PHD

Market segments: revealed or constructed?

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Market Segments: Revealed or Constructed?

Submitted by Agnes Nairn
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Abstract

This thesis investigates the nature of market segments. The study is framed by the notion of two opposing paradigms: positivism, wherein market segments are seen as fixed, enduring entities and social constructionism, wherein market segments are seen as malleable, temporary phenomena. It is shown that whilst current segmentation research is dominated by a positivist paradigm, an increasing number of studies are producing findings which do not concur with positivist assumptions. In order to advance research into the social construction of market segments, a proposition is put forward that firms themselves may be able to create changes in segments: specifically segments defined in terms of consumer personality types. This proposition is tested by an experiment that measures the causal effect of "romantic" and "classicist" advertising treatments on students' personalities. It is demonstrated conclusively that, in this instance, advertising has a significant effect on personality score. It is further shown that reference group, socio-economic group and gender also impact significantly on personality score. From these results, a new model of the social construction of market segments is built in which the dichotomy of market segments as revealed on the one hand or constructed on the other is rethought by replacing the opposing notions of *changing* or *not changing* with the concept of *rate of change*. Personality segments come to be seen as constructed from a variety of antecedents which are themselves subject to differing rates of change. The implications for managers and researchers are substantial.

Acknowledgements

To Pierre, without whose outstandingly wonderful supervision this would, quite simply, not have been possible. The storks and owls of the wild salute you.

To Joe (age 7) who is convinced that we won't have to go to casualty any more once I'm a doctor.

