

"An investigation of Work and Life
Attitudes among the White-Collar employees
of a Midlands Engineering Firm."

Caroline Susan Dunk

Thesis submitted for the Degree of Master of
Philosophy, The University of Aston in
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SUMMARY

This thesis describes a programme of research which was carried out amongst the staff of Dunlop Polymer Engineering Division, a Midlands engineering firm, in response to a request from the Division's Management, who felt that problems of low morale and job dissatisfaction existed amongst the Division's white-collar staff. The Work and Life Attitudes Questionnaire (Warr, Cook and Wall 1978) was used to gather information on the attitudes of the Division's staff as a whole, and to search for differences in the attitudes of different groups of staff, classified by Length of Service ('Relatively Long-Serving' and 'Relatively Short-Serving Staff'), Seniority ('Senior' and 'Junior' Staff) and Job Type ('Engineers' and 'Commercial Staff'). The selection of these personal and occupational characteristics was based on a review of the literature, the opinions of the Division's Management team, and the researcher's assessment of variations in work and life attitudes amongst the Division's white-collar staff. Differences were identified in the Perceived Intrinsic Job Characteristics and Intrinsic Job Motivation of the two job groups, and the Intrinsic Job Motivation and Satisfaction with Personal Life of groups of differing tenure. No differences however emerged between the work and life attitudes of Junior and Senior staff. Dissatisfaction was based on the subscales assessing Employee Relations Satisfaction and Satisfaction with Standards and Achievements, but otherwise the subjects were generally satisfied with their jobs and lives. As a result of these findings, recommendations were made which it was hoped would deal with the specific causes of job dissatisfaction identified by the research.

Key Words: Job Satisfaction

White Collar Staff

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To my husband

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CHAPTER ONE
INTRODUCTION AND BACKGROUND

The objectives of this chapter are twofold;

- i) To provide a background to the research by describing the Interdisciplinary Higher Degrees Scheme, and the Dunlop Organisation.
- ii) To outline the approach adopted to the definition of the problem area, and to provide the reader with an overview of the work contained in the following chapters of this thesis.

1.1 The Interdisciplinary Higher Degrees Scheme

This research was sponsored jointly by Dunlop Limited and a Joint Committee of the Social Science Research Council and the Science Research Council, and carried out under the auspices of the Interdisciplinary Higher Degrees Scheme (IHD) at the University of Aston in Birmingham.

In such research the IHD student assumes a dual status; as a full-time research student and as a full-time employee of the sponsoring organisation. This duality enables the researcher to obtain knowledge from two interacting areas of expertise: Academic, via the University's academic staff and University sources of information, and Industrial via the Industrial supervisor and day-to-day involvement in the sponsoring organisation.

The aim of this type of research is to tackle specified organisational problems from an interdisciplinary base, leading to positive, practical recommendations for change within the sponsoring organisation.

In short, students on the Interdisciplinary Higher Degrees Scheme undertake Action Research, the concept of which is expanded more fully in Chapter Two.

1.2 The Dunlop Organisation

1.2.1 The Dunlop Group of Companies

In 1976 the Dunlop Group of Companies, established in 1845, employed a total of approximately 93,000 people - slightly over 43,000 in the U.K. and a little over 50,000 overseas.

The original 'Dunlop Rubber Company' was formed in 1845 by John Boyd Dunlop, a Scottish vet, to manufacture pneumatic tyres. A programme of diversification, largely during the first three decades of this century, led to the group's current involvement in the manufacture of a wide range of industrial and consumer goods, many of which contain no rubber at all.

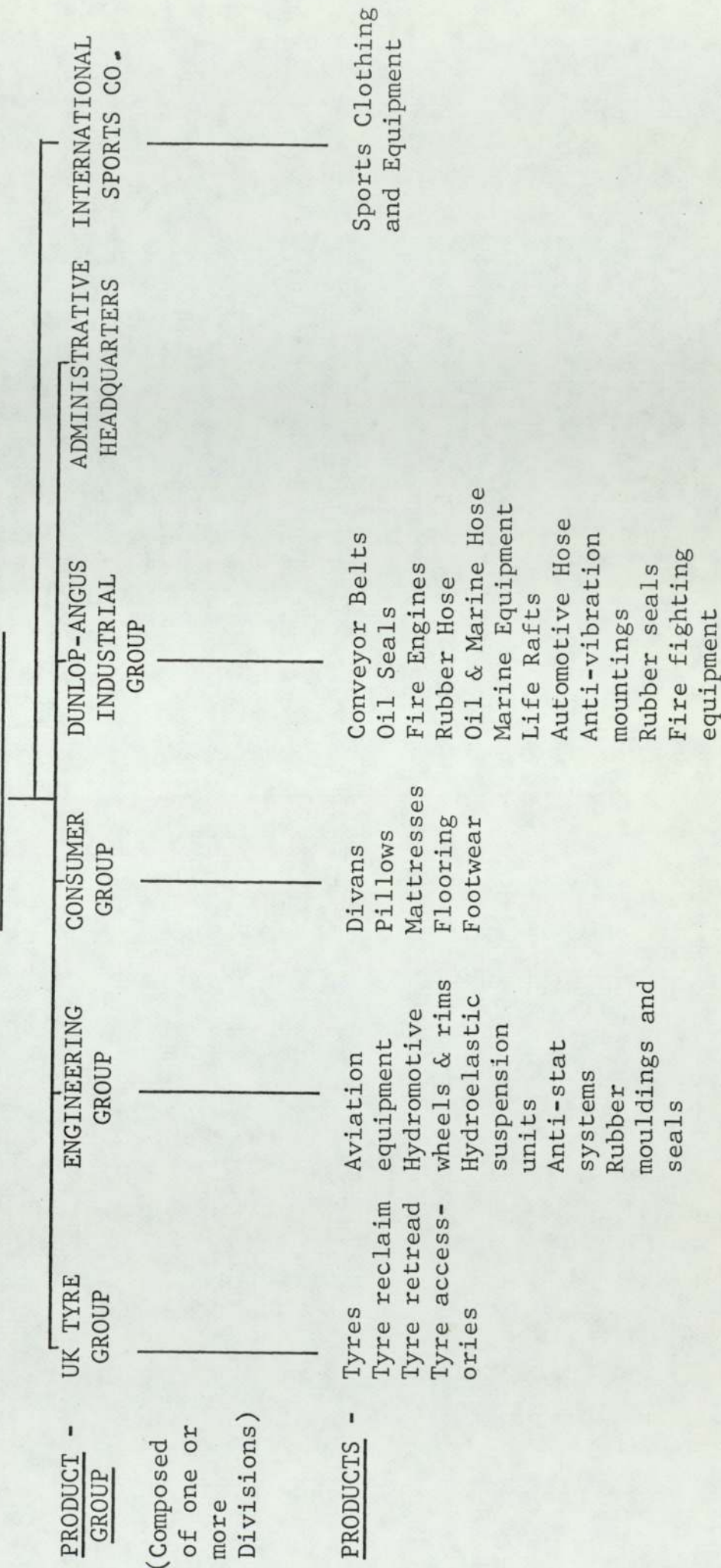
Figure 1.1 illustrates how Dunlop's U.K. production is today organised into four principal, largely autonomous product groups:

1. Consumer Group
2. Engineering Group
3. U.K. Tyre Group
4. The Dunlop-Angus Industrial Group

FIGURE 1.1

DUNLOP'S UK OPERATIONS BY PRODUCT GROUP
(SOURCE: Company Statistics December 1978)

DUNLOP UK OPERATIONS



In addition to these four groups, approximately 1,000 staff are to be found at the company's administrative headquarters in London.

International Sports Company is another, largely independent, part of the Dunlop Organisation.

1.2.2 The Dunlop - Angus Industrial Group

This programme of research was carried out within the Polymer Engineering Division, part of the Dunlop-Angus Industrial Group.

Following the acquisition of George Angus & Co. by Dunlop in 1968, a new group of Divisions and subsidiary companies was formed. This was named the Dunlop - Angus Industrial Group. The Group's products differ greatly in character and function and are virtually all intended for industrial markets and applications. The Dunlop - Angus Industrial Group consists of eight functional areas and a number of British and overseas subsidiaries.

The eight functional areas are as follows;

1. BELTING (Speke, Liverpool), producing rubber conveyor belts.
2. FLUID SEAL (Wallsend, Tyneside), producing oil seals.
3. ANGUS FIRE ARMOUR (Thame, Oxfordshire and Southampton), producing fire fighting equipment and fire engines.
4. DUNLOP ANGUS HOSE GROUP (Gateshead, Grimsby and Newcastle upon Tyne), producing a variety of hose products.

5. GENERAL RUBBER GOODS (Manchester), producing a wide variety of domestic and industrial rubber products.
6. PRECISION RUBBERS (Shepshed, Leicestershire), producing rubber seals.
7. RUBBER PLASTICS (Wrexham), producing polyurethane products.
8. POLYMER ENGINEERING DIVISION (Leicester), producing automotive hose and rubber-to-metal bonded components.

Each Division is largely self-contained and autonomous, headed by its own director and manufactures and markets its products on a world-wide scale, in many cases with overseas subsidiary plants and specialised selling companies.

The Dunlop - Angus Industrial Group has a wide geographical spread. There are over 4,000 people employed in the North-East (mainly on Tyneside), 4,000 in the North-West (mainly in Lancashire), 3,000 in the Midlands, and the remainder in the South or overseas.

1.2.3 Polymer Engineering Division

Polymer Engineering Division has grown from a base provided by the John Bull Rubber Company and Metalastik Limited, acquired by Dunlop in 1958. The John Bull Rubber Company was founded by two Leicester brothers, John and Hubert Burton in 1906. The company produced a wide range of rubber products, including cycle tyres and accessories. In 1937 the John Bull Rubber Company formed Metalastik Limited, for the purpose

of developing the process of rubber-to-metal bonding. The components produced were initially used primarily on cars and buses, and in 1957 Metalastik suspension units were fitted to London Underground trains. These two companies were acquired by Dunlop in 1958, and amalgamated to form Polymer Engineering Division in 1968. Metalastik still exists as a recognisable unit within the Division, and remaining capacity is now devoted to the production of automotive hose.

Today Metalastik produces a wide variety of metal-to-rubber bonded components. In 1978 Metalastik was the British motor industry's largest supplier of anti-vibration mountings, suspension bearings and flexible transmission couplings, and also supplied a number of European motor companies, including Renault and Chrysler (France). However, the market was becoming increasingly competitive, and to maintain its market position Metalastik was concentrating on the production of the more expensive, high-technology components. An attempt was also being made to reduce production costs by improving methods and reducing staff numbers.

In 1978 Automotive Hose was the largest producer of brake and coolant hose in the U.K., selling mainly to the U.K. motor industry but also to some European car manufacturers. Business expanded rapidly during the early seventies and, at the time of this study (1977-79) Automotive Hose was finding it difficult to satisfy demand, and was planning an increase in production capacity.

1.2.4 Workforce Size and Composition

In December 1978 Polymer Engineering Division had approximately 1,600 employees. Of these, approximately 900 were operatives (weekly-paid), and 700 were staff (monthly-paid). The number of employees at the Division fell by approximately 16% between 1973 and 1977, from 1,971 to 1,653. This was representative of the Division's policy of workforce 'rationalisation' which was being achieved by the non-replacement of selected staff and operative vacancies. The operative to staff ratio for the Division as a whole was 1.29:1 (Divisional Statistics, December 1978). However, the ratio for Metalastik was very much higher than that for Automotive Hose, reflecting the fact that Metalastik requires a large number of technical and research staff in the development and production of its high-technology components.

1.3 Definition of the Research Area

1.3.1 The initial definition of the research

The request for a research programme originated in response to the perception by the management of Polymer Engineering Division of problems of low morale and performance amongst the Division's staff, and difficulties in recruiting new staff to the Division. These problems were ascribed by the Division's management to three principal causes: low salaries, anomalies between the salaries of similar groups of staff employees and environmental factors.

Low Salaries At the commencement of the research in 1977, the salaries paid to the staff of Polymer Engineering Division were 'low average' when compared to others in the locality. The Division was therefore thought to be unable to compete with other local employers for staff, and it was thought that good staff experienced no difficulty in finding better paid employment elsewhere. These two processes were thought to combine to lower the quality of the staff working at the Division. These problems were felt to have been compounded by the flat-rate salary increases laid down by Government Pay Policy which had the effect of compressing the salary structure and reducing differentials between junior and senior staff, thus resulting in low morale amongst senior staff, and low motivation to perform well amongst junior staff.

Anomalies between the salaries of similar groups of staff employees At the time of this study the two staff unions at Polymer Engineering Division were ACTSS (Association of Clerical, Technical, and Supervisory Staff), and TASS (Technical, Advisory and Supervisory Staff). A national agreement existed between the Dunlop organisation and both ACTSS and TASS, which set out spheres of influence for these two unions. All the Division's staff employees, with the exception of approximately 100 management staff were covered by these two unions, and generally speaking ACTSS represented secretarial and clerical staff, whilst TASS represented technical staff.

In 1977 separate Job Evaluation Schemes and Salary Structures existed for the jobs falling into each of these two areas. Anomalies between the two groups of staff came about when:

- i) in 1975 Government Pay Policy prevented the final payment of phased salary increases for senior ACTSS staff, finalising the introduction of a new job evaluation scheme. This caused an erosion in the differentials between junior and senior ACTSS grades, which had not been amended by 1977.
- ii) in 1975 a new system of job evaluation for TASS jobs was developed, but the introduction of the accompanying rationalised salary structure for this group of staff was prevented by Government Pay Policy. Between 1975 and 1978 TASS jobs were therefore evaluated under the new (1975) scheme, but paid under the old (1973) salary structure.

Environmental factors Polymer Engineering Division is located on the south-eastern outskirts of Leicester, and staff travelling to work by public transport often have to travel into the town centre and then change buses for the outward journey to the area where the Division is located. This was felt by management at the Division to be a very strong factor in discouraging potential applicants from applying for jobs at the Division. The site is generally unattractive, production processes are dirty (involving the use of carbon black),

and office accommodation is cramped and old fashioned. These factors were thought to make it difficult to recruit and retain high quality staff.

1.3.2 The redefined approach to the research

The review of the literature (summarised in Chapter Two) revealed that a wide range of factors influence job satisfaction and motivation at work. These include the factors thought important by the Division's management team in defining the terms of reference for this study, but also include other factors such as job content, autonomy, the individual's relationship with his workmates, his supervisors and the management style practiced by the Division's senior management. The literature therefore strongly indicated that the research should look at a wider range of features of the working environment than those suggested by the original terms of reference.

It was therefore decided to undertake a survey of the attitudes of the Division's white-collar staff to their jobs and working environment, in order to establish whether any clear sources of motivation and satisfaction could be identified. 'Operatives' - the weekly paid manual employees of the Division were not included in the survey. It was hoped that the research would identify the principal causes of dissatisfaction and low morale amongst the staff of Polymer Engineering Division, and add to the management's understanding of the

effect of personal and occupational characteristics such as job type, seniority and length of service on expectations and job satisfaction. It might then be possible to adopt a strategy to motivate and satisfy staff which is geared more closely to the expectations of different types of employees, with the consequent optimal use of scarce resources.

As can be seen from the following chapters, a relatively small number of factors emerged as being responsible for dissatisfaction amongst the staff of Polymer Engineering Division, and some systematic variation of sources of satisfaction with personal and occupational characteristics was found.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews some of the relevant literature which provides the background to the research described in this thesis. The chapter falls into three principal sections; the first dealing with the concept of Action Research, and the second and third providing summaries of the more important literature on motivation and job satisfaction at work, and the effect of individual differences on individual work and life attitudes.

The work described in this thesis is an example of Action Research - a type of research which allows its practitioners to be more responsive and interactive in their approach to the problem than is possible in the case of conventional research. The characteristics of Action Research, and their effects on the way in which this research was approached are briefly described in this chapter.

The literature on motivation and job satisfaction at work is vast, and has developed over the last 70 years through a variety of different models of increasing complexity. The literature review aims to cover some of the important theories which provide a background to the study, and to place in context the original terms of reference for this research, which were relatively limited.

The research design adopted by the Main Study was structured to allow an assessment to be made of the effects of three principal individual characteristics (seniority, length of service and job type) on individual work and life attitudes.

The theoretical background to the effects of these three characteristics on work and life attitudes is also summarised in this chapter.

2.1 The Research Style

Several attempts have been made to analyse and classify the wide variety of different research styles available to a researcher. This has often been accomplished by highlighting certain fundamental features of a research project (for example, the way in which decisions concerning the course of the research are made, and how the findings are utilised), and using these to differentiate between different research styles.

Cherns (1976) classified research types according to three variables; (the nature of the problem, the type of solution and the freedom given to the researcher to select the research method required) and used these to identify 4 different types of researcher. These range from the 'subordinate technician' (where problem, method and solution are all predetermined) to the 'collaborative action researcher' (where all choices are open and negotiable). Clark (1972) produced a similar classification using 3 variables; the researcher's problem-orientation (practical/theoretical), the 'dominant diffusion channel' used to publicise the results, and the 'audience' for the research (academic/practical). Using these 3 criteria he identified five distinct research methodologies, ranging from 'Pure Basic' to 'Action Research'.

The aim of the programme of research described in this thesis was to gain a deeper understanding of employee attitudes at Polymer Engineering Division, and to produce practical, workable recommendations for changes which would improve these attitudes. During the course of the study the researcher assumed the status of an employee of the Division and worked normal hours for several working days each week in order to develop a closer relationship with the staff of the Division. Although the definition of the

objectives of the research was that of the organisation, the choice of research method and the type of recommendations put forward as a result of the study were that of the researcher. Practical recommendations for change were made as a result of the research, but these were not actually implemented and monitored by the researcher.

A comparison with the taxonomies of different research types, such as those developed by Chems (1976) and Clark (1972) highlights the practically-orientated, interactive style of this programme of research, and emphasises the differences between this and 'Pure' research. Both Chems and Clark identify 'Action Research' as the most pragmatic and collaborative of their research types. Warr (1977) emphasises the close collaborative relationship that normally develops between the Action Researcher and the organisation being studied, which leads to the joint definition of the objectives and methodology of the research, and allows the researcher to become involved in the implementation of its results. Action research, according to Warr, aims primarily for practical results which will bring about beneficial changes in the organisation that has been studied. Although Applied Research also aims to produce practical recommendations, the relationship between the researcher and the organisation is typically less interactive than in the case of Action Research. The objectives of the research are normally defined by the organisation, which is normally responsible for implementing the results of the study.

However, although these taxonomies, and the 'distinct' research styles that they identify are useful, they are in a sense misleading because they fail to emphasise the infinite number of intermediate types that exist between the 'distinct' models, where much research should in reality be classified.

Comparison with taxonomies of research types, such as those developed by Chems (1976) and Clark (1972) therefore highlights the practically-orientated, interactive style of this programme of research. However, it also emphasises ways in which this study differed from the model of 'Action Research' put forward by these authors. It seems likely that an attempt to classify this study using either one of these taxonomies would place it in an intermediate category closest to 'Applied Research'. However the somewhat restricted and idealised nature of these taxonomies precludes anything other than a generalised classification of the research style exemplified by this particular programme of research.

2.2 Theories of Motivation and Job Satisfaction at Work

Before reviewing the main features of the literature on motivation and job satisfaction at work, it is necessary to define exactly what is meant by these two terms, and review recent changes in their use and definition. The use of the term Job Satisfaction has today to some extent been replaced by the concept of the Quality of Working Life. This change is representative of the broader, more global approach now being adopted to this area.

A motive is a reason for doing something, and determines the type and intensity of individual behaviour, (Argyle 1972). In the past the necessities of life were obtained as a direct result of the individual's labours. Today this type of direct motivation has largely been replaced by other sources of motivation at work, such as that provided by financial incentives, intrinsic incentives (such as the need for self fulfilment), and social factors. Sources of motivation may be categorised as extrinsic or intrinsic. Extrinsic motivation is provided by factors external to the actual duties of the job, such as pay, working conditions and social factors, such as relationships with workmates. Intrinsic motivation is provided by the duties of the job and

examples include the need for achievement and the need for fulfilment at work. Effective performance is jointly determined by ability and motivation, and the relationship between these two factors is multiplicative, that is, the effect of ability is increased by increased motivation (French 1958). The amount of satisfaction obtained is a result of the individual's motivation, and the rewards that he or she receives (Argyle 1972).

Job Satisfaction consists of several component factors, which correlate strongly together. It has been suggested that a general factor of overall job satisfaction exists, which is correlated with its constituent elements (Argyle 1972). Job Satisfaction is affected by a wide variety of different features of the job, working environment and individual differences. The intrinsic nature of the job is important in determining job satisfaction, although its importance varies with individual characteristics such as the age and educational background of the person concerned, and the skill and status level of the job which is being done. Jobs which are varied, and which allow the incumbent a degree of autonomy are more likely to produce job satisfaction than jobs which do not have these features. Turner and Lawrence (1966) and Hulin and Blood (1968) have postulated that whether or not the use of skills and abilities is a source of job satisfaction depends on the personal characteristics of the individual concerned. The use of skills and abilities is generally more important to the incumbents of higher level jobs. Some groups have been shown to actively dislike more complex jobs (Turner and Lawrence 1966, Hulin and Blood 1968). Incentive conditions,

notably pay, are also determinants of job satisfaction. Studies have shown, however, that it is not the absolute level of pay which is important in determining job satisfaction, but how this relates to the individual's assessment of what he should be paid, and what others earn (Argyle 1972). Job Satisfaction is also related to the social status attached to the job, even though jobs of low social status may be better paid than those perceived as being higher up the social scale (Argyle 1972). The importance of factors such as promotion prospects and job security in determining job satisfaction varies from individual to individual. Work group relationships are an important factor in determining job satisfaction, and work group size, cohesiveness and the popularity of the individual and the number of opportunities for him to interact with other members of the group are important constituent parts of this factor. The style of supervision, and features of the employing organisation such as size and management style are also determinants of job satisfaction.

The relationship between job satisfaction and performance is not a straightforward one, and varies from individual to individual. However, it seems likely that, generally speaking, an individual with a high level of job satisfaction will perform well at work. The exception to this rule is the individual who is happiest when not working hard, and the person who may be deeply dissatisfied with the job, but who works hard to forget his dissatisfaction (Argyle 1972). Job satisfaction has been shown to be related to voluntary absenteeism from work, and to turnover (Argyle 1972). Individuals

who are satisfied with their work are less likely to be absent voluntarily, or to leave their job for another (Argyle 1972).

Motivation and Job Satisfaction are therefore two factors which are conceptually distinct, but which are both important in determining the individual's attitude to his job, and his performance at work.

A variety of different theories have attempted to analyse the nature of these two factors, and their importance to the individual's performance at work. The following literature review covers some of the most important of these theories, and is presented in two parts, the first covering earlier theories, and the second covering more recent and sophisticated models.

2.2.1 Early Approaches

The concept of Scientific Management proposed by F W Taylor (1911) represented one of the earliest attempts at a theory of motivation at work. Taylor viewed workers as 'Rational-Economic' men, motivated primarily by economic incentives. He proposed that workers should operate according to carefully thought-out and simplified job methods, representing the most efficient way of performing a particular task, and be paid according to their level of performance. The source of motivation at work was therefore seen as external to the job, and provided by the payment system.

The principal criticism of this theory is related to its total neglect of other sources of motivation, such as the social environment of the worker and the intrinsic rewards of the job. Taylor was however the first to recognise the importance of selection and training, and the first to advocate an analytical approach to work design.

These ideas were accepted by British industry for several decades and even today they are behind much of management thinking on motivation at work. It was this type of philosophy which determined Polymer Engineering Division's initial definition of the aims of the research. The request for a programme of research came initially as a result of management perception of problems of low morale and motivation amongst the staff employees of Polymer Engineering Division. The original terms of reference involved the development of methods of job analysis to assess the skills and knowledge required from staff, and a market survey and internal opinion poll to judge the correct rate for the job. It was also planned that the study should investigate alternative current and future payment systems. The research was therefore initially defined as tackling problems of low morale and motivation by redesigning salary structures to pay each job the 'going rate'; an approach based heavily on the principles of Scientific Management.

As a result of the 'Hawthorne Studies' carried out in the early 1930's, Elton Mayo (1933) postulated that man is motivated by and derives satisfaction from social factors extrinsic to the job, and is less responsive to management's financial incentives than to the influence of the workgroup. According to this theory management is seen as a facilitator of work and a sympathetic supporter, rather than the source of employee motivation.

The validity of both the experimental method and conclusions of the Hawthorne Studies have been questioned by Carey (1967), who quotes changes in subjects, the work being done by groups under observation, and changes in the payment system as evidence of inconsistencies in experimental method. Carey also challenges the derivation of the conclusions from the results obtained by the studies. Another criticism of this theory is that the effect of job duties and other non-social factors such as autonomy, feedback and pay on employee attitudes, motivation and job satisfaction are entirely ignored. The possibility of individual differences is also ignored. Mayo acknowledges that individuals exist who do not care for the group standards ('Rate Busters'), but does not acknowledge that the influence of the workgroup will vary from individual to individual.

The 'Hawthorne Studies' did however play an important role in the development of ideas on motivation and job satisfaction at work, as

they were responsible for the introduction of the notion of 'Social' factors, and drew attention to the importance of the influence of the workgroup on the attitudes of individuals.

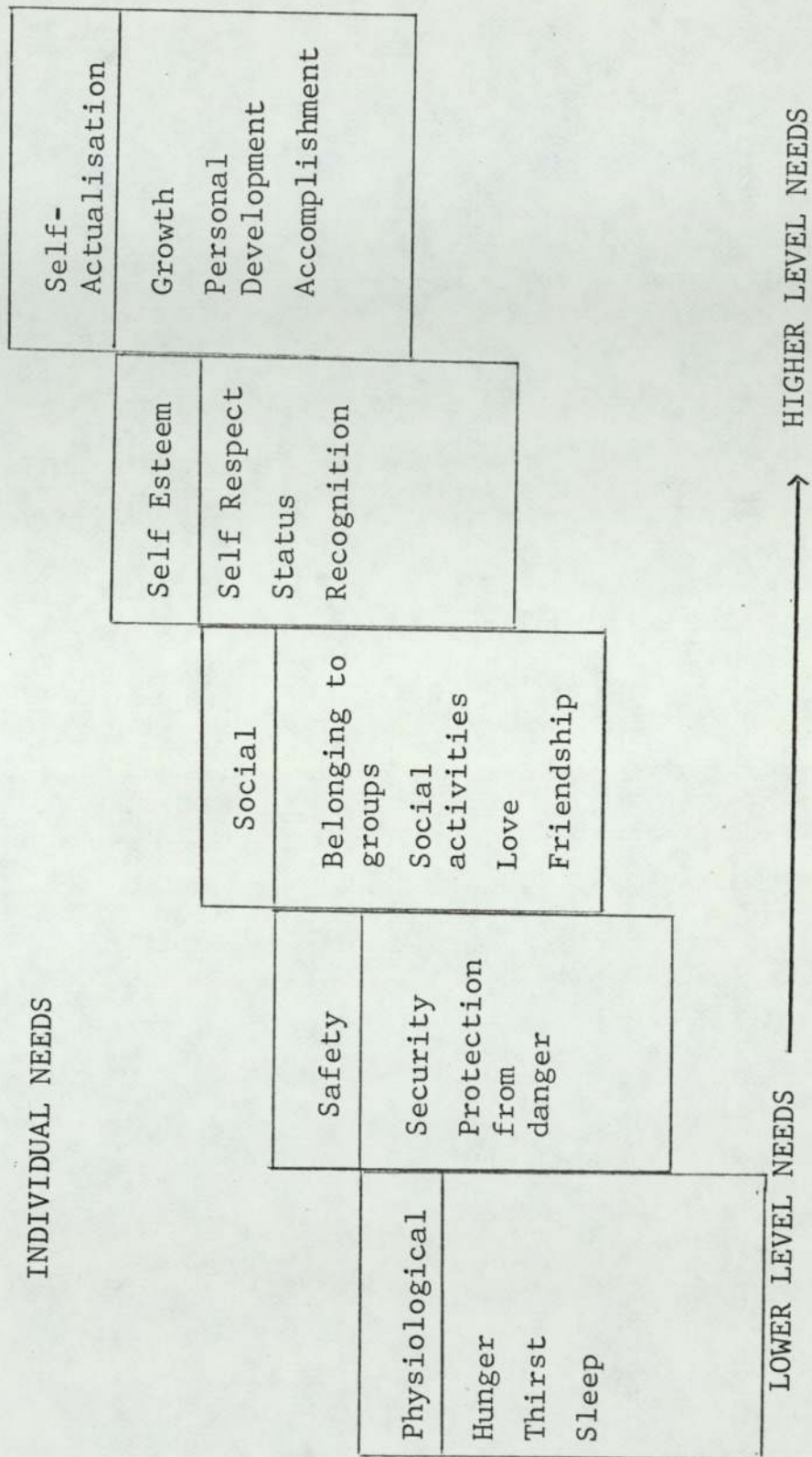
The theory proposed by Abraham Maslow (1954) represented a major development in ideas on motivation and satisfaction at work. Maslow postulated that work possesses an intrinsic ability to motivate the employee, and that job satisfaction can be derived from the job itself.

Maslow postulated that man is motivated by unfilled needs, which he strives to satisfy. He arranged these needs in a hierarchy, which is illustrated in Figure 2.1. The lowest level of need in the hierarchy is represented by the Physiological Needs, followed by Safety, Social and Self Esteem Needs, with Self-Actualisation Needs at the top of the hierarchy. Maslow postulated that man continually tries to satisfy the lowest level of unsatisfied need, and as one level of need is satisfied, the next level becomes important. He suggested that in order to increase employee motivation and job satisfaction, work should be made more interesting, and capable of offering self-actualisation to the individual employee. The manager should act as a catalyst and facilitator of employee action, rather than a motivator or controller.

