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PERS 287

A MULTIVARIATE APPROACH TO THE PREDICTION
OF BEHAVIOUR TOWARDS ATTITUDE OBJECTS :
I: LITERATURE SURVEY

NATIONAL INSTITUTE FOR PERSONNEL RESEARCH
COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

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This report forms part of project 76/1: Measurement of attitudes in the work situation and the prediction of organizational behaviour. The project is directed by Dr G K Nelson, Director of the National Institute for Personnel Research. The research is being carried out under the guidance of Mr M A Coulter, head of the Test Construction Division.

Opsomming

Hierdie verslag is 'n omvattende oorsig van die literatuur in 'n aantal verwante gebiede: houdingsteorie, meting van houdings en die voorspelling van gedrag.

Al die belangrikste teorieë van houdingsvorming en -verandering word beskryf en ge-evalueer. 'n Definisie van houdings wat in hierdie studie gebruik sal word, word gegee.

Al die belangrike en baie van die minder belangrike tegnieke van houdingsmeting word in besonderhede bespreek. Kritiese evaluering van die tegnieke word onderneem.

Die modelle vir die voorspelling van gedrag word beskou en gekritiseer. Voorstelle vir die verbetering van hierdie modelle word gemaak.

Hierdie verslag bespreek aanvoerwerk wat gedoen is ter voorbereiding van die twee hoofases van projek 76/1:

- (1) Die konstruksie van 'n nuwe tegniek vir houdingsmeting wat sommige van die tekortkominge van konvensionele tegnieke te bowe kom.
- (2) Die voorspelling van gedrag met behulp van 'n model wat beide houdings- ("interne") -faktore en nie-houdings- ("eksterne") -faktore in ag neem.



Summary

This report is an exhaustive survey of the literature in a number of related areas: attitude theory, attitude measurement and behaviour prediction.

All the major theories of attitude formation and change are described and evaluated. A definition of attitude which will be used in this study is given.

All the major, and many of the minor, techniques of attitude measurement are described in some detail. Critical evaluations of the techniques are undertaken.

The models of behaviour prediction are surveyed and criticized. Suggestions for their improvement are offered.

This report records the background work which was done in preparation for the two major phases of project 76/1:

- (1) The construction of a new technique of attitude measurement which overcomes some of the shortcomings of conventional techniques
- (2) The prediction of behaviour using a model which takes both attitudinal ("internal") and non-attitudinal ("external") factors into account.

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1.0 INTRODUCTION

Since ancient times, the notion has been prevalent in Western thought that man is consistent in all his modes of functioning. Aristotle in his Rhetoric makes the point that deeds are a reflection of underlying character: people do the sort of things that they do because they are the sort of people that they are. Similarly Theophrastus (in the third century B.C.) was of the opinion that we are consistent in our thoughts, feelings and actions. Livy's portrayal of historical figures in his Early History of Rome bears witness to his endorsement of a model of man which assumes consonance among different manifestations of the personality: his canvas of human activity is filled out with speeches and character descriptions which are invented due to the lack of historical record but which were readily accepted so long as these elaborations augmented and reinforced the known facts about the actions of the individuals in question.

This model of man as a creature consistent across all his modes of functioning still has currency today, although in its more simplistic forms it is clearly unable to account adequately for all human behaviour. Western society has infused the consistency concept with strong moral overtones: consistency is "good", and inconsistency "bad". In particular society demands that its members be consistent in word and deed. Children are urged, on pain of punishment and moral censure, to tell the truth. A man who "keeps his word" is attributed with a good moral character, whereas one who fails to act as promised is regarded as a scoundrel. Despite societal pressures, the simplistic consistency model fits man's behaviour poorly. Examples abound in literature, history and our day-to-day lives of behaviour which is not consonant with verbal statements and internal feelings. It is possible, however, that the failure of the model might be attributable, at least in part, to an unsophisticated understanding of the concept of consistency. If one thinks in terms of simple isomorphic relationships, then man is indeed inconsistent. If, however, one thinks of consistency as predictability, and if one is prepared to allow that many factors might interact in various, possibly complicated, ways in man in order to produce any given outcome, then it might still be possible to see man as a consistent animal. An example might help to make this point clearer. If a woman says that she dislikes short, fat, bald men and soon thereafter marries such a man, one would be obliged under the simplistic consistency model

to admit that the woman had acted in an inconsistent manner. The lack of consistency, however, extends only to the relationship between one verbal statement and the act of marriage. Other factors, like the woman's emotional reaction to this particular short, bald, fat man, her feelings about the large fortune which he possesses and her inability to resist the persuasive powers of her friends who urged her to marry the man, have not been taken into account.

Efforts to predict behaviour became established on a scientific footing only in the twentieth century. In the domain of social behaviour, two major theoretical orientations evolved. The learning theorists saw behaviour as the resultant of positive and negative schedules of reinforcement; human behaviour could be accounted for in contingency tables, with rows of stimuli, columns of responses and probabilities in the individual cells. The latent process theorists rejected this mechanistic approach, claiming that human behaviour is far too subtle and varied to be described without recourse to some sort of unobservable construct, or process, which mediates behaviour. Man is seen by these theorists as a creature with an inner life; he is a thinking, reasoning, conscious organism. Either because of its intuitive appeal or its greater flexibility, the latent process approach has become the more popular model in psychology. Two major types of latent process constructs have been identified by theorists of this persuasion - personality traits and attitudes. Both are regarded by most theorists as the product of experience and are therefore modifiable, within bounds at least, by new experiences. Attitudes are seen to play an adaptive, integrating role in the personality: their functions include the optimization of goal attainment, ego defense, value expression and the systematization and categorization of information. The main interest has, however, concentrated on attitudes as behaviour predictors. All theorists see attitude as a response to a specified object. The term "object" must be taken in a broad sense to include a wide variety of phenomena, including events, ideas, people, actions etc., although most theorists claim that these should be couched in a social context. Nearly all latent process theorists cite affect as the dominant characteristic of attitudinal response, but many also include cognitive and motivational elements in their definitions. Behaviour prediction using attitudes rests on the thesis that if the attitudinal response to an object is positive, then it is to be expected that overt behaviour towards that object should also be positive; similarly a negative attitude is expected to be accompanied by negative behaviour towards the attitude object. What

is meant by "positive" and "negative" behaviour is often left unexplained, but it is probably not too far from the truth to say that positive behaviour implies liking and concern for the attitude object and negative behaviour the opposite. Hence, attitudes are regarded as internal constructs which guide behaviour in particular directions, although no consensus exists as to whether the attitudes themselves are capable initiating the behaviour.

Unlike attitudes, personality traits are not linked to any particular object and therefore can be regarded as more generalized constructs. Although it might be true to say that the personality trait theorists do not expect as strong a relationship between behavioural and trait phenomena as the attitude theorists do, the expectation is still that an individual's behaviour is consistent, across situations, with his position on the trait dimension.

Both the above approaches are attempts to meet the commendable scientific desideratum of parsimony: if one construct can account for many instances of behaviour, then that construct has scientific value in that it can be used to predict phenomena in a simplified schema which is abstracted, by one step, from the actual events.

Unfortunately the empirical findings in the realm of behaviour prediction do not support the expectations of the personality trait and attitudinal theories. The correspondence between verbal measures of the underlying constructs and overt behaviour has been found to be low in general. Even when allowance is made for possible shortcomings in the measuring instruments, support for the attitude-behaviour consistency hypothesis is substantially lacking. The reason for this failure seems to be attributable to the assumptions of the simplistic consistency model. The determinants of human behaviour appear to be far too complex to be accounted for by a single predictive variable which is related to the criterion in a simple linear fashion. It seems much more likely that most behaviour is determined by a variety of variables and that the relationship between these variables is complex, involving various types of interaction and mediation.

The present state of our expertise makes it quite impossible to attempt to devise a model of human behaviour at the level of complexity and comprehensiveness suggested above. A more modest attempt, however, which makes some concession to the complexities involved, does seem possible

and desirable. Therefore the approach adopted in this study is a multivariate one, the selection of variables to be used being guided by theory and empirical findings. In addition, some provision is made in the design for the interaction of variables, at least at a fairly elementary level.

Apart from the limitations caused by the use of a simplified model which can be, at best, only a reasonable approximation to the true state of affairs, this study will be restricted further by the scope of the behavioural domain to which it will address itself. The intention is not to study behaviour in general - that would be far too ambitious a task given our present level of knowledge - but behaviour as it relates to particular attitude objects. This has the advantage that the variety of possible behaviours is, at least to some extent, restricted: efforts can be made to categorize and measure the behaviour and consequently the study can be placed on a more rigorous scientific footing.

The restriction of this study to behaviour towards attitude objects should not be regarded as a serious limitation. One of the major concerns of social psychology has been the prediction of behaviour towards attitude objects, a concern which has gone largely unrewarded due to an almost exclusive reliance on a single variable - verbally expressed attitude - in the prediction model. It is only towards emotionally significant aspects of our environment that we develop attitudes. Some objects are emotionally significant for only certain people, but within any given culture there is invariably a large subset of objects to which almost all members have some sort of emotional reaction, be it positive or negative. These may be regarded as "important" social objects, in relation to which much social behaviour is enacted.

The failure of attitudes effectively to predict behaviour towards attitude objects indicates that it is not only our feelings towards, or evaluation of, an object which determines behaviour. A man may dislike his boss and still behave towards him in a reasonably positive manner, because he sees him as the means to the attainment of desirable goals (e.g. higher wages, promotion) or because social pressures preclude him from behaving in accordance with his feelings. Also it is possible that some individuals tend to be influenced by certain factors more than others: it may be that the behaviour of some people

is strongly influenced by normative pressures, while for others the dominant influence comes from internalized attitudes; and for yet others behaviour may be primarily dependant on the attitude object's instrumentality in facilitating the attainment of needs and goals. Ideally, a model should be adopted which allows for such interpersonal differences.

It is conceivable that each of the above-mentioned factors has a separate and independent effect on overt behaviour. This seems unlikely, however, if one conceptualizes man as a thinking, reasoning creature, capable of integrating and restructuring his mental world. Under such conditions it seems likely that the factors influencing behaviour will, in the course of conscious and possibly even unconscious thought, be brought to bear on one another so that the resultant behaviour might not be a simple additive outcome of the causative forces. It is possible, for instance, that when these causative forces are all operating in the same direction, the resultant behaviour is more intense than would be expected under additive conditions, due to the absence of conflict or confusion in the individual (which would always be present to a greater or lesser degree if the causative factors were at variance with one another).

The behaviour prediction model adopted for this study is therefore multivariate and interactive. No claim is made that the model encompasses all the relevant variables, but the expectancy is that it should be significantly superior to the simple attitude-behaviour consistency model. It seems that the major weakness of the simple consistency model is that it does not see the individual in a social setting; his behaviour is treated as though it were occurring in a social vacuum, unmonitored and uninfluenced by the opinions and sanctions of reference groups and "significant others". The present model is more balanced in that it acknowledges that behaviour is likely to be influenced by both external (environmental and social) and internal (cognitive and emotional) forces. In this it is greatly indebted to the theoretical perspectives of Fishbein and Ajzen (1975) and Rosenberg (1960).

The intention is not to take this model on faith but to test it rigorously against the simple consistency paradigm and other prediction models which have been proposed in the literature. In order to do this effectively, measures of actual behaviour must be obtained so that the predictive powers of the various paradigms can be measured against one another in a real-life situation.

Predictive validity is therefore the major concern of this study, but apart from the construction and testing of behaviour-prediction models, there is one other major area which will receive attention - measurement methodology. Particular attention will be focussed on the problems and requirements of attitude measurement. The intention is to develop a methodology which overcomes the shortcomings inherent in presently available techniques and then to compare, in a practical application, the performance of the new methodology with the best of the currently used methods on a number of relevant criteria. In addition to attitude measurement, some attention will be devoted to the methodology of behaviour measurement. To date, most studies have been unsatisfactory from a psychometric point of view especially as regards discriminating power of criterion (behavioural) measures and the compatibility of the domains of these measures with the domains of the predictor variables.

Finally we come to the behavioural and attitudinal content area to be studied. It has been decided to investigate job attitudes and behaviour. The job attitude/job behaviour area is at the nexus between two important theoretical disciplines - organizational behaviour and attitude theory. This nexus is generally called job satisfaction. The term job satisfaction covers a variety of phenomena: much empirical and theoretical research has highlighted the multidimensionality of job satisfaction: an individual may be satisfied with certain aspects of his job but dissatisfied with others. In some studies a moderately strong consistency has been found, in that a subject who is dissatisfied with any given aspect of his work tends to be dissatisfied with the other aspects and *vice versa*. The overall consensus, however, is that the domain of job satisfaction is fairly complex and multidimensional.

This multidimensionality makes job satisfaction, taken as a whole, an unsuitable area for the study of behaviour prediction such as is envisaged in this research. The psychometric hazards inherent in working with multidimensional variables are considerable. One of the first tasks of the present study will therefore be to investigate the structure of job satisfaction in the context of the target sample. Once the structure of job satisfaction has been ascertained it will then be possible to select a particular unidimensional sub-area for investigation in the main part of the study. In order to be acceptable, this sub-area will have to meet two other criteria: it must constitute an important and well-defined aspect of job satisfaction and the behavioural domain which it encompasses must be circumscribed and amenable to measurement at a

level which satisfies certain basic psychometric desiderata.

The basic statistical model to be used in this study will be that of regression. This model has the advantage that it is flexible enough to allow the testing of a number of different prediction paradigms within the same overall framework. The model affords not only an indication of the effectiveness of any given paradigm, but also the relative importance of the predictor variables.

A few cautionary remarks should be made about the unjustifiable inference of causality. Not only in psychology, but in any branch of science, it is never justifiable, if two variables are observed to covary, to claim with absolute certitude that this covariance is due to a causal link between the two variables. If I observe a tree catching alight after having been struck by lightning, I am not justified in accepting without any doubt that the lightning caused the tree to catch alight; it may be that trees, which are about to catch fire, attract lightning, or it may be that a third variable caused both the lightning and the fire to occur. Man attempts to explain regularities in his environment by positing theories which impose a grid of causality on observed phenomena. It is conceivable that this is an anthropomorphic view of the universe; man characteristically strives to find reasons for events which he observes, but the possibility cannot absolutely be excluded that causality is an invalid concept to use in the description of processes and events occurring in the universe. It is usually the case, however, that once a theory has repeatedly demonstrated its ability to account for phenomena in a wide variety of contexts, we accept the theory's causal interpretation of events as fact.

In connexion with the above comments, the following points about the present study are made.

- (1) The principle that causal factors underlie human behaviour is accepted. Nevertheless, it is not accepted as a consequence that behaviour is capable of being predicted with absolute accuracy, even given that full knowledge of the underlying causal factors is available. The possibility of the existence of what might be called human free will is not excluded: The behavioural manifestations of this factor, if it exists, are by definition not predictable: hence even if complete knowledge of the individual is available at time t , consistently accurate

prediction of his state at time $t + \Delta$ would not be possible. It is accepted, however, that human behaviour is for the most part under the control of factors which have predictable effects; hence it follows that a knowledge of these factors and their relationships with one another will make the prediction of behaviour, with some reasonable degree of accuracy, a viable proposition.

- (2) Even if a model is constructed which predicts behaviour with a high level of accuracy, caution should be exercised in concluding that the predictor variables in the model are in fact the causal factors of behaviour. The argument presented above should have highlighted the dangers of inferring causality, even when a comprehensive and persuasive theoretical explication of the domain is at hand. History has shown that even the most persuasive of theories can be changed from "fact" to myth in the light of new information and new insights. In psychology, with its proliferation of concepts, poor measurement instruments and "fuzzy" variables, few theories gain the level of credibility which is enjoyed by many of their counterparts in the more exact sciences. The area of behaviour prediction is no exception in this regard. Only after a theory has shown a good fit to the observed data in many different contexts can some modicum of credence be attached to the structural and causative implications of the model.

These two points give some indication of the complexity and difficulty of the task in hand. The attainment of any degree of certainty after the execution of an experiment is elusive even in the exact sciences: where man is involved, the task is even more difficult. In the present case, if the proposed prediction model does not fit the data, then not one but a variety of possible reasons have to be considered: failure to identify the right predictor variables, inadequate conceptualization of the interrelationships amongst variables, shortcomings in the measurement procedures, etc. Even if the model proves to be a good fit, little more can be said other than that the data do not show the model to be invalid. Whatever the outcome, the practice of performing controlled experiments is salutary in that new avenues of testing and exploring are almost always suggested by the results: hopefully this procedure of proposing, testing, breaking down and rebuilding does lead ultimately to a true increase in our knowledge, rather than the replacement of one myth with another.

2.0 ATTITUDE - DERIVATION AND DEFINITION OF THE TERM

The term "attitude" has been used in a variety of senses since it was introduced into the psychological lexicon. As attitude is one of the major constructs to be used in this study, it is important that we investigate the different meanings which have been attached to the term, then, bearing these traditional conceptualizations and the requirements of the present study in mind, arrive at a definition which will be both satisfactory from a theoretical point of view and capable of practical implementation.

The following resumé of the historical evolution of the attitude concept has been taken largely from Allport (1966), De Fleur and Westie (1963) and Ostrom (1968).

"Attitude" was derived from the Latin word "aptus" which means "appropriate" or "fitting". Initially "attitude" was used to denote physical rather than mental states. In the seventeenth century it referred to the physical positioning of an artist's subject with respect to the background. Only in the mid-nineteenth century did it start to acquire coinage as a descriptor of psychological phenomena; the term was then usually qualified by fixing the words "mental" or "physical" in front of it to indicate in which sense it should be taken. The postural meaning which the term "physical attitude" conveyed was taken over into the psychological realm; hence "mental attitude" came to denote a kind of psychological posture. In the late nineteenth century the term was also used to indicate states with both physical and psychological components: early psychologists found that mental "set" reduced reaction time and the term "motor attitude" was coined to account for this phenomenon. According to Allport (1966), the distinction between "mental" and "motor" has been discarded in more modern times to avoid the body-mind dualism which this implies.

With the emergence of behaviourism in the early twentieth century the search for elements of consciousness and the study of mental processes fell into disrepute. Attitudes came to be viewed in terms of expected or conditioned responses to given stimuli. Only in the mid-twenties when social psychology arrived on the scene did the term "attitude" come to be used in the most prevalent "modern" understanding of the word: the social psychologists used it to indicate the relationship between the individual and social objects. Nevertheless the behaviouristic interpretation of attitude has survived as a rival to the social psychological

viewpoint. The two theoretical currents which these approaches have given rise to are generally known under the names "latent process" and "probabilistic" (Lemon, 1973; McGuire, 1969).

The probabilistic (behaviouristic) orientation sees man in essentially S-R terms. The "black box" which intervenes between stimulus and response is not taken to have an internal life or conscious cognitive processes. Hence attitude is not regarded as a mental process, but is defined behaviouristically in terms of S-R links. Attitude strength is simply the probability of occurrence of a defined behaviour in a defined situation (Fuson, 1942). The concept of attitude is essentially superfluous in the probabilistic paradigm: Hullian and Skinnerian notions of habit strength and S-R connections are for the most part adequate to account for what the latent process theorists call attitudes (Lemon, 1973). Campbell (1964) discards the term in favour of "dispositions" and outlines what he regards as the ideal experimental design for their study. This consists of matrices of stimuli x responses: correlational and factor analytic operations performed on the data in the matrix cells would, according to Campbell, be the most fruitful way of examining the nature and structure of the dispositional domain.

Latent process theorists on the other hand claim that the S-R model is a grossly inadequate way of looking at human functioning. They emphasize man's consciousness, his powers of reasoning and thinking and his need to understand and integrate the information which comes into him from the outside world. The latent process approach postulates an underlying unobservable construct, or mechanism, which mediates behaviour. Most of the theorists of this school see attitudes as "stored-up experience" in the form of evaluations of objects, actions and events. Hence, whereas the behaviourist is happy to limit his definition of attitude to response consistencies, the latent process theorist goes one step beyond this and sees attitude as a construct which has epistemological value for the individual. Attitudes are a means of categorizing and integrating information about social objects and hence making the social world more comprehensible. Attitudes may be regarded as mental models of external social objects, models which always incorporate an evaluative or affective component. Hence attitudes are characterized by the fact that they place the social objects to which they refer on a like-dislike dimension. Attitudes are also claimed by many theorists to incorporate rational or pseudo-rational material which can be used in support of its affective component. This material serves what might be seen as a universal

need - to supply reasons for one's thoughts, feelings and actions.

This last comment highlights the latent process theorists' contention that attitudes play a major functional role in the personality.

Katz (1960) identified four main functions which attitudes perform:

- 1) Adjustment function - the means of reaching desired goals and avoiding undesirable ones.
- 2) Ego-defensive function - the defense of the self-image from threats.
- 3) Value-expressive function - the giving of positive expression to central values and to the type of person the individual sees himself to be.
- 4) Knowledge function - the organization and explication of perceptions and cognitions.

Schroder *et al.* (1967) see attitudes as structures for the classification of information, which function as the basic units in information processing.

Smith *et al.* (1956) summarize some of the main points of the latent process theories. In an attempt to tie together personality traits and attitudes, they state that personality traits are dynamic and predispositional; that the possession of certain traits predisposes the individual to the adoption of certain general attitudes towards the world. Hence attitudes are seen within the domain of personality. The authors state that an individual's attitudes are but one of a number of consistent and regular forms of behaviour which characterise him. From the consistencies, the individual's personality can be deduced. Personality is then an inferred construct to which we ascribe certain dynamic qualities - striving, adaptation, defense, etc. Expressed attitudes, like all behaviour, both constitute part of the data from which personality is inferred and are in turn a function of personality.

The following are a selection of better-known definitions based on the latent process orientation:

Allport (1935): Attitude is a mental and neutral state of readiness, organized through experience, exerting a directive and dynamic influence on the individual's response to all objects and situations with which it is associated.

Krech, Crutchfield and Ballachey (1962): Attitude is an enduring organization of motivational, affective and cognitive processes with respect to some aspect of the individual's world.

Thurstone and Chave (1929): An attitude toward an object is a general evaluation or feeling of favourableness or unfavourableness towards it.

Katz and Stotland (1959): An attitude is an individual's tendency to evaluate an object, or the symbol of that object, in a certain way.

Osgood (1965): An attitude is an internal mediational activity which operates between most stimulus and response patterns. Attitudes represent the evaluative aspect of the individual's semantic structure.

Sherif and Sherif (1967b): An attitude is a disposition to act favourably or unfavourably to a class of objects.

Fishbein and Ajzen (1975): An attitude is the evaluation of salient beliefs about an object. More precisely, it is the sum of the products of the strength and evaluation of salient beliefs about an object.

Rosenberg and Hovland (1960): An attitude may be defined as a pre-disposition to behave in a particular way towards a specific class of objects.

Triandis (1971): An attitude is an idea charged with emotion which predisposes a class of actions to a particular class of situations.

Newcomb, Turner and Converse (1965): An attitude towards an object is an individual's predisposition to be motivated in relation to the object. Attitudes are located at a crucial intersection between cognitive and motivational (emotion and striving) processes.

Although these definitions differ in several ways, certain underlying similarities are to be found:

- (a) Attitude is an underlying mediational process which is unobservable and must be inferred from behaviour.

- (b) There is an implicit or explicit acceptance that attitudes are learned from past experience.
- (c) Attitudes play a dynamic organizing role in our mental life, systematizing, integrating and interpreting the raw material of our experiences.
- (d) Attitudes are evaluative in that the object of the attitude is assigned a certain position on a dimension of desirability. Evaluation appears to be some sort of combination of cognitive and emotional factors, although authors like Fishbein and Ajzen (1975) define evaluation in purely affective terms.

The most important point on which the definitions are at variance with one another concerns the motivational or behaviour predispositional qualities of attitudes. Allport (1935), Krech and Crutchfield (1962), Sherif and Sherif (1967b), Rosenberg and Hovland (1960), Triandis (1971) and Newcomb, Turner and Converse (1965) all stress the importance of attitudes in the determination of overt behaviour, but differ in their attribution of the motivational source. For instance Allport (1935) claims that attitudes have motivational qualities of their own, whereas Newcomb *et al's* statement that attitudes are predispositions to be motivated in a certain way seems to imply that attitudes influence the types of behaviours which are emitted but do not have motivational qualities themselves. A second group of theorists (Thurstone and Chave, 1929; Katz and Stotland, 1960; Osgood, 1965; and Fishbein and Ajzen, 1975) do not see attitudes as motivational constructs and do not claim that there should necessarily be a strong link, or correspondence, between attitudinal and behavioural phenomena.

From the above it can be seen that the latent process theorists have variously mooted three main attitudinal components: cognitive, affective and behavioural. Some of these theorists regard attitude to consist of all three of these components, while others have claimed that only the first two are essential to the attitudinal concept. Thurstone and Chave (1929) seem to hint that they regard only one component, the affective, to be present in the structure of attitudes.

The standing of the school of thought which claims that attitudes have a behavioural component has been severely weakened by empirical findings which often indicate an insubstantial relationship between verbally expressed attitudes and behaviour (e.g. Bem and Allen, 1974; Himelstein and Moore, 1963; Tarter, 1969; and Genthner and Taylor, 1973). Wicker

(1969) reviews a large number of studies and concludes that attitude-behaviour correlations rarely exceed 0,3. Those definitions which claim that attitude is no more than an evaluation seem to be on safer ground; the possibility that other factors influence behaviour is not excluded. Ajzen and Fishbein (1969, 1970) and Fishbein and Ajzen (1974, 1975) have developed a theoretical orientation which assigns attitude a partial role in the production of behavioural intention. According to the Fishbein and Ajzen model, both attitudes and effects due to normative pressures combine additively to determine behavioural intention. In a number of studies conducted by the above authors, the additive model has proved itself to be superior to attitudes alone in predicting criterion scores.

We come now to a critical assessment of the theoretical perspectives and definitions reviewed in this section in order to arrive at a conception of the attitudinal domain which will be adopted in the present study.

Firstly, the probabilistic orientation is rejected. This study shall take it as axiomatic that man has an inner life and that thinking, reasoning, feeling, remembering, perceiving etc. fall within the compass of his conscious activities. It is considered that the probabilistic theoretical position, which either ignores or denies the existence of conscious qualities in man is too impoverished to account for the subtleties and complexities of human functioning. In particular the probabilistic model makes no allowance for the possibility of interaction amongst different psychic elements. Festinger's (1957) concept of cognitive dissonance, for instance, would not be viable under the conditions set by the probabilistic model: the act of "realizing" that two cognitive elements are at variance with each other requires the application of memorial and logical faculties, the existence of which are not acknowledged in the behaviouristic conceptualization of man. In this study, the intention is to allow scope for interaction effects as it is thought that such effects might play a substantial role in determining or modifying behaviour.

Next we come to the latent process orientation. The type of model of man which this orientation allows is satisfactory for the requirements of this study. However, those latent process theories which consider behaviour towards social objects to be purely and simply under attitudinal control are regarded as naive and inadequate, especially in the light of empirical

findings. Like the probabilistic theories, they do not allow sufficiently for the complexity and subtlety of human behaviour.

In line with Newcomb *et al's* (1965) approach, the orientation taken here will be that there resides in the individual a number of motives and needs which are the generating power behind behaviour. Therefore the present approach will assume that human motivation is "centralized" in one or more basic reservoirs and are not sourced in attitudes (or any other psychic elements) themselves. Attitudes are seen to be evaluative, i.e. to comprise both affective and cognitive aspects, the cognitive aspects primarily performing the role of supporting and justifying the affective part of the attitude. Hence, if a man dislikes his boss, he will almost invariably have a number of reasons which he can present to support and explain his antipathy. It is inaccurate to regard the cognitive aspect of attitudes as consisting entirely of "facts". The cognitive elements might in some cases be distorted or invented (usually not consciously) in order to make the case for the particular affective orientation adopted more compelling or more consistent. But this presents a rather one-sided picture: the position taken here is that it is just as possible for cognitive material, based on information from the outside world, to modify affect as it is for information to be selectively used or distorted in the service of a particular affective orientation.

The affective quality of attitude is considered to result from the interplay between one or more motives and experiences of, or information about, the attitude object. To the extent that an antithetical situation arises between the individual's motives and the information received by him about an attitude object, a negative attitudinal orientation is liable to develop. On the other hand, when the nature of the attitude object (as revealed by the received information) is compatible with the individual's motives and needs, a positive attitude is expected to come about.

This conceptualization of the formation of attitudes differs somewhat from the instrumentality theorists (see Peak, 1955; Smith, Bruner and White, 1956; Rosenberg, 1956; and Fishbein and Ajzen, 1975) who claim that a positive attitude towards a social object comes about only when that object has satisfied a basic need and that a negative attitude arises when the object has frustrated a basic need. Although the theorists mentioned above are primarily in the latent process camp, their conceptualization of attitude formation smacks somewhat of behaviourism. Therefore in this study it will be accepted that attitudes are capable

of being formed merely by the perception of compatibility or incompatibility between needs and the nature or qualities of the attitude object. Also, the possibility is not excluded that not only needs, but also values, play a role in attitude formation. (The distinction between attitude and value, will be discussed a few paragraphs below.) An individual is likely to form a negative attitude towards a social object if that object is perceived, either in nature or potential, to embody features which are antithetical to one or more of his values. In this case the affective content of the attitude comes from the threat posed by the attitude object to the value system.

These comments should have made it clear that the position to be taken here is firmly non-behaviouristic. The process of attitude formation described above assumes that man is capable of making comparisons, forming abstractions, projecting himself into the possibilities of the future and recalling relevant material from the past. However, the prime point which the above discussion was intended to make is that the motivational mainsprings of human behaviour are not to be found in attitudes themselves. Attitudes are evaluative; they are at the interface between internal motivational states and the perception of external objects and indicate the individual's appraisal of these objects in the light of his psychological requirements.

It has been said (e.g. McGuire, 1969) that even if one does not accept that attitudes have motivational power one must accept at least that they have directive power. By directive power is meant the power to guide the course of behaviour. In the directive, attitudes are regarded as internal "signposts", built up through experience, which direct behaviour along courses which have proved to be need fulfilling in the past. For the purposes of the present study, this model is not accepted without extensive modification and extension. Objections on both theoretical and empirical grounds are raised. This approach appears to be too mechanistic and behaviouristically orientated to be an adequate descriptor of human functioning as conceptualized in this study. It is not denied that attitudes have some influence in guiding behaviour, but what is contested is that there is a simple relationship between attitudes and behaviour and that the bond which cements the relationship is purely and simply need fulfilment. In support of this, the empirical evidence has shown that there is no strong relationship between attitude and behaviour. This evidence has made it quite untenable to believe that attitudes "direct" behaviour in a manner

analagous, for instance, to the way that a steering wheel controls the direction of a car.

In the present study, therefore, the position is taken that attitudes only have a partial effect on behaviour. Other factors, which will be dealt with in a later chapter, are also hypothesized to influence behaviour, and it is expected that these factors interact with one another in the process of forming the motivation for behaviour.

We come now to the task of framing formally the definition of attitude to be employed in this study:

An attitude is the relatively enduring evaluation of an object (i.e. person, event, institution, behaviour etc.) in the light of the individual's needs and values.

In conclusion, some effort should be made to distinguish between attitude and a number of concepts which are related to, or have been associated with, the term.

Value. Newcomb *et al.* (1965) define value as an extremely inclusive goal around which many attitude patterns may be organized. According to these authors, values are the product of the integration of attitudes into a few broad patterns. Katz (1960) claims that certain attitudes give positive expression to central values, but he does not say whether the values themselves are akin to attitudes, or at a higher level of generality the way Newcomb *et al.* do. Woodruff and DiVesta (1948) claim that as a result of experience the individual comes to value positively certain objects and conditions which have seemed to contribute to his well-being, and *vice versa*. The result of this process is a pattern of values ranging from high positive through neutral to high negative in strength. Unlike most other authors, Woodruff and DiVesta believe that values can be at any level of specificity, not only at the most general level. These authors see attitudes as behavioural responses to the more central and stable values. Cooper and McGaugh (1966) claim that the value concept is broad and often loosely used. They see values as dominant frames of reference which tie together one's attitudes and represent one's overall life aspirations. Allport *et al.* (1951) distinguish six possible life values - theoretical, economic, aesthetic, social, political and religious. Rokeach (1969) defines value as a type of belief, centrally located in the belief system, about ideal modes of

behaviour (instrumental values) and ideal end states (terminal values). Values are at a higher level of abstraction than attitudes in that they are not tied to any object or situation. Rokeach claims that values are hierarchically ordered. Both terminal and instrumental values have their own hierarchy, but terminal values are at a higher level of abstraction because each end-state value might subsume a number of ideal-behaviour values. Hence attitudes with conceptual similarities are connected to, or represented by, an instrumental value, and in turn a number of instrumental values which are conceptually similar are grouped at a higher level of abstraction, under a terminal value.