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Thank you all

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OVERVIEW

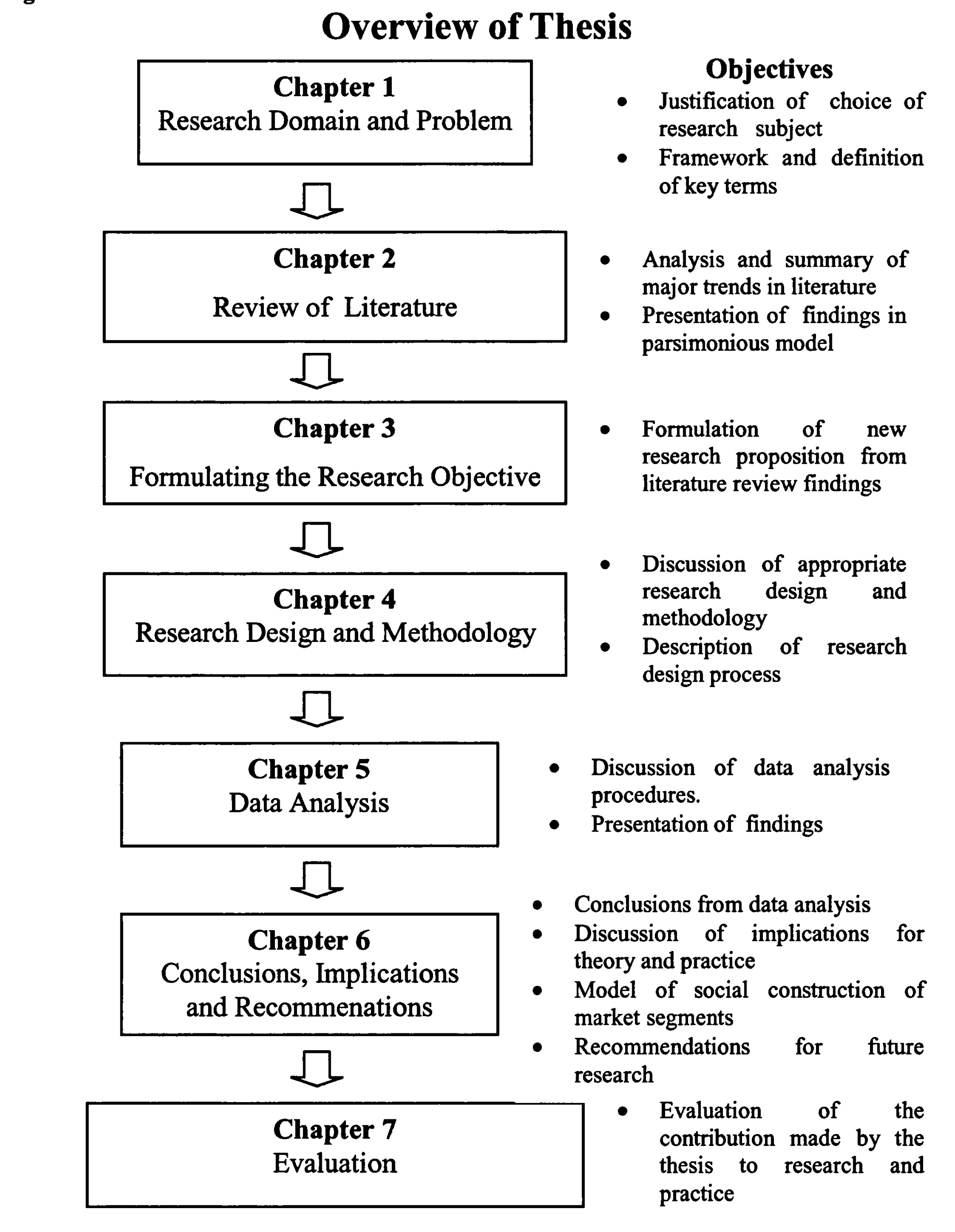
OF

THESIS

Overview of Thesis

This thesis comprises 7 chapters. Figure 0.1 below presents an overview of these chapters and their key objectives.

Figure 0.1



Chapter 1 discusses the choice of research topic. Major background issues are presented; key terms are defined and a philosophical framework for the research is constructed.

Chapter 2 comprises a comprehensive review of the relevant literature from the past decade. The objective of and methodology for the review process is explained and the findings are presented in a parsimonious model.

The purpose of **Chapter 3** is to develop a new research proposition from the findings of the literature review.

Chapter 4 goes on to consider the most appropriate research design and methodology to test this new proposition. This chapter includes a detailed description of the research design process.

In **Chapter 5** the procedure for analysis of the research data is discussed along with an explanation of and justification for the analytical tools used.

Chapter 6 discusses the conclusions which can be drawn from the data analysis. A new model of the social construction of market segments is put forward and implications for managers and researchers explored.

Finally, in **Chapter 7**, all of the elements of the thesis are brought together and an evaluation is made of the contribution made by the thesis to research and practice.

CHAPTER ONE

THE RESEARCH DOMAIN AND PROBLEM

1 The Research Domain and Problem

1.1 Introduction

In September 2001 Toyota will be launching the *Prius* in Europe[1]. On the outside, the *Prius* looks like any other medium sized passenger car. But under the bonnet lies a new engineering concept: the Toyota Hybrid System. Hybrid systems involve joining and using two power sources: a petrol engine and an electric motor. Power from each is allocated according to the driving conditions, so that when pulling away and at low speed electric power is used and at high speed the petrol engine is used for power and to recharge the batteries. Electronic control ensures the most efficient mode operates at all times. The ecological benefits are obvious.

The Toyota European marketing team have a clear idea of their two target segments: "early adopters" and "mainstream greens". They describe their key segments as follows:

Early adopters

"They will show willingness to embrace purposeful technology. They are individual and independent but not marginal."

[1] All information on the launch of the Prius taken from information provided by Toyota to IDM in "The IDM Student Direct Marketing Competition Brief 2000/2001", 2000.

Main stream greens

"They consider social responsibility and ecology as a key to improve the quality of life but they are not green activists. Their functional needs are main stream. They will not change their entire lifestyle for the sake of ecology."

This sort of market segmentation exercise is carried out daily by marketing managers all over the world. The concept revolves around an implicit understanding that not all consumers are equal and that, therefore, firms should target different consumer groups (segments) with different products. According to marketing guru, Philip Kotler (2000), the market segment itself is "a large identifiable group within a market with similar wants, purchasing power, geographical location, buying attitudes, or buying habits." (Kotler, 2000, p. 256). Toyota's "early adopters" and "main stream greens" are typical of these "large identifiable groups", and the role of Toyota's marketing team is currently to locate these two groups of people and make them aware of the benefits of the *Prius*.