Maslow's theory has not generated much empirical research, and strong evidence in its favour is lacking. When tested, the results have not been

FIGURE 2.1

Maslow's Needs Hierarchy (Maslow 1954)



clearly supportive of Maslow's theory, and studies have failed to find groups of associated needs corresponding to Maslow's ideas (Wahba & Bridwell 1976, Wanous & Zwany 1977). Blacker & Williams (1971) criticised Maslow's theory as being applicable only to the sector of the population of the United States with which Maslow was familiar. Maslow's categories are difficult to define, and although supposedly discrete, almost always overlap (Payne 1970, Scheider, Clayton & Alderfer 1973). The existence of such a clear cut hierarchy of needs has been questioned, especially as higher level needs have been shown to be influential in determining motivation and job satisfaction, even when the lower level needs have not been satisfied (Davies & Shackleton 1975). However, despite these criticisms, the introduction of the concept of the job as a motivator, the concept of self-actualisation, and the idea that motivation may be determined by more than one factor has been profoundly important in influencing later theories.

Douglas McGregor's 'X and Y' theory (McGregor 1960) emphasises the differences between economic/social man and the self-actualising man proposed by Maslow. The characteristics of theories X and Y are outlined in Figure 2.2. Theory X assumes an authoritarian working environment in which management is responsible for controlling and motivating employees, whose only needs are the 'physiological' and 'safety' needs proposed by Maslow. Under theory Y, individuals are given

FIGURE 2.2

Theory X and Theory Y
(taken from McGregor 1960)

THEORY X

The average man is by nature indolent - he works as little as possible
He lacks ambition, dislikes responsibility, prefers to be led
He is inherently self-centred, indifferent to organisational needs
He is by nature resistant to change
He is gullible, not very bright, the ready dupe of the charlatan and the demagogue

The implications for management are:

Management is responsible for organising the elements of productive enterprise - money, materials, equipment, people in the interest of economic ends

With respect to people, this is a process of directing their efforts, motivating them, controlling their actions, modifying their behaviour to fit the needs of the organisation

People must be persuaded, rewarded, punished, controlled, their activities must be directed

THEORY Y

People are not by nature passive or resistant to changing organisational needs. They have become so as a result of experience in organisations

The motivation, the potential for development, the capacity to assume responsibility, the readiness to direct behaviour towards organisational goals, are present in all people. It is the responsibility of management to make it possible for people to reorganise and develop the human characteristics for themselves

Management is responsible for organising the elements of productive enterprise in the interest of economic ends but their essential task is to arrange the conditions and methods of operation so that people can achieve their own goals best by directing their own efforts towards organisational objectives

goals and objectives, and are required to plan their work in order to achieve them. Management is non-authoritarian and participative, and seeks to help employees to achieve their goals by their own methods, rather than by closely supervising whilst they operate according to methods already determined by management.

However, theory Y cannot be applied to lower level jobs where the way in which the job duties are carried out is determined by technology, and where the demands of the job are routine and predictable. Theory Y can be applied to best effect in higher level jobs, where problems are complex, and where the job duties are constantly changing. McGregor assumes that sources of motivation and satisfaction at work are the same for all types of people, in all types of jobs. Studies carried out by French, Israel & As (1960), and Vroom (1960), suggest that only individuals with a strong need for self-actualisation, who are doing jobs capable of being restructured to allow for a more participative management style will benefit from the approach set out in Theory Y.

F W Herzberg (1968) proposed the 'Motivation/Hygiene' theory which postulates that factors of one kind (intrinsic to the job) promote feelings of job satisfaction, and factors of another kind (extrinsic to the job) are responsible for feelings of dissatisfaction. This theory

contends that Extrinsic, 'Hygiene' factors (such as Salary, Security, Work Conditions and Inter-personal Relationships) cannot produce job satisfaction, and Intrinsic 'Motivators' (for example, Achievement, Recognition, Responsibility, Advancement and Growth) are not responsible for job dissatisfaction.

Researchers seeking to validate this theory using methods differing from those used by Herzberg, have failed to do so. The technique used by Herzberg forced respondents to think in terms of a dichotomy, and was therefore thought to introduce an unacceptable element of bias into Herzberg's research methods (House and Wigdor 1968). House and Wigdor (1968) also criticise Herzberg's work as including no measure of overall job satisfaction, and feel that such a measure would profoundly affect the interpretation of the data collected by Herzberg, as many people dislike some element of their work, but are still satisfied with their job and working environment when it is taken as a whole.

Despite its faults, Herzberg's work was important as it drew the attention of the academic world to the idea of job design, and to the effect of job design on individual satisfaction at work.

2.2.2 More Recent Ideas

The next major development was made by V H Vroom (1964) with his 'Expectancy Theory'. This theory isolates four classes of variables which appear to influence the attitude of an individual towards his role within an organisation, and his performance within that role. According to this theory the individual undertakes a 'Motivational Calculus' in order to ascertain the most profitable course of behaviour. Vroom has postulated that the key variables in this calculation are Valence, Expectancy and Outcome. Valence represents the importance placed by the individual on a particular outcome, and Expectancy represents the individual's perception of the likelihood of a particular action being followed by a particular outcome. Vroom (1964) set out his 'Motivational Calculus' as an equation in the following way:

$$\begin{array}{ccccc} \text{Force of} & & \text{Expectancy of} & & \text{Valence of} \\ \text{Motivation} & = & \text{desired outcome} & \times & \text{desired outcome} \\ (F) & & (E) & & (V) \end{array}$$

This theory has some empirical support (Ribeaux & Poppleton 1978), and allows for individual differences, and the possibility of differences in motivational states between different individuals. Its principal fault lies in the fact that it assumes that every individual behaves rationally and logically in decision-making, and assumes that all decisions are made with only future rewards in mind - it ignores

the effect of immediate pressures upon the individual (Ribeaux & Poppleton 1978). Vroom's theory also differs from the other theories of motivation presented in this chapter in that it does not attempt to identify the causes of motivation, but merely suggests the way in which the individual weighs up the importance to him of the motivating factors which are present in the working environment.

Despite its faults, Vroom's model represents an important step in the evolution of theories of motivation at work, and various researchers have developed more sophisticated versions of Vroom's basic model (Porter & Lawler 1968, Graen 1969, Campbell et al 1970, Cummings & Schwab 1973).

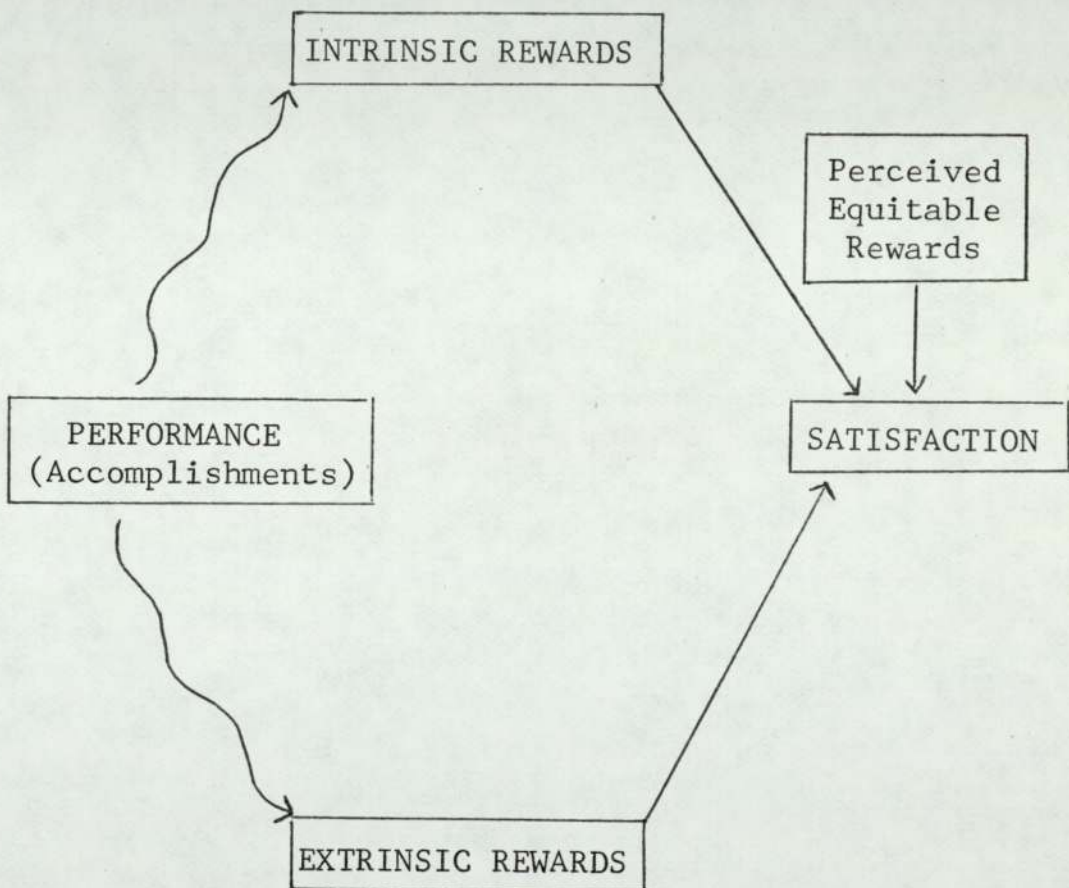
The Porter & Lawler (1968) model of motivation at work illustrated in figure 2.3, is based on the assumption that rewards cause satisfaction, and performance sometimes produces rewards. They therefore hypothesise that the relationship between satisfaction and performance is linked by the reward variable. Porter & Lawler distinguish between intrinsic and extrinsic rewards. They consider that intrinsic rewards are only directly related to good performance if the job structure is varied and challenging so an individual can reward himself if he feels he has performed well. Extrinsic rewards are given by the organisation and satisfy mainly lower-level needs (e.g. pay, status, job security).

FIGURE 2.3

The Porter and Lawler Model of

Motivation at Work

(Porter and Lawler 1968)



Extrinsic rewards are only weakly connected to performance, and this is indicated on the model by means of a wavy line.

Within the model rewards are linked directly to satisfaction via perceived equitable rewards (that is, the amount of reward an individual feels he should receive as a result of his performance or his position in the organisation). Satisfaction is determined by the difference between actual rewards and perceived equitable rewards. The degree to which a person is satisfied or dissatisfied depends, according to Porter & Lawler, on the size of the difference between actual and perceived equitable rewards. Porter & Lawler therefore imply that both the organisation and the worker are responsible for job satisfaction. However, despite the influence of the organisation, the vast majority of the responsibility for satisfaction rests, according to this model, with the individual. Hence, the individual's satisfaction depends upon his performance, as this is affected by the value placed on rewards, the probability that effort will result in rewards, his effort, abilities, traits and role perceptions.

This model probably constitutes a more realistic attempt at evaluating the multitude of complex factors that affect an individual's job satisfaction, including individual differences and differences in the environment and the type of work done.

Hackman & Oldham (1976) propose a model which specifies the conditions under which the individual becomes internally motivated to perform effectively in his job. The 'Job Characteristics Model' illustrated in Figure 2.4, focuses on the interaction between three classes of variables, (Hackman & Oldham 1976, p. 250):

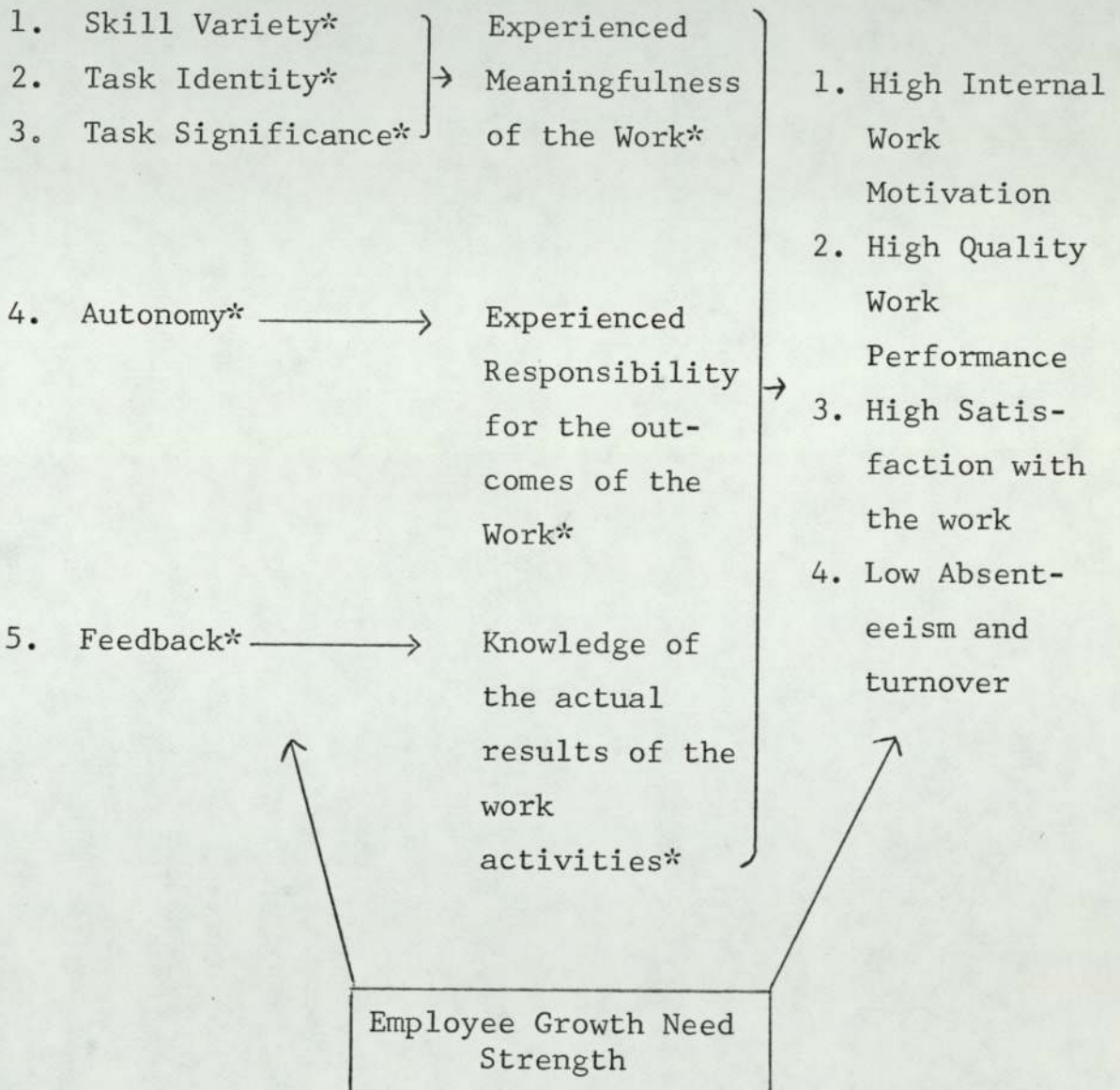
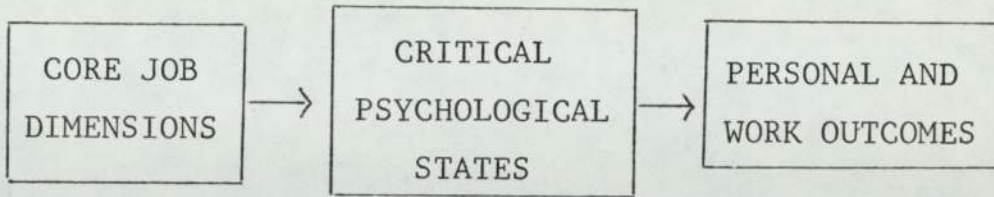
1. 'The psychological states of the employees that must be present for internally-motivated work behaviour to develop'
2. 'The characteristics of job that can create these psychological states'
3. 'The attitudes of individuals that determine how positively a person will respond to a complex and challenging job'

These three psychological states are the causal core of the model. Hackman & Oldham (1976), proposed that job characteristics can directly affect employee attitudes and behaviour at work, and the model therefore postulates that an individual experiences positive affect to the extent that he learns (knowledge of results) that he personally (experienced responsibility) has performed well on a task that he cares about (experienced meaningfulness). This positive affect is reinforcing to the individual, and encourages him to try to perform well in the future. This effect will continue until one or more of the psychological states is no longer present, or until the individual no longer values the internal rewards derived from good performance.

FIGURE 2.4

The Job Characteristics Model of
Motivation at Work

(Hackman & Oldham 1976, p. 256)



*Definitions of these terms are provided in Table 2.1

TABLE 2.1

Definitions of the terms used in Hackman & Oldham's
Job Characteristics Model (Illustrated in Figure 2.4)

(Taken from Hackman & Oldham 1976, p. 257 & 258)

SKILL VARIETY	'The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the person'.
TASK IDENTITY	'The degree to which the job requires the completion of a whole and identifiable piece of work; that is, doing a job from beginning to end with a visible outcome'.
TASK SIGNIFICANCE	'The degree to which the job has a substantial impact on the lives or work of other people, whether in the immediate organisation, or in the external environment'.
AUTONOMY	'The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and determining the procedures to be used in carrying it out'.
FEEDBACK	'The degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance'.
EXPERIENCED MEANINGFULNESS AT WORK	'The degree to which the individual experiences the job as one which is generally meaningful, valuable and worthwhile'.

Cont'd

TABLE 2.1 (Cont'd)

EXPERIENCED
RESPONSIBILITY
FOR WORK OUTCOMES

'The degree to which the individual feels personally accountable and responsible for the results of the work that he or she does'.

KNOWLEDGE OF RESULTS

'The degree to which the individual knows and understands, on a continuous basis, how effectively he or she is performing in the job'.

According to the Job Characteristics Model (Hackman & Oldham 1976), the overall potential of a job to prompt internal work motivation on the part of its incumbents is highest when;

1. The job is high on at least one (and hopefully more than one) of the three job dimensions that lead to experienced meaningfulness.
2. The job is high on autonomy
3. The job is high on feedback

According to Hackman and Oldham (1976), the Motivating Potential Score (MPS) of a particular job is computed by combining the scores of the job on the five Core Job Dimensions as follows:

$$\text{MPS} = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \times \text{Autonomy} \times \text{Feedback}$$

The Job Characteristics Model also allows the researcher to diagnose the sequential causal lines existing between the variables by means of Critical Path Analysis. The model was developed primarily on 'white-collar' workers, and little attention was paid to blue-collar workers with a low level of formal education.

Brief & Aldag (1975) carried out a partial replication of the Job Characteristics Model and found that Higher Order Need Strength moderates the relationship between Core Job Dimensions and Personal and Work Outcomes in a way that is more

complex than that proposed by Hackman & Oldham (1976). Individuals with a high level of Higher Order Need Strength display a stronger relationship between Core Job Dimensions and their affective responses to the job itself than do individuals with a lower level of Higher Order Need Strength. However, Brief and Aldag found that a low level of Higher Order Need Strength leads to stronger causal relationships between Core Job Dimensions and affective responses extrinsic to the job than is true in the case of individuals with a high level of Higher Order Need Strength. They concluded that more information is needed on the extent to which extrinsic rewards vary as a function of Core Job Dimensions, and the effect of Higher Order Need Strength on this relationship.

Another review of the Job Characteristics Model suggests that a single job dimension 'Job Complexity' model, or a four-factor model combining Autonomy and Task Variety would be preferable to the current five-factor model. An additive, compensatory 'Job Complexity' model implies that a job does not have to be high on all five Core Job Dimensions for the incumbent to achieve high Personal and Work Outcomes, as a low score on one job Core Dimension can be compensated for by a high score on another (Dunham 1976).

Wall, Clegg and Jackson (1978) used Critical Path Analysis and Multiple Regression to test the Job Characteristics Model. They found that the three Critical Psychological States are not of equal importance within the model as a whole. The most important of the three is 'Experienced Meaningfulness of Work', followed by 'Experienced Responsibility for the outcomes of Work'. The third Critical Psychological State ('Knowledge of Actual Results of Work Activities'), is thought by Wall, Clegg & Jackson (1978) to be almost insignificant in terms of the model as a whole. The relationships between the Core Job Dimensions, Critical Psychological States and Personal and Work Outcomes were found to differ from those outlined by the Job Characteristics Model. Wall, Clegg & Jackson (1978) found that some of the Core Job Dimensions relate to the Personal and Outcome variables and Critical Psychological States in ways excluded by the model, whilst some of the relationships specified by the model were found not to exist. They therefore proposed that the Job Characteristics Model should be reformulated to compensate for these discrepancies (Wall, Clegg & Jackson 1978).

Both the constituent items and the internal relationships composing the Job Characteristics Model have therefore been criticised. Despite its failings, the model represents a sophisticated, multidimensional model of job satisfaction and motivation at work. The mechanisms determining

the individual's reaction to his job and working environment are very complex, and it seems likely that any model will almost inevitably fail to totally capture the complexities of the real world.

2.3 The influence of Individual Differences on motivation and job satisfaction at work

Individual differences exist in the meaning ascribed by individuals to work. These differences may result from personal characteristics and the past and present circumstances of different individuals, and affect the way in which individuals react to their working environment, and the way in which they can be motivated and satisfied.

The effect of individual characteristics such as Age, Sex, Length of Service, Education, Occupational Level and Community and Family Characteristics on work and life attitudes have been examined by several researchers (for example, Herzberg 1957, Hunt & Saul 1975, & Andrisani & Miljus 1977). The individual characteristics which have perhaps some of the most well-documented effects on work attitudes are Length of Service, Job Type and Seniority. The selection of these three personal variables for particular attention is discussed in Chapter Five, and was reinforced by the researcher's experience of Polymer Engineering Division. First impressions of the Division suggested that problems of dissatisfaction and low morale existed particularly in respect of certain job groups, most notably the professionally-qualified engineers employed by the

Division. The staff of Polymer Engineering Division were also characterised by the existence of a relatively large group of long-serving staff, who seemed to be relatively more satisfied with their jobs and working environments than more recently appointed staff. The following paragraphs summarise the main effects described in the literature of Length of Service, Job Type and Seniority on Work and Life attitudes.

2.3.1 Length of Service

Tenure has often been looked at by researchers in conjunction with Age, as these two factors are highly related. However, they are conceptually distinct (Gibson & Klein 1971), age being a physiological state entirely unrelated to the organisational characteristics of the employing organisation, whereas tenure is usually related to the organisational climate.

In a classic study, Herzberg et al (1957), found that age bore a 'U-shaped' relationship to job satisfaction. Job satisfaction was found to be high at the start of the individual's working life, but it subsequently declined until the beginning of the individual's thirties, when it began to rise. Once satisfaction levels began to rise, they were found to continue to do so for the remainder of the work career. Herzberg explained this by saying that usually an individual's initial, high expectations of work were not fulfilled, with a resultant drop in job satisfaction. However, increasing maturity and

work experience leads the individual to adjust his work ambitions and expectations to a more realistic level. These new expectations are usually more attainable, and job satisfaction therefore tends to increase.

Hulin & Smith (1965) confirmed the idea put forward by Herzberg et al (1957) that satisfaction generally increases with age and tenure, but emphasised that his relationship is likely to vary between individuals and situations.

It has been suggested that performance may be an additional variable moderating the relationship between the three variables of age, tenure and job satisfaction (Friedlander 1965). Friedlander found that high and low performers record different levels of satisfaction with the same work situation, and with increasing age, satisfaction levels fall for poor performers and rise for high performers.

A positive linear relationship was discovered between age and job satisfaction, and a negative, linear relationship between company tenure and satisfaction by Gibson & Klein (1971). They argued that a combination of these two relationships could account for the results reported by Herzberg et al (1957). They used the same argument as Herzberg to account for increasing satisfaction with age, and one of 'disconfirmed expectations' to account for the negative relationship between tenure and satisfaction.

In another study, age and tenure were found to have a positive linear relationship with overall job satisfaction amongst a group of white collar workers (Hunt & Saul 1975). Age had a stronger relationship with satisfaction in males than did tenure, and the reverse was true for females. When six different facets of job satisfaction (work, promotion, pay opportunities, supervision, working conditions, co-workers and salary) were considered, a more complex relationship emerged. Significant 'U-shaped' relationships were found between age and satisfaction with supervision, working conditions, co-workers, and between tenure and satisfaction with supervision and working conditions. For females the only significant U-shaped relationship was between tenure and working conditions.

The literature therefore reports that generally speaking, job satisfaction would seem to increase with age. The relationship between tenure and job satisfaction is less clear.

2.3.2 Level of Education

Several studies have been carried out which would seem to relate the individual's level of education to the amount and type of job satisfaction received from the job.

Years of schooling were found by Andrisani & Miljus (1977) to be positively related to preferences for intrinsic rewards. This was

supported by work in which college graduates were shown to prefer the intrinsic aspects of work, although no consistent differences have been shown to exist amongst those with less than a college degree (Andrisani & Miljus 1977). A higher level of education has also been shown to affect the individual's expectations and his 'salary satisfaction' (Penzer 1969). This idea is supported by the findings of Seybolt (1976), who reported that more organisational inducements (pay, job variety and task complexity) are needed to satisfy well educated employees than their less well educated counterparts.

The educational level of the individual was suggested as affecting the way in which the individual responds to goals. (Invacevitch & McMahon 1977). Well educated groups were observed to respond to a relationship between goal challenge and performance, whereas less well educated individuals responded to relationships between goal clarity, goal feedback and performance.

There would therefore seem to be broad agreement in the literature that education has significant moderating effects on the work characteristics/work satisfaction relationship. A higher level of education seems to increase the individual's concern for intrinsic rewards, and increase the individual's opinion of self-worth. It is important to note however that many of the studies relating education to later job performance and

job satisfaction are concerned with relative satisfaction and performance values only and not with absolutes, were usually conducted over a restricted time period and are not usually applicable to both male and female workers (Andrisani & Miljus 1977).

2.3.3 Occupational Level

Occupational level is related to both job type and seniority. Some job types are of a higher occupational level than others (for example, a managerial job is of a higher occupational level than a manual job), and within job types more senior jobs are usually of a higher occupational level than junior ones. Occupational status has been described as a 'fundamental personality characteristic', as jobs which are higher in status supposedly have incumbents who place a higher value on the intrinsic aspects of the work (Andrisani & Miljus 1971). Centers & Bugental (1966) support this idea with their finding that employees at higher occupational levels value intrinsic job components more highly than those at lower occupational levels, who prefer extrinsic job components. These ideas were broadly similar to the findings of an earlier study (Friedlander 1965), which found that task-centred opportunities for self-actualisation are of prime importance to white-collar workers, and the social environment is of prime importance to the blue-collar workers. A study by Armstrong (1971) revealed that lower occupational levels were more concerned with extrinsic job character-

istics and the variety offered by the job, whilst higher occupational levels were more concerned with intrinsic job characteristics and the feedback provided by the job on the occupant's performance. The experimental evidence available from the literature therefore seems to point to a relationship between occupational level and sources of job satisfaction.

From this review of the literature it is apparent that several fairly well documented relationships do exist between individual differences and work attitudes. Job satisfaction would seem to be related to both age and tenure.

Education is generally thought to lead to a greater concern with intrinsic, rather than extrinsic rewards. Higher occupational levels are generally thought to respond to intrinsic rewards, whilst lower occupational levels generally require more extrinsic sources of satisfaction.

2.4 Implications

As a result of the ideas summarised in this chapter, the terms of reference were redefined to allow for a broader multidimensional approach to the determination of sources of motivation and satisfaction at work, whilst retaining the original, overall purpose of the study. The research was also designed to incorporate some assessment of the effects of individual differences on attitudes to work.

CHAPTER THREE

SELECTION OF THE RESEARCH TOOL

To recapitulate, it was planned to base this research on an assessment of the attitudes of the staff of Polymer Engineering Division towards all aspects of their jobs and working environments. It was hoped to identify those features of their jobs and working environments which were most important to the staff included in the study, and so to ultimately facilitate the optimum use of the limited resources available for improving staff morale and motivation at work.

This chapter is in three principal sections; the first outlines some of the principal methods of attitude measurement, and discusses the problems associated with each. The second section moves on to outline some interviews conducted with a small group of the Division's staff in order to explore potential sources of dissatisfaction. The final section describes the development, psychometric properties and subsequent applications of the Work and Life Attitudes Questionnaire (Warr, Cook & Wall 1978), selected for use as the principal research tool.

3.1 Problems associated with the measurement of attitudes

An attitude has been defined as a 'state of readiness, a tendency to act or react in a certain manner when confronted by certain stimuli' (Oppenheim 1976, p.105), or 'a learned predisposition to think, feel and act in a given way towards a particular class of objects' (Ribeaux and Poppleton 1978, p.138). Attitudes are difficult to measure, and have to be carefully inferred by presenting the subject with the objects and stimuli

necessary to evoke a particular attitude. A wide variety of different attitude measurement techniques has been developed which purports to measure an individual's attitudes, and which offer differing advantages and disadvantages to the researcher.

The questionnaire is perhaps the most popular method of attitude measurement. It may be administered to single subjects or to groups, and offers the researcher considerable advantages in the case of a very large or widely dispersed sample group (Oppenheim 1976). Respondents can complete questionnaires with or without contact with the researcher; the former option offers the advantage that the respondent can ask the researcher questions, and clarify any queries that he may have (Oppenheim 1976). However, as Oppenheim (1976) points out, if this method is selected the subject's response may be influenced by other factors, such as the personal characteristics (for example, age, race or sex) of the researcher. If the questionnaire is to be administered verbally the researcher should adhere to a standardised questioning procedure. The self-completion questionnaire, completed without any contact with the researcher is limited by the subject's interpretation of the questions, which may be misunderstood or omitted (Oppenheim 1976). Nunally (1967) points out that questionnaires have been criticised as measuring only the attitudes that the individual is willing to reveal, and as being influenced by the individual's ideas of what is socially desirable. Whilst questionnaires are a valid measure of verbalised attitudes (which are thought to be predictive of social behaviour) their validity when measuring underlying attitudes may be suspect (Nunally 1967).

Attitudes may also be assessed by means of interviews, which may be conducted on a group or individual basis, and may be structured or unstructured (Oppenheim 1976). All interviews have the disadvantage that, as in the case of the verbally-administered questionnaire, the response from the subjects may be influenced by the researcher's personal characteristics, and questioning technique (Oppenheim 1976). The expectations of the interviewer and the way in which responses are understood and recorded may also introduce errors (Oppenheim 1976). The group interview may also have the disadvantage that group, rather than individual attitudes are put forward. The interview does however offer the advantage according to Oppenheim (1976), especially in the case of unstructured or partially structured interviews, that the researcher is able to adapt his questions to the subject and the responses that he obtains. It is therefore possible to probe any interesting comments that the subject may make, and important new attitude areas may be uncovered.

