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Attitudes, Attitude Change,
and Organizational Climate:
A Search for a Pragmatic Relationship

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Abstract

This study was designed to investigate relationships among elements of a model linking organizational climate to performance. Specific focus was to be on the motivational factors located in the organizational climate, and attitudes and attitude change. Sources of attitudes were to be determined with regard to a job satisfaction-attitude link. The strength (positive or negative) of the attitude was also to be assessed.

Unanticipated restrictions placed upon the research by the organization in question precluded collection of sufficient data for full analyses of relationships as proposed.

An extensive review is made of pertinent research in the field of attitudes and attitude change. Emphasis is placed upon problem areas found in a majority of studies in this area. Also covered in the review section are organizational climate, job satisfaction and the attitude/behaviour consistency controversy.

Attitudes to the subjects' organization and work location are assessed from semantic differential data. A job analysis questionnaire is adapted to investigate areas of potential satisfaction. Data from these instruments are analysed and subjects placed into rank order. These ranks are then compared. Results show some trend toward consistency, i.e. subjects who ranked high on the attitude scales tended to rank high also on the job satisfaction scale. Further correlational studies of attitudes as predictors of job satisfaction investigate the relationship of these two variables. Highest positive correlation was found between

the E Factor on the work location attitude and job satisfaction.

The proposed model offering pragmatic relationships among the elements under study was based on the functional approach to attitude change. Adoption of this model would conceivably offer a rationale for the investigation of relationships of employee performance, satisfaction, attitudes, motivation and the sources of these variables.

It is suggested that future research may usefully investigate further the relationships in this model, keeping the central idea of attitudes as the major influence and predictor of an individual's satisfaction and/or performance.

TABLE OF CONTENTS

List of Figures and Tables	vi
Rationale	8
PART I: Literature Review	11
Examination of the Definitional Status of the Term	
Attitude	14
Operational Definitions versus Conceptual	
Definitions	15
Multi-Dimensional versus Uni-Dimensional	
Definitions	20
Attitude Change	24
Theories of Cognitive Consistency	27
Functional Theories	34
Other Controversies	43
Attitude/Behaviour Consistency Controversy	44
Attitude Terminology Challenged	46
Organizational Climate and Job Satisfaction	49
Organizational Climate - The Functional Approach	
to Attitude Change	56
PART II: Experimental Study	60
Method	62
Procedure - Section A: Descriptive Study	62
Section B: Investigation of the	
Job Satisfaction/Attitude Relation-	
ship	64
Subjects	65
Results - Section A: Descriptive Study	67
Section B: Investigation of the Job Satis-	
faction/Attitude Relationship	103
Discussion	104

PART III - A Discussion of the Pragmatic Relationship of a Series of Elements from Organizational Environ- ment to Performance.....	107
An Example of the Use of the Proposed Model.....	112
Implications for Future Research.....	116
Appendix.....	119
References.....	141

LIST OF FIGURES AND TABLES

FIGURES

2-1 to 2-8 Distribution of Scores from Questions 1-8 77

2-9 to 2-16 Distribution of Scores from Questions 9-16 78

2-17 Overall Percentage Distribution of Scores
on Job Analysis Questionnaire 79

3-1 Schematic Representation of the Relation-
ship between Organizational Environment
and Performance 108

TABLES

2-1 Ranking by Subject from Job Analysis
Questionnaire 84

2-2 Ranking by Divisions from Job Analysis
Questionnaire 84

2-3 Mean Scores for 3 Factors on the Semantic
Differential: Working on the 2nd Floor 87

2-4 Mean Scores for 3 Factors on the Semantic
Differential: Working for N.A.C. 88

2-5 Mean Scores for 3 Factors on Both of the
Semantic Differentials 92

2-6 Ranking of Subjects Across All Tests 99

2-7 Subjects Placed Under the Concept with
which They Showed Greater Dissatisfaction 100

2-8 Summary of Correlations between Predictor
and Criterion Variables for the Concept
"Working on the 2nd Floor" 103

Summary of Correlations between Predictor
and Criterion Variables for the Concept
"Working for N.A.C."103

Rationale

Historically the development of psychology as the scientific study of behaviour began in the last quarter of the nineteenth century with Wilhelm Wundt. From this time psychology began to develop as a separate science independent of its roots in philosophy and physiology. Expansion and refinement occurred in this science throughout the twentieth century with resultant depth and precision in methodology, clearer definition of subject matter and associated objectivity (Misiak and Sexton, 1972). Specific interest in the 1920's in methodology and theoretical issues saw Cassirer in 1923 make an important observation which has recurred over the years since demonstrating its validity cited by Lewin in 1947 and Newcomb in 1968, in particular, "There is a general direction of movement in science from the study of discrete elements to that of relationships among them."

This same quote provided a valuable rationale for this present research, as to study employees' attitudes, job satisfaction, or organizational climate in isolation appeared to be analogous to the study of a member of the body without reference to its function in serving the whole. To study these concepts and their interrelatedness appeared to be a valuable and worthwhile research topic. The original hypotheses on which this project was based were concerned with relationships among the elements

of organizational climate and attitudes, and support or rejection of these hypotheses was dependent upon investigation of the possibility of relationships existing.

A full investigation of this aim would have required a 'before-after' study around a change process. Since the organization concerned decided belatedly not to introduce the change nor to permit a second series of measures being taken, the analysis could not be completed.

The literature review identifies certain problem areas demonstrating the complexity of attitude research. Given the existence of these inconsistencies, this present research has been carried out with the development of one school of thought in attitude theory which is felt capable of explaining and accepting these inconsistencies. The further development of a model using this school of thought relating attitudes to organizational climate further eliminates inconsistencies by demonstrating relations of parts to a whole - the parts being attitudes, satisfaction and performance and the whole being the employee. Thus the focus is not upon the consistencies of attitudes or the consistencies of organizational climate *per se*, but rather upon the consistency or inconsistency provided by the interrelation of one upon the other; That is, the influence in any direction one of these elements would have upon the other and the stability of this influence.

This rationale was summarized by Lewin (1947) who expanded the initial work of Cassirer (1923) and concluded

that research methodology in the social sciences should deal with problems of constancies of relationships rather than with constancies of elements. This was taken up by Newcomb (1968) who in focusing on the complexity of attitude research, concluded that the likelihood of an entity presenting inconsistencies depends upon its complexity. Furthermore the degree to which these inconsistencies will become objects of study depends upon the importance and the need to understand and predict their characteristics.

Part I

Literature Review

Texts discussing the complexity of research into attitude change are usually prefaced by some discussion on the definitional status of what it is that is changing - the concept of attitude (see e.g. Abelson, Aronson, McGuire, Newcomb, Rosenberg, (eds.) 1968; Himmelfarb and Eagly, 1974; Liska, 1975; McGuire, 1969; Nuttin, 1974; Triandis, 1971). In some cases editors of such texts, e.g. Abelson et al, 1968, have adopted a particular stance or school of thought and continued with studies which support and/or reject their position. One of the most recent to do this is Nuttin, 1974, who in presenting his own particular thesis called into question the very use of the term 'attitude'. (The early work on the conceptual understanding of attitudes by Allport in 1935 concluded ' that while the term attitude may not be indispensable, what it stands for is.)

Other texts on attitudes and attitude change (e.g. Himmelfarb and Eagly, 1974) have widened their presentation to include research over the many available theories. Structure of such texts gives coverage to the many variables affecting attitude change. Thus the text becomes comprehensive enough to discuss debates on theoretical approaches which in some cases have represented contradictory findings. McGuire (1969) is another who by beginning with his analysis of the theoretical status of the term was then

able to present discussion on attitude change, not by adopting a theme of one particular theoretical stance, but rather by focusing on five classes of independent variables in attitude change research.

Basically then the literature on attitudes and attitude change has two forms of presentation. The first under a particular theoretical banner and the second by presentation of factors common in all theories.

Because of this variation in presentation of the literature and associated inconsistencies in the explanation of theoretical positions advocated, it did not seem feasible to adopt any similar rigid format for the literature review on the definitional status of the term attitude. To do so would have eliminated the extensive coverage of the literature felt necessary as suggested by the title of this thesis. It was, therefore, proposed to identify common factors which cover all theories, associated criticisms, and inconsistencies, and which demonstrate the interrelatedness. This is offered by investigating the problems attitude researchers face prior to their experimentation. Such problems require explicit decisions. Such decisions dictate the experimental method and design. The assumptions which are to be met vary for the different design methods and explanation of the assumptions is imperative as different results may be obtained by variations in the design. The first section of this literature review which investigates the definitional status of attitudes follows these guidelines. Some of the common problems which face attitude researchers in

this area and which require a decision include the choice of the use of operational definition or conceptual definitions and multi-dimensional versus uni-dimensional definitions. Furthermore, in adopting this format single theories and single definitions are not focused on but attention is on relationships among theories and definitions from investigations of problems and inconsistencies they present.

The second section of this literature review discusses attitude change. Existing theories of attitude change are presented with brief remarks on content and criticisms. This is followed by a more detailed summary of one particular theoretical stance, the functional school. For the remainder of this thesis reference is made to attitude change as analysed within the parameters of this school. In doing so it may appear that other theories have been dismissed, but these have been considered and have not been favoured for the degree of explanation and prediction which is felt necessary in the suggestion of the pragmatic relationship between attitude change and organizational climate. A further controversy lies in the study of the impact attitudes have on behaviour or vice versa. This is summarized briefly following the discussion on attitude change in the third section.

The fourth section of this literature summary discusses organizational climate and job satisfaction and illustrates thereby the understanding of the use of these terms in this thesis.

The fifth section relates discussion of the functional

approach from previous pages to the literature discussed in the fourth section on organizational climate.

Examination of the Definitional Status of the Term Attitude

One implication which may be read into the introduction to this section could be that the adoption of a particular definitional stance allows for research to be more valid and reliable than would otherwise be. Such an implication would be fallacious as it is recognized while concepts should be defined, within parameters, definitions should not be produced at random and should be regarded as "the product of thinking, not its point of departure" (Flutchik, 1968).

Over the next few pages some existing definitions of the term attitude are presented. The two basic categories identified in this review cover most of the definitions available and illustrate the problems researchers face when endeavouring to discuss the term attitude. The definitions would appear to be so much at variance that Nuttin's observation in 1974 calling into question the use of this term may well be valid. Similarly methods and designs in support of definitional stances used vary to the extent that it would seem that many concepts are being measured and not just the single construct attitude. Jahoda and Warren (1970) explained this in stating that to them it appeared that the scientists who develop measuring devices and those who carry out research on attitude processes are different people with little influence on each other.

Thus while one theorist may define attitude as

having the three components of affect, cognition, and behaviour, the measures he uses to support his definition are not necessarily followed by other researchers who believe they are also measuring these three components. Similarly, theorists who believe attitudes are simply constructs of evaluation vary in the operations they use to measure evaluation.

Operational definitions versus conceptual definitions.

Operational definitions according to Plutchik (1968) grew to popularity because of the need to "revise the thinking about old concepts which had been taken for granted". Use of operational definitions was seen to help avoid contradictory notions and hazy ideas and lead to clarity and precision in thinking. However, different versions of operationalism developed resulting in ambiguous ideas of the term among psychologists. Operationalism could no longer refer simply to the set of operations used to measure a construct as originally proposed by Bridgman in 1927, cited by Plutchik, 1968. In effect raw data could no longer be taken at face value. A set of raw data obtained should be studied in relation to further data. To place this in context, research on attitudes which manipulates attitudes relies on operational definitions and on the studying of relationships among elements rather than the study of the element itself. The reality of the concept attitude is defined by the manipulation linking the original concept of an attitude to the procedures designed to test its existence (Lewin, 1947). As stated this use of operationalism is divorced from the original idea proposed

by Bridgman, but if recognition as outlined above is given, operational definitions provide a valuable method of obtaining scientific results available to researchers.

Adoption of an operationalist position, however, raises the problem that although procedures and measurements used in the research must be clearly stated and explained, the construct measured - attitude - is not simply just those procedures and measurements. Cook and Selltitz (1964) pointed out that although one measurement of attitude may serve as an indicator of the concept, the insight it provides is limited. Ideally most studies should use multiple measurements. They further add that each question on a questionnaire may be considered an indicator or an index which then provides the best inference available at that moment. Plutchik (1968) discussed attitude research as an example of defining a concept firstly in general terms and then looking for indices. Psychologists, he said, have been attracted by the idea of defining concepts by the operations used to measure them. Plutchik pointed out that by implication this would mean that if something is measured in two different ways there would actually be two concepts. In arguments that he has given against measurement presupposing the existence of a concept or operationalism, Plutchik explained that before a concept or anything can be measured in fact some knowledge of the concept is needed. It may then well be found that many indices measure this concept and that these indices do not correlate well, but operationalism does not provide any basis for selecting which is a 'better' measure.

The comment could then be made that if different measures have been used each time, different unrelated and isolated concepts are being measured and that social psychology contains many more concepts than is acknowledged.

The use of the questionnaire items, for example, as indices of attitudes and behaviour is seriously questioned by Liska (1974) because of inconsistency between attitudes and behaviour. An interesting theoretical stance offering an operational definition was taken by Liska, (1974) who cited Defleur and Westie (1963). These authors agreed that most contemporary definitions of attitude can be classified as either a "probability conceptualization" or an "intervening variable conceptualization".

Liska (1974) then defined attitude in terms of 1) probability conceptualization as an "organization of consistent responses toward some social object"; in terms of 2) an "intervening variable conceptualization" as an "underlying mechanism by which consistency occurs".

He recognised that problems of definition of the content of the 'mechanism' gives rise to much controversy.

The indices of this mechanism, he suggested, are verbal responses giving an observable index of attitude. Overt responses which are the behaviour to be explained or predicted can be assumed to be mediated by this same underlying mechanism. Inconsistency in social meaning between these two has been conceptualized as a theoretical anomaly and "has come to be defined as inconsistency between words and deeds or attitudes and behaviour".

(Liska, 1974)

In 1975 Liska offered readings in the attitude-behaviour consistency controversy with emphasis on the historical development of the controversy. Relevant for this study is his historical overview of definitions (p.1) and his overview of the attitude change/behaviour change relationship, in particular citing Festinger (1964), Deutscher (1966), and Vroom (1964) who concluded that such a relationship if it existed at all remains unproven. Liska concluded that the "anomalous research showing attitude-behaviour inconsistency has stimulated various researchers to re-examine measurement technology, particularly measurement validity". This may have been a compensation for the over-emphasis on this from the operationalists.

With regard to the attitude change/behaviour change, Liska concluded that the two are "not necessarily causally related, each is affected by different causal variables". The two become directly related when the causes of both are directly related but as this is not often the case, attitude change is frequently not related to behaviour change.

A rule in defense of a non-operationalist view lies in first having the concept and then selecting procedures or operations from a larger possible number to use as indicators of the concept (Plutchik, 1968).

Definitions which discuss attitudes as being inferred from behaviour giving meaning to the term within an abstract theoretical system are conceptual definitions. McGuire(1969) referred to this approach as the mediationalist view in which the construct has the status of an intervening

variable. In this way relations between sets of stimuli and responses may be more easily accounted for than the operationalist may be able to do with his direct linking of each stimulus to each response.

McGuire (1969) recognised the problems in defining the concept attitude but hastened to stress the importance of showing the meaning of terms used. McGuire developed the definition offered by Allport (1935) to illustrate problems researchers have encountered in attempts at definition. However, McGuire also warned of adopting any single definitional stance and concluded that in "specific experiments it is best to give attitudes a direct operational definition in terms of observable responses".

The definition offered by Allport (1935) is comprehensive in its inclusiveness of the five aspects isolated by McGuire (1969) allowing for a framework for reviewing the questions and clarifications that have arisen out of definitional endeavours. In Allport's 1935 definition an attitude is 1) a mental or neural state of 2) readiness to respond 3) organized 4) through experience 5) exerting a directive and/or dynamic influence on behaviour. (The figures in brackets represent the five aspects isolated by McGuire.)

Himmelfarb and Eagly (1974) saw operational and conceptual definitions as being intimately related. The theoretical system from the conceptual definitions gives meaning to the construct and suggests the framework for the operational definition. In reviewing literature

on attitudes, these authors discussed problems inherent in the application of a single definition to the varied operations used in attitude research. With Keisler, Collins and Miller (1969) they sounded caution in offering a conceptual definition to the construct. These writers explained their reluctance to adopt any single theoretical or definitional stance by taking the operationalist position of stating that any definition of attitudes should correspond closely with the operational definitions used to measure the attitude. Attempts to reach a decision over defining attitude would, they say, appear to be futile. From Zimbardo and Ebbesen (1970) another warning - the often conflicting results obtained in attitude research relate to the wide variety of operational definitions used, for example, the inconsistent methods used in investigation of the one conceptual variable attitude change.

Multi-dimensional or uni-dimensional definitions?

A possible reason for the existence of the inconsistency in definitions from the adoption of a uni-dimensional definitional or multi-dimensional definitional stance may relate to the doubt of the existence in the social sciences of the reality of the whole. It would follow that if existence of a part can be validated doubt would be expressed in relating this part to another part and calling these two entities a whole. Certainly a theorist would be tempted to define an entity in terms of the smallest part to avoid ambiguity. It would similarly be acceptable for an entity to demonstrate unique structural properties which may be different from the properties

demonstrated by individual parts. The analogy in the physical sciences would be the atoms and ions and the more complex molecule.

In reality the existence of the parts and the existence of the entity composed of a number of parts must be the same. The parts may exist in reality alone and also the compound entity may be a reality. The structural properties may be different and to investigate the whole, structural properties must be investigated. These are characterised by the relations between the parts rather than the parts themselves. Thus in attitude research it becomes imperative to analyse the parts (cognition, emotion and behaviour) and determine the entity - attitude - from the interrelation of these three components. (Hence the use of the semantic differentials in this research) However, if the existence of a construct from a multi-dimensional viewpoint is accepted, a series of empirical problems face the researcher. These include whether the construct is a mixture of the three components or whether these three components join in such a way as to form wholes (attitudes) of a certain type. Such problems would not face researchers who work under uni-dimensional definitions. Those who adopt multi-dimensional definitions must empirically prove the testable properties in hand and their interrelation.

The functionalists Katz (1960); Smith, Bruner and White (1956); and Kelman and Baron (1968) (discussed subsequently in detail) offered a tri-componential definition of attitude which corresponded with the theorists method

of operationally defining the concept in reflecting the operations used to measure and assess attitudes. Sherif and Sherif (1969) also adopted this stand and stated that the definition is determined by the research operations used in assessing attitudes. Sherif, Sherif and Nebergall (1965) defined attitudes in terms of the stands the individual upholds or cherishes about issues, persons, groups, or institutions - referred to as social referents - an operationalist, multi-dimensional stand. Triandis (1971) is another who defined attitudes as having three components of affect, cognition, and the behavioural component.

Rosenberg and Hovland et al. (1963) considered the multi-dimensional approach to attitude definition with the three components as being 'indices' of attitudes. Attitudes for these writers were defined as 'predispositions to respond to some class of stimuli with the three major types of responses as being cognitive, affective and behavioural'.

A uni-dimensional approach to attitude definition is offered by Fishbein (1967) and earlier by Thurstone (1931). Fishbein (1967) recognised that most texts on social psychology define attitudes as having the three components affective, cognitive and conative, but for him this is both "misleading" and inappropriate. He saw attitudes as uni-dimensional and advocated Thurstone's (1931) definition- "Attitude is the affect for or against a psychological object." Fishbein then discussed operationalism and said that operations used to measure attitudes almost invariably yield a single score which he found difficulty in recognising

as reflecting three components. Indeed for him they are measuring only the evaluative or effective component.

Insko and Schopler (1967) offered a similar uni-dimensional definition - attitudes are evaluative feelings of pro or con, favourable or unfavourable with regard to particular objects.

Sarnoff (1962) believed that there is a certain amount of agreement existent over the definition he proposed - attitude is a pre-disposition to react favourably or unfavourably to a class of objects.

Doob (1964) focused on drive strength in his definition in considering attitudes as an implicit, drive producing response considered socially significant in the individual's society. The social context of this definition may align Doob with Allport (1953) by paralleling Allport's phrase "organized through experience". However, the school used by these theorists to arrive at attitude possession differentiates them; Allport implies learning theory; Doob, Hullian behaviour theory.

Dawes, R.M., (1972) suggested that there is really no necessity that social psychologists agree about the definition of attitudes in order to measure attitudes. "All that can be measured are specific properties. If then, one person wishes to argue that something that has been measured is a property of an attitude, and another person wishes to argue that it is not, they may do so without in any way affecting the measurement process - or the validity of the resulting measurement scale." (Dawes, 1972)

Attitude Change

This section reviewing the literature on attitude change may be introduced by reiterating the following:

- *Research in attitude change has been presented in various formats.
- *Complex entities are more likely to present inconsistencies especially when relations among these entities are discusses.
- *Although a great number of theories have been advanced to explain attitude formation and change, no broad integrating theoretical system exists.
- *Such existing theories place heavy emphasis upon relations among elements rather than on the investigation of the elements per se.
- *Studies of elements on their own may best be seen, therefore, as a means to an end, the end being the study of the interrelation.