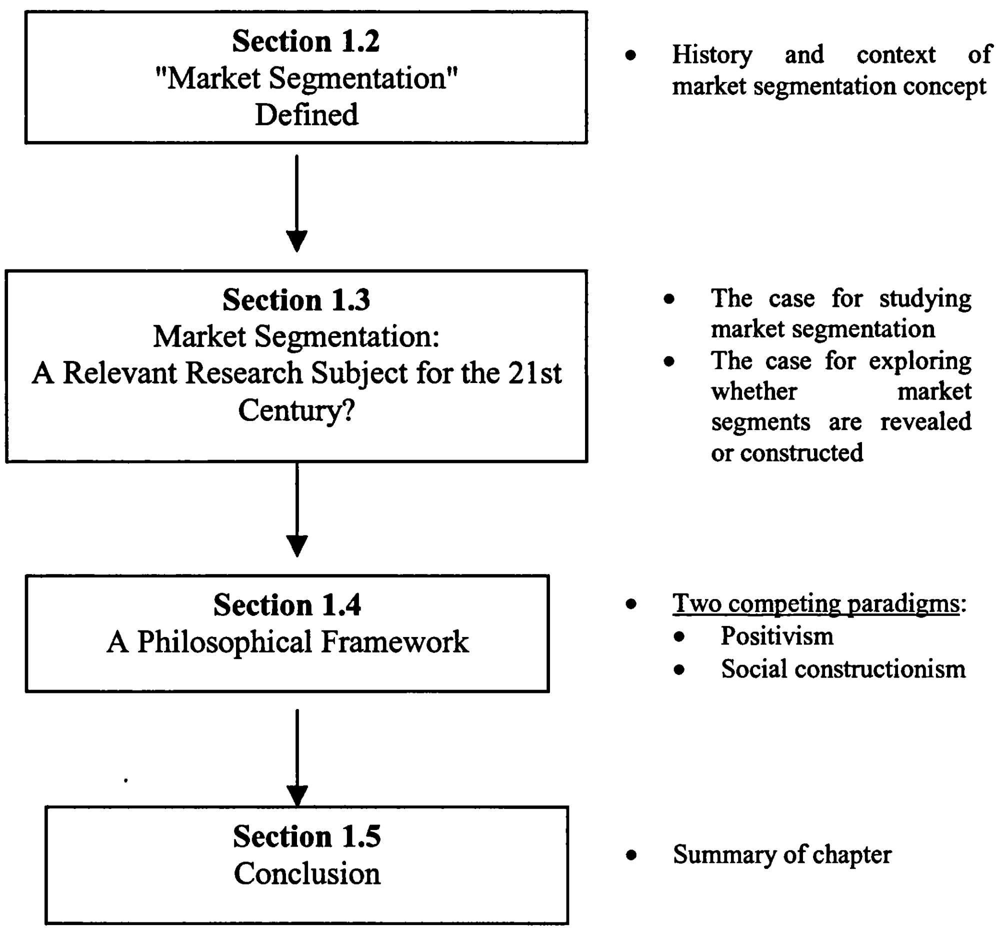
However, it is the contention of this thesis that the assumption that segments of consumers are objective entities awaiting discovery may be questionable. This thesis proposes an alternative viewpoint and poses a number of questions. What if the "early adopters" and "main stream greens" identified by Toyota do not pre-exist the consumption process? What if they are socially constructed? What if "early adopters" are actually inventions of the marketing people? This would mean that Toyota should spend the next 12 months not *locating* this segment but *creating* it. They should divert their marketing budget away from media planning and into a clever psychological campaign to persuade consumers to assume the characteristics of the early adopter. And what if "main stream greens" are simply a temporary grouping of people responding to a fad? This would mean that Toyota's target segment may disappear over the next twelve months and their marketing programme will be out of date before the launch.

If this alternative view of segments can be shown to have credibility, then it clearly has far reaching implications for the activity of market segmentation as it is currently practiced.

In chapter one of this thesis, a case is put forward for the validity and utility of researching the issue of whether market segments are revealed or constructed. Key terms of reference are defined and a philosophical framework is constructed for the purposes of delimiting the research. The structure of the chapter is shown in figure 1.1 below.

Figure 1.1

Structure of Chapter 1
Research Domain and Problem



Section 1.2 defines the key term of reference: "market segmentation" and places it within a historic context. **Section 1.3** discusses the merit of continuing to study market segmentation in the 21^{st} century and specifically examines the value of

addressing the question of whether market segments are revealed or constructed. **Section 1.4** then provides a philosophical framework for the research in terms of two competing paradigms: "positivism" and "social constructionism". These terms of reference are also defined. Finally, **Section 1.5** provides a summary of the whole chapter.