A subject's attitudes may also be assessed by means of observing his overt behaviour. However, Oppenheim (1976) has pointed out that overt behaviour and expressed attitudes are not necessarily closely correlated, and may not even be related. Group or individual discussions, which have many of the advantages and disadvantages of the unstructured group or individual interview, may also be used to assess attitudes (Oppenheim 1976).

It is also possible to measure attitudes by means of the individual's reaction to partially structured stimuli (Projective Techniques). These tests seek to minimise

the influence of the environment, maximise the effect of personality on behaviour (Oppenheim 1976), and reduce the opportunity for subjects to fake a response (Nunally 1967). All response formats are open-ended, and the individual is told that there are no right or wrong answers (Oppenheim 1976). Oppenheim (1976) feels that these methods have the disadvantages that the researcher is obliged to make an 'intuitive leap' between the subject's reaction to the test and his attitudes, and that the subject may be disheartened by the apparent lack of test face validity.

The individual's physiological reactions (for example, pupillary dilation and galvanic skin response) may also provide information on attitudes, although this type of technique is rarely used within the context of this type of research.

Cook and Sellitz (1964) argue that the researcher should ideally adopt a multiple indicator approach to attitude measurement. Historically, attitude measurement has relied heavily upon research designs involving only one measurement technique. This makes the research programme more vulnerable to the failings of the particular method that is used, and sacrifices the opportunity to examine the idea that there should be consistency amongst the various behavioural manifestations of underlying attitudes. Any research programme seeking to uncover and evaluate attitudes should therefore ideally encompass more than one method of attitude measurement.

3.2 The initial exploration of the problem area

It was decided to initially explore the potential sources of satisfaction and dissatisfaction amongst the staff of Polymer Engineering Division by means of a series of interviews with some members of the Division's staff. This exercise was not intended as a rigorous examination of staff attitudes, but merely to suggest possible factors for later, more thorough examination. The staff taking part in these interviews came from a variety of departments and different occupational types. The staff interviewed were;

- 2 Senior Managers
- 1 Senior Engineer
- 1 Senior Technical Employee
- 1 Junior Commercial Employee
- 1 Senior Supervisory Employee
- 1 Junior member of the Division's Security Staff.

Prior to the interviews a list of possible sources of intrinsic and extrinsic satisfaction was drawn up from the literature and the researcher's experience of the Division. This list is set out below. These points were covered in each interview, and added to as a subject mentioned something previously not listed. Otherwise the interviews were kept relatively 'open' and unstructured, and interviewees were encouraged to talk freely about their jobs and the Division as a whole.

The possible sources of intrinsic and extrinsic satisfaction and dissatisfaction covered during these interviews were:

Pay Differentials
Promotion Opportunities
Training Opportunities
Remuneration
Pension arrangements
Working Conditions (Office Accommodation etc.)
Annual Leave Entitlement
Union Representation
Job Evaluation System
Job Security
Bonus Scheme and Incentives
Canteen and Social Facilities
Company Shop (selling Dunlop products at reduced prices).
Location of Polymer Engineering Division in Leicester.
Car Parking Facilities
Company of Workmates
Communications, both of overall Divisional Policy to the individual from top management, and communication between the individual member of staff and his immediate boss.
Indications given by management to the individual that his contribution to the Division is recognised.
Industrial Relations at Polymer Engineering Division.
The Company Image

High levels of dissatisfaction were expressed with five of these points; promotion opportunities, remuneration, recognition of the individual's contribution to the Division, pay differentials, and canteen and social

facilities. Of these five, promotion opportunities and remuneration attracted the greatest amount of criticism. Dissatisfaction was also expressed with several of the other topics covered in the interviews, although this was at a lower level and showed considerably more variation between individuals. Greatest satisfaction was expressed with training opportunities, car parking facilities, job evaluation procedures, job security and the company shop.

These preliminary interviews therefore highlighted the sources of job satisfaction and dissatisfaction important to this small group of staff. However, it was recognised that this exercise was not systematic, and was carried out only on a very small group of staff. The remainder of this chapter is consequently devoted to describing the Work and Life Attitudes Questionnaire (Warr, Cook and Wall 1978) which provided a more comprehensive and standardised instrument for the more systematic assessment of the work attitudes of the staff of Polymer Engineering Division.

3.3 The Work and Life Attitudes Questionnaire

3.3.1 Background and Development

The Work and Life Attitudes Questionnaire was developed by Peter Warr, John Cook and Toby Wall of Sheffield University's Medical Research Council Social and Applied Psychology Unit to meet what they perceived as a need for a questionnaire which could be used in a variety of different settings to measure individual attitudes towards work and life as a whole. A copy of the Work

and Life Attitudes Questionnaire as developed by Warr, Cook and Wall (1978) can be found in Appendix 3A.

The Work and Life Attitudes Questionnaire was developed by means of two studies involving 200 and 390 subjects respectively. The individuals included in the studies were all British male blue collar workers, and the sample was balanced in terms of the size and the location of the employing organisations and the individual's skill level and age. All the subjects included in the study were working in full-time jobs in manufacturing industry, and had been in their jobs for at least a month. The mean length of service was 9.02 years.

The eight concepts making up the eight scales of the Work and Life Attitudes Questionnaire have been used in previous research (Warr, Cook and Wall 1978). The items included in the original version of the scales used in Study 1 were drawn from the literature and discussions between various members of the research team, and were refined by means of an initial pilot study. The questionnaire was administered verbally, during individual interviews in the respondents' homes, and the respondent was required to select his response from the appropriate response card (Appendix 3A). The same sequence of scales was used in Study 1 and Study 2. As a result of Study 1, various refinements were made to the questionnaire, and Study 2 was then carried out

to cross validate the results of Study 1, and provide norms for the questionnaire. The items included in the final version of each scale used in Study 2 were selected on the basis of their inter-item and item-whole correlation, their mean scores, standard deviations and meaning. Each item was desired to be meaningful, and to contribute to the scale as a whole.

Warr, Cook and Wall (1978) have adjusted the results of Study 1 and Study 2 to allow them to be directly compared, despite the changes which took place in the composition of the scales. The exception to this is the Life Satisfaction scale, which was not used in Study 2, and the Perceived Intrinsic Job Characteristics scale where the scale used in Study 1 did not include several of the items used in Study 2. For this reason norms are only available for Study 1 in the case of the Life Satisfaction scale, and Study 2 in the case of the Perceived Intrinsic Job Characteristics scale.

Table 3.1 includes details of the alpha coefficients for the scales included in Study 1 and Study 2. These are generally replicated across the two studies and are reasonably high, which would seem to indicate that the internal homogeneity of each of these scales is good, and the constituent items making up each scale are reasonably well correlated. The mean item-whole correlations for each scale and subscale seem to support this conclusion. The alpha coefficients

TABLE 3.1

Measures of the Internal Consistency of the scales making up the
Work and Life Attitudes Questionnaire

(taken from Warr, Cook and Wall (1978), and Clegg and Wall (1980))

SCALE	NUMBER OF ITEMS IN SCALE	Clegg and Wall (1980)		Warr, Cook and Wall (1978)		(Study 1 N=200, Study 2 N=390)	
		N	ALPHA COEFFICIENT	STUDY ONE ALPHA COEFFICIENT	STUDY TWO ALPHA COEFFICIENT	STUDY ONE MEAN CORRECTED ITEM - WHOLE $\bar{r}$	STUDY TWO MEAN CORRECTED ITEM - WHOLE $\bar{r}$
WORK INVOLVEMENT	6	-	-	0.63	0.64	0.38	0.48
INTRINSIC JOB MOTIVATION	6	-	-	0.82	0.82	0.59	0.61
HIGHER ORDER NEED STRENGTH	6	636	0.87	0.91	0.82	0.75	0.59
PERCEIVED INTRINSIC JOB CHARACTERISTICS	10	608	0.86	-	0.86	-	0.56
TOTAL JOB SATISFACTION	15	574	0.92	0.85	0.88	0.50	0.53
INTRINSIC JOB SATISFACTION	7	603	0.86	0.79	0.85	0.55	0.55
EXTRINSIC JOB SATISFACTION	8	605	0.78	0.74	0.78	0.44	0.50
JOB ITSELF INTRINSIC SATISFACTION	4	625	0.80	0.76	0.72	0.55	0.51
WORKING CONDITIONS EXTRINSIC SATISFACTION	5	620	0.64	0.60	0.58	0.36	0.33

Cont'd

TABLE 3.1 (Cont'd)

EMPLOYEE RELATIONS SATISFACTION	6	611	0.82	0.80	0.82	0.57	0.58
TOTAL LIFE SATISFACTION	15	-	-	0.78	-	0.53	-
SATISFACTION WITH PERSONAL LIFE	4	-	-	0.59	-	0.37	-
SATISFACTION WITH STANDARDS & ACHIEVEMENTS	7	-	-	0.81	-	0.54	-
SATISFACTION WITH LIFE STYLE	4	-	-	0.60	-	0.39	-
SELF-RATED ANXIETY	6	-	-	0.68	0.74	0.41	0.49
HAPPINESS	1	-	-	-	-	-	-

and mean item-whole correlations can be compared between the two studies (except in the case of the Life Satisfaction and Perceived Intrinsic Job Characteristics and Happiness scales), and they are generally fairly similar.

Alpha coefficients are also available for a later study, conducted by Clegg and Wall (1980). This study used only three of the scales contained in the Work and Life Attitudes Questionnaire; Perceived Intrinsic Job Characteristics, Higher Order Need strength and Job Satisfaction. Table 3.1 includes details of the alpha coefficients emerging from this study for these three scales, which are consistently high (0.64 - 0.92) and would seem to indicate that the internal homogeneity of these scales is maintained during their use on white collar staff.

Warr, Cook and Wall (1978) also looked at the relationships between scales, using Varimax rotated loadings of each item on the six scales common to Study 1 and Study 2. They felt that this provided further information which supported the existing scales, as it was found that the items in each scale all loaded highly on separate factors, and these loadings were similar in the two studies.

3.3.2 Description

The Work and Life Attitudes Questionnaire is composed of eight separate scales which are defined in Table 3.2, and set out below.

Work Involvement

Intrinsic Job Motivation

Job Satisfaction, composed of 5 sub scales;

Satisfaction with Working Conditions

Job Itself Intrinsic Satisfaction

Employee Relations Satisfaction

Extrinsic Job Satisfaction

Intrinsic Job Satisfaction

Perceived Intrinsic Job Characteristics

Higher Order Need Strength

Life Satisfaction, composed of 3 sub scales;

Satisfaction with Life Style

Satisfaction with Personal Life

Satisfaction with Standards and

Achievements

Happiness

Self-Rated Anxiety

These scales all utilise seven point response scales, with the exception of the Percieved Intrinsic Job Characteristics scale and the Happiness scale, which use five and three point scales respectively. In the case of each scale,* however, one is the most negative score. The individual's score on each scale or sub-scale is the unweighted sum of the responses to the constituent items. The questionnaire contains no negatively-keyed items, as these were found to present respondents with conceptual difficulties.

TABLE 3.2

Definitions of each of the scales making up
the Work and Life Attitudes
Questionnaire

(Warr, Cook & Wall 1978)

Throughout these definitions 'job' is used to refer to the tasks undertaken in a particular setting, whereas 'work' is used to cover jobs more generally (Warr, Cook and Wall 1978).

WORK INVOLVEMENT

'The degree to which a person wants to be engaged in work' (Warr, Cook and Wall 1978 p. 7).

INTRINSIC JOB MOTIVATION

'The degree to which a person wants to work well in his or her job in order to achieve intrinsic satisfaction' (Warr, Cook and Wall p. 7).

JOB SATISFACTION

'The degree to which a person reports satisfaction with intrinsic and extrinsic features of the job' (Warr, Cook and Wall 1978 p. 8).

The Job Satisfaction scale is composed of groups of constituent items assessing Intrinsic Satisfaction, Extrinsic Satisfaction, Satisfaction with Working Conditions, Job Itself Intrinsic Satisfaction and Employee Relations Satisfaction. 'Total Job Satisfaction' is the sum of all these separate constituent items, whilst 'Overall Job Satisfaction' is reported Satisfaction with the job as a whole. (Warr, Cook and Wall 1978 p. 8).

PERCEIVED INTRINSIC JOB CHARACTERISTICS

These 'are the persons' reports about the degree to which features are present in his or her job which might give rise to intrinsic satisfaction' (Warr, Cook and Wall 1978 p. 8).

HIGHER ORDER NEED STRENGTH

This 'is taken to be the importance which a person attaches to the attainment of higher-order needs' (Warr, Cook and Wall 1978 p. 7).

Cont'd

TABLE 3.2 (Cont'd)

LIFE SATISFACTION

This 'is the degree to which a person reports satisfaction with the salient features of his life and life space' (Warr, Cook and Wall 1978 p. 8).

'Total Life Satisfaction is the sum of all separate items, and overall Life Satisfaction is reported satisfaction with one's life as a whole'. (Warr, Cook and Wall 1978 p. 8).

The Life Satisfaction scale is composed of three sub-scales measuring satisfaction with Lifestyle, Personal Life and Standards and Achievements.

HAPPINESS

This is 'the degree to which a person reports that he or she is currently happy' (Warr, Cook and Wall 1978 p. 8).

SELF-RATED ANXIETY

'This is the degree to which a person reports anxiety about salient features of his or her life space summed across items' (Warr, Cook and Wall 1978 p. 8).

'Overall Self-Rated Anxiety is reported anxiety in general' (Warr, Cook and Wall 1978 p. 8).

In addition to the eight main scales, three single items, intended to give an overall impression of the respondent's feelings on particular subjects are included. These are the questions assessing Overall Job Satisfaction, Life Satisfaction and Self-Rated Anxiety (Questions 5x, 6x and 8x respectively in Appendix 3A).

Both the Job Satisfaction and the Life Satisfaction scales are composed of sub-scales, originally identified by means of cluster analysis. At one level, the Job Satisfaction scale falls into two sub-scales; Intrinsic Job Satisfaction and Extrinsic Job Satisfaction. At another level analysis reveals three component sub-scales; Job Itself Intrinsic Job Satisfaction, Working Conditions Satisfaction, and Employee Relations Satisfaction. The Life Satisfaction scale is composed of three component sub-scales; Satisfaction with Personal Life, Satisfaction with Standards and Achievements, and Satisfaction with Life Style. The Life Satisfaction scale's items contain no reference to work in order to maintain the scale's independence from the Job Satisfaction scale. The sub-scales of the Job Satisfaction and Life Satisfaction scales are strongly positively correlated with the full scale of which they are part and other sub-scales of the same scale. (Warr, Cook and Wall 1978).

3.3.3 Psychometric Properties

This section describes some of the main psychometric properties of the Work and Life Attitudes Questionnaire, including the correlations between scales and the norms developed for the questionnaire. Finally, some more recent applications of the questionnaire are summarised.

a) Correlations between and within scales

Appendix 3B outlines the Product Moment Correlations between the scales and sub-scales making up the Work and Life Attitudes Questionnaire. These figures were calculated using the results of the combined sample (Study 1 plus Study 2), except in the case of the Perceived Intrinsic Job Characteristics scale, where only Study 2 data is used, and the Life Satisfaction scale, where only Study 1 data is used.

The Work Involvement and Intrinsic Job Motivation scales are moderately intercorrelated, and Intrinsic Job Motivation is also moderately correlated with Higher Order Need Strength and Perceived Intrinsic Job Characteristics. Higher Order Need Strength is also significantly associated with Perceived Intrinsic Job Characteristics, Satisfaction with Personal Life and Self-Rated Anxiety. Perceived Intrinsic Job Characteristics is strongly correlated with the Job Satisfaction scale (especially the Intrinsic Job Satisfaction sub-scale) and is also correlated, although less strongly,

with the Life Satisfaction and Happiness scales (Warr, Cook & Wall 1978).

The sub-scales composing the Job Satisfaction scale are themselves very closely inter-correlated, and Total Job Satisfaction is significantly correlated with Life Satisfaction, Happiness, and Self-Rated Anxiety. The Life Satisfaction scale and its sub-scales are correlated with the Happiness scale, and also more weakly related to Self-Rated Anxiety. The sub-scales of the Life Satisfaction scale are less strongly associated than those of the Job Satisfaction scale (Warr, Cook & Wall 1978).

b) Normative Data

Due to its relatively recent development normative data for the Work and Life Attitudes Questionnaire is being only gradually accumulated.

The original study, carried out by Warr, Cook and Wall (1978) was carried out on two groups, composed of a total of 590 blue collar workers employed in British manufacturing industry. This study was used in the development of the Work and Life Attitudes Questionnaire, and used two slightly different forms of the questionnaire. A later study carried out by Clegg and Wall (1980), used the Perceived Intrinsic Job

Characteristics, Higher Order Need Strength and Job Satisfaction scales to assess the work attitudes of 659 employees of a large engineering firm in the North of England. The sample was composed of both blue-collar and white-collar workers.

Table 3.3 presents the normative data obtained by Clegg and Wall (1980), and compares this with the normative data obtained by Warr, Cook and Wall (1978) in the original study. More complete details of the normative and psychometric data collected by Warr, Cook and Wall (1978) can be found in Appendix 3C.

It can be seen from Table 3.3 that the normative data collected from the two studies is broadly similar. The data collected by Clegg and Wall (1980) would seem to suggest that significant differences exist between the attitudes of the various groups covered by the study to certain aspects of their working environment. Blue-collar workers perceived their jobs as being a great deal less interesting than did the Managerial staff (Blue-collar staff 28.61, Managerial Staff 40.67). They also expressed a lower level of satisfaction with their jobs as a whole, as assessed by the Total Job Satisfaction scale (Blue-collar Staff 69.38, Managerial Staff 79.15). Smaller differences

TABLE 3.3

Normative Data for the Scales and Sub-scales of the
Work and Life Attitudes Questionnaire
(taken from Warr, Cook and Wall (1978), and Clegg and Wall (1980))

SCALE	NUMBER OF ITEMS IN EACH SCALE OR SUB-SCALE	Warr, Cook & Wall (1978)		N (TOTAL SAMPLE)	Clegg and Wall (1980)				
		STUDY ONE* $\bar{x}$ (sd)	STUDY TWO* $\bar{x}$ (sd)		TOTAL SAMPLE $\bar{x}$ (sd)	MANAGERIAL $\bar{x}$ (sd)	SUPERVISORY $\bar{x}$ (sd)	WHITE COLLAR $\bar{x}$ (sd)	BLUE COLLAR $\bar{x}$ (sd)
WORK INVOLVEMENT	6	31.77 (5.98)	33.37 (5.86)						
INTRINSIC JOB MOTIVATION	6	35.13 (5.46)	36.82 (5.45)						
HIGHER ORDER NEED STRENGTH	6	33.69 (6.80)	36.07 (5.03)	636	36.45 (4.46)	36.83 (4.66)	37.16 (3.39)	36.38 (3.85)	36.30 (4.82)
PERCEIVED INTRINSIC JOB CHARACTERISTICS	10	-	32.74 (8.39)	608	31.19 (7.67)	40.67 (4.92)	36.84 (5.31)	32.97 (6.32)	28.61 (7.33)
TOTAL JOB SATISFACTION	15	69.86 (14.18)	70.86 (16.02)	574	71.90 (13.58)	79.15 (10.79)	77.57 (8.50)	74.00 (10.29)	69.38 (14.96)
INTRINSIC JOB SATISFACTION	7	32.36 (7.69)	32.74 (8.53)	603	31.55 (7.91)	37.93 (6.92)	35.88 (4.71)	32.16 (6.68)	29.91 (8.32)
EXTRINSIC JOB SATISFACTION	8	37.54 (7.81)	38.22 (8.63)	605	40.42 (6.87)	42.11 (4.98)	41.68 (4.84)	41.47 (5.02)	39.66 (7.76)

Cont'd

also emerged between these two groups on the Intrinsic Job Satisfaction, Job Itself Intrinsic Satisfaction, and Employee Relations Satisfaction scales. Generally speaking, the highest score on each scale was achieved by the Managerial Staff, followed by the Supervisory, the White-Collar and then the Blue-Collar staff with the lowest score. The scores of these four groups on the Higher Order Need Strength scale were however fairly similar.

The study carried out by Clegg & Wall (1980) has therefore expanded the normative data available for the questionnaire to include managerial, supervisory and white-collar jobs in addition to the blue-collar jobs covered by the original study (Warr, Cook & Wall 1978). The results obtained by Clegg & Wall (1980) also indicated that the questionnaire is capable of identifying differences in the work attitudes of employees holding different types of jobs.

c) Applications

The original study carried out by Warr, Cook and Wall (1978) found that age was correlated only with the Intrinsic Job Motivation scale, in contrast with the relationships reported between other similar variables and age by Aldag and Brief (1977), Rabinowitz and Hall

(1977) Saal (1978) and Saleh and Otis (1964). Similar relationships are also reported in Chapter Two of this thesis. Skill level was found to be moderately associated with the Perceived Intrinsic Job Characteristics scale, and to a lesser extent with the Higher Order Need Strength scale. No significant relationships emerged between the results of the questionnaire and length of service, family responsibility, and degree of unionisation.

The study carried out by Clegg and Wall (1980), using three scales from the Work and Life Attitudes Questionnaire (plus two additional scales, the results of which are not discussed here), aimed to provide additional normative data for the questionnaire and to ascertain whether the scales could perform effectively in different types of organisations, and on different occupational types. Details of the alpha coefficients and normative data collected as a result of this study are discussed in the previous section. Each scale also emerged as being factorially discrete and independent. This study found that Perceived Intrinsic Job Characteristics and Job Satisfaction increased with organisational level. Higher Order Need Strength was found to be, as expected, a relatively stable personality characteristic, which was independent of Job Satisfaction.



Cook and Kemp (1980) examined the role of job longevity, age and growth need strength as moderators of the job complexity/job satisfaction relationship, using three scales from the Work and Life Attitudes Questionnaire. The scales used were; Job Satisfaction, Perceived Intrinsic Job Characteristics and Higher Order Need Strength. The internal consistency and reliability of these scales, computed from the data obtained from this study showed these scales to be psychometrically adequate.

The Work Involvement scale taken from the Work and Life Attitudes Questionnaire was also used by Stafford, Jackson and Banks (1980), to assess the effects of unemployment on the work attitudes of teenagers. The study found that an individual's level of Work Involvement was generally predictive of employment status, with those currently unemployed showing a lower level of Work Involvement. The study also revealed that individuals with a high level of Work Involvement are more likely to experience poor mental health if unemployed.

3.4 Conclusions

The Work and Life Attitudes Questionnaire would therefore seem to represent a psychometrically adequate research tool, which can be used in a variety of organisational settings and on a variety of different job types.

Although the questionnaire has not been used extensively

due to its relatively recent development, normative data is available and the questionnaire has been used on white-collar staff in an organisation broadly similar to Polymer Engineering Division.

CHAPTER FOUR

THE PILOT STUDY

4.1 Introduction

This chapter describes the Pilot Study that was carried out using the Work and Life Attitudes Questionnaire. There were a number of reasons why such an investigation was felt to be necessary, and these may be broadly categorised as being of either a 'research' or 'practical' nature.

Firstly, it was necessary to test out the questionnaire and the procedures associated with its use as an instrument for measuring work and life attitudes. At the beginning of this research it was envisaged that the self-completion format was desirable because of the potential number of subjects involved, and the problems associated with interrupting staff carrying out their normal duties. Warr, Cook and Wall (1978) suggest that the Work and Life Attitudes Questionnaire is suitable for self-completion, and the Pilot Study was therefore partly intended to test out the questionnaire with this modified procedure. It was decided on the basis of the literature on individual differences (Chapter Two) that it might also be useful to collect details of personal characteristics such as job type, length of service, and seniority. An additional page was therefore added to the questionnaire to collect this data, and the Pilot Study was also intended to test out the success of this modification.

The second 'practical' objective of the Pilot Study was concerned with the attitudes of the Division's managers and trade union representatives towards this programme of research. In order to gain the co-operation of these two groups, and access to the Division's staff, it was necessary to administer the questionnaire to both managers and trade union representatives before proceeding to the Main Study. It was hoped that this would allay any fears or misconceptions, and gain the co-operation of these two groups for the main study.

Whilst these two objectives were the most important, it was felt that the Pilot Study could also be used as a data collection exercise, revealing the comparative attitudes of the two groups involved. It was hoped that the group of managers could be directly compared to a similar group studied by Clegg and Wall (1980), in a study also based on staff employed by an engineering firm. Although the jobs held by the Trade Union Representatives were varied, they were all white-collar staff and it was thought that interesting comparisons could therefore be made between this group and the 'white-collar' workers studied by Clegg and Wall (1980).

4.2 Method

4.2.1 Modifications made to the Work and Life Attitudes Questionnaire

The modifications made to the Work and Life Attitudes Questionnaire retained the exact wording of the items, and the introductions to each scale devised by Warr, Cook and Wall (1978).

The order in which the various scales and items were presented to the subject also remained unchanged. The layout of the questionnaire was however altered so that the method of self-completion could be more easily understood. The possible alternative responses to each item, which were previously on response cards shown to the subject by the interviewer, were incorporated into the main body of the question. Subjects were required to select their responses from a seven, five or three-point scale (Appendix 4A). The complete scale and appropriate response scale were always presented together, and were never split up between adjacent pages. The first page of the questionnaire was taken up with a very brief introduction to the purpose of the study, and instructions on how to complete the questionnaire. The second page was devoted to the collection of personal characteristics such as age, sex, length of service, number of job changes whilst employed by Polymer Engineering Division, full job title, department, hours worked and family details.

A copy of the amended version of the Work and Life Attitudes Questionnaire used in the Pilot Study can be found in Appendix 4A.

4.2.2 The Subjects

The following managers and trade union representatives took part in the Pilot Study:

Managers

General Marketing Manager
Works Technical Manager
Production Manager, Autohose
Quality Assurance Manager
Manager, Metalastik Finishing and
Al Tube Cutting
Divisional Works Engineer
Data Processing Manager
Work Study Manager
General Works Manager
Training Manager

Trade Union Representatives

Telephonist (TASS)
Tool Design Draughtsman (TASS)
Senior Test Engineer (TASS)
Estimating Engineer (TASS)
Publicity Assistant/Technical
Illustrator (TASS)
Foreman, Metal Preparation (ACTSS)
Foreman, Metalastik Finishing
(ACTSS)
Specifications Clerk (ACTSS)

Two additional ACTSS trade union representatives attended the session, but refused to complete the questionnaire, and left.

4.2.3 Procedure

The Managers and Trade Union Representatives were seen as two separate groups, the Managers completing the questionnaire in the morning, and the Trade Union Representatives in the afternoon of the same day.

At the beginning of each session a very brief introduction was given to the aims of the research, followed by an explanation of the method which should be used to complete the questionnaire. The subjects were assured that the questionnaire was completely confidential, and encouraged to be frank in their responses. Each group was then asked to complete the questionnaire, and took approximately 40 minutes to do so.

Once the questionnaires had been completed, the groups were encouraged to discuss the format, layout and wording of the amended Work and Life Attitudes Questionnaire. It was hoped that this session would enable the researcher to identify any faults in the redesigned format of the questionnaire, which may have caused problems for the Pilot Study group.

After the questionnaires had been collected, each group was given a detailed presentation followed by a question and answer session on the aims of the research. This session was deliberately left until last in order to prevent the Pilot Study group's responses to the questionnaire from being biased or distorted by a more detailed knowledge of the aims of the research. The presentation was designed to elicit the support of these two important groups in encouraging staff to take part in the Main Study.

Following the Pilot Study, half the original group selected on the basis of their responses to the questionnaire, was interviewed. These interviews were designed to obtain more information on the Work and Life Attitudes of this small sub-group, and to provide a background to the results of the Pilot Study.

4.3 Results of the Pilot Study

4.3.1 The administration of the questionnaire

The major difficulty the Pilot Study group experienced with the questionnaire was related to the layout of the response scales. Very few subjects were able to complete the questionnaire solely on the basis of the verbal instructions given at the beginning of the session and those printed on the front page of the questionnaire, and the response format had to be explained several times. Subjects were unable to understand the way in which the scales (usually 1-7 or 1-5) printed opposite each item related to the full response scale included after the introduction to each section of the questionnaire. The layout of the response scales used in the Pilot Study was therefore unsatisfactory, and warranted change.

There was also a problem with respondents omitting items, apparently because they had difficulty in deciding upon an answer. As each questionnaire was briefly checked through

as it was completed, the researcher was able to ask subjects who had omitted items to go back and complete them. However, as a result of the Pilot Study it became apparent that subjects taking part in the Main Study would have to be specifically requested to give an answer to every item.

The Pilot Study Group felt that the format of the questionnaire was rather cramped, and suggested that the instructions relating to the section requesting personal details from the respondent should be moved from the bottom to the top of the page. It was also suggested that the question requesting details of length of service should specifically state that it was length of service with Polymer Engineering Division rather than with Dunlop as a whole which was required. All these amendments were incorporated in the later version of the questionnaire.

However, apart from these problems the group had no difficulty with the questionnaire, and enjoyed taking part in the Pilot Study. Once the subjects had been assured of the confidentiality of their responses they were quite happy to complete the questionnaire, and did not seem unduly worried about this issue.

4.3.2 The selection of statistical techniques to be used on the Pilot Study data

The statistical test or technique which can be used to compare two sets of data depends on the character of the data being studied. The data gathered by the Work and Life Attitudes Questionnaire is 'ordinal' and can theoretically be tested using only non-parametric statistics, which do not make assumptions concerning the distribution, independence or variance of the data.

Parametric statistics were however used by Warr, Cook and Wall (1978) in the development of the Work and Life Attitudes Questionnaire, despite the ordinal nature of the response data.

Certain parametric statistics such as the t-test are very robust, and can be used on data where there is a deviation from a normal distribution and homogeneity of variance without the value of the test being affected. It was therefore decided to use t-tests to test for differences in the work and life attitudes of the Managers and Trade Union Representatives making up the Pilot Study Group.

4.3.3 Biographical Data

The average age of the group as a whole was 46.4 years, varying from a minimum age of 32 years to a maximum of 58 years. The two sub-

groups were generally very similar in terms of age, with an average age for the Managers of 44.4 years, and Trade Union Representatives of 48.5 years. There were only two women in the group, and both of these were Trade Union Representatives. The average length of service for the group as a whole was 15.5 years, varying from a minimum of one year to a maximum of 39 years. The average lengths of service of the two sub-groups were very similar, with the group of Managers having been at Polymer Engineering Division for an average of 14.4 years, and the Trade Union Representatives for an average of 16.3 years. The majority (67%) of the group as a whole had one or more children under 18 years of age.

