted as being the cause of more than half of total absences - in England and America averaged 1.85 per cent for men and 2.20 per cent for women, while he refers to reports of absences in Japanese coal mines being as high as 33 per cent for men and 45 per cent for women. [1] Comparisons such as these do not cause surprise for the conditions in England and America probably had little in common with those in Japanese coal mines, but the following extracts illustrate the differing proportions which absenteeism may assume in comparatively similar circumstances.

(1) Two Canadian war plants employing approximately 5,000 men each were found during the last war to have average absentee rates of 2.8 per cent and 18.7 per cent respectively. [2]

(2) The rates of absence in 16 private factories and 10 government factories in Australia during the war period averaged 7 per cent for men and 13 per cent for women. [3]

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1 "Absenteeism" by P. Sargant Florence. An article in the Encyclopaedia of the Social Sciences.
2 "Absenteeism in Canadian War Industries" Information from Canadian Labor Gazette, 1943, published in the Monthly Labor Review, April, 1943.
3 "Absenteeism in Australia" Review of Bulletin No. 2 of the Australian Department of Labour and National Service. Summary published in the Monthly Labor Review, April, 1944.

(5) Absentee rates ranging from 1.35 per cent to 5.10 per cent have recently been recorded in several shoe factories in South Africa. 1

Secondly, the reports give us a good indication of the nature of factors which influence absenteeism. The writer drew up as complete a list as possible of all the factors which are mentioned in these reports as having been shown to be associated with variations in the amount and distribution of absenteeism. This list, given below, has certain limitations, and if it is to be of value in shaping a broad pattern of absenteeism it is essential that no more importance be attached to it than its method of construction warrants. In extracting factors for this list from the reports concerned an attempt was made to distinguish between the opinions of the authors and the facts upon which they were reporting, as also to distinguish between facts drawn from the common sense knowledge of managements and the scientific knowledge of research workers. Opinions, and facts from the vast fund of common sense knowledge of managements, were excluded. Doubtless some facts which should have been included were excluded, and vice versa. This was practically inevitable owing to the varying preciseness of the available reports in stating their findings, and to the various methods of investigation employed. A further limitation on the

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1 "A Detailed Investigation of Absenteeism in Fourteen Factories" by I.H.B. White. Personnel Research in South Africa: Results of Investigations carried out by the Personnel Research Section of the Leather Industries Research Institute, Grahamstown.

value of the list is imposed by the vagueness of some of the terms appearing in it. The factors listed are in most cases complex factors themselves, and many must be functions and component parts of each other.

Factors observed to have been associated with Absenteeism

Accidents, at work
away from work
Age, of workers
Air velocity, in coal mines
Attitude of management, workers opinion of

Bonuses, payment of overtime (bonuses)
Business, of workers outside the factory

Climate
Community facilities, inadequate

Day, pay day
Sunday work
Days, number of days in work week
working days following holidays
Dependents, number of dependents of workers
Depth of workings, in coal mines
Distance, from home to work
Domestic troubles

Education, of workers
Efficiency of management, workers' opinions of
Employer, separation of interests between worker and employer

Factory, age of
situation of in relation to city
variations from one factory to another
Fatigue, industrial
Former jobs, length of

Health, of bodies of workers
of minds of workers
Holiday rota scheme
Home duties
Home life
Housing, of workers
Hours, of work

Idle time

Job satisfaction (satisfaction of workers with their jobs)
Job, similarity of present job to former job

Labour turnover

Large town, proximity of
Leave of men in the armed forces (as affecting the absenteeism of their women folk)

✓Marital status
Materials, lack of in a manufacturing industry
✓Morale of workers, in factory
in general outside

Race, of workers
✓Relations within the factory

✓Seasons
✓Service, length of
Sex, of workers
✓Sickness, of workers
of children of workers
of relatives
✓Shift system, of work
Size, of shipyards
Study of Absenteeism within a firm

✓Travelling, conditions of daily travel to work

✓Vacation, amount taken by workers over a given peiod

Wages, earned by workers
✓Walking distance, underground to working place in coal mines
War, prevalence of other work
type of work on which worker is employed
Workers, Auxiliary War Time Workers,
Part Time Workers

This amply illustrates that absenteeism is a complex phenomenon and that the factors which influence it are exceedingly varied in nature. It is not surprising that, as observed above, the amount of absenteeism found under various combinations of such circumstances is highly variable. In discussing the sickness absence rate, which is but a part of the absentee rate, May Smith and Margaret Leiper say: "This rate is a final expression in arithmetical form of the resultant of all the conditions acting upon individuals, . . ."[1] This statement adequately

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1 "Sickness Absence: Its measurement and Incidence in Clerical and Light Occupations". Industrial Health Research Board Report No. 61 by May Smith and Margaret Leiper.

sums up the approach to the problem which has been built up in the course of compilation of the above list.

In this investigation a few social situations and conditions found in the society from which the workers in one firm are drawn, were selected. * A set of hypotheses that these influence the absentee rate were adopted, and information collected and studied in an attempt to prove whether the assumed influence is measureable under the given conditions.

The investigation of this set of hypotheses involved three distinct processes which are described separately in Parts I, II and III of this report. Part I is a descriptive study of the social situations and conditions of the workers. Part II is an analysis of the incidence and distribution of the time lost by them. Part III involves the direct testing of the hypotheses by comparing the rates of absence of groups of workers drawn from the worker population and differentiated on the basis of the findings of Parts I and II.

It will be seen that Parts I, II, and III are three distinctly separate studies employing different methods and techniques of analysis. The subjects of the investigation in Part I are the workers. In Part II the units studied alternate. In most cases the units studied are lost working days, but where profitable for the investigation workers are taken as the units. Part III seeks only to establish relationships between the two sets of data studied in Parts I and II

No additional data are brought forward in Part III.

The data for this investigation were collected from the female workers of a firm engaged in the commercial distributive and catering trades. The firm is situated in the centre of Cape Town's business area, and ranks amongst the largest of its kind in the city.

PART ONE

A SOCIAL SURVEY OF THE WORKERS

CHAPTER TWO

AN OUTLINE OF THE PURPOSE, CONTENTS, AND METHODS OF THE SURVEY

The aim of this survey was to describe a number of selected social situations and conditions of the population of workers whose absenteeism is studied in another part of this report. Although the purpose was primarily to provide a framework of the social structure of the workers to enable their absenteeism to be studied in relation to this structure, the findings of the survey are a self contained descriptive study of the population and of the theoretical universe of workers to which this population belongs. It is of necessity a limited study involving the measurement, analysis, and interpretation of 22 specific items of information. A later description of the way in which these 22 items were selected for analysis clearly shows that while some of them may be related to each other by virtue of their content, they were studied as individual items, and the relationship between them has not been statistically examined.

In any attempt to obtain information from a group of people about their respective social situations a number of methods can be used. A decision on the methods to be used for any one particular investigation depends upon many methodological and practical considerations, as well as on the standards of accuracy

and certainty which the findings must have to be of value for the purposes for which they are required. All these factors must be jointly considered when deciding upon a method. In social investigations methodological requirements frequently rule out the most practical procedures, and conversely practical considerations such as those of time, expense, and social conventions, often prevent an investigator from using those that are most thorough.

In this investigation information was required concerning approximately 240 female workers from one firm. The firm's records were inadequate as a source of the required information, and it was therefore essential that the workers be approached directly. Two alternative methods were considered. The first was that of issuing a questionnaire to the workers and asking them to complete it themselves, and the second was that of interviewing the workers individually and completing a schedule for each one.

The first method is more economical and swifter, but it has a number of inherent weaknesses. It relies entirely on responses which are elicited as a result of as many different interpretations and definitions as there are subjects, while the whole investigation can be invalidated by the failure of a number of subjects to complete their questionnaires. These weaknesses can be minimized in some investigations. There is ample justification for using the method where it is known that the subjects understand the nature of the

investigation and are co-operative on that score. But the population to be investigated here was one whose members had no conception whatsoever of the nature and purpose of social investigations. In addition, workers are often wary to supply managements with information concerning their lives outside the firm, and it was foreseen that there would be considerable difficulty in convincing the workers that the information sought was not to be used by the firm if the only contact between the investigator and the worker was through the medium of a questionnaire. For these reasons the possibility of collecting the required information in this way was abandoned at a very early stage of the preparations for the survey, and the alternative method of conducting individual interviews had to be adopted. It was assumed that given favourable conditions and employing recognised techniques and the necessary tact, the information which would be collected through interviews would be infinitely more reliable than information collected by means of questionnaires.

The method of interviewing workers individually, however, presented many problems of its own. An important decision had to be made regarding the place of the interviews. There would have been advantages in calling on workers at their homes as most of the information required was related to their family, home, and neighbourhood situations. This procedure was considered, but it was immediately apparent that over 200 home visits outside working hours could only be conducted by a staff of investigators. This was not

available. In addition securing the co-operation of the workers would probably have been even more difficult in their homes than on the firm's premises during the day. Thus, the advantages of interviewing workers in their home environments were sacrificed for the sake of the greater facility of interviewing them at work, and for the assumed advantage of greater co-operation at work.

The approach to be used in initiating the workers to these research interviews was given much attention. It was realized that as soon as the first interviews took place they would rapidly become an important topic of conversation amongst the workers. For this reason, securing the co-operation of the first few workers to be interviewed was regarded as extremely important. It was arranged for the personnel manager of the firm to explain the reason for the interviews to the first few workers individually, after which he introduced them to the investigator, though he took no actual part in securing information. Later in the investigations this individual introduction was undertaken by a junior member of the personnel office staff.

Another step taken to forestall possible resentment from the workers was to secure the support of a member of the committee of the trade union of which the majority of the workers to be interviewed were members. The object and scope of the survey were outlined to this representative, who agreed to support the survey provided that no worker should be asked to give

information against her will and that the investigator should be pledged not to pass on the details of any case to the management of the firm. These two conditions which are in any case regarded as unwritten laws by social research workers were naturally agreed to.

Having decided on the general method of approach for obtaining information from the workers, two small preparatory investigations were planned with the object of developing and standardising an interview method for the investigation proper. These investigations are referred to in the next chapter as the "pre-pilot" investigation and the pilot survey. They are given special attention in this report as they were essential parts of the whole study. They were conducted in a small suburban branch of the central firm where the main investigation took place. This suburban branch was selected for these investigations in order to avoid arousing antagonism from the workers from whom information was required for statistical analysis.

Deciding exactly what items of information were to be sought from workers for this study was a process which was undertaken concurrently with the development of the method of obtaining the information. The actual information sought from the workers, provided it fell within the general field of enquiry, was dictated more by whether it was obtainable under the conditions of the investigation than by any other prior consideration. Thus, for example, while it was originally desired to

obtain information regarding the income of the household unit to which each worker belonged, this was not attempted, as the preliminary stages of the investigation clearly indicated that interviews at work with female members (in many cases junior members) of households, did not constitute a suitable method of obtaining this particular information. Working under this principle the field of enquiry at the start of the "pre-pilot" survey was vaguely defined as relating to the following aspects of the workers' social situations:-

Personal History and Situation,
Family History and Situation,
Residential Neighbourhood and
Travelling Conditions to work,
Housing Conditions.

This vast field was then limited during the course of the preliminary investigations, and to a lesser extent throughout the survey, so that the ultimate findings relate to comparatively isolated items of information falling within this general field. While this method cannot be generally recommended, it served a very useful purpose here. It is a procedure which can be profitably employed in any scientific investigation whose working hypothesis is framed in such broad terms that it permits the selection of a few of many items for tests designed to verify or reject the hypothesis.

CHAPTER THREE

PRELIMINARY STAGES OF THE FIELD WORK

In the previous chapter mention was made of the "pre-pilot" investigation and the pilot survey which were conducted in a suburban branch of the main firm in which the survey data were finally collected for statistical analysis. For convenience in discussion the main firm is referred to here as Firm A and the branch firm as Firm B.

The justification for conducting the "pre-pilot" investigation and the pilot survey in Firm B lay in the fact that workers in the two firms were similar in many respects. They performed the same type of work; both firms are retail shops selling exactly the same articles. In addition to performing the same work the employees of both firms were employed under the same personnel policy - they had been selected in the same way, received the same wages, worked the same hours, and were entitled to the same benefits. The two major differences between the firms are in respect of their location and size. Firm A is situated in the centre of Cape Town's business area. Firm B is situated in the much smaller business centre of one of Cape Town's largest suburbs. Firm A employs approximately 240 workers who, according to the determinants of sex and type of work performed, were selected for the investigation, whereas Firm B employs

approximately 60 such workers. Whilst these two differences are probably accompanied by minor differences in the composition of the two populations, the similarities between the two were considered to be sufficiently important to adjudge them as very similar on the whole, and to warrant the procedure of conducting preparatory investigations of this nature in Firm B for the purposes of a study in Firm A.

Separate reports on these two investigations are given below. They consist of accounts of the problems which they were designed to meet, operational descriptions of how they were conducted, and an evaluation of their respective contributions to the survey.

(a) The "Pre-pilot" Investigation

The immediate purpose of this investigation was twofold. In the first instance it was designed to be of guidance in the drawing up of a schedule. Planning a schedule requires that the researcher should know precisely what information is required for the study and that he should have some knowledge of the structure of the population for which the schedule is planned. In this case the firm's records provided only a scanty description of the population and, as explained in Chapter Two, the precise items of information required for the study had not yet been decided upon at this stage. The "pre-pilot" investigation was designed primarily to meet this difficulty.

In the second instance the investigation was required

to fulfil a purpose in common with the next phase of the preparatory field work. It was realized that the interviews to be conducted demanded a standardized method of approach. There are certain commonly accepted techniques in research interviewing, but an approach suitable to the particular population under the given conditions had to be developed. This could only be done by direct contact with a number of workers. It was only in this way, too, that many of the minor practical problems which might arise in the main investigation could be foreseen, and their irritating effect forestalled.

For the purpose of this "pre-pilot" investigation a sample of 12 workers from the total roll of 64 working in Firm B was drawn by selecting every fifth name from an alphabetical list of the workers. Eleven of those selected were interviewed in a private office on the firm's premises during the course of a two-week period in April, 1948. One worker was unable to attend at the time she was required for the interview.

The workers were introduced to the investigator individually by the local manager of the firm. He gave each worker an assurance that the interview they were about to have was not connected with the firm in any way, that the interview was not compulsory, and that the investigator would treat all information given as strictly confidential. What may be described as a "free" interview was conducted with each one of these workers. They were encouraged to do as much of the

talking as possible, and the conversation was guided on to the topics of their homes, their work, and their personal lives. When the worker was reluctant or shy to talk much, as was usually the case, conversation was prompted and in the last resort direct questions were asked. An interview pattern soon developed in the mind of the investigator and interviews were allowed to continue as long as the worker was still prepared to converse, and as long as this pattern had not been covered. In some cases the interview lasted as long as an hour.

Brief notes were taken during the course of the interviews and a complete record of the information given by each worker was later reconstructed from these. (See Appendix A for two examples of these records) In these records care was taken to note factual information gathered as well as the reactions of the workers, such as their willingness to be interviewed and their degree of co-operation.

When the 11 interview records compiled in this way were briefly analysed, it was found that the amount of factual information which had been gathered was quite considerable though it consisted mainly of information which had been prompted or directly asked by the interviewer. Three of the workers had become fairly conversational and had given a good deal of information of their own accord, but the other eight records reflected nothing besides answers to what had been asked. Not one of the workers had refused to be interviewed, and

only one had shown any real resentment, though she too had become quite co-operative by the end of the interview. For the rest the workers had taken the interviews as a matter of routine. They had not shown any particular appreciation of the investigation, but they had offered no opposition to it. Their general attitude was on these lines: "We don't quite understand what all this is for, but seeing you've promised its all confidential, and seeing you're so keen to get it, here it is ... "

A number of minor points of practical value in the planning of the investigation were revealed. The interviews had lasted an average of 40-45 minutes each. It was realised at the time that the interviews for the main investigation would have to be cut to almost half of that. Another point was that three Afrikaans-speaking workers were encountered and in one case the worker seemed distinctly ill at ease in English. This suggested the need for ascertaining the worker's home language at the beginning of the interview, and of the investigator being prepared to conduct interviews in either language.

The factual information gathered reflected in the main the pattern with which the investigator had set out, though there were some additions and several trimmings. The additions related chiefly to the working life of the subjects, and the trimmings to such aspects of their outside life as the income of their households, which was mentioned in a previous

chapter. The pattern as a whole may be outlined by naming the nine "areas" of information which clearly emerged from the interview records:-

(1) Details of employment and previous working experience.
(2) Workers' educations.
(3) Family and household structures.
(4) The journey to work.
(5) Present and past living localities.
(6) Housing accommodation.
(7) Health of worker and family.
(8) Spare time occupations of the worker.
(9) Prevalence of complaints regarding work and home.

On the basis of this pattern a preliminary schedule for the recording of information was drawn up (See Appendix B) The value of this schedule is discussed in the account of the pilot survey which was the next stage in the preparation of the investigation.

It can be noted here that at this stage the investigator was satisfied that the first preparatory investigation had performed the function of bringing difficulties, both in the delimitation of the field of enquiry and in the development of a schedule and interview method, to the surface. As a result of these difficulties being realized, more time and attention was devoted to the next stage - the pilot survey - than had originally been intended.

(b) The Pilot Survey

The pilot survey differed from the "pre-pilot" investigation in that its purposes were more clearly defined. It was designed firstly, to test the schedule drawn up on the basis of the "pre-pilot" investigation and, secondly, to develop and practise the

interview method whose foundations had been laid in the first investigation.

In the "pre-pilot" investigation the problem of the content of the schedule was the most important consideration, whereas in the pilot survey the investigator was mainly concerned with the efficacy of the schedule as an instrument by means of which the required information was to be obtained. As the content of a schedule is closely related to its form, some changes in the content were also made as a result of this pilot survey, but the primary aim was to ensure a suitable form. Thus the pilot survey was in effect designed to answer questions such as the following: Can the information asked for be given in an objective form? Will it lend itself to statistical analysis? Do the questions in the schedule lead up to one another, or will they cause the investigator to jump from one topic of conversation to another? Is the schedule drawn up in such a way that the recording will be facilitated by short answers?

As far as the method and approach were concerned the "pre-pilot" investigation had already provided the investigator with useful experience in interviewing the workers. In the pilot survey practice was sought in keeping the interview as free and conversational as possible, and at the same time ensuring that the information required was recorded on the schedule during the course of the interview.

A second sample was drawn at random from Firm B

for this purpose. It consisted of 17 workers. The names of the workers who had been interviewed during the course of the "pre-pilot" investigation were withdrawn from the original alphabetical list of workers from Firm B, and every third name from amongst the remainder was selected for this sample. Owing to absence at the time when they were required for interviews two of these 17 workers could not be seen. The other 15 were interviewed during a two-week period in April and May, 1948, and a preliminary schedule was completed for each one. In addition notes on the interview were made immediately after the worker had left the interviewing room. These referred particularly to any alterations to the schedule which the particular interview might have suggested, and to the reactions of the worker.

The changes which were made in the schedule as a result of the pilot survey may be seen by comparing the preliminary and final schedules. (See Appendix B and Appendix C respectively.) The changes ranged from relatively trivial alterations in the order of some of the questions to more important changes such as the elimination of two whole sections i.e. the sections on the health of worker and family and the prevalence of complaints regarding home and work.

Changes in the order and in the framing of questions were influenced solely by considerations of ease and convenience in interviewing workers. It was found that some questions followed others more easily

and naturally than those which they followed in the preliminary schedule, and they were changed accordingly. It was found too, that the order in which sections were arranged affected the interview. Thus the section on travelling conditions to work was placed before the section asking for details of the worker's family and household, as experience in the pilot survey showed that workers were more hesitant about answering these latter questions than others. The order of the sections in the final schedule represents the order of ease with which answers were obtained, the easiest being placed first. The reason for this was that general interviewing experience as well as particular experience in the two preparatory investigations showed that a slightly awkward or embarrassing question is more likely to be answered towards the end of an interview than at the start. One exception in the application of the above principle was made in placing the section relating to outside social activities last. Answers to questions in this section were easily obtained, but it was placed last to enable the investigator to end the interview on a friendly conversational note. This section contributed to that goal.

The sections on the health of worker and family and the prevalence of complaints regarding home and work, were omitted from the schedule because interviews in the pilot survey had shown that the answers to these sections could not be regarded as objective factual material, and the investigator felt that the reliability of the answers would remain in doubt unless corroborative

evidence could be obtained. As the collecting of evidence from outside could not be tackled it was thought advisable to leave these sections out altogether.

The pilot survey served a most useful purpose in pointing to the urgent need of defining precisely a large number of terms used in the schedule. As cases were interviewed it was found that the infinite variations of individual circumstances made it extremely difficult to rely on the everday interpretation of common terms. In order to prevent the investigator from using different interpretations over the period of several months for which the investigation was to last, a list of detailed definitions and regulations to be adhered to during the course of the interviews was drawn up. (See Appendix D)

An analysis of the notes made at the end of each interview indicated that the approach and the method of interviewing workers was, on the whole, satisfactory. Of the 15 workers approached 14 were classified as fully co-operative, and no difficulty was experienced in obtaining responses to questions in the schedule. One was difficult, though she did not actually refuse to be interviewed, and answers were eventually obtained from her to practically all the questions. The interviews had, on an average, lasted approximately 26 minutes each. On the basis of this experience an undertaking was given to the management of Firm A that interviews there would average well under half an hour each.

The writer, who was the sole interviewer throughout these investigations, feels his experiences in interviewing a total of 26 workers in this and the "pre-pilot" investigation contributed a good deal to the development of a suitable method of approaching the particular class of workers with which he was dealing.

CHAPTER FOUR

AN ACCOUNT OF THE FIELD WORK WITH NOTES ON THE RELIABILITY AND VALIDITY OF THE DATA COLLECTED

The subjects of the investigation were originally defined as all female workers in Firm A who were below the rank of supervisor, and who came into direct contact with the public in the course of their work in the firm. This definition of the population was decided upon as it included approximately two thirds of Firm A's 500 workers, and delimited the population to be investigated in such a way that its members were homogeneous in a number of important respects. It may immediately be seen that the definition excluded three very important groups of the personnel of the firm in the management and supervisory staff, the clerical staff, and the workers who perform all menial work on the firm's premises. The determinant of sex was introduced in order to leave out of the investigation a small number of men whose work in the firm was of such a nature that they would have qualified for investigation. It is clear from this definition that the investigation was not concerned with Firm A as a functional whole, but with a particular universe of workers whose members working in Firm A were observed to enable generalizations about the whole universe to be made. The universe here is not synonymous with the population, but it is a theoretical concept which includes not only the complete roll of workers chosen for investigation, but all those who could theoretically

in the present, past, or future, work and live under the same circumstances. The population, on the other hand, includes all the workers chosen for investigation, and since it was decided to enumerate them completely, the population and what is normally termed the sample, are in this investigation synonymous.

When a complete list of the subjects to be investigated was drawn up from the May 1948 pay sheets of Firm A, slight modifications to the original definition of the population had to be made to meet two difficulties. The first of these was that it was found that there was a small group of workers, in the Despatch and Delivery department of the firm, who qualified for the investigation in all respects except that they did not habitually come into direct contact with the public in the course of their duties, yet there seemed to be a strong case for including them in the study. On inquiry it was found that workers from this department were occasionally interchanged with workers from the counters. Unlike the clerical workers of the firm, the despatch and delivery workers were treated as being on a par with the counter workers. For this reason they were included in the population to be investigated. The second difficulty arose out of the fact that one of the purposes of this survey was to enable a study to be made at a later stage of some aspects of the absentee records of the workers. To facilitate this it was desirable that each worker investigated should have been working in the firm for some specified period so that a comparable absentee

record should be available for each worker. It will be seen in Parts II and III of this report that the methods of study employed there demanded that each worker included in the investigation should have been on the firm's staff throughout the three-month period June-August 1948. This proviso which, methodologically, was required only for the parts of the study related to absenteeism, was introduced into this part as well, so that the population for all parts of the study should be the same. Thus, an additional qualification was added to those already outlined above, and the population was finally defined as all female workers who (1) were employed by Firm A throughout the period 1st. June - 31st. August, 1948, (2) were below the rank of supervisor at that time, (3) came into direct contact with the public in the course of their work in the firm (including the Despatch and Delivery Department Staff).

The June - August 1948 period coincided roughly with the period when the investigations took place, so that this proviso meant in effect that any worker either leaving or joining the firm during the course of the investigations was automatically excluded. The slight alteration to the significance of the study caused by this limitation was thought to be warranted by the simplification which the procedure allowed to the methods of study. This latter qualification also meant that the exact composition of the population would not be known to the investigator until the end of August.

The procedure adopted to determine the composition

of the sample was as follows. A complete list of all workers qualifying for the investigation according to the provisions other than the period of employment was drawn up at the beginning of the investigation. No additions were made to it, but during the course of the investigation the names of all persons leaving the firm were deleted from it. If a person left after having been interviewed, her schedule was withdrawn from the records of the investigation. The full implications of this control to the applicability of the findings will be discussed later.

The extent to which the period-of-employment qualification altered the size of the sample may be gauged from Table I below. The table shows that 16 workers or 6.8 per cent of the population employed by the firm at the beginning of June left during the three-month period which followed. The newcomers who replaced them were, according to the definition, also excluded from the investigation.

The categories of workers listed in Table 1 represent a classification of the workers according to the type of work which they perform and their experience. The shop and grocery employees work under exactly the same conditions as regards pay, leave, and hours of work. Juniors are workers who have had under four years' experience as shop assistants whether in this or other firms, and they receive salaries ranging between £7.10s. and £12. per month with cost of living allowances ranging from £2.4s. to £5.19.1d. per month. The starting wage is £7.10s. per month and annual increases bring this wage up to £12 per month in the fourth year. Seniors are those workers who have had more than four years' experience as shop assistants. They receive £14.10s. per month plus a cost of living allowance of £4.5.7d. per month in their fifth year, and reach their maximum of £15.10s. plus £4.8.10d. cost of living allowance in their sixth year. The division of workers into shop and grocery assistants was based on the type of goods sold on the counters on which they work, although the type of work involved is very similar. The shop workers handle a wide variety of general goods ranging from clothing, radios, and refrigerators to cigarettes and tin tacks. The workers classified as weekly-paid workers consist of a few recently employed juniors. It is the practice of the firm in employing inexperienced juniors to place them on a weekly wage until such time as they have proved their suitability when they are paid on a monthly basis. The category of workers described as Restaurant and Soda Fountain

workers perform a different type of work which is distinguished on the basis of the fact that the foodstuffs they sell are consumed by customers on the premises. Wage Determination No. 95 of 1942 relating to the Catering Trade, which is the basis of the agreement between these employees and the management, provides for different scales of pay, leave, and working hours to those laid down by Wage Determination No. 70 of 1939 relating to the Commercial Distributive Trade, which governs the employment of the rest of the workers in the firm. In actual practice, however, the management grant the Restaurant and Soda Fountain workers practically all the more generous benefits, which are given to the rest of their employees. The result of this practice is that to all intents and purposes both groups of employees work under very similar conditions. The only real difference is in respect of salaries. While the Restaurant and Soda Fountain workers start on a wage of £10.14.5d. plus a cost of living allowance of £3. 9. 4d. per month they are not legally entitled to increases for length of service. Here again, however, increases are given on merit from time to time.

