AN INVESTIGATION INTO A RELATIONSHIP BETWEEN LOCUS OF CONTROL AND ATTRIBUTION THEORY IN THE FIELD OF CONSUMER DECISION-MAKING.

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ABSTRACT

The present investigation examines a relationship between Rotter°s (1966) Locus of Control Theory and Kelley°s (1967) Attribution Theory in the field of Consumer Decision-Making.

The main hypothesis tested whether there was a difference in the probability of choosing in favour of a product with consensus information between individuals who have a belief in external control and individuals who believe in internal control.

Secondary hypotheses were also investigated to detail other aspects of this relationship. Firstly, it was suggested that with externally and internally controlled individuals, the probabilities of choosing in favour of consensus and distinctiveness information will differ. Secondly, that the probability of choosing in favour of personal control, and non-personal control information will differ for externals and internals. Finally it was suggested that the probability that externals and internals will have their responses rated as external or internal respectively, will be greater than the reverse.

The main hypothesis was not substantiated, however there was a strong trend in the predicted direction, suggesting the value of future research. Some support was found for the secondary hypothese. Results are discussed in light of social learning and attribution theories and suggestions for future research offered.

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CHAPTER 1 - INTRODUCTION

> "..... there are always variations in product consumption and use, in shopping habits, brand choices, and resistance and attraction to different promotional messages. This leads us to a search for personality variables that might predict consumption patterns ....." (Bogart, 1973, p.996).

As this thesis concerns itself with one personality variable, internal - external locus of control of reinforcement, and its relationship with attribution theory in the field of consumer choice, one must first consider the theories behind each of these concepts. It is possible to relate all of these to social learning theory, so this will be considered first, followed by a discussion of internal - external control of reinforcement, attribution theory, and a brief discussion of consumer choice.

1. SOCIAL LEARNING THEORY

In 1954, Julian Rotter presented social learning theory which was a radical departure from the operant behaviouristic theories that were in vogue at the time. Mischel (1971) gives us a definition of social learning theory which he termed social behaviour analysis.

> "Social behaviour analyses of human problems involve descriptions of the covariation between environmental conditions and what the person does, but they avoid inferences about the meaning of behaviour as a sign of some trait or underlying motive." (p. 83)

A major assumption of social learning theory is that the unit of investigation is the interaction of the individual with a personally meaningful environment. Personality is regarded as the individual°s "set of potentials for responding to particular kinds of social situations." (Rotter and Hochreich, 1975, p.94). From this principle it follows that personality study involves examining learned behaviour, which is behaviour that can be modified or changed with experience. Rotter (1954) stresses the goal-directed nature of behaviour; the individual°s behaviour being determined by their goals which may change as a result of experience.

Reinforcement, within social learning theory, is defined as being anything that leads to drive reduction. Rotter (1954) used the empirical law of effect to define reinforcement.

> "..... we can observe that the occurrence of some observable event changes the potentiality of occurrence of a behaviour which has preceded that event; if this change occurs with predictable regularity, we may say that the event, or the occurrence of the event has changed in some way the behaviour of the person under observation. Such an event is, by definition, a reinforcement." (p. 112)

There are three basic constructs of social learning theory itemised by Rotter (1954):

BEHAVIOUR POTENTIAL is defined as the potential for any behaviour to occur in any particular situation, and thus must take into account the reinforcement available.

EXPECTANCY is subjectively defined by the individual, who must assess

the probability that a particular reinforcement will occur in relation to the behaviour in the specific situation. Expectancy is independent of the reinforcer°s importance or value to the individual.

REINFORCEMENT VALUE is defined as the preference that an individual has for a particular reinforcer, provided that all reinforcers have equal probability of occurrence.

Rotter and Hochreich (1975) identified a fourth construct which they called the PSYCHOLOGICAL SITUATION. This refers to the situation, or part thereof, to which an individual is responding to. This adds a phenomenological dimension, as it refers to the situation as percieved by the individual.

Building on these constructs, part of social learning theory concerns itself with what Rotter terms GENERALISED EXPECTANCIES. Individuals vary in their approach to the variety of situations that they meet in their life. Based on prior learning, one develops a generalised expectancy that a particular approach will solve a particular problem. It must be noted here that to develop ageneralised expectancy, an individual must percieve the problem and the approach.

Several generalised expectancies, as defined by Rotter, have been studied.

Remembering that behaviour is goal-directed, if an individual°s path toward a goal is blocked, one may constructively look for alternative solutions, or paths towards the goal. If one succeeds in reaching the goal, this will result in positive reinforcement, and in time a generalised expectancy of looking for alternative solutions will be developed by the individual.

A second generalised expectancy which can be developed by an individual is interpersonal trust. There is a body of research which suggests that individuals differ in the degree to which they trust others. This again is based on experience. (Rotter,1971)

A third generalised expectancy is referred to as the perception of internal versus external control of reinforcement or internal - external locus of control. This refers to the generalised expectancy of the extent to which an individual perceives a reward (or positive reinforcement) as following from their behaviour. Alternatively we can describe internal - external control of reinforcement as the belief individuals have, that luck, fate, chance, or powerful others, (external factors) versus ability (internal factors) control the outcomes in their lives.

Social learning theory thus represents a systematic set of assumptions which offer a framework for integrating variables relevant to consumer decision-making. As such, it represents the major theoretical basis of this report.

2. LOCUS OF CONTROL

Interest in Locus of Control as a personality variable has been well demonstrated,as twenty-five years after its first appearance (Rotter, 1954), there were 411 articles, books, or dissertations reported in Psychological Abstracts (July, 1978 - June, 1979). In addition over the two and a half decades there have also been many review articles and books written on the subject, perhaps the most notable being Rotter (1966), Lefcourt (1966, 1976), Joe (1971), Throop and MacDonald (1971), and Phares (1973, 1976).

2.1 Development and Demographic Variables

This section briefly examines how locus of control develops in the individual, and the demographic characteristics that have been associated with the construct.

Discrimination, or attribution of causality is the central thesis of the I-E concept. Piaget (1930) suggests that "the starting point of causality is a non-differentiation between inner and outer experience: the world is explained in terms of the self" (p. 272). It is not until the child reaches eleven or twelve years of age that he can discern the relationship between cause and effect. In Piagetian terms, the child needs to reach the period of formal operations in order to reason on an abstract level, and thus be able to make attributions about causes. (Gruber and Voneche, 1977)

However research has been undertaken on children as exemplified by the Bialer Locus of Control Questionnaire, (Bialer, 1961); the Crandall Intellectual Achievement Responsibility Questionnaire, (Crandall, Katovsky and Crandall, 1963); and the Stanford Preschool Internal - External Scale (Mischel, Zeiss and Zeiss, 1974). This appears to contradict the suggestion that an individual has to percieve the cause of reinforcement as being related to his ability, to chance factors, or to some combination of these.

Familial studies reported by Lefcourt (1976) demonstrate that internality in males is correlated with the educational level of the mother; maternal expectation for early independence; and the amount of control that the mother exerted on her son. These results were insignificant for female children.Davis and Phares (1969) found that

university students who were extreme internals, as measured by the I-E Scale, recalled their parents as being more involved with them, showing less rejection, and having more consistent discipline than did extreme externals.Interactions between the parent and the child were also considered. Fathers of internals were reported to be more indulgent and less protective than was the child°s mother. The reverse trend was noted for parents of extreme externals. These results however are based on self-report and thus may have limited validity.

Conclusions by Crandall (1973, as reported in Lefcourt, 1976) suggest that when an internal locus of control has developed,the individual has, at some time in the past "experienced a greater push out of the nest" than has an external. (p.103)

A confounding variable in locus of control studies has been sex. Mixed results have been obtained. Battle and Rotter (1963), using Bialer°s (1961) Locus of Control Questionnaire, found no significant sex differences in children. Soloman, Houlihan, and Parelius (1969) used the Intellectual Achievement Responsibility Questionnaire and found that females were more accepting of internal responsibility than were males.

In contrast with both these studies, cross-cultural research has shown that female students are significantly more external than are male students. (Schneider and Parsons,1970; Parsons, Schneider and Hansen, 1970; Parsons and Schneider, 1974; McGinnies, Nordholm, Ward, and Bhanthumnavin, 1974)

Cultural orientation has also been well studied with significant differences being apparent. Tin-Yee Hseih, Shybut, and Lotsof (1969) comment that "individuals raised in a culture that values self-reliant individualism, pragmatic ingenuity and personal output of energy are

likely to be more internally controlled than individuals from a culture that emphasise a different set of values." (p.124)

It has been found that minority groups tend to be more external than do the majority population of the country (Graves, 1961). Tin-Yee Hseih et al (1969), using Rotter's I-E Scale in the United States, found that Anglo-Americans scored an average of 8.58 as compared with American-born Chinese, 9.79, and Hong-Kong Chinese, 12.07.

Socio-economic status has also been related to locus of control, with internality being associated with higher socio-economic status (Jessor, Graves, Hanson and Jessor, 1968). They conclude that access to opportunity, as provided by higher socio-economic status is the major link to perceived control, as measured in the tests.

Joe (1971) summarises the relationships between demographic variables.

> "Data are consistent with the theoretical expectation that individuals are restricted by environmental barriers and feel subjected to limited material opportunities would develop an externally oriented outlook on life. Also social class interacts with race so that individuals from the lower classes and minority groups tend to have higher expectancies of external control. Finally the endorsement or rejection of the Protestant Ethic could determine a person's preference for items on the I-E Scale." (p.624).

2.2 Psychological Correlates

Locus of control has been related to many psychological variables. Gold (1968) found that internals tend to have higher needs for achievement and social approval than do externals. Powell and

Vega (1972) confirmed these findings and added that internals tend to be less anxious, less pathological, and have greater intellectual achievement than do externals. In addition, internal - external control of reinforcement has been shown to have significant correlations with moral judgement (Johnson, Ackerman, Frank, and Fionda, 1968; Midlarski, 1971); deferred gratification (Bialer, 1961; Mischel et al, 1974); defensiveness in that internals tend to forget failure quicker than externals (Phares, Ritchie, and Davies, 1968; Lloyd and Chang, 1979); knowledge seeking (Seeman and Evans, 1962); differential utilisation of information (Phares,1968); and elimination of personal freedom (Cherulnik and Citrin,1974).

Many studies have been undertaken relating locus of control to influence and conformity (Crowne and Liverant, 1963; Gore, 1962; Strickland, 1970). These studies suggest that internals trust their own judgements more than externals do, and externals have more confidence in consensual judgements than do internals. They suggest that internals do not resist all influence, but rather that they discriminate between the available influences. This is especially indicated by James, Woodruff and Werner°s (1965) study which found that significantly more internal males stopped smoking for a specified period of time than did external males, following publication of the U.S. Surgeon-General°s report on the effect of smoking.

Feinberg, Miller, Lombard and Steigled (1979) found that internal subjects were conditioned less easily than were external subjects. This can be viewed as having relevance in consumer psychology as externals and internals may be influenced by different types of advertising. One might assume that internals are influenced by advertising which they interpret as being based on sound reasearch (a well established contingency between the product and the outcome

being apparent), while externals might be less discriminating in their susceptibility to advertising (more easily conditioned).

Strickland (1965) claims that internals initiate more controlling actions in situations in which they find themselves, than do externals. However Bruehl (1971, as reported in Cherulnik and Citrin, 1974) said that externals do not feel powerless, or lack personal control, but rather that they seek rewards in a different manner from that preferred by internals. Pines and Julian (1972) also suggest that externals and internals may try to exert control over their reinforcements, but because of different orientations they may look for different types of information. Internals may seek task-requirement information, whereas externals will seek the social demand of the situation. Watson and Baumal (1967) affirm that individuals perform better when there is congruence between environmental locus of control and the person°s preferred locus of control.

This section has summarised a number of psychological variables and their relation to the I-E construct, many of which have relevance in this study.

2.3 Measurement of Locus of Control

Early research set the present trends of using a written questionnaire to assess what the individual believes his reinforcement can be attributed to.

Early scales were developed by Phares (1955) and James (1957), who focussed on the relationship between internal - external control of reinforcement and skill-chance instructions by creating situational analogues of the extremes of the locus of control continuum. If in

these structured experimental situations, the hypothesised personality trait cannot be confirmed, it is unlikely to exist in the real world.

These scales suggested that there was a difference between the subjects who endorsed the external items, and subjects who endorsed the internal items. They found that individuals who endorsed more external than internal items would, in an experimental situation, act as though they were receiving chance instructions, while subjects who endorsed more internal than external items would act as though they were recieving skill instructions.

Rotter, Seeman and Liverant (1962) developed a 60 item forced choice test, which was later checked for social-desirability and the number of items decreased to 23 which now forms the well known Rotter (1966) I-E scale.

Phares (1976) reports on the Nowicki-Duke Locus of Control Scale for adults, a 40 item yes/no scale, designed for both college and non college subjects. There is some reliability demonstrated, however its validity has yet to be established (Phares, 1976, 53).

There are several measures of locus of control for children, ranging from questionnaires such as the Intellectual Achievement Responsibility Questionnaire (Bialer, 1961) and Battle and Rotter°s (1963) Children°s Picture Test of I-E Control, to the Stephen°s-Daly Reinforcement Contingency Interview and the Stanford-Binet Pre-school I-E Scale.

With the voluminous research being presently carried out, and the encouraging results available, it would appear that locus of control can be viably measured.