The average number of job changes whilst at Polymer Engineering Division for the Pilot Study group as a whole was 1.9 (in an average length of service of 15.5 years). However, in this particular case the mean was felt to be unrepresentative, as 39% of the group had not had a change of job whilst at the Division. The majority of the group were working normal office hours (approximately 8.30 a.m. - 5 p.m.), with only two subjects working shifts.

4.3.4 Results of the questionnaire

Table 4.1 summarises the mean scores on each of the scales of the Work and Life Attitudes Questionnaire for the Pilot Study Group as a

TABLE 4.1

Results of the Pilot Study

Summary of scores of the group as a whole, and the two sub-groups on each scale and sub-scale of the work and Life Attitudes Questionnaire

	NUMBER OF ITEMS	OVERALL RESULTS (N=18)		MANAGERS T (N=10)		TRADE UNION REPS. (N=8)		t * df=16	SIGNIFICANCE LEVEL
		Mean	SD	Mean	SD	Mean	SD		
WORK INVOLVEMENT	6	33.39	4.92	31.9	5.59	35.25	3.41	1.48	NS
INTRINSIC JOB MOTIVATION	6	35.89	4.99	35.5	5.30	36.38	4.90	0.36	NS
TOTAL JOB SATISFACTION	15* ²	*5		77.1	8.61	56.5	11.40	-4.37	Significant at 1%
INTRINSIC JOB SATISFACTION (Sub-scale)	7	*5		38.1	4.25	25.62	10.50	-3.44	Significant at 1%
EXTRINSIC JOB SATISFACTION (Sub-scale)	8	*5		39.0	6.76	31.38	6.93	-2.35	Significant at 5%
JOB ITSELF INTRINSIC SATISFACTION (Sub-scale)	4	*5		23.5	3.03	16.62	6.25	-3.07	Significant at 1%
WORKING CONDITIONS SATIS- FACTION (Sub-scale)	5	24.33	4.55	25.5	4.14	22.87	4.88	-1.23	NS
EMPLOYEE RELATIONS SATISFACTION (Sub-scale)	6	*5		28.1	4.98	17.0	5.58	-4.46	Significant at 1%
PERCEIVED INTRINSIC JOB CHARACTERISTICS	10	*5		40.5	5.19	33.0	7.07	-2.60	Significant at 5%
HIGHER ORDER NEED STRENGTH	6	37.22	2.80	37.1	2.69	37.38	3.11	0.20	NS

Cont'd

TABLE 4.1 (Cont'd)

SELF-RATED ANXIETY	6* ³	*5		17.3	4.27	23.0	4.98	2.61	Significant at 5%
TOTAL LIFE SATISFACTION	15* ³	68.17	7.07	69.0	7.51	67.12	6.83	-0.55	NS
SATISFACTION WITH PERSONAL LIFE (Sub-scale)	4	21.28	2.72	21.8	2.70	20.62	2.77	-0.91	NS
SATISFACTION WITH STANDARDS AND ACHIEVEMENTS (Sub-scale)	7	25.28	5.72	25.7	5.73	24.75	6.04	-0.34	NS
SATISFACTION WITH LIFE STYLE (Sub-scale)	4	21.61	2.25	21.5	2.46	21.75	2.12	0.23	NS
HAPPINESS	1	2.06	0.42	1.9	0.32	2.25	0.42	1.90	NS

*¹ using a 2-tailed t-test

*² excluding general item (5 x in Appendix 3A)

*³ excluding general item (8 x in Appendix 3A)

*⁴ excluding general item (6 x in Appendix 3A)

*⁵ overall mean and deviation not included, as a significant difference emerged between the two sub-groups

whole and for the two individual sub-groups (Managers and Trade Union Representatives). This table also includes the results of the t-tests carried out to assess whether significant differences existed between the attitudes of these two groups as measured by the Work and Life Attitudes Questionnaire.

i) Differences emerging between the two sub-groups

Significant differences emerged between the responses of the two sub-groups (Managers and Trade Union Representatives) on the scales measuring Total Job Satisfaction, Intrinsic Job Satisfaction, Extrinsic Job Satisfaction, The Job Itself Intrinsic Satisfaction, Employee Relations Satisfaction, Perceived Intrinsic Job Characteristics and Self-Rated anxiety.

A highly significant difference emerged between the two groups on the Total Job Satisfaction Scale ($t = -4.37$, $df = 16$, $p < 0.01$). The group of Managers were much more satisfied with their jobs and working environments as a whole than were the Trade Union Representatives. The group of Managers also expressed a significantly higher level of Intrinsic Job Satisfaction than did the Trade Union Representatives ($t = -3.44$, $df = 16$, $p < 0.01$). The Trade Union Representatives

also emerged as being significantly less satisfied with extrinsic features of their jobs (as assessed by the Extrinsic Job Satisfaction scale) than did the Managers ($t = -2.35$, $df = 16$, $p < 0.05$). A significant difference also emerged between the two groups on two of the three subscales making up the second set of subscales of the Total Job Satisfaction scale. The Managers were more satisfied than the Trade Union Representatives with items assessed by the Job Itself Intrinsic Satisfaction scale ($t = -3.07$, $df = 16$, $p < 0.01$) and the Employee Relations Satisfaction scale ($t = -4.46$, $df = 16$, $p < 0.01$). No difference however emerged between the two groups on the Working Conditions Satisfaction scale.

The group of Managers perceived their jobs as being significantly more interesting than did the Trade Union Representatives, and this is reflected by the difference in scores on the Perceived Intrinsic Job Characteristics scale ($t = -2.60$, $df = 16$, $p < 0.05$). As a group the Managers were however significantly less anxious than the Trade Union Representatives about their work and life as a whole ($t = 2.61$, $df = 16$, $p < 0.05$).

It is however interesting that no differences emerged between the Managers and Trade Union Representatives on the Total Life Satisfaction scale (and its three sub-scales), or on the Higher Order Need Strength, Intrinsic Job Motivation and Work Involvement scales which assess the individual's basic attitudes towards work in general.

ii) Results of follow-up interviews

Of the eight subjects interviewed, only one expressed attitudes towards his work which were substantially different from those gathered by the Work and Life Attitudes Questionnaire. The individual concerned was deeply dissatisfied at the time of the Pilot Study, but had in the intervening period received improvements to his salary and job duties which changed his attitudes towards his work. In every other case however, the comments of the subjects during interview reflected their responses to the Work and Life Attitudes Questionnaire.

4.4 Discussion

4.4.1 Modifications to the Work and Life Attitudes Questionnaire

The Pilot Study indicated that the Work and Life Attitudes Questionnaire, adapted for self-completion was generally suitable for use on the white-collar staff of Polymer Engineering Division, and was capable of providing useful insights into

the attitudes of this group. The Pilot Study also highlighted those aspects of the questionnaire which required changing prior to the Main Study. On the basis of the Pilot Study it was also decided not to include the Happiness scale in the version of the Work and Life Attitudes Questionnaire used in the Main Study, as this scale produced only a general indication of the individual's level of happiness which was not felt to be particularly important to this research. It was also decided not to include the items designed to assess Overall Job Satisfaction, Life Satisfaction and Self-Rated Anxiety (Questions 5x, 6x and 8x in Appendix 3A).

4.4.2 Differences emerging between the Work and Life Attitudes of the Managers and Trade Union Representatives taking part in the Pilot Study

As discussed earlier in this chapter, differences emerged between the Trade Union Representatives and Managers on three scales of the Work and Life Attitudes Questionnaire; the Total Job Satisfaction scale (and all the sub-scales of this scale, with the exception of Working Conditions Satisfaction), Perceived Intrinsic Job Characteristics and Self-Rated Anxiety. The two groups did not however differ significantly in their responses to the Work Involve-

ment, Higher Order Need Strength or Intrinsic Job Motivation scales. This would seem to indicate that the two groups were not significantly different in terms of their need to be involved in satisfying work, to achieve 'higher order' goals, and to perform their jobs well in order to achieve intrinsic job satisfaction. No significant differences emerged between the two groups on the Total Life Satisfaction scale, or any of its constituent sub-scales.

The group of Trade Union Representatives was less satisfied with the Total Job Satisfaction, Intrinsic and Extrinsic Job Satisfaction, Employee Relations Satisfaction and the Job Itself Intrinsic Satisfaction provided by their jobs than the group of Managers. The Trade Union Representatives were however more anxious about their jobs and lives as a whole than were the Managers.

The interpretation of these results is very difficult, as it is not easy to assess the effect of the trade union activities and opinions on work and life attitudes. The union activities of the Trade Union Representatives may however have had a profound effect on their responses to the Work and Life Attitudes Questionnaire. The interpretation of these results is further complicated by the fact that the Trade Union Representatives occupied a wide variety of jobs, ranging from professional to much more junior positions. When taken as a

whole, it is probably true to say that the job duties of this group were generally less interesting and less demanding than those of the Managers, and this is reflected in the different responses of the two groups to the Work and Life Attitudes Questionnaire.

4.4.3 Comparisons between Pilot Study data and the results of previous studies

Table 4.2 sets out the norms developed for the Work and Life Attitudes Questionnaire by Warr, Cook and Wall (1978) and Clegg and Wall (1980), and compares these with the results of the Pilot Study.

Before making comparisons between the results of the Pilot Study, and the norms developed by Warr, Cook and Wall (1978) and Clegg and Wall (1980), it is worth comparing the samples upon which these three studies were based. Both the Pilot Study Group and the sample group used by Clegg and Wall (1980) were employed by an engineering firm, based in the North of England in the case of Clegg and Wall's (1980) study, and in the Midlands in the case of the Pilot Study. The sample group used by Warr, Cook and Wall (1978) was taken from manufacturing industry, and the firms selected for sampling were varied in terms of both their size and geographical position. Whilst Warr, Cook and Wall's (1978) original sample was composed entirely of blue-collar workers, Clegg and Wall

TABLE 4.2

Comparisons between the norms developed for the
Work and Life Attitudes Questionnaire, and the
results of the Pilot Study

	Pilot Study				Warr, Cook & Wall (1978) Study 2 (N = 390)	Clegg & Wall (1980)		
	Whole Group (N = 18) $\bar{x}$ (sd)	Managers (N = 10) $\bar{x}$ (sd)	Trade Union Represent- atives (N = 8) $\bar{x}$ (sd)			Total Sample $\bar{x}$ (sd)	n	'White- Collar Staff' (N = 142) $\bar{x}$ (sd)
WORK INVOLVEMENT	33.39 (4.92)	31.9 (5.59)	35.25 (3.41)		33.37 (5.86)	-		-
INTRINSIC JOB MOTIVATION	35.89 (4.99)	35.5 (5.30)	36.38 (4.90)		36.82 (5.45)	-		-
TOTAL JOB SATISFACTION	* 2	77.1 (8.61)	56.5 (11.40)		70.86 (16.02)	71.90 (13.58)	574	74.00 (10.29)
INTRINSIC JOB SATISFACTION (SUB-SCALE)	* 2	38.1 (4.25)	25.62 (10.50)		32.74 (8.53)	31.55 (7.91)	603	32.16 (6.68)
EXTRINSIC JOB SATISFACTION (SUB-SCALE)	* 2	39.0 (6.76)	31.38 (6.93)		38.22 (8.63)	40.42 (6.87)	605	41.47 (5.02)
JOB ITSELF INTRINSIC SATISFACTION (SUB-SCALE)	* 2	23.5 (3.03)	16.62 (6.25)		20.35 (5.05)	19.85 (4.56)	625	20.01 (3.85)
WORKING CONDITIONS SATISFACTION (SUB-SCALE)	24.33 (4.55)	25.5 (4.14)	22.87 (4.88)		26.06 (4.89)	25.99 (4.30)	620	26.90 (3.27)
EMPLOYEE RELATIONS SATISFACTION (SUB-SCALE)	* 2	28.1 (4.98)	17.0 (5.58)		24.58 (8.21)	26.05 (6.66)	611	26.70 (5.49)
PERCEIVED INTRINSIC JOB CHARACTERISTICS	* 2	40.5 (5.19)	33.0 (7.07)		32.74 (8.39)	31.19 (7.67)	608	32.97 (6.32)

Cont'd

TABLE 4.2 (Cont'd)

HIGHER ORDER NEED STRENGTH	37.22 (2.80)	37.1 (2.69)	37.38 (3.11)	36.07 (5.03)	36.45 (4.46)	636	36.83 (4.66)	36.38 (3.85)
SELF-RATED ANXIETY	* 2	17.3 (4.27)	23.00 (4.98)	18.40 (7.44)	-	-	-	-
TOTAL LIFE SATISFACTION	68.17 (7.07)	69.0 (7.51)	67.12 (6.83)	67.09 ^{*1} (11.40)	-	-	-	-
SATISFACTION WITH PERSONAL LIFE (SUB-SCALE)	21.28 (2.72)	21.8 (2.70)	20.62 (2.77)	21.51 ^{*1} (3.48)	-	-	-	-
SATISFACTION WITH STANDARDS & ACHIEVEMENTS (SUB-SCALE)	25.28 (5.72)	25.7 (5.73)	24.75 (6.04)	25.44 ^{*1} (7.12)	-	-	-	-
SATISFACTION WITH LIFE STYLE (SUB-SCALE)	21.61 (2.25)	21.5 (2.46)	21.75 (2.12)	20.22 ^{*1} (3.86)	-	-	-	-
HAPPINESS	2.06 (0.42)	1.9 (0.32)	2.25 (0.42)	2.12 ^{*1} (0.71)	-	-	-	-

* 1 Study 1

* 2 Whole group mean and standard deviation not provided, as a significant difference emerged between sub-groups

(1980) based their study on a mixture of white-collar and blue-collar staff. The Pilot Study was based solely on white-collar staff. The original sample group (Warr, Cook and Wall 1978) was entirely male, Clegg and Wall (1980) sampled 83 women out of a total of 659 subjects, and the Pilot Study group included two female Trade Union Representatives. The age range of the Pilot Study group (32-58 years) was somewhat narrower than that of the groups sampled by Warr, Cook and Wall (1978) (20-64 years), and Clegg and Wall (1980) (17-64 years). The average length of service of the Pilot Study group was also somewhat greater, at 15.5 years, than those of the samples used by Warr, Cook and Wall (1978), and Clegg and Wall (1980), which were 9.02 and 7.11 years respectively, although this may have been partly due to the different age range sampled by the Pilot Study.

It can be seen from Table 4.2 that the results of the Pilot Study group as a whole are generally similar to the norms developed by Warr, Cook and Wall (1978). The scores on the Work Involvement scale (Warr, Cook and Wall (1978) 33.37, Pilot Study 33.39), Satisfaction with Personal Life (Warr, Cook and Wall (1978) 21.51, Pilot Study 21.28), and Satisfaction with Standards and Achievements (Warr, Cook and Wall (1978) 25.44, Pilot Study 25.28) are very similar for these two studies. The results of the study carried out by Clegg and Wall (1980)

are also broadly similar to the results of the Pilot Study; for example, Higher Order Need Strength (Clegg and Wall (1980) 36.45, Pilot Study 37.22). The results of the Pilot Study therefore fit in fairly well with the norms developed by Warr, Cook and Wall (1978) and Clegg and Wall (1980). However, significant differences emerged between the Pilot Study Managers and Trade Union Representatives on 7 of the questionnaire's 16 scales and subscales, and average scores for the group as a whole are therefore not provided for many of the scales listed in Table 4.2.

It is interesting to compare the results obtained for the Managers and Trade Union Representatives with the norms developed for similar groups. Although no definition of 'managerial' jobs is given by Clegg and Wall (1980) the norms which they produced on staff carrying out managerial jobs generally compare well with the results of the group of Managers included in the Pilot Study, for example Job Itself Intrinsic Satisfaction (Clegg & Wall (1980) 'managerial staff' 23.07, Pilot Study Managers 23.5), Perceived Intrinsic Job

Characteristics (Clegg and Wall 'managerial staff' (1980) 40.67, Pilot Study Managers 40.5), and Higher Order Need Strength (Clegg and Wall 'managerial staff' (1980) 36.83, Pilot Study Managers 37.1). This is especially so when these figures are compared with the whole sample results developed by Warr, Cook and Wall (1978) and Clegg and Wall (1980). In the case of both the Pilot Study results and the data collected by Clegg and Wall (1980) the scores obtained by the Managers on the Total Job Satisfaction scale and its sub-scales, and the Perceived Intrinsic Job Characteristics scale were generally higher than those obtained for the group as a whole. This difference is probably due to the fact that the job duties of the Managers were generally more interesting and demanding than the duties of the eight trade union representatives (Pilot Study) or the 81 supervisors, 142 white-collar staff and 406 blue-collar workers (Clegg and Wall 1980), making up the remainder of the sample.

Table 4.2 also sets out the scores of the Trade Union Representatives taking part in the Pilot Study, and compares these to the scores of Clegg and Wall's (1980) 'white-collar' sub-sample. All the Trade Union Representatives taking part in the Pilot Study were white-collar workers, but they represented a wide variety of different job types, including two

supervisory jobs, which should presumably be compared with Clegg and Wall's (1980) 'supervisory' category, although Clegg and Wall (1980) do not define either their 'white-collar' or 'supervisory' categories. The influence of the individual's role as a Trade Union Representative on his work and life attitudes is also an unknown factor which may invalidate this comparison. Although the Perceived Intrinsic Job Characteristics (Clegg and Wall 'white-collar' staff (1980) 32.97, Pilot Study Trade Union Representatives 33.0), and Higher Order Need Strength (Clegg and Wall 'white-collar' staff (1980) 36.38, Pilot Study Trade Union Representatives 37.38) are very similar, the scores on the Total Job Satisfaction scale (Clegg and Wall 'white-collar' staff (1980) 74.0, Pilot Study Trade Union Representatives 56.5) and its sub-scales are very dissimilar. The Trade Union Representatives involved in the Pilot Study generally exhibited a much lower level of Job Satisfaction than did Clegg and Wall's 'white-collar' staff. It is difficult to say whether this difference is symptomatic of a comparison made between two inherently different groups, or whether it reflects a genuinely low level of job satisfaction amongst this group. As discussed in the previous section, the Trade Union Representatives displayed a low level of job satisfaction when compared to the group of Managers.

To summarise, the scores for the Pilot Study group as a whole and the group of Managers relate well to the norms developed by Warr, Cook and Wall (1978) and Clegg and Wall (1980). The Job Satisfaction scores collected for the group of Trade Union Representatives however often fall well below the norms developed by Clegg and Wall (1980) for 'white-collar' staff, although it is difficult to be sure if this comparison is valid.

4.4.4 Summary

The Pilot Study therefore confirmed that the Work and Life Attitudes Questionnaire can be successfully adapted for self-completion, and that it is suitable for use on the white-collar staff of Polymer Engineering Division. The results produced by the Work and Life Attitudes Questionnaire when used in the Pilot Study were broadly similar to the norms developed by Warr, Cook and Wall (1978) and Clegg and Wall (1980).

Although the basic attitudes of the Trade Union Representatives and Managers to their work, as assessed by the Higher Order Need Strength, Work Involvement and Intrinsic Job Motivation scales did not differ significantly, differences were detected in the Job Satisfaction, Perceived Intrinsic Job Characteristics and Self-Rated Anxiety of these two groups. However, it is difficult to explain these differences, especially as the group of Trade

Union Representatives was composed of so many different job types, and the effect of trade union attitudes on the work and life attitudes of this sub-group is not known. The Main Study described in the next chapter, looked at the work and life attitudes of white-collar workers who were not part-time trade union officials, in order to investigate in more detail the relationship between job type (and other personal and occupational variables) and motivation and satisfaction at work.

CHAPTER FIVE

The Main Study

5.1 Overview

This Chapter describes the Main Study which was carried out using the Work and Life Attitudes Questionnaire. The objective of the study was to assess the work and life attitudes of a group of the Division's staff, with a view to identifying sources of job satisfaction and dissatisfaction. It was also planned to search for differences in the work and life attitudes of different groups of staff, and to find out whether dissatisfaction was concentrated within any particular group or groups of employees.

5.2 Selection and Structure of the sample groups

5.2.1 Job Type

The literature reviewed in Chapter Two indicates that occupational level is probably an important factor in determining the individual's attitudes towards his job. It was therefore decided that it might be useful to use the Main Study to try to assess the effect of job type on work and life attitudes.

The Division's own system of job titles, job descriptions and organisation charts was however poorly developed and unsystematic, and the development of a system of job classification based on job analysis would have

required the compilation of a detailed and standardised job description for every staff job. A more subjective type of job grouping was therefore carried out by the manager responsible for staff job evaluation and salary structures, who had a detailed knowledge of all staff jobs at the Division.

Jobs were grouped into six categories according to the basic nature of their duties, and the qualifications needed to perform the job effectively. The six groupings were 'Managerial', 'Supervisory', 'Engineers', 'Technical', 'Commercial' and 'Service' staff. The number of staff in each of these groups is set out in Table 5.1.

The management of Polymer Engineering Division felt that the Division's Engineers were a problem group, as they were perceived as being difficult to recruit and retain, and dissatisfied with their jobs and working environments. It was therefore decided to investigate the Division's white-collar labour turnover statistics in order to establish whether the Division's Engineers had a particularly high rate of voluntary turnover. Voluntary turnover has been shown to be related to the individual's satisfaction with his job and working environment as a whole (Brayfield and Crockett 1955, Taylor 1969, Porter and Speers 1973 and Vroom 1964), and was defined, for the

TABLE 5.1

Breakdown of Voluntary Turnover by Job Group

JOB GROUP	Number of Division's Staff in this Group	% Division's Staff	Voluntary Turnover*	Voluntary Turnover* %
<u>TECHNICAL STAFF</u>	125	18.2%	6	4.8%
<u>ENGINEERS</u>	102	14.8%	10	9.8%
<u>MANAGERS</u>	71	10.3%	6	8.45%
<u>COMMERCIAL STAFF</u>	211	30.7%	19	9.00%
<u>SUPER- VISORY STAFF</u>	127	18.5%	1	0.79%
<u>SERVICE STAFF</u>	52	7.5%	6	11.54%
<u>TOTAL</u>	688	100%	48	6.98%

*Voluntary turnover as defined in Section 5.2.1,
from 1st January to 31st December 1978 inclusive.

purposes of this exercise, as all turnover other than that due to retirement, poor health, death, dismissal or the termination of temporary staff. Female staff turnover due to pregnancy or moving home was also defined as involuntary.

Turnover statistics for the period 1 January to 31 December 1978 were obtained and analysed. This period finished only a few weeks prior to the Main Study, and it was hoped that the turnover statistics for this period would therefore be representative of the attitudes which were later to be assessed by the Work and Life Attitudes Questionnaire.

Table 5.1 presents the rates of voluntary turnover for each staff group. There is some variation in the rates of voluntary turnover for each group (for example 'Supervisory' staff voluntary turnover = 0.79%, 'Service' staff = 11.54%), but if one excludes the 'Technical' and 'Supervisory' groups which had a comparatively low rate of voluntary turnover, the remaining groups are fairly similar.

However, dissatisfaction with job duties or the working environment is not always translated into high levels of voluntary turnover (Argyle 1972). Therefore, despite the fact that the analysis of voluntary turnover did

not substantiate the feelings of the Division's management that the Engineers were a problem group, and had a particularly high rate of voluntary turnover, it was decided to include this group in the Main Study. It was hoped that the Engineers' responses to the questionnaire would expose their work and life attitudes and enable an objective assessment to be made of the degree and the causes of their possible dissatisfaction.

A group of 'Commercial' staff were also included in the Main Study. This group was chosen for two main reasons. On the whole, staff carrying out 'Commercial' jobs are usually less well educated than Engineers, and have fewer professional or career aspirations. The literature on the effect of education on job satisfaction is reviewed in Chapter Two. As outlined in Table 5.1, 'Commercial staff' were the largest single group of white-collar staff at Polymer Engineering Division, and it was hoped that any findings concerning this group would therefore be potentially more widely relevant to the Division's staff as a whole than would have been the case had another job group been selected.

5.2.2 Length of Service

The literature on the effect of length of service on job satisfaction reviewed in Chapter Two suggests that tenure may be related to job

satisfaction (Herzberg et al 1957, Hulin & Smith 1965). It is clear, however, from the literature that the effects of age and tenure on job satisfaction are strongly interlinked, and the effect of each individual factor is not fully understood (Gibson & Klein 1971, Hunt & Saul 1975). However, despite the absence of a clear model of the effect of tenure on job satisfaction, it was decided to investigate the effect of this factor on the work and life attitudes of the white-collar staff of Polymer Engineering Division as it was thought that it could be an important influence on attitudes.

It was therefore decided to structure the sample of staff taking part in the Main Study to allow the work and life attitudes of long and short-serving staff to be compared. 'Short-serving' was originally defined as 0-5 years' service, and 'Long-serving' as more than 15 years' service. However, there were insufficient suitable staff with less than 5 years' service available to make up a reasonable sample, so the definition of these two categories had to be changed. 'Relatively short-serving' was defined as 0-10 years service, and 'Relatively long-serving' as 15-30 years service. It was felt that comparisons between these two groups would still allow the effect of length of service on work and life attitudes to be assessed.

5.2.3 Seniority

The literature on the effect of seniority on work and life attitudes is reviewed in Chapter Two, and would seem to indicate that this factor, as a component of occupational level (which is related to both job type and seniority) has a significant effect on work attitudes. Studies carried out by Andrisani & Miljus (1977) and Centers & Bugentahl (1966) suggest that individuals with jobs of a higher occupational level place more importance on intrinsic job satisfaction than do incumbents of jobs of lower occupational levels, who value extrinsic factors and the social environment more highly. It was therefore decided that the Main Study should also try to assess the effect of seniority on work and life attitudes.

The seniority of each subject was determined by means of the grade of his or her job on the appropriate salary scale. The ACTSS salary scale was used for 'Commercial staff' and the TASS salary scale for 'Engineers' (as described in Chapter One). However, job grades on these two scales were not directly comparable, and 'Senior Commercial staff' were not of a similar seniority to 'Senior Engineers' or 'Junior Commercial' to 'Junior Engineers'. Comparisons within Job Type for example 'Senior Commercial staff' with 'Junior Commercial staff', were however valid. The comparison between the

work and life attitudes of junior and senior staff was therefore confined to a single job type, and the 'Commercial staff' were chosen for this comparison as the sample size of this group ($n = 36$) was larger than that of the 'Engineers' ($n = 21$).

5.3 Method

5.3.1 The Design of the Sample Group

A total of 57 white-collar staff were included in the Main Study. This group could be split for comparison along three different dimensions:

1. Job Type - 36 'Commercial staff' and 21 'Engineers'.
2. Length of Service - 33 'Relatively Short-Serving staff' and 24 'Relatively Long-Serving staff'.
3. Seniority - 21 'Senior Commercial staff' and 15 'Junior Commercial staff'.

Table 5.2 sets out the sample groups and number of cases in each sample cell. Unfortunately, the small number of junior 'Engineers' included in the sample, and the discrepancy between the relative seniorities of the 'Engineers' and 'Commercial' staff (discussed in the previous section of this chapter) meant that the effect of seniority on work and life attitudes could not be assessed for the group as a whole, and the comparison was confined to 'Commercial' staff.

TABLE 5.2

The Structure of Sample Groups used
in the Main Study

ENGINEERS

	SENIOR (TASS Salary Grades 1 & 2)	JUNIOR (TASS Salary Grades 5, 6 & 7)
Relatively Short-Serving (0-10 years service)	n = 10	n = 3
Relatively Long-Serving (15-30 years service)	n = 8	n = 0

COMMERCIAL STAFF

	SENIOR (ACTSS Salary Grades 10, 9, 8, 7)	JUNIOR (ACTSS Salary Grades 3 & 4)
Relatively Short-Serving (0-10 years service)	n = 12	n = 8
Relatively Long-Serving (15-30 years service)	n = 9	n = 7

Subjects were selected for the Main Study from personnel records, which gave details of job title, length of service and job grade. Of those requested to complete the questionnaire only two ('Junior, Relatively Short-Serving Commercial staff'), refused to do so, and two ('Senior, Relatively Long-Serving Engineers') were unable to do so as they were away on business.

5.3.2 Modifications made to the Work and Life Attitudes Questionnaire

Following the Pilot Study the layout of the questionnaire's response scales was changed to make them easier for the individuals taking part in the Main Study to understand and complete. The section collecting personal details was also redesigned to make it less cramped, and as requested by the Pilot Study group the instructions for this section were moved to the top of the page. The question asking subjects to supply their length of service was also rephrased to make it clear that service with Polymer Engineering Division, rather than with Dunlop as a whole was required.

As discussed in Chapter Four, following the Pilot Study it was decided that the final scale of the Work and Life Attitudes Questionnaire, assessing 'Happiness' should not be included in the version of the questionnaire used for the Main Study as this scale was not thought to make

an important contribution to the usefulness of the questionnaire as a whole within the context of this particular study. The items assessing Overall Job Satisfaction, Self-Rated Anxiety and Life Satisfaction (items 5x, 6x and 8x respectively in Appendix 3A) were also not included in the version of the Work and Life Attitudes Questionnaire used for the Main Study.

A copy of the amended version of the Work and Life Attitudes Questionnaire used in the Main Study can be found in Appendix 5A.

5.3.3 The administration of the Work and Life Attitudes Questionnaire

The questionnaire was administered to the subjects selected for the Main Study in groups averaging nine individuals in size. A brief introduction was given to the purpose of the study, followed by detailed instructions on how to complete the questionnaire. The atmosphere was kept as informal as possible, and respondents were encouraged to take their time in completing the questionnaire. Each group was asked to ensure that they completed every question, and did not omit any answers. The staff taking part in the Main Study were happy to complete the questionnaire, and were not unduly worried about the issue of confidentiality.