The interviews were started on the 15th. June, 1948, and completed early in September. They were conducted in an office on the firm's premises. The preliminary investigations had given an indication that the workers could be expected to be reasonably co-operative, but an additional precaution was taken to ensure that in the event of the interviews having to be discontinued before all the workers had been interviewed, the information

collected should bear a calculable significance. The complete population to be investigated was arranged into three random samples, stratified into the eight categories enumerated in Table 1. The names of workers falling in each category were arranged in alphabetical order. The categories were left in the arbitrary order given in Table 1, and the 1st, 4th, 7th, etc. names from the complete list were taken to constitute Sample A, the 2nd, 5th, 8th, etc. names constituted Sample B, and the 3rd, 6th, 9th, etc. names constituted Sample C. These three samples were then investigated independently and consecutively. This was successfully done, and since all three samples were investigated, they were merged into one again at the end of the field work, and analysed as one sample.

The following summary of a few aspects of the field interviews reflects the response which the investigator obtained from the workers.

The investigator visited the firm on 62 days conducting an average of from 3 to 4 interviews on each occasion. The average length of the interviews was 21 minutes. Of the 204 workers with whom satisfactory interviews were conducted, the investigator classified 185 or 90.7 per cent as fully co-operative. These workers showed no resentment at being interviewed and took the interviews very much as a matter of routine. The remaining 19 workers constituting 9.3 per cent of the population interviewed showed a certain amount of resentment at being interviewed and in the majority of

TABLE 2

The number of co-operative and difficult interviewees, the number of refusals, and the number of workers who could not be interviewed for other reasons

	Interviewed		Not interviewed		
	Co-operative	Difficult	Refused	Others	TOTAL
Shop Seniors	46	6	6	1	59
Grocery Seniors	25	6	1	1	31
Shop Juniors	57	4	1	-	62
Grocery Juniors	19	2	-	1	22
Weekly-paid Shop Workers	9	-	-	1	10
Weekly-paid Grocery Workers	4	-	-	-	4
Restaurant and Soda Fountain	17	1	2	1	21
Despatch and Delivery	10	-	-	-	10
TOTAL	185	19	10	5	219

cases information was only obtained after fairly long and strained interviews. Table 2 (page 56) shows that the Shop and Grocery Seniors returned the greatest proportion of refusals and difficult cases. It was the investigator's experience that on the whole the workers who had been in the firm longest were most touchy about being interviewed.

Samples A, B, and C were interviewed in that order. The investigator gained the impression that resentment on the part of the workers was highest towards the middle of Sample B, and fell off again in Sample C. A careful analysis of the investigator's field diary, however, indicates that this was an illusion, for the 10 refusals and 19 difficult cases were evenly distributed throughout the 5 months of investigation.

The practice adopted as regards the language of the interview was to start all conversations in English as workers were introduced to the investigator in English. Where interviewees appeared to be ill at ease in English the investigator changed to Afrikaans. As may be seen from Table 3 (page 58) this rarely occurred. It will be noted that there is a higher proportion of English-speaking workers than Afrikaans-speaking workers throughout the firm, except in the Restaurant and on the Soda Fountain, where they are evenly distributed.

Throughout the investigations workers were encouraged rather to refuse giving any one particular item of information than to give incorrect information, and the investigator adopted the attitude that if a worker did

TABLE 5

The home languages of the workers interviewed and the languages in which the interviews are conducted

	Home language				Language of interview	
	English	Afrikaans	Both	Other	English	Afrikaans
Shop Seniors	39	9	2	2	52	-
Grocery Seniors	19	7	1	2	29	-
Shop Juniors	45	8	8	-	56	5
Grocery Juniors	15	5	1	-	21	-
Weekly-paid Shop Workers	7	-	2	-	9	-
Weekly-paid Grocery Workers	4	-	-	-	4	-
Restaurant and Soda Fountain	8	9	1	-	14	4
Despatch and Delivery	7	2	1	-	8	2
T O T A L	144	40	16	4	195	9

not wish to disclose any particular information it was a matter of very little consequence. Itwas this attitude which prevailed upon several of the somewhat resentful workers to be interviewed at all. Frequently in such cases the whole schedule was completed, and the worker left the office on perfectly cordial terms.

There was only one question in the schedule which a number of workers chose not to answer - the question relating to the amount of board paid by them. Thirteen workers declined to give information on this point, thereby making use of their prerogative to refuse information, but only isolated cases used it to decline answers to other questions.

The findings of the survey in this part of the report are given in three sets of figures - Group I, Group II and Group I + II. These three groups constitute the same three samples whose absenteeism is studied in Part II. Group I consists of all workers who qualified for the investigation and who, on the 31st. August, 1948, had been in the employment of the firm for one year or more. It thus represents longer term workers only. Group II consists of workers who on the same date had been in the employment of the firm for three months or more but for less than one year i.e. shorter term workers. The figures under the heading of Group I + II refer to all workers who qualified for the investigation.

Owing to the fact that a small number of workers either refused to be interviewed or could not be

interviewed for other reasons, the data obtained can theoretically not provide a complete picture of the population investigated. In practice, however, it is good enough for our purposes. Workers listed as not interviewed for "other reasons" are workers who could not be interviewed either because they were on leave or because they were absent at the time they were required. The validity of the data obtained may be gauged by reference to the percentage of the total population from whom information was obtained. These percentages for the three sets of figures are given in Table 4 below.

TABLE 4

The numbers and percentages of workers interviewed, of workers who refused to be interviewed, and of workers who could not be interviewed for any other reasons

	Group I		Group II		Group I + II	
	No.	Per cent.	No.	Per cent.	No.	Per Cent.
Interviewed	143	91.6	61	96.8	204	93.1
Refused to be interviewed	9	5.8	1	1.6	10	4.6
Not interviewed for other reasons	4	2.6	1	1.6	5	2.3
T O T A L	156	100.0	63	100.0	219	100.0

It may be seen that the percentage of workers who were not interviewed in each group was not sufficiently large to affect the validity of the findings to any

serious extent. In isolated cases workers refused to answer one or other of the questions put to them, and the findings reported in such cases are theoretically less valid than for the rest of the data. Again for practical purposes the differences are insignificant. Where this has occurred the number of workers on which the findings are based is quoted in each case for the sake of preciseness.

Reference to Table 2 (page 36) also shows that the refusals were not perfectly randomised amongst the different departments in the firm, but here again the influence of this fact on the data quoted is such that we can afford to discount it.

CHAPTER FIVE

THE STATISTICAL EXAMINATION OF THE DATA

(a) The selection of items for statistical analysis

The field investigation which has been fully described in the preceding pages produced a considerable amount of data. As a first step to extracting a meaningful interpretation from these data it was decided to select a comparatively small number of items of information for analysis and close study. The investigator intended that these should provide an outline description of the population, to be followed at a later stage by an analysis of more detailed information about the workers. In actual fact the items selected for the outline description, with only a few additions, constitute the whole of the findings reported in the next chapter. There were two reasons for this. Firstly, the items selected for the outline description proved to give a more comprehensive description of the workers than the investigator had at first realised. Secondly, practical limitations of time and staff of assistants available necessitated the omission of a large part of the more detailed study. As a result a fair amount of data collected during the course of the field investigation was not incorporated in this report. It may be noted here that the procedure of excluding some of the data collected served to illustrate that the use which was

to be made of the information should have been allowed to influence the schedule to a greater extent than it did. A glance at the findings reported reveals that the same information could have been collected by a simpler and less cumbersome schedule than the one which was used.

The items which were fully analysed are listed in Chapter Six. The principle on which they were chosen was that the salient characteristics of each section should be included, and that each item chosen should as far as possible be meaningful in itself. Thus the data which were excluded amounted largely to more detailed information about some of the characteristics analysed.

(b) Processes of Analysis

In general the analysis of a set of data of this nature involves two processes. The first is the standard process of coding the information collected. The second involves the reduction of the coded information to meaningful statistical characteristics. The particular processes used here varied according to the nature of the data. Distributions of variables were analysed for their means, their standard deviations, the standard errors of their means and standard deviations, their first and ninth deciles, first and third quartiles, and medians. Attributes, and in some cases information of a variable nature which did not require fuller description, were analysed for their percentages and the standard error of these percentages.

It will be seen in the chapters that follow that in some cases where means, percentages, and standard deviations are quoted three sets of figures are given. In all these cases the first figure (denoted V) is the actual figure which was found in the sample. It represents the most likely value for the universe on the basis of our data. The second set of figures (denoted L1) represents the limits within which the particular value referred to would be expected to fall in 95.46 per cent of cases if similar observations were made on other samples from the same theoretical universe. Expressed in another way the odds are approximately 20 to 1 against the occurrence of a deviation as great as or greater than that indicated by these limits. These limits were obtained by calculating deviations of twice the standard error on either side of the particular values. The third set of figures (denoted L2) represents the limits within which the particular value would be expected to fall in 98.76 per cent of cases, and the odds are thus 80 to 1 against the occurrence of a deviation as great as or greater than these limits being obtained. These limits were obtained by calculating deviations of 2½ times the standard error on either side of the particular values. [1]

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1 See Arkin and Colton "An Outline of Statistical Methods" Pages 105 and 118.

CHAPTER SIX

THE FINDINGS OF THE SURVEY

(1) The distribution of 22 items were examined for the total population investigated (Group I + II). The resulting statistical descriptions are given on pages 46 - 55.

(2) Comments and evaluations relating to these 22 items are given on pages 56 - 65, but for definitions of terms used the reader is referred to Appendix D.

(3) Brief statistical descriptions of the distributions of the 22 items for Groups I and II separately are given on pages 66 - 75. No comments have been made on these. They are given merely to enable readers to compare the two groups where this is of special interest.

TABLES OF FINDINGS OF THE SURVEY FOR THE TOTAL POPULATION

(Group I + Group II)

TABLE 5 Ages of workers at the time of the investigation

(N = 204)

	V	L1	L2
Mean	25.2 years	24.1 - 26.3	25.8 - 26.6
Standard deviation	±8.1	7.3 - 8.9	7.1 - 9.1

First decile	16.4 years
First quartile	18.6
Median	23.0
Third quartile	30.6
Ninth decile	37.2

TABLE 6 Ages at which workers started in present employment

(N = 204)

	V	L1	L2
Mean	22.5	21.5 - 23.5	21.2 - 23.8
Standard deviation	±7.5	6.8 - 8.2	6.6 - 8.4

First decile	15.5 years
First quartile	16.6
Median	19.4
Third quartile	26.6
Ninth decile	34.7

TABLE 7 Ages at which workers were first employed whether in this or other firms

(N = 205)

	V	L1	L2
Mean	17.1 years	16.6 - 17.6	16.5 - 17.7
Standard deviation	±3.4	3.0 - 3.8	2.9 - 3.9

First decile	14.8 years
First quartile	15.6
Median	16.4
Third quartile	17.3
Ninth decile	19.7

TABLE 8 Ages of workers on leaving school

(N = 202)

	V	L1	L2
Mean	15.6 years	15.5 - 15.7	15.4 - 15.8
Standard deviation	±1.1	1.0 - 1.2	1.0 - 1.2

First decile	14.1 years
First quartile	14.8
Median	15.7
Third quartile	16.4
Ninth decile	16.9

TABLE 9 Length of present employment of workers

(N = 204)

	V	L1	L2
Mean	30.0 months	26.2 - 33.8	25.3 - 34.7
Standard deviation	±27.6	23.8 - 31.4	23.1 - 32.1

First decile	6.0 months
First quartile	10.5
Median	20.9
Third quartile	39.5
Ninth decile	78.2

TABLE 10 Percentage distribution of workers whose highest educational qualification is Standard Six or lower

(N = 204)

V	L1	L2
73.0	66.8 - 79.2	65.3 - 80.8

TABLE 11 Percentage distribution of workers who had working experience before joining this firm

(N = 204)

V	L1	L2
70.1	63.7 - 76.5	62.1 - 78.1

TABLE 15 Times taken by workers to walk from their homes to public or other transport daily on their way to work

(N = 185)

	V	L1	L2
Mean	4.0 minutes	3.5 - 4.5	3.4 - 4.6
Standard deviation	±3.1	2.8 - 3.4	2.7 - 3.5

First decile	1.6 minutes
First quartile	2.6
Median	4.2
Third quartile	5.9
Ninth decile	9.4

TABLE 16 Times taken by workers to travel from their homes to work daily by whatever means

(N = 204)

	V	L1	L2
Mean	20.3 minutes	18.3 - 22.3	17.8 - 22.8
Standard deviation	±14.2	12.8 - 15.6	12.5 - 16.0

First decile	7.5 minutes
First quartile	10.9
Median	17.0
Third quartile	28.0
Ninth decile	41.4

TABLE 17 Percentage distribution of workers of different marital conditions

(N = 204)

	V	L1	L2
Single	62.8	56.0 - 69.6	54.3 - 71.3
Married	23.5	17.6 - 29.4	16.1 - 31.0
Divorced, separated or widowed	13.7	8.9 - 18.6	7.7 - 19.8

TABLE 18 The sizes of the families of which workers are members

(N = 204)

	V	L1	L2
Mean	5.6 members	5.2 - 6.0	5.1 - 6.1
Standard deviation	±2.9	2.6 - 3.2	2.5 - 3.3

First decile	2.6 members
First quartile	3.8
Median	5.7
Third quartile	8.3
Ninth decile	10.4

TABLE 19 Percentage distributions of workers living (a) in parents' home, (b) in own home, (c) with relatives or private people, (d) in boarding houses or hostels

(N = 203)

	V	L1	L2
(a)	61.6	54.8 - 68.4	53.1 - 70.1
(b)	19.2	13.7 - 24.8	12.3 - 26.1
(c)	16.7	11.5 - 22.0	10.2 - 25.2
(d)	2.5	0.0 - 6.1	0.0 - 7.0

TABLE 20 The sizes of the households of which workers are members

(N = 203)

	V	L1	L2
Mean	5.7 members	5.3 - 6.1	5.2 - 6.2
Standard deviation	±2.4	2.2 - 2.6	2.1 - 2.7

First decile	3.3 members
First quartile	4.5
Median	5.9
Third quartile	7.4
Ninth decile	9.6

TABLE 23 Percentage distribution of workers who had in the past stayed away from work on account of ill health of members of their households other than themselves

(N = 201)

V	L1	L2
26.9	20.6 - 33.2	19.0 - 34.8

TABLE 24 Percentage distribution of workers' households with (a) occupancy ratio [1] below 100, (b) occupancy ratio = 100, (c) occupancy ratio over 100 and up to 150, (d) occupancy ratio over 150

(N = 199)

	V	L1	L2
(a)	12.6	7.9 - 17.3	6.7 - 18.5
(b)	32.1	25.5 - 38.7	25.9 - 40.3
(c)	31.7	25.1 - 38.3	25.4 - 40.0
(d)	23.6	17.6 - 29.6	16.1 - 31.1

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1 The Occupancy Ratio used was adapted from the Social Survey of Cape Town, Report No. 23 "European Housing-Occupancy" by Professor Edward Batson.

$$\text{Occupancy Ratio} = \frac{\text{Number of rooms occupied}}{\text{Number of rooms prescribed}} \times 100$$

(1) Prescribed rooms were assessed as follows: a household of not more than 2½ equivalent adults requires one room, 3 or 3½ equivalent adults require 2 rooms, 4 to 5 equivalent adults require 3 rooms with one further room for every 2½ adults or fraction of 2½ adults.
(2) Persons of less than 10 years were rated as half adults, and persons of 10 or more years as adults.
(3) Rooms were counted as per definitions given in Appendix D.
(4) No provision was made for the separation of the sexes in calculating this measure.

TABLE 25 The number of evenings spent at home by workers during the week preceding each individual interview

(N = 204)

	V	L1	L2
Mean	4.9 evenings	4.7 - 5.2	4.6 - 5.5
Standard deviation	±2.0	1.8 - 2.2	1.8 - 2.2

First decile	2.3 evenings
First quartile	4.1
Median	5.9
Third quartile	7.0
Ninth decile	7.4

Table 26 Percentage distribution of workers who attend the firm's social club functions

N = 204)

V	L1	L2
38.2	31.4 - 45.0	29.7 - 46.7

little education and training. The figures relating to education and training enable us to assess the degree of education, training, and working experience which workers who are attracted to this type of work have had.

(1) There is a considerably smaller degree of dispersion between the distribution of the ages at which workers left school and the distribution of the ages at which workers first took on employment. While 80 per cent of the workers left school between the ages of 14.1 and 16.9 years the same percentage started working between the ages of 14.8 and 19.7 years. A small proportion of this difference is accounted for by long holidays taken by girls leaving school, but Table 12 shows that only 43.6 per cent of the girls started working immediately (according to definition within three months) after leaving school. An examination of this phenomenon showed that of the 113 workers (56.4 per cent of the population) who did not start working immediately after leaving school, 105 stayed at home for periods ranging from three months to two and a half years. Five held temporary part-time posts, which were not classified as jobs, and three attended commercial colleges on a full-time basis. The reasons given below suggest that apart from the age factor the practice of staying at home after leaving school is largely caused by the need for assistance in running the household.

TABLE 27

The reasons of 105 workers for "staying at home after leaving school"

Reason	Number
Required at home for housework	40
No specific reason	34
Too young to work	17
Ill health	10
Miscellaneous	4
T O T A L	105

(2) As regards education Table 10 shows that 78 per cent of the workers had no school qualification higher than Standard Six, and Table 13 that only 14.2 per cent had made any attempt to obtain any further education or vocational training. The educational qualifications of the 55 workers who had more than their Standard Six certificate were as follows:

41 had passed Standard Seven
10 had passed Standard Eight
3 had passed Standard Nine
1 had passed Standard Ten

Of the 29 workers (14.2 per cent of the population) who had attempted to obtain any additional training 16 had trained as shorthand typistes. The remainder had taken a variety of courses including general education courses by attendance at night schools, dress making, music teaching, nursery school teaching and dairy maid's courses. Of the 16 who had taken commercial courses only one had qualified but preferred serving behind a counter to office routine.

(3) Table 9 shows that the mean length of present employment was two and a half years, and the median one year and nine months. Futhermore only 25 per cent of the workers in the firm at the time of the investigation had been there for more than three years and three months. As Firm A has been established for many years, these observations reflect the degree of mobility of the workers.

(4) Table 11 giving the percentage distribution of workers who had working experience before joining the firm, shows that 70.1 per cent of the workers had previous experience, and conversely only 29.9 per cent of this worker population were recruited as totally inexperienced.

A classification of the jobs which the 145 workers (70.1 per cent of the population) left to join Firm A is given below. It reflects the extent to which the changes of occupation of the 145 workers concerned were accompanied by changes in the type of work performed, and in the case of those who were engaged in the same type of work (either in the commercial distributive or catering trades) the extent to which they moved from the different environments of small organizations to large organizations. The analysis given must not be interpreted as indicating the degree of mobility from one type of employment to the other, however, as no information was available from this investigation of the reverse movements.

TABLE 28

The types of jobs left by the 143 workers, who had previous employment, to join Firm A

Same type of work as they were engaged for by Firm A:	
(a) In large organizations similar to Firm A [1]	54
(b) In small organizations	46
Factory type of work (e.g. machinists, packers etc.)	27
Office workers (e.g. clerks, cashiers etc.)	7
Miscellaneous (e.g. probationer nurses, lift operators, usherettes etc.)	9
T O T A L	143

5 Workers' residential localities and journeys to work

(1) The geographical location of the residential areas where workers' homes are situated is shown graphically on page 61. Although the socio-economic nature of these localities is of greater interest than their geographical location, it is not possible on the basis of this information to make any accurate observations on this aspect of the areas, but it may

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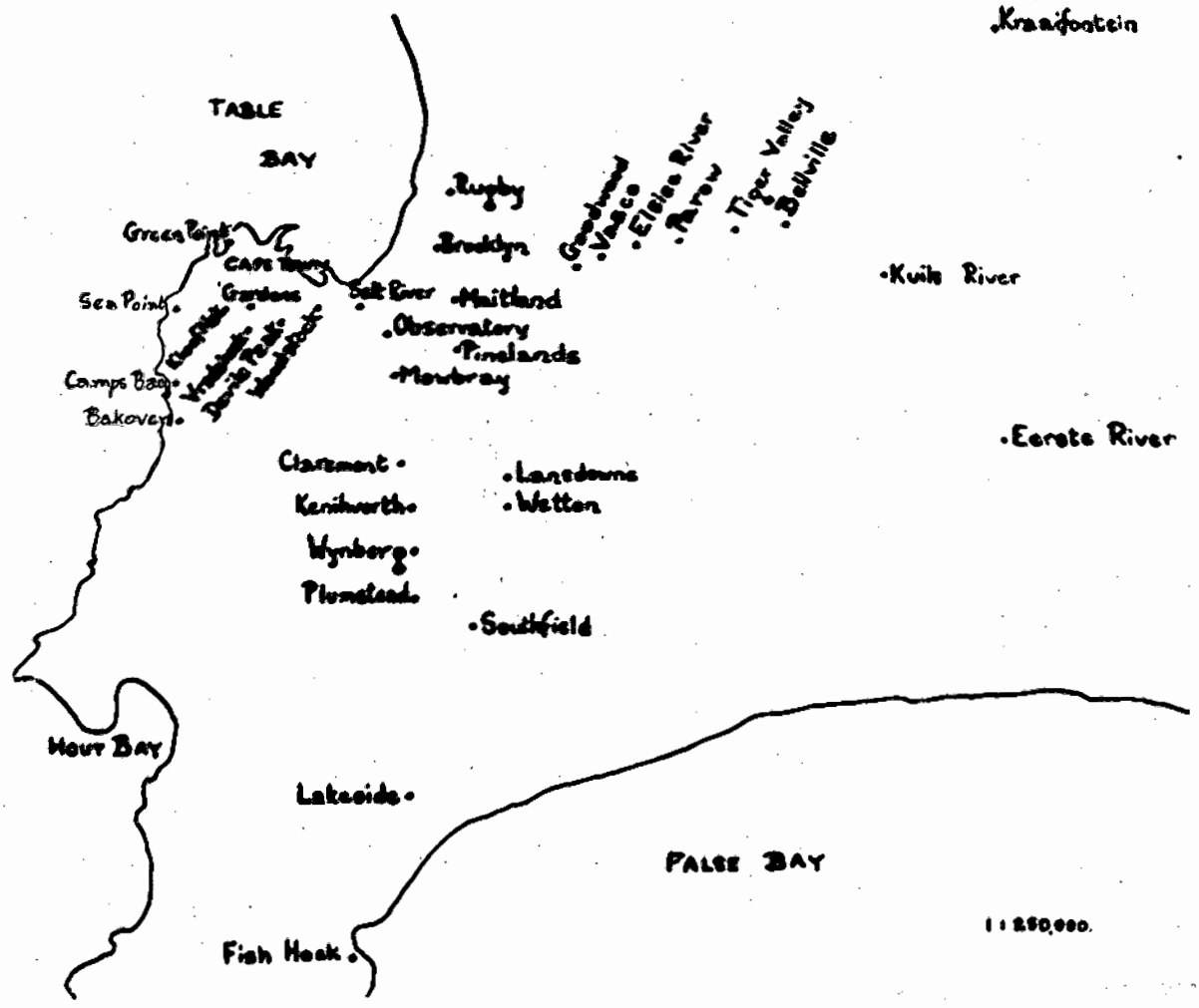
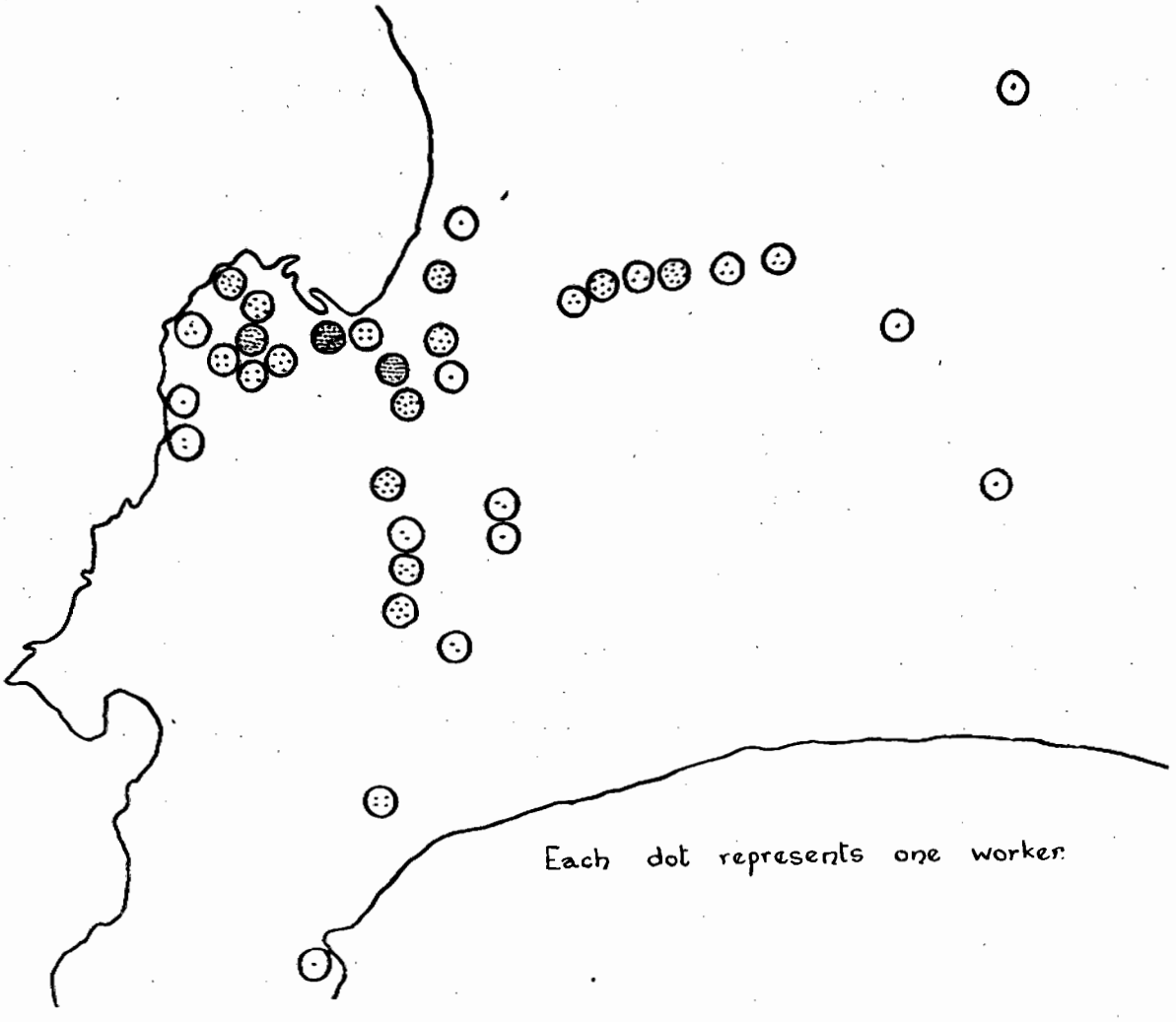
1 The criteria used to distinguish large from small firms could not be based on the number of personnel employed as this information was not available. Large organizations were defined as departmental stores and bazaars, some of which run restaurants. In contrast small organizations were taken as all organizations engaged either in the commercial distributive or catering trades on a smaller scale.