Insko (1967) arranged a presentation of research on attitude change focussing on theoretical positions taken by researchers to investigate underlying processes in terms of fourteen theoretical formulations termed by McGuire (1969) as "miniature theories attempting to account for sub areas of findings within the attitude change domain".

Comprehensive discussion of attitude change in terms of four approaches; learning theory, perception theory, consistency theory and functional theory was presented by McGuire (1969).

Sherif, Sherif, and Nebergall (1965) discussed

attitude change in terms of their research orientation, the social judgement-involvement approach. In adopting this approach they comment upon the many theories and models in existence to explain attitude change in showing the inability of these theories to relate 'the world of actualities they claim to theorise about'.

An attempt was made by Keisler, Collins and Miller in 1969 to take each theoretical issue in attitude change in a critical and comparative light. They see this as a collaboration of theorists' viewpoints.

Zimbardo and Ebbesen (1970) presented attitude change investigation in terms which Insko (1967) described as the best way of presenting research but limited by not being able to show a very coherent presentation of any theory. This is the practical problem centered focus.

Rosenberg, Hovland, McGuire, Abelson and Brehm (1960) saw a need to collect in the one text the studies which had in common concern for making consistent internal organization of attitudes. This text presents four theoretical formulations on attitude change research all of which are in terms of inconsistency reduction.

Triandis (1971) followed Rosenberg et al. and orients his presentation to his theoretical position of consistency with particular focus on the dependent variables. Further specific orientations and theoretical formulations to attitude change are found for example in the following texts: consistency theories are focused on in particular by Festinger (1957), Abelson, Aronson et al. (1968);

functional theories by Katz (1960), Katz and Stotland (1959), Smith, Bruner and White (1964), and Kelman (1958).

Himmelfarb and Eagly, (1974) focused on the Yale research school (see Kelman and Hovland, 1953, and others) and investigated attitude change through the effects of a number of independent variables. Thus the approach to attitude change theories is by investigation of the nature of the psychological processes postulated to underlie change.

In discussing the interrelations among these theories McGuire (1969) saw that they are complimentary rather than contradictory. Rather than making different predictions about similar variables, they concern themselves with different intervening variables and mediating processes. McGuire saw that research stimulated by these theories need not search for a new theoretical base but rather can be subsumed under the existing theories.

Researching literature for determining strength of one approach over another is an obvious course of action if a stand is to be taken. However, there is so much conflicting evidence supporting any theoretical stance that such research may be futile. For example Katz advocates the functional approach as being able to investigate motivational properties of attitude change, a fact which he said consistency theories do not permit, but Tannenbaum (1968) begins his discussion on consistency by stating that a major appeal of the consistency/inconsistency formulation stems from its underlying motivational

properties.

Theories of cognitive consistency. McGuire (1969), Newcomb (1968), Himmelfarb and Eagly (1974), Keisler, Collins and Miller (1969) seem satisfied that a group of theories advanced circa 1958 may be categorised under the heading cognitive consistency theories. The term has been attributed to Katz (1960), (McGuire (1960) and Jordon (1968)). Examples of these are Festinger's dissonance theory (1957), Heider's balance theory (1958), and the congruity theory proposed by Osgood and Tannenbaum, Rosenberg's affective-cognitive consistency theory (1956) and Newcomb's strain toward symmetry (1956).

The common basic proposition these theories advance in attempt at attitude change explanation is that the individual behaves in such a way so as to maximise the internal consistency of his cognitive system and between this cognitive system and his overt actions. The individual will adjust his attitudes and behaviour in order to maintain maximum consistency. Inconsistency is assumed to be a noxious state and the individual will, because of the tension of the inconsistency strive to reduce the inconsistency and thereby the tension. Undoubtedly the one consistency theory which has stimulated the most research and the most controversy is Festinger's cognitive dissonance theory (1957) with over 300 studies in ten years (Zimbardo and Ebbesen, 1970). The second widest in discussion is Heider's balance theory (1958). These two together are described by Abelson et al. (1968) as the broader, more ambitious consistency approaches, but

sacrificing specific focus on any one area by their broadness. This broad application is not simply to intrapersonal cognition but also to relationships between cognition and behaviour and interpersonal relationships.

Briefly, dissonance theory holds that dissonance is a negative drive state occurring when the individual holds two cognitions at the same time, and which are inconsistent psychologically. The two cognitions are dissonant if the opposite of one follows from the other. To attain consistency, consonant cognitions may be added or currently held cognitions may be changed to be more consonant. Attitude change is an important way inconsistency is reduced. For Aronson (1968) this is primitive, lacking in the elegance and precision commonly associated with scientific theorising. Research stimulated by dissonance theory is as diverse as it is plentiful. Lawrence and Festinger (1962) discussed dissonance in maze running rats. Aronson and Carlsmith (1963) looked at dissonance in the development of values in children. The proselytizing behaviour of religious zealots was investigated in terms of this theory by Festinger, Riecken, and Schachter (1956). Thus while it is applied mainly to interpersonal relations and other social psychological phenomena, it is not limited in its usefulness to social psychology. Keisler, Collins and Miller (1969) in their discussion of dissonance theory make an interesting summary of the points which revivers of the dissonance theory, for example Aronson (1968), Brehm and Cohen (1962), Deutsch, Krauss and Rosenau (1962) make, and which depart from Festinger's original formulation.

These revisions attempt to allow for more specific and less ambiguous predictions.

An interesting study by M. D. Scott (1974) tested the dissonance theory against the theory of social judgement-involvement (Sherif, Sherif and Nebergall, 1965) for predictability of attitude change and found that while in some cases cognitive dissonance accurately predicted attitude change, the theory of social judgement-involvement was a superior predictor of overall attitude change. Major critics of this theory include Chapanis and Chapanis (1964), Zajonc (1960), Osgood (1960), and Brown (1962). Zimbardo and Ebbesen (1970) offered a critical discussion on the basis of a lack of clearly stated internal structure which related to external events. The lack of specification of the conditions under which the predictions of the consistency theories will hold is the basis of Zajonc's criticism in 1960. For them the theory needs 'overhauling'. Insko (1967) presented a full discussion on revision studies and a critical analysis of this theory.

Chapanis and Chapanis (1964) attacked cognitive consistency research on the grounds that these studies fail to dispose of every alternative explanation (Berkowitz, 1968). These critics basically attacked the methodology and cited examples of "good" methodology where subjects, for example, were allowed to assign themselves to experimental conditions. Aronson (1968) saw this as negating the major defining characteristics of an experiment. Further critics of consistency theories including the dissonance theory are the functionalists, especially Katz (1968), Kelman and

Baron (1968), Clarke and James (1967), Janis and Rausch (1970), Robinson, E.L. (1971). Tedeschi, Schlenker and Bonoma (1971) after investigating interpretations of cognitive dissonance offered a new theory to account for the results of dissonance studies. This theory integrates the viewpoints of Festinger, Rosenberg, and others and is supported by existing dissonance literature, is rooted in the socialisation process, and offers an alternative to the traditional intrapsychic explanations of dissonance.

Heider's balance theory was similarly based on the consistency principle. Cognitions about objects in the environment and about other individuals who also have cognitions about them are organised in a harmonious relationship for balance. Heider distinguished between the sentiment relation (e.g., likes) and the unit relation (e.g., is responsible for) of the three pairs of cognitive elements P (the person as subject) O (the other person) and X (the third entity). "The triad is balanced when all three of the relations are positive or when two of the relations are negative and one is positive. Imbalance occurs when two of the relations are positive and one is negative." (Heider, 1958). Thus, this theory again deals with both inter and intra personal processes. The problem of achieving balance in the triad of the environment, interpersonal relations and self needs forces the individual to achieve harmony or balance among these conflicting demands. (These terms, harmony and balance, Heider wanted to be used interchangeably.) Jordon (1968) in his discussion of Heider's

theory stressed that for adequate understanding of this cognitive balance principle, Heider's total systematic cognitive psychology needed to be taken into account. Insko (1967) in discussion on balance theory categorised Newcomb's (1959) version together with Heider's on the basis of their similarity. Newcomb's model, termed strain towards symmetry, was described by Keisler, Collins and Miller (1969) as not so much a theory of attitude change as a 'theory of interpersonal attraction'. The symmetry being the balance among the relationships of two people, A and B, with each other and object Z. Heider's and Newcomb's models do differ in some respects, for example, Newcomb's greater emphasis on communication. Wall, D.V. (1972) attempted to use the balance theory and the theory of ego-involvement (Sherif and Sherif, 1969) combined to increase attitude change prediction. Results showed the balance theory being stronger than ego-involvement theory but the study concluded that further research was necessary with the measuring instruments.

The theory has stimulated research, notably by Jordon (1953); Morrissette (1958); Erice, Harburg and McLeod (1965); and Rosenberg (1958). Abelson (1968) showed that the system of psychologic developed by these previously cited researchers, Abelson and Rosenberg (1958), Cartwright and Harary (1956) and indeed Heider (1946, 1958) was "specific enough to be shown false". Abelson's later work (1968) outlined that which his earlier work on the consistency theories lacked, an analysis of action, thereby designing it better to withstand

criticisms of the balance theory that it lacks action concepts bridging the gap between cognition and behaviour. Abelson (1968) saw the dissonance theorists to that date as being better with action concepts than the balance theorists. Recent support for the balance theory over the congruity theory comes from Kerpelman, J.P. (1971), who investigated balance and congruity theories as frameworks for interpretation and prediction of attitude change. She found that of the two theories, balance theory offered the better explanation of the results.

Investigation of the balance theories of Heider, Newcomb, and Osgood and Tannenbaum and the extended model of Cartwright and Harary (1956) by Truzzi, M. (1970) resulted in his presentation of an elaborated conceptual model for the critical comparison and analysis of those previously over-simplified triadic models.

Other consistency theorists have focused more on the intrapersonal processes of consistency. McGuire (1969) categorised these approaches as non-Heiderian. Included here are Osgood's congruity theory (Osgood and Tannenbaum, 1955) which deals with the individual's (F) acceptance or attitude towards a communicator (S) about information (O). For congruity to exist depends upon how much P likes O and S. This theory was described by Keisler, Collins and Miller (1969) as being narrow in scope and work by Fishbein (1965) and Rokeach and Rothman (1965) suggested some qualifications to this theory.

McGuire (1968) discussed his work in consistency relating to his own earlier publications (e.g., 1960) and concluded that a result of assuming that people operate under a need for internal consistency would be the ability to map the structure and functioning of the thought processes. The basis of McGuire's theory is that the need for consistency is threatened by conflicting needs and the person's actual belief system represents a compromise between these conflicting forces. Criticisms of McGuire's theory would advocate a person is in fact striving to maintain and maximise some characteristic other than internal coherence or consistency in any beliefs and thoughts. Such critics include Katz, Jordon, Collins and Sarnoff. (McGuire, 1968).

Sherif and Hovland (1961) cited their previous studies, Hovland and Sherif (1952) and Sherif and Hovland (1953), to call into question earlier attitude research; furthermore, they noted that the special edition of Public Opinion Quarterly (Katz, D., (ed.), 1960, vol. 24) acknowledged a change in the studies of attitude research (see especially Katz, D., Himmelstrand, U., Sarnoff, I., Zajonc, R., Cohen, A., Rosenberg, M., Osgood, C., 1960)). The change brought focus on the processes and factors underlying attitudes and their modifications. The theories proposed by Heider and Festinger are illustrated examples of this change. However for Sherif and Hovland this was not sufficient. More extensive investigation of attitudes and attitude change from the underlying processes was advocated.

Functional theories. The following pages focus on the functional approach to the study of attitude change as outlined in the opening paper by Katz, D., in the issue of Public Opinion Quarterly cited above. In that paper Katz saw a growing interest in an approach to attitude research developing alongside those concerned with cognitive balance. This approach holds the assumption that attitude change and formation is best understood in terms of the needs attitudes serve for the individual or the function attitudes serve for the personality. The conditions for attitude change depend upon these needs and their associated motivational properties (Katz, D., 1960). The ideas of the 1960 paper drew heavily upon Katz's earlier work, in particular Sarnoff and Katz, 1954; Katz, McClintock and Sarnoff, 1957; Katz and Stotland, 1959. Other functional approaches discussed in the literature include those of Smith, Bruner and White, 1956, and Kelman, 1961. These approaches are referred to by Insko, 1967, as 'type' theories, involving types of attitudes. Himmelfarb and Eagly (1974) in their discussion on functional theories of attitude change noted the comparative lack of research these theories have developed. Katz's theory for them was "more important as a classificatory and general analytical framework than as a theory generating hypotheses for research". The difficulty in adapting these theories into empirical investigation lies in their 'offer of idealized types of functions or processes that are usually not represented in a pure form in reality'. McGuire (1969)

saw the functional theory approach to attitude change as addressing itself to changing the behaviours underlying motivational and personality needs. The procedures for changing attitudes then depended upon the functions these attitudes play. Katz, D., writing in 1968 was more concerned with the relationship of consistency doctrines to the functional approach than with reiterating his functional analysis. The basis of this relationship lies in the functional approach going beyond the cognitive field and dealing with the motivational basis of attitudes. Cognitive discrepancy and its modes of reduction for Katz could be more adequately assessed by investigation of the functions beliefs serve for the individual.

Katz (1968) then does not appear to be in agreement with the view expressed by McGuire (1969). For Katz the functional approach went beyond the cognitive field, focused upon by consistency theories and looked at motivational bases of attitude change. By investigating the functions beliefs serve for the individual, cognitive consistency and its associated dependent variables can be more adequately assessed. This is a contentious stand and is perhaps well illustrated by the following quote, "It should be remembered that classical conditioning in time was supplemented by instrumental learning. A similar functional corrective may be necessary for dissonance theory." (Katz, 1968)

Sampson (1971) presented an overview of the functional approach introduced by the following summary, "The functionalists gnawed their way into the individual's guts and saw his attitudes as propping up the foundations of

his personality". Attitudes served the function of showing the individual which world he lives in, a function which is shared across most theories with the functional approach, offering the added advantage of the delineation of the ego-defensive function allowing for the symbolization of inner conflicts.

Briefly, the functional theory proposed by Katz (1960) discussed developed motivational patterns of varying characteristics which allow for prediction on the ease of change, the conditions productive of change, the direction of change, and stability of change. These predictions can be made by the functional approach as the four functions which attitudes serve for the individual are distinguished. These functions are 1) the instrumental, adjustive or utilitarian function which allows the individual to maximise gains and minimise losses with respect to the external world, 2) the ego-defensive function protecting the individual from anxieties created within himself, 3) value-expressive function which allows the individual to express the appropriate values about his social world and his relation to it, thereby giving him satisfaction, 4) a knowledge function giving the individual a structure and meaning for understanding his universe, allowing for appropriate behaviour to specific objects. Conditions for change of attitude vary for each function but generally depend upon an attitude no longer fulfilling its old need or function; for example, a change in value-expressive attitudes requires a restructuring of the individual's

belief system; ego-defence attitudes are highly resistant to change and may require some modification of the personality before any genuine change can occur. Utilitarian attitudes can be changed by offers of alternative or better ways of achieving the object. Knowledge function attitudes may be changed when existing ones are no longer appropriate and new beliefs are available which will subsume existing information and experiences. For Katz the importance of this functional approach was threefold: 1) it allowed generalizations to be made about human behaviour; 2) it avoided the error of over-simplification - attributing a single cause to given types of attitudes; 3) it allowed recognition of the complex motivational sources of behaviour and allowed for specification of the conditions under which given types of attitudes will change. In 1968 Katz concerned himself with the relationship of the consistency doctrines to the functional approach to attitude formation and change. Here he stated that "although consistency and functional theories address themselves to different issues, they are both concerned with changes in beliefs and attitudes." The consistency theories are lacking in the two main areas of motivation and environmental pressure.

The second functional approach in the literature is that of Smith, Bruner and White, 1956. The immediate problem of aligning this theory with that of Katz et al. lies in the definition of terms. Smith, Bruner and White appear to use the term 'opinion' synonymously with 'attitude' and 'sentiment' ; their rationalization for this is wanting to

emphasize the interrelation of personality and further they "do not think the time is ripe to be theoretically solemn about the definition of attitude". If 'attitude' is substituted for 'opinion', comparisons are legitimate and indeed, it would seem that this is what they intended. But if we take opinion as another concept and discuss the functions of opinion, then a comparison may be inappropriate. McGuire (1969) presented a comprehensive discussion and literature review on efforts to distinguish attitudes from opinions. Some interesting points are raised here; from the operationalistic perspective, an opinion could be a belief measured by a single item and an attitude a belief measured by an inventory (McNemar, 1946). McGuire (1969) described this as 'reductio ad absurdum'. His position was to disregard distinctions and conceptual elaborations unless they have demonstrated consequences. However, Sherif, Sherif and Nebergall in 1965 stated that verbal opinions are 'data for attitude research and may or may not reflect attitudes'. Thus an elaboration of terms would be required before Smith, Bruner and White's study could be legitimated. However, for the purposes of this study these will be discussed as a functional theory of attitude change, following Insko (1967) and Keisler, Collins and Miller (1969), but the above discussion is well noted.

Keisler, Collins and Miller (1969) saw the theories of Katz, and Smith, Bruner and White as 'similar enough to be presented jointly'. Himmelfarb and Eagly in their recent comprehensive reader in attitude change (1974) did not

discuss Smith, Bruner and White's study in any depth and in fact, cited the reference once only. Iriandis (1971) concluded that Katz's discussion is an elaboration of the views expressed by Smith et al. and this seems to be consistent with the presentation of these two functional theorists in Insko (1967), who discussed Katz in relation to Smith, Bruner and White and who noted that Katz's classification of the functions served by attitudes is similar and yet not identical with the Smith et al. classification.

Sampson (1971) saw these two theories as having "substantial overlap in their system classifying attitudinal functions", as can be seen from the following: Smith, Bruner and White (1956) listed three functions served by holding an opinion. These they termed object appraisal, social adjustment and externalization. (Keisler, Collins and Miller added a fourth 'quality of expressiveness', reproduced by Wrightsman (1973)). These three functions sought to uncover the relationship between the opinions they expressed and their personalities. Insko (1967), however, noted that this did not testify to the theory's adequacy. The three functions are 1) object appraisal function, equivalent to the psychoanalytic expression 'reality testing'. It refers to the usefulness of the opinion in sizing up objects and events in the environment. This is related to Katz's knowledge function but differs in its focus on the adaptive function of attitudes in meeting internal or external demands. 2) The social adjustment function facilitates, disrupts, or maintains an

individual's relation with others. This is related to the adjustive function of Katz's theory but differs in the stress that it uses in establishing a social relationship (Insko, 1967). Keisler, Collins and Miller (1969) did not permit this analogy on this basis. 3) The externalization function of an opinion defends the ego from any anxiety generated by inner problems and is related to the ego-defensive function of Katz's theory. Inner problems are allowed to be externalized. The fourth function of attitudes proposed by Katz, the value expressive function, is the most difficult to find an analogy for in Smith, Bruner and White's theory. For the latter theorists' opinions have an "expressive nature" which is not a need for expression as may be suggested by Katz but rather a reflection of a 'deeper-lying pattern of life'. There is nothing here of satisfaction from expression through attitudes. The divergence of these two theorists at this point seems so wide that it may well be inappropriate to consider these as analogous functions.

The main criticism of functional theory lies in the lack of support from experimental evidence. The statement of the theory in its present form is seen by Insko as not being empirically testable and until it is, it will not be a serious contender in the field of attitude change.

A third functional approach to attitude change was proposed by Kelman (1958). While differing in many respects from the previous two theories Kelman's theory in keeping with the functional approach implied that knowledge of how an attitude is acquired is necessary before any change can be effected. One major area of differentiation is that

Kelman approached attitudes as a function of both motives as well as antecedent social influence conditions. Kelman suggested the need for distinguishing three processes of social influence. These are compliance, identification and internalization. While each of these three processes theoretically leads to a different type of attitude, they are not mutually exclusive and seldom occur in a pure form. It is interesting to note that Kelman (1958) labelled his paper, "Three processes of attitude change", which became in 1961 "opinion change", and became a 'framework for the analysis of social influence' in a reprint of the 1961 paper in 1963. Still later in 1968 Kelman with Baron (Kelman and Baron, 1968 b) linked analysis of the availability of mechanisms for resolving inconsistency dilemmas to these functional theories. Later still in 1974 Kelman and Baron used the basic functional analysis to investigate the relationship between discrepant action and attitude change. These last two papers also involved the authors' advocating the use of the functional approach over the consistency theorists, in particular dissonance theorists.

Other criticism of the functional theories focuses mainly on the lack of the theory's suggesting methodological techniques for measuring the very central core of their existence, the function the attitude serves for the individual. Wrightsman (1973) concluded that until such measurements are better developed functional theory has little practical use. Keisler, Collins and Miller (1969) supported this in saying the foremost requirement of the functional theories and most striking present lack is a technology for

assessing the function of attitudes.