5.4 Results

5.4.1 Biographical Data

The average age of the group as a whole was 42.80 years, the oldest subject being 64 years of age and the youngest 19 years of age. Table 5.3 sets out the average ages for each of the sub-groups making up the Main Study group. The 'Engineer' and 'Commercial' sub-groups were fairly well matched in terms of age - the average age of the Engineers included in the study was 41.67 years, and the average age of the Commercial staff was 42.28 years. The 'Relatively Long' and 'Relatively Short-serving' sub-groups (53.17 years and 33.97 years) and the 'Junior Commercial' and 'Senior Commercial staff' (38.73 years and 44.81 years respectively) were, however, not so closely matched in terms of age. These differences were partly due to the correlation between age and length of service and, to a lesser extent, between age and seniority. Longer-serving, more senior employees will normally tend to be older than shorter-serving junior staff and this is reflected in the average ages presented in Table 5.3.

Table 5.3 also includes the average length of service for each of the sample groups. The average length of service for the group as a whole was 13.40 years, ranging from a maximum length of service of 38 years, to a minimum of one year. The 'Engineer' and 'Commercial'

TABLE 5.3

Average Ages and Lengths of Service for the Main Study Group
as a whole, and each of its constituent sub-groups

GROUP	AVERAGE AGE (Years)	STANDARD DEVIATION (Years)	AVERAGE LENGTH OF SERVICE (Years)	STANDARD DEVIATION
Whole Group	42.80	14.13	13.40	10.19
Engineers	41.67	11.40	13.52	10.40
Commercial Staff	42.28	15.51	13.34	10.22
Relatively Long-serving (Whole Group)	53.17	7.63	24.08	5.92
Relatively Short-serving (Whole Group)	33.97	12.12	5.67	2.76
Junior Commercial Staff	38.73	19.10	12.67	12.13
Senior Commercial Staff	44.81	12.25	13.81	8.69
Junior Short-Serving Engineers	35.67	17.21	3.0	0.82
Senior, Long-Serving Engineers	48.63	8.11	25.63	4.82
Senior, Short-Serving Engineers	37.90	8.24	7.0	2.14

Cont'd

TABLE 5.3 (Cont'd)

Senior, Long-Serving Commercial	53.56	7.09	22.67	5.68
Senior, Short-Serving Commercial	38.25	11.27	7.17	2.23
Junior, Short-Serving Commercial	22.0	5.07	2.63	0.70
Junior, Long-Serving Commercial	57.86	3.89	24.14	6.83

sub-groups were fairly well matched in terms of their average length of service (13.52 years and 13.34 years respectively), and the average length of service of 'Junior Commercial' and 'Senior Commercial' staff was also similar (12.67 years and 13.81 years respectively). As might be expected, there was however a great discrepancy in the average length of service of the 'Relatively Short-serving' and 'Relatively Long-serving' groups (5.67 years and 24.08 years respectively), which was part of the research design. The Main Study group included 15 women, all of whom were 'Commercial' staff.

5.4.2 Differences between Sub-Groups

i) The effect of Job Type and Length of Service on work and life attitudes

Table 5.4 summarises the results of a series of two-way Analyses of Variance carried out to assess the effect of differences in job type and length of service, and the interaction between these two factors, on work and life attitudes.

It can be seen from this table that differences emerged between the 'Engineers' and the 'Commercial staff' on the Intrinsic Job Motivation scale. The 'Engineers', with an average score of 38.71 reported a significantly stronger desire to work well in their jobs in order to achieve intrinsic job satisfaction than

TABLE 5.4

Results of Analyses of Variance carried out to assess the effect of differences in Job Type and Length of Service, and the interaction between these two factors, on work and life attitudes

	Work Involvement	Intrinsic Job Motivation	Total Job Satisfaction	Intrinsic Job Satisfaction	Extrinsic Job Satisfaction	Job Itself Intrinsic Satisfaction	Working Conditions	Employee Relations	Perceived Intrinsic Job Characteristics	Higher Order Need Strength	Self-Rated Anxiety	Total Life Satisfaction	Satisfaction with Personal Life	Satisfaction with Standards and Achievements	Satisfaction with Life style
Engineers (n = 21)	$\bar{x}$ 34.71 sd 3.77	38.71 2.18	66.90 9.52	32.52 5.63	34.38 5.09	21.19 2.99	25.05 3.21	20.67 5.26	34.52 5.40	37.52 3.43	20.81 4.53	66.57 9.96	20.76 3.34	25.57 6.87	20.24 2.86
Commercial Staff (n = 36)	33.83 5.26	36.25 4.52	69.64 12.96	32.17 6.85	37.50 6.86	20.17 4.10	25.56 4.52	23.97 6.66	30.47 6.66	35.66 5.01	19.83 6.56	66.97 9.81	20.89 3.27	24.25 6.33	21.83 3.25
Significance of difference between Engineers and Commercial Staff	NS	F=4.62 df = (1,53) P < 0.05	NS	NS	NS	NS	NS	NS	F=4.73 df = (1,53) P < 0.05	NS	NS	NS	NS	NS	NS
Relatively Long-serving (n = 24)	33.79 3.26	38.46 2.87	69.29 14.13	32.04 7.61	37.25 7.12	19.92 4.17	25.75 4.30	23.67 7.50	32.25 5.28	35.92 3.54	19.79 4.77	64.04 10.62	19.67 3.31	23.96 6.84	20.37 3.46
Relatively Short-serving (n = 33)	34.42 5.74	36.21 4.53	68.18 10.38	32.48 5.66	35.70 6.04	21.0 3.49	25.0 4.05	22.09 5.57	31.76 7.47	36.67 5.30	20.48 6.76	68.88 9.03	21.70 3.12	25.30 6.50	21.88 2.96
Significance of difference between Relatively Long and Short-serving staff	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	F=6.26 df = (1,53) p < 0.05	NS	NS
Significance of Interaction	NS	F=5.17 df = (1,53) P < 0.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

did the 'Commercial' staff, with an average score of 36.25. ($F = 4.62$, $df = (1,53)$, $p < 0.05$). Further information concerning the attitudes of 'Engineers' and 'Commercial staff' concerning Intrinsic Job Motivation is provided by the significant interaction which occurred between Job Type and Length of Service on this scale ($F = 5.17$, $df = (1,53)$ $p < 0.05$). This interaction has been plotted in figure 5.1, and from this it can be seen that the significant difference between different job types ('Engineers' and 'Commercial staff') on the Intrinsic Job Motivation scale is confined to 'Relatively Short-serving' staff. The average score for 'Relatively Short-serving Commercial staff' (34.45) is significantly smaller than the average score for the 'Relatively Short-serving Engineers' (38.92), but the average scores for 'Relatively Long-serving Engineers' (38.37) and 'Relatively Long-serving Commercial staff' (38.50) are very similar.

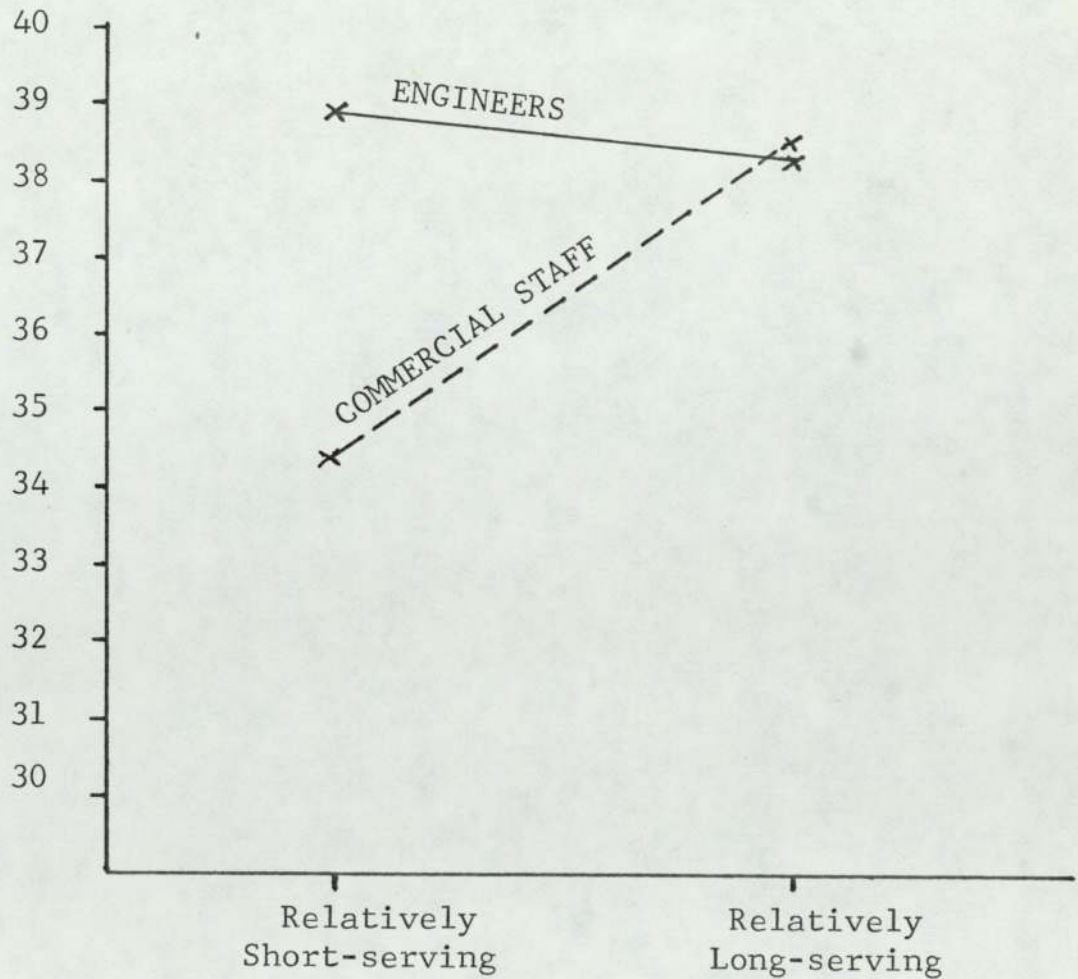
The 'Engineers' with an average score of 34.52, scored more highly on the Perceived Intrinsic Job Characteristics scale than did the 'Commercial staff' (average score 30.47), and a significant difference existed between the scores of these two groups on this scale ($F = 4.73$, $df = (1,53)$, $p < 0.05$). The 'Engineers' felt that their jobs offered more opportunities for Intrinsic Job Satisfaction than did the 'Commercial staff'. No other

Figure 5.1

The Interaction between Job Type and Length of Service on the Intrinsic Job Motivation Scale

Subgroup	$\bar{x}$	sd	n
Relatively Short-serving Commercial staff	34.45	4.81	20
Relatively Long-serving Commercial staff	38.50	3.18	16
Relatively Short-serving Engineers	38.92	2.25	13
Relatively Long-serving Engineers	38.37	2.32	8

Score on
Intrinsic Job Motivation
Scale



significant differences emerged in the work and life attitudes of the 'Engineers' and 'Commercial staff' included in the study.

Differences in Length of Service accounted for only one significant difference between the scores of 'Relatively Long-serving' and 'Relatively Short-serving' staff on the Work and Life Attitudes Questionnaire. Staff with a shorter length of service were significantly more satisfied with their personal lives (average score 21.70), than were the longer-serving staff (average score 19.67) ($F = 6.26$, $df = (1,53)$, $p < 0.05$).

When interpreting the results of a series of Analyses of Variance such as these, it is, however, important to remember that 'significant' differences between groups of results will occasionally emerge simply due to the large numbers of comparisons being made.

Full details of the results of the two-way Analyses of Variance carried out to assess the effects of Job Type and Length of Service, and the interaction between these two factors on Work and Life attitudes are contained in Appendix 5B.

ii) The effect of Seniority and Length of Service on the Work and Life Attitudes of Commercial Staff

Table 5.5 summarises the results of the two-way Analyses of Variance carried out to assess whether Length of Service, Seniority, or the interaction between these two factors were responsible for significant differences in the work and life attitudes of the 'Commercial staff' included in the study. The questionnaire scores of the 'Engineers' taking part in the Main Study were not included in this analysis, because, as discussed earlier in this chapter, at the time of the Main Study the job grades of 'Commercial staff' and 'Engineers' were not directly comparable.

It can be seen from Table 5.5 that the only significant difference emerging from these Analyses of Variance was between 'Relatively Long-serving' and 'Relatively Short-serving Commercial staff' on the Intrinsic Job Motivation scale. Longer-serving 'Commercial staff', with an average score of 38.5, rated Intrinsic Job Motivation as being of greater importance to them than did the 'Commercial staff' with a shorter length of service, who had an average score of 34.45 ($F = 7.47$, $df = (1,32)$, $p < 0.05$). This difference reflects and supports the interaction between the Job Type and Length of Service on the Intrinsic Job Motivation scale described in the previous section of this Chapter.

TABLE 5.5

Results of Analyses of Variance carried out to assess the effect of differences in Seniority and Length of Service, and the interaction between these two factors, on work and life attitudes

(NS = Not Significant)

	Work Involvement	Intrinsic Job Motivation	Total Job Satisfaction	Intrinsic Job Satisfaction	Extrinsic Job Satisfaction	Job Itself Intrinsic Satisfaction	Working Conditions Satisfaction	Employee Relations Satisfaction	Perceived Intrinsic Job Characteristics	Higher Order Need Strength	Self-rated Anxiety	Total Life Satisfaction	Satisfaction with Personal Life	Satisfaction with Standards and Achievements	Satisfaction with Life style
Senior Commercial (n = 21)	$\bar{x}$ 33.48 sd 6.65	36.57 4.86	67.57 13.19	31.14 7.28	36.43 6.68	20.38 4.21	24.86 4.50	22.38 7.05	32.10 6.20	35.67 5.25	20.62 7.39	66.14 10.95	20.81 4.00	23.81 6.70	21.52 3.53
Junior Commercial (n = 15)	$\bar{x}$ 34.33 sd 2.74	35.80 4.30	72.60 12.95	33.6 6.43	39.0 7.28	19.87 4.21	26.53 4.69	26.20 5.82	28.20 7.05	35.67 5.01	18.73 5.52	68.13 8.76	21.0 2.17	24.87 6.17	22.27 3.01
Significance of difference between Junior and Senior Commercial Staff	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Relatively Short-serving Commercial Staff (n = 20)	$\bar{x}$ 33.35 sd 6.68	34.45 4.81	69.70 11.81	32.45 5.73	37.25 6.84	20.60 3.62	25.4 4.68	23.60 6.08	29.85 7.61	35.25 5.01	19.75 7.60	69.0 8.49	21.55 3.43	24.70 6.22	22.75 2.61
Relatively Long-Serving Commercial Staff (n = 16)	$\bar{x}$ 34.4 sd 3.03	38.5 3.18	69.63 15.06	31.81 8.39	37.81 6.30	19.56 4.80	25.69 4.68	24.44 7.69	31.25 5.66	36.19 3.39	19.94 5.48	64.44 12.53	20.06 3.09	23.69 6.81	20.69 3.77
Significance of difference between Short and Long-serving Commercial staff	NS	F = 7.47 df = (1,32) P < 0.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Significance of Interaction	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

No other significant differences emerged between 'Relatively Long-serving' and 'Relatively Short-serving Commercial staff', not even on the sub-scale assessing Satisfaction with Personal Life, where a difference did emerge when 'Relatively Long-serving' and 'Relatively Short-serving staff' as a whole were compared. (Table 5.4).

No differences emerged between 'Junior' and 'Senior Commercial staff' on any of the scales or sub-scales of the Work and Life Attitudes Questionnaire, and no significant interactions emerged between Length of Service and Seniority.

Full details of the results of the two-way Analyses of Variance carried out to assess the effects of Seniority and Length of Service, and the interaction between these two factors on work and life attitudes are available in Appendix 5B.

5.4.3 The Correlation between the scales making up the Work and Life Attitudes Questionnaire and Length of Service

Pearson Product Moment Correlation Coefficients were calculated to establish whether a relationship existed between work and life attitudes and length of service. Where significant differences existed between the responses of different groups to particular scales or sub-scales of the questionnaire (as described in sections 5.4.1 and 5.4.2 of this Chapter), separate Pearson

Product Moment Correlation Coefficients were calculated for the different groups.

However, no significant correlations between work and life attitudes and length of service were identified as a result of this exercise.

Full details of these results are presented in Appendix 5C.

5.5 Discussion

5.5.1 Variation in Work and Life Attitudes with Job Type, Length of Service and Seniority

i) Job Type

As outlined earlier in this chapter, a significant difference emerged between 'Engineers' and 'Commercial staff' on the Intrinsic Job Motivation scale. The 'Engineers' reported a significantly stronger desire to work well in their jobs in order to gain intrinsic job satisfaction than did the 'Commercial staff'. This difference was however moderated by an interaction emerging between length of service and job type on this scale, which implied that the difference between 'Engineers' and 'Commercial staff' on the Intrinsic Job Motivation scale was confined to 'Relatively Short-serving

staff'. A significant difference also emerged between the scores of 'Engineers' and 'Commercial staff' on the Perceived Intrinsic Job Characteristics scale. The 'Engineers' felt that their jobs offered more opportunities for intrinsic job motivation than did the 'Commercial staff'.

The literature on the effects of occupational level and education on work attitudes reviewed in Chapter Two suggests that incumbents of jobs of a higher occupational level (which can be defined both in terms of job type and seniority) place a higher value on intrinsic job satisfaction, whilst incumbents of jobs of a lower occupational level place more value on extrinsic job characteristics and the social environment (Andrisani & Miljus 1977, Centers & Bugentahl 1966). Work carried out by Penzer (1969), Seybolt (1976) and Andrisani and Miljus (1977) also suggests that an individual's educational level is important in determining his expectations of a job, and his concern for intrinsic rewards. They postulate that individuals of a higher educational level expect more from a job in terms of both intrinsic and extrinsic rewards, and are more concerned with achieving intrinsic job satisfaction than are individuals of a lower educational level.

The 'Engineers' and 'Commercial staff' taking part in the Main Study differed both in terms of occupational level and education. Although

no detailed information was collected on the level of education of each of the subjects taking part in the Main Study, the 'Engineers' were generally of a higher educational level than the 'Commercial staff'. The Engineers jobs were more complex, requiring more training, and were on the whole graded at a higher level within the Division's salary structures. As a group, the 'Engineers' were therefore also of a higher occupational level than the 'Commercial staff'.

The difference between the 'Engineers' and the 'Commercial staff' on the Intrinsic Job Motivation scale would, therefore, seem to fit in well with the literature reviewed in Chapter Two. As might have been predicted from the literature, the 'Engineers' taking part in the study placed a significantly higher value on working well in their jobs in order to gain intrinsic job satisfaction than did the 'Commercial staff'. The interaction between job type and length of service which suggests that this difference is confined to 'Relatively Short-serving staff', is discussed in the section dealing with the effects of length of service on work attitudes.

It is interesting that the difference between 'Engineers' and 'Commercial staff' on the Intrinsic Job Motivation scale was not reflected on the Higher Order Need Strength and the Work Involvement scales as might perhaps have been

expected from the correlations between these scales (Warr, Cook & Wall 1978). The Higher Order Need Strength scale assesses the 'importance which a person attaches to the attainment of higher order goals' (Warr, Cook & Wall 1978, p.7), which would normally be of an intrinsic nature. The Work Involvement Scale assesses 'the degree to which a person wants to be engaged in work', (Warr, Cook & Wall 1978 p.7) both in terms of intrinsic and extrinsic features of the job. No differences however emerged between 'Engineers' and 'Commercial staff' on these scales.

The literature suggests that 'Engineers', with their relatively high level of education, might expect more from their jobs, and might therefore assess their jobs more critically than the 'Commercial staff'. However, their scores on the Perceived Intrinsic Job Characteristics scale indicate that the 'Engineers' perceived their jobs as being more capable of offering intrinsic job satisfaction than did the 'Commercial staff'. It is probably true that the 'Engineers' jobs do offer more opportunities for intrinsic job satisfaction, but it is interesting that they should perceive their jobs in this way. The 'Engineers' did not differ significantly from the 'Commercial staff' on any other scale of the Work and Life Attitudes Questionnaire which aimed to assess their attitudes to their job duties, such as

the Job Satisfaction scale. It is probably therefore reasonable to conclude from these results that either the 'Engineers' were not in fact more critical of their jobs than the 'Commercial staff', or they were more critical, but this was balanced by their job duties, which were more interesting than those of the 'Commercial staff'. The Intrinsic Job Motivation scales and the Perceived Intrinsic Job Characteristics scales are fairly strongly associated (Warr, Cook & Wall 1978), as might be suggested by the significant difference emerging between 'Engineers' and 'Commercial staff' on both scales.

No difference emerged between the two job types on the Life Satisfaction, Happiness or Self-Rated Anxiety scales.

ii) Length of Service

Differences emerged between the 'Relatively Long-Serving' and 'Relatively Short-Serving' staff taking part in the Main Study on the scale assessing Satisfaction with Personal Life. Staff with a shorter length of service were significantly more satisfied with their personal lives than were the longer-serving staff. A difference also emerged between 'Relatively Long' and 'Relatively Short-Serving Commercial Staff' on the Intrinsic Job Motivation scale. Longer-serving Commercial staff rated Intrinsic

Job Motivation as being of greater importance to them than did the 'Relatively Short-serving Commercial staff'. A significant interaction also emerged between job type and length of service on the Intrinsic Job Motivation scale.

The literature on the effect of length of service on work attitudes is summarised in Chapter Two. Herzberg et al (1957) and Hulin and Smith (1965) postulated that job satisfaction declines from the beginning of the individual's working life, until his early thirties when it starts to rise, and continues to do so until the end of the individual's career. Gibson and Klein (1971) sought to explain this 'U-shaped' relationship between length of service and job satisfaction, with their idea that job satisfaction increases with age, but decreases with increasing tenure. Friedlander (1965) postulated that poor performers experience decreasing job satisfaction with increasing tenure, whilst high performers experience increasing job satisfaction. Hunt & Saul (1975) described a positive linear relationship between age and tenure and job satisfaction, and looked more closely at the role of personal characteristics on different components of job satisfaction.

The difference emerging between 'Relatively Long-serving' and 'Relatively Short-serving staff' on the sub-scale assessing Satisfaction with Personal Life may be due to the difference

in the ages, rather than tenure of these two groups. The shorter-serving staff (average age = 33.97 years) were considerably younger than the longer-serving staff (average age = 53.17 years). No evidence is available from the literature to suggest that length of service may be related to satisfaction with personal life.

The significant difference which emerged between 'Relatively Long-serving' and 'Relatively Short-serving Commercial staff', and the interaction between Job Type and Length of Service on the Intrinsic Job Motivation scale is more difficult to explain. It would seem that the longer-serving 'Commercial staff' taking part in the study attached more importance to Intrinsic Job Motivation, although this idea is not supported by the literature reviewed in Chapter Two.

The interaction between Job Type and Length of Service on the Intrinsic Job Motivation scale suggests that the significant difference between 'Engineers' and 'Commercial staff' on this scale is confined to 'Relatively Short-serving staff'. The longer-serving 'Commercial staff' attach more importance to Intrinsic Job Motivation than do the shorter-serving 'Commercial staff', and this group does not therefore differ significantly from the longer-serving 'Engineers'. The interaction between Job Type and Length of Service on the Intrinsic Job Motivation scale is plotted in Figure 5.1.

No differences emerged between 'Relatively Long' and 'Relatively Short-serving staff' on the Job Satisfaction scale or any of its sub-scales, despite an indication from the literature and the researcher's experience of the Division that this might be the case. The literature reviewed in Chapter Two does not touch upon the relationship between Intrinsic Job Motivation and Length of Service, but confines itself solely to the relationship between Length of Service and Job Satisfaction. The results of the Main Study concerning the effect of tenure on work and life attitudes, although interesting, therefore do not fit in particularly well with the literature reviewed earlier in this thesis.

iii) Seniority

No differences emerged between 'Junior' and 'Senior' Commercial staff on any of the 15 scales and sub-scales of the Work and Life Attitudes Questionnaire. As discussed earlier in this Chapter, the literature reviewed in Chapter Two postulates that individuals of a higher occupational level are more concerned with Intrinsic Job Motivation, whilst individuals of a lower occupational level regard extrinsic job satisfaction and the social environment as being of greatest importance to them.

However, differences of this kind did not emerge from the Main Study, possibly because the difference in seniority between the 'Senior' and 'Junior Commercial staff' was not sufficiently great.

5.5.2 Overall Description of Results

The work and life attitudes of the Main Study group as a whole are presented here with the discussion in order to allow more comprehensive evaluation of these results.

Table 5.6 presents the average scores for the whole group taking part in the Main Study on each of the scales and sub-scales of the Work and Life Attitudes Questionnaire. Average scores are however only given for those scales where a significant difference did not emerge between the work and life attitudes of the various sub-groups making up the Main Study Group ('Engineers' and 'Commercial staff', 'Senior Commercial staff' and 'Junior Commercial staff', and 'Relatively Long' and 'Relatively Short-serving staff'). Table 5.6 also provides an interpretation of the average scores of the whole group on each scale and sub-scale of the Work and Life Attitudes Questionnaire, where appropriate. The average total scores have been divided by the number of items composing each scale, to give a general indication of the score on each item. This has then been interpreted in terms of the appropriate response scale.

The average scores on each of 15 scales and sub-scales of the Work and Life Attitude Questionnaire have also been calculated for each of the seven sample cells outlined in Table 5.2. This information is available in Appendix 5D.

TABLE 5.6

Average scores for each scale and subscale
of the Work and Life Attitudes Questionnaire
for the Main Study Group as a whole (N = 57)

Scale	Mean Score (s.d.)	n of items	Average score on each item	Interpretation (for response scales see Appendix 5A)
Work Involvement	34.16 4.83	6	5.69	'Agree a little/a lot' with statements expressing a high level of Work Involvement.
Intrinsic Job * Motivation				
Total Job Satisfaction	68.65 11.99	15	4.58	} 'I'm not sure/I'm moder- ately satisfied' when asked opinion of various features of the working environment.
Intrinsic Job Satisfaction	32.30 6.49	7	4.61	
Extrinsic Job Satisfaction	36.35 6.50	8	4.54	
Employee Relations Satisfaction	22.75 6.44	6	3.79	Moderately Dissatisfied/ Neutral reaction to these features of the working environment.
The job itself intrinsic satis- faction	20.54 3.79	4	5.14	Moderately satisfied.
Working Conditions Satisfaction	25.37 4.13	5	5.07	Moderately satisfied.
Perceived Intrinsic* Job Characteristics				
Higher Order Need Strength	36.35 4.62	6	6.06	Rate higher order chara- cteristics of the job as being 'very important' to them.

TABLE 5.6 (Continued)

Self-Rated Anxiety	20.19 5.97	6	3.37	Subjects are 'mildly concerned' or 'worry a little' about their life in general.
Total Life Satisfaction	66.35 10.24	15	4.42	A neutral/moderately satisfied attitude to life in general.
Satisfaction with standards and achievements.	24.74 6.62	7	3.53	A moderately dissatisfied/neutral reaction to questions assessing satisfaction with standards and achievements.
Satisfaction with personal life*				
Satisfaction with life style	21.24 3.24	4	5.31	Moderately satisfied with life style.

*Average scores are not given for those scales or subscales where significant differences were found to exist between different subgroups.

The average score on the Work Involvement scale suggests that the group as a whole had a strong desire to be engaged in work. The group also felt that higher order job characteristics (as assessed by the Higher Order Need Strength scale) were very important to them. Although the group as a whole was moderately satisfied with the features of their jobs assessed by the Job Itself Intrinsic Satisfaction and Working Conditions Satisfaction sub-scales of the Total Job Satisfaction scale, the reaction to items assessing Intrinsic Job Satisfaction, Extrinsic Job Satisfaction and Total Job Satisfaction was less positive, the average score being only 'slightly satisfied'. The group was slightly dissatisfied with the features of their jobs assessed by the Employee Relations Satisfaction sub-scales, the average score lying between 'I'm not sure' and 'I'm moderately dissatisfied'. Dissatisfaction within the Job Satisfaction scale as a whole was therefore associated with the Employee Relations Satisfaction sub-scale. Warr, Cook & Wall (1978 p. 12) define this sub-scale as a cluster of items which 'straddled the intrinsic and extrinsic features (of the job) in a way which suggested a concern for individual recognition and management behaviour'.

Table 5.7 contains an analysis of the average scores on each of the items making up the Total Job Satisfaction scale. The average score on each item is interpreted in terms of the appropriate response scale (Appendix 5A). The

TABLE 5.7

Analysis of average scores on each item composing the
Total Job Satisfaction Scale

Item	Sub-scales of which this item forms a part	$\bar{x}$ (sd)	Interpretation (for response scales see Appendix 5A)
1. 'The Physical Work Conditions'	Extrinsic job satisfaction and Working Conditions Extrinsic Satisfaction	4.0 1.81	'I'm not sure' - neutral reaction
2. 'The freedom to choose your own method of working'	Intrinsic job satisfaction and Job itself Intrinsic Satisfaction	5.44 1.36	'Moderately/very satisfied'
3. 'Your fellow workers'	Extrinsic job satisfaction and Working Conditions Extrinsic Satisfaction	5.56 1.02	'Moderately/Very Satisfied'
4. 'The recognition you get for good work'	Intrinsic job satisfaction and Employee Relations Satisfaction	3.89 1.86	'Moderately Dissatisfied/ I'm not sure'
5. 'Your immediate boss'	Extrinsic job satisfaction and Working Conditions Extrinsic Satisfaction	5.32 1.24	'Moderately/Very satisfied'
6. 'The amount of responsibility you are given'	Intrinsic job satisfaction and Job itself Intrinsic Satisfaction	5.11 1.15	'Moderately satisfied'
7. 'Your rate of pay'	Extrinsic job satisfaction and Employee Relations Satisfaction	3.72 1.69	'Moderately Dissatisfied/ I'm not sure'
8. 'Your opportunity to use your abilities'	Intrinsic job satisfaction and Job itself Intrinsic Satisfaction	4.65 1.42	'I'm not sure/Moderately satisfied'

Cont'd

TABLE 5.7 (Cont'd)

9. Industrial Relations between management and workers in your firm'	Extrinsic job satisfaction and Employee Relations Satisfaction	3.61 1.42	'Moderately Dissatisfied/ I'm not sure'
10. 'Your chance of promotion'	Intrinsic job satisfaction and Employee Relations Satisfaction	3.51 1.51	'Moderately Dissatisfied/ I'm not sure'
11. 'The way your firm is managed'	Extrinsic job satisfaction and Employee Relations Satisfaction	3.58 1.48	'Moderately Dissatisfied/ I'm not sure'
12. 'The attention paid to suggestions you make'	Intrinsic job satisfaction and Employee Relations Satisfaction	4.68 1.43	'I'm not sure/Moderately satisfied'
13. 'Your hours of work'	Extrinsic job satisfaction and Working Conditions Extrinsic Satisfaction	5.40 1.29	'Moderately/Very Satisfied'
14. 'The amount of variety in your job'	Intrinsic job satisfaction and Job Itself Intrinsic Satisfaction	5.23 1.57	'Moderately/Very Satisfied'
15. 'Your job security'	Extrinsic job satisfaction and Working Conditions Extrinsic Satisfaction	5.11 1.18	'Moderately/Very Satisfied'

intention of this exercise was to investigate whether any particular item or items stood out as being particularly responsible for job dissatisfaction amongst the study group. Although the results of this exercise were interesting, they should be interpreted with caution, as the validity of individual item scores may not be good.