Although Rokeach's model of hierarchical structure is possibly a little too rigid to be a likely representation of the true state of affairs, his understanding of value as a more abstract construct than attitude, as an overall moral evaluation which is not tied to any particular social object, represents fairly well the majority view of this concept. It seems likely that there is a two-way interaction between values and attitudes: values appear to be formed out of attitudes but also play a role in the formation of new attitudes (as is stated in the definition of attitude to be used in this study).

Opinion. According to Rokeach (1968), an opinion is a verbal expression of some belief, attitude or value. This notion, that opinions are the overt expression of a covert attitude dates back to Thurstone and Chave (1929). Hovland *et al.* (1953) and Lemon (1973) suggest the use of the term attitude to denote a general orientation and the term opinion to refer to a more specific manifestation of the broader attitude. Harvey, Hunt and Schroder (1961) claim that opinion, belief and attitude occupy increasing degrees of centrality or importance in the cognitive system. Bogardus (1946) sees opinions as more conscious, rational aspects of beliefs and attitudes as the more unconscious, irrational aspects. Osgood *et al.* (1957) claim that opinions and attitudes differ in that the former deals with matters of fact and the latter with matters of taste. To McGuire (1969), opinions are beliefs without drive (dynamic) quality and attitudes are beliefs with both cue and drive (directive and dynamic) qualities.

It seems, then, that little consensus exists on the distinction between attitude and opinion. There is a tendency, however, to regard opinions as cooler, more rational phenomena than attitudes: they relate to issues which are less emotional and contentious, and less likely to incite action.

Belief. Cooper and McGaugh (1966) state that belief is an attitude with a large amount of cognitive structuring. Fishbein and Raven (1967) define belief as the probabilistic dimension of a concept (i.e. the probability that a given cognition about the attitude object is valid) whereas attitude is the product of belief and affect. Rokeach (1968) claims that an attitude is an organization of beliefs around an object, predisposing one to respond in some preferential manner. Hence beliefs lack the organizational and dynamic qualities of attitudes. Krech *et al.* (1962) claim that belief is the cognitive aspect of attitude, but attitude is also seen to contain affective and dynamic qualities. Belief, therefore, seems to be regarded as a primarily cognitive phenomenon with little or no emotional content and, on its own, little or no capacity to cause behaviour.

Ideology. According to Cooper and McGaugh (1966), ideology is an elaborate cognitive system used to justify certain modes of behaviour. Usually it involves the codification of certain group norms. The above authors state that ideology is a generalized global attitude, almost a philosophy of life. What Cooper and McGaugh appear to be proposing is a multidimensional attitude concerned with preferred modes of behaviour. A more defensible approach might be to regard ideology as a conglomeration of separate attitudes organized around a main theme.

Faith. Cooper and McGaugh (1966) claim that faith falls between "belief" and "ideology". It is similar to belief in that it concerns prediction and similar to ideology in that it is usually highly cognitively organized, although a deep affective element is usually present also. Cooper and McGaugh see faith as a system of attitudes, organized such that they support a specific and fundamental belief in an object.

Judgment. According to Cooper and McGaugh, judgment is the process of clarifying stimulus objects. Not all judgments are social attitudes. Only to the extent that judgment is ego-involved and has affective and dynamic qualities can it be called attitude. In the light of the attitude definition to be used in this study, the following necessary condition should be stated: judgments-proper are those evaluations where the object of the judgment does not evoke reaction from the individual's need or value system, or at least, if a reaction is evoked, this is not taken into account in the judgmental process.

Knowledge. Katz (1960) and Schroder *et al.* (1967) hold that some attitudes perform a knowledge function: attitudes are a way of organizing the welter of perceptions and cognitions. McGuire (1969), however, proposes a distinction between knowledge and attitude on the basis of the procedures required to modify or change them: attitude change is produced by what is called "propaganda" or "persuasion", whereas knowledge change comes about through the process of what is called "education" or "instruction". (This distinction goes back as far as Plato who in the Gorgias points out that both rhetoric and instruction aim at creating conviction: the difference is that rhetoric achieves this end through a form of pandering which plays on the emotions, whereas instruction secures conviction through the impartment of truth. Modern man's weakened faith in objective truth makes this distinction somewhat less clear-cut today than it was in the fourth century B.C.)

To summarize, then, the definition of attitude adopted for this study is of the latent process variety. This was done because of the more sophisticated conception of man which the latent process orientation makes possible. This orientation assumes the existence of hypothetical processes which mediate between stimuli and responses. These processes can never be observed in themselves; only their products are detectable. Therefore the concept of mediating process has to be taken largely on faith. The criticism can be raised that, as the process is unobservable, it may be as mythical as phlogiston, the unobservable "something" that early chemists thought was released from combusting objects. Nevertheless the assumption that man is a conscious, reasoning being requires the further assumption that certain internal processes are at work which manipulate and interpret perceptions from the outside world before they are translated into behaviour or stored away in memory. Attitude is one of these processes, but not the only one; hence it is seen as only one of a number of factors which underlie behaviour.

3.0 ATTITUDES: THEORY OF FORMATION, NATURE AND CHANGE

The previous chapter dealt with the attitude concept at a fairly superficial level. In this chapter we shall go into the theory of attitude formation, nature and change in some depth. The theoretical position of the exponents of the probabilistic orientation will be described first, then several of the major latent process theories will be surveyed. The next section will concern itself with a brief survey of the theory of attitude change, and the final section will offer an overall evaluation of the attitude theories.

3.1 Probabilistic Theoretical Orientation

Both classical and operant conditioning paradigms have been employed to account for attitude formation (Triandis, 1971). The perspective of Staats (1967), for instance is primarily classical. Staats defines attitude as an emotional response to a stimulus that has social significance. If a new stimulus is paired with a stimulus that elicits an emotional response, the new stimulus will come to do so also. Staats gives a hypothetical example of how first and second-order classical conditioning might lead to the development of an attitude towards the word "negro": the word "dangerous" might be paired with an aversive stimulus which results in a negative emotional response being attached to this word; later, the word "dangerous" might be paired with the word "negro" so that, by second-order conditioning the word "negro" gains negative emotional connotations. Thus classical conditioning may be used to devise an explanation for the formation of attitudes; but according to Staats, attitudes also perform functions. It is at this point that instrumental conditioning comes into the picture. The words "dangerous" and "negro" will, in the example mentioned above, elicit negative emotional responses but will also have a function in an instrumental conditioning process. The individual would be expected to learn escape behaviours which would take him away from the word "dangerous" (e.g. a bridge labelled "dangerous"). In the social arena he would also avoid people labelled "negroes".

Campbell (1964), on the other hand, proposes a model which is based throughout on the instrumental conditioning paradigm. He introduces the concept of "disposition" which he claims are "residues of experience" which co-ordinate behaviour. According to Campbell, when the individual is placed in a new situation he engages in trial and error behaviour.

Behaviours which are rewarded are positively reinforced and a positive disposition is built up towards the objects and events which led to the rewarded performance. As a result, particular stimuli and responses are linked together, and the strength of a disposition is indicated by the probability that a given behaviour will occur in response to a given stimulus. Positive and negative dispositions can be seen therefore as guides or signposts which help the organism to develop patterns of behaviour which optimize the attainment of positive outcomes and the avoidance of negative ones. In the absence of knowledge about the organism's history of reinforcement, the experimenter's task is to study the patterns of S-R links and attempt to infer from these what the original conditions of reinforcement were. Campbell illustrates this with a rat example: suppose an experienced rat were taken from another laboratory; the new experimenter could, by setting up various experimental situations, form some idea of what the rat had been taught. Even then, the S-R links which he discovers might not be those where the habit is strongest - the original conditioning might have taken place with stimuli which are related to the actual ones which the investigator uses.

Campbell's conceptualization of attitude (or disposition) is therefore not much removed from the Hullian and Skinnerian concept of habit strength. Emotion and evaluation are not taken to be relevant aspects of the disposition construct. Also, disposition is not seen to be a uniquely human phenomenon.

The theorist who laid the foundation stones for all the more sophisticated work in the learning theory paradigm is Doob (1947). The orientations of many later workers (e.g. Lott and Lott, 1968; Rhine, 1958 and Breer and Lock, 1965) are heavily influenced by Doob's conceptualization of the attitudinal domain. His main achievement was to modify the S-R model by positing a mediating process which intervenes between the input stimulus and the output response. By hypothesizing a mediating process or mechanism, Doob approaches the latent process orientation more closely than many other learning theorists. It should not be thought, however, that Doob's mediating process is cognate with the latent process theorists' understanding of this concept: the working out of the process is not seen to be under the conscious control of the individual nor is the process seen to perform a dynamic and integrative role in the personality.

Doob's definition is the following:

"An attitude is an implicit response which is both anticipatory and mediating in reference to patterns of overt responses, which is worked by a variety of stimulus patterns as a result of previous learning or of gradients of generalization and discrimination, which is itself cue- and drive-producing, and which is considered socially significant in the individual's society." (Doob, 1947; p. 136)

Doob's model, in the simplest case, can be presented symbolically as follows:

$$S - r_g - s_g - R,$$

where $r_g - s_g$ is the mediating process and r_g is the anticipatory or attitudinal response. An anticipatory response is one which originally preceded another rewarded response and as a result of being associated with this reward, becomes reinforced so that it occurs before its original place in the response series. Hence, if one dislikes a particular fruit one tends to avoid eating the fruit. Originally the avoidance occurred only after actual contact had been made with the fruit and that contact had proved to be unpleasant (punishing) and the withdrawal to be rewarding.

Attitude, as an internal mediational process, can help the individual to achieve more rewarding outcomes and fewer punishing outcomes than would be possible if the connection between S and R were not mediated. In some cases attitude may be a sort of substitute goal response. For instance an individual who dislikes another person may make an implicit response involving aggression rather than actually hurting his antagonist; overt aggression might not be the optimal way to attain desired goals. In other cases the implicit response might facilitate, rather than act as a substitute, for behaviour towards the goal object. In other words, Doob is claiming that there might be occasions when behaviour is mediated by attitudes almost immediately and little or no internal conflict and restraint is evoked in the mediating stage.

Doob regards attitudes to have cue- and drive-producing properties; r_g can therefore be said to have stimulus value, i.e. it can arouse other responses. These responses may be overt or implicit: perceiving responses (which may determine to what other stimuli the individual will respond ultimately), linguistic responses, thoughts, images, stereotypes, overt

behaviour - these are all possible responses which r_g can evoke. Eventually, however, the implicit responses have an effect on overt behaviour. Hence an attitude has cue-value in the sense that it acts as a stimulus to produce another response, but it also is a drive in that tension is reduced through subsequent behaviour leading to a reward. We may therefore speak of the drive strength of an attitude. The drive strength of an attitude varies from attitude to attitude and from occasion to occasion. If an individual is not particularly hungry, then a picture of his favourite food will evoke a positive attitude toward the food, but the overt response may be no more than a favourable comment and possibly salivation. If, on the other hand, the individual is very hungry, the food stimulus might start an $r_g - s_g$ train which culminates in the individual rushing out to buy his favourite food.

Drive strength is one of the three influences which affect what Doob calls "attitude strength". The two other factors are afferent habit strength and efferent habit strength. The former refers to the strength of the bond between the input stimulus and attitude as a response, and the latter to the strength of the bond between attitude as a stimulus and a response pattern (either implicit or overt). All three of these factors influence the strength of the bond between an input stimulus and the type and intensity of the response towards a goal object.

The fate of an attitude over time, is according to Doob, dependant on at least three factors. The first concerns the reward or punishment associated with the goal response. An attitude will persist when it is repeatedly reinforced. If a change in the reward pattern occurs, then efferent habit strength is also liable to change - if, for instance a given response starts becoming less and less successful as a means of obtaining positive reinforcement, then efferent habit strength will decline. This will affect in turn the afferent habit strength adversely with the result that the attitude will grow weaker and become less important as a means by which drives are expressed in behaviour. Secondly there is the factor of conflict with competing drives and attitudes. Even when afferent and efferent habit strengths are great, an attitude's drive strength may be weak in comparison with that of other attitudes aroused by the same or different attitude patterns. In such circumstances the attitude is likely to be "swamped out" by its competitors with the result that it has little influence on observable behaviour. Finally, there is forgetting which may involve

other psychological processes besides extinction through non-reinforcement. The above discussion should make it clear that ample provision is made in Doob's theory to account for attitude change.

Rhine (1958) has used Doob's $r_g - s_g$ paradigm to account for the formation of what might be called "abstract" attitudes. Some attitudes might be regarded as more abstract than others in that they refer to a wider class of social phenomena: hence, an attitude to communism is more abstract than an attitude towards the postman because the concept of communism refers to a whole range of social phenomena; the "rules" holding these phenomena together as a construct are complex and intangible, whereas the postman is discernable in flesh and blood and is both the totality and the only exemplar of his concept. Rhine, who sees attitude formation essentially as concept formation, outlines a model whereby $r_g - s_g$ links become welded together into larger units, thus forming more abstract attitudes. Some degree of abstraction is also possible through the mechanism of stimulus generalization. Hence one could move from having an attitude toward a postman to having an attitude towards postmen in general. Stimulus generalization has its limitations, however, in cases where the elements of the concept are linked together by complex relationships: it is here where Rhine's model is still applicable.

Breer and Locke (1965) build on these ideas in their book on task experience. A task is defined by these authors as a stimulus complex on which one or more persons perform certain operations in order to produce certain outcomes. Breer and Locke are interested in the development of broad (abstract) cultural beliefs, attitudes and values. They make the assumption that in any task situation certain patterns of behaviour will have greater reward value than others: by virtue of the reinforcing quality of their associated outcomes, these particular types of behaviour will have a better chance of being emitted than others. The individual's internal response to the rewarded behaviours takes three major forms: cognitive (the apprehension of the instrumental value of these acts), cathectic (the development of a positive attachment for this kind of behaviour) and evaluative (the definition of such behaviour as legitimate and morally desirable). These three internal responses together constitute the individual's attitude to the rewarded behaviour. This theoretical orientation does, therefore, make some concession to the latent process approach in that certain conscious mental processes are claimed to occur in the individual,

although these are seen as somewhat slavish reactions to the rewarded behaviour.

Breer and Locke (1965) propose that the orientations developed in response to a given set of task attributes will be generalized to other task situations, and through a process of induction, to the level of cultural beliefs, preferences and values. They distinguish two kinds of generalization, lateral and vertical. In lateral generalization, orientations generated in one situation "spill" over to other situations involving tasks with more-or-less similar attributes. This type of generalization appears to be akin to the usual learning theory conceptualization of stimulus generalization as conceived by Hull (1943) and others. The second type of generalization, vertical, proceeds indirectly from the specific to the general (abstract), from one task to a conceptual grouping of tasks. There are different levels of generalization, culminating in value systems.

Breer and Locke (1965) think of culture as a profile of abstract beliefs, preferences and values, where profile refers to the distribution of such orientations among members of the society. The authors point out that there is no such thing as an homogenous culture, but despite internal variation there are significant differences between cultures taken as a whole. Internal cultural variation is partly explainable by the fact that each individual's task experience is different. Equivalently, between-culture variation can be accounted for largely by cultural differences in the nature and distribution of tasks, according to Breer and Locke. Changes in tasks will eventually show up in changes in cultural beliefs, attitudes, etc. Task-specific orientations change first, with their more abstract counterparts lagging: this helps to explain the lack of cultural homogeneity in cultures where rapid technological change is taking place.

Although Breer and Locke's approach produces some interesting explanations of social attitudes, values and beliefs, they do seem to have relied rather too heavily on a single causative factor, task experience, with the result that it can be criticized as being one-sided and conceptually limited. Possible contributory factors like cultural heritage, family history, genetic differences and environmental conditions (unrelated to task experience) are all ignored.

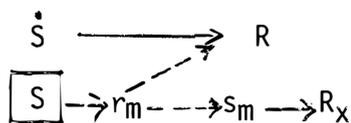
Lott and Lott (1968) use Doob's (1947) $r_g - s_g$ conceptualization as the basis of their theory of interpersonal attitudes. Having a positive attitude towards another person (i.e. liking that person) is regarded as an anticipatory goal response. Learning to like a person is essentially learning to anticipate a reward when that person is present. Subsequently, the liked person (or some representation of him) can raise general drive level in the liker in proportion to the degree of liking (i.e. strength of the $r_g - s_g$ link) and can function as a secondary reward. This explanation can account for man's penchant for engaging in social intercourse apparently for its own sake.

Before moving on to discuss the latent process theories, we should review the standpoint of one other theorist whose orientation has both learning theory and latent process aspects. Even more than Doob, Osgood and his associates have emphasized the mediational process, but nevertheless have remained broadly within the learning theory paradigm in their conceptualization and description of the process (Osgood *et al.*, 1957, 1970; Osgood and Tannenbaum, 1955; Osgood, 1965).

The major thrust of Osgood's work has been directed towards semantic measurement. He uses the terms "significate" and "sign" to indicate patterns of stimulation from objects in the outside world and symbols or representations of these objects respectively. Hence an object like a hammer is a significate whereas the word "hammer" can become a sign. Osgood *et al.*'s (1957) major goal is to show how stimuli become signs for a given significate. He rejects the Pavlovian view that the significate is the unconditioned stimulus, the latter merely being substituted for the former and thus acquiring its meaning. Osgood *et al.* (1957) claim that whenever some stimulus other than the significate is contiguous with the significate, it will acquire an increment of association with some portion of the total behaviour elicited by the significate as a representational mediation process. Osgood's and the classical learning paradigm are compared in the two learning paradigms below.



Classical learning theory paradigm



Osgood's paradigm

where UCS is the unconditioned stimulus (e.g. shock),
 CS is the conditioned stimulus (e.g. buzzer),
 \dot{S} is the significate (e.g. hammer),
 \boxed{S} is the sign (e.g. word "hammer"),
 R is the response (to UCS or \dot{S}),
 R_x is the response to the sign which takes account of the significate and
 $r_m \dashrightarrow s_m$ is the mediational representational process.

Osgood *et al.* (1957) state that the understandings which different individuals have for the same signs will vary to the extent that their behaviours towards the things signified have varied. This is because the representational process - which is the meaning of the sign - is determined in its entirety by the nature of the total behaviour occurring while the sign is being established.

The process $r_m \dashrightarrow s_m$ which Osgood identifies with meaning is assumed to be an antecedent, initiating condition for overt behaviour R_x . For the purposes of measurement, it is clear that it is necessary to use some representative sampling of R_x as a means of inferring what is happening at r_m . The measurement technique which Osgood has devised to achieve this aim will be described in another section. However, the results which he obtained through the use of this instrument are relevant to the present section. As a model for semantic space, Osgood postulated a region of unknown dimension and Euclidean in character. He selected the factor analytic technique to define the semantic space with maximum efficiency - by identifying the minimum number of orthogonal dimensions which effectively exhaust the dimensionality of the space.

In a wide variety of applications using a large number of different concepts (signs), Osgood and his associates have frequently, but not invariably, found semantic space to be three dimensional. These three dimensions have been labelled evaluation, potency and activity by Osgood. The evaluative dimension is generally found to be the strongest and usually accounts for over a third of the total variance. Osgood identifies attitude with the evaluative dimension of meaning. He sees attitudes as predispositions to respond which are distinguished from other such states of readiness in that they predispose towards an evaluative

response. The evaluative response might or might not extend to overt evaluative behaviour, depending on a number of factors including the intensity of the evaluation and environmental conditions.

In conclusion, it should be said that if it were not for the refinements introduced by Doob and Osgood, learning theory's ability to deal with the attitude construct would be virtually nil. Campbell's (1964) standard S - R approach, for instance, makes attitude a redundant concept, indistinguishable for all practical purposes, from habit. The "primitiveness" of this type of approach is largely because of its disregard for any kind of mental process conceptualization: the result is that attitude can be defined only in terms of external (behavioural) manifestations. Doob's $r_g - s_g$ conceptualization is an attempt to account for mental processes from a learning theory standpoint. Lott and Lott (1968) acknowledge Doob's contribution when they state that it is the $r_g - s_g$ and the conditions which influence its evocation and strength on the one hand and its motivational and overt response consequences on the other, that provide the theoretical bridge between S - R learning theory and an understanding of attitudinal phenomena. Even the Doob refinement, however, goes only a small way towards a full recognition of mental processes. The problem seems to be that learning theory's stimulus-response paradigm is best suited for accounting for observable events, i.e. external stimuli and the behaviour which is (apparently) caused by these; once the paradigm is used to explain unobservable processes it seems to be hampered by the rigid or inappropriate way that it models mental processes. Human mental processes might occur in a number of dynamic and complicated ways which can never be accommodated adequately in the s - r paradigm.

3.2 Latent Process Theories

In this section an attempt will be made to group the latent process theories into families according to the criterion that the members of each family should all share certain basic conceptual similarities.

3.2.1 Theories which regard attitude as a tripartite phenomenon

Philosophers at diverse times and places have arrived at the same conclusion that there are basically three existential positions that man can take - knowing, feeling and acting. The Gita of the Hindus

recognizes three corresponding paths to salvation - jnana, bhakti and karma (Ostrom, 1968).

According to Ostrom (1968), it was only in the late nineteen-forties that psychologists and sociologists started seeing cognition, affect and conation as three different but related facets of attitude. Thereafter major theoretical contributions to this orientation were made by Krech and Crutchfield (1948), Lambert and Lambert (1964) and Newcomb *et al.* (1965). Other authors like Scott (1968), Triandis (1964, 1967, 1971) and Katz and Stotland (1959) also endorse the tripartite conceptualization of attitude.

The thinking-feeling-acting orientation has probably had its greatest exponent in Krech and Crutchfield (1948) and Krech *et al.* (1962).

They describe the three components as follows:

Cognitive: comprises all evaluative beliefs about an attitude object (these authors seem to regard evaluation in a non-affective sense).

Affective: includes all emotions or feelings connected with the object.

Action-Tendency: involves all the behaviouristic readiness associated with an attitude.

The authors therefore appear to be saying that although action-tendency is a component of attitude, overt action need not result in all cases, but an attitudinal predisposition exists to behave in a certain way towards the object.

According to Krech *et al.* (1962), each of the three components of attitude can vary along two major dimensions - valency and multiplexity. Valency is the degree of favourability or unfavourability towards the object of the attitude and multiplexity is the number and variety of elements making up a component. A priest would, for instance, be expected to have a more multiplex cognitive component to his attitude toward religion than someone who took little interest in religious matters. Krech *et al.* (1962) claim that in general there is a strong tendency for different components of an attitude to be similar in valency. Therefore if one is strongly opposed to mixed sport on emotional grounds, one is also expected to have strong negative beliefs about the idea and a tendency to behave in such a way as to thwart such practices.

We have so far covered Krech *et al's* conceptualization of within-attitude structure. These authors also see attitudes themselves to be inter-connected in a structural arrangement. Attitudes cluster together into broad themes. Hence, a number of attitudes which relate to aspects of government might cluster together to form a system of attitudes around a political theme. Again it is to be expected that the members of a cluster would be compatible in their valencies; it would be unusual, for instance, to have an exceedingly negative attitude towards a particular political party but a very positive attitude towards its leader. Attitudes may vary in interconnectedness. Those forming part of a large cluster would in general be highly connected with other attitudes, whereas other attitudes which are not part of a system might be isolated to a large extent from other attitudes. It is only in attitudes of the latter type that changes can occur without threatening to upset the equilibrium of the whole system.

The following are Krech *et al's* (1962) ideas on the formation of attitudes. Attitudes develop in the process of need or want satisfaction. In coping with various problems and in trying to satisfy his needs and wants, the individual develops attitudes - favourable towards objects and people which satisfy his needs and *vice versa*. With respect to objects which satisfy his needs, both final goal objects and objects which are a means of attaining goals will be regarded positively. Attitudes therefore serve functions in the personality (see the comments of Katz, 1960, on this point in the previous chapter). For instance, racial prejudice may enhance self-regard, be a way of managing repressed wants, protect the self against threats to self-esteem etc. An individual's attitudes are also shaped to some extent by the information to which he is exposed. New information is frequently used to form attitudes which are consonant with existing attitudes. Usually an individual's information about any given social object is very incomplete; also the original sources of information are often not available with the result that the individual has to rely on information at second hand from "authorities" which might distort the information intentionally or through ignorance. As the individual tends to pay attention to authorities whose attitudes are consonant with his own, it is not difficult to see how new information often results in the formation of attitudes which are compatible with related attitudes already in the system. Also by selective attention the individual can "filter out" information to which he is exposed, which is incompatible with his present attitudes.

Group affiliations also influence the formation of attitudes. A person's attitudes tend to reflect the beliefs, values and norms of his group. To maintain his attitudes, the individual must have the support of like-minded people. Hence groups serve to form and maintain attitudes. Also, an individual with a given attitude might seek out a group with like attitudes. An example would be a Christian seeking out church people when he moves to a new town. For holding the normative or "right" attitudes in the group, an individual is rewarded with more secure membership or possibly promotion to higher status in the group.

Newcomb *et al.* (1965) state that attitudes are located at the interface between cognitive processes (thought and memory) and motivational processes (emotion and striving). These authors distinguish attitude from motive in the following way: an attitude is not characterized by a drive state but merely refers to the likelihood that a particular motive can be aroused. Attitudes persist; motives do not although they may recur. Hence attitudes are important in the long-term organization of behaviour. According to Newcomb *et al.* (1965), attitudes originate in specific motives. Once an object or state has been associated with the satisfaction of a motive, the type of behaviour that led to the satisfaction comes to be directed towards that object or event even in the absence of the drive to which it was originally related. The satisfaction of the motive also leads to the development of a favourable affective orientation towards the object or event, as well as the organization of favourable cognitive material with respect to the same.

Newcomb *et al.*, like Krech *et al.* claim that attitudes vary along the two dimensions of valency and multiplexity. They add two other concepts which they call inclusiveness and centrality. Inclusiveness is described as the degree to which the different component elements which refer to the attitude object differ from one another. The final liking or disliking for an object is some kind of subjective summing of the liking or disliking for the component elements. Centrality is closely related to the frequency with which an object occurs to a person. Centrality refers to a durable and generalized salience. According to these authors an object is salient if the immediate situation is such as to sensitize the individual to it.

Although Newcomb *et al.* stress the importance of the motivational aspect of attitude, they state that a simple and perfect correspondence between an attitude and relevant behaviour is not to be

dence between an attitude and relevant behaviour is not to be expected for the following reasons:

- (1) Behaviour is a product not only of attitudes but of the immediate situation as well. Attitudes are not the original causes of behaviour. They represent intervening conditions that have themselves been determined by the sum of past situations.
- (2) Attitudes relevant to a situation are often multiple. Any stimulus complex or situation to which we respond evokes a number of attitudes at once. In most cases, it is difficult or impossible to tell exactly what attitudinal factors will come into play for a given individual, for these factors vary from person to person.

Triandis (1971) also accepts the tripartite conceptualization of attitude and has the following to say about the three components:

Cognitive Component. In order to reduce information load, stimuli are categorized. Hence the cognitive part of attitude is in effect a way of storing information in meaningful units or conceptual groupings. However, such categorizations can also result in the loss and distortion of information, because once a stimulus has been placed into a category, it tends to take on the conceptual characteristics of the group as a whole and lose any individual or particular meaning which it had.

Affective Component. Once a category has been formed, it is possible for it to become associated with pleasant or unpleasant states. The way an individual feels about a social object is generally determined by previous associations of the attitude object with pleasant or unpleasant experiences. We tend to develop positive affect towards objects which help us achieve our goals and *vice versa*.

Behavioural Component. Triandis (1971) claims that an individual's behaviour towards an attitude object is mediated by his culture and reference groups, and by the possibilities and avenues of action open in any given situation. Previous habits also play a role in determining what sort of behaviour an individual will resort to. Hence the component of the attitude which relates to behavioural preferences need not be highly correlated with actual behaviour due to the influence of the non-attitudinal factors mentioned above.

Katz and Stotland (1959) justify the attitude concept by stating that the need for taking account of behaviour calls for the positing of some sort of internal stabilizing mechanism incorporating affective and cognitive elements which can be related to social behaviour. These authors define attitude as an individual's tendency or predisposition to evaluate an object or the symbol of that object in a certain way. Evaluation is seen by them as the attribution of qualities which can be placed along a dimension of desirability-undesirability; it contains both cognitive and affective elements. According to Katz and Stotland, not all attitudes have a behavioural component, in fact all three components, cognitive, affective and behavioural can vary greatly in predominance from attitude to attitude. Some attitudes, for instance, can be highly "cognitive" and be little different from a cluster of beliefs. Another possibility would be the type of attitude which is strong on affective and behavioural components. This sort of attitude could be involved in a situation where racial prejudice boils over into violence. Katz and Stotland's position, therefore, seems to be that the relationship between attitude and behaviour is often found to be weak because not all attitudes have appropriate motor outlets, and even if an attitude is expressed behaviourally, the experimenter, through his lack of understanding of the individual's dynamics, might have chosen the wrong index for his behavioural criterion.

Katz and Stotland (1959) state that the cognitive component of an attitude can be described according to three characteristics: differentiation, integration and generality-specificity. Differentiation (number of beliefs) is akin to Krech *et al's* (1962) and Newcomb *et al's* (1965) multiplexity. Integration refers to the degree of organization of beliefs; generality-specificity (the number of objects or beliefs subsumed under the same category) is similar to Newcomb *et al's* concept of inclusiveness.

A number of other authors have also commented on a variety of dimensions along which attitudes, or at least the cognitive aspects of attitudes, can vary. The two mentioned by Krech *et al.* (1962), valency and multiplexity, are mentioned frequently in the literature, although not always by the same names. Valency is usually known as extremity. Lemon (1973) distinguishes this from intensity which he defines as the strength with which an individual endorses a particular attitudinal standpoint: hence a person can hold a moderate standpoint, but hold it strongly. Sherif and Sherif (1967b) have found that in general extreme attitudes tend to be more strongly held, although this is not invariably the case. Lemon

(1973) introduces a further dimension, involvement (i.e. the degree to which the individual is personally involved), but it is doubtful whether this can be distinguished adequately from a number of other concepts. Another term which comes up frequently in the literature is salience. Scott (1968), defines salience as the prominence of an attitude, or the degree of readiness with which a person expresses it. Scott also defines another apparently important dimension: ambivalence. He defines this as the degree of presence of "opposite" tendencies in the attitude. A high level of ambivalence is present if one tends to feel positively about certain aspects of the attitude object and negatively about others. One might, for instance, like the foreign policy of a particular political leader, but dislike his personal morals and the condescending way in which he addresses his audiences. The ambivalence dimension has implications for attitude measurement. The score which an individual receives on an attitude questionnaire might be neutral for two different reasons: he might actually have a neutral attitude on the issue at hand, or he might have a number of extreme conflicting views which cancel one another out when his score is being calculated. Almost all currently used instruments are not capable of distinguishing between "proper" neutrality and neutrality due to ambivalence. More will be said about this in later sections.

A whole host of other dimensions are mentioned by Scott (1962, 1969) and Zajonc (1960), but as these appear to be rarely, if ever, cited in the literature and are of no consequence to this study, they will not be described here.

An overall critical evaluation of the latent process theories will be presented after all these theories have been reviewed, but at this point one pertinent criticism of the tripartite theories will be put forward. Fishbein (1967b) says: "It is obvious that affect, cognition and action are not always highly correlated," and: "... a multi-component conception of attitude turns out to be a multidimensional conception, and the 'attitude' of any one person toward an object or concept may fall at three very different positions on three dimensions" (p. 257). Fishbein advocates the splitting off of the "feeling" or evaluative component of the trinity, to produce a more restricted, tighter definition of attitude. The Fishbein definition is not strictly limited to affect, however, as Fishbein and Ajzen's (1975) analysis reveal. They define attitude as the affective response to cognitions about the

attitude object. Nevertheless, the criticism that the three-component definitions of attitude are too loose to describe a single phenomenon seems justified. In particular it seems that it is unwise to include behavioural features in the conceptualization of attitude, for it seems possible that a variety of other variables might interact with, or mediate, the effects of attitude before behaviour is produced.