2.4 Locus of Control as a Concept

Phares (1976) refers to external control when he discusses the case of Karl S. In brief, Karl S. "did not percieve any causal relationship between his behaviour and the occurrence of rewards. He attributed such occurrences to luck or other factors over which he had no control." (p.3). He goes on to suggest that Karl S. merely represents one of a number of people who believe that their lives are controlled in such a manner.

Biando and MacDonald (1971) suggest that the locus of control "construct is viewed as a generalised expectancy across situations, that is, externals are viewed as having a negative expectancy for success to come from attempts at personal control, whereas internals have a more positive expectancy." (p.407).

Cherulnik and Citrin (1974) suggest that it is consistent with Rotter°s conceptualisation of locus of control to maintain that internals and externals both expected to be rewarded at a rate which is independent of their perception of locus of control, but they differ in their perceptions of the agents responsible for those rewards, internals believing that they themselves are responsible, and externals attributing the rewards to the environment

From the previous discussion, it can be seen that locus of control can be hypothesised to be a stable personality trait, developed by each individual during his life-time, and is dependent on the individual°s perception of the source of his rewards. It can be conceived as a continuum whose end points are extreme belief in internal control, and extreme belief in external control of reinforcements.

3. ATTRIBUTION THEORY

Attribution theory is commonly dated back to Heider (1958) who suggests that it considers the concepts associated with placing behaviour within a cause-effect relationship. He defined attribution as the process which occurs when "we interpret events as being caused by particular parts of the relatively stable environment." (p. 297). Thus attribution theory describes a situation in which the individual is "motivated to attain a cognitive mastery of the causal structure of his environment." (Kelley,1967,193). Jones and Davis (1965) note that attribution is based on the subjective validity of the individual, as he tries to find a reason for a particular act and why the act took on a particular form.

Researchers claim that attribution theory does not focus on a single set of assumptions, but on a series of general principles that explain observed phenomena.

3.1 Development

Attribution theory has grown out of three lines of enquiry. The first is what Heider terms "naive psychology", which allows the average individual to give meaning to the world around him, to actions of both others and himself, and to predict future behaviour in similar situations.

The second line of enquiry stems from Festinger°s (1954) analysis of social comparison processes. Festinger suggests that an individual continually assesses himself and his actions in the light of other°s opinions and the normative standards of his culture.

The third line of enquiry related to attribution theory revolves around the determinants and consequences of making a causal attribution.This is based on Festinger°s (1957) theory of cognitive dissonance, which suggests that individuals seek information that is consonant with their beliefs ,and reject that which is dissonant. Valins and Nisbett (1972) say that if an individual does not reject dissonant information, and thus does not compare favourably with others, he is likely to believe that he is abnormal, and may require treatment for this belief.

There appear to be three assumptions at the base of all attribution theories. The first is that an individual attempts to assign a cause to his behaviour and that of others; and if necessary he will look for information that will help him assign this cause. The second assumption is that this assignation of causes is done in a systematic manner that is determined by past experience. The third assumption is that the assignation of causes is important for the individual°s subsequent feelings and actions.The assigned cause will determine his reaction to an event. (Jones, Kanouse, Kelley, Nisbett, Valins, and Weiner, 1972, p.xi).

Attribution theory can be divided into three foci: person perception which is discussed by Heider (1958), Jones and Davis (1965) and Kelley (1967, 1971, 1972, 1973); self perception which was discussed by Bem (1972) and Kelley (op cit); and object perception (Kelley, op cit). The main differences between these theories appears in Table 1.

As the focus of these studies is consumer°s choice of a product from a limited range, and thus object perception, emphasis will now be placed on Kelley°s theory.

3.2 Kelley's Attribution Theory

Kelley's (1967) model provides a useful framework for consumer research, because although person perception can mediate object perception, most consumers have to decide between products, or services, rather than about the actual people. Kelley's model is capable of explaining the attribution process for objects, which is the main focus of consumer psychology.

Kelley built his theory on the other attribution theories mentioned above, and there are many similarities. Heider (1958) saw the three types of attribution as being related when he said "many of the principles underlying social perception have parallels in the field of non-social, or thing perception." (p. 21).

Kelley describes attribution theory within an anlysis of variance framework, using the cubic model to describe his theoretical notions. The three dimensions of the model are labelled distinctiveness (entities), consistency (or time/modality), and consensus (persons).

TABLE 1:COMPARISON OF THE MAJOR PARADIGMS OF ATTRIBUTION THEORY (A.T.)

Modified from Mizerski, Golden & Kernan,
The Attribution Process in Consumer Decision Making.
Journal of Consumer Research, 1979, 6, 2, 124.

	CONTRIBUTORS			
DIMENSIONS	Heider (1954,1958)	Jones & Davis (1965)	Bem (1965,67,72)	Kelley (1967,71,73)
Major Contribution	Originator of modern A.T.	Made Heider°s A.T. amenable to test	Extended A.T. to self-perc-eption	Extended A.T. to object and generalised perception.
Data used for making attributions	Other°s act-ions,or know-ledge of them	Perceived eff-ects of other actions	One°s own behaviour	Actions, events or objects
Treatment of other°s per-ceptions or attributions	Implicit	Implicit	None	Explicit-spec-ifically deve-lops paradigm: processing of information
Attrib cause of action Personal -	Intention, exertion, ability	Intention/ knowledge of action(ie.can)	Tact response	Intention
Environment-	Task difficulties	Situation and role	Mand response	Entities,mod-alities,person
Basis for attribution	Naive analysis of action.	Commonality & desirability of effects	Perceived freedom of choice	Covariance, Configuration or discounting
Output of attribution	Extent actor responsible for action	Intention & underlying disposition of actor	Perception of personal or environmental causality	Cause underly-ing action, effect or object.
Major focus	Person-perception	Person-perception	Self-perception	Object & generalised perception

DISTINCTIVENESS refers to the underlying belief that for an attribution to be valid, a particular feeling or attitude must be uniquely attributed to one thing, or entity, with the feeling or attitude existing in the presence of the entity and not in its absence. Thus, if one attributes a good sleep to the warmth of a particular blanket, and the feeling of warmth is only felt with that blanket, and disappears without the blanket, then one can, with confidence distinctively attribute warmth to that blanket.

CONSISTENCY refers to whether the relationship between the warmth and the blanket remains the same at different times and in different settings.Thus, if each morning one makes the same comment that the warmth of the blanket leads to a good sleep, and this relationship holds at home, or when using the blanket in a different setting, such as the beach or up a mountain, for example, the attribution has been made consistently over both time and modality.

CONSENSUS refers to the same attribution being made by different people.Thus if some friends, and the announcer on the radio made the same attribution, that the deepness of their sleep is caused by the warmth of the particular blanket,there is then consensus information about the attribution of warmth to that blanket.

These sources of information all interact and combine in various ways to determine the degree to which a person feels sure that he has a real picture of his world. The higher the distinctiveness, consistency, and consensus the more certain one can be about the attribution. However,as this picture is based on an individual°s perceptions of the world it does not necessarily imply veracity.

Kelley (1967, 194) suggests that an attribution to an object requires that an individual responds differentially, consistently, and in consensus with others, otherwise an attribution to a person or

the environment is indicated.Jones and Davis (1965) infer that a perceiver is more likely to make attributions to a person°s behaviour rather than an object, because of what they term "hedonic relevance". This refers to the attribution process being distorted by the perceiver°s personal needs; the effect that a given attribution may have on the perceiver. This seems to be connected to the personalism that they infer within the attribution process.

This has relevance to consumer psychology, and especially to advertising, as consumers may exhibit hedonic relevance to a product advertised. If a consumer wants a product that is advertised, the advantages of the product my be perceived as distorted by the consumer so that they decide that the product is perfect for their needs.

It could also be possible that the distortion occurs in the opposite direction with the advertiser being seen as biased. An example of this is produced by Mizerski, Golden, and Kernan (1979) when they discuss the possible causes for a salesman providing favourable or unfavourable information about a product. Table 2 illustrates this.

TABLE 2: POSSIBLE CAUSES FOR A SALESMAN°S COMMENTS ABOUT A PRODUCT

OBSERVED EFFECT	POSSIBLE CAUSES ATTRIBUTED
CASE 1:Says favourable things	1. Believes what he says about the product 2. May put job in jeopardy if negative comments overheard by senior staff 3. Wants to collect commission. 4. Is a salesman so will say anything
CASE 2:Says unfavourable things	1. Believes what he says about the product 2. Emphasising the good points of the product.

Hedonic relevance tends to fit best with Kelley°s discounting principle which is yet to be discussed. Advertising and advertiser credibility is considered further at the end of this section.

Kelley (1973) also makes a distinction between attributions made from multiple observations, and those made from a single observation. In the former case, the covariation principle takes effect, as the individual has information from two or more points in time and "an effect is attributed to one of the possible causes, with which, over time it covaries." (p.108). As an example, in the area of person perception, McArthur (1972) had ninety-five subjects complete a questionnaire-type study, where they were asked to make attributions about possible causes of a particular sample of a person°s behaviour, with the information along Kelley°s dimensions being varied. Each sample could be attributed to a characteristic of the person, of the stimulus, of the situation, or a combination of all these.

An example may help to clarify the situation:

a)Almost everyone who hears the comedian laughs at him.

(High consensus)

b)John usually does not laugh at any other comedian.

(High distinctiveness)

c)In the past John has always laughed at the same comedian

(High consistency)

(Adapted from McArthur,1972)

In this case one could attribute the behaviour of John laughing, to the stimulus, the comedian. This, in Kelley°s (1973) terms would be a valid attribution, as all three criteria of high distinctiveness, consistency, and consensus have been met.

The second principle,the discounting or configuration principle, works on the basis that "the role of a given cause in producing a given effect is discounted if other possible causes are present." (Kelley, 1973, 113). Heider (1958) called this causal analysis which can be seen as analagous to the experimental method, as it has the purpose of discriminating which effects are to be attributed to which of the several factors present.

It must be remembered that this principle is applied when there is only one occasion to observe a stimulus. The attribution is made on the basis of past experience in observing cause and effect relationships, "and requires the individual to take account of the configuration of factors that are plausible causes for the observed effect." (Kelley, 1967, 108). This is known as a schema, which is developed as the individual matures, and it helps him make relevant attributional analyses as it gives a framework within which relevant information can be stored.

3.3 Attribution Theory in Consumer Psychology

Attribution theory has only recently become a part of consumer theory (Settle, Faricy, and Warren, 1971). Most studies appear to be tied only loosely to a theoretical stance, and perhaps have overaccentuated the importance given to attribution theory. This point has been made by Burnkrant (1974), Hansen and Scott (1976), and Scott (1978). Smith and Hunt (1978a) comment that although past attributional studies have assumed the use of attributional processes by consumers, there is no empirical evidence to support this conclusion. However the studies that have been undertaken have set guidelines for future research, and so have importance in the area.

The covariation and configuration principles have been linked to consumer psychology by Mizerski et al (1978). It is reported that a consumer often lacks the time and motivation to make multiple observations. The configuration principle thus becomes relevant, and the consumer learns "to associate causes with events, and to generalise across similar attribution situations." (p. 128).

Much of the literature is concerned with "how people know they know" (Scott, 1978, 169), or how perceivers know that the claims made are credible. Very little work seems to have been done looking at product characteristics and the way these affect people°s attributions. It seems that this is a neglected area of consumerresearch.

Kelley°s theory has been used in consumer psychology by several researchers and three studies that represent the work that has been done are presented below.

Settle (1972) used Kelley°s theory to study the criteria necessary for the acceptance of information. He contrasted three pairs of products in each case, on four dimensions that were called complexity, visibility, durability, and multipurposeness. Examples of product pairs are: Stereo-tuner and livingroom chair (Complexity), Skirt and pyjamas (visibility), earrings and perfume (durability), electric blender and electric can-opener (multipurposeness).

Information was presented as coming from an expert or close friend, and as being consistent over time or modality.

These sets of conditions were presented randomly to subjects who had to choose and rate on a 0 to 9 scale how confident they were that they had made a good choice of product.

Conclusions from this study suggest that there are two product types, those that are complex, where the consumer seeks consensus

information from experts; and those that are socially visible, where the consumer seeks information from a close friend. Although relevance to consistency was claimed, no findings on this were presented.

Settle and Golden (1974) used the covariation principle in Kelley°s theory to investigate how to increase consumer confidence in a product, through advertising. Results suggested that advertisers should be prepared to vary their claims in relation to the product characteristics that are important to the consumer. Thus, if an advertiser admitted that a rival brand may be superior under certain circumstances, or did not claim that his product is perfect under all conditions, the public might be prepared to trust him, and attribute the features that are superior to the product rather than to external features such as advertiser bias.

Burnkrant and Coiseneau (1975) investigated consensus and its relationship to product evaluation. Evidence suggested that people did not choose in favour of consensus to comply with group norms, as had been previously hypothesised, but that they used the consensus as a source of information about the product. This demonstrates a return to Kelley°s theory, as he predicts the dimensions which exert control over an individual°s information about a product, rather than determining their choice directly. This represents an important change in attribution theory, perhaps not previously acknowledged.

It has been suggested that there is a great potential for attribution theory in consumer psychology (Hansen and Scott, 1976; Scott, 1978). However Calder and Burnkrant (1977) argue that to transfer the study of attribution theory into the realm of consumer psychology would entail a reanalysis of the principles, as the area of consumer behaviour is unique.