THE RESIDENTIAL LOCALITIES OF 204 WOMEN EMPLOYEES OF THE FIRM.



GRAPHIC PRESENTATION OF THE DISTRIBUTION OF WORKERS IN THE VARIOUS LOCALITIES



be noted with interest that the areas encircling the business area of Cape Town where Firm A is situated contribute a large proportion of the total worker population.

(2) Table 14 shows that over 80 per cent of the workers make use of public transport to reach their places of employment. The majority of those classified as using "other means of transport" live within convenient walking distance of the firm, while a few have arrangements to travel part or all of the way to work by car. Some of this small number also make use of public transport for part of their daily journey.

(3) Table 15 giving the distribution of the times taken by workers to walk to their transport daily, was calculated exclusively of the workers who walk all the way to work. The information reflects that the workers are extremely well situated in relation to their transport, some form of transport being easily accessible to them.

(4) Table 16 reflects the total travelling time of all workers from their homes to work. We see that 50 per cent have total travelling times of not more than 17 minutes, a further 25 per cent of not more than 28 minutes and only 10 per cent spend close on an hour travelling every morning before starting work.

4 Workers' families

Tables 17 and 18 show the marital status of workers

and the sizes of their families. We noted earlier that the population investigated was predominantly under 30 years of age. The percentage distributions of the marital status of workers shows that it is also a predominantly "never married" population. The firm's policy in engaging workers is that there should be no discrimination against married workers, so that the percentages given in Table 17 may also be taken as a reflection of the proportion of married, single, and other women who seek this type of employment from the firm.

5 Workers' households and household duties

Tables 19 - 24 give data which were chosen for analysis because it was considered that they would collectively serve as indices not only of the social structure of workers' households, but also of the role and social position of the workers within their respective households.

Table 22 shows the percentage distributions of workers performing different amounts of housework. These are an indication of the extent to which workers shoulder household responsibilities. It may be seen that this varies from workers who have no household responsibilities to those who are entirely responsible for running a home. The phenomenon, however, is a difficult one to measure, and it should be noted that the category of workers classified as being "entirely responsible for running a home" is not strictly

comparable with the others. It consists solely of women who were living in their own homes, and no attempt was made to assess the amount of housework done by them on the same scale as that used for other workers.

(3) Table 23 shows that 26.9 per cent of the workers investigated have during the course of their present employments had to stay away from work on one or more occasions on account of the ill health of members of their households. This is a crude measure of household responsibilities carried by workers for it was applied equally to workers whatever their length of employment. The comparable figures for Group I and II separately (See Table 23 (a)) show that a considerably higher proportion of long term workers had been away for this reason than short term workers, but we cannot tell from this measure alone whether this represents a real difference between the responsibilities shouldered by the two groups. Over an equal period of employment they might both return a similar percentage.

(4) Table 24 shows the crowdedness of households as measured by an occupancy ratio. This ratio was used as a comparative measure only, and does not enable us to draw definite conclusions as to the adequacy of workers' accommodations.

6 Measures of workers' outside activities

(1) Table 25 shows the distribution of the number of evenings spent at home by workers during the week

preceding the interview of each worker. It may be seen that 25 per cent of the workers spent every evening at home, and very close to an additional 25 per cent had spent six evenings at home. At the other end of the scale we find a broader dispersion with under 10 per cent spending less than two evenings at home.

Insufficient data had been sought to complete a full analysis of the way in which workers spend their evenings, but the analysis of the information which was asked for is a suggestive clue to workers' interests. Of the 1,428 evenings in the representative period, 996 were spent at home and 432 were spent out. Of the 432 spent out 208 (47 per cent) were spent by workers at the cinema, while on the negative side a negligible number were spent in remunerative occupations or at night classes.

(2) Table 26 gives the information sought regarding the attendances of workers at the dances and socials organized by the firm's social club, which is a worker's club sponsored by the management. We see that 38.2 per cent of the workers classified themselves as active supporters and attenders, but less than a quarter of these claimed to attend regularly.

FINDINGS OF THE SURVEY GIVEN SEPARATELY FOR LONG AND SHORT TERM WORKERS

(Groups I and II respectively)

TABLE 5(a) Ages of the workers at the time of the investigation

	Group I (N = 143)	Group II (N = 61)
Mean	26.9 years	22.0 years
Standard deviation	±8.1	±6.4
Median	24.3	19.4

TABLE 6(a) Ages at which workers started in present employment

	Group I (N = 143)	Group II (N = 61)
Mean	23.0 years	21.3 years
Standard deviation	±7.8	±6.4
Median	19.8	18.6

TABLE 7(a) Ages at which workers were first employed whether in this or other firms

	Group I (N = 142)	Group II (N = 61)
Mean	17.3 years	16.6 years
Standard deviation	±3.9	±1.6
Median	16.4	16.5

TABLE 8(a) Ages of workers on leaving school

	Group I (N = 141)	Group II (N = 61)
Mean	15.5 years	15.9 years
Standard deviation	±1.0	±1.1
Median	15.6	16.0

TABLE 9(a) Length of present employment of workers

	Group I (N = 143)	Group II (N = 61)
Mean	59.4 months	6.6 months
Standard deviation	±27.6	±2.4
Median	30.2	5.8

TABLE 10(a) Percentage distribution of workers whose highest educational qualification is standard six or lower

Group I (N = 143)	Group II (N = 61)
75.5	67.2

TABLE 11(a) Percentage distribution of workers who had working experience before joining this firm

Group I (N = 143)	Group II (N = 61)
69.2	72.1

TABLE 12(a) Percentage distribution of workers who took on employment whether in this or any other firm immediately after leaving school

Group I (N = 143)	Group II (N = 61)
43.3	44.3

TABLE 13(a) Percentage distribution of workers who had formal training other than schooling

Group I (N = 143)	Group II (N = 61)
11.9	19.7

TABLE 14(a) Percentage distribution of workers who travel to work daily (a) by bus only, (b) by train only, (c) by other means (including those who travel by both bus and train)

	Group I (N = 143)	Group II (N = 61)
(a)	49.6	50.8
(b)	35.7	27.9
(c)	14.7	21.3

TABLE 15(a) Times taken by workers to walk from their homes to public or other transport daily on their way to work

	Group I (N = 133)	Group II (N = 52)
Mean	4.1 minutes	3.7 minutes
Standard deviation	±1.0	±0.5
Median	4.3	4.1

TABLE 16(a) Times taken by workers to travel from their homes to work daily by whatever means

	Group I (N = 143)	Group II (N = 61)
Mean	20.4 minutes	20.1 minutes
Standard deviation	±13.8	±15.1
Median	17.6	15.4

TABLE 17(a) Percentage distribution of workers of different marital conditions

	Group I (N = 143)	Group II (N = 61)
Single	60.8	67.2
Married	23.1	24.6
Divorced, separated or widowed	16.1	8.2

TABLE 18(a) The sizes of the families of which workers are members

	Group I (N = 143)	Group II (N = 61)
Mean	5.5 members	5.9 members
Standard deviation	±2.9	±2.8
Median	5.4	6.1

TABLE 19(a) Percentage distributions of workers living (a) in parents' home, (b) in own home, (c) with relatives or private people, (d) in boarding houses or hostels

	Group I (N = 142)	Group II (N = 61)
(a)	61.3	62.3
(b)	21.8	15.1
(c)	14.8	21.3
(d)	2.1	3.3

TABLE 20(a) The sizes of the households of which workers are members

	Group I (N = 145)	Group II (N = 60)
Mean	5.5 members	6.1 members
Standard deviation	±2.3	±2.5
Median	5.7	6.4

TABLE 21(a) Percentage distribution of workers' households in which (a) no servants are employed, (b) full-time servants are employed, (c) washerwomen or charwomen are employed

	Group I (N = 141)	Group II (N = 59)
(a)	54.6	54.2
(b)	33.3	37.3
(c)	12.1	8.5

TABLE 22(a) Percentage distributions of workers who (a) perform no household duties, (b) perform household duties "now and again", (c) perform regular household duties, (d) are entirely responsible for running a home

	Group I (N = 143)	Group II (N = 61)
(a)	25.2	21.3
(b)	42.0	41.0
(c)	11.9	22.9
(d)	20.9	14.8

TABLE 23(a) Percentage distribution of workers who had in the past stayed away from work on account of ill health of members of their households other than themselves

Group I (N = 142)	Group II (N = 59)
30.3	18.6

TABLE 24(a) Percentage distribution of workers' households with (a) occupancy ratio below 100, (b) occupancy ratio = 100, (c) occupancy ratio over 100 and up to 150, (d) occupancy ratio over 150

	Group I (N = 159)	Group II (N = 60)
(a)	10.8	16.7
(b)	31.7	35.3
(c)	33.8	26.7
(d)	23.7	25.3

TABLE 25(a) The number of evenings spent at home by workers during the week preceding each individual interview

	Group I (N = 143)	Group II (N = 61)
Mean	4.8 evenings	5.1 evenings
Standard deviation	±2.0	±1.9
Median	5.8	6.2

TABLE 26(a) Percentage distribution of workers who attend the firm's social club functions

Group I (N = 143)	Group II (N = 61)
41.8	31.2

PART TWO

ABSENTEEISM IN THE FIRM

CHAPTER SEVEN

A DEFINITION OF ABSENTEEISM, THE SOURCE OF THE ABSENTEE DATA, AND A SUMMARY OF THE PROCESSES OF ANALYSIS USED

The term absenteeism is generally accepted as denoting the time lost in commercial and industrial establishments by avoidable and unavoidable absences of employees, but the exact definition used by various research workers sometimes differs in minor respects. In this investigation absenteeism has been defined as all time lost by employees for whatever reason, excluding (1) time lost through absences of less than half a day, (2) time lost through indefinite absences of more than one month's duration, (3) time lost through vacations and any other officially granted time off, (4) time lost through the absence of a worker who has left the firm without giving notice. No rigid upper limit to the length of absences to be included was set, but provision was made for excluding indefinite absences of more than one month's duration instead. Thus the absence of a worker who was away from work for more than one month was included or excluded according to whether she had notified the firm of her reason of absence and of her wish to be kept in the employment of the firm. The effect of this provision was that the time lost by a worker who was away on account of illness for more than a month but was expected to return to the firm in the near future on her recovery was included in the absentee figures. But

time lost by a worker whose reason of absence was such that she might either not return to the firm or only do so after re-application for employment was excluded.

The absentee data analysed in the following chapter were obtained from the firm's records. The firm has for many years kept a record of each worker's absences on a card drawn up in the form of a calendar, and the information from the cards of every worker who had been investigated was transferred to the absentee record sheets used for the investigation (See Appendix F for a specimen absentee record sheet). For the purposes of the investigation all absences of more than half a day but less than one day were recorded as half-day absences, and absences of less than half a day were, according to definition, excluded. Saturday absences were recorded as one-day absences although only half days are worked in the firm on that day. In keeping with this ruling absences recorded as half day absences occurring on Saturdays were counted as half days for the purpose of the investigation.

In the analyses of absenteeism recorded in the next chapter different groups of workers were selected on the basis of their length of service with the firm. In Part I findings were given for the total population investigated as well as for Groups I and II separately. It will be recalled that Group I consisted of all workers who had been in the employment of the firm for one year or more on 31st. August, 1948, while Group II consisted

of all workers who had been in the employment of the firm for three months or more, but for less than one year on the same date. The same groups are used here, but a few analyses have been made for an additional group as well. This group has been referred to as Group I (a) and consists of those members of Group I who on the 31st. August, 1948, had been in the employment of the firm for two years or more. The analyses of absences which have been completed refer to given periods and in every case an analysis for a given period was only based on those workers who were employed throughout the period referred to. To ensure standardised treatment of data a set of regulations and definitions pertaining to the absentee analyses was drawn up (See Appendix G).

There are several methods of measuring absenteeism in common use. Some of these measure the percentage time lost of total possible working time, while others measure the percentage of workers absent over a given period. A third type of measure is that which calculates the average length of the absences of workers. These methods and numerous variations of them, have their respective advantages of measuring different aspects of the same phenomenon, and it follows that the more methods are employed in the analysis of the absenteeism of a particular group, the more complete will be the description of the absenteeism of that group. The measures used in this report are given below.

(1) . Absentee Rates. All absentee rates have been

calculated as the total number of days lost expressed as a percentage of the days that could have been worked,

i.e. $\frac{\text{Total number of days lost over a given period}}{\text{Total possible working days over the given period}} \times 100$

On this principle gross and specific absentee rates were calculated. The gross rates included all absences whatever their length, while the specific rates included absences of given lengths only e.g. the One-day Absentee Rate, the Three-Six-day Absentee Rate. The gross and specific absentee rates may be either group rates or individual rates, but unless specifically stated all rates given are group rates.

(2) Absentee Percentages. Absentee percentages were calculated as the number of workers who lost time over a specified period expressed as a percentage of the total number of workers,

i.e. $\frac{\text{Number of workers absent}}{\text{Total number of workers in employment}} \times 100$

These absentee percentages may be either gross absentee percentages (percentages of workers who lost time through absences of whatever length) or specific absentee percentages e.g. percentage distribution of workers who lost time through one-day absences, percentage distribution of workers who lost time through absences of over six days' duration.

(3) Severity Rates. The severity rates calculated express the average length of absences,

i.e. $\frac{\text{Number of days lost}}{\text{Number of absences}}$

A severity rate may be either an individual severity rate

or a group severity rate. Naturally an individual severity rate must have been calculated over a long period to be indicative of the length of the absences of the worker to whom it refers.

CHAPTER EIGHT

AN EXAMINATION OF THE AMOUNT OF TIME LOST THROUGH ABSENCES OF DIFFERENT DURATIONS AND THE PERCENTAGE DISTRIBUTIONS OF WORKERS AFFECTED BY THESE

As a starting point to a study of the incidence and distribution of absenteeism amongst the subjects of this investigation, analyses were conducted to establish the extent to which absences of different durations contributed to the total time lost by the workers, and the extent to which these absences were dispersed amongst the workers. These analyses, which are the subject of this chapter, provide a pattern of the incidence and distribution of absenteeism amongst the workers which is further elaborated in chapters to follow.

The gross absentee rate of a group of workers is a very crude measure of their lost time, for the gross rate of 30 workers who have each been away one day over a given period is expressed by the same figure as the rate of a similar group, one of whose members only has had one 30-day absence. Thus the gross absentee rate can attribute to the phenomenon a conciseness and simplicity which does not exist. For this reason specific rates are fully discussed here and compared with the gross rates. It must be pointed out, however, that the classification of absences of three or more days' duration into three-to-six-day absences and over-six-day absences was perfectly arbitrary. There

was no particular scientific basis for this classification, but it was assumed that the absences which were sorted out in this way would have certain common features, in addition to that on which the classification was based.

TABLE 29

The sizes of the groups which have been studied

Group	Number of workers
I	145
I (a)	89
II	61
I + II	204

All percentage distributions quoted below are accompanied by two sets of limits. The procedure of quoting statistical odds against the occurrence of percentage distributions outside these limits was used in Part I, and the reader is referred to Page 44 for an explanation of how these limits are to be interpreted. L1 denotes the 20 to 1 limits, and L2 the 60 to 1 limits.

TABLE 30 (a)

Gross Absentee Rates

Group	Period	Possible working days	Rate
I	Sept.'47 - Aug.'48	42,900	3.69 per cent
I (a)	Sept.'46 - Aug.'47	26,433	3.95
I	June - Aug.'48	11,154	3.84
II	June - Aug.'48	4,758	6.30
I + II	June - Aug.'48	15,912	4.58

TABLE 80 (b)

Percentage distributions of workers who lost time through all absences

Group	Period	V	L1	L2
I	Sept.'47 - Aug.'48	95.6	90.8 - 100	89.6 - 100
I (a)	Sept.'46 - Aug.'47	94.4	87.6 - 100	85.9 - 100
I	June - Aug.'48	75.5	68.3 - 82.7	66.5 - 84.5
II	June - Aug.'48	78.7	68.2 - 89.2	65.6 - 91.7
I + II	June - Aug.'48	76.5	70.5 - 82.4	69.0 - 84.0

The gross absentee rates given in Table 80 (a) reveal that the longer term employees (Groups I and I(a)) lose on an average 40 days per 1000 working days. The shorter term employees (Group II) over a three-month period lost 63 days per 1000 working days. On the face of it this comparison would lead us to expect that the incidence and distribution of absences followed a very different pattern for long term and short term employees. The analyses which follow, however, illustrate that the pattern is very similar for short absences, and that long absences tend to account for the large differences between the gross absentee rates. The extent to which the differences detected in the specific absentee rates can be expected to be accounted for by chance variations is also discussed in these analyses.

Table 80 (b) shows the percentage of workers of different groups who are affected by absences over periods of one year and of three months. The conclusion

may be drawn that for longer term employees (Groups I and I(a)) we could confidently have expected from close on 90 per cent to 100 per cent of the workers to be absent for some time during the course of the years reviewed.

Also, over the three-month period we could with virtual certainty have expected to find between 69 and 84 per cent of the workers to have one or more absences. The percentage distributions of longer and shorter term employees absent did not differ significantly.

It is apparent from Table 50 (b) that staying away from work is, over a period of several months, an experience common to practically all workers. The worker who is never absent is a rare gem. At a later stage we will examine the absentee records of individuals to see to what extent the amount of time lost by different workers varies.

The analyses which follow here aim to establish the amount of time lost by absences of different lengths and the percentage distributions of the worker population affected by these.

TABLE 51 (a)

Half-day Absentee Rates

Group	Period	Possible working days	Rate
I	Sept.'47 - Aug.'48	42,900	0.09 per cent
I (a)	Sept.'46 - Aug.'47	26,455	0.09
I	June - Aug. '48	11,154	0.09
II	June - Aug. '48	4,758	0.12
I + II	June - Aug. '48	15,912	0.09

TABLE 51 (b)

Percentage distributions of workers who lost time through half-day absences

Group	Period	V	L1	L2
I	Sept.'47 - Aug.'48	54.3	26.3 - 42.3	24.3 - 44.3
I (a)	Sept.'46 - Aug.'47	57.1	26.8 - 47.4	24.3 - 49.9
I	June - Aug.'48	11.9	6.5 - 17.3	5.1 - 18.7
II	June - Aug.'48	14.8	5.6 - 25.9	3.3 - 26.2
I + II	June - Aug.'48	12.7	8.0 - 17.4	6.6 - 18.6

An examination of Table 51 (a) reveals that there is no significant difference in the half-day absenteeism of long term (Group I) and short term (Group II) employees, nor was there any difference in two successive years (compare Groups I and I(a)) in the amount of time lost through half-day absences. The absentee rate of 0.09 per cent may be interpreted as meaning that slightly under one day out of every 1,000 working days was lost through half-day absences.

Table 51 (b) shows that the percentages of long term and short term employees who lost time through half-day absences over a three-month period are not significantly different, nor are the percentages of workers different over two successive years. The table further shows that over the three-month period from June - August 1948 only about one tenth of the workers lost time through half-day absences, while over the two one-year periods just over one third of the

longer term workers were affected. A comparison of the percentage distributions for Group I over the two periods reveals that only a minority of workers who had half-day absences can have been absent through these more than once in the year 1947 - 48. It thus seems that far from being a general complaint it is a complaint by which the majority of workers are not affected, and that the minority that are affected by it are seldom affected by it more than once a year.

TABLE 32 (a)

One-day Absentee Rates

Group	Period	Possible working days	Rate
I	Sept.'47 - Aug.' 48	42,900	1.17 per cent
I (a)	Sept.'46 - Aug.'47	26,455	0.96
I	June - Aug.'48	11,154	1.27
II	June - Aug.'48	4,758	1.41
I + II	June- Aug.'48	15,912	1.31

TABLE 32 (b)

Percentage distributions of workers who lost time through one-day absences

Group	Period	V	L1	L2
I	Sept.'47 - Aug.'48	89.5	84.4 - 94.6	83.1 - 95.9
I (a)	Sept.'46 - Aug.'47	89.9	85.5 - 96.3	81.9 - 97.9
I	June - Aug.'48	59.4	51.2 - 67.7	49.2 - 69.7
II	June - Aug.'48	55.7	43.0 - 68.5	39.8 - 71.6
I + II	June - Aug.'48	58.5	51.4 - 65.2	49.7 - 67.0

Table 32 (a) indicates that there was a slight difference between the incidence of one-day absences for longer term and shorter term employees over the same three-month period in 1948. As a combined group they lost approximately 13 days per 1000 working days through one-day absences. Table 32 (b) shows that over a half of the workers were affected by one-day absences over a three-month period. The cautious 80 to 1 limits (denoted L2) for the combined group indicate that we can confidently expect a half or more of all workers to have one-day absences in the course of that particular period. The number of shorter term workers (Group II) was too small for this same conclusion to be confidently drawn for them, but it is clear that we can always expect a substantial proportion of them to be affected. Over the two one-year periods only about one tenth of the workers did not lose time through one-day absences and our cautious 80 to 1 limits indicate that over a one-year period from over 80 per cent to close on 100 per cent of the workers must be expected to have one-day absences. The conclusion is clear that one-day absences constitute a problem common to practically all workers. The extent to which this problem is one of repeated absences or of occasional absences will be examined at a later stage.

Table 32 (a) shows that there was a difference of approximately 2 days per 1000 working days between the one-day absenteeism of workers over the 1946-47 and 1947-48 periods. As the groups examined differed in that the 1946-47 group consisted of all workers who had

been in the employment of the firm for two years at the end of August, 1948, and the 1947-48 workers had been in the employment of the firm one year on the same date, it is not possible from these figures to attribute this slight difference with certainty to the fact that the figures were recorded in two different years.

TABLE 33 (a)

Two-day Absentee Rates

Group	Period	Possible working days	Rate
I	Sept.'47 - Aug.'48	42,900	0.49 per cent
I (a)	Sept.'46 - Aug.'47	26,433	0.54
I	June - Aug. '48	11,154	0.57
II	June - Aug. '48	4,758	0.60
I + II	June - Aug. '48	15,912	0.58

TABLE 33 (b)

Percentage distributions of workers who lost time through two-day absences

Group	Period	V	L1	L2
I	Sept.'47 - Aug.'48	48.3	39.9 - 56.7	37.8 - 58.8
I (a)	Sept.'46 - Aug.'47	53.9	43.4 - 64.4	40.7 - 67.1
I	June - Aug. '48	21.0	14.2 - 27.8	12.5 - 29.5
II	June - Aug. '48	23.0	12.2 - 33.7	9.5 - 36.4
I + II	June - Aug. '48	21.6	15.6 - 27.4	14.4 - 28.9

Table 33 (a) reveals that the number of days lost per 1000 working days through two-day absences for all workers over the different periods of time for which absentee statistics were examined varies between 5 and 6. Such differences as there are amongst the different groups and periods are slight. Short term and long term employees appear to be equally affected, as also the two groups of workers over successive one-year periods. An examination of the percentage distributions and their limits in Table 33 (b) does not reveal significant differences for comparable periods although the data at our disposal and the sizes of the samples on which they are based do not enable us to predict with certainty that other samples would not reveal such differences. We can deduce, however, that over a three-month period approximately one fifth of all workers, and over a one-year period approximately one half of longer term workers may be expected to be absent for two-day periods. A comparison of the percentage distributions of Group I workers affected over the two different periods for which we have information indicates that in the one-year period (four times the duration of the three-month period) a little over twice as many workers were affected as in the three-month period. From this observation it follows that a substantial proportion of the two day absences of the group over the one-year period must have been lost by workers who suffered more than one two-day absence.

TABLE 34 (a)

Three-six-day Absentee Rates

Group	Period	Possible working days	Rate
I	Sept.'47 - Aug.'48	42,900	0.99 percent
I (a)	Sept.'46 - Aug.'47	26,433	0.84
I	June - Aug.'48	11,154	1.20
II	June - Aug.'48	4,758	0.69
I + II	June - Aug.'48	15,912	1.05

TABLE 34 (b)

Percentage distributions of workers who lost time through three-six-day absences

Group	Period	V	L1	L2
I	Sept.'47 - Aug.'48	46.9	38.5 - 55.3	36.4 - 57.4
I (a)	Sept.'46 - Aug.'47	37.1	26.8 - 47.4	24.3 - 49.9
I	June - Aug.'48	20.3	13.6 - 27.0	11.8 - 28.7
II	June - Aug.'48	14.8	5.6 - 23.9	3.3 - 26.2
I + II	June - Aug.'48	18.6	13.2 - 24.0	11.9 - 25.4

Table 34 (a) reveals that the group of workers whose absentee figures were observed over the 1947-48 period lost one and a half days more per 1000 working days than the group observed over the 1946-47 period. This is a slight difference and coupled with the difference in composition of the two groups it does not allow any deduction to be made from it. It will be noticed

from Table 34 (b) that the 1947-48 group has a correspondingly higher percentage distribution of workers affected by these absences, but limits within which similar observations for other samples might have been expected to fall do not allow conclusions to be drawn from this difference with certainty. The most we can say is that the odds were about 20 to 1 against the 1946-47 percentage having been as high as the 1947-48 percentage. We can say with virtual certainty that the 1946-47 percentage could not have been higher than 50 per cent of the workers, and that it might just have been a little over 50 per cent for the 1947-48 group. Generalizing on these figures we can draw the conclusion that like two-day absences three-six-day absences are restricted in the course of one year to close on a half of the longer term workers.

Table 34 (a) reveals a marked difference between the rates over a three-month period for longer term and shorter term employees. The longer term employees lost 12 days per 1000 working days, almost double the days lost by their service juniors. The percentage distributions of workers affected show a marked difference, but on the basis of these figures the odds are not even as high as 20 to 1 that such a difference would have been found by observation of similar samples, and the marked difference in the group rates, which are keyed by the percentage distribution of workers affected, might easily disappear through factors of chance. What we can state with certainty concerning all workers taken

as one group (Group I + II) is that over the three-month period concerned at least one tenth, and at the most, just over one quarter of the workers from the theoretical universe could have been affected.

TABLE 55 (a)

Over-six-day Absentee Rates

Group	Period	Possible working days	Rate
I	Sept. '47 - Aug. '48	42,900	0.96per cent
I (a)	Sept. '46 - Aug. '47	26,433	1.51
I	June - Aug. '48	11,154	0.72
II	June - Aug. '48	4,758	5.48
I + II	June - Aug. '48	15,912	1.54

TABLE 55 (b)

Percentage distributions of workers who lost time through absences of over six days' duration

Group	Period	V	L1	L2
I	Sept. '47 - Aug. '48	20.3	13.5 - 27.1	11.8 - 28.8
I (a)	Sept. '46 - Aug. '47	22.5	13.6 - 31.5	11.4 - 33.5
I	June - Aug. '48	4.9	0.1 - 9.7	0.0 - 11.2
II	June - Aug. '48	11.5	3.5 - 19.6	1.3 - 21.7
I + II	June - Aug. '48	6.9	2.7 - 11.1	1.6 - 12.2

Table 55 (a) shows that the group observed over the 1947-48 period lost approximately five days per 1000 working days less than the group observed over the 1946-47

period, but Table 55 (b) shows that the percentage distributions of workers affected differed little. This difference might easily have been caused by a chance variation.