1.2 Segmentation Defined

In 1956 Wendell Smith (1956/1995) introduced the concept of "market segmentation" as an alternative to "product differentiation" – a strategy which itself had been proposed as an alternative to Henry Ford's "mass production" marketing strategy. Smith (1995) defined product differentiation as "the bending of (customer) demand to the will of supply" where "variations in the demands of individual consumers are minimized or brought into line by means of effective use of appealing product claims designed to make a satisfactory volume of demand converge upon the product or product line being promoted" (p.65-p.64). Thus, product differentiation to Smith was a product driven strategy, a process whereby the firm produces a number of product variants that are then promoted in such a way as to entice consumers to buy. The producer controls the process and there is no attempt to differentiate or group the consumers themselves, except in so far as the owners of a particular product variant could all be said to be members of a post hoc "product-variant-owning" group.

However, in the 1950's before the advent of flexible manufacturing and mass customization (e.g. Pine 1993; Pine, Victor and Boynton,1994), Smith realized that the extent of differentiation was quite severely restricted by the production technology of the day, an insight that led him to propose market segmentation as an alternative strategy. "Segmentation is based upon developments on the demand side of the market and represents a rational and more precise adjustment of product and marketing effort to consumer and user requirements" (Smith 1995, p. 65). The process starts with groups of consumers (segments) with homogeneous needs. The producer's task is to find these groups and to offer variants of its products to appeal to the needs of each of these segments.

Over the forty-four years between 1956 and 2000, the segmentation concept has been widely accepted by marketing academics and practitioners (e.g. Haley, 1968; Wind, 1978; Beane and Ennis, 1987; Ramaswamy and Cohen, 1999; and O'Regan, 1999). Segmentation is now a standard textbook concept (Kotler, 1999; Jobber, 1995; Dibb, Simkin, Pride and Ferrell, 1997; Brassington and Pettitt, 2000).

This alternative market segmentation strategy was novel in its day and has been hailed by some as the progenitor of modern marketing (Baker, 1995). But is a 44 year old strategy, which was spawned in a specific historic context, still worthy of study to-day? Is there anything new to say on the subject? The consensus of the marketing community would appear to be in the affirmative. The following quotations from eminent marketing academics over the past 4 decades are all testament to the belief that market segmentation has remained a tantalizing topic ever since 1956.

"Market segmentation has been steadily moving towards center stage as a topic of discussion in marketing and research circles. Hardly a conference passes without at least one session devoted to it. Moreover, in March the American Management Association held a three-day conference entirely concerned with various aspects of the segmentation problem." (Haley, **1968,** p. 30)

"In recent years one can hardly find an issue of any of the leading marketing journals which does not include at least one article directly concerned with segmentation and several articles with methodology or findings relevant to market segmentation research." (Wind, **1978,** p. 315)

"Market segmentation is one of the most talked about and acted upon concepts in marketing." (Green and Krieger, **1991,** p. 20)

"Market segmentation has been a major research topic in marketing for over 40 years. As one of the success-stories of marketing it raised (sic.) academic interest well beyond the marketing discipline itself." (Kamakura and Wedel, **1999,** p.93).

And in **2001** the IJRM will be publishing a Special Issue on the theme of "Marketing Segmentation".

Clearly, market segmentation has maintained its status as a "hot topic" in marketing circles for four decades. But what aspects of this cornerstone of marketing will be of greatest relevance to researchers and practitioners in the twenty first century?

1.3 Market Segmentation: a Relevant Research Subject for the Twenty First Century?

It is the proposition of this thesis that the answer may lie in a deeply fundamental issue: *the essential nature of segments* - what exactly constitutes a "market segment"? The utility of segmentation lies in its ability to group individuals and predict their behaviour over time, enabling some degree of differential response on the part of businesses. Yet, the validity and durability of these distinctions - even amongst seemingly objective classifications - may be open to question. This has recently been highlighted in reports about the US national census. Despite the steady increase in Asian immigrants to the USA, the 2000 census is very likely to count fewer Asian-Americans than in 1990. For in a 1996 test run, only 30% of Asian-American respondents identified themselves as multiracial (Rodriquez, 2000).

If a segmentation criterion as seemingly fixed as race can be shown to be elusive to classification how, then, are we to define the nature of market segments? Are they discoverable, enduring entities or are they fluid phenomena which are contextually constructed? Given that segmentation is so central to the process of marketing, the question as to whether segments are objective, perennial realities or temporary, malleable occurrences is paramount.