One aspect of this study focusses on the theoretical structure hypothesised by Kelley, and its application within the area of consumer choice, as an attempt to test the usefulness of attribution theory and to determine whether reanalysis is required.

4. CONSUMER DECISION MAKING

Consumer decision-making is of relevance to this study as a subject°s preference for one of two or more brands was used as the dependent variable.

Consumer decision making has been included in the literature for many years. A theory in this area discusses such questions as how consumers choose one of two or more alternative brands of goods or services. This can lead to studies that deal with prediction of consumer choice (Reibstein, 1978), stability of consumer choice over time (Jeuland, 1978), and brand changing behaviour (Windal, 1978).

Hansen (1976) reviews psychological theories of consumer choice. In his view, situational variables, both actual and perceived, and the individual°s predisposition interact to influence consumer choice.

As the present study only examines whether a personality variable mediates the influence of consensus and distinctiveness information on expressed preference, it is assumed that the environment, or situational variables did not confound the choice.

Individual predispositions are hypothesised to include personality variables, general attitudes, beliefs, preferences, intentions, and purchasing probabilities.

Fishbein (1967) and Fishbein and Ajzen (1975) suggest a theory of choice, that has been applied extensively to consumer research

(Cohen, Fishbein, and Ahtola, 1972; Weddle and Bettman, 1974; Wilson, Matthews, and Harvey, 1975).

The theory is essentially about behavioural intentions, or behaviour which is under volitional control. Fishbein hypothesised that behavioural intentions are functionally related to two things, an individual°s attitude to the act and subjective norms. An example of this could be a consumer deciding whether or not to buy a durable item such as an automatic washing machine.

The behavioural intention to buy the automatic washing machine is functionally related to the consumer°s attitude toward having an automatic washing machine, and whether the consumer thinks that other people, who are important to them, think that they should have an automatic washing machine.

The theory is formally presented in the following formula:

$$BI = Aact\ (w1) + SN\ (w2)$$

(Formula 1.1)

BI = Behavioural Intention

Aact = Attitude to the act

SN = Subjective Norms

w1 and w2 = regression weights of the equation that have to be empirically arrived at.

(Tuck, 1976, p.79)

The regression weights of the equation determine which part of the equation, attitude to the act or subjective norms, is most important to the individual consumer. This can vary across situations and individuals, and depends upon mathematical analysis to arrive at the answer.

This formula suggests that one develops generalised normative beliefs (cf Rotter°s generalised expectancies) which are evolved by taking notice of other people°s expectations, and assessing the motivation to comply with these. Tuck (1976) points out that this conceptualisation is based upon very tentative grounds, with the motivational part of the formula, in particular, lacking empirical support.

Wilson, Matthews and Harvey (1975) found that the BI model can be used in marketing research,and that both Aact and SNB are important predictors, with the former perhaps accounting for more of the variance.

5. INTEGRATION

Each of the concepts seperately discussed in this chapter can be related to social learning theory in general, and generalised expectancies in particular.Locus of control is one of the generalised expectancies that Rotter hypothesises in his social learning theory framework.

Attribution theory can be related to social learning theory in that, each time a person perceives and makes an attribution, he does it on the basis of previous experience. Over time, the experiences that an individual has, and the feedback from the attributions made, may be considered to form another generalised expectancy, which Kelley calls a schema. This can be utilised to make other attributions.

The relationship between Fishbein°s choice theory and social learning theory has already been highlighted with regard to generalised normative beliefs. These are developed over time from subjective normative beliefs, and may be considered comparable with Rotter°s generalised expectancies.

Rotter°s (1954) social learning theory therefore provides a unifying theme for the variables being investigated in this study.

A number of studies have considered relationships between locus of control, on the one hand, and attribution theory or consumer decision making on the other.

Kassarijian (1965) reviewed the literature on the relationship between personality and consumer behaviour. He concluded that overall, there appeared to be a weak relationship between personality variables as measured by existing personality tests such as Edwards Personal Preference Schedule, and the California Peronality Inventory, on the one hand and consumer behaviour on the other.

Horton (1979) studied the relationship between personality and Consumer decision making. He used five personality tests which were selected because they had previously been used, or their content was apriori related to decision - making. He found that subjects who were high in anxiety and/or low in self-confidence tended to use external referents such as price and brand to make their decision, whereas subjects with the opposite traits tended to show low identification with these features. This study is the most recent comparing these two theoretical stances. It can be criticised in that a consumer choice model was not considered to explain the choices made; the choices presumed to be accounted for entirely by personality.

Alpert°s (1971) study is one of two studies most directly relevant to this investigation. He examined the relationship between the personality profile, as provided by the Edwards Personality Preference Schedule, and the pattern of attributes a potential buyer might seek when purchasing a new motor car. He concluded that there were some strong relationships between the personality profiles, and attribute seeking.The attributes of friends owning a similar type of

car, safety, economy of operation, and good resale value were paired with the personality variables of non-aggression, non-autonomy, intraception, and endurance. Matched with economy of usage of car was a hardworking individual who tends to be a passive follower. (Alpert, 1971,315)

Although this does not examine all the correlates found by Alpert, it demonstrates the efficacy of this type of research.It could lead advertisers to make strong appeals to selected personality "types" within a heterogeneous consumer audience.

Settle, Faricy and Mizerski (1971) examined racial differences in consumer locus of control. They constructed a 32 item consumer I-E Scale,and added to this eight of Rotter°s items that had been found by Castanzo (1971) to provide a 100% discrimination between the upper and lower thirds of the sample. They concluded that there is a significant relationship between perceived general locus of control and perceived consumer locus of control. There was also a significant relationship between race and I-E locus of control, suggesting that blacks feel they have less control in the market-place than do whites.

The aim of the present investigation is to integrate the studies discussed. It is believed that locus of control is related to attribution theory in the field of consumer choice. Rotter (1966) provides a theoretical basis for this study in the following statements:

1. "Internals would be more resistive to manipulation from the outside." (p. 22)
2. "Externals, expecting control from the outside would be less resistive." (p. 23)
3. ".....the findings have considerable significance for the general area of persuasion and propoganda." (p. 24).

6. HYPOTHESES

1. That the probability of choosing, and changing a choice, in favour of consensus information will differ for externals and internals.

2. The probability of selecting in favour of consensus information and distinctiveness information will differ between externals and internals.

3. The probability of selecting in favour of personal control and non-personal control features of a product will differ between externals and internals.

4. The probability that internals and externals will have their reasons for selecting a product rated as internal and external respectively, will be greater than the reverse.

CHAPTER 2 - THE PRESENT INVESTIGATION

1. DESIGN

The design employed for this investigation was different for testing Hypothesis 1 from Hypotheses 2, 3, and 4. Hypothesis 1 involved visiting the subjects twice, and using a counterbalanced design to control for extraneous variables. On the other hand, Hypotheses 2, 3, and 4, were measured at only one time, and all subjects were given the same information.

1.1 Counterbalanced design - Hypothesis 1:

This hypothesis was tested by giving subjects a choice of one of three brands of transistor radio, and asking them to state a preference.

The counterbalanced design used, involving three groups can be represented as follows:

TABLE 3: Diagrammatic Representation of the Counterbalanced Design

GROUP	T1	T2
CONTROL	0	0
1	0	X 0
2	X 0	0

0 = Observation
X = consensus information
T1 = First interview
T2 = Second interview

At the first interview (hereafter known as T1), both the control group and group 1 recieved no consensus information about the transistors. Group 2 received consensus information in the form that "Earlier research that I have done has shown that most people chose National." National was selected by putting the three brands in a hat, and drawing one.

At the second interview (hereafter known as T2) the control group did not receive consensus information, and and Group 2 had the previous consensus information removed. Group 1 had consensus information included in their question in the form "Last time I came around, I found that most people chose .....". This was a brand that was prior, in alphabetical order to the one that the subject had chosen at T1. Appendix III contains the actual wording of the questions used in the final study.

1.2 Studies testing Hypotheses 2, 3, and 4:

All subjects answered questions relating to hypotheses 2, 3, and 4. Time was not a variable within these studies as the manipulations occurred within the question format.The questions merely required the subject to state a preference for one of the two models with different distinctiveness and consensus information given in the item.

2. SUBJECTS

As this research was aimed at studying the relationship between locus of control and attribution theory, using consumers as the sample, it seemed important to gather data from the widest possible source of consumers. This counteracts criticisms such as that put forward by Bogart (1973), "Changes noted amongst undergraduates in the laboratory do not necessarily give us analogies for the changes within the general population ..... "(p995). For this reason, standard survey sampling techniques were employed, even though they were not called for in the design.

Most of the research on both attribution theory and locus of control has been carried out on convenience samples of students. Thus it seems a necessary factor to investigate whether similar results can be found in the general community.

It was decided to use adults (18 years and over) for the study, and it is therefore necessary to recognize that results cannot be generalised to those under 18 years of age. However the I-E scale was designed for an adult population, as were the products selected as test items.

It was hoped to gain an approximately equal distribution of males and females, however this was left to the chance of the sampling procedures. The selection procedures should also have minimised other sampling errors.

2.1 Selection Procedures for Subjects:

As it has been shown in the literature that locus of control is related to sex, socio-economic status, age, and ethnic group, the selection of subjects needed to be random to ensure maximum generalisation. Deming (1971) said that "unrepresentative choice of respondents ..... can be eliminated by adopting inflexible rules for selecting the respondents" (p. 352-353).

Thus the rules applied for selecting respondents for this study were:

1. Selection of starting points:- The random number tables and the Manawatu Telephone Directory were utilised to provide addresses for starting points. 38 were selected.

2. Selection of households:- The identified starting point addresses were known as Household One. To be included in the study there had to be a person home at the time of the interviewer calling, who met the criteria for selection of subject itemised in (3) below. If these criteria were not met, the next household to the left was sampled. From the starting point household, as identified in (1) above, the third and sixth households to the left were used, providing they met the criteria. Thus each starting point provided three addresses.

3. Selection of respondents:- The respondent selected was someone at home in the identified household, over 18 years of age. If more than one individual met this criteria, the person with the next birthday was selected.

In this way, 114 respondents from 38 starting points were sampled. As three respondents did not return the I-E Scale, their responses were not considered, and three more subjects were added to the sample utilising the above rules. Thus 114 subjects completed T1.

Approximately three weeks later (2 weeks 6 days to 3 weeks 2 days) the sample was reinterviewed. For this round, subjects were not included in the final sample if they were not home after three callbacks (7 subjects) and one refused to answer any more questions. Characteristics of these subjects appear in Table 6.

The demographic characteristics of all the subjects appear in Table 5.Only one female subject was non-european, so race was not considered to be a variable.

TABLE 4 - DEMOGRAPHIC CHARACTERISTICS OF SUBJECTS

A) SEX AND AGE GROUPS OF SUBJECTS

AGE GROUPS		MALE	FEMALE	TOTAL
18 - 19	A	0	5	5
20 - 29	B	10	14	24
30 - 39	C	6	15	21
40 - 49	D	5	20	25
50 - 59	E	6	10	16
60 - 69	F	1	10	11
70 +	G	5	7	12
TOTAL		33	81	114

B) SEX AND SOCIO-ECONOMIC STATUS OF SUBJECTS AS MEASURED BY THE ELLEY-IRVING SOCIO-ECONOMIC INDEX (1976).

SOCIO-ECONOMIC STATUS	MALE	FEMALE	TOTAL
	10		
2	1	11	12
3	8	22	30
4	7	14	21
5	1	8	9
6	3	2	5
NOT APPLICABLE	11	16	27
TOTAL	33	81	114

C) AGE AND SOCIO ECONOMIC STATUS OF SUBJECTS (ELLEY-IRVING SCALE)

	AGE GROUPS							
S.E.S	A	B	C	D	E	F	G	TOTAL
1	0	1	4	1	2	2	0	10
2	0	1	2	5	2	1	1	12
3	1	5	8	11	5	0	0	30
4	0	10	3	6	2	0	0	21
5	2	1	2	1	2	1	0	9
6	0	1	1	1	1	1	0	5
N.A.	2	5	1	0	2	6	11	27
TOTAL	5	24	21	25	16	11	12	114

When these demographic characteristics are correlated with locus of control group, the following significances were found (Sex, $p=0.0012$, Age, $p= 0.0518$, Socio-economic Status, $p= 0.3871$). For reasons described below, sex bias was eliminated from locus of control groups.

Locus of control scores were divided into three groups,with the observed sex bias removed. Internal males were determined by taking the lower third, approximately, of the male locus of control scores. External males were determined by taking the upper third, approximately, of the male locus of control scores. Female locus of control scores were handled in the same manner,and the male and female internal groups were combined to form the "internal group, the external groups combined to form the "external" group, and the remainder formed the "middle" group.

It seemed important to remove the sex bias, as when handling the results, it was decided to use simple analyses where possible, and sex may have confounded these.It could have acted as a confounding variable to the locus of control scores.

Some of the results consider only the two extreme groups, the internals and the externals, as the hypotheses call for study of probability of choice between these two groups. Baron et al (1974) used this division of subjects into three locus of control groups to prevent the middle group concealing trends that the extreme groups might exhibit.

The subjects sampled are heavily biased in favour of females, and although this does not affect the experiment,it may affect the generalisability.

Eight of the 114 subjects were measured at T1 only. Characteristics of these subjects appear below, in Table 5.