Comparing the rates of the longer and shorter term workers over the three-month period we see that the shorter term workers lost approximately 28 more days per 1000 working days than did the longer term workers. The percentage distributions of workers affected also differ. We can say with virtual certainty that a percentage distribution of workers affected by over-six-day absences as high as that which was found in the group of short term employees could not have been expected in the group of longer term workers.

Considering the percentage distributions of all workers together affected over a three-month period we see that we can with virtual certainty always expect to find a small percentage of workers having long absences, but we should never expect to find this figure rising over 12 per cent.

The foregoing analyses of gross and specific absentee rates, and of absentee percentages for different groups of workers over different periods of time, provide the details of some aspects of the absentee pattern of the workers investigated. But, they may have tended to obscure an important fact which all personnel managers know only too well, namely, that a comparatively small proportion of the workers usually account for a large proportion of the total time lost. This fact is well

illustrated by the analysis of the absentee records of the 143 Group I workers over the one-year period September 1947 to August 1948 shown in Table 36 below.

TABLE 36

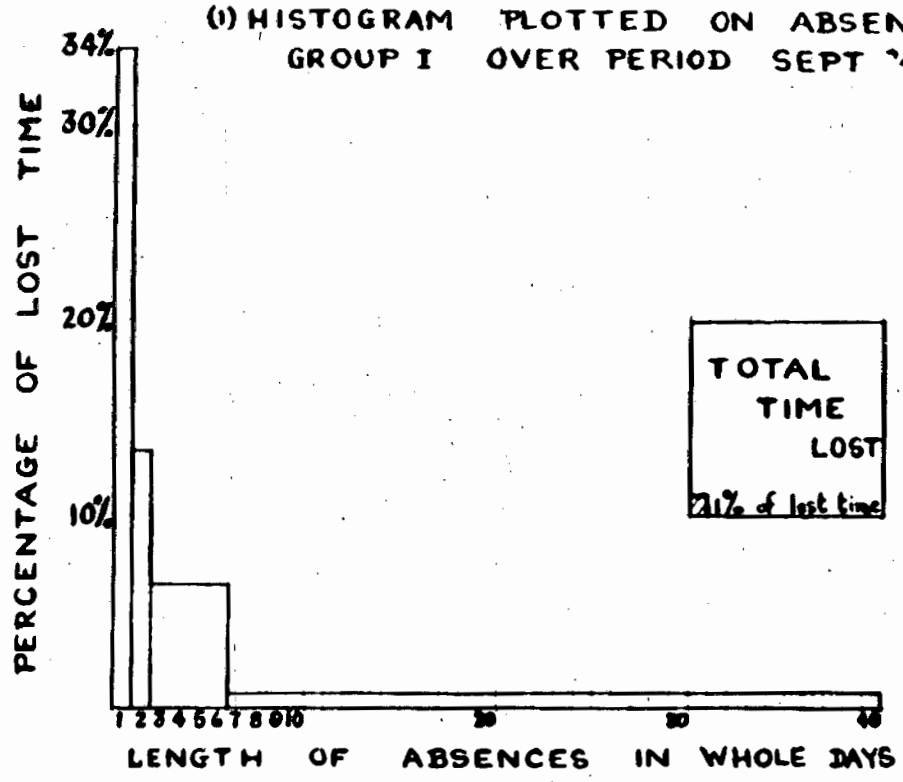
Percentage distribution of Group I workers with varying numbers of days absent over one year, and the percentage of total days absent by each class

Description of class	Percentage of workers in each class	Percentage of total days absent
Workers with total absences of 6 days or less each	34.3	9.9
Workers with total absences of 7-12 days each	32.2	27.1
Workers with total absences of more than 12 days each	33.5	63.0
ALL WORKERS	100.0	100.0

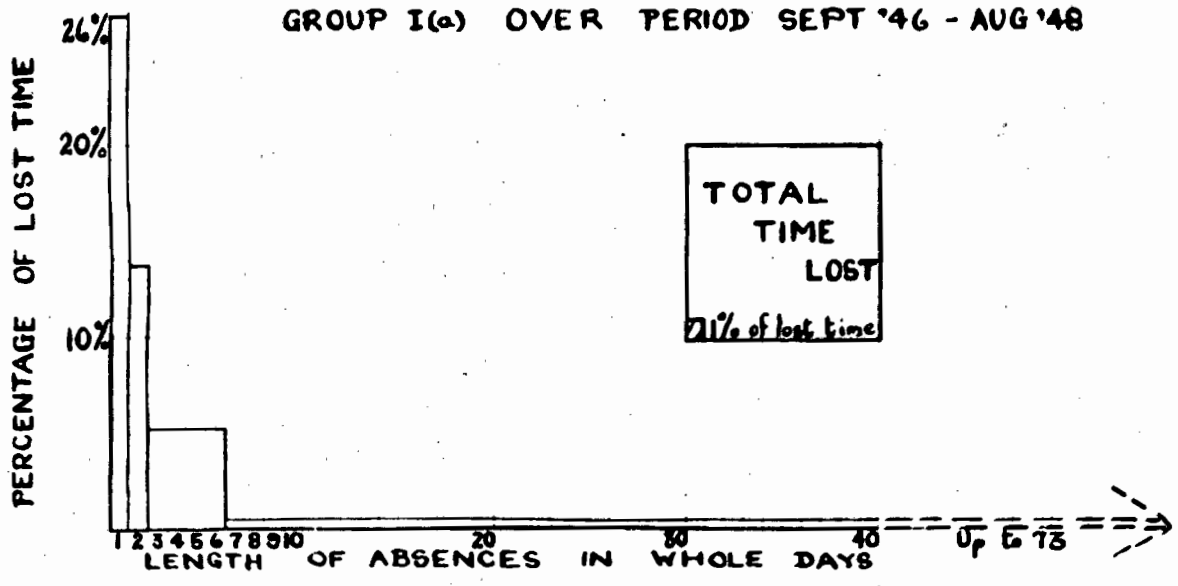
A second feature of the pattern of absenteeism which may have been obscured by the arbitrary groupings of absences of over six days and of from three to six days as two distinct groups, is depicted by the histograms on page 94. For the purposes of these histograms time lost through half-day absences was included with time lost through one-day absences. It is clear from these that the longer absences from work are,

HISTOGRAMS ILLUSTRATING THE RELATION BETWEEN THE LENGTHS OF DURATION OF ABSENCES AND THE PROPORTIONS OF TOTAL LOST TIME CAUSED BY ABSENCES OF VARYING DURATIONS

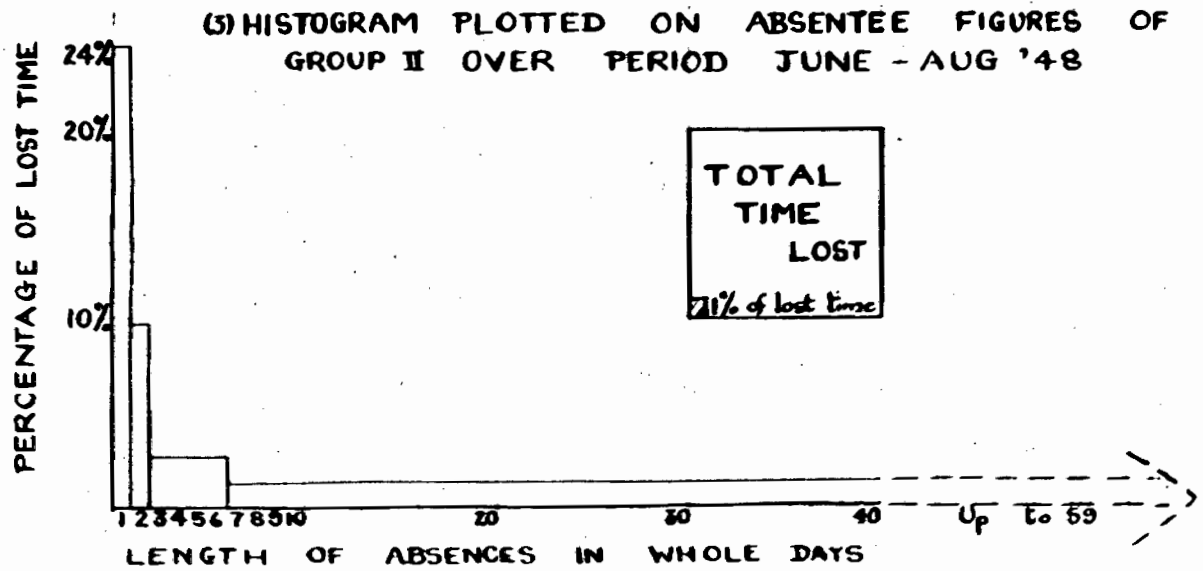
(1) HISTOGRAM PLOTTED ON ABSENTEE FIGURES OF GROUP I OVER PERIOD SEPT '47 - AUG '48



(2) HISTOGRAM PLOTTED ON ABSENTEE FIGURES OF GROUP I(a) OVER PERIOD SEPT '46 - AUG '48



(3) HISTOGRAM PLOTTED ON ABSENTEE FIGURES OF GROUP II OVER PERIOD JUNE - AUG '48



the smaller is the percentage of the total time lost through them. Or, more simply that short absences occur much more frequently than long ones. As seen in Tables 31 (b), 32 (b), 33 (b), 34 (b), and 35 (b), the shorter absences affect a larger percentage of the workers than the longer ones.

It is reasonable to assume on the basis of everyday experience that the longer the duration of an absence the more likely is it to be an "unavoidable" absence. It is unlikely that more than an occasional absence of two weeks, for example, should be avoidable. The converse of this assumption is that a substantial proportion of one-day absences, for example, consists of absences which are "avoidable". Further evidence substantiating this proposition will be adduced in the analyses of absences on different days of the week in the next chapter.

(I) Daily Absentee Rates

The groups of workers selected for analysis and the periods of time to which the analyses refer are the same as those referred to in Chapter VIII.

The Gross Absentee Rates are presented graphically on page 98. The following features of these graphs are of interest.

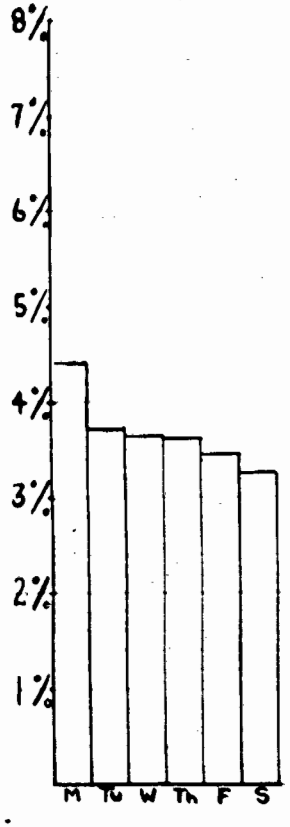
(1) All the groups observed over different periods of time had a higher rate of absenteeism on Mondays than the average daily rate.

(2) With the exception of Group II over the June-August 1948 period, the Monday rates are consistently higher than the rates for any other day of the week, and even for Group II only the Saturday rate is as high as the Monday rate. Although Group II consists of shorter term employees than Group I and I (a) it is not possible to deduce with certainty that this feature is caused by the difference in the lengths of service of the two groups, as we know that the shorter and longer term employees differ to some extent in other ways. Some of these other differences are reflected in Chapter Six. (See pages 66-75) The most we can say with certainty here is that the differences in the absentee pattern referred to, were observed between groups selected on the basis of lengths of service.

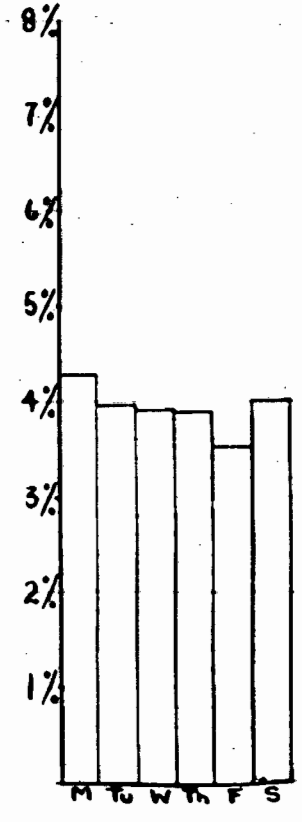
(3) All the groups showed a tendency for the rate to decrease on the days following the Monday. For Group I this tendency was comparatively continuous

GRAPHS SHOWING DAILY GROSS ABSENTEE RATES OF SELECTED GROUPS OF WORKERS OVER DIFFERENT PERIODS OF TIME

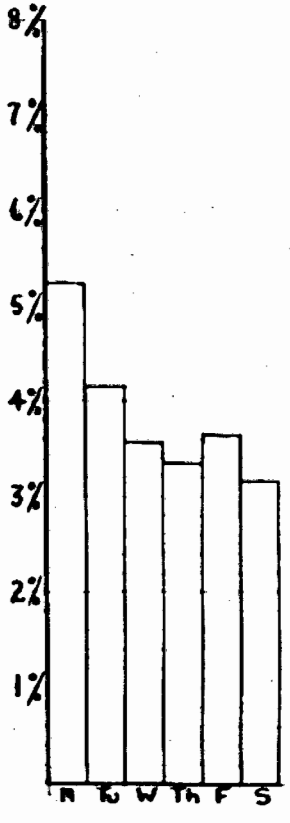
GROUP I
(n=143)
SEPT'47-AUG'48



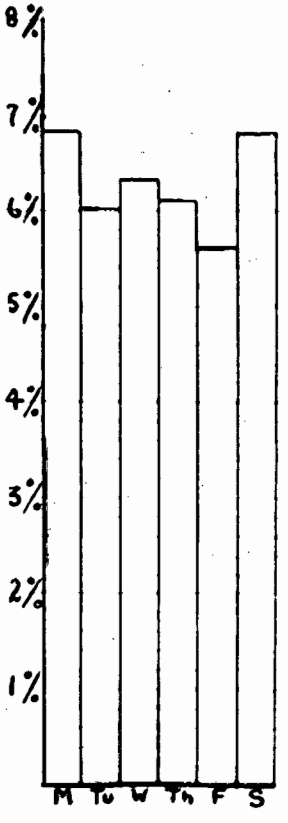
GROUP I(a)
(n=89)
SEPT'46-AUG'47



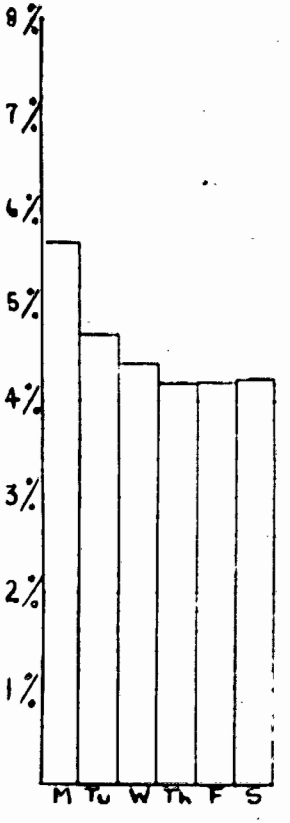
GROUP I
(n=143)
JUNE-AUG'48



GROUP II
(n=61)
JUNE-AUG'48



GROUPS I and II
(n=204)
JUNE-AUG'48



from Monday through to Saturday, Saturday reflecting the lowest rate of the week. Groups I (a) and II, over their respective periods, showed the same midweek tendency, but in contrast to Group I reflected a rise on Saturdays. Groups I and II can be compared over a common period (June - August 1948), but the difference between Groups I and I (a) is accompanied by a difference in the composition of the groups, in addition to the fact that the absences on which the figures were based were observed over two successive years.

(4) The graph representing the combined rates of Groups I and II over the June - August 1948 period reflects the daily pattern for all workers. It will be noted that for all workers taken together the steady decline in the absentee rate from Monday to Wednesday is followed by an even but lower rate over the last three days of the working week.

The Specific Absentee Rates calculated for different days of the week are presented graphically on pages 101-108. Collectively they contribute substantially towards an explanation of the daily variations of the gross absentee rate. Singly they suggest several theoretical constructions concerning the incidence of absences of different lengths.

(a) The Half-day Absentee Rates. (See page 101)

(1) The only feature consistently revealed by these graphs is that the Saturday rate never varies significantly from zero. It will be recalled that only

half days are worked on Saturdays, and that a half-day absence recorded on a Saturday represents the attendance of a worker for half a Saturday morning only. As these, practically speaking, never occur the conclusion may be drawn that a worker who finds it necessary to absent herself for any period on a Saturday morning does not come to work at all on that day.

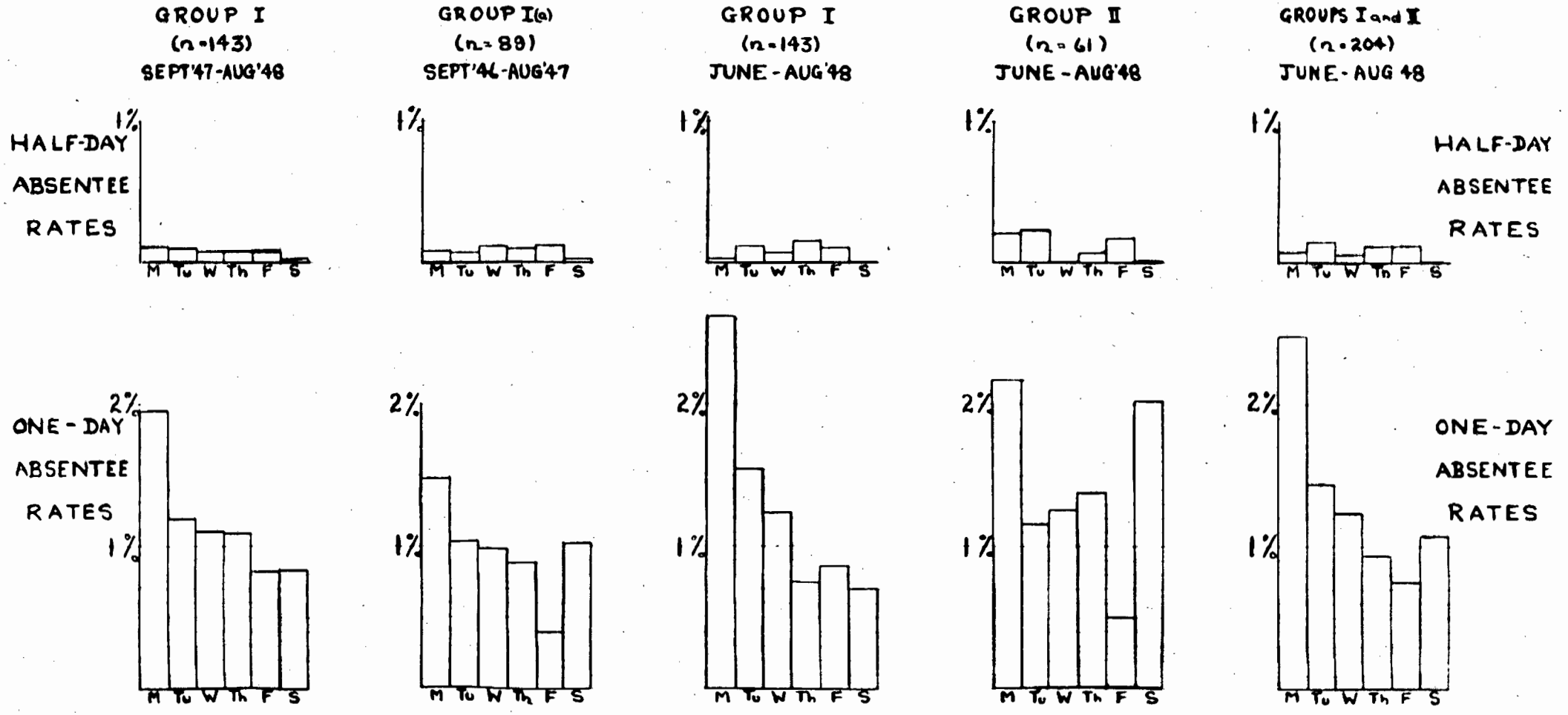
(2) A comparison of the three graphs based on observations of the June - August 1948 period represents a picture difficult to interpret, and Table 51 (b) in Chapter Eight shows that the percentage distributions of workers effected by half-day absences is a little over 10 per cent. Taking this fact and the size of the groups into account no attempt at interpretation of the daily variations reflected is justified.

(3) The graphs based on the absences of Groups I and I (a) over 1947-48 and 1946-47 respectively show that the half-day absences of Group I tend to decrease from Monday to Friday, whereas those of Group I (a) are slightly lower on the first two days of the week than on other days excepting Saturdays.

(b) <u>The One-day Absentee Rates.</u> (See page 101)

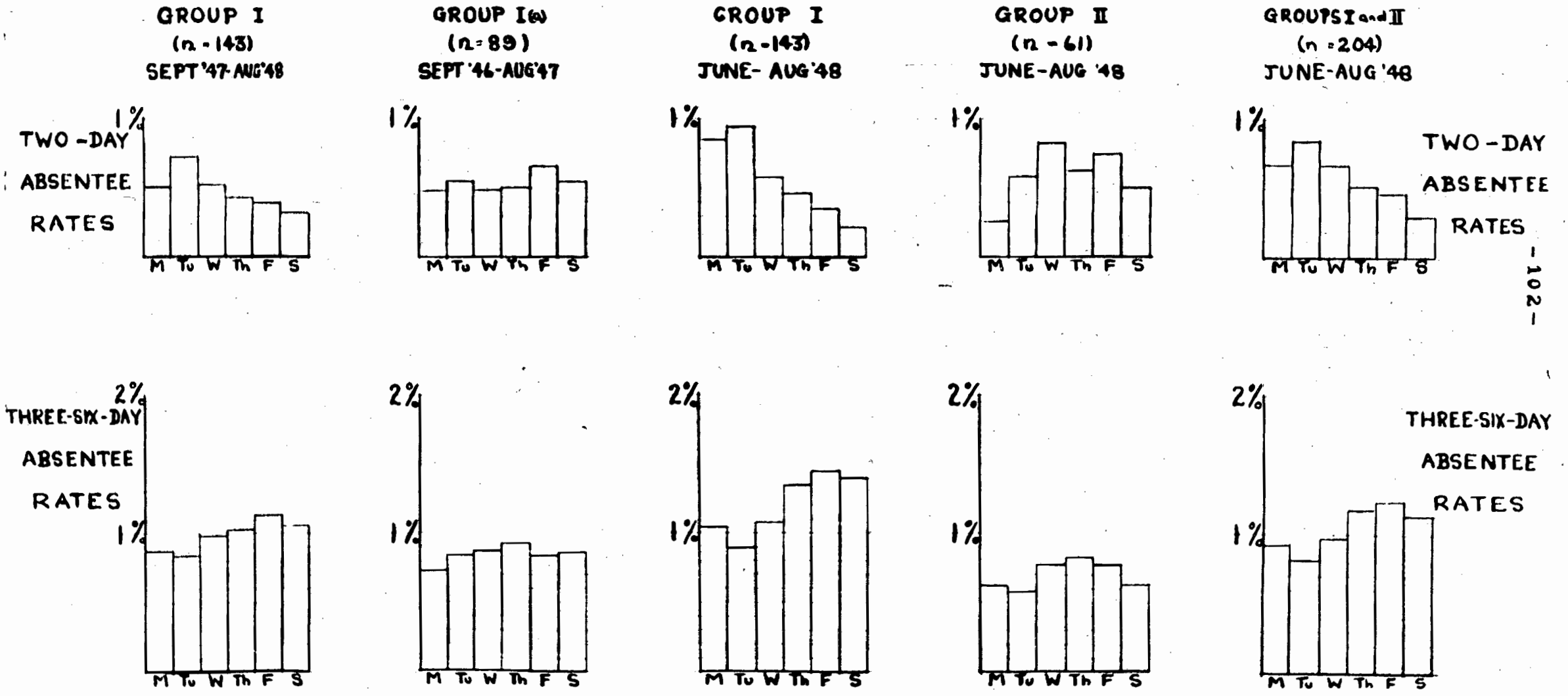
(1) The graphs depicting the one-day absentee rates reveal strikingly that more one-day absences occur on Mondays than on any other single day of the week. This is true of all the groups studied. The Monday

GRAPHS SHOWING DAILY SPECIFIC ABSENTEE RATES OF SELECTED GROUPS OF WORKERS OVER DIFFERENT PERIODS OF TIME



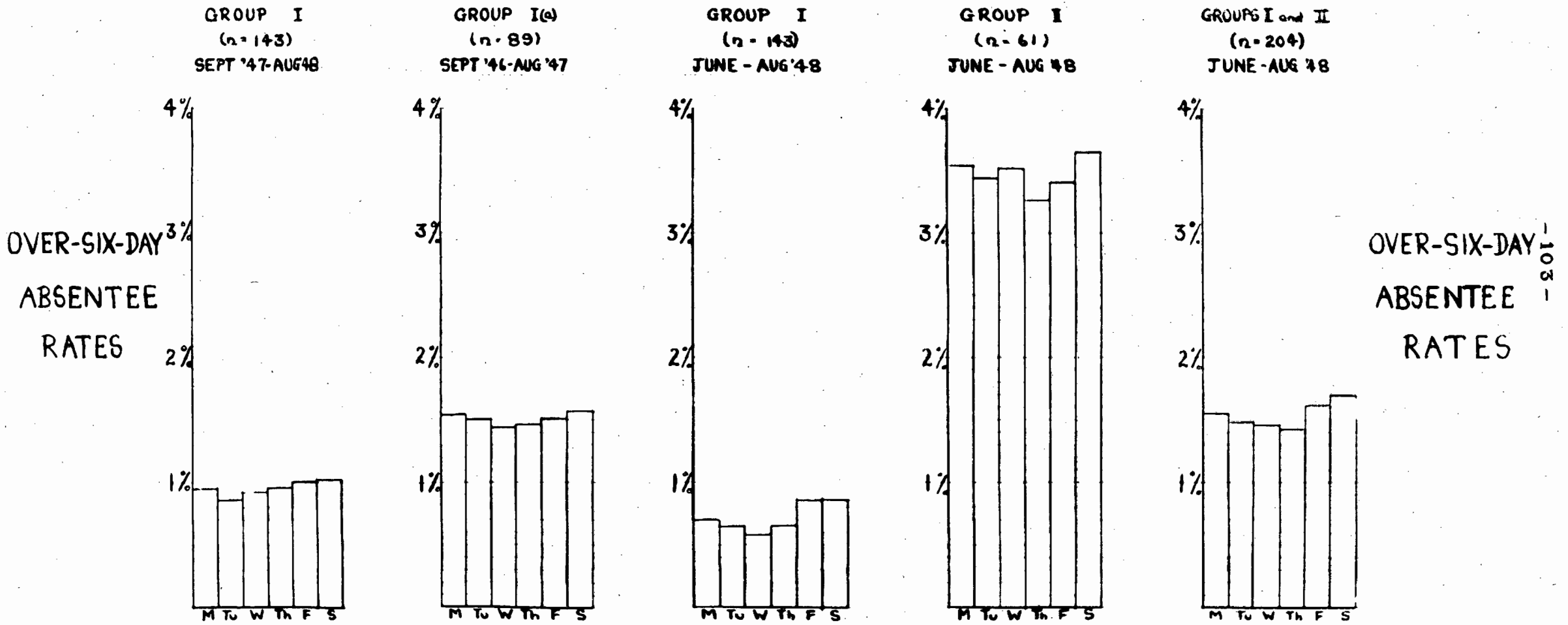
(Continued on next page)

GRAPHS SHOWING DAILY SPECIFIC ABSENTEE RATES OF SELECTED GROUPS OF WORKERS OVER DIFFERENT PERIODS OF TIME (cont.)