In keeping with the rationale of this thesis these theories of attitude change may be discussed in terms of the methodological investigation of relationships among elements. Theories of cognitive consistency focus on relationships of the components of an attitude, imbalance opening the way for attitude change. The elements of the attitude must be studied separately before implications may be made on the effect of the part on the whole. It is, thereby, recognized that each part may exist on its own but these theories of attitude change are dependent upon investigation of the relationships of these interrelated parts; with the status of the parts determined, predictions may be made about the whole - attitude - through knowledge of their interrelation.

The functional theories may be seen in a similar light and for this research are considered to offer a more relevant model. In terms of Cassirer's and Lewin's discussion of the relationship of parts, functional theories would see the personality and the behaviour as the whole, attitude change being dependent upon motivational properties located in personality needs which become in effect attitude needs. Furthermore, for this research which was designed to investigate attitudes before and after environmental manipulation, the relations of the motivational properties and attitudes can be considered by this theory before and after such changes. Then the location of such motivational properties hypothesised to be in the organizational climate

can be investigated. Similarly the potentiality of attitudes as predictors of job satisfaction may be investigated. Thus the possible linking proposed at the conclusion of this thesis of organizational climate to attitudes, attitudes to satisfaction and satisfaction to performance is given a theoretical basis.

Other Controversies

This section reviewing the literature on attitudes and attitude change concludes with presentations of two further controversies. The first presentation is a summary of the attitude-behaviour consistency controversy - the impact attitudes have on behaviour or vice versa. Detailed investigation of this controversy is outside the research design and the intentions of this thesis, but readers may note that to complete the model of the pragmatic relationship subsequently proposed in this thesis, in depth consideration of this controversy would be imperative. It is included here simply as an overview of the literature to complete the proposed model and offer inducement for further research. Such research would investigate the attitude-(satisfaction)-performance link following the investigation of the relationship of organizational climate to attitudes or job satisfaction to attitudes. (See section of Part I, Literature Review on organizational climate for summary of studies investigating satisfaction and performance.)

The second presentation summarises an exciting departure from the traditional research on attitudes and

attitude change to date by Professor Nuttin (1974).

Such a departure which questions the fundamentals of attitude research may well provide the basis for resolving the problems inherent in attitude research identified previously in this literature review.

Attitude/behaviour consistency controversy. If the construct attitude is not observable and is inferred from behaviour, it is attributed the status of an intervening variable. Thus given certain antecedent conditions attitudes connect certain regularities in behaviour. For example, any hostile or violent action towards an ethnic group and prejudice may all be connected by the construct of a negative attitude held to the ethnic group. Thus, knowledge of a behaviour, or an observable or a measurable action could be said to indicate attitudes.

The Consistency Controversy (Liska, 1975) is perhaps the most recent volume to focus on any attitude-behaviour link. In terms of the above example, prejudice, which Allport (1935) defined as an attitude, is an antecedent condition for discrimination. Discrimination may not occur without the incumbent first holding the negative attitude, prejudice. Above it is stated that the observable action of discrimination refers to the holding of negative attitudes. Ehrlich (1975) stated that attitudes are poor predictors of behaviour, that prejudice is a poor predictor of discrimination. This is but one example of the many available (see for example, Thomas, K., 1971; Himmelfarb and Eagly, 1974) which question the relationship between attitude and behaviour. However, Ehrlich (1975)

saw many theorists going further and taking the evidence of attitude-behaviour inconsistency as a "premise that attitude theory has proven inadequate" (see for example, Nuttin, 1974). Ehrlich cited Deutscher (1966) who stated that "no matter what one's theoretical orientation may be, he has no reason to expect to find congruence between attitudes and actions and every reason to find discrepancies between them".

Ehrlich (1975) concluded that some attitudes may not be able to be expressed in behaviour, some are deliberately stifled, and expression of some depend on the contextual and interpersonal conditions. Consistency of action (behaviour) is learned, behaviour consistent with an attitude may be determined by conflict with other attitudes allied to behaviour under analysis. This is particularly so with attitudes to organizations and work.

A further problem was raised by De Fleur and Westie (1963) for those who believe that consistency should exist between verbal behaviour and actions. They see such consistency as a "fallacy of expected correspondence". Perhaps a similar stance should be taken over the attitude-behaviour relationship. A similar conclusion was offered by Deutscher (1966) who in his extensive review of the attitude-behaviour literature concluded that "there was simply no evidence to suggest that attitude is a good predictor of behaviour". (Note: The experimentation of this thesis investigates attitudes as predictors of job satisfaction. Any relationship investigated between this and performance would conceivably test Deutscher's conclusion.)

In the organizational setting the attitude-behaviour

relationship is translated into the satisfaction-performance relationship. (See section of literature review on organizational climate and job satisfaction.) Vroom (1964) concluded that a relationship here "remains unproven". The relationship between attitudes and satisfaction is investigated in some detail in this thesis as predictor and criterion variables. The indicator of satisfaction (or criterion variable) here is the distance to fulfillment of 16 occupational goals (see results section). To extrapolate from this to a relationship with these data and performance could well be the basis of future research. The model proposed in this thesis (figure 3-1) indicates the possible linkages in the layout for such a study. (See also concluding section on implication for future research.)

Attitude terminology challenged. At the beginning of this thesis, reference was made to Nuttin (1974) who in the concluding chapters of his book suggested that due to its uselessness and because it is misleading for prediction, control and understanding of social behaviour, the concept social attitude should be abandoned. Nuttin felt that understanding or practice based on "classical social attitude assumptions" should be seriously questioned. Acceptability by mass media of attitude and related terminology does not legitimate the term's applicability for scientific investigation.

Nuttin presented a provocative and authoritative overview with supporting empirical evidence of a theory, the subject of which attitude research has long dealt with albeit with much inconsistency of results. This he termed the response contagion theory. This theory

from Nuttin explained the results of his experiments and allowed for a reinterpretation and a reconciliation of existing research which becomes worthy of investigation due to its "competing views of similar phenomenae".

The basis of this theory is the assimilation of evaluative responses in terms of "the rapid spread of and influence or emotional state and temporal contiguity between prior and subsequent responses". Contagion is then dependent upon three factors:

- 1) the nature of prior responses
- 2) the degree of arousal
- 3) the temporal contiguity between prior and subsequent responses

A series of existing research findings in the field of attitude change is re-examined in terms of this response contagion theory "to see if data obtained by other investigators, working within quite different theoretical frameworks, could fit the basic response contagion assumptions and predictions". Attitude change theorists are focused on in investigations of conditions productive of dissonance, in particular studies of Cohen (1962), Festinger and Carlsmith (1959), Aronson and Carlsmith (1963), Turner and Wright (1965). The focus and common variable which comes into question is the relationship of reward and attitude change, especially following counter-attitudinal advocacy. Four interpretations of the effects or functions of reward are discussed, the incentive function, the reinforcement

effect, the generalisation effect, and the combination of incentive and reinforcement. Although Nuttin differentiated between these latter theoretical positions and the dissonance theorists, concentration is given those studies which allow "for the prediction of a powerful cognitive dissonance effect". Various labels are ascribed to these two 'camps', dissonance and anti-dissonance, dissonance and incentive, direct and indirect relationship, but all predict reward effects on attitude change after counter attitudinal advocacy.

Some 13 experiments were presented by Nuttin (1974) which were intended by the author to add to plausibility of the response contagion interpretation of his reported attitude change effects. Nuttin first concluded that a cognitive dissonance interpretation of assessed attitude change is invalid, and that theories which imply identification of advocacy should be avoided. Thus Nuttin provided empirical evidence for explanation of attitude change which could not be interpreted by theories based on concepts of cognitive dissonance, consistency, reward, incentive, commitment, aversive social consequences, threatened self-esteem, perceived decision freedom, evaluation apprehension, social desirability, or self persuasion. Nuttin offered an evaluative response contagion hypothesis for explanation. The response contagion effect being determined by the arousal nature of the stimuli which precede the attitude response and which "enhance the relative dominance and impact of the most recent ongoing response upon the immediately subsequent attitude

response".

Nuttin's own experimentation and reinterpretation of existing related research allowed ultimately for a new paradigm for researching and perhaps re-shaping the traditional concept of 'social attitudes'. Nuttin suggested that the paradigm of an enduring attitude change through forced compliance is inappropriate and does not explain the data on which attitude change theories are built. The focus on 'forced compliance' research in which attitudes are defined as possessing the three components discussed previously in this thesis (the "prevailing conception in attitude change literature") may now be seriously questioned. Future research into social psychological phenomena could be aimed at substantiating this theoretical position concentrating on attitude change phenomena by a "mere evaluative verbal response paradigm". (Nuttin, 1974).

Organizational Climate and Job Satisfaction

Litwin, G.H., 1971, offered the following as a definition of organizational climate, "the quality or property of the organizational environment that (a) is perceived or experienced by organizational members, and (b) influences their behaviour". For Litwin the term referred to the motivational properties of the organizational environment. Litwin cited the definition offered by Atkinson and Feather (1966) where organizational climate is "the summary of the total pattern of expectancies and incentive values that exist in a given organizational setting".

Katz and Kahn (1966) saw the term organizational climate

as "reflecting both the norms and values of the formal system", (similar to Atkinson and Feather, and as Litwin), and "their interpretation of the informal system".

Litwin and Stringer (1966) by a series of theoretical analyses and empirical investigations defined six key variables in organizational climate. Measurement of these would conceivably operationally define organizational climate. These dimensions are:

- 1) structure
- 2) responsibility
- 3) risk
- 4) reward
- 5) warmth and support
- 6) conflict

These were developed by Meyer (1968) who presented a 31 item questionnaire for analysis of these six dimensions. For Katz and Kahn (1966) this analysis could conceivably reflect the history of internal and external struggles, would show the type of people the organization attracts, its work processes and physical layout, the modes of communication, and the exercise of authority within the system. In 1966 Katz and Kahn suggested that in order for the concept to become "more than a vague analogy from meteorology," it should be used as a potentially valuable research instrument.

In an experimental study of organizational climate and motivation, Litwin (1971) concluded that climates once created have "significant often dramatic effects on motivation and correspondingly on performance and job

satisfaction". Further conclusions from this study suggest a profound influence on personality and 'personal functioning' of a given climate. In short, the climate can provide cues sufficient to arouse motives which, when compared with the environment for satisfaction of these motives may influence behaviour.

Similarly the factors outlined by Katz and Kahn which are the components of organizational climate and which Litwin sees as influencing behaviour may well also influence attitudes. This would be illustrated by a measure of attitudes before and after changes in the organizational environment. Such changes would affect motivation and thereby account for any measured change in attitude according to the functional approach to attitude change. These components revealed by a study of organizational climate supply standards or frames of reference for the understanding of the employee's world; the attitude thus formed serves the knowledge function for the employee. If the attitudes so formed are inappropriate or inadequate for dealing with the organizational climate, according to the functional analysis, they will be open to change. An organizational climate which shows negative attitudes when these are measured may be assumed to require modification. Following such modification, if a further measure showed a shift away from the negative, it could be assumed that the climate is now more functional for the employees attitudinal needs. The motive for the attitude change being aroused by the inappropriateness of the climate and being satisfied by the shift towards functional consistency.

A change then in the organizational climate which, as Litwin concluded, affects behaviour must similarly affect the functional need structure of attitudes with a corresponding susceptibility to attitude change. To extrapolate from this, climate influencing attitudes would in turn influence performance and satisfaction. Attitudes, therefore, would act as mediating variables influencing behaviour (performance). If, for example, a positive change was obtained in an attitude measure following a change in the organizational environment setting up the motivation for climate based changes, it would be hypothesised that job satisfaction and performance would correspondingly be more positive. Positive attitudes would mean more satisfaction and therefore better performance if this hypothesis could be supported. To be decisive in this conclusion is, however, obviously naive. Vroom (1964), for example, reviewing the literature on work satisfaction and performance suggested it is inappropriate to assume that satisfaction has an impact on performance.

Four conclusions have been drawn by Blum and Naylor (1968) from Vroom (1964) which cover research relating job satisfaction to job behaviour variables. These are as follows:

- * A consistent negative relationship between job satisfaction and the probability of resignation
- * A less consistent negative relationship between job satisfaction and absences
- * Some indication exists to suggest a negative relationship between job satisfaction and accidents
- * No simple relationship exists between job satisfaction and job performance. Conditions which affect the magnitude and direction of relationships between satisfaction and performance are not known.

Porter and Lawler (1968) suggested that satisfaction should be viewed as an effect rather than a cause of work performance. Cherrington et al. (1971) showed that the satisfaction/performance relationship is not causal but is contingent upon other factors, e.g., reward. Lawler and Porter (1971) emphasized that satisfaction is caused by performance rather than being a cause of performance. They point out that earlier studies investigating the relationship of satisfaction and performance implicitly assumed the existence of a positive relationship. Little attention was paid to investigating why such a relationship should exist. Lawler and Porter cited the following reviews of the literature, 1) Brayfield and Crockett in 1955, who concluded that "there is little evidence in the available literature that employee attitudes bear any simple - or, for that matter, appreciable - relationship to performance 'on the job'", and 2) Herzberg, Mausner, Peterson and Capwell (1957), who concluded that there is sufficient evidence to suggest that attitudes may influence work output, but the relationship is not absolute.

Both of these reviews discovered a relationship between attitudes and job absenteeism and turnover, both suggested that the "strong pervasive relationship between satisfaction and productivity as had been suggested and accepted was not as obvious as thought".

Lawler and Porter asked the question "Is there a reason for believing that job satisfaction should be related to job behaviour and, if so, can it explain why this relationship exists?" Brayfield and Crockett (1955)

saw the measurement of attitudes as the indicator of satisfaction. This has not been rejected, especially by this thesis, so this question is perhaps more prevalent in discussion of attitudes and behaviour consistency than at first would appear to be the case.

Maier, N.R.F. (1973), listed a number of factors which influence workers' attitudes and which "determine the goals for which a person will work". Variations in these make some work situations more conducive to job satisfaction than others. Included in the list are physical conditions - lighting, sanitary facilities, ventilation - and past experiences such as discouragements at home and former insecurities.

The importance of job satisfaction for general employee morale was demonstrated by Stagner, R., 1950, (cited by Maier, 1973), who concluded that morale was higher among employees who were satisfied on some 14 specific items than those who were dissatisfied. The items were ranked in order of importance as influencing morale and include psychological satisfactions (e.g., a fair hearing and a square deal on grievances) as being higher in the list than the purely material ones (e.g. pay and vacation policy).

Maier then discussed the dubious relationship of morale and productivity (performance?) and concluded that both variables depend upon many factors. Similarly, he concluded that the existence of a wide range of relationships found between satisfaction and performance come about by the great variation in the sources of satisfaction and

that these are related only in part to those inducing motivation.

For this study the factors listed by Maier as influencing attitudes and his discussion on the sources of satisfaction and motivation would appear to relate to Lewin's analysis of organizational climate and the present investigation of the influence of organizational climate upon satisfaction. However, Maier's ubiquitous conclusion from his survey of relevant studies showing a lack of consistency in relating satisfaction to productivity (performance) points out the difficulties inherent in this research.

The conclusion that attitudes formed by organizational climate cues contribute to satisfaction and therefore to performance is yet to be proved. Climate may affect or influence satisfaction and performance through attitudes but there is no data showing their interrelatedness. Vroom (1964) stressed that the level of performance may in fact be influenced by a number of psychological variables other than those of a motivational nature, e.g. ability. These findings are not contradicted by those of Litwin (1971) as Litwin did not suggest that the effect of climate on performance through motivation is at all the sole determinant of the performance, nor are they contradicted by those studies discussed by Maier, 1973.

In an investigation of the effect of work environment on organizational climate, Murdy, L.D., (1972) concluded that the interactions of environmental settings, personal characteristics of individuals assigned to those settings, and the resulting organizational climate profiles provide empirical support for the concept that individual commitment

to and involvement in the organization are functions of the positions occupied and the status, power and reward derived in relation to them. Attitudes and performance are not causally related.

Organizational Climate and the Functional Approach to Attitude Change

From Katz's functional approach (Katz, 1960) attitude arousal depends upon some relevant cue in the environment. Arousal is seen as separate to attitude change. As discussed when the existing attitude no longer 'serves its function' and the individual feels blocked or frustrated, conditions will be conducive to attitude change.

Thus, in terms of this study, the motivational cues from the organizational environment, located in the climate will arouse attitudes. This arousal may or may not have an associated need. However, if certain conditions exist and this need is present, attitude change may be demanded.

To take four functions from Katz's analysis the relationship of attitude change to the organizational environment and climate may be clarified.

1) Changing instrumental, adjustive or utilitarian attitudes. If the attitude held by the individual from the organizational climate does not allow the individual to maximise his rewards and minimise his penalties, the climate will no longer fulfill its utility for the individual. For example, fringe benefits which each employee will endeavour to obtain as perquisites in his job may lessen the need for any change in the utilitarian attitudes as these may well produce favourable attitudes to the company rather

than performance (Katz). The individual's level of aspiration need not be raised and the attitude which serves the utilitarian function is satisfied. From figure 3-1 the path to satisfaction would be open. If, however, fringe benefits were not shared by all employees, those who missed would conceivably develop negative attitudes; the individual would strive to adjust; the climate would not allow an attitude then to satisfactorily serve its utilitarian function.

2) Changing ego-defensive attitudes. Any threat to the individual's ego may provoke or arouse an attitude to protect the individual from related anxieties. Such attitudes are easier to show if associated with social support and ability to appeal to authority. To change these attitudes, the threat must be removed, the frustrations must be released (catharsis) and insight given the individual into his reasons for holding such ego-defensive attitudes.

Within the framework of this study, ego-defensive attitudes may be aroused by climate of competition with an associated fear of failure. This will elicit cues to arouse motives and allow for ego-defensive attitudes to be apparent. These can be changed by elimination of the threat from competition or the stigma of failure. The individual whose attitude to the organization is ego-defensive in origin may turn his energies into destruction of the organization's goal.

3) Changing value-expressive attitudes. Value-expressive attitudes may be aroused by cues in the climate which the individual is not permitted to allow his behaviour to show expression. For example, if the organizational climate does not allow the individual sufficient expression

of his views, he may form attitudes which serve an expressive function for the values he holds.

Changes in these attitudes are likely to occur if the individual has repeatedly failed in his job and becomes dissatisfied with himself. The values he held which led him to failure may have been in conflict with those from the organizational climate. Thus the individual is 'open' to attempts at changing his values and his attitudes which for him have the function of expressing these values.

Furthermore, if the attitudes held from the organization are inappropriate to the values held by the individual or if there is a conflict between old attitudes formed in the past by the climate which have not been modified as the values of the climate transmitted to the individual have changed, these old attitudes are no longer appropriate to existing values and are therefore open to change. Organizations may in fact exert an influence on employees to modify what the organization would consider the employee's inappropriate values or inappropriate attitudes allowing for expression of the employee's values.

Obviously if the organizational climate allows for expression of the attitudes which are value expressive, thus allowing "confirmation of the individual's self concept and realisation of his central values" (Katz, 1960); there should be no need for attitude change.

4) Changing attitudes which serve the knowledge function.

An attitude serving this function supplies standards giving meaning through knowledge for understanding the world. Attitudes thus formed are elicited by cues associated with the cognitive object which is the attitude stimulus.

An attitude to any organization which is involved with aircraft, for example, is to be satisfied in its knowledge function by information about aircraft. The employee will need to understand aircraft and thus form attitudes to the organization which serve a knowledge function through this understanding of aircraft. However, when the organization changes aircraft types, these attitudes are no longer appropriate and are subject to change. The individual will strive to have a meaningful picture of his organization and thus will seek to modify old attitudes which become inadequate due to the inappropriateness of the knowledge function of existing attitudes to the organization.

Part II

Experimental Study

Throughout the previous part of this thesis reference has been made to the rationale which discusses the value of research in the social sciences investigating relationships among elements and constancies of these relationships rather than the elements and constancies of the elements themselves. In discussion of the definitional status of the term, the three components of that term are identified. This present research then was designed in terms of the foregoing rationale to investigate each of these three attitudinal components and the relationship they have with other variables, for example, job satisfaction and organizational climate.

The semantic differential was chosen to investigate each of the three attitudinal components. Factor analytic studies have demonstrated these three components to be the most important factors of semantic connotation. Ratings on a variety of bipolar semantic scales are used to derive scores for these three factors. These factors then not only have theoretical construct validity but have been found to be effective measures of attitudes and attitude change (Osgood and Luria, 1954).

The strength of the semantic differential is the fact that a semantic space may be constructed separately for each individual to represent the way he views the concepts

he rates (in this research, 'Working on the 2nd floor' and 'Working for NAC'). It is particularly useful when attitudes are being assessed before and after physical changes in the concept being rated, to determine intra-individual changes in attitudes (Dawes, 1972). Furthermore, data from the three factors which are available may individually be scrutinised in relation to other variables.