TABLE 5 - CHARACTERISTICS OF SUBJECTS MEASURED AT T1 ONLY

EXPERIMENTAL GROUP	SEX	LOCUS OF CONTROL GROUP	AGE	S.E.S
2	Male	External	20-29 B	N.A.
2	Female	Middle	60-69 F	1
2	Male	Middle	20-29 B	3
2	Male	External	20-29 B	4
1	Female	Middle	40-49 D	4
1	Female	Internal	40-49 D	3
1	Male	Middle	50-59 E	N.A.
Control	Male	Middle	20-29 B	1

Because of the small number of subjects in this group the characteristics can merely provide a listing, they cannot be analysed for specific features.

3. PILOT STUDIES

Pilot studies were run to develop the questions and to standardise the procedure.

The aim of the first pilot study was to check Rotter°s I-E Scale in the selected experimental setting, and to start developing the additional questions, to test the relationship between locus of control and attribution theory. Subjects used were thirteen friends of the author.

It was found that the modified form of Rotter°s I-E Scale (Appendix II) was usable within the setting, and there was a reasonable spread of scores (6 - 16). However the additional consumer

questions (Appendix 1), providing information in terms of two of Kelley°s attribution theory dimensions were shown to immediately require modification.

Two weeks later a second pilot study was run. This involved trying out the full procedure on people, similar to those who would be subjects. Anticipating having a final sample size of approximately one hundred subjects, it was decided to use twenty subjects in this pilot phase. It was during this study that it became obvious that it was impractical in terms of time and subject response, to wait and collect the I-E Scale.Thus the procedure of leaving them for a maximum time of 24 hours was developed.

The modified consumer questions were asked, as well as an extra one (calculators), so that the relationship between attribution theory and locus of control could be tested at each call.

Results indicated a wide spread in the locus of control scores (2-18). It appeared that Hypothesis 1, suggesting a relationship between locus of control and consensus information would be adequately tested by increasing the number of subjects.

The calculator distinctiveness information/consensus information question suggested that some modification was needed in order to increase the distinguishing features of the calculator. This was done and retested in Pilot 3.

The car micro-processor question, developed to test Hypothesis 3,about a relationship between locus of control and personal / non-personal control produced results that were opposite to those expected. It appeared that all those who scored externally on the I-E Scale wanted to have control over the car computers, and thus chose Model MP1B. If this was to be indicative of a trend in the final study, it was considered important to retest this trend in another manner. Thus it was felt necessary to incorporate an extra question

in the study, this allowing the hypothesis to be tested on two seperate stimulus items. The income-tax micro-processor question was introduced, with many of the variables being comparable with those of the car micro-processor.

Pilot study 3 was run to finally standardise the questions and the procedure. The transistor question to test Hypothesis 1 was not asked of the subjects as it was felt that this had been well standardised.

At the end of three pilot studies the questions and procedures had been standardised so that the main study could be run with reasonable experimental controls.

4. INSTRUMENTS

To measure the relationship between personality and attribution theory, it was hoped to utilise, as much as possible, existing tests that had demonstrated reliability and validity. While a number of personality tests have been used in consumer research, the present study focusses on only one dimension of personality, namely internal - external control of reinforcement.

4.1 Locus of Control

It was decided to measure locus of control as the relevant personality dimension. There were a number of scales available, which were itemised in the Locus of Control section previously. It was decided to use Rotter°s I-E Scale as there is an abundance of research relating to it, and it is the most commonly used scale to measure this construct.

The I-E Scale consists of 23 forced-choice type of questions, that measure locus of control, and six filler items, this making a total of 29 questions.An example of an item that measures locus of control is provided by number 2.

2. a) Many of the unhappy things in people°s lives are partly due to bad luck.

b) People°s misfortunes result from the mistakes they make.

The forced-choice type format requires the subject to indicate a preference for one of paired items, both of which should be equally attractive. Malone and Ward (1976) suggest that the forced-choice format avoids many of the problems of faking and response sets.

As the items are scored in the external direction, the higher the score, the more externally oriented the individual is. The test measures the subject°s belief about the nature of the world ..... (It is) ..... concerned with the subject°s expectations about how reinforcement is controlled. Consequently the test is considered to be a measure of a generalised expectancy." (Rotter, 1966, 10).

1.1 Adequacy of the test

Rotter (1966) reports an internal consistency (Kuder-Richardson) of .71, while Franklyn (1963) reported .69. Test-retest reliability after one month is reported at .72 (Rotter, 1966), and .78 (Jessor, 1964). After two months, males had a reported test-retest reliability of .49, females .61, averaging at .55.

Correlations of results with those obtained on the Marlowe-Crowne Social Desirability Scale shows low negative results (Strickland, 1962; Watt, 1962; Ware, 1964; Rotter, 1966).

Correlations with intelligence appear to be low. Ladwig (1963) reports an .01 correlation using prisoners, while Strickland (1962) found a -.09 correlation. Caro (1962) found that males intelligence correlated .03, females -.22, averaging to -.11. Thus locus of control does not seem to be significantly related to intelligence as measured by IQ tests.

Normative data for seperate sexes and races, reported by Rotter (1966, 15) show conflicting results on the sex bias issue, but point to a tendency for Negroes to be slightly more external than their white counterparts. These issues were previously considered in Chapter 1.

To conclude, the Kuder-Richardson and test-retest reliabilities for the I-E Scale appear to be good. However sex of the subject and cultural affiliation need to be considered as biasing factors.

1.2 Validity of the test

Rotter (1966) claims that the I-E Scale is uni-dimensional. He said "Two factor analyses have been completed .....(which)..... indicated that much of the variance was included in a general factor .....(and)..... additional factors, however, were not sufficiently reliable to suggest any clear-cut sub-scales within the test." (p16). There has been contradictory research published, all of which suggests a multi-dimensional scale. Mirels (1970) found two sub-scales within the I-E Scale, these being, firstly, the respondents inclination to assign greater or lesser importance to ability and hard work than to luck, as influences which determine personally-relevant outcomes.

Secondly was the respondent°s acceptance or rejection of the idea that a citizen can exert some influence over political and world events. The overlap between the two scales was reasonable (+/- .30). Abrahamson et al (1973) confirmed this finding.

Forward and Williams (1970) also found two sub-scales, these being personal control, (the first person items from the I-E Scale) and the second being control ideology which includes the third person items from the I-E Scale.

Abramowitz (1973) found two item stems that were uncorrelated, these being interest in political and world affairs versus the non-political items. This was part of a specialised study to determine whether political commitment could be predicted from locus of control scores. The results showed that it was predicted from the first factor rather than by the second, or the total score.

Collins (1974) found four scales which are distinguishable and relatively orthoganal. He said that respondents may score externally on the scale if they believe a) the world is difficult

b) the world is unjust

c) the world is governed by luck

d) the world is politically unresponsive

Although there is controversy about the number of factors that the test measures, no-one has disputed that it measures internal and external control of reinforcement and for this reason it was utilised to measure the construct in this research.

While there is no one answer in current research concerning the homogeneity of the scale, the present study is still in keeping with Rotter°s basic idea of a generalised expectancy.

4.2 Instruments used in this study

2.1 I-E Scale

Rotter°s (1966) I-E Scale was modified for the purposes of this study. The original 23 items that measure locus of control were retained, however filler items of a consumer nature were substituted for the original filler items, to give face validity to the additional questions.

A copy of the the test used appears in Appendix II, together with a listing of the significance of choices on the filler items to the total locus of control score. (Appendix VII) It can be seen that the only filler item that is significantly related to locus of control is number 24.

2.2 Additional Questions

The additional questions used to test the hypotheses were developed in the Pilot Studies, and their development was described there.

To test Hypothesis 1, that the probability of choice in favour of consensus information will be different for externals and internals, required that a question containing consensus information was included. The question also had to be amenable to the cross-over type design employed. Thus the addition and/or ommission of a line of information made this feasible. (See Appendix III)

Question 2 (see Appendix III) asks the subject to make a choice between four brands of calculators labelled A, B, C, D. Brand A was described in terms of distinctiveness information in that the keyboard was the right size for John°s fingers. Brand B had consensus

information attached to it. Brands C and D were labelled non-attribution information, as by containing the same information, they have the same cause attributed to the two different products, and thus the attribution can be called into question.

Questions 3 and 4 approach the question of I-E control and selection of product according to attribution information in a different way. On the one hand, Models MP1B and B respectively, allow the individual personal control over the piece of the environment that is being measured. This has been associated with internality by Strickland (1965). On the other hand, Models MP1A and A respectively remove the personal control, and this has been associated with externality.

> For example, one of the questions used to test hypothesis 3 was: "At present manufacturers of home based micro-processors are cooperating with Inland Revenue in the development of computerised income tax systems. There are going to be two systems marketed. The main difference between them is that Model A will operate on the basis of a set list of possible deductions, and merely rewquires you to type in income and expenditure under the various categories and it will produce your income tax statement. On the other hand, Model B will require that you enter income and expenditure, and the deductions relevant to your case.
>
> If you were to purchase one of these models, which one would you select?"

MP1B allows the individual to select fuel consumption according to changing driving circumstances, this allowing the individual control over the consumption. As the question reads, the individual

can use as much or as little fuel as they like, within obvious constraints. On the other hand MP1A has a computer setting the fuel consumption at an average level, this removing the control from the individual.

Scoring of items is done on the basis of whether the individual chose in favour of the internal, or the external choice provided. This was entered onto the computer and correlated with other factors, as appear in the results.

Consistency of choice can be seen as a reliability measure, so this was checked by the control group who revealed 83.78% stability on the choice of radio question.

4.3 Ratings of Responses

The responses to the question "Why?" asked following question 1 (See Appendix III) were rated by external raters as to their degree of externality or internality. This was originally done following Pilot Study 2, however the two raters commented that the instructions were unclear, and this was supported by an inter-rater reliability of 51.6%.

In the main study, three external raters were used, two of whom rated all the responses, and the third rated those responses where the original two did not agree. There was a 62.3% inter-rater reliability between the first two raters, and a 93.07% inter-rater reliability overall, taking two agreements as sufficient criteria for responses. Appendix IX describes the instructions given to the raters.

4.4 Summary of the Instruments

Subjects in the study completed a modified version of Rotter°s I-E Scale, and answered four oral questions, over two interviews. The answers given were used to test the hypotheses that are representative of the aims of this study.

5. PROCEDURE

The actual procedure that was used for this study can be summarised as follows:-

1. Starting points were selected and noted.
2. Subjects sampled complied with the appropriate rules previously itemised. The dates for the first interview were Saturday, 28 June, 1980 to Thursday, 17 July, a period of approximately three weeks. Both weekends and week nights were used to try and collect information from as random a sample as possible.
3. The subjects help was enlisted and the interview protocol (Appendix IV) was administered. They were asked to fill in the I-E Scale and to place it in their letterboxes, to be collected by the interviewer within 24 hours. In one case the questionnaire went missing from the mailbox, so the subject completed a duplicate while the researcher waited. The questionnaires were filed in numerical order, and not considered until after T2.

4. Two weeks,six days to three weeks, two days after T1 the same subjects were reinterviewed. The questions asked are reported as T2 in Appendix III. Eight subjects did not complete this section, and so were dropped from the final sample. The dates for this were Saturday, 19 July to Wednesday, 6 August. On completion of the questionning, a thank-you note was given to all subjects. (Appendix VI)

5. Locus of control groups were assigned according to the degree of externality or internality from the modified I-E Scale (Appendix II). When this was correlated with demographic variables, it was found to be significantly correlated with sex, thus the groups were reassigned to eliminate the sex bias.

6. All the data was entered onto a B6700 computer, and both SPSS and Minitab were used in calculations.

7. In early November all subjects were given a debriefing handout, summarising the investigation and the obtained results.(Appendix VIII)

CHAPTER 3 - RESULTS

All data was entered into a B6700 computer, and calculations were carried out using SPSS (Nie, Hull, Jenkins, Steinbrenner, Bent, 1975) and Minitab (Ryan et al, 1976,1977).

Extreme groups for internal and external control were found by taking the subject°s scores on the I-E Scale, controlling for the sex bias, and dividing them into approximate thirds. The lower third is called the INTERNAL group and the upper third the EXTERNAL group. Table 6 represents the numbers falling into each of these groups in relation to experimental group.

TABLE 6 - EXPERIMENTAL GROUPS AS DISTRIBUTED BY LOCUS OF CONTROL

	INTERNAL	MIDDLE	EXTERNAL
CONTROL	16	10	11
GROUP 1	10	15	10
GROUP 2	10	15	9

Most analyses were carried out using only the two extreme groups, as it was felt that the middle group could have disguised trends that may have supported or rejected the hypotheses.

1. HYPOTHESIS 1

That the probability of choosing, or changing a choice in favour of consensus information will differ for externals and internals.

This hypothesis was tested by a counterbalanced design with a control group,over two time periods (T1 and T2). The questions asked, required the subjects to choose one of three brands of transistor radios, National, Majestic, or Sony. The distribution of choices at each time period appears in Table 7.

TABLE 7 - DISTRIBUTION OF BRAND OF TRANSISTOR BY EXPERIMENTAL GROUP

A) AT TIME 1

	MAJESTIC	NATIONAL	SONY	NO CHOICE
CONTROL	3	25	7	2
GROUP 1	10	12	10	3
GROUP 2	7	15	11	1

B) AT TIME 2

	MAJESTIC	NATIONAL	SONY	NO CHOICE
CONTROL	3	25	8	1
GROUP 1	7	18	10	0
GROUP 2	6	14	13	1

Analysis difficulties were caused by the need to provide different brands of consensus information to Group 1 subjects,prior to T2, depending on their choice at T1. If Majestic was chosen by the subject at T1, then Sony was provided as the consensus information; if Sony was chosen, National became the consensus information; and if National was chosen, Majestic was the consensus information. This makes it impossible to use choice of brand per se as the dependent variable, as would be required should a standard ANOVA design be used.