As can be seen from Table 5.7, the average scores on the majority of items represent some degree of satisfaction, ranging from the relatively high level of satisfaction expressed with items 2, 3, 5, 13, 14 and 15, to the lower level expressed with items 6, 8 and 12. Item number 1, which assesses satisfaction with the 'Physical Working Conditions' has an average score of 4.0, which is exactly neutral on the response scale. The subjects taking part in the Main Study expressed dissatisfaction with the remaining items (numbers 4, 7, 9, 10 and 11), all of which form part of the Employee Relations Satisfaction sub-scale. The items making up this sub-scale (with the exception of item number 12, 'The attention paid to suggestions you make') were therefore the principal causes of job dissatisfaction amongst the white-collar staff of Polymer Engineering Division taking part in the Main Study.

Of these five items, three ('Your rate of pay', 'Your chance of promotion', and 'The recognition you get for good work') represent a concern for

recognition by management of the individual's efforts and successes in his job. Scores on these items would therefore seem to indicate that the staff of Polymer Engineering Division taking part in the Main Study felt that they were not receiving sufficient feedback on their efforts at work. The problem would seem to be partly one of management style ('The recognition you get for good work') but also partly due to more formal types of recognition, such as remuneration and promotion. The need for recognition of the individual's efforts at work is mentioned by Hackman and Oldham in their 'Job Characteristics Model' (1976), which is reviewed in Chapter Two. 'Feedback' is included in the model as one of the five 'Core Job Dimensions' necessary for high motivation, satisfaction and performance and low turnover and absenteeism. Hackman & Oldham (1976 p. 257 and 258) define feedback as 'the degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance'. The dissatisfaction reported by the subjects taking part in the Main Study with these particular items would seem to indicate that they felt that they were not receiving sufficient feedback on, or recognition of their performance at work.

The low scores on the remaining two items, 'Industrial Relations between management and

workers in your firm' and 'The way your firm is managed' would seem to be symptomatic of dissatisfaction with the performance of the Division's management team. The attitudes assessed by the Work and Life Attitudes Questionnaire are however entirely subjective and based on the opinions of the individuals involved. This is especially true in the case of these particular results, where it is difficult to judge whether dissatisfaction is actually due to poor management or to the perception of poor management, which could possibly be distorted by lack of information or by hearsay.

The group as a whole was slightly anxious about life in general (as assessed by the Self-Rated Anxiety scale), and although they were moderately satisfied with their lives as a whole (as assessed by the Total Life Satisfaction scale) and by their life-styles (as assessed by the Satisfaction with Life-Style sub-scale), they were moderately dissatisfied with their standards and achievements, assessed by the sub-scale composed of items 7, 8, 11, 12, 13, 14 and 15, of the Total Life Satisfaction scale. The majority of these items (11, 12, 13, 14 and 15) relate to the standards of society as a whole, rather than those of the individual. Items 7 and 8 ('What you are accomplishing in life', and 'What the future seems to hold for you') however relate to the

individual's satisfaction with more personal standards and achievements.

5.5.3 Comparison of the results of the Main Study with the norms available for the Work and Life Attitudes Questionnaire

Table 5.8 compares the average scores of the whole group (or sub-group where a significant difference occurred between sub-groups) with the norms developed for the Work and Life Attitudes Questionnaire by Warr, Cook and Wall (1978) and Clegg and Wall (1980).

As described in section 4.4.3 of Chapter Four, both the study described in this thesis, and the study carried out by Clegg and Wall (1980) were carried out within engineering firms. The subjects used by Warr, Cook and Wall (1978) in the development of the questionnaire were taken from manufacturing industry, and from firms of a variety of different sizes and different geographical positions. Warr, Cook and Wall's (1978) sample was composed entirely of blue-collar workers, Clegg & Wall (1980) used a mixture of white-collar and blue-collar workers, and the study described in this chapter was based solely on white-collar staff. The original sample group used in the development of the questionnaire (Warr, Cook & Wall 1978) was entirely male. Clegg and Wall (1978) included 83 women in a total sample of 659 white-collar and blue-collar staff, and this study included 15 women all of whom were

TABLE 5.8

Comparison of overall results of Main Study with norms developed by
Warr, Cook & Wall (1978) and Clegg & Wall (1980)

SCALE	NUMBER OF ITEMS	Results of Main Study		Clegg & Wall (1980)			
		WHOLE GROUP (N= 57) $\bar{x}$ (sd)	Warr, Cook & Wall (1978) (Study 2 N= 390) $\bar{x}$ (sd)	WHOLE GROUP $\bar{x}$ (sd) N	MANAGERIAL (N=30) $\bar{x}$ (sd)	SUPERVISORY (N=81) $\bar{x}$ (sd)	WHITE - COLLAR (N=142) $\bar{x}$ (sd)
WORK INVOLVEMENT	6	34.16 (4.83)	33.37 (5.86)				
INTRINSIC JOB MOTIVATION*	6	SC = 34.45 (4.81) LC = 38.50 (3.18) SE = 38.92 (2.25) LE = 38.37 (2.32)	36.82 (5.45)				
TOTAL JOB SATISFACTION	15	68.65 (11.99)	70.86 (16.02)	71.90 (13.58) 574	79.15 (10.79)	77.57 (8.50)	74.00 (10.29)
INTRINSIC JOB SATISFACTION	7	32.30 (6.49)	32.74 (8.53)	31.55 (7.91) 603	37.93 (6.92)	35.88 (4.71)	32.16 (6.68)
EXTRINSIC JOB SATISFACTION	8	36.35 (6.50)	38.22 (8.63)	40.42 (6.87) 605	42.11 (4.98)	41.68 (4.84)	41.47 (5.02)
JOB ITSELF INTRINSIC SATISFACTION	4	20.54 (3.79)	20.35 (5.05)	19.85 (4.56) 625	23.07 (3.99)	22.16 (2.33)	20.01 (3.85)
WORKING CONDITIONS SATISFACTION	5	25.37 (4.13)	26.06 (4.89)	25.99 (4.30) 620	27.18 (3.26)	26.67 (3.29)	26.90 (3.27)

Cont'd ...

TABLE 5.8 (Cont'd)

EMPLOYEE RELATIONS SATISFACTION	6	22.75 (6.44)	24.58 (8.21)	26.05 (6.66)	29.97 (5.36)	28.71 (4.64)	26.70 (5.49)
PERCEIVED INTRINSIC JOB CHARACTERISTICS	10	E = 34.52 (5.40) C = 30.47 (6.66)	32.74 (8.39)	31.19 (7.67)	40.67 (4.92)	36.84 (5.31)	32.97 (6.32)
HIGHER ORDER NEED STRENGTH	6	36.35 (4.62)	36.07 (5.03)	36.45 (4.46)	36.83 (4.66)	37.16 (3.39)	36.38 (3.85)
SELF-RATED ANXIETY	6	20.19 (5.96)	18.40 (7.44)				
TOTAL LIFE SATISFACTION	15	66.35 (10.24)	67.09 + (11.40)				
SATISFACTION WITH PERSONAL LIFE	4	S = 21.70 (3.12) L = 19.67 (3.31)	21.51 + (3.48)				
SATISFACTION WITH LIFE AND ACHIEVEMENTS	7	24.74 (6.62)	25.44 + (7.12)				
SATISFACTION WITH LIFE STYLE	4	21.24 (3.24)	20.22 + (3.86)				

Key: E = Engineers, C = Commercial Staff, L = Relatively Long-Serving, S = Relatively Short-Serving

+ = Study One (N = 200)

* A significant interaction between Job Type and Length of Service occurred on this scale.

employed as 'Commercial staff'. The ages of the subjects selected for this study ranged from 19 to 64 years, an age range which was very similar to that of the sample group used by Warr, Cook and Wall (1978) (20-64 years) and Clegg & Wall (1980) (17-64 years). The average length of service for the study group as a whole was 13.40 years, slightly longer than the average length of service of Clegg and Wall's (1980) sample (7.11 years), and the group used by Warr, Cook and Wall (1978) (9.02 years).

It can be seen from Table 5.8 that the average scores on each scale and sub-scale of the Work and Life Attitudes Questionnaire are fairly similar to the norms developed by Warr, Cook & Wall (1978). The scores on the Intrinsic Job Satisfaction Scale (Warr, Cook & Wall (1978), 32.74, Main Study 32.30), The Job Itself Intrinsic Satisfaction scale (Warr, Cook and Wall (1978), 20.35, Main Study 20.54), the Working Conditions Satisfaction scale (Warr, Cook and Wall (1978), 26.06, Main Study 25.37), and the Total Life Satisfaction scale (Warr, Cook & Wall (1978) 67.09, Maint Study 66.35) were very similar for these two studies. In the case of all the other results making up the Work and Life Attitudes Questionnaire, the difference between the two sets of average scores never exceeded the smaller of the two standard deviations.

The results of the Main Study are also fairly similar to the norms developed by Clegg & Wall (1980). The scores of the Higher Order Need Strength (Clegg & Wall (1980) 36.45, Main Study 36.35), Working Conditions Satisfaction (Clegg & Wall (1980) 25.99, Main Study 25.37), Job Itself Intrinsic Satisfaction (Clegg & Wall (1980) 19.85, Main Study 20.54), and the Intrinsic Job Satisfaction (Clegg & Wall (1980) 31.55, Main Study 32.30) scales are fairly similar. Once again, the difference between the 'whole group' norms developed by Clegg & Wall (1980) and the results of the Main Study are never larger than the appropriate standard deviation.

The 'Whole Group' norms developed by Clegg & Wall (1980) however incorporate the questionnaire responses of 406 blue-collar workers included in the sample. The groups are probably more closely matched in terms of job type if the results of the Main Study are compared with the 'white-collar' norms developed by Clegg & Wall (1980). However, although the Main Study group was composed entirely of white-collar staff, it also included some supervisory and managerial staff. On some scales the norms developed by Clegg & Wall (1980) for 'white-collar' staff are closer to the Main Study average scores than are the Clegg & Wall (1980) whole group norms, for example the Intrinsic Job Satisfaction scale (Clegg & Wall 'White-Collar' (1980)

32.16, Main Study 32.30), and the Job Itself Intrinsic Satisfaction (Clegg & Wall 'White-Collar' (1980) 20.01, Main Study 20.54) scales. However, on most of the remaining scales the 'white-collar' norms are not as close to the Main Study average scores as the 'whole group norms' developed by Clegg & Wall (1980). The differences between the whole group and white-collar norms are however fairly small, and on only one of the scales (the Extrinsic Job Satisfaction scale) does the (white-collar) norm developed by Clegg & Wall (1980) differ from the Main Study average by an amount which exceeds its standard deviation.

As discussed earlier in this Chapter, a significant difference emerged between the average scores of the 'Engineers' and 'Commercial staff' taking part in the Main Study on the Perceived Intrinsic Job Characteristics scale. The average score for the 'Commercial staff' (30.47) was significantly lower than the average for the 'Engineers' (34.52). As discussed earlier in this Chapter, this difference was thought to be due to the difference in the occupational level and education of these two job types. The norm for this scale developed by Clegg & Wall (1980) using 'managerial' staff (40.67) is considerably greater than that for white-collar staff (32.97). Insufficient evidence is available to assess whether the Clegg & Wall's 'managerial staff' were of a higher

educational and occupational level than their 'white-collar staff', but this may have been the case. However, whereas the average scores obtained by the 'managerial staff' on the scales used by Clegg & Wall (1980) are consistently greater than the averages for 'white-collar' staff, the average scores obtained by 'Engineers' did not always exceed those of the 'Commercial staff'. Factors other than occupational level and educational attainment may therefore be responsible for these differences.

As outlined in Chapter Three, Warr, Cook & Wall (1978) identified a correlation between skill level and Perceived Intrinsic Job Characteristics, and to a lesser extent between skill level and Higher Order Need Strength. Clegg & Wall (1980) also established that Perceived Intrinsic Job Characteristics increased with organisational level. The Main Study identified a similar relationship between Job Type and Perceived Intrinsic Job Characteristics, but failed to identify an association between Job Type and Higher Order Need Strength. The Main Study also identified an interaction between Length of Service and Job Type on the Intrinsic Job Motivation scale, which could possibly be related to a correlation identified by Warr, Cook & Wall (1978) between age and Intrinsic Job Motivation, as age and tenure are normally closely related.

On the whole the relationship between personal and occupational characteristics and work and life attitudes identified by the Main Study would therefore seem to be reasonably similar to those identified by earlier studies using the Work and Life Attitudes Questionnaire, and the results of the Main Study are fairly similar to the norms for the Work and Life Attitudes Questionnaire developed by Warr, Cook and Wall (1978), and Clegg & Wall (1980).

5.6 Summary

The two principal aims of this research, which were to investigate causes of staff dissatisfaction at Polymer Engineering Division, and identify differences in the work and life attitudes of different staff groups, were therefore accomplished fairly successfully. The Work and Life Attitudes Questionnaire identified the principal causes of dissatisfaction amongst the group as a whole, which were based on the Employee Relations Satisfaction sub-scale of the Job Satisfaction scale, and also identified significant differences between the work and life attitudes associated with groups of differing job type and tenure.

CHAPTER SIX

Conclusions and Recommendations

6.1 An overview of the Main Study

As outlined earlier in this thesis, the original aims of the research were twofold. Firstly, it was hoped to identify the principal causes of dissatisfaction amongst the staff of Polymer Engineering Division, with a view to suggesting possible strategies for improving staff morale and work attitudes. Secondly, it was hoped that the study would establish whether work and life attitudes varied systematically with personal and job characteristics.

As outlined in Chapter Five, the Work and Life Attitudes Questionnaire, adapted for self-completion and amended as a result of the Pilot Study was completed by 57 respondents taken from the white-collar staff of Polymer Engineering Division. The sample group was structured to allow comparisons to be made between staff of different Job Types, Tenure and Seniority. The results of the Main Study fell into two principal categories; differences between the work and life attitudes of staff of different Job Types, Length of Service or Seniority, and the work and life attitudes of the group as a whole.

The Main Study successfully identified differences between the work and life attitudes of individuals of different Job Type and Tenure. A significant difference emerged between 'Engineers' and 'Commercial staff' on the Intrinsic Job Motivation scale. This would seem to support the notion put forward by Andrisani & Miljus (1977) and Centers and Bugentahl (1966), that incumbents of jobs of higher occupational levels (which, as stated in Chapter Two, can be defined in terms of both job type and seniority) place a greater importance on intrinsic job satisfaction than do incumbents of jobs of a lower occupational level. The results of the Main Study also suggest that longer-serving 'Commercial staff' attach more importance to intrinsic job satisfaction than do shorter-serving 'Commercial staff'. The interaction between Length of Service and Job Type on this scale extends these findings to suggest that the desire for intrinsic satisfaction increases with tenure for incumbents of lower-level jobs, but remains fairly static for those at higher occupational levels. The Main Study however failed to uncover similar differences in the importance attached to intrinsic job satisfaction or any other aspect of the work and life attitudes of staff of differing levels of seniority.

As reviewed in the literature contained in Chapter Two, Penzer (1969), Seybolt (1976) and Andrisani & Miljus (1977) put forward the notion that individuals with a higher level of education have higher expectations of their jobs and working environments than do

those of lower levels of education, and therefore assess them more critically. Although the 'Engineers' were generally of a higher educational level than the 'Commercial staff', they obtained higher scores on the Perceived Intrinsic Job Characteristics scale. It is difficult to assess whether this finding refutes the ideas of Andrisani and Miljus (1977), Seybolt (1976) and Penzer (1969), or whether the difference in the job duties rather than the educational level of these two groups is in fact responsible for the difference on this scale. The difference between 'Relatively Long' and 'Relatively Short-serving staff' on the scale assessing Satisfaction with Personal Life may be a reflection of age rather than tenure, as the shorter-serving staff were on average considerably younger than the longer-serving staff.

The average scores on each scale and subscale of the Work and Life Attitudes Questionnaire revealed important sources of dissatisfaction amongst the Main Study group as a whole. The job-related causes of dissatisfaction were located entirely within the Employee Relations Satisfaction scale, defined by Warr, Cook and Wall (1978 p. 12) as assessing attitudes to both extrinsic and intrinsic aspects of the job representing a concern for 'individual recognition and management behaviour'. Dissatisfaction was expressed with five of the six items composing this subscale, assessing satisfaction with pay, opportunities for promotion,

recognition for good work, the way the firm is managed and industrial relations at Polymer Engineering Division. It is interesting that dissatisfaction did not emerge with job duties or working conditions.

6.2 Comparison of the Pilot Study and Main Study

At this stage it is perhaps useful to re examine the results of the Pilot Study (described in Chapter Four) in order to ascertain whether any similarities exist between this and the results of the Main Study, which might contribute to the findings of the research as a whole.

The Pilot Study was carried out on a small group of the Division's staff, composed of 10 Managers and 8 Trade Union Representatives. The average age of the Pilot Study group as a whole was 46.4 years, which was broadly similar to, although a little older than that of the Main Study group (42.80 years). The average length of service of the staff making up the Pilot Study group was 15.5 years, which was again similar to, although a little greater than the average length of service of the Main Study group (13.40 years). The differences in age and length of service between the Pilot Study group and the Main Study group probably reflected the fact that the individuals composing the Pilot Study group were chosen for their status (either as Managers or Trade Union Representatives) within the Division, but the Main Study group was more balanced in terms of

length of service and seniority. In the case of both the Pilot Study group and the Main Study group, women were in a minority, composing approximately 11% of the Pilot Study and 26% of the Main Study group.

As discussed in Chapter Four, differences emerged between the Managers and the Trade Union Representatives on 7 of the questionnaire's 16 scales and subscales. The Managers were generally significantly more satisfied with their jobs than were the Trade Union Representatives, and this was reflected in significant differences between these two groups on the Total Job Satisfaction scale and all its subscales with the exception of the Working Conditions Satisfaction subscale. The Managers also perceived their jobs as offering more opportunities for intrinsic job motivation than did the Trade Union Representatives. The Managers were however ~~less~~ anxious about life in general than the Trade Union Representatives. No differences emerged between the two groups on the Work Involvement, Intrinsic Job Motivation, or Higher Order Need Strength scales, or on the Total Life Satisfaction scale or any of its three subscales.

The results of the Pilot Study are compared with those of the Main Study in Table 6.1. Generally speaking, the Pilot Study Managers were more satisfied with their jobs and working environments (with the exception of the items covered by the Working Conditions Satisfaction subscale) than the Trade

TABLE 6.1

Comparison between the average scores on each scale and sub-scale of the Work and Life Attitudes Questionnaire of the Pilot Study Group and the Main Study Group

SCALE	MAIN STUDY (n = 57) $\bar{x}$ (sd)	PILOT STUDY (n = 18) $\bar{x}$ (sd)
WORK INVOLVEMENT	34.16 (4.83)	33.39 (4.92)
INTRINSIC JOB MOTIVATION*	Short-serving Commercial Staff 34.45 (4.81) Long-serving Commercial Staff 38.50 (3.18) Short-serving Engineers 38.92 (2.25) Long-serving Engineers 38.37 (2.32)	35.89 (4.99)
TOTAL JOB SATISFACTION*	68.65 (11.99)	Managers 77.1 (8.61) Trade Union Representatives 56.5 (11.40)
INTRINSIC JOB SATISFACTION* (SUB-SCALE)	32.30 (6.49)	Managers 38.1 (4.25) Trade Union Representatives 25.62 (10.50)
EXTRINSIC JOB SATISFACTION* (SUB-SCALE)	36.35 (6.50)	Managers 39.0 (6.76) Trade Union Representatives 31.38 (6.93)
EMPLOYEE RELATIONS SATISFACTION* (SUB-SCALE)	22.75 (6.44)	Managers 28.1 (4.98) Trade Union Representatives 17.0 (5.58)
JOB ITSELF INTRINSIC SATISFACTION* (SUB-SCALE)	20.54 (3.79)	Managers 23.5 (3.03) Trade Union Representatives 16.62 (6.25)
WORKING CONDITIONS SATISFACTION* (SUB-SCALE)	25.37 (4.13)	24.33 (4.55)

TABLE 6.1 (Cont'd)

PERCEIVED INTRINSIC JOB CHARACTERISTICS*	Engineers Commercial Staff	34.52 (5.40) 30.47 (6.66)	Managers Trade Union Representatives	40.5 (5.19) 33.0 (7.07)
HIGHER ORDER NEED STRENGTH	36.35 (4.62)		37.22 (2.80)	
SELF-RATED ANXIETY*	20.19 (5.96)		Managers Trade Union Representatives	17.3 (4.27) 23.00 (4.98)
TOTAL LIFE SATISFACTION	66.35 (10.24)		68.17 (7.07)	
SATISFACTION WITH STANDARDS AND ACHIEVEMENTS* (SUB-SCALE)	24.74 (6.62)		21.28 (2.72)	
SATISFACTION WITH PERSONAL LIFE* (SUB-SCALE)	Relatively Short-serving Relatively Long-serving	21.70 (3.12) 19.67 (3.31)	25.28 (5.72)	
SATISFACTION WITH LIFE-STYLE (SUB-SCALE)	21.24 (3.24)		21.61 (2.25)	

* More than one value is given for this scale where a significant difference emerged between the sub-groups composing the Main Study or Pilot Study Group.

Union Representatives. However although significant differences emerged between these two groups on 7 of the 16 scales and subscales, on only one of these particular scales did a significant difference emerge between the subgroups making up the Main Study group. On this scale (the Perceived Intrinsic Job Characteristics scale) the Pilot Study Managers achieved a higher score than the Trade Union Representatives, and the Main Study Engineers than the Commercial staff. Significant differences also emerged between Main Study subgroups on the Intrinsic Job Motivation scale, and the scale assessing Satisfaction with Personal Life, where no difference emerged between the Pilot Study Managers and Trade Union Representatives.

It is however difficult to compare the results of the Main Study and the Pilot Study as although the samples are broadly similar in terms of age and length of service and all the subjects were white-collar staff, the influence of the Trade Union Representatives' trade union attitudes and opinions on their work and life attitudes is unknown. As discussed in Chapter Four, it seems likely that some, if not all, of the differences between the average scores of the Trade Union Representatives and Managers taking part in the Pilot Study were due to the trade union attitudes and opinions of the Trade Union Representatives. The average scores for the Managers may also have been affected by their knowledge of the inclusion of the Trade Union Representatives in the Pilot Study group, as they may have anticipated that the Trade Union Representatives would be fairly critical of their

jobs and the Division as a whole, and so expressed a greater level of satisfaction than they actually felt to compensate for this. The scores of the Pilot Study group and the Main Study group as a whole were broadly similar on the Work Involvement (Main Study 34.16, Pilot Study 33.39), Intrinsic Job Motivation (Main Study scores range from 34.45 - 38.92, Pilot Study 35.89) and Higher Order Need Strength scales (Main Study 36.35, Pilot Study 37.22). Quite large differences however emerged between these two groups on the Job Satisfaction scale and its five subscales (for example, Intrinsic Job Satisfaction, Main Study 32.30, Pilot Study Managers 38.1, Pilot Study Trade Union Representatives 25.62; Employee Relations Satisfaction Main Study 22.75, Pilot Study Managers 28.1, Pilot Study Trade Union Representatives 17.0.) The scores of the Main Study group and the Pilot Study group on the Perceived Intrinsic Job Characteristics scale were also fairly dissimilar (Perceived Intrinsic Job Characteristics Main Study 'Engineers' 34.52, 'Commercial staff' 30.47, Pilot Study Managers 40.5, Pilot Study Trade Union Representatives 33.0. Therefore, although it would have been useful to use the Pilot Study data to extend the results of the Main Study, perhaps using the Managers as a third job type, this was not possible.

6.3 Recommendations

Generally speaking, there are two kinds of recommendations which emerge from the results of the Main Study. Firstly, they are those aimed at improving the job satisfaction and work attitudes of the staff as a whole by dealing with the sources of dissatisfaction identified by the Main Study. Secondly, there are recommendations aimed at using differences in the work and life attitudes of individuals of different job types or tenure in order to improve their motivation and satisfaction at work.

6.3.1 Methods of improving job satisfaction amongst the Division's staff as a whole

As discussed in the first section of this chapter, the Main Study group identified 5 sources of dissatisfaction within their jobs and working environments as a whole (as assessed by the Job Satisfaction scale), all of which formed part of the Employee Relations Satisfaction subscale. These five sources of dissatisfaction were 'Your rate of pay', 'Your chance of promotion', 'The recognition you get for good work', 'Industrial Relations between management and workers in your firm', and 'The way your firm is managed' (Appendix 5A).

i) 'Your rate of pay'

Many modern theories have tended to disregard and downgrade pay as an important source of

motivation and job satisfaction at work. Herzberg (1968), postulated that pay, as a 'Hygiene' factor, cannot produce job satisfaction, and is responsible only for dissatisfaction. Herzberg put forward the idea that other features of the job, such as recognition and responsibility are those which should be promoted to increase motivation and job satisfaction at work. The Job Characteristics Model (Hackman and Oldham 1976), echoes these ideas, as intrinsic job factors such as skill and variety, task identity, task significance, autonomy and feedback are defined as the main determinants of job satisfaction.

Nevertheless, pay is widely used by employers as a means of motivating staff, often for senior, highly skilled employees. A study carried out by Campbell et al (1970) looked at the strategies employed by 33 American companies to motivate staff, and discovered that all used pay, even for their senior managers. It would seem that employees also attach considerable importance to pay - Tiffin and McCormick (1966) reviewed a number of studies in which employees were asked to assess the importance of pay to them, and found that it was rated as being between the 3rd and 7th most important source of motivation and satisfaction at work. Opsahl

and Dunnette (1966) suggest that pay is important as a motivator in four different ways; as a generalised reinforcer, as an incentive, as a 'generalised anxiety reducer', and as an instrument for gaining a wide variety of outcomes. Locke, Feren, McCaleb, Shaw and Denny (1980) postulate that money is related, either directly or indirectly, to all man's needs from those at a very basic level (such as food and shelter) to much higher level needs (such as cultural, social and self-actualisation needs), and is also related to self-esteem, as it is evidence of an individual's performance and status at work. Locke, Feren, McCaleb, Shaw and Denny (1980) reviewed a number of earlier studies, and evaluated and compared the effect of four different strategies (Goal setting, Participation, Job Enrichment and Money) on performance. They found that money emerged as the most effective motivator, with an average improvement in performance of 30% resulting from the introduction of a system of piece rate payment. It seems however that relative rather than absolute levels of pay are important in determining job satisfaction, as individuals generally have a very clear idea of how they should be paid in comparison with others (Vroom 1964, Lawler and Porter 1963).

The original terms of reference for this research, discussed in Chapter One, attributed problems of low motivation and job satisfaction amongst the white-collar staff of Polymer Engineering Division entirely to the payment system. Salaries at the Division were felt to be considerably lower than others in the locality, and it was therefore proposed that the research should investigate salary levels in the Leicester area, and also look at the payment system used for white-collar staff. As described in Chapter One, the terms of reference for this research were redefined to allow a broader approach to be adopted to the investigation of causes of possible dissatisfaction amongst the Division's white-collar staff. It is therefore particularly interesting that pay emerged from the Main Study as a source of dissatisfaction.

This particular outcome of the Main Study is also supported by the initial interviews carried out with 7 of the Division's white-collar staff (described in Chapter Three) which aimed to explore sources of satisfaction and dissatisfaction. Five sources of dissatisfaction emerged from these interviews, which included remuneration and pay differentials. Although these interviews only represented an unsystematic first attempt at assessing the attitudes of a group of the Division's staff, it is particularly gratifying that the results seem to fit in fairly well with those of the Main Study.

A suitable outcome of this aspect of the research might therefore be a partial return to the original terms of reference. An interview programme could be carried out to establish which aspects of the payment system were responsible for the dissatisfaction identified by the Work and Life Attitudes Questionnaire. Dissatisfaction might for example be due to the differentials between the salaries paid to staff of a similar job type but different seniority, staff of different job types, or the comparison between the Division's staff and others employed in the locality. If the problem is one of internal differentials, there may be a need to restructure the appropriate salary scale. If the Division's staff were dissatisfied because they perceived their salaries as lower than salaries paid for similar work by other local employers, a salary survey could perhaps be carried out to determine whether this was actually the case. If the salaries paid to Polymer Engineering Division's white-collar staff were to emerge from this exercise as significantly lower than those paid to similar staff by other local employers, the Division's management would have to decide whether to increase their rates of pay. If, on the other hand, Polymer Engineering Division's white-collar salaries were to emerge as equivalent to or better than the rates paid by local employers the survey

could perhaps be published within the Division. This might improve the white-collar staff's perception of their salaries, and thereby increase their satisfaction with this aspect of their employment.

ii) 'Your chance of promotion'

Argyle (1972) quotes several American studies where the opportunity for promotion was ranked by workers as 1st or 2nd in a list of the important sources of motivation and satisfaction at work. Opportunities for promotion are an important factor in determining the individual's motivation if the system whereby individuals are selected for promotion is seen as fair, and where the chance of promotion is closely related to the individual's performance (Ribeaux and Poppleton 1978). However, the importance placed on promotion opportunities varies from individual to individual, and promotion is thought to be more important to white-collar than blue-collar workers (Argyle 1972). Herzberg et al (1959) found that job satisfaction is closely correlated with the individual's estimate of his chance of promotion, which is usually a subjective, rather than objective assessment. Therefore, in order for an individual to be satisfied with his promotion opportunities, not only should such opportunities exist, but the individual should also perceive them to exist.