3.2.2 Consistency and balance theories

These theories are based on the assumption that beliefs, attitudes and values are all part of an internal system which strives towards consistency or congruence. Once incongruence or dissonance arises, the individual experiences a sort of psychological discomfort which induces him to make efforts to regain a sense of congruence or consonance (Festinger, 1957). Dissonance can arise in a number of ways - between different beliefs or attitudes, between new information and beliefs or attitudes, between behaviour and attitudes, between attitudes and values, etc. Most theorists have concentrated on one particular aspect of the belief-attitude-value system and developed their theories to account for dissonance phenomena which occur in that area.

Heider (1946) originated the consistency approach to attitude theory. Heider's theory concentrates on the relationship between the individual and persons, objects and events in the environment. Hence the theory attempts to account for consistency phenomena between the individual and the outside world rather than between different cognitive elements of the individual himself. Heider defines two relations, L and U. L describes situations where liking, love, esteem, valuation, etc. occur between an individual and some person, object or event in his environment. U indicates when similarity, proximity, causality, membership, possession, belonging, etc. relates one person or object to another. The relations $\sim L$ and $\sim U$ which are the opposite of L and U respectively are also defined. Heider describes a number of triadic situations where the relationships between the elements (individuals and objects) can be used to infer whether the situation is in "balance" or not. If, for instance individual o likes object x and individual p, but individual p dislikes object x, then a state of imbalance exists. A further example of imbalance would be the case where individual o dislikes individual p, but p possesses attribute x which o likes.

If an individual experiences a state of imbalance, the theory claims that he will try to eliminate it. The thesis that inconsistency is unpleasant and that an individual who experiences it will make efforts to eliminate the inconsistency stems from a conceptualization of Western man as a rational being who finds the existence of logical contradictions within himself unacceptable. Western man's dedication to logicity and consistency stems largely from his cultural indebtedness to Greek modes of thought (Socrates attempted to point out inconsistencies in thought using the dialectic method.) Hence the balance model probably would be a poor descriptor of non-Western thought processes, and even in Western culture adherence to the canons of logicity is not all-pervasive.

In the examples cited above, the imbalance can be resolved in a number of ways. In the second example, one possible resolution would be for o to start disliking attribute x . Alternatively, o could become more positive in his attitude towards p . A further possibility would be to deny that p possesses attribute x . (This last possibility would be viable only if x is an invisible or a not easily identified attribute.)

Cartwright and Harary (1956) have generalized and modified Heider's (1946) theory to take account of n rather than three elements. The aim of these authors is to study sociometric structures and communication networks. The generalized theory is, however, rather cumbersome and has not generated much research. Newcomb (1953) has also modified Heider's (1946) theory to take account of social relationships in general, rather than just from the point of view of one person. He introduces the concept of "strain towards symmetry" in interpersonal relationships. Osgood and Tannenbaum (1955) use the balance concept in the context of verbal statements. If, for instance, a positive attitude exists towards Chris Barnard and a negative attitude towards Communism, then if these two concepts are associated ("Barnard advocates Communism") a state of imbalance or incongruity will arise. Balanced associative and dissociative statements would be "Barnard advocates Capitalism" and "Barnard deplores Communism". The theory has implications for attitude change.

Festinger's (1957, 1958, 1964) theory has probably generated more interest than any other consistency theory. His basic hypotheses are:

- 1) The existence of dissonance (inconsistency) being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance.
- 2) When dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would be likely to increase dissonance.

Festinger (1957) sees dissonance as a motivating factor in its own right. He defines dissonance as follows: two cognitive elements are in a dissonant relation if, considering these two alone, the obverse of one element would follow from the other. The total amount of dissonance between a given element and the remainder of an individual's cognitions depends on the number and importance (to the individual) of the relevant elements which are dissonant with the element in question. The strength of the pressure to reduce or eliminate dissonance is hypothesized to be a function of the magnitude of the dissonance.

Festinger's (1957, 1964) particular interest is in the nature and effect of dissonance between cognitions, attitudes, etc. and overt behaviour. Hence, if an individual has a negative attitude towards his supervisor, but nevertheless behaves in a positive way towards him, a state of dissonance exists between the individual's attitude and his cognitions about his behaviour. Another example of a dissonance-creating situation would be that in which a smoker reads about the deleterious effects which smoking has on one's health.

Osgood (1960) points out that it is only when two cognitions are brought into some sort of relation to one another that dissonance comes about. If one does not associate the information about the unhealthy effects of smoking with one's own behaviour, then dissonance is not experienced. According to Festinger (1957), once dissonance is felt, the individual is under pressure to change one (or more) cognitions in order to reduce or remove the dissonance. If dissonance exists between an attitude and a cognition about one's behaviour then either the attitude or the behaviour could be changed to secure consonance. It is always the element which is less psychologically important to the individual that changes. Osgood (1960), however, points out a number of other possible outcomes, including the following:

- (1) It might be possible to "deny" the relationship between the dissonant elements through rationalization.

- (2) Other cognitive elements that are in a consonant relationship with one of the dissonant elements might be adduced ("bolstering").
- (3) Other cognitive elements that are in a dissonant relationship with one of the dissonant elements might be adduced ("undermining").
- (4) Dissonant cognitive elements might be combined into a larger unit which, as a whole, is in balance with other cognitive elements ("transcendence").

Asch (1966) also points out a number of ways in which dissonance can be reduced or avoided in the case where new information threatens to throw the cognitive-attitudinal system into a state of imbalance:

- 1) The authenticity of the information can be questioned.
- 2) The information can be reinterpreted.
- 3) Information can be avoided and confirmatory facts sought.

A large body of empirical research has been based on the Festinger model and Brehm and Cohen (1962) have undertaken some theoretical developments on it.

The main areas where the dissonance or balance theory approach have provided models for investigation are: attitude change, cognition and behaviour (Festinger, 1957); interpersonal perception (Heider, 1946 and Cartwright and Harary, 1956); communication and group and cohesiveness (Newcomb, 1953) and semantic interactions (Osgood and Tannenbaum, 1955). Unfortunately, not a large degree of theoretical overlap is to be found among these various models and idiosyncrasies in the usage of terminology also makes comparison difficult. Breer and Locke (1965) and Cohen (1966) point out the importance of taking commitment into account in balance theory. Breer and Locke claim that commitment plays little or no role in present theory. They state that in the current models the process by which attitudes are formed out of experience tends to be seen as a rational problem-solving exercise. In other words, the complaint seems to be that the dissonance models fail to take into account the psychological importance of certain beliefs and attitudes to the individual and hence the lengths to which he might be prepared to go in order to maintain these beliefs and attitudes. Yet another way of putting this comment would be to say that the dissonance theories do not take sufficient account of man's irrationality. The modifications proposed

by Osgood (1960) and Asch (1966) (see above) go some way towards overcoming this criticism. These modifications help to create a much more dynamic picture of mental processes and rescue dissonance theory from Breer and Locke's accusation that its emphasis is far too much on learning and far too little on dissonance.

Consistency theories seem best suited to accounting for phenomena in the attitude change and behaviour change domains. On the other hand they concentrate relatively little on describing the nature of beliefs and attitudes. They can be considered to be complementary, to some degree, to certain other theoretical perspectives. Dissonance theory, for instance, can be used to augment Krech *et al.*'s three-component attitude model. Krech *et al.* state that, within an attitude, the valencies of the three components tend to be similar; also, valencies are claimed to be consistent across attitudes which belong to the same cluster. These consistencies are easily accounted for within the dissonance theory paradigm. Insko and Schopler (1967) have actually explored some of the possibilities of employing certain of Heider's and Festinger's concepts to predict the conditions under which affective-cognitive-conative consistency would be expected to occur.

3.2.3 Rokeach's object-situation theory

Rokeach's (1960, 1967, 1968) attitude theory cannot be associated easily with any other theory; therefore it will be dealt with on its own. The model uses belief as the basic building block of the cognitive system. According to Rokeach (1968), beliefs vary along a central-peripheral dimension. Centrality is defined in terms of interconnectedness: beliefs which are connected to many other beliefs are more central than those which are less connected. Changes in central beliefs will produce relatively greater changes in the remainder of the belief system than changes in more peripheral beliefs. "Primitive" beliefs which everyone accepts, like "I have two hands" are the most easily verifiable and the most resistant to change; widespread cognitive and personality reorganization or disorganization (e.g. psychosis) is liable to occur if such beliefs do change.

Rokeach (1968) claims that we tend to value a given ideology or system of beliefs in proportion to its degree of congruence with our own belief system; also, people tend to be valued in proportion to the degree to

which they exhibit beliefs or systems congruent with our own. An attitude is defined by Rokeach (1968) as a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner. He states that beliefs may be descriptive, evaluative or prescriptive. Whether or not the content of a belief is to describe, evaluate or exhort, all beliefs are predispositions to action. Rokeach (1968) differs with Krech *et al.* (1962) in that he does not see belief to be a purely cognitive phenomenon; what Krech *et al.* call the affective and behavioural components of attitude, Rokeach includes under the rubric of belief.

Rokeach (1960) cites a number of dimensions along which beliefs can vary; several of these we have encountered before in connection with attitudes: differentiation (i.e. multiplexity), compartmentalization (the degree to which a belief is isolated or connected with other beliefs), centrality (see above), breadth (the "category width" of an attitudinal system), etc.

Rokeach (1968) emphasizes the relationship between attitude and behaviour. He points out that some authors, when they speak of the response set created by attitude, are actually referring to an affective (like-dislike) response. Others like Katz and Stotland (1959) speak of an evaluative response which they take to include both affective and cognitive elements. The Rokeach definition sees the attitudinal response primarily in behavioural terms although it does not exclude the possibility that the response is sometimes cognitive and/or affective.

One of the most original aspects of Rokeach's orientation concerns the object-situation distinction which he makes in his theory of attitudes. He claims that the development of attitude theory has been hampered by its failure to accord "attitude-to-situation" the same status as "attitude-to-object." He points out that all objects occur in situations; if we wish to predict an individual's behaviour towards a social object, we must take account of the situation in which the object occurs. Behaviour is seen by Rokeach (1968) as a function of the weighted sum of attitude-to-object and attitude-to-situation. It is not quite clear what Rokeach (1968) means by this, but it seems that his conceptualization has theoretical shortcomings. It seems that, without reference to a particular social object, attitude-to-situation has limited value as a variable for behaviour prediction. For instance, if one wishes to

predict the behaviour of an individual towards Blacks at a teaparty, it would seem preferable to determine his attitude towards Blacks at teaparties rather than his attitude towards Blacks and his attitude towards teaparties. In the latter case, both concepts (Blacks and teaparties) are too broad to be suitable for attitude measurement. In particular, the individual's attitude towards the situation *per se* is unlikely to have much bearing on the way that he behaves towards certain social objects in that situation. An empirical study by Bearden and Woodside (1978) bears out this criticism. In this study, attitude-to-situation ("a small informal party of friends") had a negligible correlation with the criterion (use of marijuana in such groups). On the other hand, attitude-to-object (marijuana) correlated substantially (0,51) with the criterion. However, Rokeach's point that attitude objects cannot be considered *in vacuo* is well taken.

Another novel point of Rokeach's (1968) theory is his conceptualization of the relationship of attitudes to values. Rokeach distinguishes two types of values. Instrumental values are beliefs about how one ought or ought not to behave, and terminal values are concerned with desirable and undesirable end states. Values are centrally located in the belief system and are at a higher level of abstraction than attitudinal beliefs in that they are not tied to any object or situation. Both instrumental and terminal values are hierarchically ordered in terms of importance, but terminal values are at a higher level of abstraction because many means (instrumental) values may be subsumed under a single end (terminal) value. Hence there are three levels of abstraction - belief/attitude, instrumental value, terminal value. According to Rokeach's (1968) model, whenever a social object is encountered it activates two attitudes (one towards the object and one towards the situation). Each of these two attitudes activates a subset of instrumental values with which it is functionally connected. These in turn activate one or more terminal values with which they are connected. Behaviour towards the social object will be a function of the number and relative importance of all the instrumental and terminal values activated.

A criticism which can be levelled against the Rokeach model is that it is too rigid, that it poses a scheme of mental operation which is too "organized". Rokeach's is a rather static model of man's psychic functioning, with little allowance made for interaction between

cognitive elements. All mental activity seems to take place in accordance with the requirements of an inflexible hierarchical structure; not enough allowance is made in the theory for "lateral" cognitive activity. A further criticism, which has been mentioned earlier, concerns Rokeach's bifurcation of the determinants of behaviour into object and situation factors. It seems more likely that the human organism would process these two factors as a unit, for they are presented to him in the real-life situation as an integrated whole. Rokeach and Kliejunas (1972) conducted a behaviour prediction study using Rokeach's model:

$$B_{Os} = wA_o + (1 - w)A_s$$

where

B_{Os} is behaviour towards the object in the specified situation,

A_o is attitude to the object

A_s is attitude to the situation

w is an empirically derived weight.

Using this model, Rokeach and Kliejunas (1972) obtained moderate correlations (averaging about 0,5) with the criterion (class attendance). However, as the authors do not compare his model with others (e.g. that of Fishbein and Ajzen), little can be said about the comparative efficacy of the Rokeach paradigm.

3.2.4 The Own Categories approach

Although the theorists of the Own Categories school endorse a tripartite (cognition, affect, motivation) conceptualization of attitude, their theoretical position is sufficiently individualistic to merit separate treatment in this review. Some of the major publications dealing with the Own Categories approach are: Sherif, Sherif and Nebergall (1965), Sherif and Hovland (1961), Sherif and Sherif (1967a), Sherif and Sherif (1967b) and Hovland and Sherif (1952).

Sherif *et al.* (1965) state that attitudes, being unobservable, are inferred from characteristic or consistent patterns of behaviour towards objects or classes of objects. However, not all characteristic or habitual behaviour indicates an attitude. For example, the fact that we

customarily walk down stairs instead of tumbling down does not require an explanation in terms of attitude. The behaviours from which attitudes are inferred are seen by Sherif *et al.* (1965) to be evaluative in the sense of favouring or disapproving, agreeing or rejecting.

Sherif and Sherif (1967b) define attitude as a set of evaluative categorizations formed towards an object or class of objects in the process of learning, especially in interactions with others, about his environment. His attitudes become constituent parts of his ego-, or self-system and have emotional and motivational aspects inseparably intertwined with cognitive content. The relative stability of the social world in which the individual moves contributes to the more-or-less lasting character of social attitudes.

Two features of the above definitional statements need further elaboration: the process of evaluative categorization and the role played by learning and experience.

Sherif and Hovland (1961) claim that when a subject is given a series of attitudinal statements covering a range of positions from one extreme to the other and is asked to indicate those he accepts and those he rejects, the usual pattern which is obtained is one in which there is a region of acceptance, a region of rejection and a non-committal region between the two. The authors state that the conditions and extent of past experience with the attitude object is an important determinant of the nature of an individual's judgment scale. Sherif and Hovland (1961) draw an analogy with psychophysics: a weight-lifter would be expected to order a set of weights in a different manner from someone who had never lifted heavy weights. The "anchor effect" of his experience with heavy weights would predispose the weight-lifter to categorize almost all weights as light. Non-weight-lifters would be likely to detect weight-differences which would be ignored by the weight-lifter. Sherif and Hovland (1961) claim that similar anchoring effects operate in the judgment of social stimuli: in fact the more ambiguous the stimuli, the greater the effect of internal anchors. Social stimuli, being in general much more ambiguous than physical stimuli, therefore tend to be judged in terms of internalized anchors. Respected authorities and reference groups are often the source of these anchors.

Once established, the anchor tends to influence the judgment of other attitudinal positions with regard to the social object in question. Sherif and Sherif (1967a) cite two mechanisms which influence such judgments: assimilation and contrast. Positions close to the anchor (i.e. the individual's own position) tend to be judged as more similar than they actually are, i.e. they are assimilated into the individual's own position. At greater distances from this position, however, attitudinal statements tend to be seen as more different than they actually are (contrast effect).

Hovland and Sherif (1952) and Sherif *et al.* (1965) have done extensive theoretical and empirical work on attitudinal extremeness and zones (or "latitudes") of acceptance and rejection. If given a number of statements which reflect judgments on a particular social object and asked to sort them into categories, individuals with extreme attitudinal positions tend to use relatively few categories in comparison with those individuals whose attitudes are more moderate. In other words, there is a tendency for individuals at the extremes to see issues related to the attitude object in simple black-white terms. Statements in the middle range tend to be displaced by such individuals to the opposite extreme. Hence, an ardent Capitalist might find even a mildly socialistic statement to be almost indistinguishable in extremeness from a pro-Communist statement: both are classified into an "anti-Capitalism" category. If asked to indicate the statements which he is prepared to accept personally, the extreme individual tends to choose only a small range of statements which are very similar in extremity to his own position. In other words his "latitude of acceptance" is small. On the other hand the "latitude of rejection" of the person with extreme attitudes tends to be large: most statements are classed as unacceptable due to the operation of the contrast effect. Sherif and Hovland (1961) state that the inference is that few individuals with extreme positions on a given issue can tolerate views alternative to their own. They claim that individuals with extreme positions generally are more ego-involved in the issue than those with more moderate views. In other words, their particular stance towards the social object in question is crucial to the maintenance of the overall structure of their belief-attitude-value system. If, for instance, an individual whose values and life-philosophies revolve largely around the capitalist system were somehow to accept certain socialistic

principles, this would pose the threat of change on the structure of a large part of his cognitive system and might also threaten the emotional underpinnings of the system.

The relationship between attitudinal extremity and category width does not always hold. A political moderate might, for instance, reject all positions which have any hint of political extremism. The Own Categories proponents' greatest contribution to attitude theory is their conceptualization of attitude as a phenomenon which cannot be regarded simply in terms of extremeness: this is but one index of a number of indices which are necessary in order to describe it adequately. The attitude of the moderate whose latitude of acceptance is small is qualitatively different from that of a moderate whose latitude of acceptance is large, a difference which will not be indicated on conventional attitude questionnaires. Similarly there is a qualitative difference between attitudes with large and small latitudes of acceptance at the attitudinal extremes. Also the number of categories used in classification is regarded by the Own Categories theorists as an important descriptor of attitude; this index might be related to Krech *et al's* concept of multiplexity. Hence latitude of acceptance/rejection and number of categories might be added fruitfully to the extremeness index in order to gain a fuller description of attitude. A further advantage of the Own Categories approach is that it gives the individual in the measurement situation more freedom to describe his attitude according to his own requirements; by being able to choose both the number and size of his categories, he has more control over the stimulus material; this allows him to "personalize" his responses. More will be said about this in the measurement section of the review.

3.2.5 The instrumentality theorists

Most of the work in the instrumentality theory paradigm comes from three sources: Peak (1955, 1960), Rosenberg (1956, 1960) and Fishbein and his associates (see later on in this section for the actual references).

Peak (1955, 1960) and Rosenberg (1956, 1960) were the first to offer coherent theoretical expositions of the instrumentality orientation. Rosenberg (1960) says:

"When a person has a relatively stable tendency to respond to a given object with either positive or negative affect, such a tendency is

accompanied by a cognitive structure made up of beliefs about the potentialities of that object for attaining or blocking the realization of valued states; the sign (positive or negative) and extremity of the affect felt toward the object are correlated with the content of its associated cognitive structure. Thus strong and stable negative affect toward a given object should be associated with beliefs that the object tends to block the attainment of important values. Similarly, moderate positive or negative affects should be associated with beliefs that relate the attitude object either to less important values or, if to important values, then with less confidence about the relationship between these values and the attitude object." (pp. 17, 18).

The implications of the above passage are formulated in more rigorous terms in a hypothesis posed by Rosenberg (1956):

"The degree and sign of affect aroused in an individual by an object (as reflected by the position he chooses on an attitude scale) vary as a function of the algebraic sum of the products obtained by multiplying the rated importance of each value associated with that object by the rated potency of that object for achieving or blocking the realization of that value." (p. 467).

The above statement can be expressed mathematically as follows:

$$A_o = \sum_i V_i I_i$$

where

A_o is the attitude to the object (person, event etc.)

V_i is the importance of value i

I_i is the instrumentality of the object o in realizing value i .

Peak (1955, 1960) states that an attitude toward any object or situation is related to the ends which the object serves, i.e. its consequences. If two situations are seen as similar, the affect attached to one is likely to be similar to the affect attached to the other. She claims that the affect attached to an attitude object is a function of:

- (1) The judged probability that the object leads to good or bad consequences.

- (2) The intensity of the affect expected from these consequences.

Hence attitudes towards any aspect of experience depend on the utility of such events in helping us achieve our goals, or rather the utility of such events in helping us achieve satisfying emotional states. If a social object, event, etc, is instrumental in the attainment of goals or the satisfaction of needs, then a positive attitude to that object is formed. Alternatively if a social object leads to the frustration of goal attainment or the failure to satisfy needs, then a negative attitude to the object is formed. Peak (1955, 1960) sees attitude as basically a feeling state, although cognitive material might be adduced in support of the feeling state.

Peak (1955) also presents a theoretical model for relating attitude to behaviour. She states that it is necessary to postulate the operation of intervening variables (like attitude) because behaviour persists towards goals despite changes in stimulation and need states. (Peak regards the classical learning theory approach to be inadequate because it fails to posit the existence of intervening variables.) Hence, Peak (1955) seems to be saying that attitudes have motivational qualities of their own. She also states that motivation is caused by a disparity between two psychological processes. The argument is somewhat unclear at this point, but an example might help to clarify Peak's meaning. If an individual perceives a discrepancy between his state of unhappiness in his present job and the state of happiness he would be in if he were working in his ideal job, then he would feel himself to be in a state of motivation (e.g. to find a more satisfactory job, or to try to improve the situation in his present job). Since Peak (1955) apparently believes that attitudes have motivational qualities, it seems reasonable to assume that in the example quoted above the motivational state which the individual experiences will be accompanied by various attitudinal states (e.g. a negative attitude towards his present job).

As far as overt behaviour is concerned, Peak (1955) claims that the probability of a motive activating a given action X is a function of:

- (1) The frequency with which the motive has occurred together psychologically with X
- (2) X's affective loading, or the individual's attitude towards X.

Hence overt behaviour is claimed by Peak to depend on both attitude and what might be seen as some sort of psychological habit strength. Due to the tentativeness with which Peak states many of her ideas, description and interpretation is somewhat difficult.

The most prolific modern exponent of instrumentality theory is Fishbein. He has published widely on the subject, both alone and in collaboration with other writers (e.g. Fishbein, 1967a, b, c; Fishbein and Ajzen, 1975; Kaplan and Fishbein, 1969; Anderson and Fishbein, 1965; Ajzen and Fishbein, 1969, 1970, 1977; Fishbein and Raven, 1967).

Fishbein and Ajzen (1975) state that reference has often been made to what has been claimed as the three aspects of attitude—*affect*, *cognition* and *conation*, but they distinguish four categories of functioning—*affect*, *cognition*, *conation* and *behaviour*, and reserve only one — *affect* — for attitude. Beliefs about social objects "lead on" to attitude construct as such. They are the building blocks from which attitudes are formed, but are not seen to be part of the attitude construct because it is the evaluation of the beliefs rather than the beliefs themselves which constitutes attitude. The third and fourth categories of functioning, namely, *conation* (behavioural intention) and *behaviour*, are regarded to be partly motivated by attitude: attitude is only one of the causative factors underlying behavioural intention and behaviour. More will be said about this later.

Fishbein and Ajzen state that their theory of attitude is partly derived from the subjective expected utility (SEU) behavioural decision model developed by Edwards (1954) and from the work of Rosenberg (1956). A mathematical expression of the predictions of the Rosenberg theory has been given already in this section. The equivalent for the Edwards model is the following:

$$SEU = \sum SP_i U_i$$

where SEU is the subjective expected utility associated with a given alternative,

SP_i is the subjective probability that the choice of this alternative will lead to some outcome i and

U_i is the subjective value or utility of outcome i .

The Fishbein model is similar to that of Edwards but differs on one main count: the SEU model appears to assume a direct link between SEU and behaviour whereas in the Fishbein model, no direct relation between attitude and behaviour is assumed. The following is the mathematical expression for attitude as given by Fishbein and Ajzen

$$A_o = \sum b_i e_i$$

where

A_o is the attitude to object o,

b_i is the strength of belief i about o and

e_i is the evaluation of belief i.

Fishbein (1967b, c) claims that his conceptualization of attitude is much "tighter" and unidimensional than the tripartite definitions, especially due to the exclusion of the conative and behavioural aspects from the definition.

Apart from the influence of the other instrumentality theorists (Rosenberg, Edwards and Peak) the Fishbein theory also owes a debt to learning theory. The formation of both the b_i and e_i mentioned above can be understood and accounted for within the learning theory paradigm. Fishbein (1967c) says: "Indeed, by following the principles of behaviour theory, a model of attitude acquisition and a model of the relationships between beliefs about an object and the attitude toward that object can be generated." (p. 389)

Consistent with the perspective of Osgood *et al.* (1957), Fishbein (1967c) characterizes attitude as a mediating evaluative response, i.e. a learned implicit response that varies in intensity and tends to mediate or guide an individual's more overt evaluative responses to an object or concept. It is in this light that the e_i mentioned above should be understood. Fishbein (1967c) goes on to say that every individual has many beliefs about any aspect of his environment. He might, for instance, have the following beliefs about Indians: dark skin, brown eyes, hard working, family orientated, etc. Beliefs about an object may be viewed as hypotheses concerning the nature of the object and its relationships to other objects. Fishbein (1967c) defines beliefs in terms of the probability that a particular relationship exists between the object of a belief (the attitude object) and the response (e.g. dark skin, family-orientated etc.).

He states that the system of responses associated with the stimulus of the attitude object may be viewed as a habit-family-hierarchy as conceptualized by Hull (1943). The higher the response in the hierarchy, the greater the probability that the response is associated with the stimulus, i.e. the stronger the belief. The b_i mentioned above should be seen in the light of these comments.

According to Fishbein (1967c), attitudes are learned just as concepts are learned. He modifies Rhine's (1958) model (which was mentioned earlier under the section on learning theories). In the Rhine model, distinction is made between concepts and attitudes: all attitudes are concepts but not all concepts are attitudes. In the process of concept formation, a number of stimuli are grouped together under one head (e.g. dark skin, dark eyes, high-bridged nose etc. which make up the criterial features of the concept: "Indian".)

According to Rhine (1958), it is only when evaluative stimuli are added to the list that a concept becomes an attitude. Hence if we add the evaluative terms "hard working" and "good family people" to our concept of "Indian", this concept then becomes an attitude. Fishbein (1967c) on the other hand believes that all concepts are evaluative, even if the evaluative component is so weak or so neutral that it can be effectively ignored. (The concept "telephone", for example probably falls into this category. Even to this apparently evaluatively neutral concept, Fishbein claims one has some sort of weak attitudinal reaction). Fishbein regards all concepts to be evaluative because he sees all stimuli which form concepts to have an evaluative component. Hence not only "hard working" but also "dark skin" are evaluative. Once an attitude has been formed and the stimuli which formed the concept have become beliefs, then all these beliefs contribute to the overall evaluation of the attitude object. It is for this reason that Fishbein (1967c) claims attitude to be the summative outcome of the evaluation of all salient beliefs.

This last comment should have made it clear that only certain beliefs are involved in the determination of attitude. Salient beliefs are seen to be those which are present in his habit-family-hierarchy. Fishbein's definition of the saliency concept lacks precision and is difficult to implement in the practical situation (see Cronen and Conville, 1975; and Cronen, 1973). The question arises: how does one know what beliefs are in an individual's hierarchy? The number

of beliefs relating to a given object which one allows to be called salient will influence the overall attitude score. Belief strength cannot be used as an index of saliency. Kaplan and Fishbein (1969), apparently at a loss to find a vigorous method for determining saliency, fall back on the following argument: "Studies on the span of attention or apprehension, information processing and organization all suggest that an individual can only perceive, and attend to, a relatively small number of objects or concepts at any given time. Most estimates place this number between five and nine ... it seems that only five to nine beliefs are salient ... at any one time." (p. 66). Fishbein and Kaplan's suggestion is that subjects be asked to volunteer personal beliefs about attitude objects and that the first five to nine beliefs (the exact number is chosen arbitrarily within this range) be designated as salient. Apart from other conceivable shortcomings, this approach does not allow for the possibility that individuals may have different numbers of salient beliefs about a given attitude object.

A contrast should be made between the Fishbein theory and the consistency theories described earlier (especially that of Osgood and Tannenbaum, 1955). According to the congruity principle of Osgood and Tannenbaum, an individual's attitude towards a concept is a sort of averaging of component parts. Hence, if one's attitude to "lazy" is negative and to "athlete" positive, one's attitude to "lazy athlete" will lie somewhere in between, the exact position being determined by the deviation of the original two attitudes from the point of indifference. Fishbein's model, on the other hand, is additive: therefore if one has a number of highly evaluated beliefs about an object, the addition of another belief which is only slightly positively evaluated will cause one's attitude to become even more positive. Osgood and Tannenbaum's (1955) theory in contrast predicts that for the sake of congruity, one's overall attitude would become less favourable, and this effect would become more marked as one added more beliefs which were evaluated less positively than the average of the original beliefs.

One final point about Fishbein's theory remains to be discussed. This concerns the origin of the evaluative responses to beliefs. Fishbein and Ajzen (1975) state that evaluative responses are established "through conditioning". The authors are somewhat vague about identi-

identifying the circumstances under which they view conditioning to take place. It will be remembered that Peak (1955) and Rosenberg (1956) see positive evaluations of attitude objects to result from their instrumentality in the attainment of desirable ends. Fishbein and Ajzen (1975) do not make a clear statement endorsing an instrumentality-based view of evaluation, but they do associate their approach with that of Rosenberg (1956) and Edwards (1954), which would seem to indicate that they do consider instrumentality to be the basis of evaluation.

We come now to a general assessment of the instrumentality theories. It seems that these theories, and Fishbein's in particular, owe a large debt to learning theory. As is so often the case when classification is attempted, the entities to be classified do not always fit neatly and unambiguously into the designated categories. Although the instrumentality approach shares much with learning theory, it has been placed under the latent process heading for the following reason: in all three theories discussed here, the authors either state or imply that the attitudinal response involves the processing of information and the formation of expectancies - both mediational activities. Of course some learning theories emphasize the importance of mediational processes so that the boundaries are difficult to draw; the criterion which the author has tried to use in classification is the pervasiveness and sophistication of the internal processes which the theory attributes to man.

The instrumentality theory, which has the smallest debt to learning theory is probably that of Rosenberg (1956, 1960). The Rosenberg theory sees attitude towards a given social object to develop from beliefs about whether or not the object blocks the attainment of important values. Peak on the other hand, emphasizes the importance of need satisfaction in attitude formation. The contrast is not so stark, however, if one bears in mind that Rosenberg probably regards value in a very broad sense. It will be remembered that in the definition of attitude proposed in Chapter 2, both need and value were cited as potential determinants of attitude. If one allows Rosenberg's concept of value to include both need and value (as used in the more restricted sense) then this model can be regarded as furnishing a theoretical underpinning for the definition put forward in Chapter 2.

More than Rosenberg and Peak, Fishbein and his associates have offered a comprehensive exposition of their theoretical orientation. Fishbein is especially to be commended for restricting the definition of attitude to a domain which is hopefully unidimensional. His conceptualization of attitude as affect based on relevant beliefs about the attitude object is far more satisfactory as a vehicle for psychometric research than the all-encompassing definitions of Krech *et al.* (1962), Triandis (1971), Newcomb *et al.* (1965) and others. In particular, the notion that behaviour and behavioural intention is external to the attitudinal domain appears to be sound.