The ANOVA design that was thought would be appropriate to test the hypothesis appears in Figure 1.

Group 1	Internal	T1	Majestic National Sony
		T2	Majestic National Sony
	Middle	T1	Majestic National Sony
		T2	Majestic National Sony
	External	T1	Majestic National Sony
		T2	Majestic National Sony
Group 2			
Group 3			

Note: Groups two and three repeat the pattern for Group 1

FIGURE 1 - CONCEPTUALISATION OF THE ANOVA DESIGN

The design of the experiment left it to chance that the extreme internals and externals would fall in an equal distribution between the two experimental and control groups. To presume otherwise would have entailed marking the I-E Scales between visits, and thus risk introducing experimental demand characteristics. The distribution of subjects by experimental and locus of control groups can be seen in Table 3.

In the ANOVA design, the choice of brand, National, Majestic, or Sony at T1 or T2, according to locus of control and experimental group could be tested, if the consensus information given was standard and there was at least on subject per cell. Because of the small n°s and differential frequencies that would occur if Figure 1 was followed, these criteria were not met.

In Group 2, the same consensus information "National" was given to all subjects, as it was not dependent upon the previous choice of brand. Thus choice of brand per se could be used as the dependent variable in this group.

To counteract the difficulties described, analyses were carried out using simple contingency tables rather than the ANOVA.

1.1 Distribution and consistency of choice

The Control group and Group 1 provide the baseline distribution frequency, without any intervention and this appears in Table 8.

TABLE 8 - THE NUMBER AND PERCENTAGE DISTRIBUTION OF BRAND AT T1 WITHOUT INTERVENTION. (Control group and Group 1)

	MAJESTIC	NATIONAL	SONY	NO CHOICE
NUMBER	13	37	17	5
PERCENTAGE	18.06	51.39	23.61	6.94

It can be seen from this table that choice of brand without intervention was not a random across the three brands, rather National was the most popular brand, as it was chosen by over 50% of the sample. Thus this table provides a prior probability of the choice of brand without intervention.

We can next consider the consistency of choice, which can be obtained by comparing the Control group°s choices at T1 and T2. Thirty-one out of thirty-seven, 83.78% of the subjects chose the same brand at both times. (Table 7) An analysis of the reasons given showed that twelve subjects commented that at T2, they remembered their T1 choice, and that the reason was the same. Of these twelve, two changed their choice of brand while citing a reason essentially the same.

1.2 Control Group and Group 1

We will firstly consider Group 1, with change of choice being the dependent variable.

A more general question needs answering before proceeding. Was there more change in Group 1 than in the Control group ignoring locus of control?

A chi-square (χ^2) contingency table was used to assess this difference.

The χ^2 test is used to assess whether there is a significant difference between the observed and expected frequencies in different cells.

The basic formula which is applicable is:

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(|O_{ij} - E_{ij}|)^2}{E_{ij}}$$

O_{ij} = observed number of cases categorised on the ith row of jth column.

E_{ij} = expected number of cases categorised in the ith row of jth column.

$\sum_{i=1}^{r} \sum_{j=1}^{k}$ = sum over all rows and all columns.

(Siegel, 1956)

However in the special case of a 2 x 2 contingency table (when df = 1) Yate°s correction is applied to counteract Type 1 errors. Thus the above formula becomes:

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(|O_{ij} - E_{ij}| - 0.5)^2}{E_{ij}}$$

(Runyon and Haber, 1968)

This formula provides us with a corrected χ^2.

Thus with regard to change between Group 1 and Control group, the following χ^2 table was constructed.

TABLE 9 - Showing change between Group 1 and Control Group

		SAME	CHANGE
		24.15	12.85
CONTROL	31	6	
		22.85	12.15
GROUP 1	16	19	
Corrected χ^2 = 9.89		p § 0.005	

This suggests that there is more change in group 1 than in the control group, so it became necessary to assess whether the number who changed was significantly different for the two extreme locus of control groups.

We will firstly consider the Control group:

TABLE 10 - Change in Control Group in relation to locus of control

		SAME	CHANGE
		14.08	3.2
INTERNAL	14	2	
		9.68	2.2
EXTERNAL	8	3	
Corrected χ^2 = 0.34		p § .1	

This was not significant, which suggests that there was no difference in terms of locus of control between subjects who changed brand choice in the control group. As no consensus information was given to the control groups, one would not expect there to be a differential change.

As Group 1 demonstrated more change than did the Control group, this change will now be assessed in terms of locus of control. Because of the already described difficulties associated with using choice of brand per se, as a dependent variable for Group 1, subjects were classified into change in favour of consensus information, change but not in favour of consensus information, and same choice, over T1 and T2. This data is calculated for the extreme groups and presented in the following table.

TABLE 11 - Change in Group 1 in Relation to Locus of Control

	SAME	CONSENSUS	CHANGE
INTERNAL	20 (17.02)	3 (5.87)	4 (4.11)
EXTERNAL	9 (4.98)	7 (4.13)	3 (2.89)
$\chi^2 = 4.65$	df = 2		p § .1

This does not reach significance, however with the small number of subjects, a great difference between the two groups would have to be observed.

The χ^2 test has in the past required that the expected frequencies in at least 80% of the cells be 5 or greater, however recent research by Hopkins and Glass has de-emphasised this fact, as they suggest that the average expected frequency per cell should be two.

A trend can be observed in the data, that suggests that a greater proportion of externals chose in favour of consensus information, than did internals.

In summary, it can be seen that Group 1 is less consistent in choice than the Control group, and this change appears more for externals than for internals, however there is only a trend suggesting that externals choose in favour of consensus information in Group 1.

1.3 Group 2 compared with Control Group and Group 1

The dependent variable, when considering Group 2 at T1, is the choice of brand, as compared with choice of brand of Group 1 and Control group. The question that firstly requires an answer is, did more Group 2 subjects choose the consensus brand National than the Control group and Group 1 subjects at T1.

TABLE 12 - Choice of Brand - Group 2 versus Control and Group 1

	MAJESTIC	NATIONAL	SONY	NO CHANGE
GROUP 2	7	15	11	1
CONTROL AND GROUP 1	13	37	17	5

$\chi^2 = 1.73$ df = 3 $p \nless .1$

This did not show any significance, so it can be said that comparing choice at T1 there was no difference between Group 2 who received the consensus information, and Group 1 and Control group who recieved no consensus information.

As the consensus information did not appear to influence choice of brands for Group 2 subjects at T1, there was little point in assessing the effect of removing the information at T2. In addition, reasons given for choice of 18 subjects at T2 indicated that they had

remembered their choice and the reasons given at T1. For example, two common reasons which illustrat this were:

"Same reason as last time, because its the only name I°ve heard."

"For the same reason as before, in that I used to own one."

These reasons render the Group 2,T2 data questionable.

To summarise thus far, it can be seen that in terms of testing Hypothesis 1 by frequency counts, the null hypothesis must be accepted. It can be said that there was no difference observed between externals and internals, in terms of their choosing in favour of consensus information.

1.4 Use of Exploratory Analyses.

Because of the difficulties associated with testing this hypothesis, according to the intended ANOVA design, alternative ways of exploring the data were investigated. These analyses are exploratory only and are not meant to formally test the hypothesis. Further analyses were undertaken as there seemed to be some interaction between locus of control group and choice in favour of consensus information. As would be expected from the random assignation of subjects to the experimental and control groups there are no significant differences in the mean locus of control scores in the three groups (Appendix X).

Having established this it was considered possible to compare the mean locus of control scores of those who chose in favour of consensus information and those who did not.

It is appreciated that valid criticism could be levelled at this method of treating the results, as the dependent and independent variables have been reversed with change in favour of consensus

information constituting the independent variable. Bearing this in mind, it was decided to use this method in an exploratory manner.

The mean locus of control score for those subjects in Group 1 and Group 2 who chose in favour of consensus information at T2 and T1 respectively was compared with the mean locus of control score for the subjects who did not choose in favour of the consensus information. The means (X), standard deviations (s) and number of subjects in each combined group appears in Table 13, where consensus represents those subjects from groups 1 and 2 who chose in favour of the consensus information given, and other, those subjects who did not.

TABLE 13 - X, s of Locus of Control Scores, and n from Groups 1 and 2 by choice in favour of consensus or other.

	X	s	n
CONSENSUS	11.4	5.5	30
OTHER	8.9	3.35	39

The difference between the two means was t-tested with the result being significant ($t = 2.28$, $p \leq .05$).

The following formula was used:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2} \cdot \frac{1}{n_1} + \frac{1}{n_2}}}$$

(Roscoe, 1973)

The above test suggests that those individuals who choose in favour of consensus information tended, on average, to be more externally controlled, than did those who did not choose in favour consensus information.

This suggests that there is an effect in terms of locus of control and choice in favour of consensus information, however this effect did not show up in staight frequency tests utilising two extreme locus of control groups. Thus it may be a very extreme external locus of control group that chose in favour of the consensus information, or a factor of using two extreme groups. Because of the small n°s involved with testing this, no conclusions could be reached so it may need to be considered in future research.

2. HYPOTHESIS 2

The probability of choosing in favour of consensus information and distinctiveness information will differ for externals and internals.

This hypothesis was tested using the calculator question (Appendix III), where four brands of calculator were presented, one brand representing the distinctiveness information, one brand representing the consensus information, and two brands representing the information described as non-attribution.

All subjects completed the question, and as it required an answer at T1 only, the total number of subjects eligible for consideration was 114.

The hypothesis was firstly tested by an SPSS Crosstabs program (Nie, Hull, Jenkins, Steinbrenner, Bent, 1975, p.230-248), which gives either a raw chi-square, or in the case of a 2 x 2 table, a corrected chi-square. Analysis also includes the number of degrees of freedom, and the significance of the result. The table that is produced

contains three lines of information, the first representing the observed frequency, the second and third representing the percentage of the row and column respectively, that the observed data represents. In some cases missing data, or no choice were eliminated, so although frequency counts allow for this it did not enter the calculations.

As the hypothesis demands a comparison between externals and internals, these two groups only were considered. Table 14 is a reproduction of the crosstabs table.

TABLE 14 - Reproduction of SPSS Crosstabs Table for Hypothesis 2

	DISTINCTVENESS	CONSENSUS	NON-ATTRIBUTION	MISS.INFO
INTERNAL	16	11	9	1
	44.4	30.6	25.0	0.0
	55.2	45.8	64.3	0.0
EXTERNAL	13	13	5	1
	40.6	40.6	15.6	0.0
	44.6	54.2	35.7	0.0

RAW CHI-SQUARE = 2.3985 with 2 degrees of freedom SIGNIFICANCE = 0.495
Number of missing observations = 2

This overall chi-square was not significant.

The hypothesis called for a test between the choices in favour of consensus information and distinctiveness information, and internal/ external control. So it was decided to break the above table down to test this alone. By considering a 2 x 2 contingency table it is possible to eliminate any interacting influences of the non-attribution information.

TABLE 15 - 2 X 2 Contingency Table comparing internal/external locus of control and choice in favour of distinctiveness and consensus information.

	DISTINCTIVENESS	CONSENSUS
	14.77	12.23
INTERNAL	16	11
	14.23	11.77
EXTERNAL	13	13
CORRECTED $\chi^2 = 0.22$		$p \dagger 0.1$

This again does not reach significance, and the null hypothesis is accepted.

3. HYPOTHESIS 3

The probability of choosing in favour of personal control and non-personal control information will differ for externals and internals.

This hypothesis was tested by utilising two questions, as outlined in the Pilot Study Section (Section 2.3). Once again, only the extreme external and internal locus of control groups were considered.

The questions tested were related to motor-car micro-processors at T1 and income tax micro-processors at T2. On the one hand, Models MP1B and B repectively allowed the individual control over the micro-processor, whereas Model MP1A and A were programmed for average usage (See Appendix III), and removed this control.

Both hypotheses were tested using SPSS crosstabs, and the results appear in Tables 16 and 17.

TABLE 16 - Crosstabs comparing I-E Control and Personal/Non-personal Control.

	PERSONAL CONTROL	NON PERSONAL CONTROL
INTERNAL	17 45.95 65.38	20 54.05 46.51
EXTERNAL	9 28.13 34.62	23 71.87 53.49

CORRECTED χ^2 = 1.62385 with 1 degree of freedom
SIGNIFICANCE = 0.2026

TABLE 17 - Crosstabs comparing I-E Control and Personal/Non-personal Control.

	PERSONAL CONTROL	NON PERSONAL CONTROL
INTERNAL	20 58.82 58.82	14 41.18 48.28
EXTERNAL	14 48.28 41.18	15 51.72 51.72

CORRECTED χ^2 = 0.34061 with 1 degree of freedom
SIGNIFICANCE = 0.5595
Once again the null hypothesis is accepted.

4. HYPOTHESIS 4

The probability that internals and externals will have their reasons for selecting a product rated as internal and external respectively will be greater than the reverse.

The reasons given to the question "Why?", following subjects choice of transistor at T1 and T2 were rated by two independent raters, and where disagreement occurred, by a third rater, taking agreement between two as a sufficient criteria. The instructions given to raters are in Appendix IX.