The durability of segments is an issue which has been addressed to some extent by social and cultural theorists at various points over the past 15 years (Foucault, 1988; Rose, 1989; Hacking, 1991; Curtis, 1991; Bauman, 1992; Whittington and Whipp, 1993; Bourdieu, 1984; and Sturdy and Knights, 1994). However, this pertinent issue has received scant explicit attention in the academic marketing or consumer research literature (Firat, Dhoklia and Bogozzi, 1989).

The objective of this doctoral thesis, is, then, to explore, from within the parameters of the marketing literature, the question of whether market segments are revealed or constructed; objective or subjective; pre-existent or created.

1.4 A Philosophical Framework

In order to proceed, a philosophical framework was constructed to delimit this issue of the nature of market segments. The development of this framework is described below.

Returning to the origins of the segmentation concept, Smith (1956) conceived of product differentiation and market segmentation strategies as simple alternatives. However, the assumptions underlying these two strategies are radically different, if not opposite. The product differentiation strategy is predicated on three inter-related assumptions. First, that the producer proactively determines consumption choice (i.e. extent of differentiation). Second, that the producer can create or at least influence the perceived differentiated needs of consumers. Third, that producers can successfully persuade consumers of the existence of these needs. Given these assumptions, the role of marketing is focused on persuasion, and competitive advantage is to be gained by obtaining a more profound understanding of the means of persuasion than competitors.

In contrast, the market segmentation strategy is predicated on three quite different assumptions. First, that product choice is created reactively by producers in response to consumer needs. Second, that differentiated consumer needs exist in isolation from production. Third, that producers can successfully observe and measure differentiated sets of consumption needs. The role of marketing under a market segmentation strategy is thus to uncover pre-existent consumption needs, and competitive advantage is to be gained by understanding the means of researching differentiated consumer behaviour more deeply than competitors. Table 1.1 summarises these distinctions.

Table 1.1

Product Differentiation and Market Segmentation Strategies Contrasted

	Product Differentiation	**Market Segmentation**
Assumptions	• consumption choice controlled by producer • producers create or strongly influence differentiated consumer needs • producers can persuade consumers of differentiated needs	• consumption choice strongly influenced by consumer • differentiated consumer needs pre-exist the consumption process • producers can observe and measure differentiated needs
Role of Marketing	• to persuade consumers of their differentiated needs	• to understand, observe and measure consumer needs
Source of Competitive Advantage	• understanding the persuasion process better than the competition	• understanding the process of researching, observing and measuring differentiated consumer behavior better than the competition

Of interest to this thesis are the assumptions which underpin these two alternative strategies. It has been shown that the market segmentation strategy has been accepted in mainstream marketing for almost half a century. This implies an implicit acceptance of the assumption that segments are pre-existent entities. And yet, another set of assumptions about the activity of offering differing products to differing sets of people does exist: the product differentiation strategy which assumes that market segments are constructed. These are radically different assumptions and yet the consequences of this distinction has attracted little debate.

In order to frame a discussion of the differences between the two sets of assumptions underpinning segmentation research, the concept of the "paradigm" was used.

1.4.1 Paradigms

The term "paradigm" was, if not created, at least popularized by Kuhn (1962: 1996), who defined a paradigm as a guiding set of scientific assumptions and methods of investigation. The value of a paradigm to a research community is that agreement on a particular approach for a set of problems allows depth of investigation. Yet, paradigms are not fixed for all time. Kuhn (1962:1996) argued that periods of within-paradigm problem solving are interrupted by the discovery of phenomena or by social and cultural trends that force researchers to call into question the parameters used to frame problems. "Discovery commences with the awareness of anomaly i.e. with the recognition that nature has somehow violated the paradigm-induced expectations that govern normal science." (Kuhn, 1996, p.34). As anomalies accumulate, researchers increasingly question their assumptions and methods of investigation until a "paradigm shift" occurs, with one set of assumptions and methods being replaced by another (Easterby-Smith, Thorpe and Lowe,1993; Remenyi, Williams, Money and Swartz, 1998).

A dichotomy has been proposed between the assumptions underlying the product differentiation strategy where consumer needs are seen as manipulable, through persuasion, by the firm; and the assumptions underpinning the market segmentation strategy, where consumer needs are seen to exist independently of the firm. These two sets of assumptions could be said to fall within two competing philosophical paradigms: "positivism", on the one hand and "social constructionism" on the other.