On the other hand, certain difficulties inhere in the Fishbein approach. No adequate definition has been framed by Fishbein and his associates to describe precisely what they mean by saliency. Even if some satisfactory definition of saliency were to be devised, problems would still exist in determining how many salient beliefs should be included when attitude has to be assessed in the practical situation. Kaplan and Fishbein's (1969) statement that, in the light of research findings in information theory, five to nine beliefs should be salient, seems both arbitrary and theoretically bankrupt. No account is taken of the possibility of individual differences in the number of beliefs which are salient for any given attitude object. If, for instance a man is an ardent capitalist, it does not seem unreasonable to expect that he will have more salient beliefs about capitalism than someone who is not particularly interested in politics.

Evidence that difficulties exist with the saliency aspect of Fishbein's model also comes from empirical findings. Hackman and Anderson (1968) for instance found that an estimate of attitude based on a standard set of beliefs correlated more highly with an external attitude measure than an estimate based on the subjects' own elicited beliefs. Even an estimate based on an arbitrary set of beliefs correlated more highly with the external attitude measure. Thomas and Tuck (1975) also obtained results which are disturbing for the Fishbein theory. This seems to indicate that the theory might account inadequately for the underlying psychological processes.

It is possible that the problem lies in the invalidity of Fishbein's rather odd assertion that all beliefs about an attitude object are evaluative. It will be remembered that Rhine (1958) claims that a

concept becomes an attitude when evaluative beliefs are added to the non-evaluative beliefs of the concept. Therefore, according to this interpretation many aspects of the attitude object are not evaluated. My attitude towards judges, for instance, might not be influenced by an evaluation of the colour and cut of the robes which they wear. On intuitive grounds, Rhine's (1958) position seems to be more defensible than that of Fishbein.

Also it is possible that the additive weighted model of attitude which Fishbein has posited might account inadequately for the psychological processes involved in attitude formation and expression. The overall attitude which an individual has towards an object might not be the result of the cumulative effect of a number of evaluations of different aspects of the attitude object: the true state of affairs might be more complicated, or simpler, than that. After considering the methodological difficulties inherent in the application of the Fishbein theory, it would seem preferable to assess attitude at the point where the internal processes have already brought together the disparate elements into a generalized attitude towards the whole object.

3.3 Theories of Attitude Change

In this section we will review a number of theories, some of which have been mentioned earlier in this chapter, on the topic of attitude change. As attitude change is not a major concern of this study, this section will be relatively brief.

We will start by mentioning some of the principles cited by the proponents of "classical" attitude theory - Krech *et al.* (1962), Newcomb *et al.* (1965), Triandis (1971), Asch (1966), Insko and Schopler (1967), etc. Krech *et al.* (1962) isolate seven factors which they claim affect attitude change: extremeness of attitude (more extreme attitudes are more resistant to change); multiplexity (change is more likely to occur in a multiplex attitude, but the change will be small in comparison with a simplex attitude where change, if it does occur, will be large); consistency (attitudes which have the three elements in a state of consistency are stable); interconnectedness (attitudes connected with other attitudes which have a high affective loading are relatively more resistant to change); consonance of the attitude cluster (attitudes which exist in a cluster in a state of consonance with other attitudes

are relatively more resistant to change); wants served (attitudes which serve strong wants and needs are relatively more resistant to change); centrality (more central attitudes are relatively more resistant to change).

Other authors have supported some of these points. Asch (1966), for instance, points out that when attitudes are interconnected (i.e. in clusters) then change in one attitude or belief is liable to cause changes in others; for this reason change occurs only in extreme circumstances. Schroder *et al.* (1967) elaborates on Krech *et al.*'s (1962) point about multiplexity, which they call "integrative complexity". Integratively complex attitudes are seen by these authors to be abstract because the range of information relevant to them is much broader than that which is the case in integratively simple attitudes. They claim that the more abstract an attitude, the more the attitude serves the function of classifying information in an objective and unbiased manner. A person with more integratively complex attitudes is held to be more sensitive to new information and is likely to change his attitudes in response to this information in order to have an internalized model which reflects "reality" as closely as possible. Concrete attitudes change less readily, are more categorical and are less likely to represent accurate models of the environment. Newcomb *et al.* (1965) reinforce Krech *et al.*'s points about change and attitudinal extremeness, multiplexity and centrality.

Triandis (1971) cites what he regards as the three main conditions for attitude change: new information, direct experience with the attitude object and behaviour which is inconsistent with attitudes. He equates these with changes in the cognitive, affective and behavioural components of attitude respectively. Extensive theoretical and empirical research has been devoted to investigating the influence of new information on attitude change and the effects of attitude-behaviour inconsistency on attitude change. (As indicated before, the latter has been called dissonance by Festinger (1957)).

The views of Schroder *et al.* (1967) (which have already been described briefly in this section), provide a theoretical perspective on the conditions under which new information is likely to change attitudes.

These authors, however, seem to place too little emphasis on the importance of emotional factors in attitude change; information may or may not be accepted into the belief system due to needs, prejudices, wants, etc. Hovland *et al.* (1953) stress the importance of affect in attitude change; they cite the example of emotionally-phrased political propaganda, which is apparently more effective at changing political attitudes than more rationally-worded communications. Also the source of the communication is important. If the source is regarded by the individual as an "authority", then information from this source, if it is discrepant with the individual's own attitudes may lead to attitude change. Party political newspapers, for instance, are often "authorities" for party members and may at times mold their attitudes and opinions. Sherif and Hovland (1961) point to the importance of assimilation and contrast effects in attitude change. A communication from a trusted source which is fairly close to the individual's own position is likely to be assimilated, and a certain degree of attitudinal shift would result. On the other hand, if the communication is appreciably different from the individual's own position, then the contrast effect might come into effect with the result that the communication will be regarded as totally different from the accepted position. As a result the source of the communication might be discredited.

The importance of social pressure and role playing on attitude change has been emphasized by a number of authors. Lieberman (1956) points out that in all social settings, individuals are expected to perform roles in a more-or-less prescribed way. If a role occupant meets these expectations, the rewards associated with the role will be accorded to him, and *vice versa*. Lieberman posits two possible models of behaviour and attitude change:

- 1) Change in reference groups → change in attitudes → change in behaviour.
- 2) Change in roles → change in functions → change in behaviour → change in attitudes.

These models need not be seen as contradictory: it is possible that both have validity but apply to different situations. Kahle and Berman (1979), however, present data from which they adduce support for Model (1).

Janis and King (1954) and Lewin (1958) have also pointed to the importance of role playing in attitude change.

It is appropriate to mention the work of Festinger (1957, 1958, 1964) at this point. As was mentioned earlier, Festinger regards dissonance as a prerequisite for attitude change, but as he and others have pointed out, attitude change is not the only method of resolving dissonance. The usual experimental situation for studying attitude change in the dissonance theory paradigm is to induce the individual, usually by means of a reward, to play a role which is contrary to his attitudinal position (e.g. Festinger and Carlsmith, 1959; Cohen, 1962; Rosenberg, 1964). Cohen (1960) however claims that it is only when the individual feels a sense of commitment to a particular choice that it is possible for cognitive dissonance to arise. Nutting (1975), in his evaluation of the contradictory findings concerning size of reward and size of attitude change (the theory predicts that large rewards produce less attitude change than small rewards), discards the dissonance concept altogether and replaces it with a concept he calls "perturbation" (which is described by him as a kind of emotional arousal).

Much research in the area of attitude change assumes or attempts to demonstrate that there is a close relationship between attitude and behaviour, that changes in behaviour lead to changes in attitude and *vice versa*. Lieberman's (1956) orientation seems to be more sophisticated in that it explicitly acknowledges the importance of normative pressure in the relationship between attitude and behaviour. It is the thesis of the present study, too, that normative pressure is one of the major determinants of behaviour; unlike Lieberman's first model however, it is not accepted that normative pressures mould attitudes to the point where the two are always in a state of complete compatibility: man is regarded as being more "independent minded" than that. But it is expected that social pressures will to some extent influence behaviour. In other words, it is considered that man is more likely to change his observable functioning (overt behaviour) in response to normative requirements than his unobservable functioning (thoughts and attitudes), because the former can be monitored easily by society and social groups whereas the exact state of the latter is less easy to ascertain. On the other hand it is to be expected that man cannot tolerate for extended periods a complete lack of consonance between his attitudes and his behaviour, as Festinger (1957) has been

at pains to point out. Man cannot believe or feel one thing and do another (to satisfy social pressure) without experiencing a sense of dissonance which in our culture would carry the moral overtones of hypocrisy. In order to avoid this situation, attitudes must have some expression in behaviour and the final behavioural outcome in the case where external and internal "pressures" are at variance is expected to be some sort of compromise.

Before concluding this section, the theoretical position of Rokeach (1967) and Fishbein (1967c) will be mentioned briefly. It will be remembered that Rokeach makes the distinction between object and situation and states that behaviour is the weighted sum of the effects of attitude towards object and attitude towards situation. Behaviour change is claimed to occur if one or more of the following conditions hold: attitude towards object changes; attitude towards situation changes; relative importance of the object and situation attitudes changes. Attitude change involves a fundamental change in beliefs according to Rokeach, for it is beliefs which are the building blocks of attitudes. Hence a change in beliefs causes a change in attitudes which might in turn cause a change in values. In the Rokeach system, therefore, normative pressures are not seen to play a direct role in behaviour determination.

In Fishbein's model, attitude change can occur when one or more of the following three conditions holds: the set of salient beliefs changes through the addition of new beliefs or the dropping of old beliefs; the strength of beliefs change (i.e. one or more of the b_{ij} s change), the evaluation of beliefs change (i.e. one or more of the e_{ij} s change). Fishbein and Ajzen (1975) do not claim that there is a simple causative relationship between attitude change and behaviour change. They explicitly acknowledge the role of normative pressures in their behaviour prediction model. More will be said about this model in section 5.3.

3.4 Conclusion on Attitude Theories

The first point that should be noted is that it is not possible to draw a neat line of demarcation between the probabilistic and latent process theories of attitude. Not all the learning theories in the probabilistic camp pose a simple "black box" model of man. The contributions of Doob

(1947) and of Osgood *et al.* (1957) are avowedly in the learning theory frame of reference, but at the same time employ mediational variables in their models of attitudinal functioning. The instrumentality theorists on the other hand, who by most criteria qualify for inclusion in the latent process camp, nevertheless make use of the learning theory concepts of habit strength and reinforcement, but they often use these concepts more loosely than strict learning theorists would permit.

Through the efforts of Doob and Osgood, learning theory has progressed an appreciable distance along the road towards a genuine conceptualization of attitude within the learning theory paradigm. Within the classical learning theory framework, attitude is more or less a redundant term, virtually indistinguishable from habit strength. The work of Doob and Osgood succeeded in "internalizing" attitude and freeing it from definitions which are based entirely on stimulus and response phenomena. Osgood's theoretical standpoint is probably closer to the latent process position than Doob's. Osgood's conception of attitude as an evaluative mediational response rather than a general mediational response brings learning theory the furthest distance along the road from simple S-R behaviourism. Doob's failure to distinguish different types of mediational responses makes his delimitation of the attitudinal domain rather too broad to be clearly definable in psychological terms; certainly he includes considerably more in his attitudinal domain than any latent process theorist would be prepared to allow.

Despite the advances and elaborations in learning theory which Doob and Osgood have offered, their conception of the nature and function of attitude still falls short, in the opinion of the present author, of the requirements of the latent process approach. The stimulus-response model which Doob and Osgood, being learning theorists, cannot discard without abandoning their whole orientation, appears to be too much of a rigid and simple paradigm to account adequately for the variety and complexity of human mental functioning. In particular the learning approach seems to ignore the possible dynamic qualities of these processes: the functions of comparison, integration, conceptualization and organization of perceptions, cognitions, emotions, etc. seem to be conceivable only when the human mind is seen to be at least partially conscious and in control of its own activities.

We come now to the latent process theories. The extensive contribution of the "classical" latent process theorists - Krech and Crutchfield (1948), Newcomb *et al.* (1965), etc. - should not be underestimated. Their justification of attitude as a necessary psychic mechanism - which plays a functional role in personality organization, provides the structure for the classification and interpretation of current and past input from the environment and, most importantly, makes possible a continuity and consistency in human functioning - has given it respectability as a scientific concept. Also the groundwork supplied by these authors for the theory of attitude formation, structure and change must be given its full due. What appears to be the biggest shortcoming of their work, however, seems to be their failure to define attitude as a unidimensional construct. Both theoretical and empirical research have severely reduced the credibility of the notion that cognition, affect and conation are associated together in tightly organized, internally consistent units. The confident expectation that conation, being one of the components in this close-knit trinity, will faithfully reflect beliefs and feelings has led to much ill-starred research and many disappointing results.

It is particularly in this regard that the theoretical insights of Fishbein and his colleagues have been valuable. Fishbein has differentiated conation into behaviour and behavioural intention and severed both of these from any direct association with the attitude construct. Attitude is seen as one of the factors underlying behaviour, not its sole determinant. The other two components identified by the tripartite theorists - cognition and affect - are integrated by Fishbein to create an evaluative construct which seems, at least on intuitive grounds, to be restricted and well-defined enough to be a good candidate for use in psychometrically - orientated research which places a premium on the unidimensionality of its constructs. The idea that attitude is the resultant of the evaluation of beliefs seems much more satisfactory than the conception of cognition and affect as existing side by side as co-equals and both exhibiting dimensional qualities. In any case, the claim of the tripartite theorists that beliefs can be "positive" or "negative" surely implies that these beliefs are not purely cognitive, but are cognitions to which an affective response has occurred.

Fishbein, on the other hand, seems to be on shaky theoretical ground when he claims that all salient beliefs relating to a given attitude object are evaluated. Rhine's (1958) position seems more tenable than both

attitudes and concepts are collections of related beliefs, but that in the former (and not the latter) case some of the beliefs are evaluated. If we take "communism" for example, the belief "suppresses individual freedom" is much more likely to call forth an affective response than "is more prevalent in the East".

Of the other instrumentality theorists, Peak (1955) and Rosenberg (1956) stress the importance of needs and values respectively in attitude formation. The present approach is a synthesis of these two perspectives and sees both need and value attainment to be important in attitude formation.

The consistency and balance theories are in large measure complementary to other theories, especially those which concentrate on the formation and nature of individual attitudes, but are weak on conceptualizations of the structure and stability of the attitude system. Consistency and balance theories are also well suited to accounting for attitude change and behaviour change phenomena. However, the sizable number of possible reactions to a state of dissonance makes prediction difficult; different individuals in the same situation might adopt different methods of resolving the dissonance (McGuire, 1967).

Rokeach's theoretical orientation, with its emphasis on situational factors, has provided a much-needed counter-balance to those theories which treat attitude objects as though they existed *in vacuo*. Social objects always occur in social settings and our behaviour towards the object is likely to be a function of both object and setting. An individual's behaviour towards his boss at a party would probably be different in a number of ways from his behaviour towards the same man in the work situation. However, Rokeach's contention that object and situation can be treated as two separate variables seems artificial and unjustified.

The Own Categories theorists have taken the position that attitude cannot be described adequately by only one index. Almost invariably the only attitudinal index which is seriously considered by theorists and psychometricians alike is that of extremity. As we have seen, some theorists have identified other attitudinal characteristics (like multiplexity, connectedness, ambivalence etc.), but little or no effort has been made to apply these in the assessment situation. The fault probably lies largely with the theorists: in many cases their concepts are vague and

do not lend themselves readily to measurement. The Own Categories school on the other hand, have defined clear concepts and developed methodologies which make it possible to measure these concepts with reasonable facility. Their concepts of latitude of acceptance and latitude of rejection give the experimenter information about the nature of an individual's attitude which is not available in a simple extremity measure. The Own Categories methodology is also conducive to a greater feeling of involvement and commitment on the part of the testee, for he is given more freedom than is the case in conventional techniques to present his "own" attitude in the way that he sees it.

As was stated earlier, the theoretical orientation taken in the present study is of the latent process variety. The existence of mental processes, at least some of which are under the individual's conscious control, is taken as axiomatic. The present study is particularly indebted to the insights of the following latent process theorists:

- 1) The "classical" (tripartite) theorists for their conception of attitude as "stored-up experience" which gives human functioning a continuity which it would not have if needs and drives were the sole determinants of such functioning.
- 2) Fishbein for discarding the thinking-feeling-acting definitions of attitude in favour of a conceptualization which is more restricted and which sees conation as a construct external to the attitudinal construct.
- 3) Rosenberg and Peak for their identification of value and need as the factors apparently underlying attitude formation.
- 4) Rokeach for pointing out that situational factors affect attitude and behaviour.
- 5) The Own Categories theorists for their identification of important dimensions of attitude other than extremity. Their model of man as a judgmental creature who consciously evaluates and classifies his environmental experiences is also valuable.

4.0 ATTITUDE MEASUREMENT METHODOLOGIES

Attitude measurement methodology started developing soon after the emergence of the latent process approach in the mid-1920s. The classical learning theory, or behaviouristic model which held sway before that date was not congenial to the development of attitude measurement methodologies for the following reasons. Firstly, the learning theory approach, being primarily a paradigm for accounting for observable stimulus and response phenomena, is incompatible with, or at least incapable of describing adequately, any sort of construct of mental process - hence the methodologies could go no further than concentrate on the consistencies linking observable stimuli with observable responses. Secondly, and related to the first point, the behaviouristic model is not a suitable theoretical vehicle for the development of questionnaire-type assessment methods, or any method which employs situations imitative of the situation or situations in which the actual conditioning apparently took place. Under the behaviouristic model there is no reason why there should be any sort of correspondence between an individual's responses to words on a piece of paper and his responses to stimuli in a real life situation. Behaviour is seen to be a strict function of the reinforcement history, and this history is likely to have been different for the two situations.

The latent process approach spawned three measurement methodologies in quick succession: those of Bogardus (1925, 1927), Thurstone and Chave (1929) and Likert (1932). Several other methodologies were developed later (e.g. Guttman, 1944, 1950; Rosenberg, 1960; Sherif and Sherif, 1967b; Fishbein and Ajzen, 1975; and Coombs, 1964). The learning theory approach (in a form which incorporates mental process phenomena) has been the basis for one major methodology - that of Osgood *et al.* (1957, 1970). A number of other methodologies based on the latent process approach have also been devised, but before these different approaches to the measurement of attitudes are reviewed, some time must be devoted to a discussion of various methodological considerations which are basic to all measurement techniques.

4.1 Basic Methodological Considerations

The methodologies which we shall be considering will be concerned, almost without exception, with the measurement of attitudinal extremity. This is because theoretical interest has focused most strongly on this feature of attitude and consequently methodologies have been designed to measure it. In measuring the extremity of an attitude towards a given object, the assumptions are made that:

- (1) the object in question is a psychological reality for the target population. It would be pointless, for instance, to attempt to measure attitude towards deficit financing in a population of tribalized Australian aborigines.
- (2) the population evaluates the attitude object on a positive-negative dimension. I might, for instance have no evaluative reaction to "tennis balls", although they do form a psychological category in my mind.
- (3) The object in question is evaluated along a single dimension. It might not be possible to measure attitude towards "South Africa", because the respondents have a number of relatively uncorrelated evaluative responses to different aspects of this concept.

In some methodologies, data analyses can be applied which indicate whether the above assumptions have been met adequately.

It should be noted that attitudinal extremity is not the same as attitudinal intensity. It is possible that a non-extreme attitude may be held with great intensity, although it is generally the case that extreme attitudes are held more intensely than non-extreme attitudes (Sherif *et al.*, 1965; Guttman and Suchman, 1947; Stouffer *et al.*, 1950).

Lemon (1973) points out that there is no way that attitudinal extremity can be measured directly, just as there is no way that electric current can be measured directly (only its effects can be detected by instruments). In cases as these, the evaluation of the adequacy of definitions and measurement techniques rests upon certain conventions which are generally accepted for a combination of theoretical and pragmatic reasons. These are the procedures for evaluating the validity of a measure.

Lemon (1973) states that a system of measurement is always imposed on the data; it is often the case that a measurement methodology has good metric properties, but distorts the original theoretical conceptualization of the entity which is being measured. Lemon points out that a "trade-off" may be involved: metrically satisfactory techniques may impose scaling assumptions which the data will not bear, and metrically less satisfactory methods may allow the data to emerge with less distortion but less accurately or less reliably scaled. Standardized methods of data collection also usually impose quite severe restrictions on the types of responses which the subject is allowed to make, with the result that much valuable material might be lost. On the other hand, such data that these methods do collect generally conform more closely to fundamental metric desiderata.

Webb *et al.* (1966) point out that all measuring instruments introduce some source or sources of bias. They therefore advocate a multimethod measurement approach in order to distinguish the true variable from the bias. This approach is also advocated by Cook and Sellitz (1966). In a broader context, Campbell and Fiske (1959) propose a multitrait-multimethod technique which allows the investigation of convergent and discriminant validity of different methodologies and also the validity of the constructs themselves.

If we think of the validity of an attitude measure in terms of the adequacy with which it monitors, not the attitudinal construct itself, but the effects which this construct has on observable phenomena (see Cronbach and Meehl, 1955), we should bear in mind that certain features of the attitude might never be manifest in observable form. Schuman and Johnson (1976) make this distinction between what they call elicited or measured attitudes and underlying, latent, or "true" attitudes. This is a possible limitation on the validity of all attitude measurement methodologies, but it should be remembered that from the practical point of view the aspects of attitude which are of most relevance are those which have some outward observable effect.

Biases which restrict validity do not all reside strictly within the measuring instrument itself. Some might result from the interaction between the subject and the instrument or from the interaction between the subject's responses and the experimenter's assessment of these responses. It is debatable, however, whether these factors should or

should not be regarded as part of the methodology itself. Invalidity resulting from the interaction between measuring instrument and subject is usually placed under the heading of response bias or response set. Guilford (1967) defines response bias as a tendency on the part of the subject to alter responses to items in a measurement instrument such that they indicate something other than that which they were intended to measure.

The two types of response bias which have probably been discussed most in the literature are acquiescence and falsification. 'Acquiescence is usually defined as the tendency to agree, or to favour positive to negative responses (see Couch and Keniston, 1960). Falsification is more commonly known in the literature as "faking good". Gordon and Gross (1978) say (p. 772): "Fakeability is a concept that refers to the vulnerability of some psychological instruments to deliberate systematic distortion of answers by respondents intent upon creating a particular impression of themselves in terms of the scored results of the tests. The fakeable instrument allows the respondent to emphasize socially desirable personal characteristics through careful selection of his/her answers. Presumably, a fakeable instrument also permits a person to conceal those aspects of his/her 'real' character, revelation of which might jeopardize the opportunity to obtain certain rewards mediated by the individual who administered the test". Edwards (1957b) and Marlowe and Crowne (1960) have done seminal work in the conceptualization and assessment of the tendency to fake in order to create a socially desirable impression. Some more recent research in the area of social desirability, especially with respect to its dimensionality, has been undertaken by Schuessler (1978).

Rundquist (1950) identifies a response bias which he calls extreme responses set - the tendency to endorse extreme alternatives on questionnaires.

Measurement techniques vary in their susceptibility to different types of response bias. Extreme response set, for instance, is of no account in an agree-disagree type questionnaire; this type of bias can occur only when a larger number of response alternatives is open to the subject.

Invalidity arising from the interaction between the subject's responses and the experimenter's assessment of these responses is a problem especially in techniques where the subject is given a large amount of response freedom. In an open-ended interview, for instance, the subject has a large measure of freedom in responding to questions. The interviewer then has to take this mass of largely unstructured verbal material and infer the subject's position on a number of latent process dimensions. The danger exists that in interpreting this data the assessor will be influenced by his own ideas, prejudices, fears, needs, etc. (Lemon, 1973). Even in the situation where a limited number of response alternatives are allowed to the subject, it is possible that, in framing these alternatives, the test constructor might infer erroneous relationships between given response alternatives and the underlying latent variable. If for instance an individual endorses the statement: "I am almost never late for work", this might be taken by the experimenter as an indication of the individual's positive attitude to his work; however the real situation might be that he dislikes his work but is afraid of being fired because of the lack of alternative employment opportunities.

Several other possible sources of invalidity are mentioned by Webb *et al.* (1966). Among these are the following:

- (1) Role selection. The subject might select one of a number of possible "true selves" or "proper" behaviours available to him. The testing context might bias the subject towards a particular role.
- (2) Measurement as change agent. The process of measurement can produce changes in what is being measured. Attitudes may be created in this way. It might be, for instance, that the individual prior to assessment has no attitude towards a given object, but by being exposed to evaluative material concerning the object, develops an attitude towards it. A study by Upshaw (1978) shows how the extremity and social desirability of scale anchors can influence subjects' responses.
- (3) Change in the measurement instrument. This is especially the case in subjective assessment methods. For instance, an interviewer may become more or less competent within the space of a single, or several, interviews.

All measurement assumes a nomothetic standpoint. We assume for example that real-life objects have physical dimensions which can be measured in the same way: the height of a tree and the height of a vase can be measured using basically the same method. Height is a concept or construct and is in no way dependent upon or influenced by the particular object being measured: height in the context of trees and height in the context of vases is the same concept. Parsimony is one of the cardinal principles of the scientific approach—hence the adoption of a nomothetic, rather than idiographic, orientation. We should, however, always be open to the possibility that the nomothetic assumption is unjustified. Latent process psychology is strongly nomothetic. Bem and Allen (1974) point to the latent process procedure of imposing dimensions like a template on man in general, or at least on large populations of individuals, in an attempt to account for behaviour and mental functioning as economically as possible. Unfortunately, Bem and Allen conclude, the concepts which the experimenter tries to impose might not exist as such in the individual on which he tries to impose them. This is usually the case, according to these authors, when the individual shows a large amount of inconsistency in his responses to the items of the measuring instrument. When this happens, the only acceptable course of action is to exclude the individual and others like him from all parts of the research which assume the existence of the construct in question.

There are four kinds of measurement scales: nominal, ordinal, interval and ratio (Nunnally, 1967). These scales vary in the strictness of the requirements which they impose on the data, ratio being the most demanding and nominal the least. It is general scientific practice that the strictest type of scale which the data will bear should be used. For example, we do not measure the temperature of an object merely by saying it is either above or below the freezing point of water. It is possible to determine precise intervals or units of temperature, so that we can say that this body is so many units hotter or colder than that body. On the other hand, it would be incorrect to say that a temperature of 60°C is twice as hot as a temperature of 30°C, because the centigrade scale, being of the interval variety, does not have a true zero, and therefore does not conform to the requirements for a ratio scale.

For the measurement of attitudes, a variety of underlying scaling models are used, depending on the technique in question. The usual conceptualization of attitudinal extremity as a dimension running from positive,

through zero, to negative would seem to imply that extremity can be measured on a ratio scale. In practice, however, this is rarely attempted, and the imposed scaling model is usually of the interval or ordinal variety. The reason for the infrequent use of the ratio scale is that it is very difficult in practice to establish the zero point of the scale. In fact it is possible that there is no single zero point for a given population: it might be that each respondent sees the point of attitudinal indifference (i.e. the zero point) at a different place. Nevertheless, Stouffer *et al.* (1950) and Guttman and Suchman (1947) have tried to ascertain population zero points by obtaining both intensity and extremity scores. After each item, subjects are asked to indicate how strongly they feel about the response which they had just made. The assumption is that the more extreme views are held with greater intensity. The point on the extremity scale which corresponds to the lowest intensity scores is designated as the zero point for the population. This method is rather crude because the relationship between intensity and extremity, if plotted graphically, is usually of a gentle U shape. Determining the exact zero point is therefore difficult.

4.2 An Overview of the Different Types of Measurement Techniques

The different types of attitude measurement techniques have been categorized in several different ways. Kidder and Campbell (1970) have a 2 x 2 x 2 classification of techniques:

- (1) Direct vs indirect: In the direct method, the respondent's understanding of the purpose of the measurement procedure and the psychologist's understanding are the same. In the indirect method the psychologist interprets the subject's responses in terms of dimensions and categories different from those held in mind by the subject while responding (e.g. projective techniques).
- (2) Voluntary vs objective: In the voluntary method, the respondent is given to understand that any answer is acceptable and that there is no external criterion of correctness. In the objective method, the subject is told that there are externally verifiable correct answers.
- (3) Free response vs structured response: This has already been discussed and needs no further clarification.

Nunnally (1967) classifies the attitude methodologies into three categories:

- (1) "Simple asking" (interviews, self-report questionnaires, etc.)
- (2) Physiological measures.
- (3) Projective methods.

Like Kidder and Campbell (1970), Scott (1968) also distinguishes between direct and indirect methods and open (free response) and closed (structured response) methods. He includes physiological measures and overt behaviour as separate categories.

Cook and Selltiz (1966) identify five types of methodology:

- (1) Self-reports of beliefs, feelings, behaviour etc.
- (2) Partially structured material relevant to the attitude object, to which the subject has to respond.
- (3) Overt behaviour towards the attitude object (either in a contrived laboratory situation or in real life).
- (4) Specially designed objective tasks where functioning may be influenced by the subject's attitude towards the object.
- (5) Physiological measures.

These different categorizations should have given some impression of the variety of methodologies available. By far the most widely-used type, however, fits into Kidder and Campbell's (1970) direct-voluntary-structured sub-category. The techniques falling into this subcategory are for the most part the pencil and paper questionnaires which present the subject with items directly concerning the attitude object and require him to respond to these items in one of a fixed number of ways; the scoring of the responses is usually a simple clerical task. Most space will be devoted to a description of these popular, quick and easy-to-administer methods (especially the Thurstone, Likert, Guttman and Osgood techniques). Brief descriptions will be given also of methodologies falling in the following categories: interviews, projective methods, indirect objective methods, physiological measures and the assessment of overt behaviour.

4.3 The Thurstone Methodology

The methodology of Thurstone (Thurstone and Chave, 1929; Thurstone 1931) was the first of the major methodologies. Throughout the history of latent process theory, the Thurstone approach has been prominent in the measurement situation. Probably only the Likert (1932) technique has been used more widely. Issuing the dictum that attitudes can be measured, Thurstone (1928) put an end to much unproductive debate regarding the accessibility of attitudes to observation. In this article, Thurstone concedes that attitude is a complex concept which cannot be described wholly by a single numerical index just as it would be impossible to describe the form of a table using only one index.

For the purpose of measurement, Thurstone (1928) defines attitude as the sum total of an individual's inclinations, feelings, prejudices, preconceived notions, ideas, fears, threats and convictions about any specified topic. Opinions are regarded as verbal expressions of attitudes. Thurstone, therefore, regards attitude as an overall evaluation of a social object, largely affective, but with a cognitive material to act as a framework for the emotional material.

Thurstone and Chave (1929) measure attitudes through the use of opinion statements which may be accepted or rejected by the respondent. These statements are ordered on a scale of extremity. Thurstone and Chave state that attitudes are multidimensional; using a linear scale to measure attitude is therefore a compromise, as one's overall attitude (as measured) is probably a composite of a number of (hopefully) correlated dimensions.

The Thurstone methodology is based on what Nunnally (1967) calls a nonmonotone probability model. The model is illustrated graphically below in Figure 1.

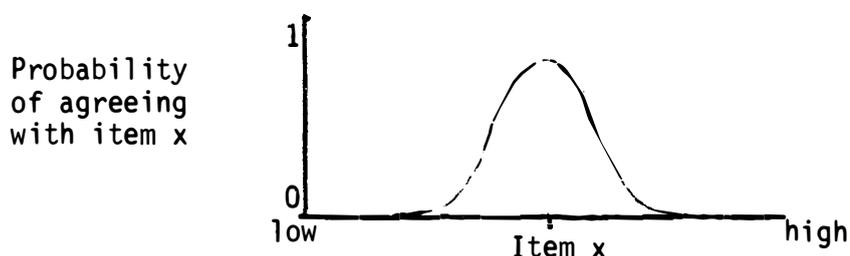


FIGURE 1 NONMONOTONE PROBABILITY MODEL

As can be seen from this figure, subjects whose attitudinal position is close to that of a given opinion statement x are more likely to endorse the statement than those whose positions are further away from x . Hence, if one selects a set of opinions which are distributed along the attitude continuum and gives this set to individuals for their reactions, they are likely to endorse the statement or statements which are close to their own attitudinal position and to reject all others.