4.1 Time 1

The SPSS crosstabs program for T1 gave the following table:

TABLE 18 - CROSSTABS TABLE FOR HYPOTHESIS 4 AT T1

	RATINGS			
	INTERNAL	EXTERNAL	BOTH	NEITHER
INTERNAL	17 45.9 63.0	9 24.3 36.0	4 10.8 66.7	5 13.5 83.3
EXTERNAL	10 32.3 37.0	16 51.6 64.0	2 6.5 33.3	1 3.2 16.7

This hypothesis did not reach significance. However on inspection of the data there appeared to be a trend in favour of the hypothesis, that suggested that internals tended to have their responses rated as internal, and externals as external.

A 2 x 2 contingency table was constructed to look specifically at this trend, and to eliminate any influences from the other ratings.

TABLE 19 - LOCUS OF CONTROL VERSUS RATINGS AT T1

	RATINGS	
	INTERNAL	EXTERNAL
	13.5	12.5
INTERNAL	17	9
	13.5	12.5
EXTERNAL	10	16
CORRECTED χ^2 = 2.78	p § 0.1	

This does not reach significance, and thus the null hypothesis is accepted.

4.2 Time 2

Once again the hypothesis was tested by an SPSS crosstabs program.

TABLE 20 - CROSSTABS TABLE FOR HYPOTHESIS 4 AT T2

	RATINGS			
	INTERNAL	EXTERNAL	BOTH	NEITHER
INTERNAL	11	14	2	2
	30.6	38.9	5.6	5.6
	55.0	51.9	66.7	40.0
EXTERNAL	9	13	1	3
	31.0	44.8	3.4	10.3
	45.0	48.1	33.3	60.0

RAW CHI-SQUARE = 1.63549 with 4 degrees of freedom
SIGNIFICANCE = 0.8024

This was insignificant.

On inspection, the trend that seemed apparent at T1 was not apparent at T2, so there was no further analysis of the data.

In terms of x^2, the hypothesis was rejected in favour of the null hypothesis.

4.3 Means of Locus of Control scores

It is possible to conceptualise testing this hypothesis in terms of mean scores from the locus of control scale. The same criticism is valid as for the additional analyses aundertaken in relation to Hypothesis 1. It was decided to investigate individually the difference betwen mean locus of control scores of internally controlled subjects whose reasons were rated as internal or external, and externally controlled subjects whose reasons were rated as internal or external. Only those subjects who fell into the extreme internal or external locus of control group, and who had their reasons to the question "Why?" rated as internal or external were considered. The extreme groups were used to tease out the differential effects.

At T1, the internal locus of control data appeared as in Table 21.

TABLE 21 - X, S, AND N OF INTERNAL GROUP SUBJECTS WHOSE REASONS WERE RATED AS EITHER INTERNAL OR EXTERNAL

LOCUS OF CONTROL GROUP	RATING GIVEN	X	S	N
INTERNAL	INTERNAL	5	2.36	16
	EXTERNAL	6.22	1.78	9
$t = 1.31$		$p = 0.1$		not significant

This was not significant.

The following table was produced for the external group at T1

TABLE 22 - X, S, AND N OF EXTERNAL GROUP SUBJECTS WHOSE REASONS WERE RATED AS EITHER INTERNAL OR EXTERNAL

LOCUS OF CONTROL	RATING	X	S	N
EXTERNAL	INTERNAL	13.3	1.56	10
	EXTERNAL	16.56	3.11	16
$t = 4.91$		$p \leq 0.001$		significant

This suggests that at T1 there was a significant difference between the mean locus of control scores of the externals whose reasons were rated as internal, and externals whose reasons were rated as external. The latter group is more external than the former.

After T2 the extreme internal locus of control group's reasons were rated and the following results were found.

TABLE 23 - X, S, AND N OF INTERNAL GROUP SUBJECTS WHOSE REASONS WERE RATED AS EITHER INTERNAL OR EXTERNAL - T2

LOCUS OF CONTROL	RATING	X	S	N
INTERNAL	INTERNAL	4.63	1.96	11
	EXTERNAL	5.71	2.02	14
$t = 1.78$		$p = 0.1$		not significant

This again was not significant in line with the results found at T1.

The extreme external group were also rated following T2

TABLE 24 - X, S, AND N OF EXTERNAL GROUP SUBJECTS WHOSE REASONS WERE RATED AS EITHER INTERNAL OR EXTERNAL - T2

LOCUS OF CONTROL	RATING	X	S	N
EXTERNAL	INTERNAL	13	2.29	9
	EXTERNAL	16.46	2.60	13
$t = 6.65$		$p \leq 0.001$		significant

This also follows the T1 trend. It appears that subjects whose response to the question "Why?", following their choice of product, was rated as external tended to have a more external mean locus of control score than subjects whose responses were rated as internal, within the locus of control groups. This reached significance for the external group, but is a trend only for the internal group.

CHAPTER 4 - DISCUSSION

1. RESULTS

The aim of this study was to look at locus of control as an example of a personality variable, and its relationship with consensus and distinctiveness information in the field of consumer choice. This was done in several ways, firstly by considering whether externals would be influenced to change in favour of consensus information (Hypothesis 1), secondly by seeing which information appeared to influence externals and internals in their consumer preferences (Hypotheses 2 and 3), and thirdly by getting subject°s reasons for selecting a product rated as external or internal, and comparing this with their locus of control (Hypothesis 4).

The main hypotheses were not confirmed although some significant results and expected trends were obtained. These, and possible reasons for the non-significant results will now be discussed in relation to each hypothesis.

1.1 Hypothesis 1

Hypothesis 1 suggests that externals will be more likely than internals to select in favour of consensus information.

Problems with design were a feature here. The experiment, for Hypothesis 1 was designed as a counterbalanced design with a Control group (See Figure 2).

It was hoped that the Control group,and Group 1 at T1 could provide baseline conditions for distribution of choice of brand. This

same feature was hoped to be provided at T2 by Control group and Group 2. Group 2 at T1 and Group 1 at T2 were designed to provide the experimental comparisons. However it became obvious, while doing the main study the subjects, at T2 remembered the question, and their response from T1. This provided a confounding variable.

It would make a more obvious difference at T2 for Group 2, as subjects may be less likely to change their choice, if they had chosen in favour of the consensus information at T1. With respect to Group 1, the extra line of consensus information may have cued some externals into changing in favour of this consensus information.

Group 2 was tested for influence of consensus on choice of brand at T1, in relation to locus of control. This did not prove to be significant. One of the possible reasons for this may have been person-perception, in the form of the interviewer mediating, but this is more fully covered in Section 4.5.

Further exploratory analyses were undertaken comparing the mean locus of control score and their standard deviations for each sub-group divided into those who chose in favour of consensus and those who did not. A scan of these reveals some interesting trends, although these do not reach significance (See Table 13).

To firstly consider the "other" group, those people who did not select in favour of consensus information, it can be seen that the mean locus of control score for each sub group approximates the total population mean. All the standard deviations are less than that provided by the total population. This suggests that these subjects have formed a separate group from the "consensus" group. The consensus group is recognised by having both means and standard deviations greater than (higher external control) those of the total population, although this difference does not reach significance.

In terms of the literature that has been previously considered, the trend found, provides limited support for the studies that suggest that externals seek the social demands of the situation, and are more influenced by conformity information (Crowne and Liverant, 1963; Feinberg et al, 1979; Pines and Julian, 1972; Ritchie and Phares, 1969; Rotter, 1966; Rotter, Seeman and Liverant, 1962; Watson and Baumal, 1967). The social demands and conformity information was provided by the consensus information and it appears that the externals had a greater tendency to respond to this than the internals although differences were not significant.

1.2 Hypothesis 2

The raw data that was used to test this hypothesis suggests that five more internals chose in favour of the distinctiveness information than consensus information, and that the same number of externals chose in favour of each. Looking at the observed and expected frequencies in Table 16, it can be seen that the observed frequencies are marginally larger than the expected frequencies in the internal - distinctiveness square and the external - consensus square, this providing support for a trend in that direction.

Twenty-six percent of the subjects appear not to have been influenced by attribution information in that they chose the calculators with neither consensus nor distinctiveness information provided, however some of this may be a feature of the question design.

It was decided to use trignometric functions as being the feature of Brands C and D, however this was a useful feature for some of the subjects, and thus could be called a distinctive feature. In a strict theoretical sense, because the same feature is attributed to more than

one object, the attribution can be called into question. However if we wish to interpret trignometric functions as distinctiveness information we are left with a similar trend as previously, that internals are slightly more likely to select in favour of distinctiveness information and externals in favour of consensus information. (Table 15)

Although limited, this finding also provides some support to the relationship of locus of control to influence and conformity research; the personality variable not having been used in consumer psychology research previously.

1.3 Hypothesis 3

This study was designed to test the suggestion in the literature that internals and externals differ in the amount of control they wish to exert over a situation. Biando (1971) found that externals tend to have a negative expectancy for success to come from attempts at personal control. Stebbins and Stone (1977) found that externals attribute more responsibility to external or impersonal sources than do internals. This study seems a logical extension of the reaction to influence and conformity literature, as, if the externals are easily influenced by the social demands of the situation, they would be more likely to search for the social correlates and thus give up their personal control in a situation.

This hypothesis did not reach significance in either of the two questions designed to test it. However, if one considers the observed and expected frequencies (Tables 15 and 16), one can see a trend in both sets of data, that suggests that internals tend to seek products that allow them personal control, and externals tend to seek products that remove this control.

1.4 Hypothesis 4

This was designed to be an exploratory study of whether people who believed in internal control of reinforcement would give internal reasons for selecting a product, and externals would give an external reason. The basis of the hypothesis comes from Festinger°s (1954, 1957) studies, which suggest that people seek information congruent with their beliefs. This study was designed to test that if they seek this information, do they also express it?

Stebbins and Stone (1977) suggest that locus of control provides a mediating factor in the attribution of responsibility. "Externals would seem to deny personal control, while internals are more prone to accept their own responsibility." (p.167) These attributions were expressed in both the questionnaire and interview conditions of the experiment, with externals tending to make more external attributions following both success and failure, but this was most noticable for failure.

This study took the reasons subjects gave for selecting a brand of transistor, and had two independent raters decide whether the reason was internal, external, both, or neither. A third independent rater assessed those where there was disagreement (see Appendix IX).

Using this hypothesis was not supported at either T1 or T2 although both approached significance and were in the expected direction. Exploratory analyses, carried out by t-testing the mean locus of control scores of the internals whose responses were rated as either internal or external (Tables 22 and 24), and externals whose responses were rated as either external or internal (Tables 23 and 25)also provides support for this.

The externals showed a significant difference in mean locus of control score between those who had their responses rated as external and those who had their responses rated as internal. Lloyd and Chang

(1979) found that external could form two distinct groups, the defensive and the non-defensive. The results found in this study may also suggest two groups, perhaps the "true externals" who express external reasons for choice of a product, and the "semi-externals" who may not. This latter group seems to be more internally controlled than the former group.

The internally controlled subjects only revealed a trend in this exploratory analysis, suggesting that perhaps they form a more cohesive group.This group revealed a smaller range of scores (2 - 8) than the external group (13 - 22) and this may have influenced the results.

At T2, the was insignificant, in relation to the hypothesis, however the means t-test showed the same trends as at T1. The may have been affected by the subjects remembering their T1 brand, but not the reason for selection they gave. Thus the reason may more adequately reflect their choice, although this is outside the scope of the present study.

Future research may look at some of the questions that have been raised by the results of this study, especially the role that person-perception plays in object perception. Expression of reasons in concordance with locus of control also needs consideration at some later date, to clarify the range of activities that this personality dimension covers.

2. INSTRUMENTS

The modified I-E Scale appeared to work successfully and all but three subjects completed the questionnaire. The three who did not were replaced, and their replacements completed the scale. The changed filler items appeared to be satisfactory, and to give face

validity to the remainder of the study. The relationship between them, and locus of contol and demographic variables appears in Appendix VI.

The additional questions are more important as the results of the study depend on these. The development of these questions is described in the Pilot Studies section (2.3), however when the main study was run these were by no means perfect.

The questions may have discriminated in terms of educational level that had been attained by the subjects, as some said that they did not understand the question. The language that was used may not have been appropriate for all educational levels.

There was also some comment from subjects that the questions seemed irrelevant. This may well have been the case, and some subjects may have chosen arbitrarily without their choices reflecting a preference. Even though one can assume that arbiitatary choices would be random across groups an excessive number of these would increase the overall variance.

It can be seen, on analysis of the data (Appendix VII), that the question about the car micro-processors is significantly related to sex, age, and locus of control. This last one was predicted, and sex has been positively related to locus of control (p§0.0012) but was not controlled for in the data used in micro-processor tests.

TABLE 25 - Choice of Car Micro-Processor by Sex

	MP1A	MP1B
FEMALE	57	24
MALE	14	19

In terms of age-group being related, all subjects who fell into age-group G (70+) chose in favour of MP1A, as did most of the subjects in age-group E (50-60). This number of people choosing in this direction may be enough to ensure significance.

TABLE 26 - Choice of car micro-processor by Age Group

	MP1A	MP1B
18 - 19	2	3
20 - 29	11	13
30 - 39	13	8
40 - 49	15	10
50 - 59	12	4
60 - 69	6	5
70 -	12	0

The income tax micro-processor was not related to any variables and so did not provide any additional information.