It would seem that the perception by the Division's white-collar staff of their chance of promotion could be improved in two ways. Firstly, the opportunities for promotion at Polymer Engineering Division could be increased. Wherever possible, at both the local and national level, preference should be given to internal applicants for vacant posts, whose promotion or transfer would create other opportunities within the organisation. Attitudes to promotion might also be improved if a system of manpower planning was introduced, and individuals were selected and trained for known forthcoming vacancies, and given structured training and work experience for several months prior to actually taking up their new post. In this way, the forthcoming promotion or transfer could be used as a source of motivation, and the effectiveness of training and internal recruitment policies could be maximised. One further way in which promotion opportunities might be improved would be by means of the development of a clearly defined career structure for all white-collar job types. The existence of such a structure, providing it was operating correctly, would improve the individual's perception of his opportunities for advancement, and would also make it easier for the Division's management to structure training to groom the individual for his next job. Both manpower planning and

the development of a career structure would however require a considerable input from management in order to develop appropriate systems, and ensure their continued effectiveness.

The second way in which attitudes towards promotion could be improved would be by improving the staff's perception of their promotion opportunities, both within the Division and the Dunlop organisation as a whole. A first step might be to ensure that all staff vacancies are advertised internally within the Division. In the case of more senior jobs, a national system whereby senior or professional vacancies throughout Dunlop's Divisions in the United Kingdom and abroad were circulated to all eligible staff on a regular basis (possibly once a month), would probably do a great deal to improve the perception by these staff of the number of opportunities for promotion and advancement. Such a circular could also carry details of internal transfers and promotions, which would encourage staff to believe that opportunities for advancement do exist. Such a system, operating at both the local and national level, would probably do a great deal to improve attitudes towards opportunities for promotion, at very little cost to the organisation as a whole.

iii) 'Recognition for good work'

The Job Characteristics Model (Hackman & Oldham 1976), reviewed in Chapter Two, emphasises the importance of positive feedback on job satisfaction. According to this model, the overall potential of a job to prompt internal work motivation (its 'Motivating Potential Score') is greatest when the job is high on one or more of the 'Core Job Dimensions' (Skill Variety, Task Identity and Task Significance) that are responsible for experienced meaningfulness, and is also high on Autonomy and Feedback. Feedback increases work motivation and performance, largely due to the effect of achievement motivation (NAch) (McClelland 1961). NAch is a stable personality characteristic which is most effective in encouraging individuals to perform well in jobs where there is a high level of feedback, as the high achiever is keen to receive information on his progress. Feedback, either directly or through others is therefore an important job characteristic (White 1980).

There are several ways in which feedback on performance at work can be improved. One example is the establishment of a formal system whereby efficiency is continually monitored against a system of pre-defined performance standards. Performance standards are however difficult to define, and

performance is difficult to monitor in the case of higher-level jobs where the products of the job are often intangible. Lawler (1980) suggests that feedback may also be increased by dividing large organisations into 'Mini enterprises' which, because of their size, allow each individual worker feedback on the success of the organisation of the type normally only received by the most senior managers. Feedback may also be received via formal rewards such as pay and promotion (also identified by the Main Study group as causes of dissatisfaction), and more informally via the individual's supervisor. Good supervision should be an everyday source of feedback on performance for the individual worker.

The dissatisfaction expressed by the Main Study group with this particular item would therefore seem to indicate that the group as a whole is generally fairly high on NACH, and desires information on individual performance. A suitable result of this finding might be the development of an individual performance-rating system for the staff involved in the Main Study, should their job duties be suitable for this type of scheme. A programme of supervisory training, emphasising this particular aspect of the supervisors role might also encourage informal feedback on the individual's performance. It is interesting

that the interviews carried out prior to the Pilot Study to explore causes of satisfaction and dissatisfaction amongst 7 of the Division's staff also identified this factor as a cause of dissatisfaction. Despite the small size of this group, and the time lag between these interviews and the Main Study, the identification by both exercises of this particular cause of dissatisfaction is reassuring.

- iv) 'Individual Relations between Management and Workers', and 'the way the firm is managed'

The Employee Relations Satisfaction Subscale, of which these two items form a part, was defined by Warr, Cook and Wall (1978 p. 12), as assessing both intrinsic and extrinsic aspects of the job representing a concern for 'individual recognition and management behaviour'. The dissatisfaction expressed with these two items is probably related to the overall style and behaviour of the Division's management team, rather than to relationships between managers and individual employees. This particular source of dissatisfaction could possibly be improved by means of some relatively simple and inexpensive innovations, aimed at improving staff perception of management behaviour.

Formal methods allowing information on management decisions to be disseminated could be encouraged. These might include a weekly newsletter, seminars to which all members of the management team are invited, and regular "talks" by members of senior management to the Division's workforce as a whole on management policy. If each employee felt well-informed about the Division and the policies of its management, and if information was presented in a positive way, it is possible that the Division's management would be viewed more favourably by the workforce as a whole. Each seminar might incorporate a 'question and answer' session where individual members of staff could ask questions and comment on management policy. A lively newsletter might also provide a forum for discussion between management and staff.

A series of formalised channels whereby management policy could be outlined and discussed by senior managers with the staff as a whole might therefore serve to improve staff attitudes, by increasing their understanding of management policy. This source of dissatisfaction is however relatively difficult to deal with, because even those staff who are well informed may disagree with management policy.

6.3.2 Recommendations for improving the job satisfaction of specific groups of staff

As outlined in Chapter Five, it was hoped that the Main Study would identify groups of staff who place particular importance on certain features of the working environment, so that management policies could be geared more closely to the needs of specific staff. A review of the literature on the effects of personal and occupational characteristics on work and life attitudes revealed that differences might be expected to emerge between staff of differing Job Type, Tenure and Seniority. The professional status of the Engineers also suggested that they might be expected to view their job differently from the Commercial staff (Wilensky 1964, Millerson 1964).

However, although differences emerged between different groups - for example on the Intrinsic Job Motivation scale, these are difficult to fully explain and to translate into policy. The 'Engineers' would seem to attach significantly more importance to Intrinsic Job Motivation than do the 'Commercial staff', which suggests that interesting, satisfying jobs are more important to them. On the basis of this evidence alone it would seem that in cost-benefit terms it would be more advantageous

to the Division as a whole to redesign 'Engineers' jobs to increase their potential for Intrinsic Job Motivation, than to redesign 'Commercial' jobs in a similar way. However, although no difference emerged between 'Relatively Long Serving' and 'Short Serving' staff as a whole, differences did emerge between 'Relatively Long' and 'Relatively Short-Serving Commercial Staff' on this scale. This might indicate that the importance of Intrinsic Job Motivation may be related to tenure for some job types, but not for others. Variation in attitudes to Intrinsic Job Motivation is clearly more complex than might initially seem from the difference between different job types on this scale.

Therefore, this research was successful in that it demonstrated that work and life attitudes amongst the staff of Polymer Engineering Division do vary with job and personal characteristics. This would suggest that policies to motivate and satisfy staff should be varied and geared to the needs of specific groups of staff (for example grouped by job type or tenure) rather than the staff workforce as a whole. However, more details of the precise nature of the effect of personal and occupational characteristics on the work and life attitudes of the staff of Polymer Engineering Division are

needed before a detailed and varied policy designed to meet the needs of different staff groups can be designed.

6.4 Methodological Considerations and Further Studies

An important criticism of the research described in this thesis is related to the ideas of Roberts and Glick (1981) who state that this type of study should involve (Roberts and Glick 1981 p. 211);

'the simultaneous examination of situational (taxonomic), within-person (cognitive consistency), and person-situation (task-incumbent response and environment-incumbent response) relations, and careful maintenance of the distinctions between these types of relations'.

They feel that these factors have often been assumed by researchers to be isomorphic, when this is normally not the case.

Roberts and Glick (1981) suggest that studies aiming to assess the effects of task characteristics (situational factors) on work attitudes have often assumed all jobs within a particular classification to be identical, when this is rarely so. The research described in this thesis compared the work and life attitudes of the incumbents of two different job types, but did not evaluate variation in job duties within either of these two categories. Ideally the system of job classification should have been more detailed and rigorous, so that within-group differences in job duties were minimised.

Roberts and Glick (1981) also comment that within-person (perception-behaviour or cognitive consistency) relations are important in determining individual behaviour, although they are frequently mistaken by researchers for person-situation responses. This was also a limitation of the research described in this thesis, as no distinction was made between within-person and person-situation relations.

Therefore, the principal limiting factor of this research was that it did not distinguish between the three types of relations identified by Roberts and Glick (1981). Future studies aiming to investigate the effect of personal and occupational characteristics on work and life attitudes, possibly in order to validate and expand the results of the Main Study, should incorporate separate assessments of within-person, person-situation and situational relations. Such a study should also utilise a detailed system of job classification in order to ensure that variation within job type is minimised. Such a study should probably involve a larger sample group than that used in the Main Study, although such a large sample, structured in order to allow comparisons to be made between individuals of different personal and task characteristics, would probably have to be taken from more than one organisation.

Roberts and Glick (1981) also suggest that the use of the questionnaire as a tool for assessing attitudes should be reduced. As discussed in Chapter

Three, attitudes should ideally be assessed using a 'multiple indicator technique' (Oppenheim 1976), incorporating more than one method of measuring attitudes. An example of this type of approach is provided by Wallis & Cope (1980) who used participant observation, interviews, questionnaires, activity sampling, the collection of critical incidents and documentary evidence as ways of evaluating levels and causes of Job Satisfaction amongst psychiatric nurses. The use of several different techniques counteracts the methodological disadvantages of the questionnaire (discussed in Chapter Three), and allows results to be validated. The Work and Life Attitudes Questionnaire should therefore ideally have been used in conjunction with other attitude measurement techniques - for example, a programme of unstructured interviews.

The statistical analyses used on the data collected by the Work and Life Attitudes Questionnaire might also have included regression analyses and other more sophisticated statistical techniques, as suggested by Roberts and Glick (1981), who criticise the prevalence of simple correlational techniques and Analyses of Variance amongst studies of this kind.

6.5 Postscript

As soon as the Main Study was completed a meeting was held for managers and trade union representatives when the findings of the research were outlined by the researcher. At this stage the results were well received; both managers and trade union representatives found them interesting and could generally relate the results to their own understanding of the Division.

However, despite this good initial reception the recommendations of the research were never implemented. There were two principal reasons for this. Shortly after the end of the research the Division's financial position worsened to such an extent that a considerable number of redundancies were necessary. Perhaps understandably the priorities of the Division's management changed and less importance was attached to improving staff motivation and morale. This was compounded by the departure of the Division's Personnel Manager for a job with Dunlop's Tyre Division. This individual had provided a major part of the management support for the research, and his departure decreased the pressure for the study's recommendations to be implemented.

However, even if the recommendations of the research are never implemented, the study will have served a useful purpose in making the Division's managers and union representatives more aware of the nature and the complexity of those features of the working environment which may lead to job satisfaction amongst the workforce.

Scale 4: Perceived Intrinsic Job Characteristics

Introduction. You may have felt in the last section that some of the job features mentioned were not present in your job very much. It is likely that some of the aspects did apply to your job, while others applied less or not at all. Could we now go through a small number of these items again, together with a few new ones, but this time thinking about how much you feel each feature is present in the job you are doing? For this we use a different scale (SHOW CARD 'M').

- 4.1. The freedom to choose your own method of working
- 4.2. The amount of responsibility you are given
- 4.3. The recognition you get for good work
- 4.4. Being able to judge your work performance, right away, when actually doing the job
- 4.5. Your opportunity to use your abilities
- 4.6. The amount of variety in your job
- 4.7. Your chance of promotion
- 4.8. The attention paid to suggestions you make
- 4.9. The feeling of doing something which is not trivial, but really worthwhile
- 4.10. Doing a whole and complete piece of work

Scale 3: Higher Order Need Strength

Introduction. Now let's look at the things that matter to you in a job. What things are important in a job and what things are less important in your opinion? I'd like you to think about paid work in general—any paid job you might do or might like to do, not just your present job.

I'm going to mention a number of characteristics which you might look for in a job. Please show me on this scale (SHOW CARD 'Y') how important each one is when you think about jobs you would like to have.

- 3.1. Using your skills to the maximum
- 3.2. Achieving something that you personally value
- 3.3. The opportunity to make your own decisions
- 3.4. The opportunity to learn new things
- 3.5. Challenging work
- 3.6. Extending your range of abilities

Scale 8: Self-rated Anxiety

Introduction. So far we have thought a great deal about work and your job. For this set of items I would like you to consider some wider aspects of your life that go beyond work, although they may include it.

Most people these days have something to worry about, sometimes big things, sometimes quite small things. Would you think back over the past few weeks and let me know to what extent you may have been concerned or worried about various circumstances that affect your life. This is the scale to be used for this section (SHOW CARD 'Z').

- 8.1. Not having enough money for day to day living
- 8.2. Your immediate family
- 8.3. Your health
- 8.4. Growing old
- 8.5. How things are going at work
- 8.6. Britain's economic future
- 8x. In general, how worried or concerned do you feel these days?

Scale 6: Life Satisfaction

Introduction. Finally, will you consider some other aspects of your life at the present moment, and indicate how satisfied you feel about each one in turn? Please use this scale again (SHOW CARD 'X').

- 6.1. The house or flat that you live in
- 6.2. The local district that you live in
- 6.3. Your standard of living: the things you can buy and do
- 6.4. The way you spend your leisure time
- 6.5. Your present state of health
- 6.6. The education you have received
- 6.7. What you are accomplishing in life
- 6.8. What the future seems to hold for you
- 6.9. Your social life
- 6.10. Your family life
- 6.11. The present government
- 6.12. Freedom and democracy in Britain today
- 6.13. The state of law and order in Britain today
- 6.14. The moral standards and values in Britain today
- 6.15. Britain's reputation in the world today
- 6x. Taking everything together, your life as a whole these days.

Appendix 3A (continued)

Scale 7: Happiness

And, as a final item.

7. Taking all things together, how would you say things were these days? Would you say you are:
3. Very happy
 2. Fairly happy
 1. Not too happy

RESPONSE CARDS

Card 'W' (for Scales 1 and 2)

1. No, I strongly disagree
2. No, I disagree quite a lot
3. No, I disagree just a little
4. I'm not sure about this
5. Yes, I agree just a little
6. Yes, I agree quite a lot
7. Yes, I strongly agree

Card 'Y' (for Scale 3)

1. Not at all important
2. Not particularly important
3. I'm not sure about its importance
4. Moderately important
5. Fairly important
6. Very important
7. Extremely important

Card 'M' (for Scale 4)

1. There's *none* of that in my job
2. There's *just a little* of that in my job
3. There's a *moderate amount* of that in my job
4. There's *quite a lot* of that in my job
5. There's a *great deal* of that in my job.

Card 'X' (for Scales 5 and 6)

1. I'm extremely dissatisfied
2. I'm very dissatisfied
3. I'm moderately dissatisfied
4. I'm not sure
5. I'm moderately satisfied
6. I'm very satisfied
7. I'm extremely satisfied

Card 'Z' (for Scale 8)

1. Not at all concerned
2. Just a little concerned
3. Mildly concerned
4. Worry a little
5. Quite worried
6. Very worried
7. Extremely worried

Appendix 3B -

Product Moment Correlation Coefficients calculated to assess the correlation
between each scale and subscale of the Work and Life Attitudes Questionnaire

(taken from Warr, Cook and Wall 1978)

	(a)	(b)	1	2	3	4	5	5a	5b	5c	5d	5e	6	6a	6b	6c	6x	7	8
(a) Age	03																		
(b) Skill level	04	01																	
1. Work involvement	17	13	37																
2. Intrinsic job motivation	-09	17	17	33															
3. Higher order need strength	01	29	28	36	28														
4. Perceived intrinsic job characteristics	06	06	30	35	09	73													
5. Total job satisfaction	04	11	27	36	12	76	93												
5a. Intrinsic job satisfaction	07	01	30	30	05	60	93	72											
5b. Extrinsic job satisfaction	06	13	23	34	14	70	82	91	62										
5c. Job itself intrinsic satisfaction	08	03	30	31	10	58	84	65	91	58									
5d. Working conditions extrinsic satisfaction	04	02	26	28	03	64	92	84	67	62	67								
5e. Employee relations satisfaction	12	01	34	31	04	54	70	63	69	59	67	61							
6. Overall job satisfaction	-08	-03	17	18	05	30	42	39	38	34	28	41	42						
6a. Total life satisfaction	-13	04	16	22	20	24	20	20	16	17	15	17	27	68					
6b. Satisfaction with personal life	-11	-08	15	09	-01	22	37	35	33	29	22	38	34	88	39				
6c. Satisfaction with standards and achievement	07	01	08	18	-05	24	39	35	36	32	29	36	37	71	39	41			
6d. Satisfaction with life style	-03	-11	08	13	03	28	45	43	39	37	32	40	47	66	48	51	57		
6e. Overall life satisfaction	01	-03	13	17	11	36	49	42	50	36	44	48	39	43	35	31	38	51	
7. Happiness	-01	06	-01	04	20	-15	-24	-19	-27	-15	-22	-25	-21	-18	-04	-17	-21	-18	-23
8. Self-rated anxiety	07	01	-01	05	04	-15	-23	-20	-24	-14	-21	-23	-17	-21	-03	-23	-19	-22	-22
8a. Overall self-rated anxiety																			61

Notes: (i) $n=590$ except for scale 4 ($n=390$) and scale 6 ($n=200$)
(ii) $P<0.001$ when $r>0.15$ except for scale 4 (>0.16) and scale 6 (>0.23).

Appendix 3C

I Varimax rotated loadings on six factors

(Taken from Warr, Cook and Wall 1978)

Scale item	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
1. Work involvement												
1.1	02	65	46	-13	-04	06	10	06	05	12	-10	01
1.2	60	53	40	21	10	-07	-10	18	13	06	07	12
1.3	68	59	11	08	32	13	-01	06	06	02	06	-03
1.4	16	65	34	08	01	-03	-16	-01	06	06	-05	-07
1.5	31	44	46	25	-08	07	-05	-01	11	27	16	12
1.6	49	66	39	18	08	04	-05	04	03	09	03	11
2. Intrinsic job motivation												
2.1	07	13	69	69	21	01	32	25	06	21	02	01
2.2	21	12	59	75	16	02	11	05	16	09	03	03
2.3	08	05	48	69	50	12	22	15	01	08	15	-05
2.4	-18	13	59	75	33	02	01	07	02	01	11	05
2.5	09	18	67	76	21	04	19	05	13	13	04	-02
2.6	-02	01	42	48	41	23	27	15	09	16	04	06
3. Higher order need strength												
3.1	24	13	10	03	73	54	25	22	-12	-03	05	08
3.2	08	30	13	07	75	58	12	14	-08	-05	25	04
3.3	08	-08	01	02	80	74	25	20	-11	01	-03	05
3.4	03	05	02	03	81	78	03	-04	-01	11	12	07
3.5	-10	-01	19	15	72	78	15	05	-01	08	23	-01
3.6	-08	-07	25	05	73	77	14	-01	-04	09	20	02
4. Perceived intrinsic job characteristics												
4.1	-03	-06	04	05	27	15	72	73	13	13	-05	-06
4.2	05	07	13	12	35	16	70	68	01	27	07	05
4.3	-01	08	23	12	25	04	49	31	51	69	10	04
4.4	—	06	—	03	—	14	—	57	—	13	—	-06
4.5	13	07	01	15	36	05	68	71	16	30	10	05
4.6	15	11	-02	14	28	13	67	63	04	21	-02	05
4.7	13	03	-08	01	35	19	16	20	42	54	-10	02
4.8	07	03	-01	08	41	11	41	26	39	61	-10	09
4.9	—	08	—	24	—	06	—	49	—	38	—	-02
4.10	—	08	—	09	—	11	—	47	—	16	—	-03
5. Job satisfaction												
5.1	14	08	23	13	-05	-03	16	15	45	43	10	-09
5.2	-10	-02	03	01	02	09	61	52	26	27	06	07
5.3	08	11	33	12	16	13	01	14	43	35	05	14
5.4	-12	12	25	05	-09	02	21	16	68	73	-03	02
5.5	06	04	-04	04	07	02	06	17	59	59	05	04
5.6	-11	02	17	19	03	15	57	43	33	39	14	-03
5.7	06	19	19	05	-07	03	06	07	49	55	-03	-23
5.8	16	04	18	21	-13	03	59	48	44	49	03	09
5.9	11	02	02	09	-13	-04	15	14	70	68	-13	-12
5.10	10	08	02	12	-06	07	29	14	62	66	-15	-04
5.11	01	13	-02	13	-12	-05	03	05	76	74	-06	-06
5.12	12	-03	07	23	-03	-05	16	18	65	65	-11	-04
5.13	41	31	29	17	-10	-05	23	15	21	28	02	-18
5.14	12	16	17	15	02	-02	59	50	28	35	-10	-12
5.15	61	05	-05	03	-07	-05	26	34	20	51	-02	-21
8. Self-rated anxiety												
8.1	03	-05	07	-02	27	-03	-15	-67	-14	-01	63	66
8.2	02	-05	10	-07	27	10	-02	-05	-11	-04	55	74
8.3	01	-04	-07	-02	08	06	13	-01	07	01	74	77
8.4	10	-06	-10	08	-08	-04	07	-13	03	04	63	62
8.5	-22	04	08	-01	32	09	-13	01	-24	-33	41	65
8.6	11	10	14	13	21	05	17	01	-19	-21	33	41

Appendix 3C

II Deciles, means and standard deviations for all scales and subscales for Warr, Cook and Wall's (1978) combined sample (n = 590) (except scale 4 (n = 390) and scale 6 (n = 200), see Chapter Three) (Taken from Warr, Cook and Wall 1978)

		1	2	3	4	5	5a	5b
		Work involvement	Intrinsic job motivation	Higher order need strength	Perceived intrinsic job characteristics	Total job satisfaction	Intrinsic job satisfaction	Extrinsic job satisfaction
Decile	1	24.0	28.5	26.6	20.8	47.6	20.3	25.8
	2	27.8	32.3	31.0	24.5	56.8	25.2	30.4
	3	29.9	34.2	33.0	27.5	63.6	28.1	33.6
	4	31.8	35.6	34.7	29.8	68.0	31.4	36.2
	5	33.3	37.0	35.8	32.2	71.5	33.2	38.2
	6	35.0	38.1	37.0	35.0	75.6	34.9	40.3
	7	36.2	39.4	38.4	37.3	78.5	37.2	42.4
	8	37.3	40.8	39.8	40.1	83.5	39.2	44.7
	9	39.1	41.4	41.3	43.5	89.0	42.5	48.0
	10	42.0	42.0	42.0	51.0	102.0	49.0	56.0
Mean		32.83	36.25	35.27	32.74	70.53	32.61	37.99
SD		5.94	5.51	5.80	8.39	15.42	8.25	8.36

		5c	5d	5e	5x	6	6a
		Job itself intrinsic satisfaction	Working conditions extrinsic satisfaction	Employee relations satisfaction	Overall job satisfaction	Total life satisfaction	Satisfaction with personal life
Decile	1	13.0	18.5	12.4	2.66	53.3	16.4
	2	15.9	21.5	16.7	4.16	57.1	18.3
	3	17.7	23.2	20.0	4.48	62.0	19.8
	4	19.2	24.6	23.0	4.80	64.4	20.7
	5	20.5	25.8	24.7	5.11	67.0	21.5
	6	21.8	27.2	26.7	5.40	70.4	22.2
	7	23.0	28.5	28.5	5.70	72.9	22.9
	8	23.9	29.7	30.6	6.02	76.0	23.9
	9	25.7	31.2	34.2	6.50	81.0	24.9
	10	28.0	35.0	42.0	7.00	93.0	28.0
Mean		20.32	25.89	24.40	5.33	67.09	21.51
SD		4.90	4.84	7.95	1.44	11.40	3.48

		6b	6c	6x	8	8x
		Satisfaction with standards and achievement	Satisfaction with life style	Overall life satisfaction	Self-rated anxiety	Overall self-rated anxiety
Decile	1	14.7	14.8	2.61	9.0	1.00
	2	18.3	16.9	4.11	11.6	1.25
	3	21.5	18.0	4.32	13.8	1.69
	4	24.2	19.1	4.53	15.7	2.14
	5	25.6	20.1	4.75	17.4	2.62
	6	27.2	21.2	4.94	19.1	3.10
	7	28.8	22.1	5.27	21.4	3.58
	8	30.8	23.0	5.64	24.2	4.12
	9	33.7	23.9	6.04	27.8	5.11
	10	42.0	28.0	7.00	42.0	7.00
Mean		25.44	20.22	5.13	18.61	3.37
SD		7.12	3.86	1.28	7.18	1.59

APPENDIX 4A.

The amended version of the Work and Life Attitudes
Questionnaire used in the Pilot Study.

WORK AND LIFE ATTITUDES QUESTIONNAIRE.

This questionnaire is part of a research programme which is being carried out to find out how staff at PED feel about their jobs and working environment. It offers you a very real opportunity to voice your opinions, and it is completely confidential.

Your cooperation in completing this questionnaire would be greatly appreciated.

Please score each statement by referring to the scale which you will find on the same page, and circling the relevant number on the number scale next to the question.

For example:

Pleasant and comfortable working conditions are
very important to me.

1 2 3 4 5 6 7

- | | |
|--------------|------------------|
| I disagree | 1. Strongly |
| | 2. Quite a lot |
| | 3. Just a little |
| I'm not sure | 4. |
| I agree | 5. Just a little |
| | 6. Quite a lot |
| | 7. Strongly |

If this is the answer that
you want to give, then circle
the same number on the scale
next to the actual question.

APPENDIX 4A (Continued).

Could you please fill in these details about yourself before you begin?

THIS QUESTIONNAIRE IS COMPLETELY CONFIDENTIAL

		Office Use.		
		Case Number		
AGE				51-53
SEX	*	M F	1 2	56-57
LENGTH OF SERVICE AT PED				58
(to nearest whole year)				59-60
NUMBER OF JOB CHANGES WHILST AT PED				61
DO YOU HAVE ANY CHILDREN UNDER 18? *		Yes No	1 2	62
FULL JOB TITLE				63-65
DEPARTMENT				66-67
HOURS WORKED *		9-5 SHIFTS	1 2	68

*Please delete the answer which is not appropriate to you.
The numbers in the boxes to the right of the question should be ignored -
they are for office use.

QUESTION ONE

Page One.

Office
Use.

0	1	

For some people work is just a means to get money, it's something they have to put up with. For others, work is the centre of their life, something that really matters to them.

I would first of all like to ask you about your reactions to work in general, and whether actually doing work is important to you personally. By 'work' I mean having a paid job. Here are some statements which people have made about work and working in general. Without limiting yourself to your present job would you indicate how strongly you agree or disagree with each comment in turn, using the scale below. Remember that I am asking you about paid jobs in general, not simply your present job.

I disagree	{ 1. Strongly
	{ 2. A lot
	{ 3. A little
I'm not sure	4.
I agree	{ 5. A little
	{ 6. A lot
	{ 7. Strongly

- | | | |
|--|---------------|----|
| 1.1 Even if I won a great deal of money on the pools I would still continue to work somewhere. | 1 2 3 4 5 6 7 | 10 |
| 1.2 Having a job is very important to me. | 1 2 3 4 5 6 7 | 11 |
| 1.3 I should hate to be on the dole. | 1 2 3 4 5 6 7 | 12 |
| 1.4 I would soon get very bored if I had no work to do. | 1 2 3 4 5 6 7 | 13 |
| 1.5 The most important things that happen to me involve work. | 1 2 3 4 5 6 7 | 14 |
| 1.6 If unemployment benefit was really high I would still prefer to work. | 1 2 3 4 5 6 7 | 15 |

QUESTION TWO

Now can we move a little closer to how you personally feel about your present job? Again I would like you to think about a number of statements that people have made about work, but this time think about your present job, not work in general. Please indicate on the scale below how strongly you agree or disagree with each comment. Remember that I am asking you how you feel about your present job.

I disagree	{ 1. Strongly
	{ 2. A lot
	{ 3. A little
I'm not sure	4.
I agree	{ 5. A little
	{ 6. A lot
	{ 7. Strongly

- | | | |
|---|---------------|----|
| 2.1 I feel a sense of personal satisfaction when I do this job well. | 1 2 3 4 5 6 7 | 16 |
| 2.2 My opinion of myself goes down when I do this job badly. | 1 2 3 4 5 6 7 | 17 |
| 2.3 I take pride in doing my job as well as I can. | 1 2 3 4 5 6 7 | 18 |
| 2.4 I feel unhappy when my work is not up to its usual standard. | 1 2 3 4 5 6 7 | 19 |
| 2.5 I like to look back on a days work with a sense of a job well done. | 1 2 3 4 5 6 7 | 20 |
| 2.6 I try to think of ways of doing my job more effectively. | 1 2 3 4 5 6 7 | 21 |

APPENDIX 4A (Continued).

QUESTION THREE

Page Two.

Office
Use

The next set of items deals with various aspects of your job. I would like you to tell me how satisfied or dissatisfied you feel with each of these features of your present job. Each item names some aspect of your present job. Just indicate how satisfied or dissatisfied you are with it by using the scale below.

- | | |
|-------------------|---------------|
| I'm dissatisfied | 1. Extremely |
| | 2. Very |
| | 3. Moderately |
| I'm not sure | 4. |
| I'm not satisfied | 5. Moderately |
| | 6. Very |
| | 7. Extremely |

3.1 The physical work conditions.	1 2 3 4 5 6 7	22
3.2 The freedom to choose your own method of working.	1 2 3 4 5 6 7	23
3.3 Your fellow workers.	1 2 3 4 5 6 7	24
3.4 The recognition you get for good work.	1 2 3 4 5 6 7	25
3.5 Your immediate boss.	1 2 3 4 5 6 7	26
3.6 The amount of responsibility you are given.	1 2 3 4 5 6 7	27
3.7 Your rate of pay.	1 2 3 4 5 6 7	28
3.8 Your opportunity to use your abilities.	1 2 3 4 5 6 7	29
3.9 Industrial Relations between management and workers in your firm.	1 2 3 4 5 6 7	30
3.10 Your chance of promotion.	1 2 3 4 5 6 7	31
3.11 The way your firm is managed.	1 2 3 4 5 6 7	32
3.12 The attention paid to suggestions you make.	1 2 3 4 5 6 7	33
3.13 Your hours of work.	1 2 3 4 5 6 7	34
3.14 The amount of variety in your job.	1 2 3 4 5 6 7	35
3.15 Your job security.	1 2 3 4 5 6 7	36
3.16 Now, taking everything into consideration, how do you feel about your job as a whole?	1 2 3 4 5 6 7	37

QUESTION FOUR

You may have felt in the last section that some of the job features mentioned were not present in your job very much. It is likely that some of the aspects did apply to your job, while others applied less or not at all. Could we now go through a small number of these items again, together with a few new ones, but this time thinking about how much each feature is present in the job that you are doing. For this we use a different scale which is reproduced below.