The Thurstone technique therefore assumes that it is possible to write opinion statements such that some individuals will find a given statement too "strong", some will find it too "weak" and some will find it congenial to their own position. In practice this is often found to be quite a difficult task. It is generally easier to write statements which those people below a given attitudinal position will tend to reject and those above it will tend to endorse (or *vice versa*). Items based on the non-monotone probability models are, according to Lemon (1973), often ambiguous. It is all too easy to write items for the middle range of the scale which are "double-barrelled" (e.g.: "I believe in the church, but am tired of denominationalism").

The following is the procedure used by Thurstone and Chave for the construction of an attitude questionnaire. Once the attitudinal domain has been defined this definition is given to a team of item writers as a guide and a large pool of items (about 150) are created. The items should take the form of statements about the attitude object which can be either accepted or rejected by the respondent. An edited pool of items (of 80 - 100) is then given to a group of judges (at least 200 according to Thurstone, 1928). The judges are asked to rate the statements in terms of extremeness on an 11-point scale (7- and 9-point scales are also used sometimes). After the rating procedure, a final set of about 20-25 items is selected on the basis of a number of criteria, including the following:

- 1) lack of ambiguity
- 2) statements should not be "double-barrelled"
- 3) the selected set should span the extremity dimension evenly (e.g. two statements at each scale point).
- 4) the most important requirement concerns the degree of inter-judge agreement. Each item has been judged on an 11-point scale; therefore a measure of dispersion of the judgment scores can be cal-

calculated (inter-quartile range or standard deviation are commonly used). Items with small dispersions are preferable to items with larger dispersions, because a higher level of unanimity exists as to the degree of attitudinal extremity of small-dispersion items.

Thurstone and Chave (1929) also assess items according to an index which they call the "criterion of irrelevance" but this need not concern us here.

Once the final set of items has been selected, these are compiled into a questionnaire which is then ready to be administered to subjects. In the instructions, subjects are asked to endorse only those statements which which they agree. As each statement has a pre-determined scale value, scoring is relatively easy. The usual method is to take the mean of those items which the subject has endorsed, although there is cause for concern if the subject has endorsed a number of items at widely-differing scale values.

The Thurstone method probably comes, at the conceptual level, closer than any other method to the type of measurement approach adopted in the more exact sciences. Nevertheless, a number of difficulties and shortcomings inhere in the method, not the least of which is the considerable investment of time required to construct the questionnaire. The ratio of created to selected items is very high, which means that time is spent on creating many items which are not used. The reason for the high rejection rate of items seems to be largely due to the difficulty of creating acceptable nonmonotone statements without making them "double-barrelled". Also, the necessity of having to administer all items to judges in a pre-test is time-consuming and tedious.

4.4 The Likert Methodology

The Likert technique is based on a summative model and is often known as the method of Summated Ratings (Nunnally, 1967). This method makes the fairly weak assumption that items are monotonically related to the underlying attitude. Hence, unlike the Thurstone approach, attempts are not made to construct items which individuals will be likely to endorse only over a small range of the attitude continuum; instead items are constructed which individuals at the high end of the attitude continuum

are more likely to endorse than those at the low end (or *vice versa*). The summative model can be represented graphically as is shown in Figure 2.

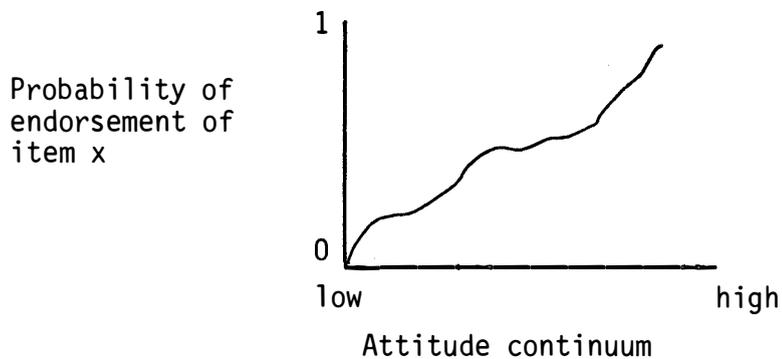


FIGURE 2 SUMMATIVE MODEL

Although for any given item the relationship between probability of endorsement and the underlying attitude continuum may not be close to linear, the approximation to linearity is likely to improve substantially once a number of items are summed, because item peculiarities tend to be "averaged out" (Likert, 1932).

In the construction of a Likert questionnaire, usually two to three times the number of items finally required are written. All items are statements which comment evaluatively on the attitude object or some aspect of the attitude object. In some cases the subject has to either agree or disagree with each of the statements, but in other cases, provision for responses of varying intensity are made (e.g. strongly agree, slightly agree, slightly disagree, strongly disagree). The use of the multichoice response format sometimes makes it possible to attain a given reliability with less items than is the case with a two-choice response format, as more variance is normally obtained from multi-choice items (Nunnally, 1967). It is usual to write about half the statements in such a way as to indicate a positive evaluation of the attitude object and half to indicate a negative evaluation. This is done in order to minimize the effects of one type of response bias: the tendency to agree or disagree with statements irrespective of their content. Also, "justifications" might be incorporated in statements in order to reduce possible effects due to social desirability (see Edwards, 1957a; 1957b). This in effect makes it "easier" for an individual to endorse a statement for which there might be some social disapproval.

Once the items have been constructed, the full set is administered to a sample of subjects, preferably drawn from the population for which the questionnaire is ultimately intended. Each respondent's attitude score is the sum of his scores on the individual items. In the case where a two-choice (agree-disagree) response format has been used, items are usually scored in the following way:

agreement with a statement positively evaluating the attitude object	}	1 point
or		
disagreement with a statement negatively evaluating the attitude object	}	0 point
or		
disagreement with a statement positively evaluating the attitude object	}	0 point
or		
agreement with a statement negatively evaluating the attitude object	}	0 point
or		

The next step is the refinement of the questionnaire. This entails the removal of "poor" items which do not appear to be tapping the underlying attitudinal dimension effectively. At this point it will also become clear whether the questionnaire as a whole is measuring one, or more than one, dimension. If groups of items can be identified such that within-group item intercorrelations are substantially higher than between-group item intercorrelations, then evidence for multidimensionality exists. Factor analytic procedures can be used to investigate the dimensionality of the questionnaire in a rigorous manner. If the questionnaire is found to be multidimensional, then a complete re-evaluation of the definition and conceptualization of the attitudinal domain will be necessitated. If, however, the questionnaire appears to be unidimensional, then a subset of the "best" items which seem to be tapping the underlying dimension most effectively can be selected for the final questionnaire. The item analytic procedure will have the effect of making the refined questionnaire more strongly unidimensional than the original questionnaire. A final pool of items can be selected purely to maximize the reliability of the questionnaire (i.e. the correlation

of the questionnaire with the underlying dimension), or other considerations can also be borne in mind when making the final selection (e.g. questionnaire length, distribution of scores, etc.).

A variety of item analytic procedures are available (Nunnally, 1967). In the NP50 system used at the National Institute for Personnel Research, for instance, each item score is correlated with the total score on the questionnaire. These are then multiplied by the item standard deviation and this product is used as an index for the selection of items (Maugham-Brown, 1974). A more elaborate procedure known as the Item Response Evaluation, which amongst other refinements, correlates each item alternative with the total score, has been developed by Coulter (1973).

The Likert or summative model is more widely used than any other method, not only as a basis for the construction of attitude questionnaires, but also in devising many other types of psychological scales (e.g. personality questionnaires and ability tests). Nunnally (1967) regards the Likert model as the best currently available. He lists four major advantages which this model has:

- (1) The underlying model is realistic.
- (2) The scales are easy to construct.
- (3) The scales based on this model are generally found to be more reliable than scales constructed on other commonly used models.
- (4) Likert scales have been used successfully in many studies.

4.5 The Guttman Methodology

The Guttman methodology is based on what Nunnally (1967) calls a deterministic model. Each item is hypothesized to have a perfect biserial correlation with the underlying attitude variable. This is illustrated graphically in Figure 3.

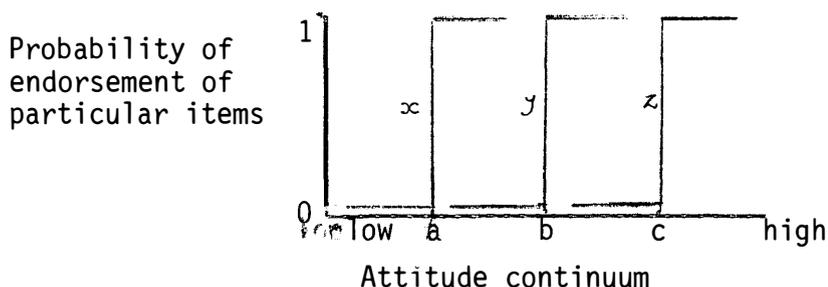


FIGURE 3 DETERMINISTIC MODEL

The scales based on the Guttman methodology are ordinal. Comparing this methodology with the Thurstone methodology, Guttman (1950) states that in the former case individuals are ranked whereas in the latter case items are ranked.

Guttman (1944) has specific criteria for the definition of a scale. He states that a set of items may be called a scale if the following holds: if person A has a higher total rank than person B, then A's score is as high or higher on every item than B's score is. This statement might become clearer if one considers it in conjunction with Figure 3. This is a case where the items are dichotomous (they are either endorsed or not endorsed, or answered either "yes" or "no"). If one looks at item x in Figure 3, it is clear that at a given point on the attitude continuum, \underline{a} , the response to item x abruptly changes from one state to another: hence, if δ is any positive value indicating an increment on the attitudinal continuum, then an individual whose attitudinal level is at $a - \delta$ will, according to Guttman's (1944) model, respond to item x differently from an individual whose attitudinal level is at $a + \delta$. (For example, if p and q are the alternatives to item x, then individuals who fall below \underline{a} on the attitude continuum will respond with p and those above \underline{a} with q.) Similarly with items y and z, there are specific points on the attitude continuum where the responses to these items change from one alternative to another.

The items x, y and z are therefore ordered on the attitude continuum in terms of the points at which the change of response occurs; if a set of items forms a Guttman scale, then individuals' responses to the items can be used to order them (the individuals) on the attitudinal continuum. If items x, y and z form a Guttman scale, then any individual who endorses item z positively will also endorse items x and y positively. An individual's score is the number of items which he endorses positively (or whatever the criterion for a "high" score is).

Usually Guttman scales are fairly short (six to ten items) because of the difficulty of devising long questionnaires which conform to the criterion of scalability. It follows from what has been said above that if a set of items forms a perfect scale, then an individual's response to every item in the questionnaire can be predicted purely from a knowledge of his total score. No scale, however, conforms perfectly with the criterion of scalability; in order to describe the

degree to which scales do approach perfect scalability, Guttman (1944) has devised an index called the coefficient of reproducibility. It is calculated by counting up the number of responses which would have been predicted wrongly for each subject on the basis of his scale score, dividing these errors by the total number of responses and subtracting the resulting fraction from unity. (See Guttman, 1950 for a more detailed description.) An acceptable approximation to a perfect scale was arbitrarily set by Guttman (1944) at 0,90, but this was later raised to 0,95.

The Guttman methodology is not widely used currently, due to a number of shortcomings not suffered by other techniques like the Summated Scales (Likert) technique. Therefore a detailed description of the scale construction procedures will not be given.

The following are some of the major shortcomings of the technique. Firstly, the deterministic item model is clearly unrealistic. It is very difficult to find items which even approach the type of trace line required by the model. Nunnally (1967) points out that the model ignores the existence of unique item variance. A further problem inheres in the difficulty of determining scalability with any accuracy. The coefficient of reproducibility suffers from the shortcoming that it is influenced by the popularity of answer categories. The reproducibility of any individual item can never be less than the proportion of respondents falling into a single answer category for that item. Also, the method provides insufficient checks on the unidimensionality of the resultant scale. It is quite possible to have a multidimensional scale which is highly scalable. Another shortcoming is the "crudeness" of the scaling. Only ordinal discrimination can be made among subjects and due to the small number of items, this discrimination is not very fine.

Scott (1968) makes a number of other telling points against the Guttman method. His conclusion is that this method should be rejected as a model for attitude measurement.

4.6 The Osgood Methodology

It will be remembered from section 3.1 that Osgood *et al.* (1957) defines attitude, or evaluation, as one of the dimensions (in fact the most powerful dimension) of semantic space, the other two dimensions which are commonly found being activity and potency.

The measuring instrument used by Osgood *et al.* (1957) to obtain their research results was the Semantic Differential, developed by the authors for their specific purposes. Osgood *et al.* (1957) claim that the semantic differential unites the best features of free association and scaling procedures. Spontaneous associations to a stimulus may have the advantage of validity and sensitivity but a drawback is the inability of certain subjects to verbalize their feelings; in addition there is the problem of scaling and comparing subjects. In order to overcome these difficulties, Osgood *et al.* devised a system whereby the subject is provided with a concept to be differentiated and a set of bipolar adjectival scales against which to do this. The subject's only task is to indicate for each item (i.e. pairing of a concept with a scale) the direction of his association and its intensity on a 7-point scale (-3, -2, -1, 0, 1, 2, 3).

By means of factor analysis Osgood *et al.* (1957) was able to identify a subset of adjectival pairs which loaded heavily on an evaluative dimension. These adjectival pairs (e.g. good-bad, valuable-worthless, honest-dishonest, fair-unfair) can then be used as a set of scales to measure evaluation, or attitude. All that is necessary is to supply the subject with the concept (i.e. the attitude object) and ask him to rate the concept on the given scales. The subject's score is simply the total of his scores on each individual scale. In this regard, the semantic differential method is similar to the Summated Ratings method and can in fact be subsumed under that model.

The scales are usually presented to the subject in a graphic form (a line divided into seven segments) and in addition a verbal description of each segment is generally given: for a scale X-Y, these would vary from "extremely X", through a neutral zone, to "extremely Y". The differences between qualifiers is taken to be approximately equal. Linking up their measurement methodology with their attitude theory,

Osgood *et al.* (1957) state that "extremely X", "quite X" etc. will elicit an r_m of the quality X and of the intensity given by the qualifier (see p. 27).

Osgood *et al.* (1970) state that although the pure attitudinal domain is tapped only by the evaluative dimension, the activity and potency dimensions can add extra information about the individual's reaction to the attitude object and can be used in conjunction with the evaluative dimension to boost correlations with other variables or to predict behaviour more effectively.

A considerable amount of research has been done using the Semantic Differential. Osgood (1965) himself has conducted an impressive series of studies in a cross-cultural context. Others like Kaplan (1972), Brinton (1961) and Triandis (1964) have elaborated on Osgood's work. Kaplan (1972) suggests splitting up semantic differential scales into positive and negative halves in order to study attitudinal ambivalence: he stated that there may be aspects of the attitude objects which the individual evaluates positively and other aspects that he evaluates negatively and that the degree to which this ambivalence occurs can be ascertained by requiring the subject to make positive and negative evaluations separately. Brinton (1961) has developed semantic differential scales, then subjected them to Guttman scale analysis (coefficient of reproducibility was found to be 0,975). Triandis (1964), in a study aimed at investigating the behavioural component of attitudes, modified the semantic differential into what he calls the "Behavioural Differential". This technique taps the degree to which the subject expects that he would or would not engage in specific behaviours in relation to given social objects.

We come now to the criticisms which have been levelled against the Semantic Differential technique. Tittle and Hill (1967) state that the Semantic Differential seems to suffer from the defects of transparency and social desirability. In their study, the measure based on the technique proved to be quite reliable (split-half: 0,87) but inferior to the Likert method in predicting behaviour, apparently because of "faking". Lemon (1973) says: "Acquiescence and yeasaying can be controlled as much as possible by alternating the poles of the evaluative adjective pairs, but the instrument is still open to bias from the effects of extreme response set" (p. 109).

Heise (1969) is also of the opinion that the Semantic Differential scales are more transparent than Thurstone and Likert scales. One way of reducing the transparency problem is to intersperse "dummy", non-evaluative scales amongst the evaluative ones, but this certainly does not solve the problem completely. Nickols and Shaw (1964) found that for a high saliency attitude object, the correlation between the Thurstone and Semantic Differential was lower than was the case when attitude object was of low saliency, and the reliability of the Semantic Differential scale suffered due to reduced variance.

Osgood *et al.* (1957) claim that the Semantic Differential taps both intensity and extremity of attitude. Lemon (1973) questions whether there are good grounds for Osgood *et al.*'s claim that the Semantic Differential measures intensity. Tittle and Hill (1967), in comparing the Likert and Semantic Differential as predictors of a behavioural criterion, state that the Semantic Differential's inferior performance as a predictor was probably due to the fact that it has a smaller intensity component than the Likert method.

The most serious disadvantage of the Semantic Differential concerns what is often called "concept-scale interaction". An adjectival pair might be evaluative for one concept but not for another. This can be illustrated in the context of an experiment by Brinton (1961). Brinton found that, when applied to the concept "capital punishment", the adjectival pair "beautiful-ugly" did not distinguish between individuals who called themselves pro capital punishment and those who regarded themselves as anti capital punishment. This adjectival pair, however, has been found by Osgood *et al.* (1957) to have a high loading on the evaluative dimension. Hence, for the concepts studied by Osgood *et al.*, 'beautiful-ugly' had evaluative qualities, but this proved not to be the case with "capital punishment". Heise (1969) states that concept-scale interaction can arise because a scale has different degrees of relevance for different concepts; it can also arise, according to Heise, because of semantic shifts in the scale adjectives which are caused by the environment provided by a concept. Hence it is unjustifiable to call Osgood's semantic scales "universal" (i.e. scales which can be used to measure any attitude object).

One way out of this problem is to develop evaluative scales *de novo* for each new concept that is to be evaluated, but this is a time

consuming exercise requiring the factor analysis of a large pool of adjectival pairs. Brinton (1961) employs a somewhat quicker method to circumvent the problem. He uses Osgood's evaluative adjectives, but then performs a kind of item analysis in order to remove ineffective adjectives. Bynner and Romney (1972) suggest that by carrying out both within-concepts and across-concepts factor analysis and inspecting the factor loadings it should be possible to decide empirically for which concepts the factors are valid. But for any new concepts, the problem remains.

4.7 Other Direct, Closed Response, Questionnaire Methodologies

The methodologies which will be reviewed briefly here are those of Bogardus (1925, 1927, 1946), Rosenberg (1960), Sherif and Sherif (1967a, 1967b), Fishbein and Ajzen (1975) and Coombs (1964).

Bogardus (1925, 1927, 1946) has concentrated particularly on the attitudinal domain which he calls social distance, and which he labels as the degree of "sympathetic understanding" which exists between persons and groups. Bogardus describes his social distance scale as a technique for measuring the distance between persons or between a person and social groups through the use of a series of graded social reactions against which a person checks his own reactions. The method can be used therefore to assess attitudes towards social groups. The subject is told to consider a member of a particular social group and is then asked either to endorse or refrain from endorsing a series of statements about that individual, which range from allowing him to marry into the family to excluding him from the country.

The Bogardus methodology seems to be limited in its applicability, mainly due to the limited number of situations where it is possible to identify a set of behaviours which are clearly graded in terms of their favourability to the attitude object.

Rosenberg's (1956, 1960) methodology has already been referred to briefly in section 3.2.5. The procedure may be summarized as follows: subjects are given a fairly lengthy list of values (e.g. being allowed to maintain the privacy of one's opinions and beliefs, being liked by the opposite sex, etc.) and are required to rate these values in terms of their importance to them. The subjects are then given a specific attitude

object (or attitude situation) and are asked to rate the perceived instrumentality of the attitude object in the attainment of the listed values. Attitude is then the sum of the product of value importance and perceived instrumentality.

The Fishbein method is different in that the two factors which are multiplied together are belief strength and the evaluation of the belief. Also, the terms of the sum are limited to salient beliefs (see section 3.2.5).

Both these types of questionnaire are time-consuming to construct. Also, both are somewhat arbitrary in their specification of the beliefs/values which should be included in the assessment. Hackman and Anderson (1968) calculated attitude according to the Fishbein model using both population (modal) and personal salient beliefs about the attitude object. They also measured attitude using a standard attitude measure. Unexpectedly, attitudes calculated using personal salient beliefs correlated only 0,46 with attitudes assessed on the standard measure, whereas attitudes calculated using modal beliefs correlated 0,62. Thomas and Tuck (1975) partially replicated Hackman and Anderson's study and obtained comparable results. Even Kaplan and Fishbein (1969) failed to obtain results which supported the superiority of the personal beliefs method. A further unexpected finding of Hackman and Anderson (1968) was that the evaluation of beliefs concerning the physical attributes of their attitude object (the Negro) correlated more highly with the external measure than the evaluation of beliefs concerning the personality and behavioural attributes of the attitude object. It appears that the Fishbein model does not account adequately for the mental processes which are involved in attitude formation. It can be argued that when an individual has an overall attitude towards a social object (as would be expected to be the case with "unidimensional" attitude objects), he cannot reasonably be expected to be able to evaluate different aspects, or beliefs, about the attitude object, without being influenced by his overall orientation. These evaluations might therefore be meaningless and reflect, more than anything else, the subject's intuitive idea of how the experimenter will combine the individual evaluations in order to obtain an overall attitudinal score. This raises another point - the linearity of the model. Fishbein seems to have selected a linear model purely because of its simplicity rather

than for any theoretical reason. The adequacy of the linear model has been examined by Ramsay and Case (1970) and Stewart (1973) with somewhat conflicting conclusions. Infante (1970) has modified the Fishbein formula into a more complex linear format.

Considerably less research has been undertaken using the Rosenberg model. Sheth and Park (1973), however, compared the two models using Coca Cola as the attitude object. Thirteen attributes of Coke were identified and these were used as values in the Rosenberg model and beliefs in the Fishbein model (e.g. thirst quenching). Each measure was also correlated with an overall measure of attitude towards Coke. The Fishbein and Rosenberg measures correlated only 0,27 with each other, but the Fishbein measure correlated more highly with the attitudinal measure than did the Rosenberg method (0,605 vs. 0,121). It is conceivable that the experiment was unfair to the Rosenberg model, for the "values" used might be too trivial to qualify as such. But one should still ask how it would be possible to measure attitude towards Coca Cola using the Rosenberg instrumentality-value model.

Sherif and Sherif's (1967a, 1967b) methodology is unusual in that it aims at measuring more than attitudinal extremity. Sherif and Sherif (1967a) criticize questionnaires of the yes-no type, because they give the respondent so little freedom to categorize the stimulus material as he sees fit, and give little information about the respondent's attitudinal orientation. The usual procedure in the Sherif and Sherif methodology is to give subjects a set of cards, each bearing a statement referring to the attitude object under study. As in the Thurstone approach, the statements vary from highly positive, through more moderate positions, to highly negative, but unlike the Thurstone method, items are not chosen to have small standard deviations (or inter-quartile ranges) of judgment. Subjects are requested to categorize the statements into as many piles as they like, in terms of their favourability towards the attitude object. After this, the subjects are asked to indicate the pile of statements which approaches their own position most closely, and the pile which is most foreign to their position. A restricted number of categories with a mode at the "objectionable" end of the continuum and a secondary mode at the acceptable segment is typical of highly involved persons. Sherif and Sherif (1967a) point out that this method (the Own Categories method) gives more information than ordinary attitude scales - zones

of acceptance and rejection and indications of the degree of involvement (i.e. attitudinal intensity).

The unfolding model was originally developed by Coombs (1964). This model has the advantage that the task required of the subject is very simple. The usual method is to present the subject with pairs of statements and require him to indicate in each case the alternative with which he agrees more closely. To see why the method is called an unfolding method, an example would be useful (see Figure 4).

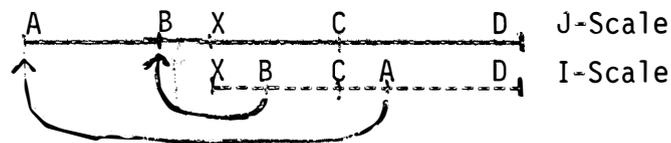


FIGURE 4. UNFOLDING MODEL

If A, B, C, D are statements at various points on a unidimensional attitudinal continuum and X is the attitudinal position of a particular individual, then the paired comparisons judgments of the individual should conform with the situation indicated on the dotted line (I scale): X is closest to B, followed by C, A and D. The problem is to "unfold" the I scale in order to establish the underlying J scale. The J scale can be broken up into a number of intervals, obtained by taking the midpoints between all pairs of statements. In the 4-statement situation shown in Figure 4, it is possible to generate 7 segments. By assessing the subject's responses to all pairs of statements, it is possible to assign him to one of the segments; the method therefore allows an ordinal scaling of individuals.

The original Coombs model is beset with a number of methodological difficulties, especially in the multi-dimensional case (Muller, 1977). A study by Hall (1970) illustrates some of the Coombs method's shortcomings. Some theorists (e.g. Schönemann and Wang, 1972) have offered modifications of the original Coombs model, but the unfolding approach is not yet ready for application in the practical situation, although there might be prospects for it in the future.

Two other methodologies, those of Kelley (1955) (Repertory Grid) and Stephenson (1953) (Q-Sort) will not be reviewed here. These methods offer imaginative approaches to the assessment of attitude, but have two serious disadvantages:

- (1) Scoring difficulties.
- (2) Both are applicable to the assessment of the structure of a single individual's attitudes, but not really applicable for inter-individual comparisons.

4.8 Overall Evaluation of the Direct Questionnaire Methodologies

The major advantage of the assessment methods reviewed in the previous five subsections is their objectivity. The fixed-response format effectively eliminates scorer bias; the items are directly related to the attitude object and hence presumably tap the underlying attitudinal dimension more directly than the more disguised methods (which will be discussed in 4.10 and 4.11); sampling of the attitudinal domain can usually be accomplished effectively using rational strategies, and it is common to obtain quite satisfactory levels of reliability (internal consistency and test-retest) with a fairly modest number of items. Also, nearly all the direct objective questionnaire type measures are capable of being administered to groups of subjects; they are quick and easy to administer and also quick and easy to score.

On the other hand, they are, according to Cook and Selltitz (1966), susceptible to distortion. The subject can control and "fake" his responses. The objective questionnaire can also suffer from a number of other types of response bias (e.g. extreme response set, social desirability) which are liable to introduce unwanted variance and reduce the validity of the questionnaire as an index of the underlying attitudinal variable. Efforts have been made to minimize these disadvantages (e.g. introducing buffer items, assuring anonymity, using various techniques to reduce social desirability), but even with these refinements, some influence on scores due to response bias is likely to remain. However, no study appears to have succeeded in demonstrating that the objective questionnaire methods are less valid than any other approach. Whatever else they may lack seems to be made up for, or more than made up for, in high reliability and relevance to the attitudinal domain (Kidder and Campbell, 1970).

Several studies have compared two or more of the four major questionnaire methodologies (Likert, Osgood, Guttman and Thurstone). Edwards and Kenney (1946) and Edwards (1957a) compared the Thurstone and Likert methods and found the Likert was both more reliable (0,94 vs. 0,88) and quicker to construct. Barclay and Weaver (1962) and Poppleton and Pilkington (1964) came to a similar conclusion. Seiler and Hough (1970), after reviewing a number of studies comparing the Thurstone and Likert methodologies, conclude that the Likert-type questionnaire is approximately 40% faster to construct and equally, or more reliable.

Kamenetzky and Burgess (1956) used the Guttman and Likert methods and a projective measure (the Rosenzweig Picture-Frustration test) to predict a criterion (the willingness of college students to sign a petition in favour of fair employment practices legislation). Little difference was found in the predictive capabilities of the three measures ($r = 0,58, 0,61$ and $0,54$ for the Guttman, Likert and Rosenzweig techniques respectively). Guttman and Likert methods correlated 0,93 with each other, but both of these questionnaires correlated less than 0,40 with the projective measure. Somewhat unexpectedly, a multiple correlation using one of the questionnaires and the Rosenzweig as predictors failed to predict the criterion significantly better than the questionnaire alone.

Probably the most comprehensive comparison of the major questionnaire methodologies was undertaken by Tittle and Hill (1967). They compared the Likert, Guttman, Thurstone and Osgood methods both on reliability, and predictive validity (the criterion was voting behaviour in a student election). Fifteen-item Thurstone and Likert scales were constructed, and the Guttman and Osgood scales were 10 and 9 items long, respectively. (Due to technical and other reasons, Guttman and Osgood scales are usually short, so the comparison is not misleading.)

The reliabilities (split-half) were as follows: Likert: 0,95; Osgood: 0,86; Guttman: 0,80; Thurstone: 0,67.

The correlation between the attitude measures and the behavioural criterion were: Likert: 0,543; Osgood: 0,339; Guttman: 0,419; Thurstone: 0,255. Even a 10-item version of the Likert correlated

more highly with the criterion than any of the other measures (0,518). The poor criterion prediction of the Thurstone measure is probably due in part to its low reliability.

Fisher *et al.* (1968) compared the Likert method with a paired comparisons method which displayed some marginal advantages over the Likert (slightly larger spread of scores and slightly more platykurtic, symmetrical distribution of scores), but the reliabilities for both were comparable. Fisher *et al.* conclude: "On the other hand, the Likert scales were able to achieve almost the same degree of technical precision as the pair comparisons scales with only a fourth as many items" (p. 92).

North and Schmid (1960) compared different ways of phrasing Likert-type attitude items, the major comparison being between personalized (e.g. "My supervisor is excellent") and impersonalized (e.g. "Air Force supervisors are excellent") types of item. The results indicated that on a number of statistical criteria (standard deviation, internal consistency, test-retest reliability) the personalized type of item is superior. There was some rather tenuous evidence that qualified personalized items (e.g. "My superior is better than other supervisors I might have had") are superior to unqualified personalized items.

Edwards and Kilpatrick (1948) suggest a method for combining the Guttman, Likert and Thurstone methodologies. They point out that the Guttman technique provides no satisfactory means of selecting the original set of items for scale analysis. They suggest first scaling a large number of items using the Thurstone method of equal appearing intervals, then selecting the best of these (according to the Thurstone criteria) and subjecting them to a Likert-type item analysis. A final group of items which have passed this second selection procedure could then be tested for scalability using the Guttman technique. This procedure would, however, be extremely time consuming.

The empirical evidence is strongly in favour of the Likert method as the best of the "big four" methodologies: Likert scales are easy to construct, reliable and have good predictive validity. Tittle and Hill (1967) suggest that the Likert's superiority in predicting behavioural criteria is due to an "intensity" factor which is found more strongly in Likert items than in the items of the other three methods (which are apparently purer measures of extremity). The

Osgood method suffers from transparency and concept-scale interaction. The Thurstone scales are time consuming to construct, items fitting the model are difficult to find and reliabilities are not always high. The Guttman technique offers only a rather crude ordinal classification of subjects, inadequate procedures exist for checking whether the items are tapping the desired content area, and the method for ascertaining scalability lacks true objectivity.

Only limited research has been undertaken on comparisons between any of the major methodologies and other questionnaire methods. Some work has been done comparing the Fishbein model (which, outside the "big four", is possibly the strongest contender for acceptance as a major methodology) with that of Osgood. Results have shown only a moderate relationship between these two measures; the Fishbein technique seems to be influenced by the method of selecting salient beliefs (Thomas and Tuck, 1975; Alexander, 1976).

There is no alternative but to conclude that the evidence which has so far come to hand points strongly to the superiority of the Likert method amongst objective questionnaires.

4.9 The Interview

Most interviews would qualify for inclusion in Kidder and Campbell's (1970) direct-voluntary-free response category (see section 3.3.2). Maccoby and Maccoby (1954) see three possible roles for the interview - as a preliminary tool to suggest directions for the major part of the research, as the main instrument of data collection and as a means of clarifying findings which emerge from the use of other techniques.

A strong case can be made for the usefulness of the interview in the first and third roles. As was mentioned earlier, questionnaire methods, because of the fairly rigid model which they place on the measurement domain, may lose or discard valuable information; this is a penalty paid for their superior metric qualities. The interview, being a more flexible instrument, can be used to identify important attitudinal areas, and these can then be measured more accurately and reliably using a questionnaire or some other objective method. In a similar manner the questionnaire can be used after the main part of the study to help determine whether the techniques of data collection which were used in the main study adequately extracted all relevant information.

We shall be concerned here with an evaluation of the interview as the major instrument of data collection.