Overall, by taking all specialised objects, it is possible to criticise the instuments, as traditionally these products could be considered to be the domain of males. Therefore women may have tended to choose in favour of the brand that seemed the easiest to operate, without considering the implications. Perhaps the study needed to confine itself to one sex, and select products that were relevant to them.

In terms of the transistor question, there were a number of comments relating to the Japanese manufacture of the item. Sony was considered to be of Japanese manufacture by all who commented, however National°s and Majestic°s origins were not known by many. Some subjects chose on the basis of whether they believed that the Japanese produced high quality goods, or in a minority of cases on their political beliefs.

As an overall comment on the instruments used in this study,

they were not completely bias-free, however they fulfilled the function of providing exploratory data. Future research may consider products that may be more relevant to a selected subject population, rather than striving for generalisability. External validity has been obtained at the cost of internal validity, which is more important and future research should focus on this.

3. SUBJECTS

The sampling procedures for subjects were followed. This ensured a random selection of starting points within Palmerston North City boundaries. It also did not eliminate households without telephones, as the third and sixth households were taken from this starting point. The selection procedures were limited in that people had to be home when the interviewer called at T1. This however does not in any way invalidate the design, it may have slight implications for external validity.

Assignment of subjects to groups was done on a random basis, and the characteristics of each group appear in Appendix X.

While time consuming, recruiting subjects in the manner specified, and interviewing them individually added a considerable strength to the study, as many consumer attribution theory and locus of control studies are done with convenience samples of undergraduate students. Confining this study to adults only yielded maximum external validity for the age group relevant to the products used in the stimulus items.

Locus of control has been related to ethnic group, however the sample recruited did not allow a study to be made here, and this limits generalisability.

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4. DESIGN

The design employed was appropriate for several reasons. Firstly, the control group provided the distribution of choices at each time, without intervention, while the two experimental groups could reflect changes in this probability of choice.

The counterbalanced design controls well for validity factors such as history and testing (Campbell and Stanley, 1963). History, or events that occur between two measurements of a manipulated variable, was controlled for in theory, as the Control Group and Group 1 provided controls of brand preference at T1, and the Control group and Group 2 provided this service at T2. However, in practice, extraneous variables such as remembering the expressed choice at T1 confounded the study. Thus consensus information was only presented to one group at each time, the other two groups providing controls for history.

The effect of testing on the probability of choice was in theory controlled for, as the consensus information was ideally discrete, with no carry-over effect. In practice, this assumption was not correct as has already been explained. However the Control group provides a measure of the stability of choice between T1 and T2 enabling a control of this threat to validity.

The instrumentation and procedure remained standard, as the same interviewer presented questions to all subjects, who were randomly assigned to groups. I-E Scales were not marked between visits, in an attempt to control for experimental demand characteristics.

Differential selection and experimental mortality were not expected to be a problem, because of random selection of subjects and random assignation to groups. In practice, eight subjects of one hundred and fourteen were eliminated for answering only at T1.

The external validity of the study seems to have been adequately controlled for in Campbell and Stanley°s (1963) terms. Generalisability of results is possible to European adults in New Zealand, with the product classes tested.

The manipulations of the variables within the questions that tested hypotheses 2, 3, and 4 appeared adequate for this study.

A major design problem that may have influenced the results of this study is that groups were determined on the basis of locus of control scores. By using the extreme scores, and thus discounting the middle group,it prevents interaction effects being observed. Although this design should allow major changes to be obvious, the middle group may also provide information about product choice.

5. METHOD

The method used seemed appropriate to the hypotheses being tested. It included quite a substantial time involvement in collecting data. To eliminate some of this, it was decided to collect the I-E Scale at a later point in time. The ethical implications of leaving a personality test with subjects were considered, but it was decided that it was a minor problem and could be justified.

A more important problem in terms of this study is that the person sampled may not have, in fact completed the questionnaire alone or at all. Another person in the household may have helped, or completed it for the subject. The only way to have overcome this problem would have been to insist that the researcher waited while the questionnaire was completed, and this may have led to a large refusal rate.

6. SUBJECT ATTRIBUTIONS

It seems reasonable at this stage to speculate that the subjects selected, attributed some characteristics and expectations to the researcher and these may have intervened in the experimental manipulations. Heider (1958) says that attribution theory is naive psychology in that all people make attributions, in the process of trying to understand and predict their interpersonal world. Kelley (1967) says that attribution theory is concerned with the process by which man knows that he knows his world. Thus if someone approaches you and requests your assistance in a study, this needs to be fitted within your present framework of attributions.

The subjects have a generalised expectancy for interpersonal trust (Rotter, 1971), so this may mediate and have influenced their perception of the study.

Eagly and Chaiken (1975) proposed that a subject views a communicator°s message in terms of it representing either some aspect of the communicator°s belief structure, or a pressure of the communicator°s situation, and thus the message represents a relatively untrue version of reality. Mizerski et al (1975) use a similar attributional framework, but suggest that the communicator may represent a true version of reality, if the person attributes this way.

Eagly, Wood and Chaiken (1978) started their study with the proposal that recipients of a message "infer a knowledge bias by believing that a communicator°s knowledge about external reality is nonveridical and a reporting bias by believing that a communicator°s willingness to convey an accurate version of the external reality is compromised." (p.424) They studied the effect of confirming or disconfirming the subject°s expectations by providing a communicator who had a strong bias to either the pro-environment side of an issue (knowledge bias) and an audience that supported either the pro-environment or pro-business side of the issue (reporting bias). A naive subject was introduced. It was found that a subject was more persuaded and rated the communicator as more unbiased when their expectancies for reporting and/or knowledge bias were disconfirmed.

This study represents one example of how experimenter bias can enter a situation, and influence opinion change.

They may have considered that the researcher wanted them to choose in favour of the consensus information, and so they did; or they may have considered that the expectations were the opposite, consequently rejecting the consensus information. Some of the subjects made comments like "I°m not going to follow the crowd ....." which implies that they were still cued to receiving the consensus information, but had rejected it.

As the investigater was a student this can also provide different attributions. They may range from "Its good to see research being done in the community" to "Bludgers all of them", although this latter may lead to a refusal. In a wider setting, it may be possible to speculate that this perception would differ in towns that did not have a university as part of their facilities, as this may change perceptions.

This section has served to emphasise that attribution made by the subjects about the experimenter°s motivations may have influenced the object perception that was being tested. Each time a decision point was reached, subjects were required to synchronise their attributions and make a choice, based on how they know, they know their world.

One might also speculate about the degree to which the experimenter°s perceptions subtley affected her presentation of the same material.

These features may not be important, and it is hoped that they evened out across groups, however they are possible mediationg factors, and as such merited consideration.

7. EXTENSION OF THEORTICAL CONCEPTS

Meyer (1980) discusses the relationship between locus of control and attribution theory. He points out that Rotter°s (1966) uni-dimensional I-E Scale was extended by Weiner°s 1971 addition of an orthogonal stability dimension.

Figure 2 demonstrates an example of Weiner°s model applied to the purchase of a car.

	LOCUS OF CONTROL	
STABILITY	INTERNAL	EXTERNAL
STABLE	Inherent feature of the individual consumer e.g. height, leg length	Inherent characteristic of the car e.g. colour, engine size
UNSTABLE	Motivation of the individual e.g. to impress	Availability of the car and alternate models

FIGURE 2 - WEINER°S LOCUS OF CONTROL VERSUS STABILITY MODEL APPLIED TO PURCHASE OF A CAR.

This figure represents an attempt to consider the stability versus locus of control dimensions of an individual who is considering buying a car.

It has been presumed in the literature that internal locus of control is equivalent to internal attributions, and external locus of control to external attributions. However it doe not appear to have been theoretically tied together. This would be true if it were possible to demonstrate that Rotter°s uni-dimensional scale ran diagonally throgh Weiner°s stability model (Weiner, 1972, 356.)

	LOCUS OF CONTROL	
STABILITY	INTERNAL	EXTERNAL
STABLE	ABILITY	TASK DIFFICULTY
UNSTABLE	MOTIVATION	LUCK

FIGURE 3 - WEINER°S (1972) LOCUS OF CONTROL VERSUS STABILITY MODEL

This has been presumed in the past but has not been theoretically justified. It is this that may lead to the dispute about the number of dimensions present in the model. The questions in the I-E Scale contrast the internal stable box with the external unstable box, but some of the questions do include items that could be seen to fit in the other two categories. Future research must include a study of this as on it will hinge a theoretical justification.

Fishbein°s Behavioural Intention model appears best to fit in the internal unstable category of Weiner°s model, as it relates to the motivation of the consumer. Weiner°s model also includes situational components that are not included in Fishbein°s model.

Weiner (1974) again extended the concept of locus of control and attribution theory by adding an "INTENTIONALITY" component to his model. This allows Fishbein°s theory to be more directly related as this could include the attitude to the act part of the model.However, as intentionality had already been incorporated into the achievement literature, Weiner (1979) and Meyer (1980) propose that the name be changed to control. Thus the three dimensions proposed to tie the two theoretical notions together are Locus, Stability, and Control, and these need to be separated in future research from the current concept of locus of control.

8. SUMMARY

This section has discussed the findings of the study and the methods by which they were obtained. Some criticisms have been levelled at the research, however it has been useful as a means of transferring some facets of attribution theory into the consumer choice area.

The theoretical discussion in the previous section will need to be looked at further in the future, as it seems that the relationship has been assumed without any empirical grounds.

CHAPTER 5 - CONCLUSIONS AND RECOMMENDATIONS

The aim of this study was to look at the relationship between locus of control and attribution theory in the field of consumer choice. This aim was met, and the results while not significant suggest that there is a weak relationship which might not have been fully optimised by this study.

To summarise the trend in the data, it appears that consumers who believe in external control of reinforcement tend to seek out consensus information about a product and to have their reasons for selecting this product rated as external. On the other hand, consumers who believe in internal control of reinforcement display a tendency to seek out distinctiveness information, and there is a trend that their reasons for selecting a product will be rated as internal. It must be borne in mind that this was a trend only.

Possible reasons for the findings were considered, one of them being the subject°s perception of the investigater and her expectations. This is only speculative and future research may need to clarify this issue.

There are features of the design and method that could be changed in future research. Examples of these are: division into internal-external control taking the known sex-bias into account and use of the counter-balanced design when a control group-experimental group design may be more appropriate. These were discussed in more detail in the appropriate sections.

This study has suggested that locus of control may be a viable future study with relation to consumer behaviour. There may be other personality variables that have relevance, and with tight designs these may provide useful information.

Attribution theory may be seen as a possible mediating variable. If the trends discussed in this study prove to be of value, such fields as marketing and advertising may be affected. It may be valuable to approach a small, selected group of the total population and use specialised features of product consumption to attract their attention. For example an advertiser may decide that it is feasible to provide an advertisement that provides consensus information only, with the intention of attracting the attention of externally controlled individuals only.

It appears that personality could be a factor in consumer choice, and attribution theory provide a framework for studying the influences. Future research may like to clarify this issue.

APPENDIX 1 - QUESTIONS ASKED: PILOT STUDIES

1. Pilot Study 1:

Question A:- Control group and Group 1

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic ,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

If you were in John°s position and there was no further information available, which brand would you choose?

Why?

Group 2

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic ,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

On talking to the salesperson John found that most people chose National.

If you were in John°s position, which brand would you choose?

Why?

Question B:- Control Group and Group 1

At present car companies are installing micro-processors in cars to control the petrol consumption and the content of exhaust fumes. This innovation comes as a result of stringent United States anti-pollution laws, which set very high standards that aim at reducing the amount of pollution caused by an increasing number of automobiles. The "big three" of car manufacturing, General Motors, Ford, and Chrysler have been forced to develop micro-computers alone which has added to the cost of these.

General Motors at present, takes about 48% of the United States car market, and there is no reason to suggest that with the introduction of micro-processors this will drop.

Chrysler, the smallest company of the trio, takes only about 8% of the market. They are hoping to increase their share with the introduction of micro-processors.

On the basis of the limited information supplied and if you had the choice of which micro-processor controlled car you wanted, could you please say which one of the two you would choose.

Group 2

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General Motors at present, takes about 48% of the United States car market, and there is no reason to suggest that with the introduction of micro-processors that this will drop.

Chrysler, the smallest company of the trio, takes only about 8% of the market. They are hoping to increase their share with the introduction of micro-processors.

I have found a study that looks at the two brands of micro-processors that I selected. The main diiference according to the United States Bureau of Computer Sciences, is that the Chrysler model is programmed by the mechanic for a specific non-changing fuel consumption based on your average type of driving, whereas the General Motors micro-processor allows you to select your amount of fuel consumption, and to change this according to your needs.

On the basis of the limited information supplied and if you had the choice of which micro-processor controlled car you wanted, could you please say which one of the two you would choose.

2. Pilot Study 2:

Question A:- Control Group and Group 1 at T1

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic, National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

If you were in John°s position and there was no further information available, which brand would you choose?

Why?

Group 2 at T1

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic ,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

Earlier research that I have done has shown that most people chose National.

If you were in John°s position which brand would you choose?

Why?

Control group and Group 2 at T2

Do you remember about John who was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he,

knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

If you were in John°s position and there was no further information available, which brand would you choose?

Why?

Group 1 at T2

Do you remember about John who was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

Earlier research that I have done has shown that most people chose National.