This results section investigates the internal consistency of the actual relationships found among these variables as a concurrent validation of the predicted hypothesised relationships.

Separate data from seven measuring instruments are available. From these data it is hypothesised that individual predictions of job satisfaction level may be made from knowledge of a subject's scale position on the three attitude dimensions. Thus the measures of job satisfaction represents a criterion variable. The concurrent validity of the three attitude component scores are checked against this criterion.

Part II is divided into two major section; The first section is a descriptive study concerned with discussing the existing attitudes and job satisfaction as measured at one point in time in one section of a large organization. The second section represents the investigation of internal consistency between the two variables, one measuring job satisfaction and the other, attitudes, and relationships among these measures. Data for this analysis are taken from table 2-6 of the first section which shows the ranks

subjects obtained across all tests (the job satisfaction test and the attitude measures).

The results of this section will be tested against the following null hypothesis:

H_0 = there is no association (as measured by r_S) between the criterion variable, as measured by the job satisfaction scale, and the predictor variable (attitudes), as measured by the semantic differentials.

Method

Procedure - Section A - Descriptive Study. Two separate semantic differentials (see appendix) were used for subjects to rate the concepts 'Working for NAC' and 'Working on the 2nd floor'.

Each of these semantic differentials contains fifteen bipolar semantic scales. Each scale has seven positions. By checking one of these the subject indicated where he felt the concept lay.

These fifteen scales are divided into three major types of five scales each. These three major types assess the semantic dimensions of evaluation (e.g. good - bad), activity (active - inactive), and potency (strong - weak). The actual location of the concept for each subject on each of the three dimensions was determined by averaging the ratings assigned to that concept on the five bipolar scales evaluating that dimension.

From these raw data, Z scores were computed (by standard formula) and subjects assigned ranks from percentiles. This procedure was repeated for both concepts from both semantic differentials. Together with these semantic differentials subjects were administered an adaption of

a job satisfaction instrument tested and used by Goodwin (1969) and cited by Schultz (1973). This involves 16 Likert type scales, each of seven points. Again subjects checked the position which corresponded to their feelings of that stimulus. Z scores and percentiles were computed, and again individual subjects were ranked. As well as those individual subjects being placed into a rank order, divisions and sections in the 2nd floor were also ranked. Furthermore, each of these sixteen questions, which in fact assessed the subject's position with regard to sixteen occupational goals, were analysed in order to obtain histograms showing the frequency distribution of areas of satisfaction and dissatisfaction (see figures 2-1 to 2-17). This allowed for the location of any biases shown to be determined within the 2nd floor complex.

Ranking of subjects from both semantic differentials and the job satisfaction scale are compared, allowing a comparative analysis of subject's attitudes to either concepts and to areas of satisfaction or dissatisfaction.

For further understanding of the attitudes held by employees, each subject was interviewed individually and encouraged to discuss his subjective feelings in response to the data obtained. Further, group interviews were held where subjects were encouraged in their groups to discuss anything else they could consider relevant (refer to report of interview, this thesis, Part II). A report was submitted to management which contained the findings of this study with suggestions for alteration of problems

in certain areas. (Joblin, I., 1975).

At this point the pilot study had to terminate. Some seven months following the beginning of the individual interviews and some five months following the submission of the report, it became obvious that further data collection was not going to be possible due to a shift in policy of the organization involved. This meant that the variables to be discussed in the descriptive study could not be re-measured. Furthermore, the organizational climate questionnaire (see appendix 3) could not be administered. This instrument is designed to investigate seven key dimensions isolated in the climate of an organization (Litwin and Stringer, 1966). Also measures of attitudes and attitude change were to be analysed for potential relationships of these variables to the employee's perception of that organization's climate. In terms of the rationale of this thesis, investigation of the inter-relation of organizational climate, attitudes and job satisfaction is imperative for validation of the model as proposed in Part III of this thesis illustrating the linkages and the positioning of these variables in the total scheme.

Data obtained to date from the attitude measures and the job satisfaction instrument, however, provide the basis for the descriptive study of this section of the organization.

Section B - Investigation of the job satisfaction/attitude relationship. Section B of this part offers a detailed investigation of one of these linkages - attitudes and job satisfaction. Relationships investigated here

are used to study the concurrent validity of the attitude measures as predictors of job satisfaction. These individual analyses, therefore, investigate the dependent hypothesis that not only is there a general relationship between the criterion measure (job satisfaction) and the predictor measure, but that individual predictions of job satisfaction may be made from a knowledge of a subject's position in the three component attitude space.

Data from table 2-6 (ranks across all seven tests) are analysed for this investigation. The Spearman Rank Correlation Coefficient is used as the measure of association or rank correlation determining the relationship among the tests over all 20 subjects. Significance levels of r_s are obtained from the table of critical values of r_s (Siegel, 1956).

Subjects. The subjects for this study were the employees of the second floor operations complex of the Head Office of N.A.C., Wellington, New Zealand. The complex is divided into three divisions and each division is divided by particular job titles into sections.

- 1) Customer Services Division: movement control
reservations/capacity control
- 2) Engineering Division: aircraft scheduling
- 3) Flight Operations: operations planning
rostering
crewing control

Movement Controllers are responsible for the day to day air movements of the airline, ensuring the continuation of the pre-set timetable taking into account airport

closure and aircraft breakdowns. This is a shift operation, a station which is maintained as long as aircraft are flying, i.e. up to 24 hours per day.

Reservation capacity controllers schedule ahead aircraft space availability to be able to run the timetable as set. This is a 9.00 a.m. to 5.00 p.m. operation.

Aircraft scheduling involves ensuring aircraft availability to fly the timetables as set. This is a shift operation and is subject to pressure from aircraft breakdowns.

Operations planning and rostering work with the crewing controllers to ensure the availability of suitable crews from captain to hostesses to fly the timetables as set. The planning for this is done some months in advance. The crewing control is a shift operation which works with the air movement control section.

The subjects were assigned codes of 010-036 in alphabetical order. The data with code numbers only were available to N.A.C. management and a master key list is held at Massey University.

Of the total 27 employees in these three sections on this floor, 20 responded to this study. This broke down into 69% of the Customer Services Division, 100% of the Engineering Division, and 80% of the Flight Operations Division. Within the Customer Services Division less than 50% of the Movement Controllers and 100% of the Reservations/Capacity Controllers responded. In the Flight Operations Division 2 of the 3 Crewing Controllers responded and all (100%) of the Reservations Capacity Controllers.

Results - Section A - Descriptive Study

Job Analysis Questionnaire.*

Analysis of frequency distribution of each individual question**

1. Those questions which have a positive bias on their distribution,
Questions 1,2,4,9

a) Question 1 - Enjoyment of work

Of the total twenty respondents, nine answered at score 2, three at score 1, six at 3, and the other two at point 4. There were no scores located on the negative side, i.e. > 4.

This would indicate that overall all respondents appear to basically be satisfied that the job they are doing does let them enjoy their work. However, areas of strong dissatisfaction do appear.

On an analysis of the distribution over the divisions no pattern emerges. The strongly positive (the respondents with a score of 1 are each found in separate divisions. The more dissatisfied of the group - those who scored highest, 4, are both located in the same division and engaged in the same job (Flight Operations, rostering officers). Of the remaining two rostering officers, one did not reply and the other replied at score 2.

The overall positive response to this question is reflected in the mean score of 2.35. This is the most positive mean score obtained on the questionnaire showing that this is the most satisfying aspect of the job for the respondent overall.

b) Question 2 - The job gives adequate financial reward

The mode of this distribution is 2. There are no replies at score 1 and three are located on the negative side (> 4).

* See appendix 1-4

** See appendix for Table 1; figures 2-1 to 2-17 in the text

While there is a very small amount of dissatisfaction due to consideration that there is inadequate financial reward, there is a general indication that respondents are happy with this. Furthermore, the satisfaction does not appear to be linked to either division or job as each job is represented on the strong positive score of 2.

The mean score of 3.10 shows the extent of the positive response to this question. This mean is tied 6.5 most positive obtained on this questionnaire.

c) Question 4 - The job allows for the use of own discretion

There is a bias on the positive side for this question. Only one respondent replied on the negative side and only two were undecided. These three are each from different divisions.

This strongly positive bias would seem to indicate that respondents are happy about the use of their own discretion on their job.

The overall mean score for this question is 2.45 showing the overall positive nature of the response. This mean is the third most positive mean obtained.

d) Question 9 - The job is worthwhile and constructive

The most striking feature of the distribution of these data is the high number of respondents scoring 2. Eleven scored 2, three scored 1, two scored 3, three were undecided and only one was slightly negative with a score of 5.

No particular pattern emerges over divisions in jobs although the three members of the Engineering Division all scored similar results at interval 2.

The one negative score and the three at interval 4 were located over four different jobs.

The mean score overall on this question is 2.4. Again this would appear to show a positive response to this question.

2. Those questions which have a negative bias on their distribution are Questions 11, 12, 16.

a) Question 11 - The job allows scope for personal development

While six respondents answered this question positive, and four were undecided, eleven answered this with negative feelings. Of these eleven, one was extremely negative, two reasonably negative and seven scored 5 (the first negative interval).

Those who were dissatisfied that their job did not allow scope for personal development were located in all divisions with larger representation from the engineering division and from the crewing controllers. Those who were satisfied with the scope for personal development that this job allowed them were mostly in the customer services division with larger representation from the reservations/capacity controllers.

The mean score of 4.20 reflects this negative trend and shows that of all the questions this rates overall the third most negative.

b) Question 12 - The job allows scope for professional development

As with the previous question, eleven respondents scored on the negative side, but four were undecided and only five showed positive feelings.

The pattern appearing in the distribution for this question is similar to that of the previous question (11). All the Engineering division scored on the negative side (6, 5, 5), and there are no crewing controllers on the positive side.

It would seem from these two questions that for the Engineering division and perhaps the Flight Operations Crewing Controllers there is little scope in their job for personal or professional development. Furthermore it would appear that the Customer Services division reservation/capacity controllers are fairly satisfied that their job does allow scope for both personal and professional development.

The overall mean score of 4.40 reflects this negative trend and is the second most negative mean score for this questionnaire.

c) Question 16 - The work load of the job is realistic

The distribution of scores for this question shows a bias towards the negative side. Only six respondents are located on the positive side with three at the mid-point 4. The remaining 11 replied in the negative.

An analysis of this distribution by job and division shows no pattern. In fact all divisions and all jobs with the exception of the Crewing Controllers are found on both sides of the mid-point.

It would seem then that there is some dissatisfaction with regard to the unrealistic nature of the work load. However, except for the Crewing Controllers, there is little indication that any one job or any one division is stronger in their dissatisfaction than any other.

This trend towards the negative is reflected in the mean score for this question of 4.45. This is the highest mean for the whole questionnaire.

The previous seven questions are considered the strongest positive and negative. There are however some questions which reflect both positive and negative scores. These are indicated on figures 2-1 to 2-16 by clusters of peaks for two separate scores (bimodal). These questions with bimodal distributions are those which show greatest dissimilarity in scores over all the respondents. There is no consensus towards positive or negative - there may be a bias but the fact there is a bimodal distribution indicates that there are strong feelings both ways.

3. The following analysis will investigate possible patterns for the location of divisions or jobs responsible for a bimodal frequency distribution. Questions in this area are 3, 5, 10, 13, 14.

a) Question 3 - The job allows for good relations with people at work

While this distribution is concentrated in two places, at interval 3 (positive) and at 5 (negative), the overall mean score of 3.05 would seem to indicate a bias towards the positive. In fact fifteen respondents were positive and only four negative, with one undecided. Three of the four respondents in the negative are from different divisions. However two are from Flight Operations division and are Crewing Controllers - the only two Crewing Controllers who replied. For these Controllers, one area of dissatisfaction in their job appears to be that it does not allow for good relations with other people.

b) Question 5 - The job represents security

The two peaks in the distribution of scores for this question come at intervals 2 (positive) and 5 (negative) with the same frequency as at 5 appearing also at 4. The bias overall is positive. This positive bias is also reflected in the overall mean score of 3.10 which ranks at 6.5 most positive. No obvious pattern seems present in these five negative scores, all divisions are present, although two replies are from the Engineering division and there are no negative replies from the reservations/capacity controllers.

c) Question 10 - My job allows sufficient leisure time off

While there is a bimodal distribution for this question, the bias is positive. Thirteen respondents are positive and only six negative with one undecided. The mean overall score for this question is 3.25.

The analysis of this distribution looks at the negative scores of 5 and 6 from divisions and jobs within divisions. The only job not represented in the negative scores is the Rostering Officer. All divisions are present and all other

jobs. Of these six replies, two are from Flight Operations, two from Engineering (66% of the division) and two from customer services division.

Respondents seem fairly happy about leisure time off. It is not possible to point out any particular job which would lead to dissatisfaction with leisure time.

d) Question 13 - The job involves comfortable physical working environment

Twelve respondents were positive with seven negative, and one on interval 4.

The physical working environment is a source of dissatisfaction for every division with an emphasis from the Engineering division. However the opposite is true for the reservations/capacity controllers who appear very satisfied with this aspect of their job.

e) Question 14 - The job is not just routine

Of all the bimodal distributions, this question is the least obvious. Fourteen replies are positive and only six negative. There are no extremely strong negative replies and only one replied with the strongest possible positive score of 1. The mode is 3, and the overall mean score is 3.45 which is the fifth least positive overall mean score for the whole questionnaire.

The negative scores are located three in the Flight Operations division and three in the Customer Services division. Of these three negative replies all are from reservations/capacity controllers. For these controllers the job is seen as just routine and for them this is a source of dissatisfaction.

4. The foregoing analysis represents the questions which show on a frequency distribution graph, bias or trends towards some direction, or in the case of section 3, two directions. The remaining four questions are not so analysed because they appear clustered about the midpoint of 4. These are

questions 6, 7, 8 and 15.

- a) Question 6 The mode is 4 and the overall mean score 3.80. This indicates that there is no general dissatisfaction and perhaps a slight satisfaction with the fringe benefits afforded the individual by his job.
- b) Question 7 also has a slight positive bias, with only three scores in the negative. The overall mean score is 3.35 which falls in the middle range of mean scores.
- c) Question 8 again has a slight positive bias, the overall mean being 2.95. Two subjects (both in different divisions) are strongly positive with no really strong negative replies.
- d) Question 15 has more replies at the mid point of 4 than any other question. For these nine, five are from Flight Operations, both Rostering Officers and Crewing Controllers and four from Customer Services Division, both Movement Controllers and Reservations/Capacity Controllers. Absent at this score is the Engineering Division.

Summary of significant areas from Section One by Division and Section.

Flight Operations Division:

Rostering Officers

The most significant area of dissatisfaction for the Rostering Officers is found on question 1. Two officers scored the highest score of 4. This is the mid-point score, is not considered negative but in relation to other scores may be seen as least positive. One further area where this group differs is Question 10 (leisure time). This group seems to be more satisfied than the other groups in this area. For the other 14 questions the Rostering Officers did not show any unique trends. The mean scores for this group reflect the overall mean scores of all respondents for all questions except 1 and 10.

Crewing Controllers

The significant areas which set this group apart from all other jobs are found on Questions 3, 11, 12 and 16. Dissatisfaction is shown on these four questions. Apart from the Engineering division the Crewing Controllers show a greater amount of dissatisfaction than any other group. This is especially so for questions 3, (relations with other people) and 16 (work load). For these two aspects the Crewing Controllers are the most dissatisfied of the total respondents.

For the division as a whole the mean scores reflect the overall total means with the slight exceptions of questions 12, 13 and 16. This division overall would rank in the middle of the three on a total dissatisfaction scale.

Engineering Division:

This division ranks the most dissatisfied of the three divisions. While there are only four areas where significant dissatisfaction shows and which sets this division apart from the others the rank is taken on the overall total of scores for each question. There is one area where this division is actually slightly more satisfied than any other division, this is question 15 (supervision).

The areas of significant dissatisfaction are 5, 11, 12 and 13. For questions 5 and 13 (security and physical working conditions) this division is more dissatisfied than any other, for 11 and 12 (score for personal and professional development) this division scores significant dissatisfaction with the Flight Operations Division.

For the remainder of questions this division generally shows mean scores slightly above those of the total overall mean for all respondents.

Customer Services Division :

The first interesting feature of this division is the percentage of replies. From the whole division only 69% responded compared with 100% from Engineering and 80% from Flight Operations. However in dividing the Customer Services Division into Movement Controllers and Reservations/Capacity Controllers, less than 50% of the former and 100% of the latter responded. Therefore to find any significant areas of dissatisfaction or of satisfaction for Movement Controllers is somewhat difficult and figures for this division reflect mainly those of the Reservations/Capacity Controllers.

It may well be those groups or individuals who are satisfied with their job are more readily disposed to respond to a questionnaire of this nature. If this is the case the Reservations/Capacity Controllers would be a supportive example. This is the most satisfied group of the whole project and these five controllers all replied.

While the overall trend is for generally more satisfaction than any other group, three areas are particularly significant. These are 11, 12 and 13. It can be noted that while the other two divisions score significant dissatisfaction on 11 and 12 (scope for personal and professional development) this group scores significant satisfaction. Furthermore as opposed to the Engineering Division for this group the physical working environment is a source of satisfaction.

However some dissatisfaction is noted on Question 14. For these controllers the job is fairly routine and this gives a general feeling of job dissatisfaction.

Comparing the means of the Customer Services Division with the overall mean scores the trend is for generally lower scores (indicating more general satisfaction). This may be misleading because of the absence of replies from the other section of this division, the Movement Controllers.

The areas of most dissatisfaction would seem to be lack of scope for personal and professional development and the unrealistic work load of the job.

The areas of most satisfaction would seem to be the job/work relationship, the use of discretion, the feeling that the job is both worthwhile and constructive, and that the job involves doing that which the individual was trained for.