Maccoby and Maccoby (1954) distinguish two basic types of interview - standardized and unstandardized. In a standardized interview, the questions have been decided upon in advance and are asked with the same wording and in the same order for all subjects. Questions may be open or closed. In an unstandardized interview, the interviewer's technique is fairly flexible and is varied from one respondent to another. The former type of interview has in its favour that information is more comparable from case to case. The latter type has the advantage that the interviewer can direct his questioning to any particular area in order to gain more information. It is also possible that the unstandardized interview is more valid; being more "natural" it might elicit more true-to-life replies.

Several authors, like Fear (1973) and Black (1970) have suggested techniques for interviewing which facilitate the elicitation of important and truthful material.

The advantages of the interview have been mentioned already. To these a number of shortcomings must be added:

- (1) Even in the standardized interview, inter-subject comparisons are difficult.
- (2) The interviewer's own, needs, fears, prejudices etc. may influence his evaluation of the material (Webb *et al.*, 1966).
- (3) Scoring on some sort of a rating scale, if undertaken at all, is likely to be crude and unreliable. The conversion of the raw verbal material into what might reasonably be called "data" (the classification and rating of the material) presents a whole host of difficulties (Holsti, 1968).

It seems, then, that the interview is best suited to the first and third roles suggested by Maccoby and Maccoby (1954).

4.10 Projective Measures

Projective measures fall into Kidder and Campbell's (1970) classification of indirect-voluntary-free response techniques. Many projective methods were originally designed for clinical use and were pressed into use subsequently as indices of attitude (e.g. the Thematic Apperception Test). Others have been designed more carefully to tap feelings towards a specific attitude object or class of attitude objects. Keuthe and Stricker (1963), for instance, designed a doll-play situation to study the social schemata of males and females. By using black and white dolls, the technique was modified to study Black-White attitudes.

Sentence completion techniques can be designed easily to focus on any particular attitude object. Rotter and Willerman (1947) provide examples of items which could be used to assess attitudes towards Negroes: "Skin colour ... ", "Negro body odour ... " etc.

Hence, in projective techniques the attitude-object is not concealed or distorted, but the subject is not asked directly what he would do. Usually he is asked to predict the behaviour of others. Cook and Selltiz (1966) state that by disguising the purpose, projective techniques minimize the chance of distortion on the part of the subject: however there is some doubt as to whether the subject always projects; sometimes he may be just reflecting the commonly observed situation in society.

Projective methods also suffer from substantially the same scoring difficulties as the interview technique. In addition they are generally more time consuming to administer and score than the questionnaire methods. A highly-trained person is required to assess the responses: the validity of a projective instrument depends largely on the assessor's expertise.

Only limited work has been done on comparing projective methods with questionnaire methods. Despite their claimed freedom from distortion, Kidder and Campbell (1970) do not present any evidence which demonstrates superior predictive validity for projective methods. Kamenetzky and Burgess (1956) for instance found that the Guttman, Likert and Rosenzweig Picture Frustration test correlated 0,58, 0,61 and 0,54 respectively with a behavioural criterion.

Maher, Watt and Campbell (1960) administered to a prison population two projective and two objective (Likert type) attitude measures in a Campbell and Fiske (1959) design. Good discriminant validity and fairly good convergent validity was found (the corresponding objective and projective measures correlated 0,50 and 0,51 with each other). Correlations with external criterion variables did not demonstrate the clear superiority of one or other of the methods, although the objective measures did seem to be slightly superior to the projective measures.

4.11 Indirect Objective Techniques

These methods are usually presented to the subject as tests of information or ability and the assumption is that his performance will be affected by his attitudinal orientation. Hammond (1948) was one of the first to use this approach. He developed two "tests", supposedly measuring knowledge about Russia and labour-management matters. Subjects were given a choice of two possible answers to each item and were led to believe that one alternative was always correct. In fact the alternatives were equidistant from the truth in opposite directions. (An example of an item: "The average weekly wage of a war worker in 1945 was (1) \$37 (2) \$57". The expectation was that pro-Labour respondents would endorse (1) and pro-management respondents would endorse (2)).

Hammond (1948) gives an explicit rationale of the method: "The error-choice method provokes the subject to draw upon his memory of events in order to decide which answer is 'correct'. Since the field from which he does draw is ambiguous and confused at best, we know from the above evidence that the subject will select those pseudo-facts from memory which fit his frame of reference or support his established premise" (p. 39).

Kubany (1953) attempted to validate the error-choice method using the known groups technique. Significant differences were found.

Thouless (1959) developed a syllogisms test of logical reasoning, using stimulus material relevant to the attitude object (socialism). The subject's score was the difference between the number of times he made an error in the direction of his attitude and the number of times he erred in the other direction. Feather (1964) developed a similar syllogisms test to measure religious attitudes, and Doob (1953)

constructed a test of recall of positive and negative attitudinally relevant material. Categorization tasks and plausibility judgment tasks have also been developed as indirect objective measures.

Kidder and Campbell (1970) believe that indirect methods measure primarily the affective aspect of attitude whereas direct (questionnaire) methods which tap the cognitive aspects to a greater degree. Their review indicates that the validity of indirect measures is almost invariably lower than that of direct measures. Two factors might be contributing to this. Firstly, the reliability of these measures is usually low; secondly, indirect instruments might not be effectively measuring the intended attitude domain. (In measuring an entity indirectly, an increased danger exists that extraneous variables will contaminate the scores.)

4.12 Physiological Techniques

Physiological techniques measure changes in certain autonomic bodily processes which are in response to stimuli which appear to be attitudinally related. Mueller (1970) states that the bodily processes amenable to measurement using physiological techniques include all circulatory, respiratory and digestive functions as well as body chemistry, body temperature, water balance, skin electrical conductance, pupillary dilation and others. The physiological approach is based on evidence that emotion is accompanied by a widespread increase in the level of activation or of energy mobilization in the autonomic nervous system. Hence the expectation is that autonomic reactions reflect the emotional aspect of the attitudinal response. The most frequently claimed advantages of the physiological approach to attitude measurement are the "unfakeability" of such measures and their ability to tap attitudinal responses of which the individual might not even be consciously aware (Westie and de Fleur, 1959).

The vast majority of research in this area has focused on pupillary response and changes in the electrical conductance of skin, known as galvanic skin response (GSR). Also, most research has used the Negro as the attitude object.

The classic study using the GSR as a measure was conducted by Rankin and Campbell (1955). Forty white male subjects participated in what was nominally a word association test. Spurious reasons were given to the subjects for recording GSR scores. Two experimenters, one Negro and one White, alternated in making simulated adjustments to the GSR apparatus. A highly significant difference in GSR response to the two experimenters was obtained; the authors interpreted this in terms of social attitudes towards Blacks and Whites. Rankin and Campbell used the difference in GSR response between the Black experimenter and White experimenter situations as a physiological index and correlated this with a standard questionnaire of racial prejudice. The two measures correlated 0,40.

A comparable experiment using slides depicting Negroes was conducted by de Westie and de Fleur (1959). Vidulich and Krevanick (1966), however, found that slides depicting Whites and Negroes interacting caused significantly raised GSR levels (relative to slides depicting landscapes) for both high and low prejudiced subjects. Mueller (1970) concludes that GSR responses can distinguish strong emotions (attitudes) from weak or neutral ones, but cannot distinguish accurately positive emotions (attitudes) from negative ones. Also, the GSR is too "sensitive": its level may be changed by a whole host of events, from incidental thoughts to the sound of a door closing.

The discovery that emotion affects pupil size has been attributed to Chinese jade dealers who noticed that the pupils of prospective buyers contracted when they saw a jade piece which interested them (Hess and Pott (1960). Hess (1965) showed his subjects slides of male and female pinups, a baby, a mother and child, and a landscape. Marked dilation of the pupils in female students was observed in response to the baby, mother and child, and male pinup slides. Male reaction to these was minimal, but males' pupil size increased significantly at the female pinup. The situation was less clear with highly aversive stimuli (sharks, shot gangsters etc.). In some subjects, the initial reaction was dilation, but with repeated presentation, constriction was found.

Hess (1965) speculates that social desirability or normative pressures might influence the relationship between expressed attitudes and pupillary response. He found in an American student sample only a weak relationship between expressed political affiliation and pupillary response,

presumably due to the normative pressures on campus to support the Democratic party. For food preferences, on the other hand verbal and pupillary indices correlated highly. If Hess's speculation is correct, then it seems reasonable to expect that physiological measures should be inferior predictors of behaviour, because behaviour is liable to be influenced by normative pressures.

Initially it was thought that pupillary size would constitute a bi-directional index of attitude - dilation for positively evaluated stimuli and constriction for negatively evaluated stimuli. The evidence, however, has been equivocal; hence pupillary size, like GSR cannot, be used as an index of directionality, only of extremity.

Other physiological measures which have been used include finger-pulse volume, amplitude of heartbeat and salivation. To date no physiological index has proved to be a reliable measure of both direction and extremity of attitude.

4.13 Behavioural Measures

If the word behaviour is taken in a broad sense, all the techniques mentioned previously are in effect behavioural measures; attitude cannot be inferred except from some observable effect on the individual's functioning. The measures discussed in this section are what might be called overt behavioural indices: in these measures attitudes are inferred from behaviours which ideally are drawn from the individual's normal, day-to-day activities. In some cases, however, artificial, laboratory situations are used; these have the possible advantage of being more standardized and easier to score, but their two major disadvantages are artificiality and transparency to the subject. Problems of transparency and response bias can be overcome by devising unobtrusive measures, but it is difficult to find behavioural phenomena which are unobtrusive, can be measured reliably, and are valid indicators of some underlying attitude.

An example of the laboratory-type behaviour monitoring situation can be found in the study by De Fleur and Westie (1958). These experimenters devised a technique, which was subsequently much copied, to assess racial prejudice. Each subject was presented with a series of photographic release forms, each form authorizing the use and publication

graphic release forms, each form authorizing the use and publication of photographs (depicting the subject with Blacks) at a different level of publicity, ranging from private laboratory use to exposure in the national press. This technique has become popular because the behaviour can be ordinally scaled (in most techniques aimed at measuring overt behaviour, only two scores are possible - behaviour present or behaviour absent). The critics of the method, however, call the signing of photographic release forms a "pseudo-behaviour", which is unsatisfactorily indicative of actual behaviour towards the attitude object.

Another laboratory-based behaviour assessment method is the "bogus pipeline", developed fairly recently by Jones and Sigall (1971, 1973). This method depends on convincing subjects that a physiological monitoring device is able to measure both the direction and extremity of emotional response. The subject is asked to predict what the device says about his attitude. Reliance is made on the assumption that the subject will not wish to appear less capable than a machine in assessing his attitudes.

In the non-laboratory situation, one behaviour index which has been fairly widely used is the "lost-letter" technique. Cherulnik (1975) describes an application of this technique. In this application the method was used to assess attitudes towards the development of an oil refining facility in an area where this was a topical issue. Letters were dropped in the area, with one of three possible addresses on the envelope: "Committee to Promote Oil Development in Maine", "Committee to Stop Oil Development in Maine" and "Committee on Oil Development in Maine". The author gauged attitudes by the return rates of the envelopes. This method is not applicable to the study of individual differences, but rather the incidence of pro and con feeling in the target population at large.

Webb *et al.* (1966) have written a whole book on unobtrusive measures of behaviour. The techniques which they describe include natural and controlled erosion and accretion methods (e.g. wear on tiles and dirt on books), running records and straight-forward observation of behaviour.

Apart from measurement difficulties, one of the major drawbacks of the behavioural approach seems to be its assumption that overt behaviour reflects attitude. Considerable evidence exists which indicates the invalidity of this assumption (e.g. Frideres *et al.*, 1971; Tarter, 1969; Fishbein and Ajzen, 1975). Frideres *et al.*, for instance, have demonstrated how social constraints can affect the relationship between attitude and behaviour. It seems that the behavioural methods of the type mentioned in this section are better used, not as measures of attitude, but as criterion indices in a model which takes into account the multivariate nature of behaviour determination.

4.14 Overall Conclusion on Attitude Measurement Methodology

No method other than the objective, closed response questionnaire has emerged as particularly promising. Many allow rating only on the crudest of metric scales, most are unreliable and none has yet proved itself to be more valid than the standard questionnaire method. Many of the non-questionnaire methods are also time consuming and cumbersome to apply, not being amenable to group administration. Their only useful application would seem to be in a multi-method approach to attitude measurement where they might be of service as indices of attitude which are (at least partially) free of the method bias which is inherent in the standard questionnaire techniques. But if only a single measure of attitude is to be used, there is little doubt that the best choice would be the objective, closed-response questionnaire. And of the questionnaires of this type which are available, strong evidence exists as to the superiority of the Likert method. One should bear in mind, however, that this method, like nearly all others, measures only one aspect of attitude - extremity. It is here where the method of Sherif and Sherif (1967a) is at advantage in offering other apparently relevant indices of attitude.

It seems somewhat unexpected that, despite the plethora of attitude definitions which have been propounded, the variety of attitude measurement methodologies which are commonly used is actually quite limited. It seems that the operationalization of a definition into measurement terms results in the loss of many of the "nuances" or specificities of the definition; otherwise it would be impossible to measure attitudes, defined in so many ways, using so few methods. This argument certainly

has some validity, but it should be remembered also that most of the major measurement methodologies are flexible enough to enable at least some of the specific requirements of a definition to be met. (Some techniques such as the physiological ones are much more restricted in their range of applicability.) If attitude is defined in primarily cognitive terms, then questionnaire items can be phrased as beliefs; similarly "affective" definitions can be operationalized by constructing items which tap feelings; and if attitude is seen as a behavioural phenomenon, then the items can be adapted accordingly. Much is probably still lost in the operationalization process, but the responsibility for this rests largely with those who frame definitions which are not capable of being operationalized in all their features.

5.0 THEORY AND RESEARCH ON BEHAVIOUR PREDICTION

It will be remembered from Chapter 2 that many definitions describe attitude as a predisposition to behave in a certain way towards the social object in question. There has been a tradition in attitude theory dating right back to the emergence of the latent trait approach in the mid-1920s, that attitudes, either through their own motivational power, or as agents which channel motivational forces from a central source, determine overt behaviour. This expectation, that attitude should predict behaviour, is also grounded in the belief that man is consistent being; if an individual evaluates a social object in a negative manner, we expect him also to behave in a negative manner towards the object in question; similarly we expect positive attitudes to be accompanied by positive acts.

A classic study conducted by LaPiere(1934) dealt a decisive blow to this rather nineteenth-century view of man. The author and a well-dressed Chinese couple travelled extensively in the United States. In their travels they were received in 66 hotels (and refused in one) and were served in 184 restaurants. Thereafter, inquiries were sent to all the establishments visited concerning acceptability of Chinese persons as guests or patrons in these establishments. In 92% of the cases, the owners or representatives of the hotels and restaurants replied that they would not allow Chinese people on their premises. This study has its shortcomings: in particular, the situation presented in the enquiry and the situation which confronted proprietors at their hotels or restaurants were not strictly comparable; the owners of these establishments were asked whether they would allow Chinese people on their premises, not whether they would admit a presentable Chinese couple who spoke fluent English and were accompanied by a White person. Nevertheless, LaPiere's study did sound a warning that attitudes cannot be trusted to give infallible predictions of behaviour. This warning has been ignored by many subsequent research workers who have expressed surprise at the inconsistency of their attitude and behaviour data. Currently however, attitude-behaviour inconsistency is a topic which is generating a large amount of theoretical and research interest.

In this chapter we shall first review some of the research which has examined the relationship between attitude and behaviour; then we shall describe a number of theoretical proposals which have been made to

account for attitude-behaviour inconsistency; these will be illustrated by referring to some of the pertinent empirical research. Some behaviour prediction models will also be discussed.

5.1 Some Research Findings on the Relationship Between Attitude and Behaviour

The studies referred to in this section by no means constitute an exhaustive review of the research done in this area; the number of experiments conducted on attitude-behaviour consistency is too large to make anything but a small sampling of representative studies possible.

Kutner, Wilkins and Yarrow (1952) conducted a study similar to that of LaPiere (1934). They compared the verbally expressed willingness or unwillingness of restaurateurs to accept racially mixed parties with their actual behaviour when presented with the prospect of having a mixed party in their establishments. No relationship between expressed willingness and actual behaviour was found.

Fendrich (1967) assessed students' attitudes to Negroes using a standard questionnaire method. The students were then asked whether they would be willing to attend a small group discussion with Negro and White members of a campus chapter of the National Association for the Advancement of Colored People. The attitude-behaviour correlation was only 0,12. Fendrich attributes this inconsistent relationship largely to the "play-like" quality of the questionnaire; respondents treated the questionnaire as a game, not realizing that they would be presented with a behavioural option at a later stage.

Sample and Warland (1973) used a Likert-type questionnaire to measure students' attitudes toward student government. The criterion was voting behaviour in a student election. A correlation of 0,29 was obtained between attitude and behaviour.

De Friese and Ford (1969) measured student attitudes towards Negroes; the behavioural measure was the signing of petitions for or against integrated housing (it was also permissible not to sign either petition). These behaviours were scored 1 (for signing the anti-integration petition), 2 (for abstaining) and 3 (for signing the pro-integration petition). These scores correlated 0,39 with the attitude scores.

Ostrom (1969) conducted a large study on attitude-behaviour correspondence. A total of 12 attitude scores (3 Thurstone, 3 Guttman, 3 Likert and 3 self-rating) were obtained from students on the affective, behavioural and cognitive aspects of their attitudes towards the church. The students also reported on their behaviour with regard to church-related activities: eight behavioural self-reports were obtained, including church attendance, money donated, time spent meditating and time spent on church-related activities. A 18 x 8 matrix of attitude-behaviour correlations was computed. Church attendance was the only behaviour for which predictor-criterion correlations exceeded 0,40. A large proportion of the correlations were below 0,15 (non-significant). For church attendance, the measure of the behavioural aspect of attitude proved the best predictor: the Thurstone Guttman, Likert and self-report measures correlated 0,59, 0,68, 0,66 and 0,50 respectively with Church attendance. The mean correlations of the affective and cognitive measures with church attendance were 0,53 and 0,47 respectively. It is arguable, however, whether the measures of the behavioural aspect of attitude can validly be called attitude measures; a more suitable way to describe them would probably be to call them measures of behavioural intention.

Wicker (1969) also conducted a study on the relationship of attitude towards the church with church-related behaviour. Three Semantic Differentials (using the "church in general", "own church" and "associations with own church" as concepts) and one Thurstone measure of church attitudes were administered to 152 church members. Behavioural indices were service attendance, contributions, responsible positions in church activities and a behavioural composite. The Semantic Differential using the church in general as an attitude object proved totally ineffective as a predictor. The remaining three measures correlated between 0,28 and 0,36 with church attendance. All other correlations were lower, mostly below 0,25. The failure of attitude towards the church in general to predict church-related behaviour supports Ajzen and Fishbein's (1977) argument that the attitude measure must be as relevant as possible to the criterion behaviour and at the same level of specificity as the criterion behaviour if reasonable attitude-behaviour correlations are to be expected.

Mention was made in the previous chapter of the behavioural measure developed by De Fleur and Westie (1958) in which the subject is presented

with a set of photographic release forms which authorize the use and publication of photographs showing the subject with Negroes. These release forms range from permitting the use of the photographs in laboratory experiments to their use in a national racial integration publicity campaign. In this way, De Fleur and Westie devised an 8-point scale of behavioural intensity. In the analysis, however, he dichotomized both his behavioural and attitudinal scores at the mean. A statistically significant correspondence was found ($X = 7,26$, $p = 0,01$ with a phi coefficient of 0,40).

In a similar experiment Green (1972) found, like De Fleur and Westie, that those who showed greater willingness to sign photographic release forms tended to have pro-Negro attitudes and *vice versa*. Linn (1965) also used the photographic release technique to study the relationship between attitudes and behaviour in relation to the Negro. He found a non-significant correlation of 0,29.

Brannon *et al.* (1973) in a field experiment recorded the expressed attitudes of 453 home-owners towards open housing vs. owner's rights. (In the former, the seller does not have the right to refuse to sell his house to a prospective buyer on the grounds of his race, colour or religion, whereas in the latter the owner retains this right.) Later, these same home-owners were presented with a petition addressed to the state governor either urging that the governor should support any law aimed at ending racial discrimination in housing or urging that he should veto any such law. The findings are too involved to present here in detail, but the general conclusion was that the vast majority of respondents were consistent in their responses to attitudinal questions and to the petitions. Respondents supporting owners' rights substantially outnumbered respondents favouring open housing; respondents supporting owners' rights were also more consistent than those supporting open housing. It seems possible that social pressures contributed to the greater inconsistency of the latter group of subjects. The authors speculate that the substantial correspondence found in this study was largely due to its "real-life" setting; unlike many laboratory-based experiments, the attitude-assessment phase was not regarded as a "game". But like so many other studies in the field of behaviour prediction this study fails to use a genuine behavioural criterion (instead, behavioural intention was used). Hence there is a strong likelihood of contamination between predictor and criterion - especially

since both were recorded using a similar response format. Further contamination arises when the subject is aware that both his attitude and his behaviour (or behavioural intention) are being monitored. Such knowledge on the part of the subject can cause him to demonstrate a pseudo-consistency between attitude and behaviour. These experimental shortcomings therefore tend spuriously to inflate the correspondence between predictor and criterion.

A study by Veevers (1971) has the shortcomings mentioned above. Veevers measured attitude, using a number of instruments, to the drinking of alcoholic beverages. He also asked his subjects to report on their drinking behaviour. Attitude-behaviour correlations varying between 0,46 and 0,72 were obtained. These correlations would probably have been appreciably lower if Veevers had measured actual behaviour and if the subjects were not aware that their behaviour was to be measured.

In some studies, however, even when possible contamination effects are taken into account, the correlation between attitude and behaviour is substantial. Kothandapani (1971), for instance found correlations up to 0,82 between attitudes to birth control and reported use of birth control methods in a sample of 100 Negro women of a low socio-economic class. In this study, four attitude measurement techniques (Thurstone, Likert, Guttman and a self-rating scale) were used to assess the affective, cognitive and behavioural components of attitude. As was the case in the Ostrom (1969) study, the behavioural intention measure was superior at predicting behaviour for all four measurement techniques. The Likert and Thurstone techniques were the best predictors, with the Likert possibly having the edge on the Thurstone. The author designed the study to be compatible with Campbell and Fiske's (1959) multitrait-multimethod model, the "traits" being the three aspects of attitude as described by the tripartite attitude theorists (see section 3.2.1). Kothandapani's data showed clear discrimination among the affective, cognitive and behavioural components. Rather than strengthen the position of the tripartite theorists, this finding calls into question the defensibility of subsuming the three constructs under the single title of attitude. (Ostrom's, 1969, results also indicate the discriminability of these three constructs.)

Other studies where substantial attitude-behaviour associations have been found are described below.

Campbell *et al.* (1960) found a correlation of 0,52 between attitude towards Eisenhower and voting behaviour in the 1956 presidential election.

Fishbein and Coombs (1974) found that attitude towards Goldwater and voting behaviour correlated 0,73 in the 1964 election.

Frideres *et al.* (1971) found a gamma of 0,84 between attitude towards marijuana and willingness to sign a petition to legalize the drug.

Albrecht and Carpenter (1976) obtained a correlation of 0,54 between attitude and behaviour in a study similar to that of Frideres *et al.*

Acock and De Fleur's (1972) study was also similar to that of Frideres *et al.* In this study, the attitude-behaviour correlation was found to be 0,53.

It is clear, then, that a wide variation has been found in the relationship between attitude and behaviour. In some studies the relationship has been almost negligible (in fact, even slightly negative correlations have been found in a few cases) while in other studies, the relationship has been moderate, or even substantial (voting behaviour in particular seems to be an area where attitude is a good predictor).

Wicker (1969) reviews a large number of studies published up to the late nineteen sixties. He remarks on the wide variation in reported attitude-behaviour correlations, but concludes that attitudinal and behavioural variables seldom share more than about 10% of their variance. (This corresponds to a correlation of about 0,3.)

Our next undertaking is to examine the major explanations which have been put forward to account for the widely varying, but generally weak, attitude-behaviour relationship; then we shall describe the behaviour-prediction models which have been posited to predict behaviour more effectively than attitude alone.

5.2 Explanations of Attitude-behaviour Inconsistency

Before going into the reasons which have been proposed to explain the inadequacy of the single variable (attitudinal) model of behaviour prediction, we must examine some of the possible experimental and methodological factors which might have caused attitude to seem a poorer predictor of behaviour than it really is.

Firstly, inadequacies in the attitude measures themselves might be contributing to the poor attitude-behaviour correspondence. Ajzen and Fishbein (1977), Weigel *et al.* (1974) and Weigel and Newman (1976) have emphasized the importance of using attitude measures which are at the same level of specificity as, and compatible with, the criterion behaviour. Rokeach's (1968) and Rokeach and Kliejunas's (1972) injunction should also be borne in mind - that social objects always occur in social contexts and that our behaviour towards the object is likely to be influenced by the context in which we encounter it. Hence, if we measure attitude towards the Negro in general and then measure a specific type of behaviour towards particular Negroes in a specific situation, it is not surprising that attitude and behaviour are not highly correlated. Liska's (1974b), Heberlein and Black's (1976) and Weigel *et al.*'s (1974) experimental findings provide support for this point. Even if the attitudinal and behavioural measures are at more-or-less the same level of specificity, they may not be compatible with one another (see Wicker and Pomazal, 1975). Ideally, attitude-behaviour consistency should be studied by selecting a criterion behaviour which is the "natural" mode of expressing the attitude. In practice this is difficult or impossible to do, for there is often apparently no single obvious or "natural" manner in which an attitude is expressed. In some cases there are many possible behavioural outcomes to a given attitudinal orientation (Weinstein, 1972). If one has a positive attitude to a particular political party, for instance, there are several ways in which this attitude could be realized in overt behaviour - by becoming a party member, by working in the party offices during elections, by seeking nomination as a candidate, by voting for the party, etc. It is fortunate that in this instance there is one behaviour (voting) which is a fairly "natural" and universal expression of one's attitude towards a political party. (It is probably partly for this reason that attitude-behaviour correlations are usually found to be high in voting studies.) There are many

instances however where, within the range of possible behaviours to the attitude object, there is no universal mode of attitudinal expression. There is no universal means, for instance, of translating a positive attitude towards Indians into action. It might also be the case that suitable behavioural outlets are not readily accessible to the individual. If I have a positive attitude towards being an astronaut, there is very little that I can do about it.

Fishbein and Ajzen (1975) have proposed a method of overcoming the compatibility and specificity problems by measuring, not attitude to an object, but attitude to an act. In this method, one would attempt to predict a specific behaviour towards (say) Negroes from scores on a measure which assesses the subject's attitude to performing the criterion behaviour; hence if the criterion behaviour is going to a mixed meeting to promote racial integration, then the predictor would be the subject's attitude to going to such a meeting. The disadvantage of the Fishbein and Ajzen approach is that, by fragmenting attitude into such small units, it tends to destroy the value of the attitudinal concept as a means of accounting for human behaviour parsimoniously; for every criterion behaviour, an instrument to measure attitudes to that specific behaviour has to be constructed. Nevertheless there is evidence (e.g. Jaccard *et al.*, 1977) that, at least in some circumstances, attitude-to-act predicts behaviour substantially better than attitude-to-object.

There are several other areas where our attitude measurement methods might be inadequate. Prediction might be improved if dimensions other than extremity are taken into account. These have been variously identified in the literature as salience, centrality, intensity, certainty, multiplexity, ambivalence, etc. Schuman and Johnson (1976) point out that the more intense an attitude, the more likely it is to predict behaviour accurately. Norman (1975) demonstrated that attitudes held ambivalently are poorer behavioural predictors than those which are held with a relative lack of ambivalence. The measure of ambivalence was the discrepancy between scores on "cognitive" attitude and scores on "affective" attitude. Then there is the problem of the reliability of the measuring instruments. The intercorrelation between predictor and criterion is limited by the unreliability of both predictor and criterion measures. It is also possible that genuine change might

occur in the interim between the measurement of the attitude and the criterion. Tittle and Hill (1967) and others have shown that the different attitude measurement techniques have different efficacies in predicting behaviour. These authors speculate that one reason why the Likert method seems to be superior to others in predicting behaviour is that, in its multichoice format, it incorporates a measure of attitudinal intensity. The definition on which the attitude measure is based can also have an effect on the strength of the attitude behaviour relationship. Studies reviewed in section 5.1 (Ostrom, 1969) and Kothadapani, (1971) have shown that attitude questionnaires which purport to measure the "behavioural" aspect of attitude correlate more highly with overt behaviour than "affective" or "cognitive" measures. As was said earlier, it is arguable whether "behavioural" questionnaires should be regarded as *bona fide* measures of attitude.

We should also be clear about the theoretical assumptions which we make regarding the nature of the relationship between attitude and behaviour. La Piere (1934), for instance, examined the degree of literal consistency between attitude and act; he investigated the degree of correspondence between what his subjects said they would do and what they actually did. The attitude-behaviour relationship investigated in most subsequent experiments is of a much less literal nature, because continuous attitude scales are generally employed. It is assumed that the higher the subject's score on the attitude scale, the greater the probability he will perform a particular behaviour, or the more intensely he is likely to perform a particular behaviour. Almost invariably it is assumed that there is a linear relationship between extremity of attitude and the probability of occurrence (or intensity of performance) of a criterion behaviour. These assumptions might not be justified.

Campbell (1964) has made a valuable contribution to the theory of the attitude-behaviour relationship with his threshold concept. He claims that a certain dispositional strength or force is necessary before the individual performs a given act. Therefore there are thresholds which must be passed before a behaviour is emitted. These thresholds may be hierarchically ordered. It may, for instance take a dispositional strength of x before an individual votes for a given party; $x + y$ is required before he goes and offers his services at the party offices and $x + y + z$ is needed before he seeks to have himself nominated as

a party candidate (x , y and z all have positive values in this example). Also there might be different thresholds for responding to items in a questionnaire (or making a verbal statement) and actually taking action in real life. The threshold for saying: "We do not accept Chinese patrons in our restaurant" might be lower than the threshold for actually preventing the admission of Chinese individuals to the restaurant. Campbell (1964) applied his model to La Piere's (1954) data and to the data of other studies where weak attitude-behaviour relationships have apparently been found; he claims that much of the supposed inconsistency is actually "pseudo-inconsistency" and that much behaviour which was thought to be inconsistent actually can be brought within the compass of prediction models once the threshold concept is taken into account. Raden (1977) tested Campbell's (1974) hypotheses and found that when a scalogram or situational threshold method of assessing inconsistency was applied, inconsistency was substantially reduced. Raden argues, however that pseudo-inconsistency can be part of a general "item difficulty" artifact which can also result in pseudo-consistency.

It is worth noting that the inconsistent relationship which La Piere found has probably changed its direction in present day U.S. society: white Anglo-Saxon Americans are probably more likely to discriminate against Negroes behaviourally rather than verbally (e.g. employing Caucasians in preference to Negroes). It seems then that thresholds (and hence the attitude-behaviour relationship) are affected by changes in social and situational factors - social norms, legislation, etc. These factors will be considered when multivariate behaviour prediction models are examined at a later stage in this chapter.

We have already mentioned the necessity of finding behavioural indices which are appropriate to, and at the same level of specificity as, the attitudinal construct being measured. The satisfactoriness of a behavioural measure should be checked from certain other points of view as well. In fact one should apply the same standards to a behavioural index as one does to a psychological test. Hence the behavioural measure should be reliable, it should sample the intended behavioural domain adequately and it should be capable of ordering individuals on a scale which possesses, or at least approaches, some of the basic metric requirements. Some of these requirements are: reasonably large number of scale divisions, scale divisions of the same size, reliability of the scale on repeated measurement and "pure" measure-

ment of the intended dimension. Fishbein and Ajzen (1974) point to the necessity of determining the nature of behavioural items' trace lines when developing criterion measures. Hence they advocate a procedure similar to that used in attitude scale construction.