(Continued on next page)

GRAPHS SHOWING DAILY SPECIFIC ABSENTEE RATES OF SELECTED GROUPS OF WORKERS OVER DIFFERENT PERIODS OF TIME (cont)



rate is more than twice as high, and in some cases three and four times as high as the rate for the day of the week on which the fewest one-day absences occur.

(2) The downward trend of the absentee rate runs through to Saturday for Group I over both the one-year and three-month periods which have been plotted, whereas Groups I (a) and II over their respective periods show a sharp increase from Fridays to Saturdays. A comparison of the trends of Group I and Group II over the June - August 1948 period suggests that the contrast between the Saturday rates is attributable to the fact that Group II consists of employees of less than one years standing, whereas Group I consists solely of workers who have been in the employment of the firm for a longer period. Group I (a), however, consists of longer term workers but shows the same trend as the shorter term workers.

(3) If we compare the one-day absentee rate graphs with the graphs depicting the other daily rates two conclusions may be drawn. Firstly, compared with the other specific rates it is apparent that the one-day absentee rate has by far the largest absolute variation between its highest and lowest points on different days of the week. And if we exclude half-day absentee rates from which, as we have pointed out, no definite conclusions can be drawn, the one-day absentee rate also has in most cases the biggest proportional variation between its highest and lowest points. Secondly, a study of all the graphs shows clearly that the one-day

absences are distributed in such a way that they are the main factor causing the gross absentee rate to be higher on Mondays than on other days of the week. In addition they are largely responsible for such increases and decreases as we noted in the gross absentee rate from Fridays to Saturdays.

(c) The Two-day Absentee Rates. (See page 102)

(1) The graphs depicting the absences of Group I workers over two periods reveal that the incidence of two-day absences is highest on Tuesdays declining from there to the end of the week. The Monday rate is lower than the Tuesday rate but higher than the rate for the rest of the week. Saturdays are lowest of all. The explanation which suggests itself is that two-day absences tend to occur more frequently after the break of the weekly routine on Saturday, but that the immediate effect of the Sunday at home is to reduce the high incidence a little for Monday. Although, the Group I (a) and Group II graphs do not show the same steady decline throughout the week they all show a slightly lower rate for Monday than for Tuesday.

(2) The comparatively high mid-week and end of week incidences for Groups I (a) and II do not fit the theory suggested above and the decline noted over the week must therefore be regarded as a phenomenon of Group I for 1947-48 only.

(3) It may be noted that Groups I and II combined over the June - August 1948 period reflect the

same trends as Group I taken alone. This 1947-48 trend, if we allow for the reduction of absences on Monday, presumably as a result of the Sunday rest, has features in common with the trend of one day absences in that it decreases during the week, but in direct contrast to the one-day absentee rate its peak does not occur on Mondays which suggests that although the influence of the working week on these two types of absences is the same, the influence of the Sunday break acts differently. It must be emphasized, however, that with the data at our disposal, there is no means of proving the above theoretical constructions. It might also be argued that the net influence of the Sunday break is to cause some sickness absences which might have been counted as two-day absences if Sunday were a working day, to be classified as one-day absences. If this supposition were true, the conclusions drawn previously concerning one-day absences on Mondays would not be invalidated as the high Monday one-day rate was significantly higher than could have been accounted for by this theory.

(d) <u>The Three-six-day Absentee Rates.</u> (See page 102)

(1) The graphs depicting daily three-six-day absentee rates reveal that variations in the incidence of these longer absences over different periods of the week are smaller than for shorter absences.

(2) The Group I (a) graph reflects a comparatively constant incidence throughout the week, whereas Groups I and II are reflected as having a

higher incidence of these types of absences towards the middle and end of the week, than at the beginning. While these graphs cannot be interpreted with certainty, it may be that this difference is caused by a tendency for workers who have been away for three or more days to return to work after the week-end break when they could actually have returned at the end of the previous week. These suggested explanations would require further research before they could be either accepted or rejected.

(c) Over-six-day Absentee Rates. (See page 108)

(1) The graphs given for the period June - August 1948 are based on the absences of so small a percentage of the workers studied (See Chapter Eight, Table 55(b)) that they must be interpreted cautiously. It may be noted, however, that they display similar characteristics to the graphs depicting absentee rates over 1946-47 and 1947-48.

(2) As would be expected of absences which last for longer than six working days the incidence is comparatively evenly distributed over the week. A slight upward tendency at the end of the week is, however, noticeable. In an endeavour to explain this slight but consistent tendency, all absences of over six days' duration of Group I workers over the September 1947 to August 1948 period were examined, and the days on which they commenced and ended were recorded. The following result adequately explains the slight upward tendency noticeable at the end of the week.

TABLE 57

Days of the week on which the over-six-day absences of Group I workers over the September 1947-August 1948 period started and ended

Day of the week	Started	Ended
Monday	8	4
Tuesday	4	4
Wednesday	4	4
Thursday	6	4
Friday	7	0
Saturday	2	16
T O T A L	51	51

The above table shows that whereas the commencements of long absences are fairly evenly distributed over the week, there is a strong tendency for workers to return to work from these absences on Mondays thus terminating the absence as regards absentee records on a Saturday.

II Monthly Absentee Rates

Two sets of monthly absentee rates were calculated. The first set represents the monthly rates of Group I workers over the period September 1947 - August 1948, and the second set the rates of Group I (a) workers over the corresponding period in 1946-47. Although the two groups of workers are not strictly comparable as has already been explained, a comparison of their rates over the given periods allow certain broad generalizations

to be made concerning the influence of different periods of the year on absenteeism.

The Monthly Gross Absentee Rates are presented graphically on page 110. The 1946-47 graph reveals larger variations from month to month than the 1947-48 graph, and no marked similarity between the two graphs is discernible. On page 111 are given two separate graphs for the two periods showing the monthly deviations of the rates of the two groups about their annual means. The nature of the deviations observed are largely explained by the monthly specific absentee rates which follow.

In calculating the Specific Absentee Rates the procedure adopted previously of grouping three-to-six-day absences and over-six-day absences was maintained, but half-day, one-day, and two-day absences, which have previously been treated separately were combined in calculating a specific rate of absences of two days and less.

(a) The Two-day-and-less Absentee Rates

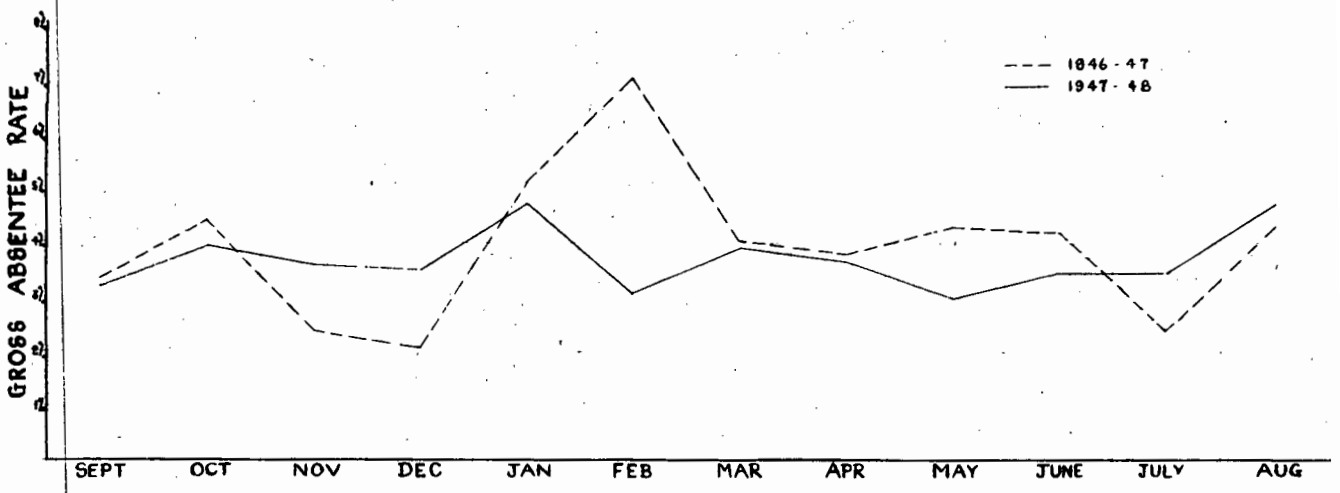
Graphs depicting these rates are given on page 110. Comparing the 1946-47 and the 1947-48 graphs it will be noticed that these short absences follow a similar trend from month to month over the two years.

(1) The most striking feature of the graphs is that over two successive years the lowest rate of the year was recorded in December. We know that December

GRAPHS SHOWING MONTHLY GROSS ABSENTEE RATES OVER A TWO-YEAR PERIOD.

(1) 1946-47 GRAPH REPRESENTS THE GROUP RATE OF 89 WORKERS COMPRISING GROUP I(a)

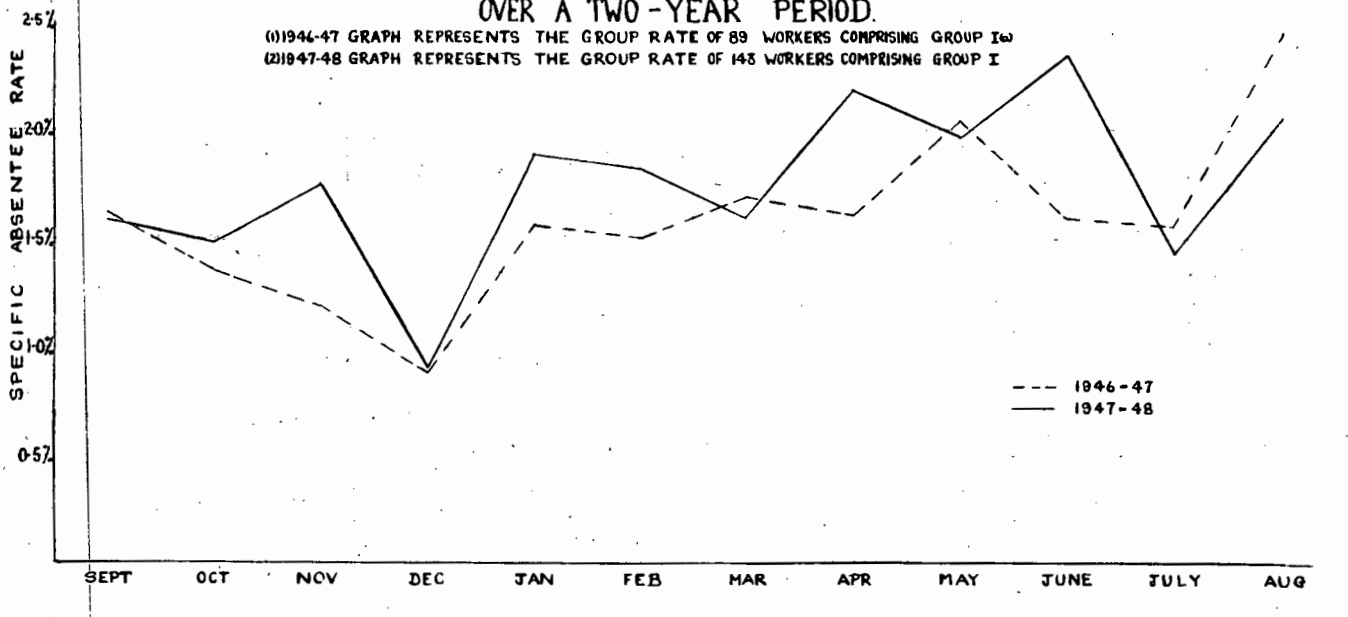
(2) 1947-48 GRAPH REPRESENTS THE GROUP RATE OF 143 WORKERS COMPRISING GROUP I



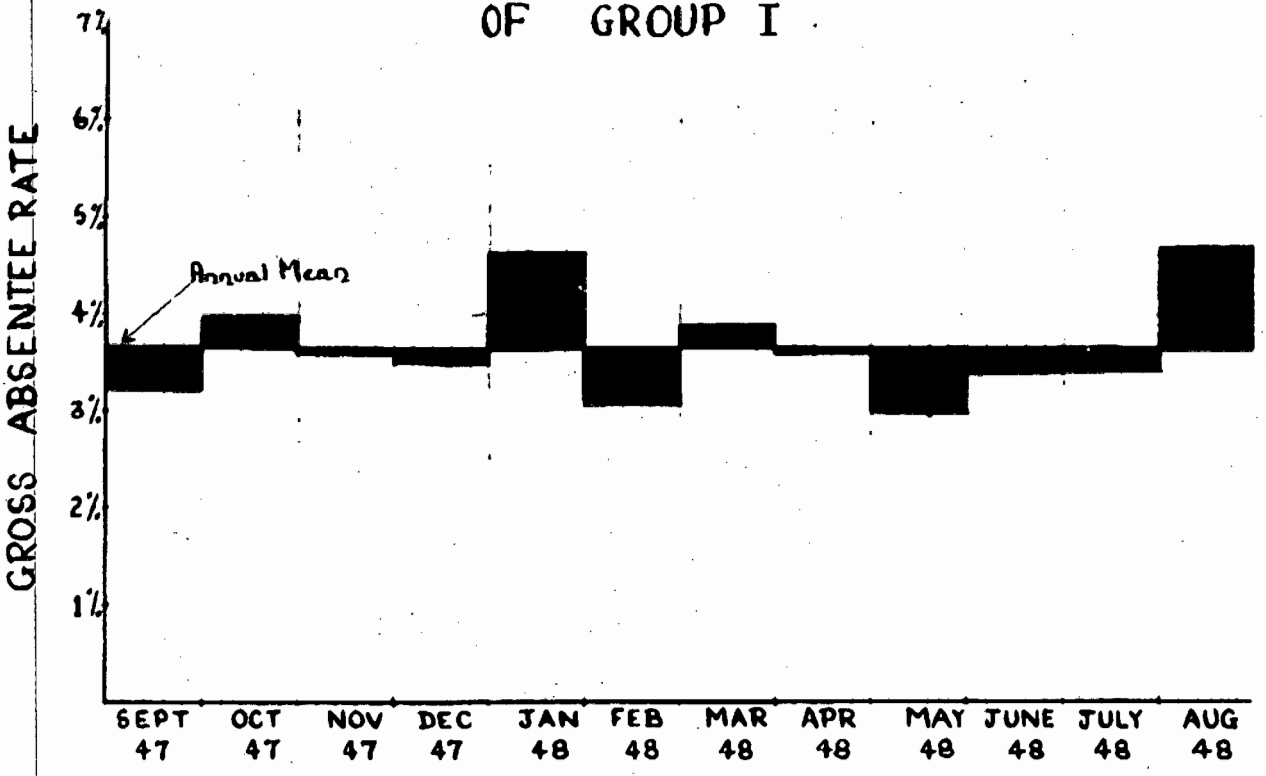
GRAPHS SHOWING MONTHLY TWO-DAY-AND-LESS ABSENTEE RATES OVER A TWO-YEAR PERIOD.

(1) 1946-47 GRAPH REPRESENTS THE GROUP RATE OF 89 WORKERS COMPRISING GROUP I(a)

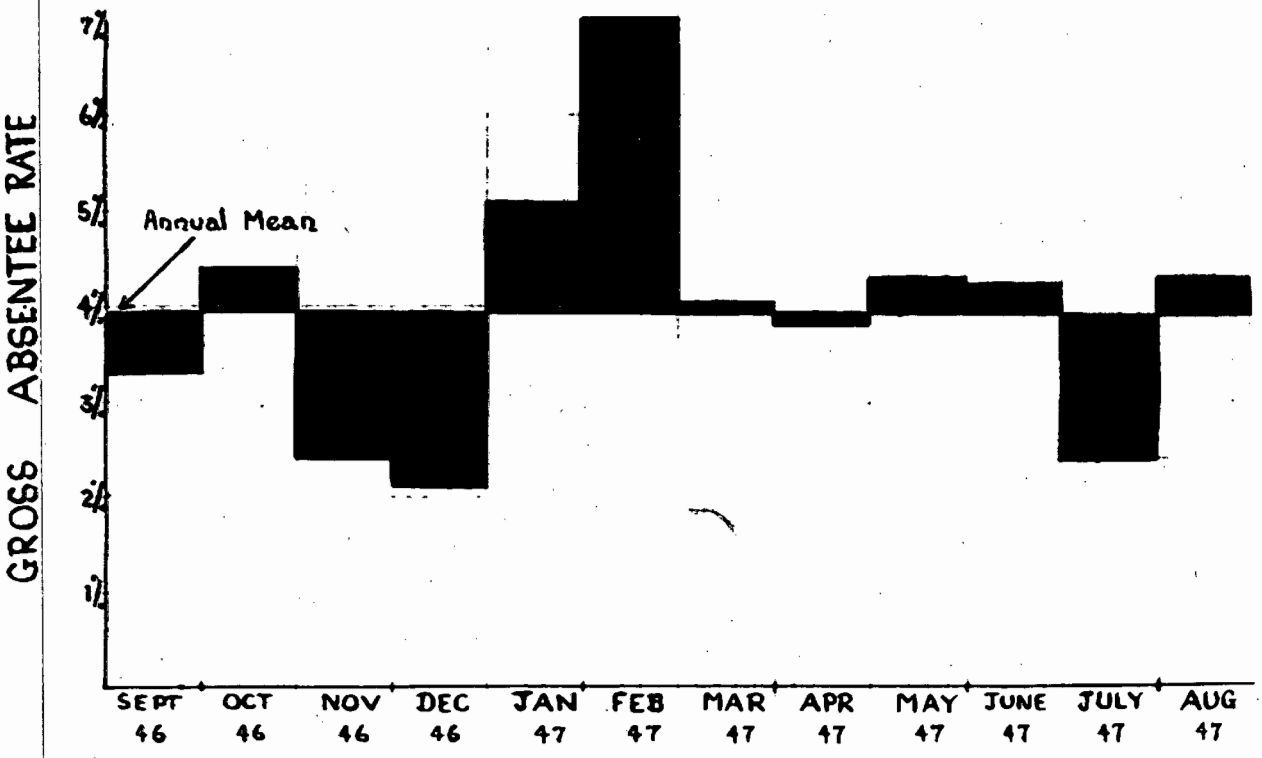
(2) 1947-48 GRAPH REPRESENTS THE GROUP RATE OF 143 WORKERS COMPRISING GROUP I



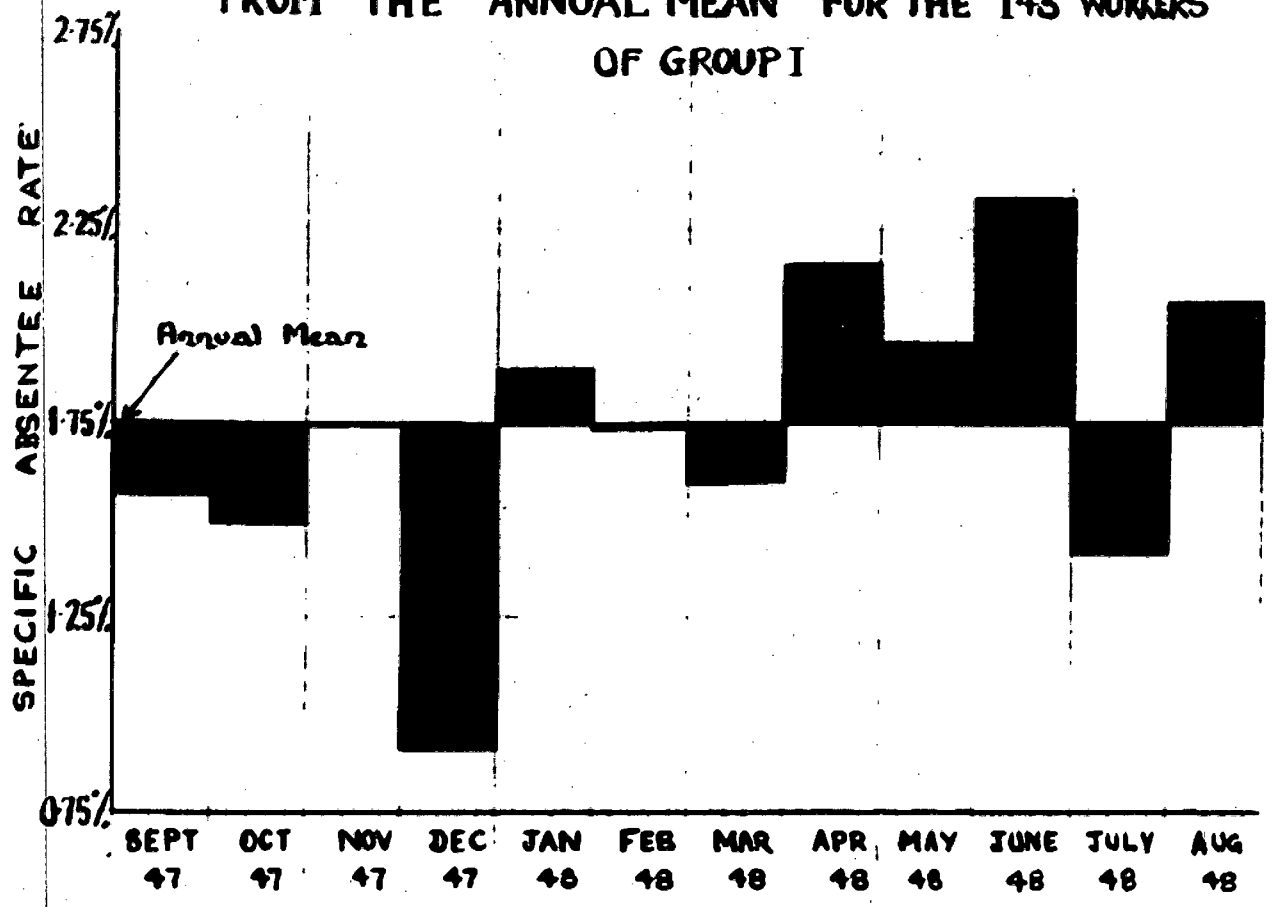
GRAPH SHOWING MONTHLY DEVIATIONS OF THE GROSS ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 143 WORKERS OF GROUP I



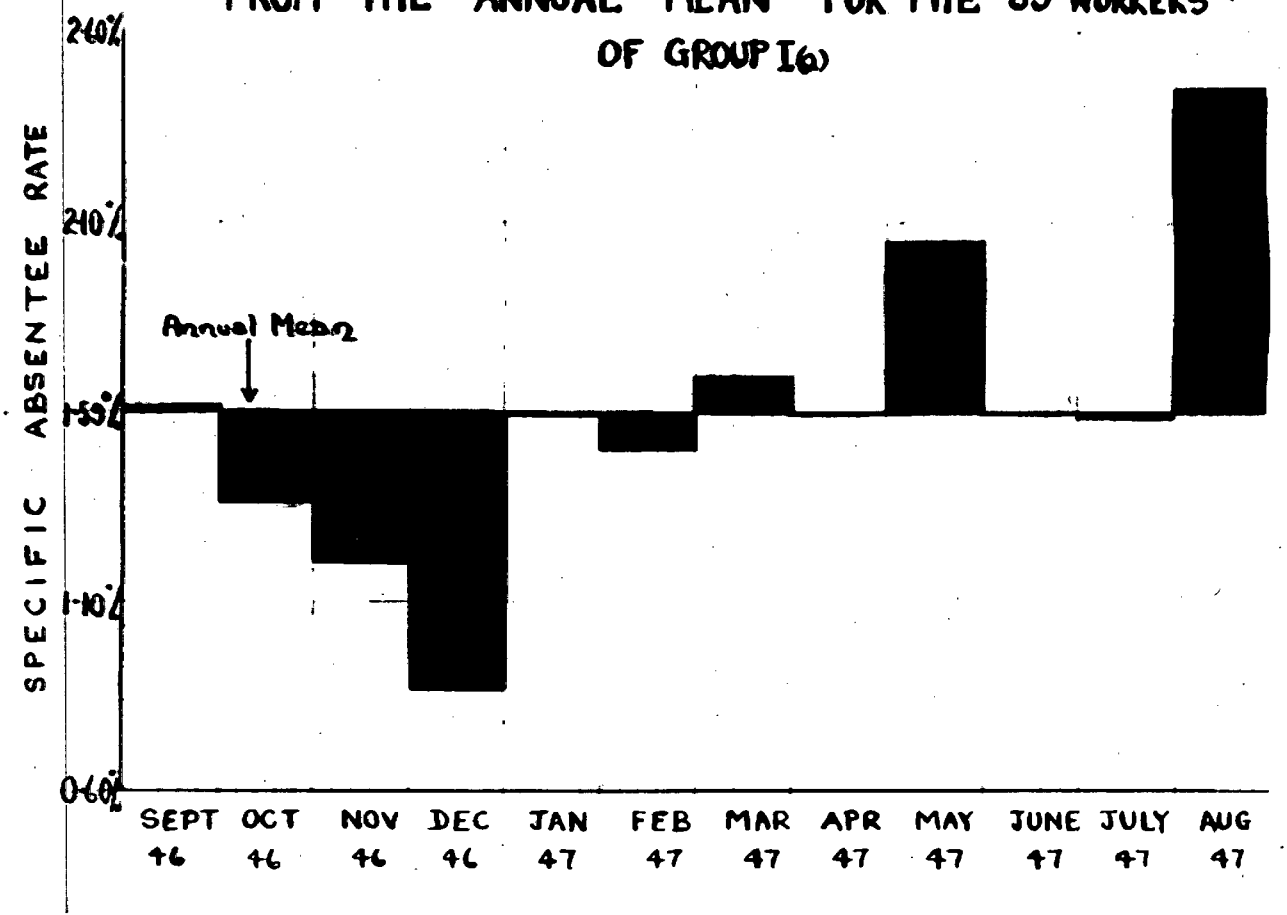
GRAPH SHOWING MONTHLY DEVIATIONS OF THE GROSS ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 89 WORKERS OF GROUP I(a)



GRAPH SHOWING MONTHLY DEVIATIONS OF THE TWO-DAY-AND-LESS ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 143 WORKERS OF GROUP I



GRAPH SHOWING MONTHLY DEVIATIONS OF THE TWO-DAY-AND-LESS ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 89 WORKERS OF GROUP I(a)



is the busiest month of the year in departmental stores, and consistently shows the highest sales figures. Combined with this increased activity is an atmosphere of gaiety which is immediately apparent to anyone entering such a store in December. The theory suggests itself that these factors, perhaps accompanied by more than the usual pressure from the managerial staff, are the causes of this decreased rate.