1.4.2 Positivism

The term positivism was coined by Auguste Comte (1823/1996), and is arguably based on three main tenets. First, the Lockean assumption that human behaviour must obey certain universal laws similar to the laws of the physical and natural sciences. Second, Bacon's inductive approach – namely adherence to the principle that knowledge can only be gathered by accumulating data and generalizing from them. Third, the Galilean and Newtonian "scientific method" which devises methodologies and techniques to measure and quantify observations numerically.

It has been argued that this positivist, "scientific" paradigm should frame marketing research (Buzzell, 1963; Mills, 1961; Lee, 1965; Robin, 1970; Kotler, 1972 and Ramond, 1974), and this is the paradigm under which Smith's conception of market segmentation was coined.

1.4.3 Social Constructionism

The social contructionism paradigm has flourished in recent years within a range of disciplines from social and cultural theory (e.g. Berger and Luckman, 1966; Gergen, 1985, 1991, 1994), to psychology (Coulter, 1979, 1983, 1989) and, indeed, to marketing research (Firat, Dholakia and Bagozzi, 1989; Anderson, 1983; Deshpande, 1983; Hirshchman, 1986; Peter and Olson, 1983; Brown, 1997).

Theories of social construction are varied but they are all premised upon a refutation of the three tenets of positivism. First, it is claimed that social reality is not governed by externally imposed laws but that societies evolve in accordance with the interaction patterns of its members. Second, social reality cannot be "known" simply by collecting observable facts: the processes of societies are as important as the observable outcomes of these processes. Third, attempts to measure outcomes may not be helpful in trying to understand social processes. Table 1.2 contrasts the positivist and social constructionist paradigms.

Table 1.2: Positivist and Social Constructionist Paradigms

Positivism	Social Constructionism
• the behaviour of humans within society is governed by general laws	• human societies constantly generate and regenerate their own patterns of being
• knowledge of human behaviour can only be founded on objective observation	• the processes of social reality and evolution are not observable and the processes may be as "real" as their outcomes
• the laws of human behaviour are measurable	• the act of measuring itself involves the interpretive involvement of humans and thus measurement is never objective, just part of the social process

If these definitions are used to create a framework within which to study the nature of market segments, then a positivist paradigm comprises the assumption that consumer groupings can be studied as objective and predictable phenomena. In contrast, a social constructionist paradigm comprises the assumption that groupings of consumers must be studied in terms of their relationship with their consumption habits and in terms of their relationships both with other social actors and, indeed, with the producer of goods and services.

The notion of these two competing paradigms will be used to frame this investigation into whether segments are fixed entities or changeable occurrences. The primary questions which will be pursued in the initial stages of this thesis can thus be construed as follows: What paradigm is currently being used to guide segmentation thinking: positivist or social constructionist? Is there any consensus as to the applicability of these paradigms? Are there anomalies between research findings and deep assumptions? Is there evidence of a paradigm shift?

1.5 Conclusion

In this opening chapter the research domain and research problem have been designated and a current example of segmentation for the new Toyota Prius has been presented. The history of the marketing segmentation concept has been traced and it has been argued that it remains a fruitful topic of study even after 4 decades of research. It has been suggested that whilst a number of social and cultural theorists have challenged the assumptions underpinning the segmentation concept over the past 15 years, the question as to the essential nature of segments has remained unquestioned (at least in any explicit sense) in marketing circles.

The notion of competing paradigms (specifically positivism and social constructionism) was proposed as a philosophical framework within which to embark upon an investigation into the key question of the thesis: Market Segments: Revealed or Constructed?

Chapter Two goes on to review the market segmentation literature with the specific objective of identifying which paradigm currently guides segmentation research.