In order to fulfil these requirements, the idea of using more than one behavioural index has started to take hold. Even if these indices are insufficiently correlated to justify combining them into a single composite measure, the chances of finding a compatible behavioural manifestation of the attitude are increased and consequently more can be learned about the pattern of relationships between attitude and aspects of the behavioural domain. At this point we should reconsider Fishbein and Ajzen's (1975) argument that attitude-towards-the-act is likely to be a better predictor than attitude-towards-the-object. In a later publication, Ajzen and Fishbein (1977) state: "... when it can be shown that an action has evaluative implications for the target, the most appropriate predictor of the single-act criterion is the attitude toward the action rather than the attitude towards the target" (p. 891). On the other hand, a more generalized attitude (attitude-towards-the-object) is seen as more appropriate when predicting a whole domain of actions rather than a single act, but care must be taken when designing a behaviour prediction study of this type to sample the behavioural domain adequately when selecting the criterion indices.

It will be remembered that empirical research has indicated there to be a wide variability in the strength of the attitude-behaviour relationship. The factors mentioned above (specificity, compatibility, reliability, adequacy of sampling of the behavioural domain, etc.) must be borne in mind when considering the reasons for the large variability in the attitude-act correspondences which have been reported in empirical studies. However, there seem to be other important variables which **mediate** the relationship between attitude and behaviour. Below is a discussion of some of the mediating variables which have been cited in the literature.

Fendrich (1967) has demonstrated the importance of commitment in the attitude-behaviour relationship. Fendrich defines commitment as the act of making perceived voluntary decisions to participate in a consistent pattern of action that involves some risk. He points to the fact that in a typical test-taking situation, respondents are not

subject to the normal coercive forces of everyday life. In contrast, in the real world people are held to account for what they have said and how they have acted. Hence it seems likely that many respondents regard the attitude measurement situation as a game which has little bearing on real life. Behaviour assessment situations on the other hand (e.g. agreeing to attend a Civil rights meeting), are much less of a game and are subject to the host of social and situational pressures which are liable to influence behaviour. Hyman (1959) and Burhans (1971) propose that attitude measures should be designed to incorporate the major features of the real world in order to minimize their play-like qualities. In the Fendrich (1967) study, the predictor was attitude to the Negro and the criterion was agreeing to attend a civil rights discussion. Subjects were also administered a scale to determine their commitment to participate in interracial activities. For those subjects who completed the attitude questionnaire before the commitment questionnaire, the attitude-behaviour correlation was 0,12, but for those who completed the commitment questionnaire first, the attitude-behaviour correlation was 0,69. The commitment questionnaire apparently had the effect of making the attitude assessment situation less artificial. (One should bear in mind, however, that the experimental design has a flaw in it: the imposition of the commitment measure between the attitude and behaviour measures in the first experimental condition might have depressed the size of the predictor-criterion correlation. In the second condition the predictor-criterion correlation might have been spuriously inflated.)

Nichols and Duke (1977) have pointed to the possible importance of locus of control as a mediator in attitude change. The locus of control concept was developed by Rotter (1954) and may be described as the degree to which an individual believes that events occur in his life as a result of his own initiatives (internal control) as opposed the belief that luck or outside forces determine the course of his life (external control). According to Nichols and Duke, individuals with a high internal locus of control are highly resistant to attitude change, whereas those whose locus of control is largely external are liable to be more susceptible to attitude change. Nichols and Duke speculate that the same principle might hold in the attitude-behaviour relationship, i.e. that the attitude-behaviour relationships might be stronger in internally controlled individuals than externally-controlled persons, the reason for this being that internally-controlled persons are less susceptible to environmental factors and therefore more likely to act in accordance with their internal attitudinal state.

Schwartz (1968) defines a construct, ascription of responsibility, which bears a close resemblance to locus of control. In his sample of male undergraduates, Schwartz found that attitude-behaviour consistency was significantly greater in those subjects who were high on the tendency to ascribe responsibility to the self than in those who were low on this construct.

Like Nichols and Duke (1977), Snyder and his co-workers have also taken the position that individuals differ in the extent to which situational and dispositional factors influence their behaviour (see Snyder and Monson, 1975; Snyder and Swann, 1976; Snyder and Tanke, 1976). Snyder and Monson (1975) have developed a construct called self-monitoring. Individuals who monitor their behavioural choices on the basis of situational information are claimed to demonstrate considerable situation-to-situation discrimination in their behaviour. For these people, the attitude-behaviour relationship is expected to be weak because situational and not attitudinal factors are the primary determinants of behaviour. On the other hand, individuals who monitor their behaviour on the basis of internal (dispositional or attitudinal) factors are expected to demonstrate much higher attitude-behaviour consistency. Snyder and Monson (1975) have developed a scale to measure self-monitoring behaviour. Some empirical support for this theory is presented by Snyder and Swann (1976).

Bem and Allen (1974) also observe that individuals might differ in the degree to which attitudinal and situational factors influence behaviour. Subjects who are primarily influenced by situational factors are likely to be inconsistent in their responses to attitude measures according to Bem and Allen. An analysis of the item responses of these people would therefore indicate that for them there is no clear underlying attitudinal dimension. Because the attitude in question is either absent or poorly formed in such individuals, behaviour is directed primarily by situational factors and hence lacks the greater measure of across-situational consistency which it would have if it were being directed by an underlying attitude. In these circumstances, attitude measures are of little or no use in predicting behaviour and the experimenter should rather resort to predicting behaviour on the basis of situational variables. Norman (1975), in an empirical study, found evidence supporting Bem and Allan's (1974) claim that the attitude-behaviour relationship is weaker for attitudinally inconsistent individuals than for those who are consistent. (In this study, consistency was defined in terms of the agreement between cognitive and affective aspects of attitude.) Liska (1975) states that attitudes are not

well-formed unless the three components (cognitive, affective and conative) are present. He claims that much attitude-behaviour inconsistency may be the result of trying to predict behaviour from ill-formed attitudes. It is largely on these grounds that attitude salience or centrality has been cited as a factor in attitude-behaviour consistency (e.g. Newcomb *et al.*, 1965; Milard and Perry, 1976). The argument is that the attitude-behaviour relationship is stronger in the case of salient attitudes because these attitudes are well-formed and important to the individual and hence are more likely to direct behaviour.

Relevant to the above discussion is Sample and Warland's (1973) work on response certainty. These authors measured students' attitudes towards student government using a 5-category 15 item Likert scale. The students were also requested to indicate on a 5-point scale how certain they were of each of their responses. The sample was divided into high-certainty and low certainty groups. For the high-certainty group, the correlation between attitude and the criterion of voting behaviour was 0,47, whereas for the low-certainty group the correlation was only 0,06. Sample and Warland claim that response certainty is an index of the degree to which attitudes are well-formed.

Wicker (1971) conducted a study into attitudes towards the church and church behaviour. Several behavioural criteria were employed. The mean attitude-behaviour correlation was only 0,22. On the other hand, the mean correlation with the criteria of subjects' judgement of the importance of extraneous events (e.g. inclement weather, weekend guests, etc.) on church behaviour was 0,36. These findings are in accordance with the views of Lewin (1951), who is pessimistic about the prospects of behaviour prediction models due to the influence of extraneous or situational factors. But, as will be seen later, it seems that it might be possible to take at least some of these factors into account in prediction paradigms.

The effect of perceived consequences of behaviour on the attitude-behaviour relationship has been mentioned by Linn (1965). Linn found in a sample of female first-year university students that racial prejudice was less marked in questionnaire responses than in actual behaviour (signing photographic release forms authorizing the use of photographs, depicting the subject with a Negro, at various levels of publicity). Linn analyzed the situation as follows. At the university there was substantial, normative pressure to espouse liberal attitudes towards Negroes-- hence the low level of racial prejudice expressed

in the attitude questionnaire. But the normative attitude of the community at large and of the students' parents towards Negroes was much more conservative. Therefore, when the subjects realized that if they translated their liberal expressed attitude into behaviour they would receive wide exposure to a largely disapproving public, they "backed out". This study illustrates the difficulty of distinguishing "true" attitudes from social pressures. Social pressures had apparently caused the subjects to espouse more liberal racial views, but it is impossible to determine whether an actual change of attitude had taken place. The failure of the subjects to behave in accordance with their expressed attitudes cannot be taken as watertight evidence against the conclusion that real attitude change had taken place, because the pressure of social norms might have had a mediating effect. Linn's study highlights the importance of social pressures in the determination of behaviour. (This topic will be discussed in some detail later in this section.) It also indicates the probable influence of social pressures in the formation of attitudes. Inconsistency in Linn's study was apparently due to conflicting social pressures. Age is a factor which should also be taken into account: Linn's subjects were young. It is possible that younger individuals, having attitudes which are still somewhat uncrystallized (and less rigid), are more likely to be influenced in their behaviour by situational factors.

A further factor which appears to play an important role in attitude-behaviour consistency is familiarity, or habit. Tittle and Hill, (1967) make the point that behaviour is more likely to be consistent with attitude if the behaviour in question is familiar to the individual. The more frequently he has engaged in the behaviour in the past, the more likely it is that the behaviour will be elicited in response to the relevant attitude. Bandler *et al*, (1968) claim that behaviour can influence the direction and intensity of attitudes, just as attitudes are held to influence behaviour. With repeated performance of a given behaviour, attitude and act are more likely to be in accord. Kendler and Kendler (1949), however, warn that attitudes and behaviour are different "habits" and hence there is no *a priori* reason to expect that they should covary. They suggest that the phenomenon of inconsistency should be analyzed in terms of S-R reinforcement theory: if the history of reinforcement associated with an overt act differs from that associated with responses to a given attitude measurement instrument, then it is only to be expected that inconsistency will be found.

Knowledge, or possession of relevant information, can also affect attitude-behaviour consistency. Weigel and Amsterdam (1976) found a very poor relation-

ship between attitudes towards dental health and self-reports of dental care behaviour. The authors attribute this inconsistency largely to the subjects' lack of knowledge about proper dental care.

Regan and Fazio (1977) make a distinction between attitudes formed from direct experience with the attitude object and those formed at second hand (e.g. through reports from friends or associates, accounts from the mass media, pronouncements of "experts" or "authorities," etc). The authors hypothesized that attitudes which have been formed by direct experience with the attitude object will be more consistent with behaviour than those which have been formed by exposure to indirect sources of information. The rationale behind this is that attitudes are less "hypothetical" and more part of one's real-life experience if formed through actual interaction with the attitude object; they should therefore be expected to be better indicators of behaviour towards attitude objects than attitudes formed at second hand. In a study involving attitudes towards a student housing crisis and attempts to alleviate the crisis, Regan and Fazio (1977) did find that those students who had had direct experience with the housing crisis showed greater attitude-behaviour consistency than those who had not.

In a follow-up study, Fazio and Zanna (1978a) examined the role of response confidence as a mediating variable in the relationship between mode of attitude formation and attitude-behaviour consistency. It was found that subjects who formed their attitudes through direct experience held their attitudes more confidently and showed higher attitude-behaviour consistency than those subjects whose attitudes were formed through indirect experience. A further finding was that, irrespective of the mode of attitude formation, subjects who held their attitudes more confidently displayed greater attitude-behaviour consistency. The authors claim that confidence should be regarded, not only as a mediating variable, but also as a determinant of attitude-behaviour consistency.

In addition to response certainty Fazio and Zanna (1978b) looked at two other possible mediating or causative variables - latitude of rejection and the discrepancy between affective and cognitive aspects of attitude. Both response certainty and latitude of rejection were significantly related to attitude-behaviour consistency. In the latter variable, large latitudes of rejection were associated with higher levels of attitude-behaviour consistency, and *vice versa*.

Liska (1975) points out that in most instances it is probably naive to think that behaviour is determined by a single attitude. Most social situations are complex and probably evoke a number of attitudes in us. The resultant behaviour might be a product of the influence of all these attitudes. Nearly all research into attitude-behaviour consistency, however, takes only a single attitude into account.

Before going on to discuss further what has been regarded by many theorists as the most important factor influencing attitude-behaviour consistency, viz. social or normative pressure, an attempt will be made to place the factors influencing attitude-behaviour consistency into some sort of conceptual framework. Gross and Niman (1975) distinguish three main groups of factors: personal, situational and methodological. Under personal factors, they include :

- (1) Other attitudes.
- (2) Competing motives. The authors apparently believe that not all motives work through attitudes. Motives or drives underlying a given behaviour may be stronger than motives related to a relevant attitude.
- (3) Verbal, intellectual and social abilities. Attitude-behaviour inconsistency may be due to an individual's inability to make appropriate verbal or behavioural responses.
- (4) Activity levels. A highly active person may be more likely to act in a way consistent with his attitudes than one who is more indifferent to his environment.

Under situational factors they list the following:

- (1) Normative prescriptions of proper behaviour.
- (2) Alternative behaviours available.
- (3) Specificity of attitude objects.
- (4) Unforseen extraneous events.
- (5) Expected and/or actual consequences of various acts.

The following are the methodological factors mentioned by them :

- (1) Reliability of attitude measurement instruments.
- (2) Discriminating power of behavioural measures.
- (3) Difficulties in determining what attitudes are associated with what behaviours.

Ehrlich (1969) also attempts a categorization of the variables mediating attitude-behaviour **consistency**, but Gross and Niman's (1975) categorization of the area is "neater" and more comprehensive.

It will be noticed that almost all the factors mentioned by Gross and Niman (1975) have been discussed in this section. Attempts have not been made by researchers to incorporate Gross and Niman's first group of factors (personal factors) in behaviour prediction models, probably because most of these are idiographic. Gross and Niman's third group of factors (methodological) are of relevance, not so much in the conceptualization of models of behaviour prediction, but rather in the methodologically satisfactory implementation of such models. This leaves us with the second group - situational factors. It is these factors which have generated a large amount of theoretical and research attention; efforts have been made either to account for poor attitude-behaviour correlations, or to predict behaviour with greater effectiveness than is possible with the simple attitude model. Theorists such as Fishbein and Ajzen (1975) and Rosenberg (1956, 1960) hold that people's actions are influenced by both internal (primarily attitudinal) and by external (primarily social) forces. This approach has an immediate intuitive appeal, for it recognizes fully that man is both an individual and a member of a social milieu. The simple attitude prediction model tends to overplay the former and ignore the latter.

Situational and attitudinal factors may interact in a number of ways. Lemon (1973) distinguishes three possible relationships between attitudes, social structure and behaviour:

- (1) Social structural factors influence both behaviour and attitudes. In this paradigm, attitudes have no influence on behaviour. Lemon uses as an example a slave society where personal attitudes are almost totally unrelated to overt behaviour.

- (2) Social structural factors influence attitudes which in turn influence behaviour. This is the situation where attitude is an intervening variable. In this model, effective prediction of behaviour can be obtained by assessing attitudes. However, if there is a one-to-one relationship between social structural factors and attitudes, then attitude becomes a redundant, possibly meaningless, concept. Lemon claims that this may be the case in "simple", traditional and "rigid" societies where there is little discrepancy between personal attitudes (if one may call them such) and social structural factors.
- (3) Social structural factors and attitudes influence behaviour. This model admits the possibility that an interaction may occur between social factors and attitudes which can lead to effects which could not happen if either factor were acting alone.

The third model appears to be most appropriate to the situation in Western society. In Western society, individualism is valued: people are expected to hold personal attitudes and opinions, and to act in accordance with these. On the other hand, organized and informal groups and society at large do not let the pursuit of individualism get out of hand, for this would pose a threat to the security of their existence. To some extent our behaviour is kept within prescribed bounds by enforceable structures (laws), but most of our daily behaviour is influenced and modified by the unenforceable but nevertheless powerful effects of social pressure. This pressure probably modifies attitudes as well as behaviour (as in Lemon's (1973) first model) but not to the extent that personal attitudes and social norms become identical. The individual in Western society is urged to be his "own man" but at the same time not to be a "scab".

The importance of social factors in the determination of behaviour has been recognized ever increasingly by attitude theorists since the late nineteen fifties, and today it is a relatively infrequent experience to come across research which naively assumes that behaviour is directed purely and simply by attitudes. The following is a review of some of the research which has illustrated the importance of social factors in the determination of behaviour.

De Friese and Ford (1969) based their research on the hypothesis that overt behaviour towards a social object is a function of the combined influence of attitude and social constraints. The authors measured attitude towards Negroes in a sample of 262 homeowners in a White residential area. The behavioural

criterion was the subjects' endorsement of legal-looking documents indicating either willingness or refusal to support racial open occupancy. Respondents were also asked to indicate their perception of the attitude of each of five reference groups, considered by the experimenters to be influential in the process of individual decision-making: immediate family, close relatives, close friends, neighbours and work associates. De Fries and Ford found that they were able to predict overt behaviour substantially better when both reference group position and own attitudinal position were taken into account than when own attitudinal position alone was used.

Ewens and Ehrlich (1972) claim that people are motivated to behave in a manner both consistent with their attitudes and with the expectations of their reference groups. Since reference group views and the individual attitudes will not necessarily be in full agreement, attitude and reference group pressure can have independent effects on behaviour. Ewens and Ehrlich measured attitudes to Negroes, perceived reference group attitudes to Negroes and willingness to engage in various civil rights activities. The experimenter found that for some civil rights activities, attitude was a better prediction than reference groups support, while for others the opposite was true and for yet others the predictive powers of the two variables were about the same. Ewens and Ehrlich speculate that the influence of reference group support on behaviour seems to be mediated by a number of characteristics of the behaviour in question, including its visibility, centrality and legitimacy. Ewens and Ehrlich's contention that reference group pressure and attitude have a relatively independent effect on behaviour was supported by the finding that in nearly all cases prediction was improved by using both predictors (rather than only one).

Warner and de Fleur (1969) studied students' racial attitudes and racial behaviour under "public" and "private" conditions (disclosure or non-disclosure of behaviour to fellow-students). The relationship between attitude and behaviour was smaller in the public than in the private condition. Warner and de Fleur conclude (p164): "Since the requested act was one generally disapproved within relevant norms, the exposure to potential surveillance provided by the condition of high social constraint produced inconsistency between attitudes and action for the least prejudiced subjects".

In a study involving attitudes towards legalizing marijuana and relevant overt behaviour (signing a document indicating commitment), Frideres *et al.* (1971) found that attitude behaviour correspondence was higher when subjects

were under the impression that others participating in the study had attitudes congruent with theirs than when they thought that the opposite was the case.

Some other authors who have studied or commented upon the effect of social factors on behaviour are: Perry (1977); Davey (1976); Deutscher (1966); Tarter (1969); Burhans (1971); Albrecht (1971); Carpenter (1976); Silverman and Cochrane (1971); Bowers (1968, 1973) and Kelman (1974). Liska (1974a) succinctly sums up the main finding of the attitude studies which have looked at social factors: when social support and attitude work together, then attitude-behaviour consistency is high, but when these two factors are a variance with each other, then attitude-behaviour consistency is low.

5.3 Models of Behaviour Prediction

Two groups of theorists have incorporated social situational variables in their behaviour prediction models. The leaders of these two groups are Fishbein and de Fleur.

A description and theoretical justification of the Fishbein behaviour prediction model can be found in a number of publications, including Fishbein (1967b); Ajzen and Fishbein (1969, 1970, 1973) and Fishbein and Ajzen (1975). Fishbein sees behaviour towards an attitude object as the resultant of the weighted sum of attitudinal and normative effects :

$$B \sim BI = [A_{act}]W_0 + [\sum NB_i MC_i]W_1$$

Where B is behaviour towards the attitude object,

BI is behavioural intention,

A_{act} is the individual's attitude towards the behaviour in question,

NB_i is the normative belief of reference group i concerning the behaviour in question,

MC_i is the motivation to comply with the norms of reference group i and

W₀ and W₁ are empirically derived weights to maximize the multiple correlation between expressed behavioural intention and the prediction model.

Several explanatory comments must be made about this model. Firstly,

no fundamental distinction is made by Fishbein and his associates between behaviour and behavioural intention. It is assumed that these two variables are highly related to each other, but it is accepted that the strength of the relationship is affected by the generality of the behavioural intention and the length of time between the measurement of behavioural intention and the occurrence of the overt behaviour (Ajzen and Fishbein, 1969).

Secondly it should be noticed that the attitudinal variable is an index of attitude towards the behaviour in question rather than an attitude towards a social object. The model is therefore usually used to predict a specific behaviour rather than a more general behavioural orientation.

A third point is that Fishbein does not regard normative pressure *per se* as a factor influencing behaviour; this factor has an effect on behaviour only inasmuch as the individual is motivated to comply with normative pressure. In some experimental applications, however, the "motivation to comply" multiplier has been dropped from the model without any appreciable loss in predictive power (see Ajzen and Fishbein, 1969). It should be noticed also that Fishbein makes provision for a number of sources of normative influence in his model.

Fourthly, Fishbein regards the attitudinal and normative factors as the only two factors which (jointly) determine the nature and intensity of behaviour. Any other variables do not affect behaviour directly but do so through the attitudinal and normative variables. Hence Fishbein regards his model as comprehensive and not as a first approximation to a more complex state of affairs.

Fifthly, it should be noticed that the Fishbein model is purely additive: no provision is made for any possible interaction between attitudes and social norms, but allowance is made for the possibility that the relative strengths of the two factors might vary from one situation to another. Apart from the omission of an interactional term or terms, the Fishbein paradigm is a concrete example of Lemon's (1973) third type of model (described in the previous section).

Fishbein and his associates have tested the model empirically in a number of studies. Ajzen and Fishbein (1969) modified the model to include a further predictor which they called personal normative beliefs: also they used NB as a predictor on its own. The authors measured students' attitudes to eight

possible Friday night activities, using four 7-point Semantic Differential scales (examples: watching a western on T.V., going to a concert, going to a party). Personal normative beliefs were measured on a single 7-point scale, e.g.:

I personally think I should go to a party on a Friday night

probable |-----|-----|-----|-----|-----|-----|-----|improbable

Normative beliefs of a reference group (personal friends) were measured in a similar way. In the example quoted above, the statement accompanying the probable-improbable scale was: "My friends expect me to go to a party on a Friday night".

Behavioural intention was also measured on a 7-point scale of probability. A paired comparison design (putting all pairs of Friday night activities used in the study against each other) was employed as an alternative way of determining behavioural intention.

For all activities the correlations of attitude, normative belief and personal normative belief were significant beyond the 0,01 level. The multiple correlations (R) of the three predictors with the criterion (behavioural intention) varied from 0,68 to 0,82. In six of the eight cases, personal normative beliefs carried the heaviest β weight. Correlations of this variable with the criterion ranged from 0,54 to 0,82; in many cases only a slightly better prediction was obtained by employing the other two variables in the prediction models. (Most of the correlations of these variables with the criterion were nevertheless substantial, indicating that the predictors were for the most part highly correlated.)

In subsequent studies, Fishbein and his associates abandoned the personal normative belief variable on the grounds that it is merely an alternative way of determining behavioural intention. (The weakness of employing behavioural intention instead of genuine overt behaviour as a criterion can be seen here: if overt behaviour had been used, the efficacy of the personal normative belief variable could have been determined empirically.)

Ajzen and Fishbein (1970) devised a prisoner's dilemma type game, which made it possible to measure actual behaviour in the laboratory. The game

was played under three conditions: co-operation (with fellow player), individualism and competition (with fellow player). The authors hypothesized that NB (the perceived expectation of the other player) would be more effective than Aact (attitude to choosing particular alternatives in the game) in the co-operative condition: The opposite was hypothesized to occur in the competitive condition, with the individualistic condition falling in between. The relevant variables were measured in a similar way to that used by Ajzen and Fishbein (1969). Multiple correlations (R) between the predictors and the criterion (actual behaviour in the game) ranged from 0,50 to 0,79. Aact correlations with behaviour varied from 0,27 (co-operation) to 0,77 (competition), thus demonstrating the substantial effect which situational variables have on the attitude-behaviour relationship. Behavioural intention and behaviour were found to correlate 0,84. The different experimental conditions were found to affect the β weights in the expected manner, thus indicating that situational conditions mediate the importance of normative and attitudinal variables. The correlation between the two predictors was also found to vary from condition to condition (from 0,20 under the co-operative condition to 0,65 under the condition of individualism). Ajzen and Fishbein (1970) claim that their results indicate that behavioural intention mediates the effect of the other two variables on overt behaviour: when behavioural intention is statistically controlled, the correlation of the attitudinal and normative variables with overt behaviour are reduced substantially. Two points should be borne in mind, however. Firstly, the behaviour required of the subjects was unfamiliar, not part of their day-to-day repertoire; Secondly the experimental situation was highly artificial. It is possible, even likely, that in the real life situation many factors influence behaviour which were not present in the experimental situation. Therefore it cannot be concluded that this study offers any conclusive evidence that behavioural intention mediates behaviour in real life, or that the Fishbein model is an effective paradigm for predicting behaviour in real life (i.e. that the two predictors mediate all other behaviour-influencing variables). Only a study conducted in more natural circumstances could demonstrate that.

Similar criticisms can be levelled against a study conducted by de Vries and Ajzen (1971) which addressed itself to predicting cheating behaviour in college. Also, only self-reports of cheating were used as the criterion, thus both predictor and criterion variables were measured using pencil-and-paper self-report instruments. This commonality of method throughout the experimental design probably inflates the true predictive power of the

Fishbein model to quite a substantial degree. De Vries and Ajzen's study utilized the Fishbein model's provision for incorporating more than one normative factor. (Three factors: family, friends and classmates were included). Multiple correlations (R) ranging from 0,57 to 0,71 were obtained for three types of cheating behaviour. Aact correlated between 0,32 and 0,40 with the criteria and Σ NB correlated between 0,35 and 0,53 with them. In all cases the multiple correlations were substantially higher than the correlation of any individual predictor with the criterion.

Bearden and Woodside's (1978) study on Marijuana usage amongst college students is also somewhat artificial, and used self reports of behaviour as a measure of actual behaviour. Using the Fishbein model, a multiple correlation of 0,56 was obtained with the criterion. Both the normative and the attitudinal components of the model contributed significantly to the prediction.

A study by Harrell and Bennett (1974) comes closer to being in a "real life" situation than those used by Fishbein and his colleagues. This study attempted to predict the behaviour of physicians in prescribing five different brands of drugs for diabetes. The authors compared the Fishbein model with an alternative model which, instead of employing a single weighted attitudinal variable, uses a number of separately weighted beliefs about the drug (e.g. "Might cause hypoglycemic reactions"). For the five brands, Fishbein's model produced multiple correlations ranging from 0,41 to 0,54. The alternative prediction model managed multiple correlations ranging from 0,43 to 0,60. Therefore there is very little difference in the predictive powers of the two models: the Fishbein model seems preferable in that it is less time consuming to apply, simpler to compute and does not rely on the somewhat arbitrary selection of (supposedly) relevant beliefs about the attitude object. The experimenters found fairly modest correlations between behaviour and behavioural intention (between 0,27 and 0,52). They suggest using measures of behavioural intention as a predictor rather than a criterion. This study reveals that in a more realistic setting both the strength of behaviour-behavioural intention relationship and the overall predictive power of the Fishbein model is reduced, probably because of the influence of variables which are not operating strongly in the laboratory situation. These variables might influence the process of forming behavioural intentions and mediate relationship between behavioural intention and overt behaviour.

Songer-Nocks (1976) set out to investigate the performance of the Fishbein model under various conditions, albeit in a laboratory setting. Subjects were given a task akin to the prisoner's dilemma game used by Ajzen and Fishbein (1970). Several different conditions were included in the study; competitive vs. non-competitive, feedback vs. no feedback, prior experience vs. no prior experience, incentive vs. no incentive. Sex was also taken into account as a variable. Experience was found to have a dramatic effect on the nature of the model: Aact carried a nonsignificant regression weight when participants had had no prior experience with the behaviour, but a significant weight when subjects were experienced in the task. Also NB carried a non-significant weight under competitive conditions and *vice versa*. Both of these findings make theoretical and intuitive sense. In particular the former is in accord with theory on the effect of behavioural familiarity on the attitude-behaviour relationship. Songer-Nocks regards the changes in the sizes of the regression weights from condition to condition as a weakness of the Fishbein model, but it is arguable whether the model should be blamed for this. Songer-Nocks also computed the predictive powers of a number of other models incorporating experience, feedback, incentive, motivational set and sex variables; she also allowed for double and triple interactions of the variables. In this way 77 variables were generated, which produced a multiple correlation of 0,87 with the criterion (as opposed to 0,56 using the original two Fishbein variables). It should be borne in mind, however, that the likelihood of substantially capitilizing on chance variance is very large when employing so many predictor variables. An 11-variable model correlated 0,71 with behaviour, but the inclusion of one more variable - behavioral intention - significantly increased the size of the multiple correlation with behaviour (to 0,77) and also reduced the β weights of Aact and NB to nonsignificance; this suggests that BI was sufficient to account for the variance in B explained by A-act and NB. Hence it appears that more effective behaviour prediction might be obtained merely by asking the individual what he will do rather than by assessing his attitude and determining his perception of normative pressures. These results might be misleading, however, due to the artificiality of the experimental situation. Also the BI variable is likely to be a useful predictor only when attempting to predict specific behaviours, not more general behavioural orientations.

Schwartz and Tessler (1972) investigated the effectiveness of the Fishbein model in predicting behavioural intention to donate kidneys, hearts and bone marrow to relatives and strangers. Hence there were six (3 X 2) conditions.

The samples were 195 adults in a US Midwestern city (who were approached to fill in questionnaires while waiting at bus and airport terminals and laundromats) and 125 employees drawn from a telephone company. The three component version of Fishbein's model was used. (Personal normative beliefs was used as the third predictor). The authors found that the β weights were relatively stable across the six conditions. Multiple correlations with behavioural intention varied from 0,67 to 0,77. Schwartz and Tessler question Ajzen and Fishbein's (1969, 1970) assertion that Aact is a superior predictor to Ao (attitude-to-object). The findings of Schwartz and Tessler showed that the use of Ao rather than Aact in the prediction equation did not affect the predictive power of the model substantially - the multiple correlations ranged from 0,63 to 0,75. Schwartz and Tessler also investigated the effectiveness of the Fishbein model in mediating seventeen other variables. In several cases the partial correlations of these variables with behavioural intentions (while controlling for the effects of the model's components) were significantly different from zero, thus indicating that the model was not adequately mediating the effects of these variables (particularly age, religiosity, occupational prestige and attitude-towards-object). In a follow-up study involving overt behaviour (volunteering to become a transplant donor), BI and B correlated only 0,38. The time lapse is probably partly responsible for the weakness of the BI-B relationship, but it seems likely that the correlation was attenuated by one or more factors mediating this relationship.

Graen (1969) used an instrumentality value model based on that of Vroom (1964) to predict job performance. The Vroom and Graen models are not general models of behaviour prediction, but Graen's conclusions might have relevance for the more general Fishbein paradigm. Graen suggests that performance improvement (in the work situation) is a function of three main factors:

- (1) "External pressure", i.e. the individual's perception of what others expect him to do, and the pressure he feels they would apply to influence him to comply with their expectations. This factor bears a very strong resemblance to Fishbein's NB (normative beliefs) factor
- (2) "Path-goal utility" a concept borrowed from Georgeopolous *et al.* (1975). This is the attitude towards a behaviour as a means to attain the role of effective performer with its accruing role outcomes. Within Fishbein's more general behaviour prediction paradigm this could be interpreted as simply attitude towards the act (Aact).

- (3) The individual's perceptions of the probability of various intrinsic consequences of the act and his preferences for attaining these various consequences. This third factor is not represented in the Fishbein model. It will be remembered from section 5.2 that Gross and Niman (1975), amongst the situational factors which they claim affect behaviour, list one which they call expected and/or actual consequences of various acts. Gross and Niman claim that this factor covers most, if not all, situational effects; hence all other situational factors (like normative pressures) should be seen as special cases of this general factor. Fishbein's model takes into account only social situational factors. If we interpret Graen's (1969) third component as "non-social situational factors", then the incorporation of this in the Fishbein model might improve its predictive powers, especially when behaviour rather than behavioural intention is the criterion. In Schwartz and Tessler's (1972) study, for instance, the poor BI-B correlation might be due to the fact that when actual behaviour was involved, the subjects started taking certain situational factors into account which they had not done when they were merely asked to express their intentions. (They might have considered the following factors: having to stay off work to donate an organ and possible negative physical effects to themselves.)