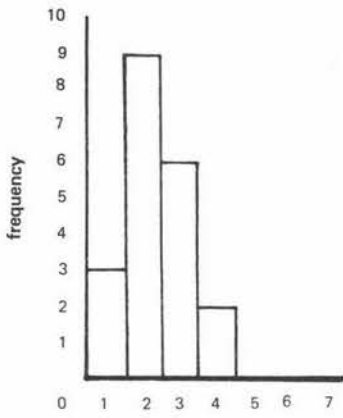


fig. 2-1

question 1 scores

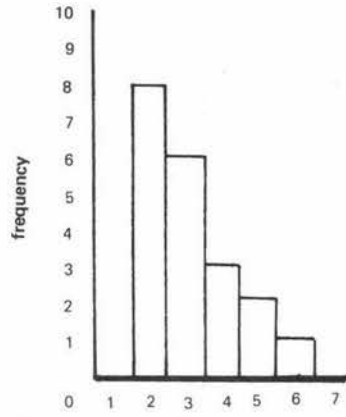


fig. 2-2

question 2 scores

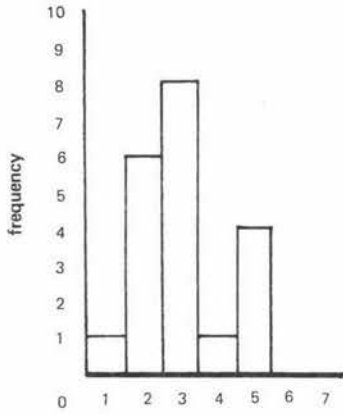


fig. 2-3

question 3 scores

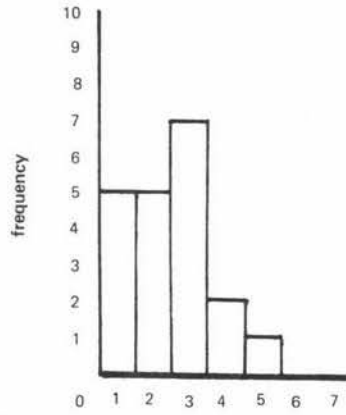


fig. 2-4

question 4 scores

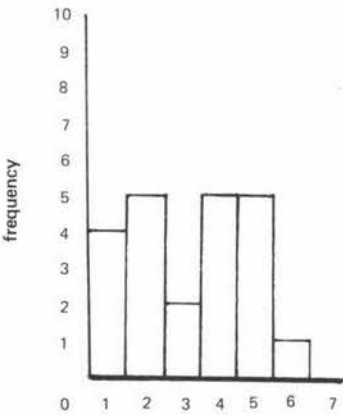


fig. 2-5

question 5 scores

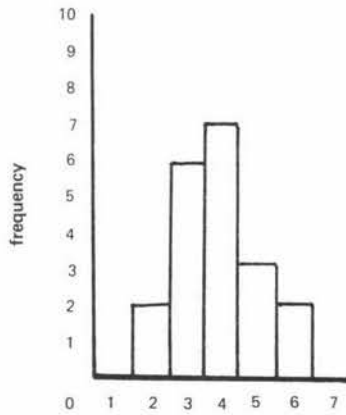


fig. 2-6

question 6 scores

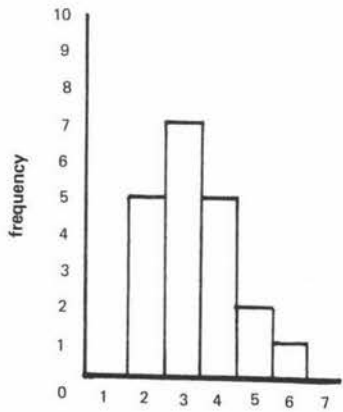


fig. 2-7

question 7 scores

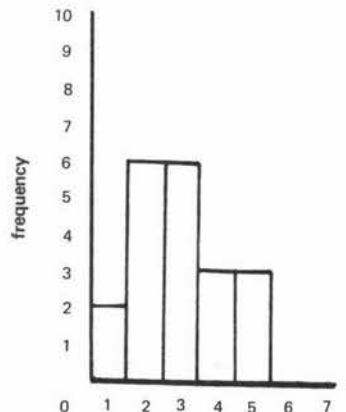


fig. 2-8

question 8 scores

figures 2-1 to 2-8

Distribution of scores from questions 1 - 8

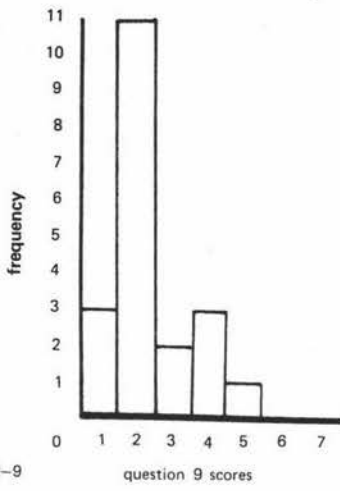


fig. 2-9

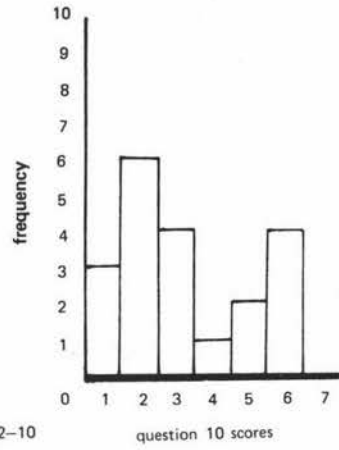


fig. 2-10

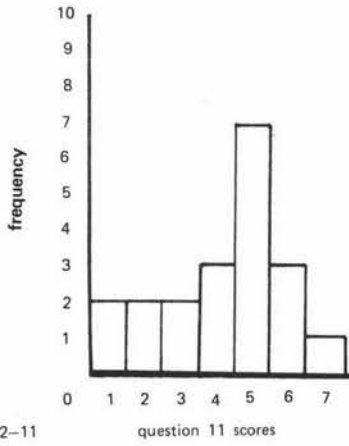


fig. 2-11

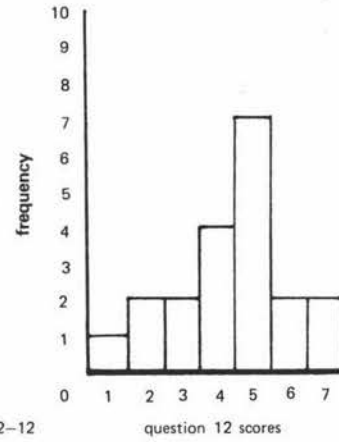


fig. 2-12

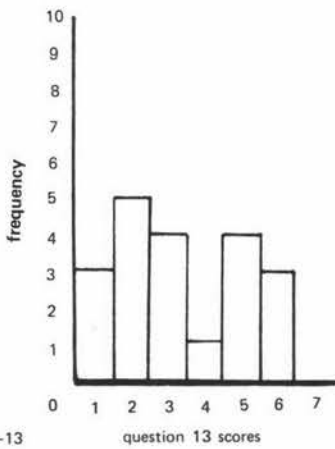


fig. 2-13

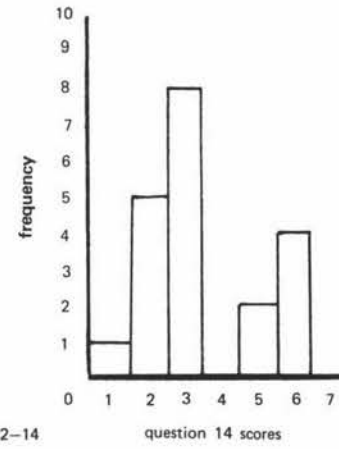


fig. 2-14

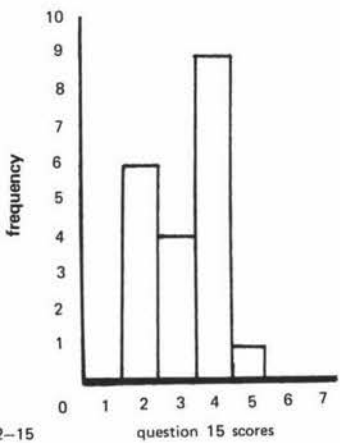


fig. 2-15

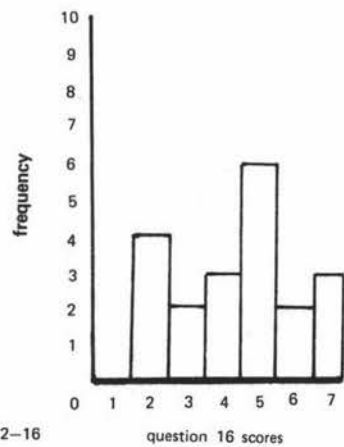


fig. 2-16

figures 2-9 to 2-16

Distribution of scores from questions 9 - 16

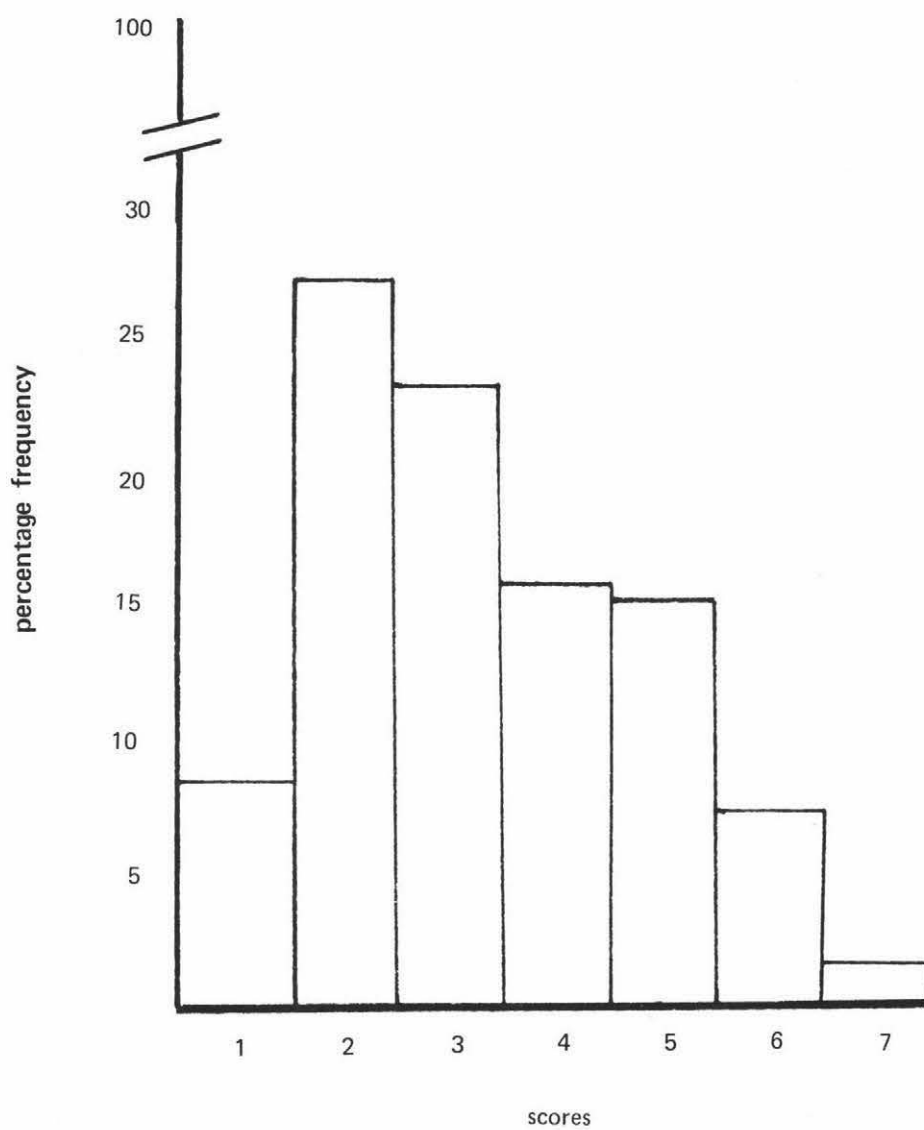


figure 2-17

Overall percentage distribution of scores on job analysis questionnaire

Analysis of scores by subject and division. This section scales and ranks each individual respondent's scores in order to compare respondents. The low ranks represent the most satisfied respondents, the higher the rank the more consistently dissatisfied are the respondents when all scores on the 16 questions are considered.

For each subject a z score was computed for each question using the standard formula. This z score was then totalled over the 16 questions and a mean calculated for this. From area tables of the unit normal distribution the percentile was obtained and the rank was assigned on the position the subject was allocated on the percentile.

Appendix Table 2 shows all z scores from raw scores on appendix Table 1, the means, standard deviations, percentiles and ranks. These are summarised on Table 2-1 in the text.

Any z score with a minus sign represents a degree of satisfaction, similarly any positive z score represents dissatisfaction. Those with the greatest total of negative z scores are ranked the most satisfied after the overall mean is calculated. A z score with minus sign indicates that the subject shows more than the average job satisfaction score when compared with all respondents, not as in section one any greater degree of job satisfaction from the mid-point (4) on the scale. Table 2-1 then does not show how satisfied or dissatisfied subjects are but does compare subjects with each other and ranks subjects against each other on satisfaction/dissatisfaction.

Patterns for the divisions and sections and rank order are investigated.

All members of each division were added together on each question and a mean obtained for each of the 16 questions. From this a further z score was obtained, this totalled and ranks were then assigned each division. Table 2-2 in the text shows the results of this analysis in summary. (Refer appendix Table 3 for complete data) The higher the mean for each question, the more dissatisfied are members of the division compared between divisions. It can be seen then that in question one, for example, the Flight Operations members are the most dissatisfied and the Engineers the most satisfied. The opposite for question ten, the Engineering division

with a mean of 5.0 scoring highest on dissatisfaction.

When the means of the z scores and percentiles were calculated, the three divisions were ranked. The lowest rank again represents the most satisfied (Customer Services Division), the highest the most dissatisfied (Engineering Division). The percentiles show an interesting pattern. Only one of the divisions is under the 50% mark. The Customer Services Division scores on the 41st percentile. This means that when all members of this division are taken together, they score on the positive or satisfied side of the mid-point of 50. The other two divisions, however, score at 56% (Engineering) and 54% (Flight Operations Division). Respondents from these two divisions then overall appear to be more dissatisfied than those of the Customer Services Division. Further, respondents in these two divisions are different by only 2% but vary 14% from the Customer Services Division.

Table 2-1
 Ranking by Subject from
 Job Analysis Questionnaire

Subject	Z	\bar{x}_z	p	rank
010	6.13	.38	65	15
011	-.48	-.03	49	9.5
012	-11.87	-.74	23	3
013	-7.19	-.45	33	6
014	-15.26	-.95	17	1
015	10.63	.66	75	17
016	11.93	.75	77	18.5
018	8.96	.56	71	16
019	11.7	.73	77	18.5
022	16.22	1.01	84	20
024	-13.39	-.84	20	2
027	.45	.03	51	11
028	-2.37	-.15	44	7
029	-1.66	-.10	46	8
030	.78	.05	52	12
031	1.41	.09	54	13
032	-10.29	-.64	26	4
033	-7.88	-.49	31	5
034	3.42	.21	58	14
036	-.26	-.02	49	9.5

Table 2-2
 Ranking of Divisions from
 Job Analysis Questionnaire

	Z	\bar{x}_z	p	rank
Customer Services Division	-3.65	-.23	41%	1
Engineering Division	2.42	.15	56%	3
Flight Operations Division	1.49	.09	54%	2

Semantic Differentials.

1. Analysis of Semantic Differential - Working on the 2nd Floor

Both the semantic differentials are of 15 paired word opposites. These words are so arranged to measure the attitudes over three factors the individual holds to the stimulus concepts (Working on the 2nd floor, Working for N.A.C.). Thus there are five pairs for each factor (Evaluation, Activity and Potency).

The raw score for each individual on each question is tabulated. This then is divided by 5 to give a factor score. A z score is calculated using the standard formula, the percentile obtained from area tables and the individuals ranked. These data are tabulated on appendix Table 4.

Table 2-3 in the text compares the means for each factor with the means for each division and section.

Evaluation factor: The Movement Controllers show the least highest rating. Within the Customer Services Division the Reservations/Capacity Controllers score above the mean on the E factor of 5.15. This group score the greatest distance of any group; these individuals then rate the highest in their evaluation of Working on the 2nd Floor.

The next highest is the Flight Operations Division. In this division both sections of Rostering Officers and Crewing Controllers evaluate lower than the overall mean for the division. This difference may be due to the absence in Table 2-3 of three other persons not categorized as Rostering Officers or Crewing Controllers.

The Engineering division evaluates this concept lower than the overall mean by .25. This is not the lowest for sections but is the lowest by division.

Activity factor: The pattern shown for the mean scores on the Activity factor shows Customer Services and Flight Operations Divisions as rating equally their feeling toward this concept in

terms of activity. The Engineering Division shows a mean score lower than the overall mean for all divisions.

Within the Flight Operations Division the Rostering Officers show a low mean for this concept, especially when compared with the other group in the division, the Crewing Controllers.

Potency factor: the Flight Operations Division rate this concept highest. A substantially low mean score of 3.7 (4.57) is obtained by the Engineering Division. Within the Customer Services Division the Reservations/Capacity Controllers show a high rating of 5.0.

Table 2-3
 Mean Scores for 3 Factors
 on the Semantic Differential-
 Working on the 2nd Floor

Division	N	Evaluation	Activity	Potency
		\bar{x}	\bar{x}	\bar{x}
<u>Flight Operations Division</u>				
Rostering Officers	3	4.8	4.6	4.3
Crewing Controllers	2	4.9	5.7	4.7
Flight Operations Division (total) *	8	5.2	5.3	4.8
<u>Engineering Division</u>				
<u>Customer Services Division</u>				
Movement Controllers	3	4.6	5.1	4.1
Reservations/ Capacity Controllers	5	5.4	5.4	5.0
Customer Services Division (total) *	9	5.2	5.3	4.6
Overall \bar{x}	20	5.15	5.19	4.57

* Note : These totals represent the aggregate of all subjects in the division and not solely those in the sections tabulated.

2. Analysis of Semantic Differential - Working for N.A.C.

The same analytical procedure used in the previous analysis is used in this part.

Individual subject scores and ranks are computed and tabulated on appendix Table 5.

The divisions and jobs are compared in Table 2-4 in the text.

Evaluation factor: Flight Operations Division, overall the mean is similar to the total mean (5.2). The Rostering Officers evaluate work for N.A.C. slightly lower than do the Crewing Controllers.

The Customer Services Division overall evaluate the concept higher than the overall mean score of 5.2. This is raised by the high score of 5.7 obtained by the Reservations/Capacity Controllers. This group it would seem then evaluate working for N.A.C. higher than any other group.

Engineering Division - the general trend of this division to rank lowest is supported again by these data. The mean score of 4.7 is the lowest rating given by any group evaluating this concept.

Activity factor: Flight Operations Division overall rate this concept higher than any other division ($\bar{x} = 5.5$). The Crewing Controllers' \bar{x} of 5.4 is the highest of jobs within the division. But it is interesting that both the Crewing Controllers and the Rostering Officers rate the concept higher than any other specific group.

Customer Services Division - the Reservations/Capacity Controllers are above the \bar{x} which reflects their general trend. Overall this division reflects the mean score for this concept of 5.03.

Engineering Division - the mean score obtained by this division of 3.9 is substantially lower than any other group. It would seem that for this Division the concept Working for N.A.C. has very little significance in terms of activity.

Potency factor: overall this factor has the lowest mean of the three factors (4.65).

Flight Operations Division - overall for this division the mean is above the total mean. The Crewing Controllers bring this up with the mean of 5.1. The Rostering Officers set themselves much lower than this other group within this division with the mean of 4.1. For them this concept has little significance in terms of potency.

Customer Services Division - the mean for this division is the same as for Flight Operations Division (4.7). The Reservations/Capacity Controllers are high in this rating with a mean of 5.1.

Engineering Division - this division shows an interesting result. The mean score obtained here of 5.6 is well above any other mean score. This is contrary to the general trend of this division to rate all concepts lowest. The Engineers then would appear to see Working for N.A.C. as very important in terms of Potency.

Table 2-4
Mean Scores for 3 Factors
on the Semantic Differential-
Working for N.A.C.

Division	N	Evaluation	Activity	Potency
		\bar{x}	\bar{x}	\bar{x}
<u>Flight Operations Division</u>				
Rostering Officers	3	4.8	5.2	4.1
Crewing Controllers	2	5.4	5.4	5.1
Flight Operations Division (total)*	8	5.2	5.5	4.7
<u>Engineering Division</u>				
3	3	4.7	3.9	5.6
<u>Customer Services Division</u>				
Movement Controllers	3	5.0	4.5	4.3
Reservations/ Capacity Controllers	5	5.7	5.2	5.1
Customer Services Division (total)*	9	5.4	5.0	4.7
Overall \bar{x}	20	5.22	5.03	4.65

* Note : These totals represent the aggregate of all subjects in the division and not solely those in the sections tabulated.

3. Summary : Comparison of Semantic Differentials*

There is little difference between overall mean scores on each factor for the two concepts. In both cases the potency factor is rated lowest. Respondents evaluate Working for N.A.C. slightly higher than they evaluate Working on the 2nd Floor, although Working on the 2nd Floor is seen as more significant in terms of Activity than Working for N.A.C. Also the potency factor is almost the same on the Working on the 2nd Floor concept. It would seem then that the 2nd Floor concept is considered more 'real' in terms of activity and potency than Working for N.A.C. - perhaps this is because the 2nd Floor complex is closest and most significant for respondents - it may be that the idiosyncrasies of this complex and not of N.A.C. as an organisation hold the key factors to the degree of job satisfaction.

The A and P factor could be considered together and the E factor apart, as the former two do not deal with an evaluation of the concept in terms of good or bad but rather point towards where the employees' orientation to work is founded. So it is quite congruous to find A and P factors on two concepts to be of a pattern and the E factor to be in either way different - it may reflect the trend of the other two means but it does not necessarily have to follow. Here then the E factor does not follow the pattern set by mean scores in A and P factors. Respondents show their orientations to work stem from the 2nd Floor complex more than the organisation of N.A.C., but they evaluate working on this floor lower than working for N.A.C. This is consistent. If they have a problem with their work, it is located in the place where their main orientation to work is found - i.e. the 2nd Floor, as these data would appear to show.

Comparisons by Divisions - Flight Operations Division

Both concepts are evaluated equally, and scores for A and P factors are very similar. The sections within this division do not

* See Table 2-5

however reflect such similarity. Rostering Officers evaluate Working for N.A.C. lower than the Crewing Controllers, but both are similar in their evaluation of Working on the 2nd Floor. Crewing Controllers evaluate Working for N.A.C. higher than working on the 2nd Floor, a pattern consistent overall. On the activity factor there is little difference between the two groups on Working for N.A.C., but the Crewing Controllers see Working on the 2nd Floor higher in terms of activity than do the Rostering Officer. In fact the Crewing Controllers show the highest mean score of any group for the A factor on the Working on the 2nd Floor concept. This score is also higher than any A score for the concept Working for N.A.C. This is an important finding. To this group Working on the 2nd Floor rates higher in terms of activity - higher than any other factor and their score is higher than any other group. Also Working for N.A.C. is more potent for the Crewing Controllers, than for the Rostering Officers, and again more potent than Working on the 2nd Floor.

The Engineering Division

For this group the most significant score is shown on the P factor for Working for N.A.C. This is significantly higher than the P score of Working on the 2nd Floor. For these employees N.A.C. is seen as the source of power, not the 2nd Floor working location. Their activity, however is oriented towards the 2nd Floor rather than N.A.C. and their evaluation of the two concepts is approximately the same and that is the lowest of any division. The A score for Working for N.A.C. is also the lowest for any division consistent with their regarding the 2nd Floor as the location of activity.

The Customer Services Division

For this group, Working for N.A.C. is evaluated slightly higher than Working on the 2nd Floor, and both A and P factor scores are approximately the same for the two concepts. The Reservation/Capacity Controllers show a higher score in their evaluation of N.A.C. This is higher than their evaluation of Working on the 2nd Floor and is the highest score on this factor

obtained by any group. Scores for this group on the other two factors, while being lower than the score on the E factor on Working for N.A.C. are rather similar and reflect the overall pattern.