CHAPTER TWO

LITERATURE REVIEW

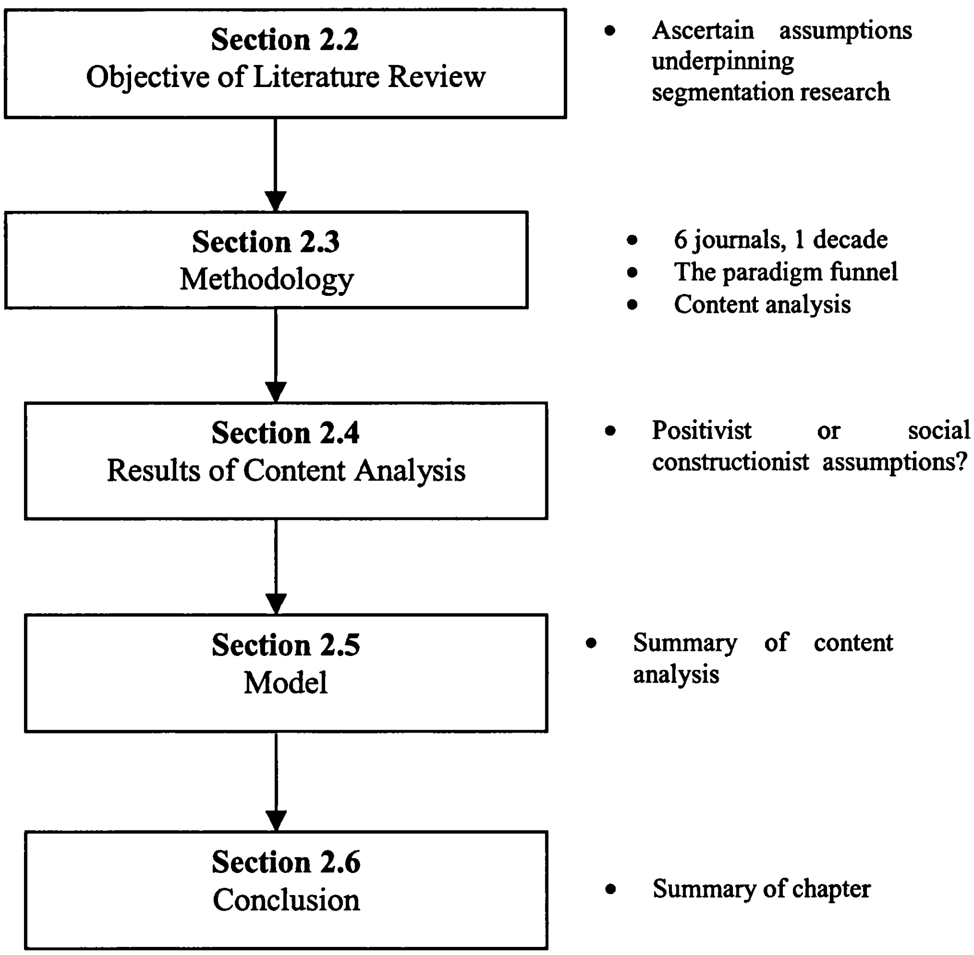
2 Literature Review

2.1 Introduction

In chapter 2 the segmentation literature is reviewed. The structure of the chapter is shown in figure 2.1 below.

Figure 2.1

Structure of Chapter 2
Literature Review



Section 2.2 clarifies and justifies the objective of the literature review: to ascertain the assumptions underpinning segmentation research. **Section 2.3** explains the methodology adopted: a content analysis of segmentation papers from 6 journals over 1 decade using a paradigm funnel tool. **Section 2.4** presents the findings of the content analysis. **Section 2.5** goes on to summarise these findings in a parsimonious model. Finally, **Section 2.6** offers an abstract of the whole chapter.

2.2 Objective of Literature Review

Having established a philosophical framework within which to address the question of whether market segments are revealed or constructed, the next step was to ascertain the assumptions which have underpinned segmentation research, particularly in the years since a social constructionist perspective has been in evidence in the marketing literature. This was achieved through a literature review.

The objective of the literature review was to investigate the deep assumptions underlying academic consumer segmentation research. Specifically the review investigated whether academic research is predominantly based on: (a) the assumption that consumer segments are groupings of consumers which exist independently of the act of consumption, i.e. they are pre-existent and objective; or (b) the assumption that consumer segments are groupings of consumers created through the ongoing process of consumption, i.e. they are constructed.

2.3 Methodology

2.3.1 Journals and Time Frame

As segmentation has been so widely researched and debated over such a long period of time (Haley, 1968; Wind, 1978; Krieger and Green, 1991; Kamakura and Wedel, 1999) it was clearly impossible to undertake an entire review of the segmentation literature. It was therefore decided to restrict the review to articles published in what are generally considered the most rigorous and thoughtful American and European journals. Thus, only marketing journals rated A to C in the Judge Institute of Management Studies (JIMS) list of "Quality Rankings of Journals in Management and Social Science" were included.