A further criticism which can be levelled against the Fishbein paradigm is that no provision is made for interactive (multiplicative) effects. Lemon (1973) suggests that attitudinal and situational effects might interact to produce behaviour: Fishbein on the other hand assumes that attitudinal and social factors have a purely additive effect on behaviour. Liska (1974a), in a reanalysis of the data of Warner and de Fleur (1969) and Fendrich (1967), finds significant or near-significant interaction effects. Magura (1974) puts forward what he calls an interactive model which in effect is an extension of the Fishbein model :

$$\text{Behaviour} = W_1(A) + W_2(SS) + W_3(A)(SS) + E,$$

where A is attitude,

SS is social support,

E is error and

W_1 , W_2 and W_3 are empirically derived weights.

The results of a study by Rosen and Komorita (1971), although not conducted within the Fishbein paradigm, showed that the most effective combination of their two predictors (behavioural intention and perceived effectiveness of act) was multiplicative and not additive. (The product of the predictors correlated 0,59 with the behavioural criterion whereas the multiple correlation with the criterion was 0,48). The studies of Schwartz and Tessler (1972), Songer-Nocks (1976) and Acock and de Fleur (1972) also indicate that interactive effects might be important in behaviour prediction.

Earlier it was mentioned that there are two models of behaviour prediction which have received wide publicity - Fishbein's and de Fleur's. We pass now to the work of de Fleur. De Fleur and Westie (1958) comment as follows on their failure to find a strong relationship between verbal and behavioural manifestations of racial prejudice:

"The lack of a straight-line relationship between verbal attitude and overt action behaviour more likely may be explained in terms of some sort of social involvement of the subject in a system of social constraints preventing him from acting (overly) in the direction of his convictions, or otherwise 'legitimizing' certain behavioural patterns. These channelizing influences on behaviour have received theoretical attention in terms of such concepts as 'reference groups', 'other directedness' and 'significant others' (p. 672).

From this orientation flowed the contingent consistency approach of Warner and de Fleur (1969). Like Fishbein's approach, the contingent consistency approach does not see attitude as the sole causative factor underlying behaviour; overt behaviour is claimed to be contingent on a number of variables and interactions of variables.

Albrecht and Carpenter (1976) points out one of the basic problems of this approach - it pays scant heed to the scientific requirement of parsimony. The model (if one can use so strong a term to describe it) fails to give guidance for the selection of those social constraint variables which are crucial and require inclusion in the prediction paradigm. The widespread interest in the contingent consistency orientation has led to the identification of a large number of variables which may mediate the attitude-behaviour relationship. But "parsimony demands that these be limited to some manageable set", as Albrecht and Carpenter (1976, pp 2, 3) say. In this respect the Fishbein model is superior, for it clearly identifies its predictor variables.

Acock and de Fleur (1972) altered their position slightly and made their model more precise in what they call a "configurational" approach to contingent consistency. This approach, inspired by the theoretical insights of Yinger's (1965) field theory of behaviour, assumes that both social and attitudinal factors influence behaviour, but to a somewhat limited degree. The most powerful behaviour-influencing factor is seen to be the interaction between attitude and social variables.

Acock and de Fleur (1972) applied this model in a study involving voting behaviour (for or against legalizing marijuana). Two hundred-and-two students responded to a Likert-type questionnaire on attitudes towards legalizing marijuana. The experimenters also measured perceived parental and peer position on the legalization of marijuana. Subjects were dichotomized into favourable and unfavourable groups. Subjects were in addition categorized according to whether their parents were perceived to be opposed or not opposed to legalization and also according to whether their peers were perceived to be opposed or not opposed to legalization. Having thus categorized the subjects in three ways (on one attitude and two normative variables), the authors were able to calculate the probability of a "yes" vote for subjects in different categories.

It was found that over the whole sample there was a probability of 0,204 of voting "yes" to marijuana legalization. For those whose attitude to legalization was positive, this probability jumped to 0,429, thus indicating that attitude had a fairly substantial effect on behaviour, but that it certainly could not be used to predict behaviour reliably. Perceived favourability to legalization on the part of peers also increased the probability of voting "yes" (from 0,204 to 0,375) but perceived favourability on the part of parents unexpectedly reduced the probability.

Acock and de Fleur's (1972) contention that the interaction of attitudinal and social variables have an important determining effect on behaviour received substantial support. The probability of those subjects voting "yes" whose attitudes were positive and who perceived their peers to be favourable was 0,822. The probability of those subjects voting "yes" who responded positively to all three predictor variables was 0,942.

Prediction becomes very uncertain for those subjects who experience what Acock and de Fleur call "cross pressures". For instance, in the case where personal attitudes are positive, parents are perceived to be positive and

peers are perceived to be neutral, the probability of a "yes" vote is only 0,300.

Although Fishbein and his associates and Acock and de Fleur (1972) analyze their data in different ways (the former using a regression model and the latter a configural approach), the underlying paradigms are fairly similar. Both see attitudinal and normative factors as the two crucial determinants of behaviour, although Acock and de Fleur do not claim that these are the only two direct determinants; Fishbein and his associates do. (see Fishbein and Ajzen, 1975). One of the major weaknesses of the Fishbein model seems to be its failure to take interactive effects into account, despite empirical evidence that the interaction between attitude and social factors plays an important role in behaviour determination.

5.4 Conclusion on the Behaviour Prediction Research

Research has amply shown that attitude is generally a poor predictor of behaviour but that there is no "typical" correlation between attitude and behaviour; Correlations as high as 0,80 have been reported, but so have correlations which are slightly negative. Part of this fluctuation is probably due to specificities of the experimental design. In many cases "pseudo-behaviour" is used as the criterion and often there is a strong likelihood that the predictor-criterion relationship has been inflated due to the lack of true independence of the predictor and criterion measures. But even when these experimental shortcomings are taken into account, there appear to be other factors which affect the attitude-behaviour relationship. Some of these factors seem to be methodological. The way we define attitude, the psychometric qualities of predictor and criterion measures, the specificity or generality of attitude and behaviour indices are all liable to have their effect on the attitude behaviour relationship. Gross and Niman (1975) identify two other sets of factors which they call "personal" and "situational". Because of their idiographic nature, little can be done to incorporate personal factors in behaviour prediction models, but every effort should be made to incorporate certain basic situational influences. Models which take both attitudinal and situational factors into account acknowledge that behaviour is the resultant of both internal and external pressures.

Theorists have, however, tended to consider a rather restricted range of situational factors. Both the Fishbein and de Fleur models limit situational influences to the social realm and do not allow for the possible influence of non-social situational factors on behaviour. The following example illustrates how a non-social situational factor might affect behaviour. Suppose that a schoolboy has a very negative attitude towards his teacher and that he perceives his schoolmates (the reference group) to have a similarly negative attitude towards the teacher. Despite the combined effects of attitudinal and social pressures, this schoolboy would probably not show his antipathy towards the teacher in overt behaviour because he is aware that punishment would probably ensue.

6.0 JOB ATTITUDES (JOB SATISFACTION) AND JOB BEHAVIOUR

The main aim of the present study is to devise an effective multivariate behaviour prediction paradigm to predict certain aspects of work behaviour. Both attitudinally and behaviourally the job domain appears to be complex. In order to predict behaviour effectively, it is necessary to have some knowledge of this domain. Much theory and the weight of the empirical evidence indicates that job incumbents do not have a single attitude towards their jobs; rather, they have different attitudes towards different aspects of their jobs, although these may be correlated with one another. To predict behaviour effectively, it is necessary to ensure that both the attitudinal and behavioural indices are compatible and that they tap the same domain. One would be ill-advised to use some sort of overall job satisfaction measure in a model which aims at predicting behaviour in some specific domain, (e.g. behaviour towards work associates); equally one should not measure attitudes towards a single aspect of the job (e.g. towards remuneration) and with this try to predict some aspect of behaviour unrelated to that particular attitude domain (e.g. behaviour towards supervisors).

It is necessary therefore to investigate the structure of job attitudes and behaviour so that errors of the nature mentioned above are not committed in the execution of this study. This chapter will look at both the theoretical and empirical work which has been done in the realm of job satisfaction and job performance.

6.1 Some Theory on Job Satisfaction and Job Performance

The theory which has attracted most interest in this sphere is that of Herzberg (1966, 1968). (See Herzberg *et al.*, 1959 for the original exposition of the theory.) Kendall (1977) states that when Herzberg's theory first appeared in 1959, it was acclaimed as presenting a new approach to job motivation, for psychology had only recently started to depart from a view of working man as a creature who could be summed up largely in terms of economic needs.

Herzberg *et al.* (1959) used a novel method of collecting data on job satisfaction. Subjects were instructed to think of a time in the past when they had felt especially good or bad about their jobs and to describe these events. Subjects were also asked to comment on the effect which these events had on their job performance, and overall sense of well-being. The authors called this approach the "critical incidents" method of data collection.

The analysis of the data led Herzberg *et al.* (1959) to conclude that there are two factors affecting job attitudes. (For this reason the theory is often known as the Two-Factor theory). Herzberg *et al.* claim that their results show that aspects of the job producing satisfaction are separate and distinct from those aspects which produce dissatisfaction. Furthermore, they claim that job satisfaction and job dissatisfaction are not polar opposites, but are on two separate continua: the opposite of job satisfaction is no job satisfaction and the opposite of job dissatisfaction is no job dissatisfaction.

Aspects of the job commonly associated with positive attitudes are listed by Herzberg (1968) as: recognition, achievement, the work itself, responsibility and advancement and growth. The following are identified as aspects leading to dissatisfaction: company policy and administration, supervision, salary, relationship with peers, working conditions, status and security. The aspects associated with positive factors are also called motivators, and those associated with dissatisfaction are called hygiene or maintenance factors. Herzberg (1968) states that the needs associated with the hygiene factors stem from man's "animal" nature - his built-in drive to avoid pain from the outside world: the hygiene factors refer to the work environment. If people's hygiene requirements are satisfied (e.g. by high salary, good working conditions etc.), this does not mean that they will feel satisfied with their jobs and motivated to work; it means only that they will not feel dissatisfied with their work. Job satisfaction and motivation to work results from the presence of motivators which are intrinsic to the job itself (e.g. responsibility, potential for growth and advancement); Herzberg's (1968) formula for motivating employees is therefore to enrich jobs with motivator factors.

Comparisons have been made of Herzberg's theory with Maslow's (1954) need hierarchy (see Huizinga, 1970). The Three lower Maslow needs (physiological, safety and social) have been associated with Herzberg's hygiene factors and the two upper needs (esteem and self actualization) with the motivators.

The Herzberg theory has come under heavy fire from many quarters (e.g. Grigaliunas and Wiener, 1974; Biesheuvel, 1975; Orpen, 1977). Harris and Locke (1974) for instance found that, contrary to Herzberg's theory, white-collar workers derived both satisfaction and dissatisfaction from motivator factors and blue-collar workers derived both satisfaction and dissatisfaction from hygiene factors. Hines's (1973) findings were also contradictory to the predictions of the two-factor theory.

Herzberg *et al's*. (1959) research can be criticized for weaknesses in its methodology. In particular, the critical incidents method suffers from the shortcoming that people tend to ascribe "good" events to themselves and "bad" events to external agencies. It is possibly due to this methodological weakness that the data suggested a two-factor structure. Also, Herzberg's subjects were middle-class employees (accountants and engineers). The hygiene and motivator factors identified by Herzberg *et al.* (1959) might be largely a reflection of the middle-class value structure; hence the theory might lack relevance for other socio-economic and cultural groups. Harris and Locke's (1974) findings suggest that aspects of the job which lead to satisfaction and dissatisfaction do change as one moves up and down the socio-economic ladder. Nevertheless, Herzberg's research is of interest in that it has identified a number of domains of job satisfaction (relationship with co-workers, relationship with supervisor, salary, attitude to organizational rules, etc.). Despite the methodological shortcomings of Herzberg's research, the domains which he has identified might have some validity.

The Maslowian need hierarchy theory has been used in its own right as a basic framework for studying job attitudes. The satisfaction of an individual with his job is seen in this model to depend on his position

in the need hierarchy and the capability of his job for satisfying his particular set of needs. Lokiec (1973) points out that because one's position in the need hierarchy is relatively unstable ("growth" or a change in life circumstances can cause one's needs to change to those either higher or lower in the hierarchy), human satisfaction is of short duration. Lokiec criticizes Maslow's (1954) theory for being too rigid and "cognitive"; he points out that irrational and emotional factors may cause an individual to experience needs which are not in accordance with his supposed position in the need hierarchy.

We consider now the expectancy value approach to job satisfaction and work motivation. This approach was originated largely by Vroom (1964) although it owes a large debt to Peak's (1955) and Rosenberg's (1956, 1960) theories (see section 3.2.5).

Vroom (1964) introduces three concepts: valence, expectancy and force. Valency is described by Vroom as an affective orientation towards a particular outcome or state of nature. For instance "getting a raise" is an outcome. Vroom uses the term motive to refer to a common affective response to a whole group of outcomes. Vroom claims that outcomes acquire their valency as a consequence of their expected relationship to desired or undesired final states.

The specific outcomes attained by a person are dependent not only on the choices he makes but also on events which are beyond his control. Vroom illustrates this with an example of a person who buys a lottery ticket; whether or not he wins a prize depends on factors which he cannot control. Similarly if a man works overtime, he is not assured of getting a raise, but he might have a subjective notion of the probability that working overtime will lead to a raise. This is what Vroom calls expectancy. Batlis (1978) has shown that there is a moderate relationship between expectancy and locus of control.

Valencies and expectancies combine in determining behavioural choices. Associated with each possible behaviour in a given situation is a hypothetical pressure or force which acts on the individual and determines the likelihood of the given behaviour being performed. In a situation where

the individual has to behave in one of a specified number of ways, he will select that behaviour which has associated with it the greatest force. Vroom (1964) defines force as a function of expectancy and valence:

$$F_i = f_i \left[\sum (E_{ij} V_j) \right]$$

where F_i is the force to perform act i ,
 f_i is a monotonic increasing function,
 E_{ij} is the strength of the expectancy that act i will be followed by outcome j ,
 and V_j is the valence of outcome j .

In practice, F_i is generally calculated as the sum of the products of E_{ij} and V_j rather than a function thereof.

Actual performance (on the job) is claimed by Vroom (1964) to be a function of the product of force and relevant ability.

Vroom's conception of force is very similar to Peak's (1955) and Rosenberg's (1956) conceptions of attitude. This is not surprising, since both these theorists claim that the direction and intensity of an attitude towards an object or activity is a function of the instrumentality of that object or activity for the attainment of various desired or undesired ends. Fishbein and Ajzen's (1975) mathematical definition of attitude is also similar to Vroom's conception of force. But contrary to Fishbein and Ajzen's theory, Vroom does not see normative pressure to be important in determining behaviour in the work situation. Vroom's inclusion of ability in his model for predicting performance seems to restrict its applicability as a behaviour prediction model to certain specific work-related contexts.

Other instrumentality-value models of work performance have also been propounded. The strongest rival to the Vroom model is that of Porter and Lawler (1968). Although different terminology is used, the Porter and Lawler model is basically similar to that of Vroom, except that performance is seen to be a function of three factors, not two, the third factor being role perceptions.

The success of these models in predicting work performance has been varied, but generally modest (see Heneman and Schwab 1972; Mitchell and Albright, 1972; and Alexander, 1976). Lawler and Suttle (1973) found that when general intellectual ability and role perception were incorporated (along

with expectancy attitudes) in the performance prediction model, prediction was substantially better than that which was achieved using expectancy attitudes alone. From Lawler and Suttle's description of role perception, it seems that this variable might be tapping social pressure to some degree.

Reinhardt and Wahba (1976) tested nine alternative expectancy models as predictors of effort expenditure, job performance and job satisfaction. Effort and expenditure were poorly predicted by all nine models, but moderate predictions were obtained for job satisfaction. Reinhardt and Wahba conclude that expectancy theory may account for only a limited portion of work-related behaviour.

Schmitt (1975), using a cross-lagged correlation design found some evidence that, rather than expectancy attitudes influencing performance, performance influences expectancies. This point has been discussed in more general terms by a number of attitude theorists. The question is: "do attitudes 'cause' behaviour or does behaviour 'cause' or 'create' attitudes?" Lemon (1973) concludes that both possibilities are probably true and that an interaction takes place between attitude and behaviour.

Graen (1969) tested instrumentality theory using a complex experimental design which incorporated three treatments: (1) reward contingent on effective performance, (2) reward as an inducement to effective performance and (3) reward neither contingent upon effective performance nor as an inducement to effective performance. Instrumentality theory stresses the importance of perceived instrumentality on performance: effort is likely to be exerted by the job incumbent only to the extent that he sees this effort to be instrumental in the attainment of desirable outcomes. Graen's results offer some support for the hypothesis that under conditions where favourable outcomes are contingent upon performing certain roles effectively, perceived instrumentality of that role for the attainment of like outcomes will be higher than under conditions where the performance - reward contingency is not present. Graen also investigated the relationship between job satisfaction and the product of perceived attraction and perceived instrumentality of the role of job incumbent for attaining various outcomes. Only in condition (1) was reasonably strong evidence of a positive relationship found. The relationship between performance and the product of the attraction of the work role and the perceived expectancy that increased effort would lead to effective performance was also investigated. Only in condition (1) was

(limited) evidence found of a positive relationship. Hence support for both Vroom's (1964) valency model and his performance (or rather, force) model received very little support. Graen (1969) concludes that instrumentality theory is limited by certain boundary conditions; in particular it seems applicable only in conditions where a definite contingency exists between performance and reward. Graen suggests a modification of the model to improve its efficacy in predicting performance and to widen the scope of its applicability. (This is the three component model mentioned in section 5.3.)

Overall, therefore, the expectancy-value models have shown themselves to have very modest capabilities in predicting job satisfaction and job performance. Valency (which is generally used in these theories to predict job satisfaction) is defined in terms of the sum of the product of perceived attraction of certain outcomes and the perceived instrumentality of job roles in attaining these outcomes. The excessively mathematical nature of this model might make it unsuitable for accounting for psychological processes. The model's assumption that addition and multiplication are adequate representations of the mental processes, especially those where affect is involved, might be invalid. Human processing of affectively-laden information might be quite irrational by the standards of conventional logic. Vroom's (1964) conception of force posits a set of mental interactions at an even higher level of mathematical complexity. It does not seem particularly surprising that this model (which in effect is the sum of products, one of the multipliers of which is itself a sum of products) is generally found to predict performance even more poorly than the valency model predicts job satisfaction.

Instrumentality-value theories make no statement about the structure of the domains of job satisfaction and job behaviour. An implicit assumption of these theories seems to be that it is possible to speak of job satisfaction and job behaviour as unitary concepts. But each person's perception of these domains is slightly different; they are formed from the particular outcomes and job-roles which he takes into account when making his "calculations". The instrumentality model therefore seems to be idiographic in some respects. A nomothetic standpoint has to be adopted if one wishes to posit a structure which has both intra- and inter-personal validity.

We shall now review some of the empirical studies on job satisfaction.

6.2 Empirical Studies on Job Satisfaction

Ash (1954), Baehr (1954) and Wherry (1954) were the first to attempt a rigorous investigation of the factorial structure of job satisfaction. Baehr (1954) selected two samples which differed on a number of parameters, her aim being to identify those dimensions of job satisfaction which transcend specific organizations, status levels or, types of job. Baehr administered a questionnaire of 76 items to her samples; the items referred to 14 aspects of the work situation which had been identified on rational grounds: job demands, working conditions, pay, employee benefits, friendliness of fellow employees, supervisor-employee relations, confidence in management, technical competence of supervision, effectiveness of administration, adequacy of communication, job security, job status, identification with the organization and opportunity for growth and advancement. (This is the Science Research Associates (SRA) Employee Inventory)

Scales based on these categories were factor analyzed separately for her two samples (junior executives and factory workers). Baehr identified four factors which she considered to be common to both samples:

- (1) Satisfaction with immediate supervision. This factor encompasses both the human relations aspect of supervision and also technical competence
- (2) Satisfaction with the work itself. Pressure, fatigue, monotony, interest value, opportunities for growth, opportunity to use skills effectively are all facets of the job associated with this dimension of job satisfaction
- (3) Integration in the organization. This factor deals with the employee's feeling of pride and interest in the company
- (4) Friendliness and co-operation of fellow employees. This factor covers aspects concerning relationships with others in the organization.

Ash (1954) administered the same 76 SRA items which Baehr (1954) had used, as well as a temperament questionnaire, to a sample of 184 factory employees. All the temperament items led to the same factor which Ash calls personality integration. Five other factors were identified :

- (1) Job rewards - pay, employee benefits, status
- (2) Management effectiveness - confidence in management, effectiveness of administration, adequacy of communication, etc.
- (3) Immediate supervision - technical competence of supervisor and supervisor-employee relations
- (4) Satisfaction with the job itself - job demands, working conditions, etc.
- (5) Regard for people - attitudes towards fellow employees.

Wherry (1954) re-analyzed the Baehr and Ash data, using orthogonal instead of oblique rotations. Oblique rotations, he claims, can lead to the identification of spurious separate factors which should rather be regarded as a general factor. Wherry's analysis led him to conclude that both Baehr's and Ash's data show evidence of a large general factor of job satisfaction and four group factors: working conditions, financial reward, supervision and management and administration.

Twery *et al.* (1958) administered a job satisfaction inventory of 21 items to 467 aeroplane and engine mechanics in the U.S. Air Force. The data were analyzed using two factor analytic techniques and one clustering method. In all cases the same five factors of job satisfaction emerged:

- (1) General attitude to the job
- (2) Satisfaction with one's supervisor.
- (3) Satisfaction with the higher echelon
- (4) Satisfaction with living conditions
- (5) Satisfaction with co-workers.

This structure might, to some extent, be a function of the military nature of the sample. In particular, Factor 4 is unlikely to occur in the structure of job satisfaction in civilian samples.

Dabas (1958), using a somewhat questionable factor analytic technique, analyzed SRA data on 996 employees in a wide variety of jobs. Unlike Baehr (1954), Ash (1954) and Wherry (1954), Dabas performed his analysis on items, not subtests. The following dimensions were identified:

- (1) Overall job satisfaction
- (2) Satisfaction with working conditions
- (3) Satisfaction with remuneration
- (4) Confidence in management
- (5) Satisfaction with immediate supervisor
- (6) Satisfaction with self development.

Harrison (1961) administered a 100-item job-satisfaction questionnaire to two samples of hourly paid men in the manufacturing industry; factor analysis of the data produced different structures for the two samples: for one sample, nine, and for the other, twelve, factors were identified. In both samples, more than one attitude towards the immediate supervision emerged; also attitudes to higher management were multidimensional. Other factors were: physical working conditions, advancement opportunities, employee benefits and earnings. An analysis by Roach (1958) of job attitude responses of 2072 employees (ranging from top management to routine clerical workers) also produced a large number of factors (twelve) including attitude to the job in general, attitude to one's supervisor, satisfaction with pay, feelings about work load, satisfaction with development and progress and attitude towards co-workers.

Smith, Kendall and Hulin (1969) conducted several studies into job satisfaction and its measurement. They define job satisfaction as feelings, or affective responses, to discriminable aspects of the job situation: hence their basic point of departure is that job satisfaction is multi-dimensional. But they do not claim that the structure and nature of the job satisfaction domain is totally invariant across situations and across individuals. Intra-individual and intra-situational factors can affect the importance of the different dimensions of job satisfaction, the degree

to which these dimensions are distinct and independent of one another and the range of job phenomena which are considered relevant to each dimension. Smith, Kendall and Hulin base their approach largely on the adaptation level theory of Helson (1948). According to Smith *et al.*, an individual comes to a job with certain expectations derived from frames of reference built up on the basis of previous direct and indirect experience in the job situation. Job satisfaction is determined by the degree to which the job meets these expectations. Smith *et al.* identify five aspects of the job situation which they claim constitute major syndromes of expectations:

- (1) The work itself
- (2) Pay
- (3) Promotion
- (4) Supervision
- (5) Co-workers.

These dimensions have often been identified in empirical research (although not always all in the same study). Smith *et al.* point out that each study's findings are probably affected by methodological and situational particularities and they have therefore opted to select those dimensions which have been identified most consistently over a whole range of studies. Smith *et al.* mounted several validation studies using their five job satisfaction scales (which together constitute the Job Description Index JDI) as well as other measures of job satisfaction. The JDI proved to have good convergent and discriminant validity although the pay and promotion scales were not always clearly distinguished from each other. Gillet and Schwab (1975) also found good convergent and discriminant validities of corresponding scales of the JDI and another multidimensional instrument (the Minnesota Satisfaction Questionnaire).

The format of the JDI is somewhat unusual: responses are elicited at the descriptive level and then these are interpreted on evaluative or affective dimensions. The viability of this method rests upon the selection of descriptive items which accurately tap underlying affective dimensions. This was achieved in the JDI by using a novel item analytic procedure:

subjects were asked to describe aspects of their present jobs (using a closed-response format) and also to offer similar descriptions of the "best" and "worst" jobs which they could conceive of holding. A comparison of the three sets of responses made it possible to determine how subjects felt about job characteristics which they had described as either present or absent in their jobs. Selection of items for the final version of the JDI was based on the level of consensus of the sample as a whole in its evaluation of each job characteristic.

The JDI is probably the most extensively used index of job satisfaction.

Ronan (1970), like Smith *et al.* (1969) takes exception to the fairly widely held assumption that job satisfaction, as a construct or group of constructs, is invariant across job situations. A number of empirical studies have shown that situational factors can affect job satisfaction in various ways. Some situational factors which have been studied are: hierarchical structure - Porter (1969); role diversity, job level and organizational size - Elsalmi and Cummings (1968); position in the organization - Mechanic (1962) and leadership style - Sims and Szilagyi (1975), Singh and Pestonjee (1974) and Distefano and Pryer (1973).

A few studies will be described briefly to illustrate some of the effects which situational characteristics can have on job satisfaction.

Weitzel *et al.* (1973) administered the Triple Audit Opinion Survey (TAOS) to 1099 salaried employees in 5 companies. The TAOS measures attitudes to 28 aspects of the job. The data were analyzed separately for each company. Although there seemed to be evidence of four major factors (personal progress, compensation, the organization itself and superior-subordinate interaction), there were differences in structure from organization to organization which were apparently due to structural differences between the organizations.

Indik and Seashore (1961) studied the level of job satisfaction in 32 package delivery departments varying in size from 15 to 51 persons. The authors found that the average level of satisfaction in larger departments was less than that in smaller departments.

Distefano and Pryer (1973) found a number of significant correlations between various scales of the JDI and indices of the Consideration and

Initiating Structure dimensions of managerial style.

Vroom and Mann (1960) found an interaction between leader authoritarianism, work group size and employee attitudes towards the leader. Egalitarian leadership was viewed more positively in small work groups and authoritarian leadership in large work groups.

Porter and Lawler (1965) offer a critical review of research which has examined the influence of various aspects of organizational structure on job satisfaction. From this article, some idea can be gained of the large number of factors which can affect job satisfaction.

This discussion has so far concentrated principally on job satisfaction as a function of the nature of the work situation, but one should not lose sight of the fact that characteristics of the job incumbent himself are also liable to influence his attitudes towards his job. Seashore and Taber (1975), see the following "personal" factors as important determinants of job satisfaction:

- (1) Demography (age, sex, education, etc.)
- (2) Relatively enduring aspects of the personality (values, needs, interaction, style, etc.)
- (3) "Situation-bound" aspects of personality (motivations, preferences, etc.)
- (4) Transient personality traits (anger, boredom, etc.)
- (5) Abilities (general intelligence, motor skills, etc.)
- (6) Perceptions, cognitions, expectations.

Several authors have pointed to the influence of personal needs in the determination of job satisfaction. Studies based on Maslow's (1954) need hierarchy usually make the assumption that the satisfaction experienced by a job incumbent depends largely or wholly on the extent to which the job fulfils needs at his level on the need hierarchy. This has led to speculation that different needs might be typical of individuals at different levels of the organizational hierarchy. Herman and Hulin (1973) and Lawler and Suttle (1972) failed to find empirical evidence to support this speculation. Pinto

and Davis (1974) assessed 27 work-related needs and 27 corresponding aspects of job satisfaction using the TAOS. The subjects were 570 managers of a retailing organization. Pinto and Davis's analysis was aimed at identifying clusters of individuals characterized by particular sets of needs. They did indeed succeed in identifying five major clusters of managers (or "need types", as the authors call them). A regression design was used to predict overall job satisfaction for each of the five clusters of managers. As the authors expected, need type was found to moderate the weights assigned to the predictors (which were the different aspects of job satisfaction). This study is marred by the failure to measure need and satisfaction in truly independent ways, as the TAOS format was used in both cases.

O'Reilly and Roberts (1975) conducted a study on job satisfaction in a U.S. naval unit. Three "structural" characteristics of each individual (rank, tenure with the Navy and tenure with the unit itself) and 13 personality and ability dimensions were assessed. Job satisfaction was measured using the JDI. Only structural characteristics were found to have a significant relationship with job satisfaction.

The results of the above studies show that no unequivocal conclusions answers have been found as to the role of personality factors on job satisfaction.

6.3 Conclusion

This chapter has not been intended as a general review of the research on job satisfaction. The primary aim was to examine the literature, both theoretical and empirical, on the structure of the job satisfaction domain.

Hoppock (1935) initiated the scientific study of job satisfaction. He saw job satisfaction as a unitary construct. The bulk of subsequent empirical research has indicated that this is not the case; some studies, however, have concluded that there is one major factor of job satisfaction and several smaller more specific factors relating to particular aspects of the job situation. Whether one concludes that there is one principal factor or a number of (usually correlated) dimensions seems to depend to a considerable extent on the type of analysis one employs.

Why are different aspects of job satisfaction often found to be correlated?

Vroom (1964) offers four possibly explanations:

- (1) A sort of "halo effect" might operate when making judgments about different aspects of the job
- (2) Positive interrelationships among measures of job satisfaction might be due to response sets
- (3) Work situations providing one type of reward generally tend to provide other types of reward (e.g. jobs which are highly paid usually offer high status and a greater variety of stimulation)
- (4) Work roles are functionally interdependent: changes in satisfaction with one role may affect satisfaction with other roles.

For the purposes of this study it is necessary to select a domain of work attitudes which is undimensional. Job satisfaction as a whole seems unable to fulfil this requirement.

Empirical studies have not been unanimous in their conclusions about the structure of the area of job satisfaction. Also there is evidence that certain organizational characteristics and characteristics of the work itself influence the nature of job satisfaction. Apart from large differences in job roles which are found between different types of jobs, differences in the expectations of incumbents are also likely to affect the structure of the job satisfaction domain and the importance assigned to various aspects of this domain. Expectancy-value theory suggests that each individual might have his "own" structure of job satisfaction, but it seems reasonable to adopt a more nomothetic position if the population under study is limited to a particular organization and possibly to a particular job type.

All these considerations highlight the impossibility of specifying *a priori* the structure of the job satisfaction domain. The best approach appears to be to use the theoretical and empirical research appearing in the literature as a framework to assign boundaries to the area of job satisfaction, and then to investigate its structure *de novo* in the studied population. The following research seems to be particularly useful in this regard:

- (1) Herzberg (1966, 1968). He identifies twelve areas of job satisfaction (recognition, achievement, the work itself, responsibility and advancement, growth, company policy and administration, supervision, salary, relationship with peers, working conditions, status and security); Not too much attention should be paid to Herzberg's distinction between satisfiers (motivators) and dissatisfiers (hygiene factors), as a large number of studies have been unable to reconcile their data with the predictions of the Two-Factor theory.
- (2) Vroom (1964). He has identified what he regards as the six major areas of job satisfaction: supervision, co-workers, job content, remuneration, promotional opportunities and hours of work.
- (3) Smith, Kendall and Hulin (1969). They selected five dimensions of job satisfaction which had been found frequently in past research (although usually not all in the same study). Their own research shows these dimensions (supervision, co-workers, the job itself, pay and promotion) to be factorially distinct.

It should be noticed that apart from one factor (hours of work), Vroom's (1964) and Smith, Kendall and Hulin's (1969) factors co-incide perfectly. And apart from hours of work, Herzberg's (1966, 1968) factors include all of Vroom's and Smith *et al*'s. factors. Of the remaining Herzberg factors, company policy and administration (sometimes called higher-echelon supervision) and satisfaction with physical working conditions have been identified in some empirical studies. The rest either have been found to form parts of larger units (e.g. status and salary formed a single dimension in Ash's, 1954, study) or have not been found in empirical studies.

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