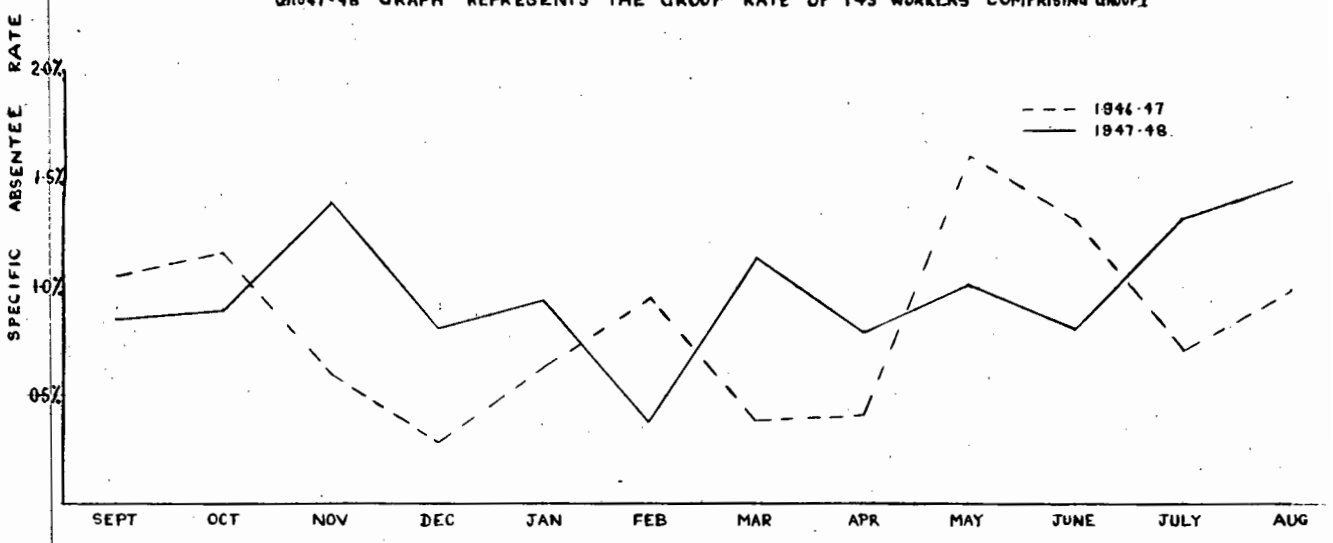
(2) The second feature of the graphs which attracts attention is the fact that the rates depicted over the March-August period are on the whole higher than those depicted for the September-February period. The difference between these periods is more apparent on the two graphs showing the monthly deviations of the rates of the two groups about their annual means. (See page 112) The Group I graph shows that from September 1947 to February 1948 the rate only rose above the annual mean in January, and over the corresponding period in 1946-47 it only rose above the annual mean in September. In contrast the rate over the March-August period only fell below the mean in March and July of 1948 and in July of 1947. These observations suggest that the winter half of the year has an adverse influence on workers' short absences, although it was noticed that the same influence was not discernible on the gross absentee rate.

(b) <u>The Three-six-day Absentee Rates.</u>

Graphs depicting the rate of absenteeism through absences of three to six days' duration are given on page 114 and two separate graphs illustrating the

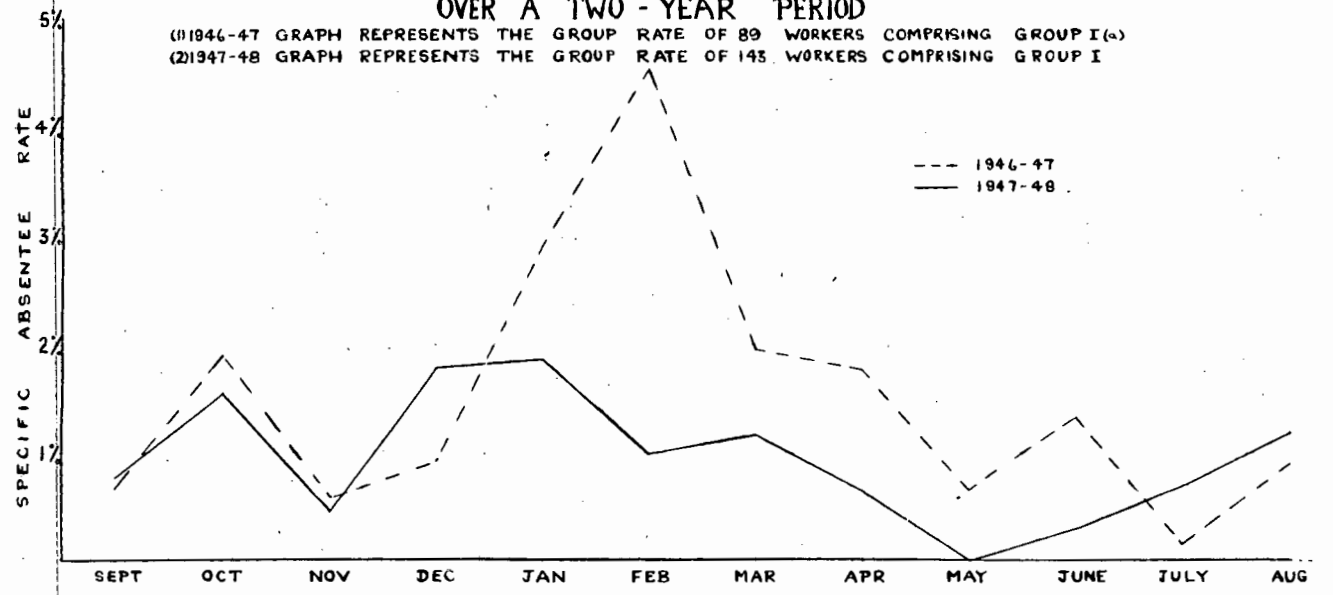
GRAPHS SHOWING MONTHLY THREE-TO-SIX-DAY ABSENTEE RATES. OVER A TWO-YEAR PERIOD.

(1)1946-47 GRAPH REPRESENTS THE GROUP RATE OF 89 WORKERS COMPRISING GROUP I(a)
(2)1947-48 GRAPH REPRESENTS THE GROUP RATE OF 143 WORKERS COMPRISING GROUP I



GRAPHS SHOWING MONTHLY OVER-SIX-DAY ABSENTEE RATES OVER A TWO - YEAR PERIOD

(1)1946-47 GRAPH REPRESENTS THE GROUP RATE OF 89 WORKERS COMPRISING GROUP I(a)
(2)1947-48 GRAPH REPRESENTS THE GROUP RATE OF 143 WORKERS COMPRISING GROUP I



monthly deviations about the annual mean on page 116.

An examination of these graphs does not reveal any seasonal trend or regularity of any kind. On the basis of the observations reflected we conclude that three-six-day absences, unlike shorter absences vary from month to month in a way which we are not in a position to explain on the basis of our data.

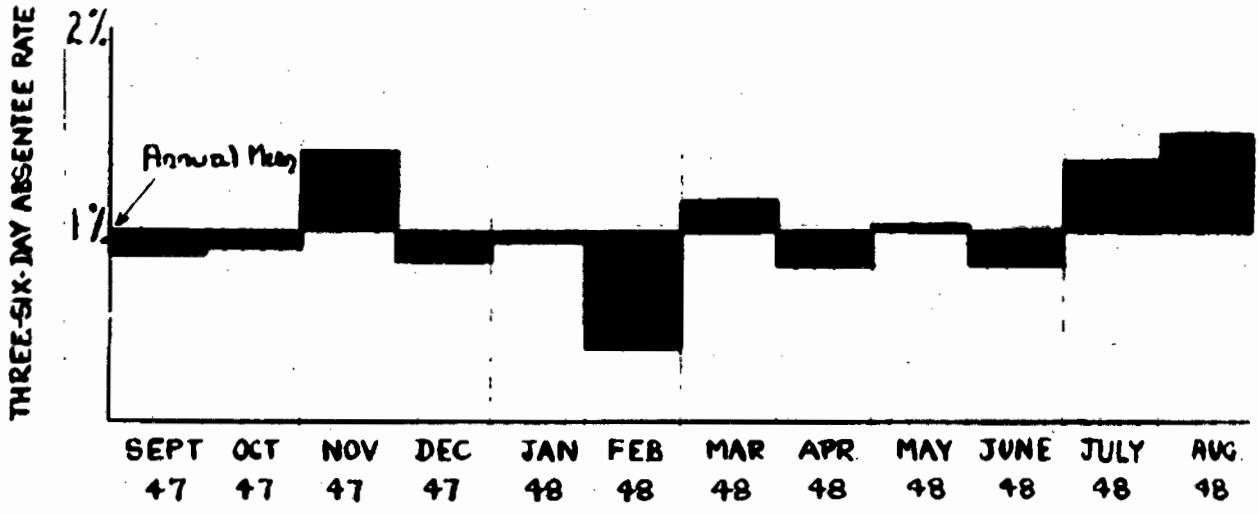
(c) The Over-six-day Absentee Rates

The graphs showing the rates of absenteeism through absences of over six days' duration are shown on page 114. The monthly deviations about the annual mean are depicted on two separate graphs on page 117.

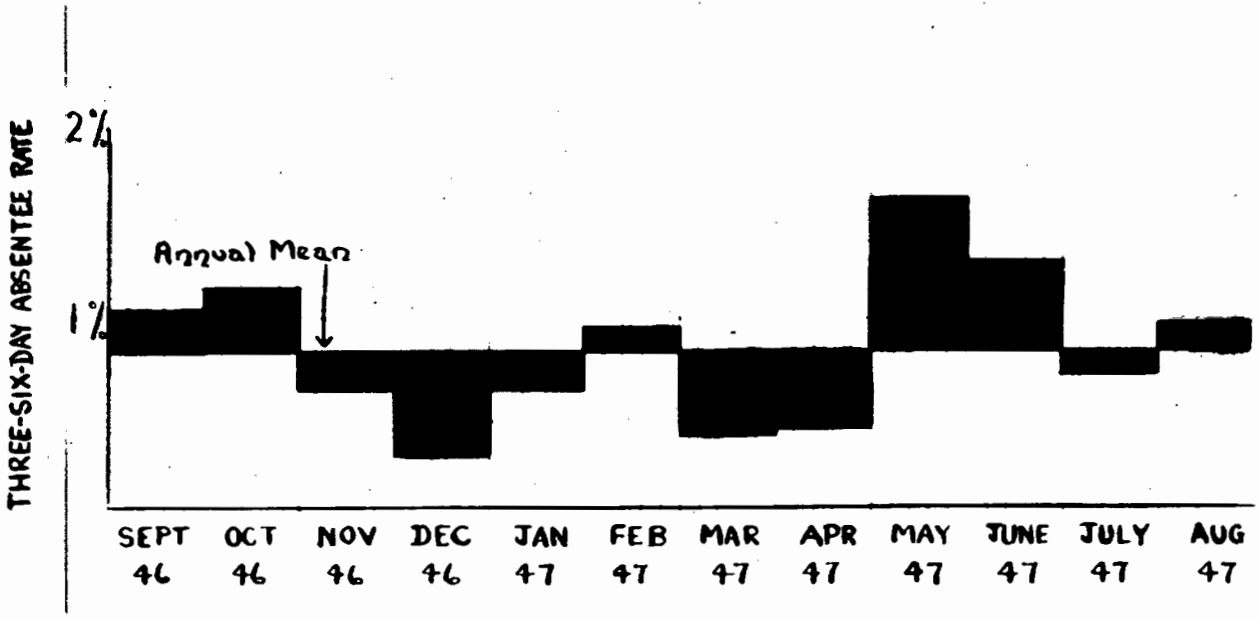
(1) The graphs reveal large absolute variations in the rate during the course of the two years. It will be noted, for example, that the highest rate recorded in the 1946-47 period represents a loss of over 45 days per 1000 working days in February, while the lowest rate recorded in July represents a loss of under 2 days per 1000 working days, while for the 1947-48 period the highest rate recorded represents a loss of just over 18 days per 1000 working days in January, and the rate for May drops to zero.

(2) The graphs illustrating the monthly variations from the annual mean seem to indicate that in direct contrast to absences of two days and less, these over-six-day absences tend to account for less lost time in the winter months than in the summer months.

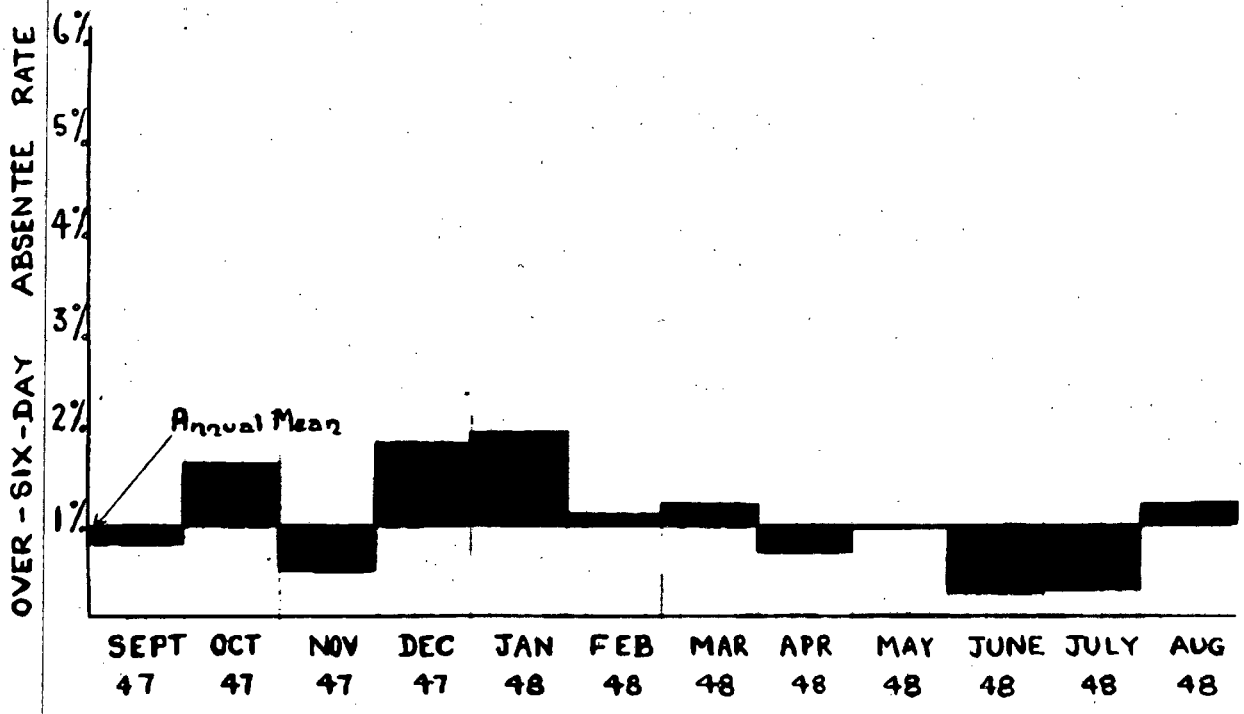
GRAPH SHOWING MONTHLY DEVIATIONS OF THE THREE-SIX-DAY ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 143 WORKERS OF GROUP I



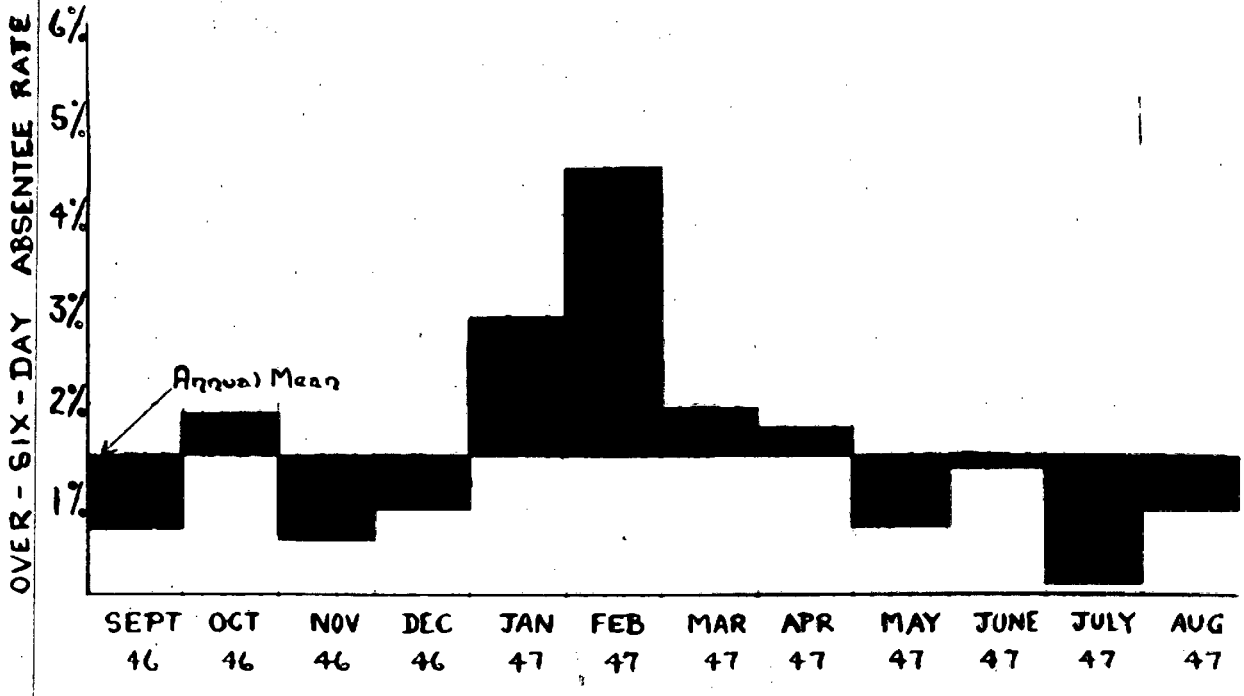
GRAPH SHOWING MONTHLY DEVIATIONS OF THE THREE-SIX-DAY ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 89 WORKERS OF GROUP I(a)



GRAPH SHOWING MONTHLY DEVIATIONS OF THE OVER-SIX-DAY ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 143 WORKERS OF GROUP I



GRAPH SHOWING MONTHLY DEVIATIONS OF THE OVER-SIX-DAY ABSENTEE RATE FROM THE ANNUAL MEAN FOR THE 89 WORKERS OF GROUP I(a)



In summary, it appears that the total time lost is little affected by the seasons, but different types of absences are. Short absences are more frequent in winter than in summer, medium length absences do not respond to seasonal conditions, and long absences are less frequent in winter than in summer. It must be remembered, however, that the samples used were small and that the observations were limited to a two-year period. The theory therefore requires further testing.

CHAPTER TEN

FURTHER ANALYSIS OF THE ABSENTEEISM OF ONE SELECTED GROUP OF WORKERS

The foregoing descriptions of various aspects of the absenteeism of differently selected groups of workers, have established in considerable detail the pattern according to which time is lost by the subjects of this investigation. In the preceding chapters, however, attention has been concentrated on group absentee rates. Mention was made of the uneven distribution of absenteeism in a group,(see Table 56) and the percentage distributions of workers affected by different types of absences suggest the same feature. In this chapter an attempt is made, by using different methods of computation, to reveal more precisely the extent to which the time lost by a group of workers is distributed amongst its members. Individual rates have been calculated for each of the 149 workers of Group I, and the resulting arrays are statistically described.

It was essential for the purpose of studying the absenteeism of individuals that only those workers be chosen for whom records of absences over a considerable time were available. For this reason the records pertaining to workers from Group I over the one-year period September 1947 - August 1948 were selected for study. Group I was chosen in preference to Group I (a)

as it was a larger and a more representative group.

Three aspects of the absentee records of each worker from Group I were studied. Those aspects were chosen on the basis of the previous studies described. They were the total time lost by each worker, the number of one-day absences of each worker, and the severity rate or average length of the absences of each worker. These three measurers alone convey a more comprehensive picture of the whole pattern of absenteeism than any other three single measures. The total time lost, although it may be lost in different ways, supplies a useful outline description of the phenomenon as a whole, while the severity rate by measuring the average length of absences distinguishes between workers who tend to be habitually absent for long or short spells. The one-day absences were selected because, as we have seen in the previous chapters, they occur more frequently than any other type of absence, they affect a very large percentage of the whole population in the course of one year, and they constitute a substantial percentage of the total time lost. It will be seen in Part III that these three measures are the same as those which have been chosen there for closer study in relation to the findings of the survey described in Part I.

It should be noted that in this chapter, as also in Part III, instead of quoting one-day absences as a percentage of the total days that could have been worked, the writer has for convenience calculated the actual

number of one-day absences which occurred. As the total number of possible days which fell in the period under review was 300, the reader may readily convert the figures quoted to the percentage rate for purposes of comparison with other percentage rates used in the report. No change has been made to the gross absentee rate.

TABLE 38

Some statistical characteristics of the frequency distribution of the Individual Gross Absentee Rates of the 143 Group I workers over the one-year period September 1947-August 1948

	V	L1	L2
Mean	3.79 per cent	3.31- 4.27	3.19 - 4.39
Standard deviation	±2.91	2.57- 3.25	2.48 - 3.34

First decile	0.84 per cent
First quartile	1.63
Median	3.28
Third quartile	5.25
Ninth decile	7.17

TABLE 39

Some statistical characteristics of the frequency distribution of the number of one-day absences of each of the 143 Group I workers over the one-year period September 1947-August 1948

	V	L1	L2
Mean	3.50 absences	3.08 - 3.92	2.97 - 4.03
Standard deviation	±2.50	2.20 - 2.80	2.13 - 2.88

First decile	0.95 absences
First quartile	2.12
Median	3.60
Third quartile	5.70
Ninth decile	7.43

TABLE 40

Some statistical characteristics of the frequency distribution of the Individual Severity Rates of the 143 Group I workers over the one-year period September 1947-August 1948

	V	L1	L2
Mean	1.84 days per absence	1.60 - 2.08	1.54 - 2.14
Standard deviation	±1.46	1.28 - 1.64	1.24 - 1.68

First decile	0.72 days per absence
First quartile	1.06
Median	1.54
Third quartile	2.28
Ninth Decile	3.82

The characteristics given in Tables 58 and 59 above show clearly the dispersion of all absences and of one-day absences amongst the Group I workers.

Table 58 reveals that we could invariably expect to find workers from the same universe losing between 52 and 44 days per 1000 working days. In the sample investigated, however, the loss of time was distributed in such a way that 10 per cent of the workers lost 8 days or less per 1000 working days. In contrast another 10 per cent lost 72 days or more per 1000 working days. Again the half of the workers who had the most favourable absence records lost approximately 55 days or less per 1000 working days. In other words this half of the population were each absent for not more than 10 days in the course of the year under review.

Table 59 may be interpreted in a similar manner to Table 58, except that the figures given denote one-day absences and not percentage rates. The table reveals that we could invariably expect to find workers having approximately three to four one-day absences per year. Just over a half of the workers had four or less such absences, while just over one tenth had seven or more.

The information given in Table 40 is a particularly important contribution to the establishment of the pattern of absenteeism of the workers. Both in explaining the nature of the phenomenon of absenteeism, and in the application of a personnel policy exact knowledge as to the length of workers' absences is essential. We see that while the mean rate represents

PART THREE

A COMPARATIVE STUDY OF THE ABSENTEEISM OF EMPLOYEES DIFFERENTIATED ON THE BASIS OF THE FINDINGS OF THE SURVEY

CHAPTER ELEVEN

THE AIM OF THIS STUDY AND THE METHODS OF ANALYSIS USED

The aim of the analyses described here was to test the broad working hypothesis postulated in the first chapter, namely that absenteeism is a phenomenon which is conditioned by the social circumstances of workers.

In order to examine the relationship which exists between the data reported in Parts I and II, Group I was selected for further analysis. It was decided to use Group I in preference to the total population investigated or to any other part of it for two reasons. Firstly, it was desirable for the statistical processes of comparison to be conducted that the sample selected should consist of subjects for whom an absentee record over as long a period as possible was available. Secondly, it was necessary that the largest group which complied with the first requirement be selected as, all other things being equal, the larger the group the more chance would there be of detecting significant relationships. Group I consisted of 145 workers each having a concurrent presence and absence record over a period of one year. It must be noted, however, that the selection of Group I limits the applicability of conclusions drawn to workers who have been in the employment of the firm for one year or more.

Three aspects of the phenomenon of absenteeism were selected. They were the same three aspects as were studied in Chapter Ten, namely the total time lost by each worker, the number of one-day absences of each worker, and the severity rate of each worker. The opinion was previously expressed that these three single measures collectively convey more information about the absentee pattern of a group of workers than any other three measures, and this opinion again prompted their choice for examination here.

The first stage of the procedure used in an attempt to detect the influence of the observed social circumstances of workers on their absenteeism was to classify workers in two or more categories on the basis of each one of the 22 items of information recorded in Part I. Some of these items presented natural dichotomous classifications while others were classified into two, three or four categories on inspection. Two basic principles influenced the decisions regarding these classifications. In the first instance the nature of the information was considered and an attempt was made to classify workers in a meaningful way. In the second instance due regard was paid to the number of workers which fell in each category, and categories of less than 50 workers were avoided as far as possible. The first consideration was the more important, and it will be seen that in a few cases categories of less than 50 workers were determined. In the cases of variable items, such as ages and lengths of service in the firm,

the relationship between the items and the measures of absenteeism were first examined by plotting scatter diagrams. From these it was possible to judge by inspection whether any degree of correlation existed. In some cases correlation coefficients were calculated, but none of these coefficients or scatter diagrams revealed significant degrees of correlation though it appeared to the investigator that there might be some critical points below and above which real differences existed. Consequently it was decided to classify workers, having due regard to the suspected significant points, and to examine the distributions for the different categories in the same manner as was planned for the categories differentiated on the basis of observed attributes.

After having classified workers into categories on the principles outlined above, the means and standard errors of each of the three measures of absenteeism were calculated independently for each category. The differences between the means of complementary categories were then compared.[1] Where the differences between the means were at least twice as great as the standard errors of the respective differences, the standard deviations of the distributions concerned were also compared. The manner in which the data examined in this way were

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1 The Standard statistical processes employed are referred to in Appendix E, where the conventional practices adopted are described.

interpreted will be seen in the next chapter. These interpretations will also illustrate why it was considered that measuring the differences between the dispersion of two distributions whose means differed by less than twice the standard error of the difference was not warranted.

The whole method of analysis outlined had three chief limitations. Firstly, it is possible that categories of workers with significantly different absentee records may have been obscured through ill-advised classifications. This theoretical limitation was not serious in practice because, in the majority of classifications based on attributes, the categories chosen were the only meaningful ones possible, while in the classifications based on variable items the investigator was guided by the inspection of the relevant scatter diagrams. Secondly, an inherent weakness of the method is that when subjects are classified according to one criterion, the composition of the samples so created may be very different in other respects as well. This does not render the method of analysis unreliable, but it does limit the conclusions which may justifiably be drawn. If, for example, we find that workers who left school at an early age have higher absentee rates than workers who left school at a later age, we cannot conclude that leaving school at an early age is a causal factor of high absenteeism, for it may be that early school leaving is merely a condition which is positively correlated with the real causal factors.

All we can say is that early school leaving has been found in our sample to be associated with high absenteeism. The third limitation was that after having placed the 145 workers into two, three, or four categories, the resultant samples on which the calculations were based were relatively small. It will be seen in the next chapter that although numerous differences between the means of the absenteeism measured for different categories were found, the number of cases in which it was possible to conclude that the difference was a real one, was very small. There differences could not be classified as real differences no positive conclusion regarding the relationship of the two sets of data could be drawn.

The above limitations to the methods used in this part of the study have been outlined as the implications are of importance in interpreting the statistics given in the next chapter.