In short then, the Reservations/Capacity Controllers evaluate both concepts highest and the Engineers lowest, with the exception of the Rostering Officers who evaluate Working on the 2nd Floor lowest of any group. The Engineers rate Working for N.A.C. lowest in terms of activity and the Flight Operations Division rate this highest. Working on the 2nd Floor in terms of activity is generally rated higher than Working for N.A.C. with the Crewing Controllers rating highest overall. In terms of Potency all groups are about the same with the notable exception of the Engineers who see Working for N.A.C. as very much more significant than Working on the 2nd Floor and more significant than any other group.

Table 2-5
 Mean Scores for 3 Factors
 on Both of the Semantic Differentials

	EVALUATION		ACTIVITY		POTENCY	
	Working for NAC	Working on the 2nd Floor	Working for NAC	Working on the 2nd Floor	Working for NAC	Working on the 2nd Floor
Flight Operations Division	5.2	5.2	5.5	5.3	4.7	4.8
Rostering Officers	4.8	4.8	5.2	4.6	4.1	4.3
Crewing Controllers	5.4	4.9	5.4	5.7	5.1	4.7
Engineering Division	4.7	4.9	3.9	4.6	5.6	3.7
Customer Services Division	5.4	5.15	5.0	5.3	4.7	4.6
Movement Controllers	5.0	5.4	4.5	5.4	4.3	5.0
Reservations Capacity Controllers	5.7	5.4	5.2	5.4	5.1	5.0
Overall \bar{x}	5.22	5.15	5.03	5.19	4.65	4.57

Summary by each individual subject on all three of the tests. The data to be analysed in this section are found on Table 2-6. This table is a summary table of data obtained from previous sections of this chapter. The figures show the rank positions the individual subjects obtained in the sixteen question job analysis questionnaire, (table 2-1), the semantic differential Working for N.A.C. on each of the three factors and the semantic differential for the concept Working on the 2nd Floor for each of the three factors.

These figures as shown on Table 2-6 referred to in this section do not indicate the degree of satisfaction. These are rank positions and show the individual's position relative to the other subjects. So while a subject may rank the most satisfied he may be the most satisfied of a whole group of dissatisfied subjects. An attempt is made in this section to investigate any relationships between areas and strength of dissatisfaction from Section One and the ranked position of the individual as on Table 2-6.

Of particular interest is any consistency in the ranks obtained by an individual over the 16 item questionnaire and the E factor ranks on both semantic differentials. Consistency here would be, for example, positive attitudes towards the two concepts and high rank on job satisfaction. (consistency may also be in the negative). Inconsistency may be with a high rank on job satisfaction and a lower ranking on any one of the semantic differential E factors. This may indicate a possible area where the job satisfaction is stronger. For example subject 018 ranks 16th on job satisfaction (there are only four subjects more dissatisfied) evaluates Working for N.A.C. much higher than Working on the 2nd Floor. So, while he is not happy with his job, he is happy with Working for N.A.C., but is not at all happy about Working on the 2nd Floor. It would seem then that the source of his dissatisfaction is with N.A.C. A check back to Appendix Table 2 will show the particular areas this individual is happy about and these relate more specifically to Working for N.A.C. than to Working on the 2nd Floor.

Table 2-7 shows those individuals who evaluate the concept Working for N.A.C. higher than Working on the 2nd Floor. This table also shows rank positions of job satisfaction. It would seem then that if the individual ranks high on job dissatisfaction and higher on Working for N.A.C. than Working on the 2nd Floor the location or the orientation of his areas of job dissatisfaction lie with Working for N.A.C.

It is noteworthy that, 1) overall nine subjects are ranked higher on one concept than on the other on evaluation of that concept.

2) There is no strong bias favouring either concept.

Summary by Individual Subjects:

010 Ranks 15th on job satisfaction (negative), evaluates Working on the 2nd Floor higher than Working for N.A.C. (rank 12.5 for the latter).

The specific areas of dissatisfaction are the unrealistic work load, the unsatisfactory routine nature of the job, and the lack of scope for professional development in the job. For this subject N.A.C. holds the key to changes in these areas of dissatisfaction, the power is with N.A.C. not the 2nd Floor (P factor scores N.A.C. - 14; 2nd Floor - 2). Working for N.A.C. is seen as less active than Working on the 2nd floor and this probably adds to his more negative evaluation of Working for N.A.C.

011 Ranks average on job satisfaction, evaluates both concepts high, Working on the 2nd Floor is evaluated slightly higher. In fact he ranks first equal on the concept Working on the 2nd Floor. Areas of job dissatisfaction (insufficient leisure time, unrealistic work load) these would thus be attributed to N.A.C. rather than the job. Working for N.A.C. is seen as more active or more potent than Working on the 2nd Floor. He evaluates the latter highly but the former seems to be the source of his dissatisfaction.

012 Ranks third most satisfied, but ranks towards the negative side on Working on the 2nd Floor. The area of most dissatisfaction

- is insufficient leisure time off. The 2nd Floor holds this - it is his particular job rather than the organisation. Thus the closest area to his problem - the 2nd Floor - becomes the object of lowest evaluation.
- 013 Ranks 6th on job satisfaction. Evaluates positively both concepts but is more positive to Working on the 2nd Floor. Dissatisfaction would seem to be with N.A.C. rather than the 2nd Floor. The ranking of this individual on A and P factors on both concepts are similar but are markedly lower than the E factor rank, except for the high position on P factor for Working on the 2nd Floor.
- 014 Ranks highest on job satisfaction. Of the group he is most satisfied. He is ranked equally on both concepts - is consistently third most positive.
- 015 Consistently dissatisfied - ranks 17th on job satisfaction and evaluates both concepts negatively, Working for N.A.C. slightly more negatively than Working on the 2nd Floor. One of the areas of dissatisfaction is the uncomfortable physical working conditions. Rather than lowering his evaluation of the 2nd Floor complex this lowers his evaluation of Working for N.A.C. He sees Working for N.A.C. as both more active and potent than his 2nd Floor complex.
- 016 Consistently ranked dissatisfied. Is ranked 2nd most dissatisfied on job analysis and evaluates both concepts negatively with Working on the 2nd Floor more negative than Working for N.A.C. There is further consistency in the negative ranking this individual is given on the A and P factors for both concepts. The major areas of dissatisfaction for this subject are insufficient financial reward, insufficient leisure time off and lack of useful fringe benefits.
- 018 Ranks 16th on job satisfaction. While he is more dissatisfied than most about his job, he evaluates higher than most (6th) Working for N.A.C. He evaluates Working on the 2nd Floor more negatively than most (14th). It would seem that 018 likes

- Working for N.A.C. but is not particularly happy about his job nor where he is doing it - on the 2nd Floor. The areas of dissatisfaction include feelings of an unrealistic work load, the routine nature of the job, and not being used to capacity. These may be seen as problems associated with the job and with the location of it, and not problems inherent with Working for N.A.C. The ranks obtained on the A Factors for both concepts are around the most negative.
- 019 Ranks 2nd most dissatisfied with his job. He ranks the most negative about Working on the 2nd Floor but is a little more positive about Working for N.A.C. The difference between the most dissatisfied on E factor for Working on the 2nd Floor and a rank around the middle for Working for N.A.C. and the low position on job satisfaction may be explained in terms of the areas of job dissatisfaction. These are the physical working environment, unrealistic work load and lack of scope for professional development. To him it seems the 2nd Floor complex, not N.A.C. are reasons for these areas of dissatisfaction - evaluation of Working for N.A.C. is 6th highest, but he still does not like his job. Working for N.A.C. (in keeping with this) is seen as more potent than Working on the 2nd Floor.
- 022 This subject ranks the most dissatisfied of all on the job analysis questionnaire (20). He also ranks most dissatisfied with Working for N.A.C. and ranks a consistently 2nd equally most dissatisfied about Working on the 2nd Floor. Overall probably the most dissatisfied individual in the whole project. The areas of most dissatisfaction (score 7) for this subject are the lack of scope for personal and professional development and dissatisfaction with the unrealistic nature of the work load. He shows some areas of satisfaction - the use of discretion, doing what he is trained for and consideration of the job not being just routine.
- 024 The second most satisfied with his job - also the second most satisfied with Working for N.A.C. - but a little dissatisfied about Working on the 2nd Floor. Reasons for this discrepancy

- between a high rank for his job satisfaction and Working for N.A.C. and Working on the 2nd Floor may lie in his most negative areas of satisfaction, the physical working environment, and dissatisfaction of supervision.
- 027 Ranks average on job satisfaction - but ranks 2nd equally most negative on Working on the 2nd Floor, more so than Working for N.A.C. which is also a negative evaluation. These areas of dissatisfaction include consideration of the lack of scope for professional and personal development and the job dissatisfaction with the physical working environment, and dissatisfaction with the work load. Scores on both other factors (A and P) are approximately the same for both concepts.
- 028 Ranks 7th on job satisfaction, fourth on Working on the 2nd Floor but 17th on Working for N.A.C. The areas of most dissatisfaction for 028 are the routine nature of the job and its unrealistic nature. It seems that the strong negative rank this subject has on Working for N.A.C. cannot be explained by these areas of dissatisfaction. Then the most positive areas are taken (satisfied with leisure time off, and the physical working environment) there may be reason for the high evaluation of Working on the 2nd Floor and also perhaps the high rank on job satisfaction, but there still remains the unexplained very negative evaluation this subject has on the concept Working for N.A.C. The A and P factor scores may hold some answers - this subject sees Working for N.A.C. as very active and very potent (ranks 3rd on both). He may see the organisation as domineering, powerful and actively blocking him in some way by imposing on him a routine job with an unrealistic work load. (Scores on A and P factors could indicate either strong negative or positive feelings - this is obtained from the E factor score which in this case is strongly negative).
- 029 Is slightly more satisfied with his job than most (8th). Scores average on Working on the 2nd Floor but is slightly more negative about Working for N.A.C. These include lack of scope for development both personally and professionally, dissatisfaction with the routine nature of the job and its unrealistic work load. Higher than average ranks are obtained on A and P factors for both concepts, consistent with the reasonably

- positive rank on job satisfaction.
- 030 While the subject ranks rather low (12th) on job satisfaction he ranks high on evaluation of both concepts. The areas of dissatisfaction involve the actual job rather than the organisation. These include feelings of an unrealistic work load, he does not like the routine nature of the job and the feeling that the job does not allow scope for professional and personal development. All these are points relating to the nature of the job rather than attributes of the job which may be seen as a reflection of N.A.C. policy, e.g. leisure time off, fringe benefits, etc.
- 031 Ranks 13th on job satisfaction. Is ranked lower than most (16th and 17.5) for the two concepts.
- 032 Ranks 4th on job satisfaction and is ranked close to the same position on both concepts. The area of most dissatisfaction for this individual involves financial reward.
- 033 This subject is consistently ranked high over all tests. Ranks 5th on job satisfaction, 1st on Working for N.A.C. and 1st equal on Working on the 2nd Floor. (For the A and P factors for both concepts he is ranked 1st also.).
- 034 Ranks 14th on job satisfaction, 13th on Working on the 2nd Floor and equally 2nd most negative on Working for N.A.C. He evaluates the latter concept lower than the place of his work. The areas of most dissatisfaction for him are insufficient leisure time off and lack of scope for professional and personal development. For this subject it seems to be N.A.C. rather than the job and the 2nd Floor complex which determine the negative scores on these three in particular.
- 036 This subject ranks consistently around the average on all tests but shows some dissatisfaction with Working on the 2nd Floor. The specific source of this is that the job is more routine than he would like and this becomes attributed to the 2nd Floor complex rather than to N.A.C.

Table 2-6
RANKING OF SUBJECTS ACROSS ALL TESTS

SUBJECT	16 Question Job Analysis	WORKING FOR N.A.C.			WORKING ON THE 2ND FLOOR			DIVISION
		E	A	P	E	A	P	
010	15	12.5	6	14	6.5	9	2	F.O./ Ops.planning
011	9.5	5	6	4.5	1.5	3	3	F.O./C.C.
012	3	7.5	6	6	11.5	5	6.5	C.S./R.C.C.Super
013	6	7.5	15.5	16	5	12.5	4.5	Eng/A.C. Super
014	1	3	2	4.5	3	3	4.5	C.S./R.C.C.
015	17	18.5	6	7	15	15	15.5	F.O./R.O. (Snr)
016	18.5	14.5	19	14	17.5	19	18.5	Eng/A.S.
018	16	6	17.5	8.5	14	16.5	8	C.S./R.C.C.
019	18.5	11	10.5	8.5	20	9	15.5	F.O./C.C.
022	20	20	20	20	17.5	16.5	18.5	C.S./M.C.
024	2	2	12	2	8.5	9	10.5	C.S./M.C.
027	11	12.5	9	11	17.5	9	10.5	C.S./M.C.
028	7	17	3	3	4	6	17	C.S./R.C.C.
029	8	14.5	13.5	14	10	18	13	F.O./R. Adm. Off.
030	12	4	6	11	6.5	3	6.5	F.O./R.O.
031	13	16	15.5	19	17.5	19.5	14	F.O./R.O.
032	4	9.5	10.5	17.5	8.5	9	10.5	C.S./Typist clerk
033	5	1	1	1	1.5	1	1	F.O./Plan/Rost. Super
034	14	18.5	17.5	17.5	13	12.5	20	Eng./A.S.
036	9.5	9.5	13.5	11	11.5	14.0	10.5	C.S./R.C.C.

Note. High rank shows high dissatisfaction

Table 2-7

Subjects placed under the concept
with which they showed greater dissatisfaction
(From ranks obtained on the E factor)

"Working for N.A.C."		"Working on the 2nd Floor"	
Subject No.	Rank of S on job analysis questionnaire	Subject No.	Rank of S on job analysis questionnaire
010	15	012	3
011	9.5	016	18.5
013	6	018	16
015	17	019	18.5
022	20	024	2
028	7	027	11
029	8	030	12
032	4	031	13
034	14	036	9.5
(Ranked equal are)			
014	1	014	1
033	5	033	5

Report of interviews. All subjects who answered the questionnaire were interviewed individually. They were removed from the scene of their actual job and encouraged to discuss:

- a) their reactions to this study
- b) the points raised by this questionnaire which were significant or relevant to the subject
- c) their feelings generally about their complete work situation

The comprehensive nature of the questionnaire was sufficient catalyst to provoke discussion on most areas of the work floor which could be problematical for the subject. This means that c) above was integrated into b) and that feelings and attitudes to all factors involved on the job were covered in the discussion of the subjects' scores on the questionnaire.

Generally it was found that results on the questionnaire tallied with the subjective reports. In some cases further clarification was afforded by looking at greater detail into the stimulus question.

As well as interviewing subjects who eventually answered the questionnaire, all other people involved in this 2nd Floor Complex were invited individually to discuss their feelings toward their job and N.A.C. generally. There was no hesitation from these people to this invitation. In fact most of these people asked without solicitation to be included in the survey in some capacity. It was found generally that those who did not respond to the questionnaire but who participated in discussion at this stage did not show any significantly different attitudes or opinions on the subjects as raised by the respondents. Generally all members of divisions shared similar attitudes whether or not they had responded to the questionnaire. Therefore those who discussed their job without responding to the survey served to reinforce the attitudes and opinions held by their fellow workers.

For group discussions a guidesheet* was given out and discussion

* See appendix 1-5

centred around these points. Basically these represented a summary of the findings to date. All present were encouraged to speak freely to these points. All participants appeared to share similar views on any problems on this floor.

Results

Section B - Investigation of the job satisfaction/attitude relationship. Correlations between the criterion variable (job satisfaction) and the predictor variables (attitudes) are summarized in Table 2-8 for the concept "Working on the 2nd Floor" and in Table 2-9 for the concept "Working for N.A.C."

Table 2-8¹

Summary of Correlations between
Predictor and Criterion Variables for the Concept
"Working on the 2nd Floor"

Job Satisfaction		
Correlated with		
E Factor	$r_s = +.69$	$p < .01$
A Factor	$r_s = +.57$	$p < .01$
P Factor	$r_s = +.52$	$p < .05$

Table 2-9²

Summary of Correlations between
Predictor and Criterion Variables for the Concept
"Working for N.A.C."

Job Satisfaction		
Correlated with		
E Factor	$r_s = +.62$	$p < .01$
A Factor	$r_s = +.50$	$p < .05$
P Factor	$r_s = +.45$	$p < .05$

1. Complete working data and computations in appendix Table 6.
2. Complete working data and computations in appendix Table 7.

For the concept "Working on the 2nd Floor" significant positive correlations were found between job satisfaction and both the E factor and A factor. Job satisfaction versus E factor yielded the highest positive correlation of $+0.69$. The correlation between job satisfaction and the A factor, while lower at $r_s = +0.57$, was also significant beyond the $.01$ level of confidence, but the correlation of $+0.52$ between job satisfaction and the P factor didn't meet the $p = .01$ criterion.

For the concept "Working for N.A.C." a positive correlation of $.62$ was found between Ss' rankings on job satisfaction and S's rankings on the E factor, significant beyond the $.01$ level. Positive correlations were also found between job satisfaction and the A factor ($r_s = +0.50$) and between job satisfaction and the P factor ($r_s = +0.45$), but these correlations while significant beyond the $.05$ level, did not reach the $.01$ criterion for significance set up previously.

When E factor versus job satisfaction correlations on each concept were compared, it was found that this correlation was greater by $.07$ for the concept "Working on the 2nd Floor" ($r_s = +0.69$ for "Working on the 2nd Floor" versus $r_s = +0.62$ for "Working for N.A.C."). The significance of the difference between these two correlations was not calculated as the sample size ($N=20$) and the actual difference ($d = .07$) seemed too small to indicate a possibility of significance.

Discussion

The aim of this section of Part II is to investigate

one of the links in the model proposed subsequently. Thus, attitudes are investigated as to their potentiality as predictors of job satisfaction as the criterion, and to investigate the concurrent validity of these two variables.

The results show that a positive relationship exists, and that the evaluation factors of both concepts rated have significant positive correlations with the subjects' ranks on the job satisfaction measure. (Furthermore, in testing for the significance of these correlations at the set level of $p .01$, it may be stated that those values of r_s have not occurred by chance.)

One observation which may be made from these results is that the criterion measure of job satisfaction is, in fact, the employee's evaluation of that variable and the correlations between two evaluations of similar stimuli may well be predicted. Thus significant correlations between these two variables validate the findings of either instrument.

Consistent with a trend which seemed to be appearing in the previous descriptive study, the location of the work would appear to have more meaning for the employee. This would be supported by the other significant correlation, the A factor for the concept "Working on the 2nd Floor". Further, the P factor for this concept is just outside the limit for this level of significance.

In short it would appear that E factor scores on the semantic differential are the best predictors from these data of the set of data used as the criterion variable labelled job satisfaction. The other inference that

the actual location of the work has the greater meaning has not been subjected to statistical validation. To support such an inference, the relationships between the two attitude concepts rated would have to be investigated, and as mentioned in the results section, differences between the two concepts have not been so analysed. The results quoted do suggest a trend in this direction, however.

In terms of the rationale of this thesis correlations between the two variables show the value of studying the relationships of parts of a whole entity rather than studying the entity in isolation, i.e. attitudes may be studied here in isolation, the data analysed in similar fashion, but by demonstrating that attitudes have some association with some other variable gives more meaning to the construct. In terms of these variables and the model proposed in Part III, these two variables are seen as parts of the whole model, the study of any one of these parts in isolation might well be meaningless; the study of the interrelation of these parts being necessary for validation of the model. Furthermore, data collected on any one of these parts alone at any one point in time will not be valid indefinitely. Mumford (1972) stresses that job satisfaction is not constant. Individual needs, expectations, aspirations, organizational needs all serve to alter job satisfaction. However, if data must be collected at one point in time only, added meaning will be given those data if they can be related to other variables measured also at that time. Such data may then be related in terms of the model proposed.

Part III

The Model: A Discussion of the Pragmatic Relationship of a Series of Elements from Organizational Environment to Performance

The main aim of this thesis is to present a model which summarises the relationships between the organizational environment and performance of an employee. Relationships are investigated between the following basic units which are necessary to complete a structure, organizational climate, attitudes, and job satisfaction. Investigation of these relationships would allow prediction of an employee's score or position on any unit from a knowledge of the relationship between it and the other units of the structure (from the original rationale proposed by Cassirer in 1923).

Part I of this thesis summarizes the available literature on attitudes, attitude change, organizational climate and job satisfaction. Also it provides the orientation for the second part which first gives a descriptive analysis of the section of the organization from which preliminary data were collected on the first two units of the proposed model. With this descriptive analysis the ground is laid for investigating the existence of any relationships between the structural units of the model. Data to hand at the time the study was forced to terminate allowed for the investigation of only one of these links, that of attitudes and job satisfaction. The second section of Part II found that a positive correlation existed between the instruments used showing concurrent validity between attitudes and job satisfaction.