- | |
|---|
| 1. There's none of that in my job. |
| 2. There's just a little of that in my job. |
| 3. There's a moderate amount of that in my job. |
| 4. There's quite a lot of that in my job. |
| 5. There's a great deal of that in my job. |

4.1 The freedom to choose your own method of working.	1 2 3 4 5	38
4.2 The amount of responsibility you are given	1 2 3 4 5	39
4.3 The recognition you get for good work.	1 2 3 4 5	40
4.4 Being able to judge your work performance right away, when actually doing the job.	1 2 3 4 5	41
4.5 The opportunity to use your abilities.	1 2 3 4 5	42
4.6 The amount of variety in your job.	1 2 3 4 5	43
4.7 Your chance of promotion.	1 2 3 4 5	44
4.8 The attention paid to suggestions you make.	1 2 3 4 5	45
4.9 The feeling of doing something which is not trivial; but really worthwhile.	1 2 3 4 5	46
4.10 Doing a whole and complete piece of work.	1 2 3 4 5	47

QUESTION FIVE

Page Three.

Office
Use

Now let's look at the things that matter to you in a job. What things are important in a job and what things are less important in your opinion? I'd like you to think about paid work in general - any paid job you might do or might like to do, not just your present job. I'm going to mention a number of characteristics which you might look for in a job. Please indicate, with reference to the scale set out below, how important each one is to you when you think about jobs that you might like to have.

Not important	1. Not at all important
	2. Not particularly important
I'm not sure about its importance	3.
Important	4. Moderately important
	5. Fairly important
	6. Very important
	7. Extremely important

5.1 Using your skills to the maximum.	1 2 3 4 5 6 7	48
5.2 Achieving something you personally value.	1 2 3 4 5 6 7	49
5.3 The opportunity to make your own decisions.	1 2 3 4 5 6 7	50
5.4 Challenging work.	1 2 3 4 5 6 7	51
5.5 The opportunity to learn new things.	1 2 3 4 5 6 7	52
5.6 Extending your range of abilities.	1 2 3 4 5 6 7	53

QUESTION SIX

So far we have thought a great deal about your work and your job. For this set of items I would like you to consider some wider aspects of your life that go beyond work, although they may include it. Most people these days have something to worry about, sometimes big things, some sometimes quite small things. Would you think back over the past few weeks and let me know to what extent you have been worried or concerned about various circumstances that affect your life. The scale to be used for this section is set out below.

1. Not at all concerned
2. Just a little concerned
3. Mildly concerned
4. Worry a little
5. Quite worried
6. Very worried
7. Extremely worried

6.1 Not having enough money for day to day living.	1 2 3 4 5 6 7	54
6.2 Your immediate family.	1 2 3 4 5 6 7	55
6.3 Your health.	1 2 3 4 5 6 7	56
6.4 Growing old.	1 2 3 4 5 6 7	57
6.5 How things are going at work.	1 2 3 4 5 6 7	58
6.6 Britain's economic future.	1 2 3 4 5 6 7	59
6.7 In general, how worried or concerned do you feel these days?	1 2 3 4 5 6 7	60

QUESTION SEVEN

Page Four.

Office
Use

Finally, will you consider some other aspects of your life at the present moment, and indicate how satisfied you feel about each one in turn? Please use the scale set out below.

I'm dissatisfied	{	1. Extremely
		2. Very
		3. Moderately
I'm not sure	{	4.
I'm satisfied		5. Moderately
		6. Very
		7. Extremely

7.1 The house or flat that you live in.	1	2	3	4	5	6	7	61
7.2 The local district that you live in.	1	2	3	4	5	6	7	62
7.3 Your standard of living; the things you can buy and do.	1	2	3	4	5	6	7	63
7.4 The way you spend your leisure time.	1	2	3	4	5	6	7	64
7.5 Your present state of health.	1	2	3	4	5	6	7	65
7.6 The education you have recieved.	1	2	3	4	5	6	7	66
7.7 What you are accomplishing in life.	1	2	3	4	5	6	7	67
7.8 What the future holds for you.	1	2	3	4	5	6	7	68
7.9 Your social life.	1	2	3	4	5	6	7	69
7.10 Your family life.	1	2	3	4	5	6	7	70
7.11 The present government.	1	2	3	4	5	6	7	71
7.12 Freedom and democracy in Britain today.	1	2	3	4	5	6	7	72
7.13 The state of law and order in Britain today.	1	2	3	4	5	6	7	73
7.14 The moral standards and values in Britain today.	1	2	3	4	5	6	7	74
7.15 Britain's reputation in the World today.	1	2	3	4	5	6	7	75
7.16 Taking everything together, your life as a whole these days.	1	2	3	4	5	6	7	76

QUESTION EIGHT

1. Very happy
2. Fairly happy
3. Not too happy

8.1 Taking all these things together, how would you say things were these days?	1	2	3	4	5	6	7	77
---	---	---	---	---	---	---	---	----

Thankyou for completing this questionnaire.

Appendix 5A

The amended version of the Work and Life Attitudes Questionnaire used in the Main Study

WORK AND LIFE ATTITUDES QUESTIONNAIRE

This questionnaire is part of a research programme which is being carried out to find out how staff at PED feel about their jobs and working environment.

It offers you a very real opportunity to voice your opinions, and it is completely confidential.

BEFORE YOU START, COULD YOU TELL ME A LITTLE ABOUT YOURSELF?

What is your full job title? -----

Which Department do you work in? -----

How long have you been at PED?
(to the nearest whole year) -----

How old are you? -----

What grade is your job? -----

Are you Male / Female (delete which is not appropriate)

Now turn over to start the questionnaire -

Appendix 5A (continued)

Page One.

Question One.

For some people work is just a means to get money, it's something they have to put up with. For others, work is the centre of their life, something that really matters to them.

I would first of all like to ask you about your reactions to work in general, and whether actually doing work is important to you personally. By 'work' I mean having a paid job.

Here are some statements which people have made about work and working in general. Without limiting yourself to your present job would you indicate how strongly you agree or disagree with each comment in turn, using the scale below.

Remember that I am asking you about paid jobs in general, not simply your present job.

1	2	3	4	5	6	7	1. I disagree strongly.
1	2	3	4	5	6	7	2. I disagree a lot.
1	2	3	4	5	6	7	3. I disagree a little.
1	2	3	4	5	6	7	4. I'm not sure.
1	2	3	4	5	6	7	5. I agree a little.
1	2	3	4	5	6	7	6. I agree a lot.
1	2	3	4	5	6	7	7. I agree strongly.
1	2	3	4	5	6	7	Even if I won a great deal of money on the pools, I would still continue to work somewhere.
1	2	3	4	5	6	7	Having a job is very important to me.
1	2	3	4	5	6	7	I should hate to be on the dole.
1	2	3	4	5	6	7	I would soon get very bored if I had no work to do.
1	2	3	4	5	6	7	The most important things that happen to me involve work.
1	2	3	4	5	6	7	If unemployment benefit were really high I would still prefer to work.

Appendix 5A (continued)

Page Two.

Question Two.

Now can we move a little closer to how you personally feel about your present job? Again I would like you to think about a number of statements that people have made about work, but this time think about your present job, not work in general. Please indicate on the scale below how strongly you agree or disagree with each comment. Remember that I am asking you how you feel about your present job.

1	2	3	4	5	6	7	1. I disagree strongly.
1	2	3	4	5	6	7	2. I disagree a lot.
1	2	3	4	5	6	7	3. I disagree a little.
1	2	3	4	5	6	7	4. I'm not sure.
1	2	3	4	5	6	7	5. I agree a little.
1	2	3	4	5	6	7	6. I agree a lot.
1	2	3	4	5	6	7	7. I agree strongly.
1	2	3	4	5	6	7	I feel a sense of personal satisfaction when I do this job well.
1	2	3	4	5	6	7	My opinion of myself goes down when I do this job badly.
1	2	3	4	5	6	7	I take pride in doing my job as well as I can
1	2	3	4	5	6	7	I feel unhappy when my work is not up to its usual standard.
1	2	3	4	5	6	7	I like to look back on a day's work with a sense of a job well done.
1	2	3	4	5	6	7	I try to think of ways of doing my job more effectively

Appendix 5A (continued)

Page Three.

Question Three.

The next set of items deals with various aspects of your job. I would like you to tell me how satisfied or dissatisfied you are with each of these features of your present job.

Each item names some aspect of your present job. Just indicate how satisfied or dissatisfied you are with it by using the scale below.

							1. I'm extremely dissatisfied.
							2. I'm very dissatisfied.
							3. I'm moderately dissatisfied.
							4. I'm not sure.
							5. I'm moderately satisfied.
							6. I'm very satisfied.
							7. I'm extremely satisfied.
1	2	3	4	5	6	7	The physical work conditions.
1	2	3	4	5	6	7	The freedom to choose your own method of working.
1	2	3	4	5	6	7	Your fellow workers.
1	2	3	4	5	6	7	The recognition you get for good work.
1	2	3	4	5	6	7	Your immediate boss.
1	2	3	4	5	6	7	The amount of responsibility you are given.
1	2	3	4	5	6	7	Your rate of pay.
1	2	3	4	5	6	7	Your opportunity to use your abilities.
1	2	3	4	5	6	7	Industrial Relations between management and workers in your firm.
1	2	3	4	5	6	7	Your chance of promotion.
1	2	3	4	5	6	7	The way your firm is managed.
1	2	3	4	5	6	7	The attention paid to suggestions you make.
1	2	3	4	5	6	7	Your hours of work.
1	2	3	4	5	6	7	The amount of variety in your job.
1	2	3	4	5	6	7	Your job security.

Appendix 5A (continued)

Page Four.

Question Four.

You may have felt in the last section that some of the job features mentioned were not present in your job very much. It is likely that some of the aspects did apply to your job, while others applied less or not at all.

Could we now go through a small number of these items again, together with a few new ones, but this time thinking about how much each feature is present in the job that you are doing.

For this we use a different scale, which is reproduced below.

					1. There's none of that in my job.
					2. There's just a little of that in my job.
					3. There's a moderate amount of that in my job.
					4. There's quite a lot of that in my job.
					5. There's a great deal of that in my job.
1	2	3	4	5	The freedom to choose your own method of working.
1	2	3	4	5	The amount of responsibility you are given.
1	2	3	4	5	The recognition you get for good work.
1	2	3	4	5	Being able to judge your performance right away, when actually doing the job.
1	2	3	4	5	The opportunity to use your abilities.
1	2	3	4	5	The amount of variety in your job.
1	2	3	4	5	Your chance of promotion.
1	2	3	4	5	The attention paid to suggestions you make.
1	2	3	4	5	The feeling of doing something which is not trivial, but really worthwhile.
1	2	3	4	5	Doing a whole and complete piece of work.

Appendix 5A (continued)

Page Five.

Question Five.

Now lets look at the things that matter to you in a job. What things are important in a job and what things are less important in your opinion? I'd like you to think about paid work in general - any job you might do, or might like to do, not just your present job.

I'm going to mention a number of characteristics which you might look for in a job. Please indicate, with reference to the scale set out below, how important each one is to you when you think about the job that you might like to have.

							1. Not at all important.
							2. Not particularly important.
							3. I'm not sure about its importance.
							4. Moderately important.
							5. Fairly important.
							6. Very important.
							7. Extremely important.
1	2	3	4	5	6	7	Using your skills to the maximum.
1	2	3	4	5	6	7	Achieving something you personally value.
1	2	3	4	5	6	7	The opportunity to make your own decisions.
1	2	3	4	5	6	7	Challenging work.
1	2	3	4	5	6	7	The opportunity to learn new things.
1	2	3	4	5	6	7	Extending your range of abilities.

Appendix 5A (continued)

Page Six.

Question Six.

So far we have thought a great deal about your work and your job. For this set of items I would like you to consider some wider aspects of your life that go beyond work, although they may include it.

Most people these days have something to worry about, sometimes big things, sometimes quite small things. Would you think back over the past few weeks and let me know to what extent you have been worried or concerned about the various circumstances that affect your life.

The scale to be used in this section is set out below.

							1. Not at all concerned.
							2. Just a little concerned.
							3. Mildly concerned.
							4. Worry a little.
							5. Quite worried.
							6. Very worried.
							7. Extremely worried.
1	2	3	4	5	6	7	Not having enough money for day to day living.
1	2	3	4	5	6	7	Your immediate family.
1	2	3	4	5	6	7	Your health.
1	2	3	4	5	6	7	Growing old.
1	2	3	4	5	6	7	How things are going at work.
1	2	3	4	5	6	7	Britain's economic future.

Appendix 5A (continued)

Page Seven.

Question Seven.

Finally will you consider some other aspects of your life at the present moment, and indicate how satisfied you feel about each one in turn?

Please use the scale set out below.

							1. I'm extremely dissatisfied.
							2. I'm very dissatisfied.
							3. I'm moderately dissatisfied.
							4. I'm not sure.
							5. I'm moderately satisfied.
							6. I'm very satisfied.
							7. I'm extremely satisfied.
1	2	3	4	5	6	7	The house or flat that you live in.
1	2	3	4	5	6	7	The local district that you live in.
1	2	3	4	5	6	7	Your standard of living; the things you can buy and do.
1	2	3	4	5	6	7	The way you spend your leisure time.
1	2	3	4	5	6	7	Your present state of health.
1	2	3	4	5	6	7	The education you have recieved.
1	2	3	4	5	6	7	What you are accomplishing in life.
1	2	3	4	5	6	7	What the future holds for you.
1	2	3	4	5	6	7	Your social life.
1	2	3	4	5	6	7	Your family life.
1	2	3	4	5	6	7	The present government
1	2	3	4	5	6	7	Freedom and democracy in Britain today.
1	2	3	4	5	6	7	The state of law and order in Britain today.
1	2	3	4	5	6	7	The moral standards and values in Britain today.
1	2	3	4	5	6	7	Britain's reputation in the World today.

THANKYOU FOR COMPLETING THIS QUESTIONNAIRE.

SUMMARY OF RESULTS OF TWO-WAY ANALYSES OF VARIANCE.I. Analysis of variance due to Job Type and Length of Service, and the interaction between these two factors.

(FACTOR ONE = JOB TYPE, FACTOR TWO = LENGTH OF SERVICE).

Scale	Sum of Squares	Degrees of Freedom	Mean Squares	F	Source	Comments
1. Work Involvement	1.96292	1	1.96292	0.0851762	Factor 1	Not significant
	19.6913	1	19.6913	0.854458	Factor 2	
	69.2116	1	69.2116	3.00327	1 x 2 Interaction	
	1221.41	53	23.0454	-	Within Cell	
2. Intrinsic Job Motivation	60.13	1	60.13	4.62035	Factor 1	Significant at 5% level
	39.0099	1	39.0099	2.9975	Factor 2	
	67.2362	1	67.2362	5.16639	1 x 2 Interaction	
	689.75	53	13.0142		Within Cell	
3. Total Job Satisfaction	74.8891	1	74.8891	0.501437	Factor 1	Not Significant
	23.2072	1	23.2072	0.155389	Factor 2	
	25.9404	1	25.9404	0.17369	1 x 2 Interaction	
	7915.5	53	149.349		Within Cell	
3.1 Intrinsic Job Satisfaction	1.91323	1	1.91323	0.0431013	Factor 1	Not Significant
	1.45356	1	1.45356	0.0327458	Factor 2	
	1.14297	1	1.14297	0.0257489	1 x 2 Interaction	
	2352.62	53	44.389		Within Cell	
3.2 Extrinsic Job Satisfaction	100.78	1	100.78	2.43249	Factor 1	Not Significant
	36.314	1	36.314	0.8765	Factor 2	
	16.1879	1	16.1879	0.390722	1 x 2 Interaction	
	2195.83	53	41.4307		Within Cell	
3.3 Job Itself Intrinsic Satisfaction	12.1068	1	12.1068	0.825184	Factor 1	Not Significant
	12.7341	1	12.7341	0.867946	Factor 2	
	0.0962825	1	0.0962825	0.0055625	1 x 2 Interaction	
	777.594	53	14.6716		Within Cell	
3.4 Working Conditions Satisfaction	1.67097	1	1.67097	0.093766	Factor 1	Not Significant
	7.88274	1	7.88274	0.442339	Factor 2	
	3.83888	1	3.83888	0.215418	1 x 2 Interaction	
	944.492	53	17.8206		Within Cell	

Cont'd

APPENDIX 5B (I) (cont'd).

3.5 Employee Relations Satisfaction	120.027	1	120.027	2.9672	Factor 1	Not Significant
	32.4317	1	32.4317	0.301746	Factor 2	
	7.32989	1	7.32989	0.181203	1 x 2	
	2143.92	53	40.4513		Interaction Within Cell	
4. Perceived Intrinsic Job Character- istics	195.584	1	195.584	4.72507	Factor 1	Significant at 5% level Not Significant
	2.90711	1	2.90711	0.0702322	Factor 2	
	10.8085	1	10.8085	0.26112	1 x 2	
	2193.82	53	41.3928		Interaction Within Cell	
5. Higher Order Need Strength	24.6483	1	24.6483	1.20764	Factor 1	Not Significant
	20.4243	1	20.4243	1.00068	Factor 2	
	61.8071	1	61.8071	3.02822	1 x 2	
	1081.75	53	20.4104		Interaction Within Cell	
6. Self-Rated Anxiety	6.48509	1	6.48509	0.175563	Factor 1	Not Significant
	11.821	1	11.821	0.320015	Factor 2	
	16.865	1	16.865	0.456564	1 x 2	
	1957.76	53	36.9389		Interaction Within Cell	
7. Overall Life Satisfaction	8.34862	1	8.34862	0.0849682	Factor 1	Not Significant
	326.342	1	326.342	3.32135	Factor 2	
	3.18043	1	3.18043	0.0323688	1 x 2	
	5207.56	53	98.2559		Interaction Within Cell	
7.1 Satisfaction with Personal Life	2.112	1	2.112	0.202166	Factor 1	Not Significant Significant at 5% level Not Significant
	65.4224.	1	65.4224	6.2624	Factor 2	
	7.74608	1	7.74608	0.741475	1 x 2	
	553.684	53	10.4469		Interaction Within Cell	
7.2 Satisfaction with Standards and Achievements	17.4675	1	17.4675	0.384468	Factor 1	Not Significant
	23.934	1	23.934	0.526798	Factor 2	
	1.63991	1	1.63991	0.0360951	1 x 2	
	2407.95	53	45.4329		Interaction Within Cell	
7.3 Satisfaction with Life Style	31.5372	1	31.5372	3.26511	Factor 1	Not Significant
	25.8472	1	25.8472	2.67602	Factor 2	
	5.16509	1	5.16509	0.534753	1 x 2	
	511.918	53	9.65883		Interaction Within Cell	

SUMMARY OF RESULTS OF TWO-WAY ANALYSES OF VARIANCE.

II. Analysis of variance due to Seniority and Length of Service, and the interaction between these two factors, for 'Commercial Staff' only.

FACTOR ONE = SENIORITY, FACTOR TWO = LENGTH OF SERVICE.

Scale	Sum of Squares	Degrees of Freedom	Mean Squares	F	Source	Comments
1. Work Involvement	6.02	1	6.02	0.20	Factor 1	} Not Significant
	10.16	1	10.16	0.33	Factor 2	
	0.24	1	0.24	0.0077	1 x 2 Interaction	
	980.41	32	30.64		Within Cell	
2. Intrinsic Job Motivation	8.90	1	8.90	0.49	Factor 1	} Not Significant at 5% level
	134.54	1	134.54	7.47	Factor 2	
	6.86	1	6.86	0.38	1 x 2 Interaction	
	576.59	32	18.02		Within Cell	
3. Total Job Satisfaction	219.22	1	219.22	1.20	Factor 1	} Not Significant
	0.61	1	0.61	0.0033	Factor 2	
	0	1	0	0	1 x 2 Interaction	
	5928.09	32	182.13		Within Cell	
3.1 Intrinsic Job Satisfaction	58.93	1	58.93	1.17	Factor 1	} Not Significant
	2.40	1	2.40	0.047	Factor 2	
	14.14	1	14.14	0.28	1 x 2 Interaction	
	1619.31	32	50.60		Within Cell	
3.2 Extrinsic Job Satisfaction	50.7	1	50.77	1.00	Factor 1	} Not Significant
	0.55	1	0.55	0.0109	Factor 2	
	15.26	1	15.26	0.30	1 x 2 Interaction	
	1617.96	32	50.56		Within Cell	
3.3 Job Itself Intrinsic Satisfaction	1.43	1	1.43	0.078	Factor 1	} Not Significant
	8.01	1	8.01	0.44	Factor 2	
	3.96	1	3.96	0.22	1 x 2 Interaction	
	588.57	32	18.39		Within Cell	
3.4 Working Conditions Satisfaction	22.57	1	22.57	1.02	Factor 1	} Not Significant
	0.063	1	0.063	2.86	Factor 2	
	2.63	1	2.63	0.12	1 x 2 Interaction	
	709.40	32	22.17		Within Cell	

Cont'd

APPENDIX 5B (II) (Cont'd).

3.5 Employee Relations Satisfaction	122.97	1	122.97	2.69	Factor 1	Not Significant
	3.76	1	3.76	0.082	Factor 2	
	0.46	1	0.46	0.0097	1 x 2	
	1464.6	32	45.77		Interaction Within Cell	
4. Perceived Intrinsic Job Character- istics	123.36	1	123.36	2.79	Factor 1	Not Significant
	29.14	1	29.14	0.66	Factor 2	
	28.26	1	28.26	0.64	1 x 2	
	1416.67	32	44.27		Interaction Within Cell	
5. Higher Order Need Strength	0	1	0	0	Factor 1	Not Significant
	8.14	1	8.14	0.29	Factor 2	
	0.30	1	0.30	0.0109	1 x 2	
	893.86	32	27.93		Interaction Within Cell	
6. Self-Rated Anxiety	35.02	1	35.02	0.74	Factor 1	Not Significant
	0.044	1	0.044	0.00094	Factor 2	
	12.02	1	12.02	0.26	1 x 2	
	1505.27	32	47.04		Interaction Within Cell	
7. Overall Life Satisfaction	26.26	1	26.26	0.27	Factor 1	Not Significant
	245.48	1	245.48	2.55	Factor 2	
	159.87	1	159.87	1.66	1 x 2	
	3075	32	96.09		Interaction Within Cell	
7.1 Satisfaction with Personal Life	0.59	1	0.59	0.052	Factor 1	Not Significant
	18.83	1	18.83	1.65	Factor 2	
	0.16	1	0.16	0.014	1 x 2	
	365.19	32	11.41		Interaction Within Cell	
7.2 Satisfaction with Standards and Achievements	4.32	1	4.32	0.11	Factor 1	Not Significant
	24.50	1	24.50	0.61	Factor 2	
	135.7	1	135.7	3.38	1 x 2	
	1285.4	32	40.17		Interaction Within Cell	
7.3 Satisfaction with Life Style	5.21	1	5.21	0.50	Factor 1	Not Significant
	40.69	1	40.69	3.88	Factor 2	
	1.95	1	1.95	0.19	1 x 2	
	335.33	32	10.48		Interaction Within Cell	

Appendix 5C

Pearson Product Moment Correlation Coefficients calculated to assess the correlation between the scales of the Work and Life Attitudes Questionnaire and Length of Service for the Main Study Group

	<u>Pearson Product Moment Correlation Coefficient (R)</u>	<u>Significance Level</u>
<u>Correlation between Length of Service and:</u>		
1. <u>Work Involvement</u>		
Whole Group (N = 57)	-0.093	NS
2. <u>Intrinsic Job Motivation</u>		
Whole Group (N = 57)		NS
Engineers (N = 21)	-0.144	NS
Commercial (N = 36)	0.285	NS
Relatively Long-Serving Commercial Staff (N = 16)	-0.384	NS
Relatively Short-Serving Commercial Staff (N = 20)		
Relatively Long-Serving Senior Commercial Staff (N = 9)	-0.229	NS
Relatively Long-Serving Junior Commercial Staff (N = 7)	0.176	NS
Relatively Short-Serving Senior Commercial Staff (N = 12)	-0.688	NS
	-0.364	NS

Appendix 5C (Continued)

Relatively Short-Serving Junior Commercial Staff (N = 8)	-0.638	NS
Relatively Long-Serving Senior Engineers (N = 8)	-0.237	NS
Relatively Short-Serving Junior Engineers (N = 3)	0.866	NS
Relatively Short-Serving Senior Engineers (N = 10)	0.234	NS
3. <u>Total Job Satisfaction</u>		
Whole Group (N = 57)	0.104	NS
3.1 <u>Intrinsic Job Satisfaction</u>		
Whole Group (N = 57)	0.055	NS
3.2 <u>Extrinsic Job Satisfaction</u>		
Whole Group (N = 57)	0.154	NS
3.3 <u>Working Conditions Satisfaction</u>		
Whole Group (N = 57)	0.120	NS
3.4 <u>Intrinsic Job Satisfaction</u>		
Whole Group (N = 57)	-0.040	NS
3.5 <u>Employee Relations Satisfaction</u>		
Whole Group (N = 57)	0.033	NS
4. <u>Perceived Intrinsic Job Characteristics</u>		
Whole Group (N = 57)	0.126	NS
Engineers (N = 21)	-0.066	NS
Commercial Staff (N = 36)	0.189	NS
Relatively Short-Serving Staff (N = 33)	-0.034	NS
Relatively Long-Serving Staff (N = 24)	-0.075	NS

Appendix 5C (Continued)

5. <u>Higher Order Need Strength</u> Whole Group (N = 57)	-0.135	NS
6. <u>Self-Rated Anxiety</u> Whole Group (N = 57)	-0.126	NS
7. <u>Total Life Satisfaction</u> Whole Group (N = 57)	-0.316	NS
7.1 <u>Satisfaction with Life Style</u> Whole Group (N = 57)	-0.304	NS
7.2 <u>Satisfaction with Personal Life</u> Whole Group (N = 57) Relatively Short-Serving Staff (N = 33) Relatively Long-Serving Staff (N = 24)	-0.175 -0.034 -0.075	NS NS NS
7.3 <u>Satisfaction with Standards and Achievements</u> Whole Group (N = 57)	-0.177	NS

NS = Not Significant

APPENDIX 5D

Basic Descriptive Statistics for each of the seven sample bells making up the
Main Study Group (as illustrated in Table 5.2).

	Work Involvement	Intrinsic Job Motivation	Total Job Satisfaction	Intrinsic Job Satisfaction	Extrinsic Job Satisfaction	Job Itself Intrinsic Satisfaction	Working Conditions Satisfaction	Employee Relations Satisfaction	Perceived Intrinsic Job Characteristics	Higher Order Need Strength	Self-rated Anxiety	Total Life Satisfaction	Satisfaction with Personal Life	Satisfaction with Standards and Achievements	Satisfaction with Life Style
Junior Short Serving Engineers	$\bar{x}$ 34.67 sd 2.31	39.67 2.31	66.67 10.69	34.67 4.51	32.0 6.25	22.33 3.06	23.0 5.57	21.33 2.08	34.33 6.11	39.33 3.78	25.66 8.02	73.33 20.84	22.33 3.21	31.33 11.50	19.67 6.43
Senior Long Serving Engineers	$\bar{x}$ 32.5 sd 3.50	38.37 2.32	68.62 12.99	32.5 6.23	36.12 7.08	20.62 2.61	25.87 3.87	22.12 7.36	34.25 3.99	35.37 4.0	19.5 3.21	63.12 9.93	18.87 3.80	24.5 7.35	19.75 2.87
Senior Short-Serving Engineers	$\bar{x}$ 36.5 sd 3.81	38.7 2.31	65.6 7.09	31.9 6.1	3.37 2.79	21.3 3.56	25.0 1.88	19.3 4.16	34.8 6.88	38.7 2.26	20.4 4.00	67.3 5.66	21.8 1.70	24.7 5.08	20.8 1.69
Senior Long-Serving Commercial Staff	$\bar{x}$ 34.0 sd 2.87	39.33 2.12	67.44 15.13	30.11 8.87	37.33 7.09	19.44 4.98	25.22 5.19	22.89 7.64	32.11 6.72	36.11 3.22	21.33 6.20	58.89 19.55	19.89 3.69	25.11 7.36	20.55 4.30
Senior Short-Serving Commercial Staff	$\bar{x}$ 33.08 sd 8.61	34.5 5.37	67.67 12.24	31.92 6.13	35.75 6.59	21.08 3.60	24.58 4.12	22.0 6.90	32.08 6.10	35.33 6.50	20.08 8.39	66.58 8.93	21.5 4.23	22.83 6.31	22.25 2.80
Junior Short-Serving Commercial Staff	$\bar{x}$ 33.75 sd 2.12	34.37 4.17	72.75 11.18	33.25 5.47	39.5 7.01	20.0 3.78	26.75 5.44	26.0 3.82	26.5 8.80	35.12 6.06	19.25 6.75	72.62 6.74	21.62 1.92	27.5 5.26	23.5 2.27
Junior Long-Serving Commercial Staff	$\bar{x}$ 35.0 sd 3.37	37.43 4.12	72.43 15.67	34.0 7.83	38.43 8.10	19.71 4.96	26.28 4.07	26.43 7.87	30.14 4.18	36.28 3.86	18.14 4.14	63.0 8.27	20.86 2.36	21.86 6.07	20.86 3.29

Note: 'Relatively Short Serving' and 'Relatively Long Serving' have been abbreviated to 'Short Serving' and 'Long Serving' in this Table

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