If you were in John°s position, which brand would you choose?

Why?

Question B:- All Subjects at T1

John and some of his classmates were asked to try out and rate four brands of calculators. John found that he was most accurate with brand A, however most of his friends chose Brand B. Comment was passed that both Brands C and D had very clear digital displays. On the basis of the limited information supplied, which brand would you choose?

Question C:- All Subjects at T2

At present car companies are installing micro-processors in cars to increase the efficiency of car engines. This innovation comes as a result of stringent U.S. laws that aim at curbing petrol imports.

General Motors has developed two brands of micro-processors, both costing the same price. The main difference between the two brands is that Model MP1A is programmed to scientific accuracy by computer to give a specific non-changing fuel consumption based on your type of car, and average type of driving. On the other hand Model MP1B requires you to set the fuel consumption according to changing driving circumstances.

On the basis of the limited information supplied, and if you had the choice of which micro-processor you wanted, could you please say which one you would select.

3. Pilot Study 3:

Question B:- All Subjects

John and some of his classmates were asked to try out and rate four brands of calculators. John found that he was most accurate with Brand A because the keyboard was the right size for his fingers, however most of his friends chose Brand B. Both Brands C and D had trignometric functions.

On the basis of the limited information supplied,and if you were an interested observer going to purchase a calculator, which one would you select?

Question C:- All Subjects

At present car companies are installing micro-processors in cars to increase the efficiency of car engines. This innovation comes as a result of stringent U.S. laws that aim at curbing petrol imports.

General Motors has developed two brands of micro-processors, both costing the same price. The main difference between the two brands is that Model MP1A is programmed to scientific accuracy by computer to give a specific non-changing fuel consumption based on your type of car, and average type of driving. On the other hand Model MP1B requires you to set the fuel consumption according to changing driving circumstances.

On the basis of the limited information supplied, and if you had the choice of which micro-processor you wanted, could you please say which one you would select.

Question D:- All Subjects

At present, manufacturers of home based micro-processors are co-operating with Inland Revenue in the development of computerised income tax systems. There are going to be two systems marketed. The main difference between them is that Model A will operate on the basis of a set list of possible deductions and merely requires you to type in income and expenditure under the various categories and it will produce your income tax statement. On the other hand, Model B will require that you enter income, expenditure and the deductions relevant to your case.

If you were to purchase one of these models which one would you select.

APPENDIX II

MASSEY UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

Attitude Questionnaire

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers. Circle whichever one you select.

Please answer the items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice:do not be influenced by your previous choices.

1. a)Manufacturers get into trouble because the public expect too much from them.
   b)The touble with most manufacturing nowadays is that the public accept inferior goods.

2. a)Many of the unhappy things in people's lives are partly due to bad luck.
   b)People's misfortunes result from the mistakes they make.

3. a)One of the major reasons why we have wars is because people don't take enough interest in politics.
   b)There will always be wars, no matter how hard people try to prevent them.

4. a)In the long run people get the respect they deserve in this world.
   b)Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a)The idea that teachers are unfair to students is nonsense.
   b)Most students don't realise the extent to which their grades are influenced by accidental happenings.

6. a)Without the right breaks one cannot be an effective leader.
   b)Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a)No matter how hard you try, some people just don°t like you.
b)People who can°t get others to like them don°t understand how to get along with others.

8. a)Manufacturers play the major role in influencing the nature of products.
b)Government, through regulation, has the major influence on the standards of manufactured goods.

9. a)I have often found out that what is going to happen will happen
b)Trusting to fate has never turned out as well to me as making a decision to take a definite course of action.

10. a)In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b)Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a)Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b)Getting a good job depends mainly on being in the right place at the right time.

12. a)The average citizen can have an influence in government decisions.
b)The world is run by the few people in power, and there is not much the little guy can do about it.

13. a)When I make plans, I am almost certain I can make them work.
b)It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a)Selling is an excellent way to build character.
b)Sales personnel face unnecessary stress in their jobs.

15. a)In my case getting what I want has little or nothing to do with luck.
b)Many times we might just as well decide what to do by flipping a coin.

16. a)Who gets to be boss often depends on who was lucky enough to be in the right place at the right time.
b)Getting people to do the right thing depends on ability, luck has little or nothing to do with it.

17. a)As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b)By taking an active part in political and social affairs the people can control world events.

18. a)Most people don°t realise the extent to which their lives are controlled by luck
b)There is really no such thing as "luck".

19. a)Manufacturers should always be prepared to admit their mistakes
b)It is usually better for manufacturers to cover up their mistakes.

20. a)It is hard to know whether or not a person really likes you.
b)How many friends you have depends upon how nice a person you are.

21. a)In the long run the bad things that happen to you are balanced by the good ones.
b)Most misfortunes are the result of lack of ability, ignorance,

22. a)With enough effort we can wipe out political corruption.
b)It is difficult for people to have much control over the things politicians do in office.

23. a)Sometimes I can°t understand how teachers arrive at the grades they give.
b)There is a direct connection between how hard one studies and the grades one gets.

24. a)A good salesperson expects people to decide for themselves what they should buy.
b)A good salesperson gives advice to help people decide what to buy.

25. a)Many times I feel I have little influence over the things that happen to me.
b)It is impossible for me to believe that chance or luck plays an important role in my life.

26. a)People are lonely because they don°t try to be friendly.
b)There°s not much use in trying too hard to please people, if they like you.

27. a)There is too much emphasis on advertising in the modern world.
b)Advertising is essential to the success of the manufacturing sector.

28. a)What happens is my own doing.
b)Sometimes I feel that I don°t have enough control over the direction my life is taking.

29. a)Most of the time I can°t understand why politicians behave the way they do.
b)In the long run people are responsible for bad government on a national as well as on a local level.

APPENDIX III - QUESTIONS ASKED: MAIN STUDY

Question A:- Control Group and Group 1 at T1

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic ,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

If you were in John°s position and there was no further information available, which brand would you choose?

Why?

Group 2 at T1

John was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic ,National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

Earlier research that I have done has shown that most people chose National.

If you were in John°s position which brand would you choose?

Why?

Control group and Group 2 at T2

Do you remember about John who was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic, National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

If you were in John°s position and there was no further information available, which brand would you choose?

Why?

Group 1 at T2

Do you remember about John who was looking for a birthday present for his mother. He knew that she wanted a transistor radio, so he, knowing nothing about transistors, went into the local television and radio shop. He saw that there were three brands available, Majestic, National and Sony. In the right price bracket, all brands were of similar size and attractive appearance.

Earlier research that I have done has shown that most people chose National.

If you were in John°s position, which brand would you choose?

Why?

Question B:- All Subjects at T1

John and some of his classmates were asked to try out and rate four brands of calculators. John found that he was most accurate with Brand A because the keyboard was the right size for his fingers, however most of his friends chose Brand B. Both Brands C and D had trignometric functions.

On the basis of the limited information supplied,and if you were an interested observer going to purchase a calculator, which one would you select?

Question C:- All Subjects at T1

At present car companies are installing micro-processors in cars to increase the efficiency of car engines. This innovation comes as a result of stringent U.S. laws that aim at curbing petrol imports.

General Motors has developed two brands of micro-processors, both costing the same price. The main difference between the two brands is that Model MP1A is programmed to scientific accuracy by computer to give a specific non-changing fuel consumption based on your type of car, and average type of driving. On the other hand Model MP1B requires you to set the fuel consumption according to changing driving circumstances.

On the basis of the limited information supplied, and if you had the choice of which micro-processor you wanted, could you please say which one you would select.

Question D:- All Subjects at T2

At present, manufacturers of home based micro-processors are co-operating with Inland Revenue in the development of computerised income tax systems. There are going to be two systems marketed. The main difference between them is that Model A will operate on the basis of a set list of possible deductions and merely requires you to type in income and expenditure under the various categories and it will produce your income tax statement. On the other hand, Model B will require that you enter income, expenditure and the deductions relevant to your case.

If you were to purchase one of these models which one would you select?

APPENDIX IV - BASIC INTERVIEW PROTOCOL

"Hello, my name is Kathy Orr. I am out at Massey University doing my Master of Arts degree. Part of the requirement is that I survey people and your household is one of the ones chosen by random selection. I was wondering if I could speak with the person over 18 years of age, who is home at the moment, and who has the next birthday."

(If that is not the person at the door) "Hello, my name is Kathy Orr. I am out at Massey University doing my Master of Arts degree. Part of the requirement is that I survey people and your household is one of the ones chosen by random selection.

I was wondering if you would mind helping me? It takes about five minutes now, and 10 - 15 minutes of your time later, as I will leave you with a questionnaire to fill in, which I will collect from your mail box tomorrow" (or at an agreed time within 24 hours)

(Gain assent)

"Firstly, this is (the address)?"

Then the interviewer filled in sex and race.

"Would you mind telling me which Age Group you fall into" (See Appendix V)

"What is your occupation? And that of your husband/wife?"

"Right, that°s all the personal data I need to collect. I now have three questions to ask you."

Ask questions.

"Well thankyou very much for your time. Here is the questionnaire, which I will collect from your mailbox (at the agreed time)".

If asked, what are you doing your thesis on the response was "Consumer Psychology".

TIME 2

"Hi - remember me. You helped me about three weeks ago with my thesis. Would you mind if I ask you the two extra questions that go with it, as I want to look at the effect of time."

Ask the questions

"Thanks a lot. Now I can stop and explain what I have been doing, however in late October or early November when I have finished collating the data and analysing the results, I will put a note in your mailbox saying what I was looking for and what I found (Appendix VIII)"

Hand them thankyou note.(Appendix VI)

"Thanks a lot for your time. Bye."

APPENDIX V - AGE GROUPS

18 - 19 A

20 - 29 B

30 - 39 C

40 - 49 D

50 - 59 E

60 - 69 F

70 + G

DEPARTMENT OF PSYCHOLOGY - MASSEY UNIVERSITY

THANKYOU FOR PARTICIPATING IN THIS SURVEY. THE DETAILS RECORDED WILL BE KEPT CONFIDENTIAL AND THE DATA WILL BE USED FOR MY THESIS WHICH IS A PARTIAL REQUIREMENT FOR A MASTER OF ARTS DEGREE AT MASSEY UNIVERSITY.

IF YOU WOULD LIKE MORE INFORMATION ABOUT THE SURVEY, I CAN BE CONTACTED, IN WRITING, AT THE ABOVE ADDRESS, OR MY HOME PHONE NUMBER IS 70-434.

KATHY ORR.

APPENDIX VII

FILLER ITEMS AND THEIR RELATIONSHIP TO SEX, AGE, SOCIO-ECONOMIC STATUS AND LOCUS OF CONTROL AS DESCRIBED BY F VALUES

	QUESTION NUMBER					
	1	8	14	19	24	27
SEX	5.05*	0.25	2.84	0.75	0.68	0.45
AGE	1.84	0.31	3.20*	5.94*	0.87	0.77
S.E.S.	1.95	0.21	1.72	0.23	1.30	0.86
LOC OF C	1.12	0.46	1.07	0.42	4.10*	1.24

* REACHES SIGNIFICANCE AT p § 0.05

QUESTIONS ASKED AND THEIR RELATIONSHIP TO SEX, AGE, SOCIO-ECONOMIC STATUS, AND LOCUS OF CONTROL AS DESCRIBED BY F VALUES

	CALCULATORS	CAR	INCOME TAX
AGE	1.14	8.72 *	1.60
S.E.S.	1.09	2.83	1.44
LOCUS OF C.	1.54	4.60 *	1.27

* REACHES SIGNIFICANCE AT p § 0.05

Thankyou for taking part in the research that I did for my thesis in July and August. Here is a brief summary of the study that I did.

I was looking at your choice of a product, with respect to the degree that you believe that your ability determines the outcomes in your life or that luck and chance are the main influences in your life. I expected to find that people who thought differently about this would state preferences for different types of consumer products.

I did find that there was a relationship between personality and consumer choice, but it was not as strong as expected, nor did it apply with all questions.

As a result of this study, I have been able to make a number of concrete suggestions for future research.

Once again, thank you very much for participating.

KATHY ORR.

APPENDIX IX - INSTRUCTIONS TO RATERS

The following represent the answers to the question "Why?" when respondents, chosen at random were asked to select a brand of a product.

I am interested in the person°s perception of the product based on the limited information that I supplied, and any previous biases they may have had.

Could you please rate the reasons, given by the respondents, for choosing a particular brand, on the basis that the person°s perception is Internal (I), External (E), Both (?), or Neither (0).

-I means that the person chose the product on the basis of some internal characteristic of the product, as percieved by them, or that the person could use his/her ability with the product (e.g. tone control). If a specified positive characteristic of the product is named, this could be considered a sign of internality.

-E means that the person chose the product on the basis of some environmental factor, e.g. most people chose the product, advertising influences etc.

Please ensure that you rate each response independently of the other ones.

The question that I gave the respondent appears at the top of each set of responses under the heading STIMULUS QUESTION.

Frequency counts

	Control group	Group 1	Group 2
Number of S°s	37	35	34
Sex :- Males	10	11	7
- Females	27	24	27
Age Groups- A	4	0	1
- B	5	6	9
- C	6	6	9
- D	12	6	5
- E	5	7	3
- F	2	4	4
- G	3	6	3
S.E.S. - 1	4	2	2
- 2	4	5	3
- 3	11	9	8
- 4	5	6	7
- 5	3	1	5
- 6	2	3	0
- NA	8	9	9

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