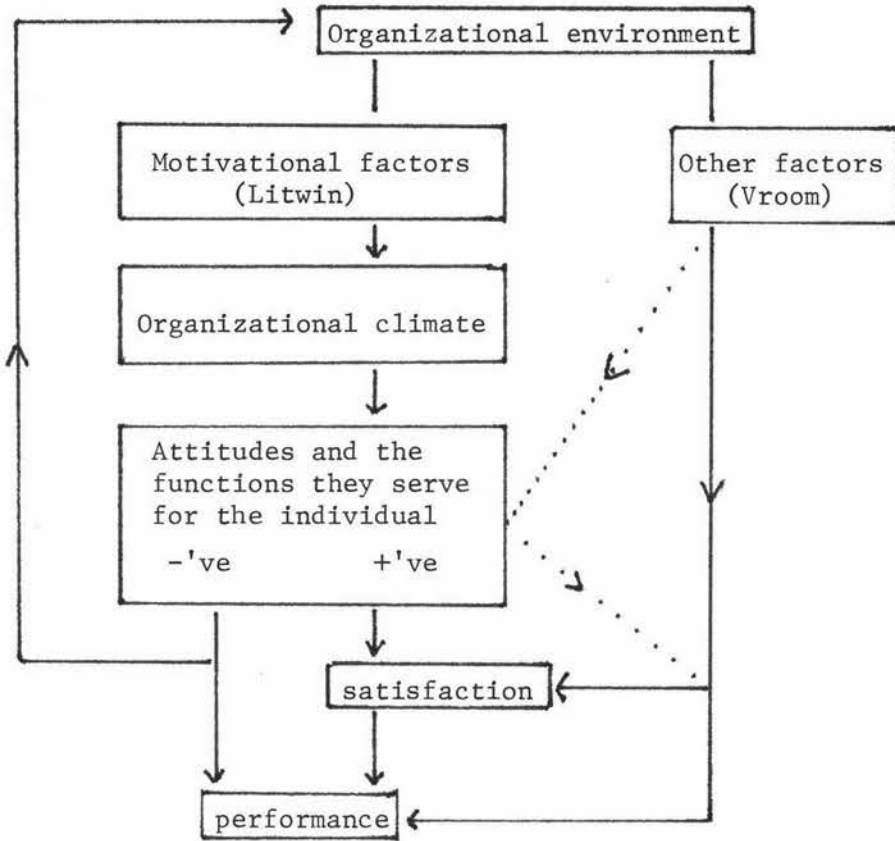


fig. 3-1. Schematic representation of the relationship between organizational environment and performance; a modification of existing research.

Further studies with these subjects were to have investigated the link between attitudes and organizational climate to discover any relationship between these two variables as criterion and predictor variables.

Since full empirical data was not available, the model can only be tentative. The data available, together with suggestions drawn from the literature review, do allow the presentation of a model, however, which takes the form shown in figure 3-1. This model attempts an integration of existing theory and a method of possible analysis which considers employees' attitudes in terms of their functional needs and the 'fit' of these needs with the organizational climate. At no stage does the model imply a direct relationship between the environment of an organization and its related climate with the employees' performance. The influence of the mediating and intervening concepts are considered to modify the overall dependence upon the environment the performance may have.

The key dependent idea in this model is the central core of attitudes and the functions they serve for the individual. It is proposed that in order to understand any link between climate or environment of the organization and an employee's level of satisfaction and/or performance, the understanding of attitudes is imperative. Further the understanding of attitudes in relation to the functional needs these attitudes serve for their holder in terms of Katz's (1960) analysis is imperative. Any direct link from environment to satisfaction and performance is recognized as being particularly dubious. It is acknowledged that not only attitudes related to the climate of the organization

may influence satisfaction and/or performance, that in fact other factors may have an influence on these as dependent variables. While these have not been studied herein, it would be suggested that a possible link (shown by the dotted line) exists placing attitudes as mediating between 'other factors' and satisfaction and performance.

Included in these 'other factors' would be personal history, family background, education, training, personality, problems at home, former insecurities, status in society. These factors must influence a level of need and aspiration, but in doing so form attitudes in the employee which in turn may be or may not be met according to a functional analysis by the organization. Then, as with attitudes formed by the climate, the employee modifies his satisfaction and/or performance depending upon how the fit is between his functional needs and the meeting of these by the organization.

To take the other path to satisfaction and performance through the organizational climate, the data and theory of this study may be discussed.

The motivational factors in the environment of the organization, according to Litwin (1971), form the climate of that organization (see Part I). An example of one way these factors in the climate may link with attitudes could be that the more positive the employee's perception of his organization's climate, the more positive are his attitudes to that organization. According to the functional needs analysis of attitudes and attitude change, if there is conflict between the needs of the employee with regard to fulfillment of his attitudes and the extent to which the

climate actually fulfills these needs, there will be pressure upon the employee to modify his attitudes. This is shown by the negative side in the attitude box on figure 3-1. Attitudes will be modified by reversion to the environment and to the motivational properties of that environment, the climate.

The positive side of the attitude box indicates that the functional needs are being met by the climate; the four functions the attitudes serve for the holder are being fulfilled. This link to performance then is positive through satisfaction. The link from negative attitudes to performance would indicate the detrimental effect from a poor fit of attitude needs and climate factors, upon the holder's performance. It would be proposed that satisfaction here would not be a consideration.

Thus, attitudes as a central concept may influence both satisfaction and performance independently.

An example of the proposed model: job satisfaction and the functional approach to attitude change

Data from part two offered an investigation into the relationship between the attitudes as measured by the semantic differentials and job satisfaction. The latter concept was measured by subjects responding to where they felt they were in regard to fulfillment of sixteen occupational goals. These goals are adapted from Schultz (1973) who cites the study reported by Goodwin (1969) where all regularly employed Americans were surveyed using a probability sample at all occupational and educational levels.

The positive and the negative occupational goals were obtained from respondents describing the best as well as the worst attributes of a job. For this present study the goals were adapted to a Likert-type scale, one end representing the worst aspect and the other the best. By indicating where they felt the goals were for them on the scale, respondents thus indicated the degree of fulfillment these goals had for them or how satisfied the subjects were with regard to the goals. These data also provided an indication of the location of possible areas of satisfaction and dissatisfaction. (Rankings given subjects on this scale are compared to the rankings on the attitude scales.)

As mentioned previously, job satisfaction is a nebulous concept. Mumford (1972) in examining the literature concludes that no all-embracing theory of job satisfaction exists. She offers a breakdown into at least five schools of the literature of job satisfaction and then offers her own proposal. The five schools are as follows:

- 1) The psychological needs school. Motivation being the central core of job satisfaction and the needs of individuals for achievement, recognition, responsibility and status. Represented here are Maslow, Herzberg, and Likert (e.g., refer Maslow, 1954).
- 2) A school represented by Blake, Mouton and Fiedler who see leadership style as a factor in job satisfaction. Balance of supervision here is important in influencing employee attitudes (e.g., refer Blake and Mouton, 1964).

- 3) The effort and reward bargain is of prime concern in job satisfaction for a school represented by Lupton, Gowler, Bowey and Legge (e.g., refer Gowler and Legge, 1970).
- 4) Crozier and Gouldner represent a fourth school who identify differing value systems in organizations, the ideology of management, for example, as influencing job satisfaction (e.g., refer Gouldner, 1955).
- 5) A fifth school, described by Mumford, concentrates on the content of work and on job design factors. This school sees the factors proposed as important in job satisfaction by the above four schools as being less important and extrinsic to the tasks the employee is required to carry out. Representatives of this school are Cooper, Herbst and the Tavistock Institute (e.g., refer Herbst, 1971).

Mumford offers a theory which compares the needs of the individual in work with the extent to which these needs are being met by the work, and examines the internal and external pressures which dictate demands on the employee from the organization. She sees her theory as derived from Talcott Parsons (see Parsons, 1951) who saw situations in terms of what we expect and what we can influence in a situation to obtain a choice of outcome.

It is suggested presently that Mumford's theory is analogous to the functional needs theory of attitude change proposed by this paper to explain the attitude change/occupational climate relationship. If the needs in five areas that Mumford lists are being met, she hypothesises job satisfaction. This present paper hypothesises that if the four functional needs of attitudes are being met by the organizational climate, there will be no call for attitude change - a model into which this proposal of Mumford's would fit ideally.

The five areas which Mumford sees as "contractual areas" are implicit. Work is seen as a series of contracts between management and employees, "if the employer meets the employee's needs, then the employee will help further the employer's interests".

The contractual areas are as follows:

- 1) the knowledge contract - the knowledge function being the proposed corresponding function

- 2) the psychological contract - the ego-defensive function being the proposed corresponding function
- 3) and 5) the efficiency/rewards contract and the task structure contract - the instrumental, adjustive, or utilitarian function of attitudes being proposed as the corresponding function
- 4) the ethical contract - the value-expressive function being proposed as the corresponding function

Mumford's theory hypothesises that the organization should be satisfied with the performance and the attitudes of its employees if its needs in these five areas are met.

The model proposed here hypothesises that employee attitudes will be satisfied if the four functions which they serve for their holder are met by the motivational factors located in the organization's climate.

Mumford's conclusions 1) that job satisfaction does not remain constant, 2) that information obtained may not remain valid indefinitely, and 3) that job satisfaction alters as the individual's needs, expectations, and aspirations alter would appear to have considerable relevance for the model proposed herein, as shown by the following paragraphs.

New pressures are applied upon employees from environmental changes which become necessary when organizational needs and goals change. An organization cannot afford to maintain a level of job satisfaction if that level is attributed to influences out of date with new environmental pressures. In short, employees' attitudes must relate to current organizational needs. Alteration of

goals or needs in an organization without associated changes in attitudes and job satisfaction from the previous needs becomes imperative.

Similarly an organization cannot afford to meet individual needs where these needs are out of line with organizational goals.¹ This is so even if satisfaction of these needs would positively affect job satisfaction. Organizational climate becomes important in its determining the level at which individual needs are being met. In fact, then, the climate is the central element in determining the satisfaction or 'goodness of fit' between organizational goals and individual employee needs.

This demonstrates the importance of the interrelation of the units proposed in the model. Mumford stresses the importance of looking at "mutually beneficial relationships" as well as job satisfaction. The model of pragmatic relationships in this thesis shows the necessity to investigate the variables as units within a large framework, their relationships being vitally important. Positive relationships among the units would demonstrate satisfaction of needs and functions served by the attitudes formed by the climate. This is seen as parallel to Mumford's proposal that "mutually beneficial relationships" and job satisfaction depend upon the 'goodness of fit' among the five variables she proposes. This thesis demonstrates some relationship between attitudes and job satisfaction. Extrapolating from these data under the functional paradigm, organizational climate and satisfaction may be linked in a pragmatic relationship.

Implications for Future Research

The implications for future research are implied by the arguments presented here. In order to investigate the validity of the model as proposed, for example, the following studies would be necessary;

1) The relationship of attitudes to organizational climate could be investigated. The organizational climate questionnaire which was to be administered in this thesis and included in the appendix could be subjected to correlational analysis similar to that of attitudes and job satisfaction.

Remembering that one aim of this study would be to find the effect of climate on attitudes or to determine whether or not a certain climate causes certain attitudes, causal as well as correlational studies would be necessary.

2) In order to increase the power of the statistical analysis, a larger population could be investigated.

If it is possible to obtain a larger population or sample, a further investigation of the job satisfaction-attitude relationship would be necessary with a special investigation to determine if either concept (the actual location of the work or the organization worked for) held more meaning in terms of the subjects' attitudes.

3) Each of the 'other factors' could be investigated to determine their influence on the subject's attitudes as predictor variables of these attitudes. With this information and information on the attitude-satisfaction link and/or the attitude-climate link, predictions about criterion variables could be made.

4) With some idea of the relationship of these parts to the whole model, the controversial attitude-satisfaction-performance relationship could be scrutinised. This would be of considerable importance as the literature is full of contradictory findings of this relationship. However, with the above relationships investigated so that this final link could be regarded as the final link in a series and not an isolated concept, more credibility could be afforded the results. It would appear that most of the previous studies have investigated the attitude-performance link with little regard to the factors influencing the attitude. It may well be that these same factors affect performance in a similar fashion regardless of any effect on attitudes. Such findings would be especially valuable as psychology as a behavioural science is attempting the prediction and control of behaviour (performance). In order to attempt this the very roots of the behaviour to be measured must first be available. Such a study as outlined herein with a similar rationale of investigating relationships between elements rather than the elements themselves would be a big step towards this goal.

5) It is proposed that this model would not begin and end its usefulness in industry. Any organization which employs staff could analyse staff behaviour with the application of this paradigm; for example, hospitals, schools, the military and others would be included.

6) The importance of attitudes as predictor variables in the interpersonal setting may also be discussed. Answers to questions like, "Do we react to others in terms of our

attitudes to them?" (the attitude-performance link), and "Are these attitudes formed by the larger society and to what extent do they reflect the predominant attitudes of that society?" (the attitude-climate link) may be available.

This thesis is entitled "A search for a pragmatic relationship". It is safe to conclude that such a search is not yet over. The literature reviewed herein shows the searching that has gone on in the past without success and often with contradictory results. The model of relationships proposed, although perhaps not the panacea of the search, if supported by the data from the above studies may well eliminate many of the problems future researchers would have in their studies of attitudes, attitude change and organizational climate.

APPENDIX

Table 1
SCORES ON JOB ANALYSIS QUESTIONNAIRE

Subject	Q u e s t i o n N u m b e r															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
010	3	5	2	1	5	4	2	1	2	5	5	7	5	6	4	7
011	2	2	5	1	1	5	2	2	2	6	6	5	3	2	4	6
012	2	2	2	3	1	2	3	3	1	5	1	1	2	3	4	3
013	1	3	3	1	3	3	3	3	2	3	5	5	3	2	2	2
014	2	2	1	1	1	3	3	3	2	2	1	2	1	3	2	2
015	4	4	4	4	4	4	4	5	4	4	4	4	6	2	4	4
016	2	6	5	5	5	6	5	2	2	6	5	5	5	3	3	5
018	3	3	3	3	2	4	6	5	3	3	6	5	2	6	4	6
019	3	2	5	3	5	5	4	3	5	3	5	6	6	3	4	7
022	3	4	5	2	6	6	5	2	4	6	7	7	5	2	5	7

Table 1
Scores on Job Analysis Questionnaire
(cont'd)

Subject	Question Number															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
024	1	2	2	1	2	4	2	1	1	2	2	2	4	3	4	2
027	2	3	2	2	4	4	3	2	2	3	5	5	6	3	4	5
028	3	3	3	2	4	4	3	3	2	1	3	4	1	5	3	5
029	3	3	3	3	3	3	2	3	2	2	5	5	2	5	2	5
030	2	2	3	3	4	5	2	2	2	2	5	5	2	6	4	5
031	4	3	3	3	2	3	4	5	3	1	3	3	3	3	2	4
032	2	4	2	2	2	2	3	2	2	2	2	3	2	3	2	3
033	1	5	2	2	1	4	4	4	1	1	4	4	1	2	2	4
034	2	2	3	3	5	2	4	4	2	6	6	6	5	1	3	5
036	2	2	3	4	2	3	3	4	4	2	4	4	3	6	3	2
Σ	47	62	61	49	62	76	67	59	48	65	84	88	67	69	65	89
\bar{x}	2.35	3.10	3.05	2.45	3.10	3.80	3.35	2.95	2.40	3.25	4.20	4.40	3.35	3.45	3.25	4.45

Table 2
 Raw z score data calculated from the standard formula for
 Computation of z scores, percentiles and ranking
 of Subjects on Satisfaction/Dissatisfaction from
 Means and Standard Deviations

Subject	Q u e s t i o n N u m b e r															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
010	.76	1.61	-.91	-1.29	1.20	.17	-1.22	-1.63	-.38	1.00	.48	1.67	.96	1.63	.80	1.28
011	-.41	-.93	1.68	-1.29	-1.33	.71	-1.22	-.79	-.38	1.57	1.08	.38	-.20	-.93	.80	.78
012	-.41	-.93	-.91	.49	-1.33	-1.06	-.32	.04	-1.32	1.00	-1.93	-2.18	-.79	-.29	.80	-.73
013	-1.59	-.08	-.04	-1.29	-.06	-.47	-.32	.04	-.38	-.14	.48	.38	-.20	.93	-1.33	-1.26
014	-.41	-.93	-1.77	-1.29	-1.33	-.47	-.32	.04	-.38	-.71	-1.93	-1.54	-1.37	-.29	-1.33	-1.23
015	1.94	.76	.82	1.38	.57	.12	.58	1.71	1.51	.43	-.12	-.26	1.55	-.93	.80	-.23
016	-.41	2.46	1.68	2.28	1.20	1.29	1.49	-.79	-.38	1.57	.48	.38	.96	-.29	-.27	.28
018	.76	-.08	-.04	.49	-.70	.12	2.39	1.71	.57	-.14	1.08	.38	-.79	1.63	.80	.78
019	.76	-.93	1.68	.49	1.20	.71	.59	.04	2.45	-.14	.48	1.03	1.55	.29	.80	1.28
022	.76	.76	1.68	-.40	1.84	1.29	1.49	-.79	1.51	1.57	1.69	1.67	.96	-.93	1.86	1.20
024	-1.59	-.93	-.91	-1.29	-.70	.12	-1.22	-1.63	-1.32	-.71	-1.33	-1.54	.38	-.29	.80	1.23

Table 2
 Raw Z Score Data calculated from the standard formula for
 Computation of Z Scores, Percentiles, and Ranking
 of Subjects on Satisfaction/Dissatisfaction from
 Means and Standard Deviations
 (cont'd)

Subject	Q u e s t i o n N u m b e r															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
027	-.41	-.08	-.91	-.40	.57	.12	-.32	-.79	-.38	-.14	.48	.38	1.55	-.29	.79	.28
028	.76	-.08	-.04	-.40	.57	.12	-.32	.04	-.38	-1.29	-.72	-.26	-1.37	.99	-.27	.28
029	.76	-.08	-.04	.49	-.06	-.47	-1.22	.04	-.38	-.71	.48	.38	-.79	.99	-1.33	.28
030	-.41	-.93	-.04	.49	.57	.71	-1.22	-.08	-.38	-.71	.48	.38	-.79	1.63	.80	.28
031	1.94	2.28	-.04	.49	-.70	-.47	.59	1.71	.57	-1.29	-.72	-.90	-.20	-.29	-1.33	-.23
032	-.41	.76	-.91	-.40	-.70	-1.06	-.32	-.79	-.38	-.71	-1.33	-.90	-.79	-.29	-1.33	-.73
033	-1.59	1.61	-.91	-.40	-1.33	.12	.59	.88	-1.32	-1.29	-.12	-.26	-1.37	-.93	-1.33	-.23
034	-.41	-.93	-.04	.49	1.20	-1.06	.59	.88	-.38	1.57	1.08	1.03	.96	-1.57	-.27	.28
036	-.41	-.93	-.04	1.38	-.70	-.47	-.32	.88	1.51	-.71	-.12	-.26	-.20	1.63	-.27	-1.23
(\bar{x})	2.35	3.1	3.05	2.45	3.1	3.8	3.35	2.95	2.4	3.25	4.2	4.4	3.35	3.45	3.25	4.45
σ	.85	1.18	1.16	1.12	1.58	1.7	1.11	1.20	1.06	1.75	1.66	1.56	1.71	1.56	.94	1.99

Table 3
Means and Z Scores for
Each Question by Division

		Q u e s t i o n N u m b e r																
		#'s	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Customer Services Division	\bar{x}		2.2	2.7	2.5	2.2	2.6	3.5	3.4	2.7	2.3	2.8	3.4	3.6	2.8	3.7	3.4	3.8
	Z		-.18	-.34	-.47	-.22	-.32	-.27	.05	-.21	-.09	-.28	-.48	-.51	-.32	.16	.16	-.33
Engineering Division	\bar{x}		1.6	3.6	3.6	3.0	4.3	3.6	4.0	3.0	2.0	5.0	5.0	5.3	4.3	2.0	2.66	4.0
	Z		-.88	.42	.47	.49	.76	-.12	.59	.04	-.38	1.00	.66	.58	.56	-.93	-.63	-.23
Flight Operations Division	\bar{x}		2.37	3.25	3.37	2.5	3.0	4.12	3.0	3.1	2.6	3.0	4.6	4.8	3.5	3.6	3.2	5.2
	Z		.02	.13	.28	.04	-.06	.19	-.32	.13	.19	-.14	.27	.26	.10	.10	-.05	.38

Table 4

Semantic Differential Data

Concept : 'Working on the 2nd Floor'

Subj.	EVALUATION					ACTIVITY					POTENCY				
	X	\bar{X}	Z	P	R	X	\bar{X}	Z	P	R	X	\bar{X}	Z	P	R
010	28	5.6	.44	67	6.5	27	5.4	.25	60	9	29	5.8	1.35	91	2
011	35	7.0	1.81	97	1.5	30	6.0	.96	83	3	28	5.6	1.13	87	3
012	25	5.0	-.15	44	11.5	29	5.8	.73	77	5	25	5.0	.47	68	6.5
013	29	5.8	.64	74	5	26	5.2	.01	50	12.5	26	5.2	.69	75	4.5
014	33	6.6	1.42	92	3	30	6.0	.96	83	3	26	5.2	.69	75	4.5
015	22	4.4	-.74	23	15	24	4.8	-.46	32	15	19	3.8	-.85	20	15.5
016	21	4.2	-.93	18	17.5	17	3.4	-2.13	2	19.5	17	3.4	-1.29	10	18.5
018	23	4.6	-.54	29	14	23	4.6	-.70	24	16.5	24	4.8	.25	60	8
019	14	2.8	-2.30	1	20	27	5.4	.25	60	9	19	3.8	-.85	20	15.5
022	21	4.2	-.93	18	17.5	23	4.6	-.70	24	16.5	17	3.4	-1.29	10	18.5
024	27	5.4	.25	60	8.5	27	5.4	.25	60	9	22	4.4	-.19	42	10.5
027	21	4.2	-.93	18	17.5	27	5.4	.25	60	9	22	4.4	-.19	42	10.5
028	30	6.0	.83	80	4	28	5.6	.49	69	6	28	5.6	1.13	13	17
029	26	5.2	.05	52	10	21	4.2	-1.18	12	18	21	4.2	-.41	34	13
030	28	5.6	.44	67	6.5	30	6.0	.96	83	3	25	5.0	.47	68	6.5
031	21	4.2	-.93	18	17.5	17	3.4	-2.13	2	19.5	20	4.0	-.63	26	14
032	27	5.4	.25	60	8.5	27	5.4	.25	60	9	22	4.4	-.19	42	10.5
033	35	7.0	1.81	97	1.5	35	7.0	2.15	98	1	32	6.4	2.01	98	1
034	24	4.8	-.34	37	13	26	5.2	.01	50	12.5	13	2.6	-2.16	1	20
036	25	5.0	-.15	44	11.5	25	5.0	-.23	41	14	22	4.4	-.19	42	10.5
$\Sigma \bar{X}$	103.0					103.8					91.4				
\bar{x}	5.15					5.19					4.57				

X = sum of the ratings on all five of the questions relevant to that factor

\bar{X} = average rating on the factor for each subject = $X/5$

\bar{x} = mean rating on the factor over all 20 subjects = $\Sigma \bar{X}/20$

Table 5
 Semantic Differential Data
 Concept : 'Working for N.A.C.'