CHAPTER TWELVE

AN EVALUATION OF THE RESULTS

The results of the statistical treatments to which the absentee records of the Group I workers over the one-year period September 1947 - August 1948 were subjected are set out in Tables 41, 42, 43, and 44 appearing on pages 152 - 159.

Table 41 shows the size of each category of workers on which calculations have been based, and the means of the three separate absentee measures for each category. On inspection it may be seen that in some cases the variations of the means of the three measures for categories differentiated on the basis of one item are nil or negligible. In other cases the differences are such that they may well represent a real difference. In order to establish whether these differences could be accounted for by chance variations their standard errors were calculated. On the basis of these, the chances of observing a similar difference in other samples from the same theoretical universe were assessed. Such differences between categories as were at least twice as great as their respective standard errors have been set out in Tables 42,43, and 44. These tables also show the differences between the standard deviations of the distributions concerned. It may be seen that differences have been classified as incidental, probable or real. This terminology was

TABLE 41

The means of the Individual Gross Absentee Rates, the number of One-day Absences, and the Individual Severity Rates for different categories of Group I workers over the period September 1947 - August 1948

Items of information used to differentiate categories		Categories	N	Gross Absentee Rates	One-day absences	Severity Rates
1 Ages of workers at the time of the investigation	(a)	Under 20 years	36	3.92	4.05	1.65
	(b)	20-29 years	62	3.90	3.45	1.86
	(c)	Over 29 years	45	3.54	3.16	1.97
2 Ages at which workers started in present employment	(a)	Under 20 years	72	3.65	3.78	1.67
	(b)	20-29 years	41	3.99	2.95	2.05
	(c)	Over 29 years	30	3.87	3.60	1.99
3 Ages at which workers were first employed	(a)	Under 16 years	56	3.45	3.75	1.56
	(b)	16-17 years	56	4.23	3.45	2.17
	(c)	Over 17 years	30	3.67	3.17	1.77
4 Ages of workers on leaving school	(a)	12-15 years	91	3.96	3.70	1.80
	(b)	16-17 years	50	3.48	3.08	1.94
5 Length of present employment	(a)	12-23 months	55	4.48	3.85	1.82
	(b)	24-47 months	50	3.54	3.70	1.60
	(c)	Over 47 months	38	3.39	2.74	2.20
6 School standards passed	(a)	Standards 4-6	108	3.56	3.79	1.69
	(b)	Standards 7-10	35	4.50	2.60	2.31

TABLE 41 (con.)

Items of information used to differentiate categories	Categories	N	Gross Absentee Rates	One-day absences	Severity Rates
7 Whether workers had working experience before joining this firm	(a) Yes	99	4.03	3.51	1.90
	(b) No	44	3.27	3.50	1.70
8 Whether a worker took on employment in this or any other firm immediately after leaving school	(a) Yes	62	3.52	3.87	1.74
	(b) No	81	4.01	3.22	1.92
9 Whether a worker had any formal training other than schooling	(a) Yes	17	3.27	3.82	1.43
	(b) No	126	3.87	3.46	1.90
10 Workers' modes of transport to work daily	(a) Bus	71	3.80	3.76	1.92
	(b) Train	51	3.79	3.45	1.69
	(c) Other	21	3.79	2.76	1.94
11 Times taken by workers to walk to public or other transport daily on their way to work	(a) 1-5 minutes	101	3.90	3.44	1.93
	(b) Over 5 minutes	52	3.22	3.91	1.45
12 Times taken by workers to travel from their homes to work daily by whatever means	(a) 1-15 minutes	65	4.01	3.86	1.86
	(b) Over 15 minutes	78	3.61	3.21	1.78

TABLE 41 (con.)

Items of information used to differentiate categories	Categories	N	Gross Absentee Rates	One-day absences	Severity Rates
13 Marital status of workers	(a) Single	87	3.68	3.49	1.78
	(b) Married	33	4.53	3.45	2.10
	(c) Widowed, divorced or separated	23	3.15	3.61	1.73
14 The size of the families of which workers are members	(a) Under 4 members	40	4.05	3.43	1.94
	(b) 4-6 members	54	4.15	3.57	2.05
	(c) Over 6 members	49	3.21	3.49	1.55
15 Accommodation of workers	(a) Parents' home	87	3.68	3.55	1.80
	(b) Own home	51	3.53	3.68	1.78
	(c) Other	24	4.63	3.17	2.11
16 The sizes of the households of which workers are members	(a) Under 4 members	25	4.10	3.24	2.31
	(b) 4-6 members	82	3.77	3.85	1.74
	(c) Over 6 members	36	3.75	2.89	1.75
17 Workers' households in which domestic servants are employed	(a) No servants employed	77	3.47	3.39	1.72
	(b) Full-time or part-time servants	64	4.08	3.69	1.88

TABLE 41 (con.)

	Items of information used to differentiate categories		Categories	N	Gross Absentee Rates	One-day Absences	Severity Rates
18	Amount of housework done by workers	(a)	Perform no household duties	36	5.06	3.69	2.31
		(b)	Perform household duties "now and again"	60	2.90	2.98	1.54
		(c)	Perform regular household duties	17	4.62	4.12	1.78
		(d)	Entirely responsible for running a home	30	5.60	3.97	1.94
19	Workers who had in the past stayed away from work on account of ill health of members of the household other than themselves	(a)	Yes	43	5.15	4.07	2.05
		(b)	No	99	3.14	3.28	1.68
20	Crowdedness of households of which workers are members	(a)	Households with occupancy ratio. 100 and under	59	3.86	3.71	1.91
		(b)	Households with occupancy ratio over 100	80	3.71	3.41	1.86

TABLE 41 (con.)

Items of information used to differentiate categories	Categories	N	Gross Absentee Rates	One-day absences	Severity Rates
21 The number of evenings spent at home by each worker during the week preceding her interview	(a) 0-5 evenings	77	3.50	3.55	1.66
	(b) 6-7 evenings	66	4.15	3.45	2.06
22 Workers who attend the firms social club functions	(a) Non-attenders	84	3.85	3.30	1.97
	(b) Attenders	59	3.72	3.80	1.66

TABLE 43

The difference between the means and standard deviations of the distributions of one-day absences for selected categories of workers

Categories compared	Difference between means	Probable	Real	Difference between standard deviations	Incidental	Probable	Real
Workers with 12-23 months' service and workers with over 47 months' service	1.11 ± 0.46	+	-	0.08 ± 0.32	+	-	-
Workers with 4-6 members and workers with over 6 members in their households	0.96 ± 0.46	+	-	0.48 ± 0.33	+	-	-
Workers who perform regular household duties and workers who perform duties "now and again"	1.14 ± 0.56	+	-	0.56 ± 0.40	+	-	-
Workers who have passed standards 4-6 and workers who have passed standards 7-10	1.19 ± 0.42	-	+	0.45 ± 0.30	+	-	-

Note (1) Plus sign (+) placed under any one of the headings incidental, probable, or real, denotes which one is applicable to a difference.
(2) The figures linked to differences by ± sign are standard erros of those differences.
(3) These denotations apply to Tables 43 and 44 as well.

TABLE 44

The differences between the means and standard deviations of the distributions of Severity Rates for selected categories of workers

Categories compared	Difference between means	Probable	Real	Difference between standard deviations	Incidental	Probable	Real
Workers who were first employed at 16-17 years and workers who were first employed at under 16 years	0.61 ± 0.29	+	-	0.62 ± 0.27	-	+	-
Workers who take 1-5 minutes to walk to their transport and workers who take over 5 minutes	0.48 ± 0.20	+	-	0.64 ± 0.15	-	-	+
Workers who perform no household duties and workers who perform duties "now and again"	0.77 ± 0.52	+	-	0.70 ± 0.23	-	-	+

adopted merely to facilitate discussion. Incidental differences are those which are less than twice as large as their standard errors. They represent chances under 20 to 1 that differences would be observed again on other samples from the same universe. Probable differences are those which are at least twice as large but less than two and a half times as large as their standard errors. They represent chances of between 20 and 79 to 1 that differences would be observed on other samples. Real differences are those which are at least two and a half times as large as their standard errors, and they signify that the chances of observing differences in other samples are at least 80 to 1.

Inspection of Tables 42, 43, and 44 in conjunction with Table 41 reveals that on the basis of the data presented only the following conclusions can be drawn with virtual certainty.

(1) We can state that workers who perform no household duties and workers who perform regular household duties may consistently be expected to have higher gross absentee rates than workers who perform household duties "now and again". In our sample over the one-year period September 1947 - August 1948, workers with regular household duties lost 17 days per 1000 working days more than workers who perform household duties "now and again". This difference between their means is accompanied by an incidental difference between the standard deviations of the distributions and we therefore conclude that the

causal factor producing this difference must be one which does not influence one section of these workers only, but on the contrary influences all of them. The workers who have no household responsibilities at all lost approximately 22 days per 1000 working days more than those who perform household duties "now and again", though the standard deviations of their distributions also showed a real difference thus leading us to expect that the causal factor is one which affects certain sections of these two groups only. Despite the fact that the composition of these categories have not been examined in other respects, it is clear from these observations that the amount of household responsibilities of workers is associated with their rates of absences, and that the workers who perform a few casual duties have on the whole better attendance records than others who either carry no household responsibilities or perform such duties regularly.

(2) Workers who had in the past had to stay away from work on account of the ill health of members of their households lost 20 days more per 1000 working days than those workers who were not called upon to stay at home for this reason. Our calculations show that we should always expect to find a difference between the rates of these two categories of workers. This further serves to focus attention on the relationship between the demands of the household on a worker's time and strength, and her absentee record. The weakness of the item of information on which the categories were based as an index of the demands of

the household on workers was commented upon in Chapter Six, but the striking difference is nevertheless revealing. It will be noticed that the probable difference between the standard deviations of the two distributions suggests that the factor causing the difference does not influence all workers evenly.

(5) We can state that the workers who have passed standards 7-10 may consistently be expected to have fewer one-day absences than those with less formal education. The former group actually lost approximately 12 days less per 1000 working days than the latter group. Again the difference between the means of the two distributions is accompanied by an incidental difference between their standard deviations which must lead us to seek for an explanation which is operative in respect of the whole population. What this explanation is remains conjecture. It may be for example, that workers with the better education are more conscientious or it may be that the better educated workers come from social environments which are different to those of the less educated workers, and that the causal factor is hidden in these. Any tentative theory to explain the phenomenon amounts to little more than a suggestion for further research.

It is interesting to note here that while the better educated workers had significantly fewer one-day absences than the less educated ones, their gross absentee rates and severity rates were higher. These differences have been classified as incidental on the basis of our data,

but nevertheless contribute to our knowledge of the phenomenon of absenteeism for the two categories.

The remainder of the differences between means listed in Tables 42, 43 and 44, have been classified as probable differences only, but considered collectively and in relation to the small size of the groups from which they were calculated, they at least suggest features of the absentee pattern of the categories which may in the course of further research yield more significant results.

(a) In addition to the real difference noticed between the means of the gross absentee rates of workers who perform different amounts of household duties there are probable differences between the severity rates of workers who perform no household duties and those who perform them "now and again", and between the one-day absences of the latter category and workers who perform regular household work. The probable difference observed between the severity rates is accompanied by a real difference in the standard deviation of the distributions suggesting that the factor producing this difference may not influence all the workers concerned evenly, while the factors producing the differences in the gross rate and the number of one-day absences do. Reference to Table 41 Item 18 shows that leaving workers who are entirely responsible for running a home out of the comparison (Cf. Chapter Six. It was pointed out there that this category of workers was not measured on the same scale as the others) workers who perform household duties

"now and again" have lower gross and severity rates as well as fewer one-day absences than either of the other two groups. Further study of these data is scarcely warranted, but what has already been said suggests that continued research into the relationship between household responsibilities and absenteeism may contribute substantially to our knowledge of absenteeism as a whole.

(b) The different rates observed for single, married, and widowed, separated or divorced workers show no real differences, while the only probable difference observed was that married workers lost a total of approximately 14 days per 1000 working days more than widowed, divorced or separated workers. They also lost more days per possible working days than single workers, but on the basis of the data recorded it was not possible to classify this difference as more than an incidental one. The workers from the three categories lost very nearly the same number of days per 1000 working days through one-day absences. Of importance is the fact that the probable difference observed between the gross rates of the two categories of other than single workers is accompanied by a real difference between the standard deviations of the two distributions illustrating that the causal factor is one which affects the range of variation and thus may be confined to a certain group or groups of the population only.

(c) Probable differences were also observed

between the means of the number of one-day absences of the workers with 12-23 months'service and of the workers with over 47 months' service, and between the means of the gross absentee rates of workers with 12-23 months' service and of workers with 24-47 months' service. The distributions of the categories of workers showing differences in one-day absences had practically identical standard deviations, whereas the standard deviations of the distributions with different mean gross absentee rates exhibited a real difference. This suggests that the difference in the gross absentee rates is caused by a factor that does not influence workers evenly, whereas the difference between the number of one-day absences is caused by a factor whose influence is felt by all workers. It will be recalled that in Chapter Eight differences mainly in the over-six-day absentee rate were observed between workers with less than one year of service and workers with over one year of service. Consideration of all the data relating to the relationship of length of service to absentee records suggests that while the former exerts an influence on the latter it is not a simple function of it, for certain types of absences are affected differently.

(d) Table 44 shows that a probable difference was observed between the means of the severity rates of workers who first started working under 16 years of age and workers who started at 16-17 years of age. The standard deviation of the two distributions also revealed a probable difference. In the absence of

probable or real differences between the means of the other measures, and between the two categories concerned and the third category complementary to them, little can be suggested as an explanation.

(e) Another isolated probable difference appears between the means of the severity rates of workers who take 1-5 minutes to walk to their transport daily and workers who take over 5 minutes. The mean of the average length of absences for the former workers is approximately half a day greater than the mean for the latter workers. The standard deviation of the two distributions, however, shows a real difference, and the factor responsible for the difference between the means may therefore be expected to influence some of the workers only or to influence them unevenly. Again no suggestion to explain these differences is justifiable.

The differences between the means of categories which have been excluded from Tables 42, 43, and 44, were all smaller than twice their standard errors. The actual differences may be noted by inspection of Table 41. A detailed consideration of these incidental differences would be of little value for they can neither prove nor disprove associations between the criterion on which the categories were based and high or low absentee rates. There are some cases in which the rates for different categories are striking on account of their lack of differences. For example, it may be noted from Table 41 Item 10 that the means

of the gross absentee rates for workers travelling to work by bus, by train, and by other means are 5.30, 5.79 and 5.79 per cent respectively.

Reviewing the results of the study described in this part of the report we see that they are in keeping with our original hypothesis, despite the fact that the majority of the relationships detected cannot be asserted with virtual certainty. Few of the evaluations contribute much to the fund of scientifically tenable knowledge, and the main contribution made is that of suggesting avenues for further research.

CHAPTER THIRTEEN

A SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

I Conclusions

Throughout this report an effort has been made to state conclusions drawn in detail, and to denote as precisely as possible the degree of confidence with which findings can be held. Here an attempt is made to summarise the main features of the findings in order to gain a comprehensive picture of the phenomena investigated, although this presentation necessarily involves a sacrifice of detail and precision. The summary deals with aspects of absenteeism only and no attempt is made to condense the descriptions of the worker population given in Chapter Six.

(1) The absenteeism of the workers investigated is a phenomenon which affects 95 per cent of the population in the course of a year, though as would be expected on the basis of everyday experience, some workers are affected to a far greater extent that others. All sections of the population together may be expected to lose between 35 and 45 days per 1000 working days through absences of varying lengths. The 10 per cent of the workers with the most favourable attendance records lose 8 days or less each per 1000 working days and the 10 per cent with the least favourable records lose over 71 days each per 1000

working days. These two latter approximations are based on the records of workers who have been in the firm's service over one year.

(2) The type of absence which occurs most frequently and by which the largest proportions of all sections of the worker population are affected, is the one-day absence. Quantitatively it constitutes one third of the absentee problem for approximately one third of time absent is lost through one-day absences, but the nature and widespread incidence of such absences lead us to regard it as an even more important part of the total problem than its amount alone warrants. In the course of one year 90 per cent and, in the course of three months fully 50 per cent of the workers are affected by one-day absences. In contrast two-day absences affect approximately 50 per cent of the workers over one year, and just over 20 per cent over three months, while they account for approximately one tenth of the total lost time. Other types of absences in turn affect a still smaller proportion of the total workers than two-day absences.

(3) Excluding absences of less than one day's duration, short absences occur much more frequently and account for a greater proportion of the total time lost than long absences. Half-day absences only account for approximately one day lost per 1000 working days, and over a year affect just over one third of the workers. They are neither a general nor a chronic complaint.

(4) Absences of different lengths exhibit distinctive characteristics in their incidence over the working week and in different months of the year. The shorter absences show the most marked variations over both the days of the week and the months of the year. Short absences, and particularly one-day absences, are more prevalent in the first three days of the working week than in the last three days, although some groups of workers examined showed a considerable increase in one-day absences from Friday to Saturday as well. Long absences account for slightly more lost time at the end of the week than at the beginning as a result of a tendency clearly illustrated in the analyses for employees to return to work at the beginning of a week after a long absence. Short and long absences also show opposite trends over the different months of the year. Short absences occur more frequently in winter than in summer, and absences of over six days' duration account for more lost time in summer than in winter, while absences of three to six days' duration vary from month to month in a way which does not suggest seasonal influences.

(5) The use of specific absentee rates in the investigation illustrated forcibly that the gross absentee rate can be misleading in obscuring important features of the absentee pattern as a whole. The practice of computing specific or refined rates for absences of different lengths is strongly recommended to industrial and commercial establishments.

(6) Although the investigation was conducted with

comparatively small samples of workers it proved conclusively that there are distinct associations between the household responsibilities of female workers and their absentee rates. These associations were noticeable in comparing the gross absentee rate, the severity rate, and the number of one-day absences of workers differentiated on the basis of the amount of housework performed. The gross absentee rates of workers who perform no household duties and of workers who perform regular duties were significantly higher than those of workers who perform household duties "now and again". Some probable differences between the severity rates and number of one-day absences were also detected. These were in keeping with the theory suggested by the real differences detected in the gross absentee rates of the workers i.e. that the workers who perform household duties "now and again" have the best absentee records. These findings, however, took no account of other differences which may have existed in the composition of these categories.

(7) The analyses also showed a real difference between the gross rates of workers who had in the past stayed away from home on account of the ill health of members of their households other than themselves, and those workers who had not done so. Workers from the former category lost 20 days more per 1000 working days than workers from the latter category. It was pointed out in the previous chapter that the index on which these categories were determined was not a good one, but considered in conjunction with the conclusions commented

upon in paragraph (6) above, the difference is revealing.

(8) The educational qualifications of workers were shown to be associated with a real difference in their one-day absences. Workers with educational qualifications higher than standard six lost approximately 12 days less per 1000 working days than workers with lower qualifications, although they had less favourable gross and severity rates.

(9) The comparisons of the absentee rates of workers who had under one year of service and of the rates of workers who had over one year of service, showed that the shorter term workers lost 25 days more per 1000 working days through all absences than their service seniors. This large difference was largely explained by the difference in their over-six-day absentee rates which showed that the juniors lost 28 days more per 1000 working days than the seniors through over-six-day absences. Probable differences were also observed in the gross rates and in the number of one-day absences of other groups differentiated on the basis of length of service, and the final conclusion drawn was that while length of service is associated with differences in absentee records, the association is a complex one.

(10) The data examined revealed a number of other circumstances associated with variations in the absentee rates. These variations, however, were such that they could not with certainty be expected to appear in other

samples from the same universe. The factors accompanying probable differences between different categories included the sizes of workers' households, their marital status, their ages on first taking on employment, and the time which they take to walk from their homes to public transport daily. The nature of the differences associated with these factors do not allow generalisations to be based on them, but they are of interest in indicating probable contributory circumstances of the phenomenon, which may be worth while following up in further research.

II Recommendations for further research

A number of observations have been commented upon and tentative theories suggested in explanation throughout this report. All these observations offer scope for further inquiry. But in addition to these, the investigation has served to indicate broader avenues for further research in the same field. The following aspects are listed as suggestions. They represent but a few avenues which may yield interesting results if explored amongst workers of firms in comparatively similar circumstances:-

(1) A detailed investigation of one-day absences with particular reference to the immediate causes of such absences and to their pattern of incidence on different days of the week.

(2) An investigation of the household responsibilities of workers, their marital status, and the sizes of their households in relation to their absenteeism.

(3) An investigation of the economic responsibilities of workers and of the financial motives prompting them to work. (This aspect was not touched upon in the investigation reported here)

(4) A more detailed investigation into workers pastimes and interests with particular reference to their week-end occupations, and the relationship between these and their rates of absences before and after the week-end break.

(5) Concurrent investigations into the medical and social aspects of absenteeism. (Apart from the intrinsic value of medical research into the problem, the mere classification of absences into sickness and non-sickness absences, and the former into a few specified categories, might enable far swifter progress in the explanation of the social aspects of the problem to be made).

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APPENDICES

APPENDIX A

Two specimen records of interviews conducted in the course of the "pre-pilot" investigation described in Chapter Three

(1) These two records are given to illustrate the approach which was used in interviewing workers. They represent the starting point of the investigations.

(2) In order to preserve the anonymity of the workers actual details of information from several of the records were interchanged freely. The two records given below are consequently imaginary and do not refer to any two workers interviewed.

SPECIMEN ONE

Interviewee No: X5

Method of Selection: X5 was the twelfth name on the alphabetical list of workers from which the sample was drawn.

Date 31/3/48

Time 8.25 p.m.

Duration 45 minutes

Place of Interview: Manager's office, Firm B.

Interviewee introduced by: Local Manager, Firm B.

Method of approach: I gave X5 the usual explanations and assurances. I have taken to stressing to interviewees that I had rather they decline to answer a question than give me an inaccurate or false answer. I suggested that X5 should talk to me about her life at work and at home, and that afterwards I should ask her a few questions. She said she would rather answer the questions first.

Information gathered:

(1) Personal

X5 is 14 years 6 months old. Her official age in

Firm B is 17 years.

She attended the Wynberg Primary School, passing Std. VI in December, 1945. She was too "lazy" to carry on with her studies so she stayed at home and helped her mother with the housework. She has worked on the hardware counter from the time that she joined the firm. She did have a previous spell of employment for three months at the beginning of 1947 at the General Fish Store in Woodstock. This was taken on as a temporary job, and she did not entertain the thought of working there permanently, though her employer would have liked her to stay on.

She has always lived at home, where her parents, especially her father, are very strict with her. She stays at work for lunch bringing her sandwiches with her, and often goes out shopping or walking with her friends.

There is no necessity for her to work; in fact, her parents are against it, and know that by law she is not allowed to do so at her age, but she likes being out at work. She gives her whole salary to her mother who provides for her entirely. She receives 10/- pocket money at the beginning of the month and 3/6 per week thereafter. Even before she worked she was given pocket money so that there appears to be absolutely no financial incentive for her to work. It struck me that this was a case of a girl going out to work mainly because it made her feel grown up, and took her out of the house.

(2) Family Situation and History

X5 lives at home with her Father, mother, sister and aunt.

Her father is 40 years of age and is an electrician in Newlands. Her mother is 35 years of age and does not work. Though she seldom has to stay in bed, she is not very well, having had difficulties at the time of the birth of X5's young sister seven years ago. She has never really recovered from this. X5's sister is seven years old and goes to school.

The mother is the housekeeper in the home. She does most of the housework, though the aunt helps a little. X5 seems to do a token share. They have no regular domestic servant, though when X5's mother is ill, the father sends for one, whom he contacts through one of his labourers at work.

The family come from Cape Town, where they have a number of relatives, though they do not keep in touch with them.

(3) Housing Conditions

The house the family lives in consists of: 2 bedrooms, diningroom, kitchen and bathroom. The house is rented to them. It has a fair sized garden which is cultivated by the aunt.

The family has occupied this home for 5 years, and previous to that lived in Newlands.

(4) Neighbourhood and Travelling Conditions

Address: ----------.

X3 travels to work by bus every morning. The walk from the house to the bus stop takes her approximately 7 minutes and the bus trip a few minutes. But, X 3 leaves home at 8 o'clock every morning as she likes to get to work early to talk to the girls in the cloakroom and to read her books.

(5) General

X3 spoke very freely at the end of the interview about various topics:

She is fond of reading adventure stories, mysteries, and thriller. She says she reads a lot as does her mother. She gave me an account of the book she is reading at present. It is quite obviously very exciting to her and vivid in her mind. As her pastimes she mentioned: cycling, street cricket, learning how to box with the boys, bioscope and dancing at home with her girl friends.

She goes to bioscope frequently with her aunt. Her father is very strict with her and seldom lets her go out at nights with friends. This, according to X3, is her main problem in life. She overcomes it by sneaking out and pleading with her father. "If it does not work I usually cry, and that works".

She is to receive a gramradio as a present shortly and is very excited about it.

She told me she was worried about some missing articles from her counter for which she is going to be held responsible. She just does not know what has happened to them.

She appears to be quite a tomboy, and still has a very immature outlook.

Investigator's remarks

X3's conversation was of an extremely childish nature. I had no difficulty in believing that she is only 14 years of age. She answered questions well though, and I think her information was quite reliable. The way she confessed her correct age while the firm had her down as 17 rather surprised me.

SPECIMEN TWO

Interviewee No: X4

Method of Selection: X4 was the sixth name on the alphabetical list of workers from which the sample was drawn.

Date 31/3/48

Time 4.15 p.m.

Duration 20 minutes

Place of interview: Manager's office, Firm B.

Interviewee introduced by: Local Manager, Firm B.

Method of approach: The method used was similar to that in previous interviews. X4 appeared ill at ease. I thought she was either unwilling to give information or suspicious about it. I asked her to talk to me about her life at home and at work, and she blurted out: "What do you want to know?". Her manner was not co-operative, but I attempted to carry the conversation on so as to put her at ease.

Information gathered:

(1) Personal

X4 has been working in the grocery department of Firm B for 6 years. She is 29 years of age, single, and lives with her family. She left school at the age of 15, after having passed Std. VIII at the Wynberg Secondary School. On leaving school she stayed at home to help in the house, and only started work here at the age of 23 years. She did at one stage go to work for a short spell of a few months at a grocery store in Claremont, but this store closed down and she went back home.

During her early school years she once spent a few years in Wellington with her grandmother. Otherwise she has always lived at home.

(2) Family Situation and History

X4's family consists of the following:

(1) Father, aged 65
(2) Mother, aged 60
(3) The eldest child is a woman of 55. She is married and does not live at home.
(4) A sister aged 32 who works in a departmental store.
(5) X4
(6) A brother, aged 22 who is an apprentice boiler maker.
(7) A sister aged 18 who is not employed.
(8) A brother aged 15 who is still at school.
(9) One aunt also lives in the home.

The mother is the housekeeper in the family. She is assisted by a servant who works half-days, and by the sister aged 18 who stays at home and has no outside occupation.

X4 does not help with the housework and pays £7 per

month as board.

Her father is a plumber working for a private firm.

The family have always lived in the Cape, though her father and mother came from Mooressburg and Worcester respectively.

There is no serious illness in the home. All the members of the family are normally healthy.

They have lived in their present house in Plumstead for 12 years and previous to that lived at Lakeside.

The language spoken in the home is Afrikaans.