Subj.	EVALUATION					ACTIVITY					POTENCY				
	X	\bar{X}	Z	P	R	X	\bar{X}	Z	P	R	X	\bar{X}	Z	P	R
010	24	4.8	-.50	31	12.5	28	5.6	.63	74	6	22	4.4	-.09	46	14
011	29	5.8	.69	75	5	28	5.6	.63	74	6	27	5.4	1.07	86	4.5
012	27	5.4	.21	58	7.5	28	5.6	.63	74	6	25	5.0	.60	73	6
013	27	5.4	.21	58	7.5	22	4.4	-.70	24	15.5	21	4.2	-.33	37	16
014	30	6.0	.93	82	3	30	6.0	1.08	86	2	27	5.4	1.07	86	4.5
015	21	4.2	-1.21	11	18.5	28	5.6	.63	74	6	20	4.0	.56	71	7
016	23	4.6	-.74	23	14.5	17	3.4	-1.81	4	19	22	4.4	-.09	46	14
018	28	5.6	.45	67	6	20	4.0	-1.14	13	17.5	24	4.8	.37	64	8.5
019	25	5.0	-.26	40	11	26	5.2	.19	57	10.5	24	4.8	.37	64	8.5
022	18	3.6	-1.93	3	20	16	3.2	-2.03	2	20	12	2.4	-2.42	1	20
024	33	6.6	1.64	95	2	25	5.0	-.03	49	12	30	6.0	1.77	96	2
027	24	4.8	-.50	31	12.5	27	5.4	.41	66	9	23	4.6	.14	56	11
028	31	6.2	1.17	12	17	29	5.8	.86	81	3	29	5.8	1.53	94	3
029	23	4.6	-.74	23	14.5	24	4.8	-.26	40	13.5	22	4.4	-.09	46	14
030	29	5.8	.69	76	4	28	5.6	.63	74	6	23	4.6	.14	56	11
031	22	4.4	-.98	16	16	22	4.4	-.70	24	15.5	19	3.8	-.79	21	19
032	26	5.2	-.02	49	9.5	26	5.2	.19	57	10.5	20	4.0	-.56	29	17.5
033	35	7.0	2.11	98	1	35	7.0	2.19	99	1	32	6.4	2.23	99	1
034	21	4.2	-1.21	11	18.5	20	4.0	-1.14	13	17.5	20	4.0	-.56	29	17.5
036	26	5.2	-.02	49	9.5	24	4.8	-.26	40	13.5	23	4.6	.14	56	11
$\Sigma \bar{X}$	104.4					100.6					93.0				
\bar{x}	5.22					5.03					4.65				

X = sum of the ratings on all five of the questions relevant to that factor

\bar{X} = average rating on the factor for each subject = $X/5$

\bar{x} = mean rating on the factor over all 20 subjects = $\Sigma \bar{X}/20$

Table 6

Computation of r_s for Job Satisfaction
versus "Working on the 2nd Floor"

Job Satisfaction vs. E Factor, 2nd Floor		Job Satisfaction vs. A Factor, 2nd Floor		Job Satisfaction vs. P Factor, 2nd Floor	
d	d ²	d	d ²	d	d ²
8.5	72.25	6.0	36.00	13.0	169.00
8.0	64.00	6.5	42.25	6.5	42.25
-8.5	72.25	-2.0	4.00	-3.5	12.25
1.0	1.00	-6.5	42.25	1.5	2.25
-2.0	4.00	-2.0	4.00	-3.5	12.25
2.0	4.00	2.0	4.00	1.5	2.25
1.0	1.00	-0.5	.25	0.0	0.00
2.0	4.00	-0.5	.25	8.0	64.00
-1.5	2.25	9.5	90.25	3.0	9.00
2.5	6.25	3.5	12.25	1.5	2.25
-6.5	42.25	-7.0	49.00	-8.5	72.25
-6.5	42.25	2.0	4.00	0.5	.25
3.0	9.00	1.0	1.00	-10.0	100.00
-2.0	4.00	-10.0	100.00	-5.0	25.00
-5.5	30.25	9.0	81.00	5.5	30.25
-4.5	20.25	-6.5	42.25	-1.0	1.00
-4.5	20.25	-5.0	25.00	-6.5	42.25
3.5	12.25	4.0	16.00	4.0	16.00
1.0	1.00	1.5	2.25	-6.0	36.00
-2.0	4.00	-4.5	20.25	-1.0	1.00
$\Sigma d^2 = 416.50$		$\Sigma d^2 = 576.25$		$\Sigma d^2 = 639.50$	
$r_s = 1 - \frac{6(\Sigma d^2)}{N^3 - N}$		$r_s = 1 - \frac{6(\Sigma d^2)}{N^3 - N}$		$r_s = 1 - \frac{6(\Sigma d^2)}{N^3 - N}$	
$r_s = 1 - \frac{6(416.50)}{7980}$		$r_s = 1 - \frac{6(576.25)}{7980}$		$r_s = 1 - \frac{6(639.50)}{7980}$	
= 1 - .31		= 1 - .43		= 1 - .48	
= .69		= .57		= .52	
p < .01		p < .01		p > .01	

Table 7

Computation of r_s for Job Satisfaction
versus "Working for N.A.C."

Job Satisfaction vs. E Factor, N.A.C.		Job Satisfaction vs. A Factor, N.A.C.		Job Satisfaction vs. P Factor, N.A.C.	
d	d ²	d	d ²	d	d ²
2.5	6.25	9.0	81.00	1.0	1.00
4.5	20.25	3.5	12.25	5.0	25.00
-4.5	20.25	-3.0	9.00	-3.0	9.00
-1.5	2.25	-9.5	90.25	-10.0	100.00
-2.0	4.00	-1.0	1.00	-3.5	12.25
-1.5	2.25	11.0	121.00	10.0	100.00
4.0	16.00	-0.5	.25	4.5	20.25
10.0	100.00	-1.5	2.25	7.5	56.25
7.5	56.25	8.0	64.00	10.0	100.00
0.0	0.00	0.0	0.00	0.0	0.00
0.0	0.00	-10.0	100.00	0.0	0.00
-1.5	2.25	2.0	4.00	0.0	0.00
10.0	100.00	4.0	16.00	4.0	16.00
-6.5	42.25	-5.5	30.25	-6.0	36.00
8.0	64.00	6.0	36.00	1.0	1.00
-3.0	9.00	-2.5	6.25	-6.0	36.00
-5.5	30.25	-6.5	42.25	-13.5	182.25
4.0	16.00	4.0	16.00	4.0	16.00
-4.5	20.25	-3.5	12.25	-3.5	12.25
0.0	0.00	-4.0	16.00	-1.5	2.25
$\Sigma d^2 = 511.50$		$\Sigma d^2 = 660.00$		$\Sigma d^2 = 725.50$	
$r_s = 1 - \frac{6(\Sigma d^2)}{N^2 - N}$		$r_s = 1 - \frac{6(\Sigma d^2)}{N^2 - N}$		$r_s = 1 - \frac{6(\Sigma d^2)}{N^2 - N}$	
$r_s = 1 - \frac{6(511.50)}{7980}$		$r_s = 1 - \frac{6(660.00)}{7980}$		$r_s = 1 - \frac{6(725.50)}{7980}$	
$= 1 - .38$		$= 1 - .50$		$= 1 - .55$	
$= .62$		$= .50$		$= .45$	
$p < .01$		$p > .01$		$p > .01$	

APPENDIX 1-1

Work Conditions Survey

The Corporation have asked us to assist them by investigating present working conditions on the 2nd Floor. You may recall that a similar study was undertaken for flying staff and this is by way of being an extension of this earlier study. It is hoped that the results of this present study may be used as a basis for discussions concerning your future work conditions, etc. As a first step, we would like to ask you to complete three questionnaires on your feelings about your work.

The idea of having this survey carried out by staff from Massey University is that this will ensure confidentiality of replies and an independent, unbiased analysis. The results will be analysed at Massey and no individual opinions will be made known to any member of Management of N.A.C. You will note that your questionnaires are identified by a number. We hope to return later in the year to re-check the questionnaires and we would ask you to try to remember your own number. However, we will hold on file at Massey a master list of who receives which number, so that we can ensure that the right questionnaire is returned to the right person.

Please try to answer all the questions as frankly as possible. In this way, you will ensure that the results are meaningful and be of value in our discussions.

George Shouksmith
Ian Joblin

PLEASE RETURN THE COMPLETED QUESTIONNAIRES TO:

Mr. Ian Joblin,
Box 63,
Palmerston North.

APPENDIX 1-2

MASSEY UNIVERSITY

INSTRUCTION SHEET FOR QUESTIONNAIRE

For this investigation we want to find out the meanings certain things have for you. To do this, we are going to ask you to judge these things against a series of descriptive scales. Please remember, that in taking this test we want you to make your judgments on the basis of what these things mean to you.

On each test sheet you will find at the top the name of the concept or thing which we want you to judge and below it a set of scales. You are to rate the concept on each of these scales, beginning with the first listed and working through to the final one. The following will explain how to use the scales.

If you feel that the concept is very closely related to one or other end of the scale, you should place your check mark as follows:

FAIR X : ___ : ___ : ___ : ___ : ___ : ___ UNFAIR

or

FAIR ___ : ___ : ___ : ___ : ___ : ___ : X UNFAIR

If you feel that the concept is quite closely related to one or other end of the scale (but not extremely), you should place your check-mark as follows:

BLAND ___ : X : ___ : ___ : ___ : ___ : ___ PUNGENT

or

BLAND ___ : ___ : ___ : ___ : ___ : X : ___ PUNGENT

If the concept seems only slightly related to one side as opposed to the other, (but is not really neutral) then you should check as follows:

WET ___ : ___ : X : ___ : ___ : ___ : ___ DRY

or

WET ___ : ___ : ___ : ___ : X : ___ : ___ DRY

The direction which you check of course depends on which of the two ends of the scale seems most characteristic of the thing you are judging.

If you consider the concept to be neutral on the scale, that is if you consider both sides of the scale to be equally associated with the concept, or if the concept is not related to either end, then you should place your check mark in the middle space.

SAFE ___ : ___ : ___ : X : ___ : ___ : ___ DANGEROUS

APPENDIX 1-4

Following the method described in the instruction sheet complete the following for:

"Working for N.A.C."

- | | | | |
|-----|---------------|---|------------|
| 1. | FAST | _____ : _____ : _____ : _____ : _____ : _____ : _____ | SLOW |
| 2. | UNFAIR | _____ : _____ : _____ : _____ : _____ : _____ : _____ | FAIR |
| 3. | DEAD | _____ : _____ : _____ : _____ : _____ : _____ : _____ | ALIVE |
| 4. | BIG | _____ : _____ : _____ : _____ : _____ : _____ : _____ | LITTLE |
| 5. | LARGE | _____ : _____ : _____ : _____ : _____ : _____ : _____ | SMALL |
| 6. | HOT | _____ : _____ : _____ : _____ : _____ : _____ : _____ | COLD |
| 7. | INACTIVE | _____ : _____ : _____ : _____ : _____ : _____ : _____ | ACTIVE |
| 8. | EXCITABLE | _____ : _____ : _____ : _____ : _____ : _____ : _____ | CALM |
| 9. | PLEASANT | _____ : _____ : _____ : _____ : _____ : _____ : _____ | UNPLEASANT |
| 10. | INSIGNIFICANT | _____ : _____ : _____ : _____ : _____ : _____ : _____ | IMPORTANT |
| 11. | GOOD | _____ : _____ : _____ : _____ : _____ : _____ : _____ | BAD |
| 12. | POWERFUL | _____ : _____ : _____ : _____ : _____ : _____ : _____ | POWERLESS |
| 13. | NEGATIVE | _____ : _____ : _____ : _____ : _____ : _____ : _____ | POSITIVE |
| 14. | HEAVY | _____ : _____ : _____ : _____ : _____ : _____ : _____ | LIGHT |
| 15. | WEAK | _____ : _____ : _____ : _____ : _____ : _____ : _____ | STRONG. |

APPENDIX 1-5

Section.....

Please indicate on each of the following scales by putting a check mark over the number which best indicates your feelings about your job in terms of each of the areas mentioned.

1. My job : lets me enjoy my work

I thoroughly enjoy
my workI dislike my work
intensely

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

2. My job: gives me adequate financial reward

I receive generous
financial reward
in my jobI receive very
poor financial
reward for my work

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

3. My job: allows for good relations with people at work

My job allows for
excellent relations
with people at
workThis job leads to
very poor relations
with others at
work

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

4. My job:allows me to use my own discretion

I am always able
to use my own discretion
on my jobI am never able to
use my own dis-
cretion on my job

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

APPENDIX 1-5 (cont'd)

5. My job : represents security for me

My job gives me
all the security
I need

I feel that I do not
have any security
on this job

_____ : _____ : _____ : _____ : _____ : _____ : _____
1 2 3 4 5 6 7

I have no strong
feelings either way

6. My job : offers attractive fringe benefits

The fringe benefits
afforded me by my job
are a large source of
attraction

There are no useful
fringe benefits
with this job

_____ : _____ : _____ : _____ : _____ : _____ : _____
1 2 3 4 5 6 7

I have no strong
feelings either way

7. My job : allows me to use my capacity

My capacity is fully
extended in my
job

My job does not
extend me in any
way

_____ : _____ : _____ : _____ : _____ : _____ : _____
1 2 3 4 5 6 7

I have no strong
feelings either way

8. My job : is what I was trained for

On my job I need all
I learned in
training

My job training and
this job are com-
pletely different

_____ : _____ : _____ : _____ : _____ : _____ : _____
1 2 3 4 5 6 7

I have no strong
feelings either way

9. My job : I feel is worthwhile and constructive

I feel my job is both
extremely worthwhile
and constructive

To me this job is
neither worthwhile
nor constructive

_____ : _____ : _____ : _____ : _____ : _____ : _____
1 2 3 4 5 6 7

I have no strong
feelings either way

APPENDIX 1-5 (cont'd)

10. My job : allows me sufficient leisure time off

I feel that the leisure
time off in this job is
definitely adequate

My job does not
give me adequate
leisure time

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

11. My job : allows scope for my own personal development

My job gives me wide
scope for my own
personal
development

There is no room for
my own personal
development in this
job

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

12. My job : allows scope for professional development

My job gives me wide
scope for my
professional
development

There is no scope at
all in this job for
professional
development

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

13. My job : involves comfortable physical working environment

The physical working
environment on my job
is extremely
comfortable

On my job the physical
working environment is
very uncomfortable

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

14. My job : is not just routine

My job does not include
routine tasks

My job is entirely
routine

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

APPENDIX 1-5 (cont'd)

15. My job : has adequate supervision

I think the supervision
I get on my job is
excellent

I think the supervision
I get on my job is
totally inadequate

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

16. My job : involves a realistic work load

The work load is just
right - neither too
much nor too
little

I feel that the work
load is poorly
distributed (either
too much or too little)

____ : ____ : ____ : ____ : ____ : ____ : ____
1 2 3 4 5 6 7

I have no strong
feelings either way

POINTS FOR DISCUSSION

1. COMMUNICATIONS:
 - a) Problems of communicating to various Divisional Heads, and higher management, because of diverse chain of command.
 - b) Problems of communicating with other sections and Divisions, i.e. corresponding workers at airport, aircrews, etc.
 - c) Feeling of being "Isolated" on 2nd Floor.

2. PHYSICAL ENVIRONMENT:
 - a) Sub-divisions stop staff working as a team.
 - b) General working environment, noise, poor general conditions, lack of space etc.

3. EQUIPMENT, ETC:

Job performance is limited by equipment.
What is required?

4. SHIFT WORK:

Particularly problems of shift work in a 9 to 5 building.

5. STATUS, SALARY DIFFERENTIALS, STAFFING AND RECOGNITIONS:

What are the problems here?
Can they be solved?

APPENDIX 3

Organization Climate Questionnaire

Introduction

For each of the seven organization climate dimensions described below place an (A) above the number that indicates your assessment of the organization's current position on that dimension and (1) above the number that indicates your choice of where the organization should ideally be on this dimension.

1. *Conformity*. The feeling that there are many externally imposed constraints in the organization; the degree to which members feel that there are many rules, procedures, policies, and practices to which they have to conform rather than being able to do their work as they see fit.

Conformity is not characteristic of this organization Conformity is very characteristic of this organization.

1 2 3 4 5 6 7 8 9 10

: : : : : : : : : : :

2. *Responsibility*. Members of the organization are given personal responsibility to achieve their part of the organization's goals; the degree to which members feel that they can make decisions and solve problems without checking with superiors each step of the way.

No responsibility is given in the organization There is a great emphasis on personal responsibility in the organization.

1 2 3 4 5 6 7 8 9 10

: : : : : : : : : : :

3. *Standards*. The emphasis the organization places on quality performance and outstanding production including the degree to which the member feel the organization is setting challenging goals for itself and communicating these goal commitments to members.

Standards are very low or nonexistent in the organization High challenging standards are set in the organization

1 2 3 4 5 6 7 8 9 10

: : : : : : : : : : :

APPENDIX 3 (cont'd)

4. Rewards. The degree to which members feel that they are being recognized and rewarded for good work rather than being ignored, criticized, or punished when something goes wrong.

Members are ignored,
punished, or
criticized

1 2 3 4 5 6 7 8 9 10
: : : : : : : : : :
: : : : : : : : : :

Members are
recognized and re-
warded positively

5. Organizational clarity. The feeling among members that things are well organized and goals are clearly defined rather than being disorderly, confused, or chaotic.

The organization is
disorderly, confused,
and chaotic

1 2 3 4 5 6 7 8 9 10
: : : : : : : : : :
: : : : : : : : : :

The organization is
well organized with
clearly defined goals

6. Warmth and support. The feeling that friendliness is a valued norm in the organization; that members trust one another and offer support to one another. The feeling that good relationships prevail in the work environment.

There is no warmth
and support in
the organization

1 2 3 4 5 6 7 8 9 10
: : : : : : : : : :
: : : : : : : : : :

Warmth and support are
very characteristic of
the organization

7. Leadership. The willingness of organization members to accept leadership and direction from qualified others. As needs for leadership arise members feel free to take leadership roles and are rewarded for successful leadership. Leadership is based on expertise. The organization is not dominated by, or dependent on, one or two individuals.

Leadership is not re-
warded; members are
dominated or depen-
dent and resist
leadership attempts

1 2 3 4 5 6 7 8 9 10
: : : : : : : : : :
: : : : : : : : : :

Members accept and
reward leadership
based on exper-
tise

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