(3) Housing conditions

The family live in a rented house, as was there previous house in Lakeside. It is a single house standing in its own grounds, and has 5 bedrooms, dining room, kitchen and bathroom.

X4's aunt occupies one room, her father and mother occupy another, and she, her sisters and her brothers share the third bedroom, though the brothers sleep on the verandah.

(4) Neighbourhood and Travelling Conditions

Address: ----------.

X4 travels to work by train. She leaves home at 8.55 a.m. and her trip to work only takes 10 minutes as she lives near the station. She goes home for her midday meals.

(5) General

X4 was not talkative, but I asked her a few general questions and found out that she does not go out much. She reads a lot and stays at home in the evenings. She goes to a farm in the country for week-ends fairly frequently.

Investigator's remarks

This interview was very strained at first. Towards the end the interviewee seemed a little more at ease, but she remained rather uncommunicative. On occasions she gave very inadequate answers to questions, and not wanting to press the point too much I left them, and tried to return to these points towards the end. In most cases this resulted in fuller information being given.

APPENDIX B

(Pages VII - XII)

The preliminary schedule used
in the Pilot Survey

Number.....

When did you start work here?	Month	Year	Period	Was this your first job?

Enumerate previous jobs as follows:-

Name of firm	Locality	Nature of work	Date started	Stopped
1.				
2.				
3.				
4.				
5.				

Name of firm	Reasons for leaving	Age started	Age stopped.
1.			
2.			
3.			
44			
5.			

Department.....Was this first dept?.....

List previous depts. in chronological order.	Period worked.
1.	
2.	
3.	
4.	
5.	

Did you start at.....Immediately after leaving school?.....If not what did you do in the interim? Give reasons and details .....

.....

.....

.....

Present age.....Date of birth.....

Number.....

Age on leaving school	Month	Year	Standard passed.

Last school attended.....

Previous schools attended:-(1).....

(2).....(3).....

(4).....(5).....

Enumerate members of your family as follows:-

Member	Present occupation	Earner or not	Contributor to hhold budget	Abode.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				

(Con)	Status	Age	If married give details of abode of husband/wife and children.
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

Number.....

Enumerate other members of household.

Member and description	Earner or not	Contributor to hhold budget.
1.		
2.		
3.		
4.		

Do you live with parents, relatives, in boarding house, Hostel room, or in own home?.....

Who is the housekeeper?..... Any servant(s).....

Do you do housework?
(1) not at all (2) A little now and again
(3) Regular duties (4) Entirely responsible

Who does the nursing when someone is ill?.....

Who looks after this person if she is ill?.....

.....

How much board do you pay?.....Do you give any other financial assistance to the home?.....

.....

Where do you have your midday meal?.....

Address:.....

How do you travel to work?

Bus
Train
Car
Walk

How long does it take you to walk from your home to the bus stop, station or place where you get your lift?.....

How long does it take you to travel from home to work?.....

.....

At what time do you leave home in the mornings?.....

What station do you use?.....

What bus stage do you use (3d, 4d, etc.).....

I

Number.....

How long have you been living at your present abode?

Month	Year	Period

Previous to that you lived at the following places in order of recency:-

	Locality	With whom	Period
1.			
2.			
3.			
4.			
5.			

You were born in/at.....

For any periods when you were not living at home where were your parents? Comment and explain.

.....

.....

.....

Flat	
Semi-detached house	
De-tached, single storeyed	
Detached, double storeyed	
Tenement	
Other	

Rented	
Supplied by Employer	
Property owned by family	
Other	
.....	

Rooms	No.	Used only by hhold	Shared by other hhold
Bedrooms			
Dining Room			
Lounge			
Kitchen			

Do you share a bed-room?..... With whom?.....

Number.....

Any invalids in your home? Give details.

.....

.....

.....

Any members of your household who are not in good health?

Give details.....

.....

.....

Enumerate any diseases from which you have suffered and

operations undergone during last year.....

.....

Have you been away for any other reasons during the past

year?.....

Have you any evening work?.....

How many times did you go to the cinema last week?.....

How often did you go dancing during the last two weeks?.....

Do you belong to a library?.....

What is your religion?.....

Do you go to church? (1) Never (2) Sometimes (3) Regularly

Are you a member of the Social Club?.....Do you attend

their functions?..... Which?.....

Any other hobbies and pass-times?.....

.....

.....

Number.....

Do you like your work? Would you not prefer clerical work? Was this the type of work you were looking for when you started off?

.....

.....

.....

.....

Do you get fair treatment from your management? From individual Managers? Mention any grudges or complaints concerning your work.

.....

.....

.....

Who is your Supervisor? How do you get on with her?

.....

.....

Do you belong to the Trade Union? If so do you go to their meetings? Do you consider that your Union "does things" for you?

.....

.....

Date of interview.....

Place of interview.....

General Remarks:-

APPENDIX C

(Pages XIV - XIX)

The final schedule used in the investigations in Firm A

Home Language..... No.....

SECTION 1

When did you start work here? | Was this your first job?

Month	Year	Age	Yes	No

If not your first job when did you start work?

Month	Year	Age

Present age..... Date of birth.....

Enumerate previous jobs as follows:-

Name of firm	Locality	Nature of work	Period worked
1			
2			
3			

(Con.)	Reasons for leaving
1	
2	
3	

Did you start working immediately after leaving school?....

If not, what did you do? Give reasons.....

.....

.....

.....

Department?..... Was this first dept?.....

How long have you been on this dept?.....

List previous depts. in chronological order.	Period worked
1	
2	
3	
4	
5	

No.....

SECTION II

Age on leaving school	Month	Year	Standard passed

Schools attended	Locality	Medium	Standard passed

Have you had any other formal training of any nature?.....

.....

SECTION III

Address:.....

How do you travel to work?

Bus	
Train	
Car, own	
Car, lift	
Walk	
Cycle	

How long does it take you to walk from your home to the bus stop, station or place where you get your lift?.....

.....

How long does it take you to travel from home to work?

.....

At what time do you leave home in the mornings?

.....

What station do you use?.....

What bus stage do you use (3d, 4d, etc.).....

No.....

SECTION IV

Enumerate members of your family as follows:-

Member	Age	Status	Occupation	Details of Occupation	Earner or not
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

(Con.)	Contributor to h.hold budget	Abode	Explanatory comments to previous entries
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

No.....

SECTION V

Do you live with parents, relatives, private people, in a boarding house, hostel, room or in own home?.....

Enumerate members of the household of which you are a member. Refer to family members by number given them in section IV

Member	Description
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

How much board do you pay?..... Do you give any/any other financial assistance to any members of your family?

.....

Who is the housekeeper?..... Any servants?.....

Do you do any housework?
(1) Not at all (2) A little now and again
(3) Regular duties (4) Entirely responsible

If you have any children who looks after them when you are at work?.....

Who does the nursing when someone is ill?.....

Who would look after this person if she were ill?.....

.....

Has it ever been necessary for you to stay away from work on account of ill health in your family?.....

.....

To.....

SECTION VI

Since when and how long have you lived at your present abode?		
Month	Year	Period

Previous to that you lived at the following places in order of recency:-

	Locality	With whom	Period
1			
2			
3			
4			
5			

You were born at.....

SECTION VII

Flat	
Semi-detached house	
De-tached, single storeyed	
De-tached, double storeyed	

If this dwelling is shared by more than one household, indicate structure of additional household(s)

.....

.....

.....

Rooms	No.	Used by h.hold only	Shared by other h.hold(s)	Used by other h.holds
Bedrooms				
Dining Room				
Lounge				
Kitchen				

Indicate with an asterisk any rooms other than bedrooms which are used for sleeping purposes

Have you a bedroom to yourself?.....

If not, with whom do you share?.....

No.....

SECTION VIII

Have you any evening work?.....

Do you attend any evening classes?.....

How many times did you go to bioscope last week?.....

How often did you go dancing in the last two weeks?.....

What is your religion?.....

Do you go to church? (1) Never (2) Sometimes (3)Regularly

Do you go to the social club functions?

(1) Never (2) Sometimes (3) Regularly

Do you take part in any sport? if so, which?.....

.....

How many evenings did you spend at home last week?.....

Place of interview..... Date.....

Time of interview..... Duration.....

Remarks on interview.....

.....

.....

Remarks on interviewee.....

.....

Explanatory comments.....

.....

.....

.....

.....

.....

.....

.....

APPENDIX D

Definitions and regulations used in conducting interviews of workers. 1

(1) These definitions and regulations were originally drawn up for use in conjunction with the final schedule. (See Chapter Four) They have, however, been adhered to throughout the study and are of general applicability in this report.

(2) It will be seen that the regulations and definitions are grouped in sections. These sections correspond to the sections of the final schedule to which they specifically apply.

SECTION I

(1) Age. Age entries, whether they be present age or age at any specific time in the worker's life, are to be entered as age at last birthday prior to the time referred to.

(2) Job. A job is the occupation of a person who habitually works for wages, salaries, fees, profits or other direct gain or remuneration on a permanent full-time basis.

A member of a household who habitually works in a business belonging to that household (e.g. shop) from which the household derives direct gain, whether she is paid a direct personal remuneration for her services or not, is counted as having a job.

A worker who has had broken service with one firm is to be considered as having had two jobs, and as having "started work here" when she commenced her present spell of unbroken service.

A worker who has been transferred from one branch of a firm to another, either at her own request or at the request of the firm is to be considered as having had two jobs.

(3) Locality. Locality is to be taken as the town where a firm is situated, or in the case of Cape Town to the

---

1 Many of the definitions of terms relating to the family, the household, and housing accommodation have either been borrowed in toto or adapted from definitions given in the Social Survey of Cape Town Report No. SS 17 "Twenty Basic Definitions" by Professor Edward Batson.

suburb where the firm is situated; but, where the locality falls outside the Union of South Africa, the term merely refers to the country in which the firm is situated.

(4) Nature of Work. In order to complete the entries under this heading, the investigator must obtain a statement from the worker as to the type of work which she performed in each particular firm. In each case the capacity in which she worked should be stated.

(5) Period worked. Entries under this heading are required in terms of weeks, months or years, whichever is the most convenient.

(6) Reasons for leaving. Reasons for leaving are to be entered as given by the worker. No attempt at systematization of answers is to be made.

(7) Starting work immediately after leaving school. A worker is to be considered as having "started work immediately after leaving school" if she went into permanent full-time employment within three months of having left school. Temporary employment and employment on a few days of the week only, clearly fall outside the definition, but where a worker took on temporary employment and subsequently kept it as a permanent post without a break in service, she is to be considered as having been in permanent employment from the start. Reasons for not starting work immediately after leaving school must be entered as given, and accompanied by a statement of the person's occupation during the intervening period, and the duration of such an occupation.

(8) Department. Department refers to the counter or section of the shop on which a worker is employed.

SECTION II

(1) Locality. Locality here refers to schools attended. The same rules apply as in Section I.

(2) Medium. Medium refers to the language of instruction used at a school. "Both" is to be inserted where instruction is given in both official languages of the Union.

(3) Other formal training. Information relating to "other formal training" is to be inserted as given, stating it as fully as possible.

SECTION III

(1) Address. Address is to be inserted as the street and town or suburb where a worker resides. Postal addresses

giving a vague idea of where a worker resides are to be avoided.

(2) Station. Where a worker travels to work by train station refers to the railway station used at the home end of the journey to work.

(3) Bus stage. Bus stage refers to the bus fare charged an adult for a single journey from the place where a worker boards a bus to the stop nearest the firm or to such place as a worker habitually catches a train to come to work.

(4) Travelling time entries. In making entries of the time taken to travel from "home to work" and from "home to the bus-stop, station or place where you get your lift" the longest time given by an interviewee must be entered. For example, if a worker says it takes her ten to fifteen minutes to travel to work the entry will be fifteen minutes.

SECTION IV

(1) Family.

(a) If a worker is married her family consists of herself, her husband, and her children.

(b) If a worker is single her family consists of herself, her father, mother, brothers and sisters.

(c) If a worker is widowed or divorced, her family consists of herself and her children only.

Step-relations and children by adoption are to be considered as members of the family within the bounds of the above definitions.

Where definitions (a) and (c) above are applicable, entries in the section must be followed by a statement indicating: (i) whether a worker's father and mother are still alive (ii) the occupation of her father if he is still alive (iii) the number of her brothers (iv) the number of her sisters.

(2) Relationships. Relationships between members of a family are to be expressed as relationships to the interviewee.

(3) Status. Status refers to the marital status of a person and must be one of the following: married, divorced, separated, widowed, single.

(4) Occupation. Occupation refers to that activity from which an earner habitually derives earnings or to the activity of house-keeping or of regular attendance at an educational institution or of being a pre-school child.

A person not engaged in any of the activities stated above must be described as either unoccupied or retired, his occupation before retirement should be entered.

(5) Details of occupation. Details of occupation for earners must be entered as the particular field of employment in which the person is engaged. This may be done by naming large organizations, e.g. S.A.R. & H., Woolworths Bazaars, Groote Schuur Hospital, or, in the case of small organizations by naming the type of organization e.g. grocer, own tailor shop, cartage contractor. Where a person's occupation is that of attending an educational institution, or of being a pre-school child or a housewife, details of occupation are not required.

(6) Earner. An earner is a person who has a job as defined in Section I above. A person who normally has a job, but is temporarily unemployed for whatever reason is reckoned as an earner.

(7) Contributor to household budget. A member of the family is to be reckoned as a contributor to the household budget if he habitually contributes a part, or the whole, of his weekly or monthly wages to the income of the household of which the interviewee is a member.

(8) Abode. Abode refers to the place of residence of a person. The entries are to indicate the locality of residence, and also to group together those members of a family who are residing together. This can be achieved by entering the abode of the first member as the locality in which he resides. If the second member resides in the same house as the first, the second entry will be "With 1". If, however, the second member resides elsewhere the entry would be that of his residence locality. Subsequent entries would be "With 1", "With 2", or some other residence localities.

SECTION V

(1) Living with parents. Living with parents is to be interpreted as living in a household where either a father or a mother is the head of the household.

(2) Living with relatives. Living with relatives is to be interpreted as living in a household in which a relative, other than a father or a mother is head of the household. Relatives include the following: brothers, sisters, aunts, uncles, nephews, nieces, cousins and children. Step-relations, and relations by blood and marriage are included.

(3) Living with private people. Living with private people is to be interpreted as living in a household whose head is not a relative.

(4) Living in a boarding house. Living in a boarding house is to be interpreted as being resident in an establishment where lodgers are habitually taken in for profit, and where the housekeeper and members of her household do not share a common table with the lodgers.

(5) Living in a hostel. Living in a hostel is to be interpreted as being resident in an establishment where lodgers are taken in, either on a profit or non-profit basis, but where admission is restricted by reason of age, sex, religious denomination, economic status or occupation.

(6) Living in a room. Living in a room is to be interpreted as residing in a room, and obtaining little or no food on the premises of which the room is a part. A person living in a room cannot be a member of another household.

(7) Living in own home. Living in own home is to be interpreted as being a member of a household, whose head is either the interviewee or her husband.

(8) Household. A household is a person or a group of persons whose domestic economy is governed substantially by one domestic budget. The members of a household will usually share a common table and living room or living rooms. Where members of a family live together in a boarding house, they constitute a household, and a person living in a boarding house without members of her family constitutes a household of one. Persons living in hostels are not considered as members of a household.

(9) Relationships. Members of a household are to be referred to by their relationship to the interviewee where a blood or marriage relationship exists. A person who is not related to either the head of the household or the interviewee, must be referred to as a lodger. A person related to the head of the household but not to the interviewee must be referred to by his relationship to the head.

(10) Description of members. The description of a member of the household must be one of the following: adult male, adult female, female minor or male minor. The ages of all minors are to be inserted in brackets, thus: female minor (2).

(11) Board. Board refers to a weekly or monthly cash payment for the privilege of residing in a dwelling or part thereof, and in return for part or all of the food consumed by that person. Where separate payments are made for board and lodging, no entry is required here.

(12) Housekeeper. A housekeeper is the person who is responsible either directly by doing it herself, or indirectly by the supervision of servants or members of the household, for the housework and preparation of food in a home.

(13) Servant. A servant is any person employed by a household to render domestic service in or about the dwelling of that household, and who receives from that household a specific wage or quid proquo for that service.

(14) Housework. Housework refers to work involved in keeping a house clean and tidy, and in the preparation of food for members of the household.

Every interviewee must be classified under one of the following headings in regard to "doing housework":

(1) Not at all. This applies where a person does no work at all.

(2) A little now and again. This applies where a person does a certain amount of housework, but not every day.

(3) Regular duties. This applies where a person habitually performs daily housework duties, but is not entirely responsible for these in a home.

(4) Entirely responsible. This applies to housekeepers as defined.

(15) Staying away from work on account of ill health in family. This refers to absences for this reason from present job only.

SECTION VI

(1) Locality. Locality in this section is to be taken in the same sense as in Section I but it refers to the locality of residence. Though the locality of residence is asked for, a separate entry must, if possible, be made for each occasion on which the worker changed her residence, even if this was a change within one locality. The entry under the heading "with whom" must be one of the following: parents, relatives, private people, boarding house, hostel, room or own home. These terms will be used as defined for application to Section V.

SECTION VII

(1) Flat. A flat is a dwelling that comprises substantially a horizontal section of a structure and has its own separate entrance either from the street or from a passage or staircase common to itself and at least one other section of the premises.

(2) Semi-detached house. A semi-detached house is a dwelling which comprises a vertical section of a structure.

(3) Detached house. A detached house is a dwelling which comprises a single structure. Detached houses may be single storeyed or double storeyed.

(4) Structure of a household. The structure of a household is to be recorded by referring firstly to the head of the household as "head", and then to other members by their relationship to the head. The entry must show whether the head is a male (M) or female (F). Members who are minors must have their ages recorded in brackets behind their designations e.g. daughter (12), son (6).

(5) Room. A room is a section of a dwelling

bounded by walls, a floor, and a ceiling or roof, and used or available for use as a living room, a sleeping room, a dining room or a kitchen.

(a) A bedroom is a room used for sleeping only.

(b) A dining room is a room used for meals, but not for cooking.

(c) A lounge is a room used for living purposes, but not for meals or for cooking.

(d) A kitchen is a room used for cooking.

SECTION VIII

(1) Evening work. Evening work refers to any activity habitually undertaken after working hours, and from which earnings are derived.

(2) Evening classes. Evening classes refer to regular educational or vocational instruction classes attended after working hours.

(3) Religion. Religion in the case of Christians is to be taken as a particular denomination.

(4) Church. A church is a recognised place of worship, whether it be a cathedral, a synagogue, a private home or any other place where people with common religious beliefs gather to worship.

(5) Social Club. The social club refers to a recreational organization run by members of the firm for staff members.

(6) Sport. Sport refers to pastimes and games, usually of an athletic nature, and for the purposes of which a worker has joined a club which organizes such activities.

Questions in the schedule which are not applicable to a particular worker are to be marked "N/A".

Questions which a worker is unable to answer are to be marked "?".

Questions which a worker does not wish to answer are to be marked "R".

APPENDIX E

Standard errors and their interpretation

(a) Standard error of the mean $(\epsilon M) = \pm \frac{\sigma}{\sqrt{N}}$ where σ is the standard deviation of the distribution and N the size of the sample.

(b) Standard error of the standard deviation $(\epsilon \sigma) = \pm \frac{\sigma}{\sqrt{2N}}$

(c) Standard error of a percentage mean $= \pm \sqrt{\frac{p(100-p)}{N}}\%$ where p is the percentage mean and the size of the sample.

The above standard errors were used to calculate the L1 and L2 values quoted in the text. L1 values represent deviations of twice the standard error from the actual values found, and L2 values represent deviations of two and a half times the standard errors from the actual values found. The L1 and L2 values are the limits within which we should expect statistics from further samples to fall at odds of 20 to 1 and 80 to 1 respectively.

The standard errors of percentual means below 10 per cent and above 90 per cent were not established by treating the actual mean found, but by a trial and error method of assuming a larger or smaller mean than the one observed, calculating the standard error of this assumed mean and testing the real value for the odds in favour of its falling within the limits between which the assumed percentage would be expected to vary.

When an assumed mean had been found within whose limits the actual value fell, the standard error of this assumed mean was used to set the limits within which means from other samples in the theoretical universe might be expected to deviate from the one found. This procedure of working from the parameter to the value instead of from the value to the parameter results in wider limits being set to these percentages than those which would be set by the standard formula which produces an increasingly large error at the tail end of a distribution. It is designed to ensure that the limits should err on the large rather than on the small side.

(d) Standard error of a difference between two means $= \pm\sqrt{\epsilon(M_1)^2 + \epsilon(M_2)^2}$ where $\epsilon(M_1)$ is the standard error of the first mean and $\epsilon(M_2)$ the standard error of the second mean.

(e) Standard error of the difference between two standard deviations $= \pm\sqrt{\epsilon(\sigma_1)^2 + \epsilon(\sigma_2)^2}$ where $\epsilon(\sigma_1)$ is the standard error of the first standard deviation and $\epsilon(\sigma_2)$ the standard error of the second standard deviation.

In interpreting differences between means and standard deviations of two distributions an arbitrary procedure of regarding differences as incidental, probable or real was adopted. Incidental differences were those which were less than twice the standard error of the difference. Probable differences were those which were at least twice the standard error, but less than two and a half times the standard error. Real differences were those which were at least two and a half times the standard error.

APPENDIX I **XXX**

ABSENTEE RECORD SHEET

No. .....

Date started.....

Date stopped.....

	1946				1947												1948							
	Sp	Oc	Nv	Dc	Ja	Fb	Mr	Ap	My	Jn	Jl	Ag	Sp	Oc	Nv	Dc	Ja	Fb	Mr	Ap	My	Jn	Jl	Ag
M	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	1	.	.	.	.	.
T	.	1	.	.	.	.	.	1	.	.	1	.	2	.	.	2	.	.	2	.	.	1	.	.
W	.	2	.	.	H	.	.	2	.	.	2	.	3	1	.	3	.	.	3	.	.	2	.	.
Th	.	3	.	.	H	.	.	3	1	.	3	.	4	2	.	4	H	.	4	1	.	3	1	.
F	.	4	1	.	3	.	.	H	2	.	4	1	5	3	.	5	H	.	5	2	.	4	2	.
S	.	5	2	.	4	1	1	H	3	.	5	2	6	4	1	6	3	.	6	3	1	5	3	.
M	2	H	4	2	6	3	3	H	5	2	7	H	8	H	3	8	5	2	8	5	3	7	5	H
T	3	8	5	3	7	4	4	8	6	3	8	5	9	7	4	9	6	3	9	6	4	8	6	3
W	4	9	6	4	8	5	5	9	7	4	9	6	10	8	5	10	7	4	10	7	5	9	7	4
Th	5	10	7	5	9	6	6	10	8	5	10	7	11	9	6	11	8	5	11	8	H	10	8	5
F	6	11	8	6	10	7	7	11	9	6	11	8	12	10	7	12	9	6	12	9	7	11	9	6
S	7	12	9	7	11	8	8	12	10	7	12	9	13	11	8	13	10	7	13	10	8	12	10	7
M	9	14	11	9	13	10	10	14	12	9	14	11	15	13	10	15	12	9	15	12	10	14	12	9
T	10	15	12	10	14	11	11	15	13	10	15	12	16	14	11	H	13	10	16	13	11	15	13	10
W	11	16	13	11	15	12	12	16	14	11	16	13	17	15	12	17	H	H	17	14	12	16	14	11
Th	12	17	14	12	16	13	13	17	H	12	17	14	18	16	13	18	15	12	18	15	13	17	15	12
F	13	18	15	13	17	14	14	18	16	13	18	15	19	17	14	19	16	13	19	16	14	18	16	13
S	14	19	16	14	18	15	15	19	17	14	19	16	20	18	15	20	17	14	20	17	15	19	17	14
M	16	21	18	H	20	H	17	H	19	16	21	18	22	20	17	22	19	16	22	19	17	21	19	16
T	17	22	19	17	21	18	18	22	20	17	22	19	23	21	18	23	20	17	23	20	18	22	20	17
W	18	23	20	18	22	19	19	23	21	18	23	20	24	22	19	24	21	18	24	21	19	23	21	18
Th	19	24	21	19	23	20	20	24	22	19	24	21	25	23	20	H	22	19	25	22	20	24	22	19
F	20	25	22	20	24	21	21	25	23	20	25	22	26	24	21	H	23	20	H	23	21	25	23	20
S	21	26	23	21	25	22	22	26	H	21	26	23	27	25	22	H	24	21	H	24	22	26	24	21
M	23	28	25	23	27	24	24	28	26	23	28	25	29	27	24	29	26	23	H	26	H	28	26	23
T	24	29	26	24	28	25	25	29	27	24	29	26	30	28	25	30	27	24	30	27	25	29	27	24
W	25	30	27	H	29	26	26	30	28	25	30	27	.	29	26	31	28	25	31	28	26	30	28	25
Th	26	31	28	H	30	27	27	.	29	26	31	28	.	30	27	.	29	26	.	29	27	.	29	26
F	27	.	29	27	31	28	28	.	30	27	.	29	.	31	28	.	30	27	.	30	28	.	30	27
S	28	.	30	28	.	.	29	.	H	28	.	30	.	.	29	.	31	28	.	.	29	.	31	28
M	30	.	.	30	.	.	31	.	.	30	.	.	.	.	.	.	.	.	.	.	H	.	.	30
T	.	.	.	31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	31

	June-Aug 1948		Sept 1947-Aug 1948		Sept 1946-Aug 1948	
	Days absent	No of absences	Days absent	No of absences	Days absent	No of absences
Half day absence						
One day "						
Two day "						
Three day "						
Four-six "						
Over six day "						
TOTAL						
Total possible days						
Mondays						
Tuesdays						
Wednesdays						
Thursdays						
Fridays						
Saturdays						

APPENDIX G

Regulations and definitions pertaining to the absentee analyses

In compiling absentee statistics the following regulations and definitions were adhered to within the limits of the definition of absenteeism quoted in the text. (See page 75)

(1) All absences are to be measured in terms of days and half-days. Absences of less than half a working day are to be omitted altogether. But, Saturday which is a shorter working day than other days of the week is to be counted as a full working day. Thus an absence of half a day on a Saturday really represents an absence of half a morning only. It is still to be recorded as a half-day absence.

(2) An absence is any consecutive period of lost working time ranging from half a day to more than one month.

(3) In classifying absences according to lengths, consecutive working days only are to be counted . Thus an absence starting on a Saturday morning and terminating with the worker's return to work on Tuesday morning is to be classified as a two-day absence. Similarly the lengths of absences which occurred over a public holiday are to be measured according to the working days lost only.

(4) Half-day absences are only recorded as such if a worker was present on the working days preceding

and following the day on which she was absent. Otherwise a half-day is recorded as part of a longer absence.

Specific half-day absentee rates are to be calculated in a similar way to other specific rates, but 1½-day, 2½-day, 3½-day etc. absences are to be classified as 2-day, 3-day, 4-day etc. absences respectively. But, where this occurs only the actual fractional number of days lost is to be included in the total days lost for the calculation of absentee rates.

(6) Possible working days for a group over a period are to be calculated as: the total days in the period less Sundays and public holidays x the number of workers in the group. Similarly in calculating daily rates the total possible working days are to be determined after subtracting public holidays.