It was also decided to limit the time frame of the review to the past decade i.e. 1990 to 1999. The thinking behind this decision was as follows. The introduction of a social constructionist perspective to the marketing literature as a whole can probably be traced to Paul Anderson's article in the Journal of Marketing in 1983 (Brown, 1997). This being the case, it was thought unlikely that this alternative perspective would have had a major impact on the specific topic of market segmentation much before 1990. In any event, academic research in marketing is typically cumulative, such that any pertinent work published between 1983 - 1990 would surface in the articles written in the ensuing decade.

Using these two filtering criteria, the review comprised 37 articles taken from the 1990 - 1999 editions of the following journals: <u>Journal of Marketing Research</u>, Journal of Marketing, Journal of the Academy of Marketing Science, Journal of Consumer Research, Omega and European Journal of Marketing.

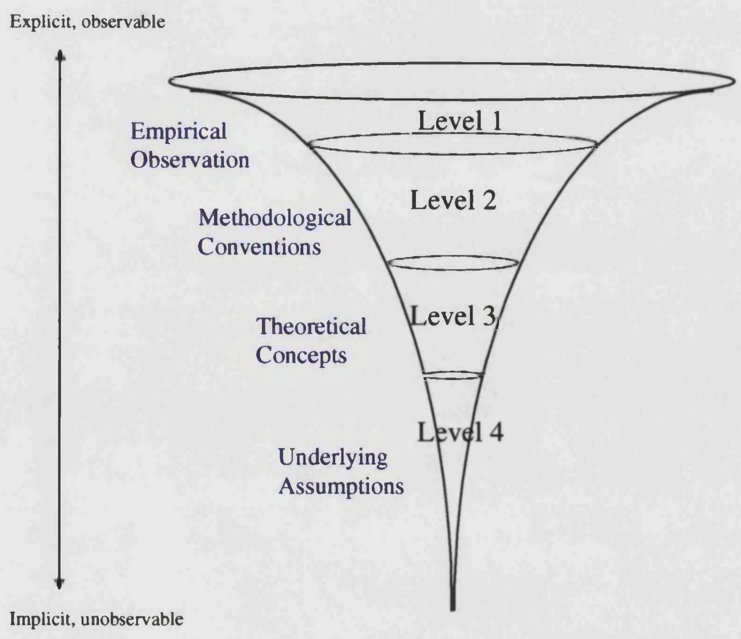
2.3.2 Analytical Tools

The literature review made use of three analytical tools: the paradigm funnel, content analysis and the positivist - social constructionist continuum. These are explained in the following three subsections.

2.3.2.1 The Paradigm Funnel

As segmentation research comprises a very diverse body of literature which includes within its parameters longitudinal observational surveys and abstract mathematical models, it was decided to create an analytical tool which could be used to classify the articles included in the review. To this end the "paradigm funnel" was devised, as illustrated in Figure 2.2.

Figure 2.2 The Paradigm Funnel



The funnel has been constructed to represent the totality of a paradigm as it manifests itself within a research community or research tradition. For the purposes of this investigation, the funnel is visualized as a four level construct, each level representing a different type of research question. **Level one** is the most visible part of the funnel and thus depicts empirical research or research into what can be observed in the world around us. **Level two** of the funnel is further below the surface and portrays the type of research which seeks to test, extend or develop new tools for use in empirical experiments or studies. **Level three** schematises research which concentrates on the development of theoretical concepts which support and feed research tools and empirical observations and which, in turn, are fed by them. The deepest and most hidden part of the funnel is **level four** which represents research that examines the underlying epistemological assumptions of all those working within a particular paradigm, be they interested in theory building, developing analysis tools or carrying out "coal face" studies.

2.3.2.2 Content Analysis

The paradigm funnel was used as a tool for structuring a content analysis of the 37 articles. Each article in the literature review, based on its content, was assigned to one of the four levels in the paradigm funnel. Thus, articles dealing primarily with analysis of empirical research on segmentation practice were assigned to level one. Articles dealing with the mathematical models used to assign consumers to segments or to predict segment membership were assigned to level two. Articles dealing with the theory of segmentation bases were assigned to level three. Finally articles dealing with the fundamental assumptions made by the whole segmentation research community were assigned to level four.

The number and percentage of articles assigned to each level of the paradigm funnel are shown in Table 2.1 below.

Table 2.1: Paradigm Level and Articles

Paradigm Level	No. of articles	% of articles	Author(s) and date of articles
Level 1: Empirical Observations	5	14%	Sarabia, 1996; Dalgic and Leeuw, 1994; Danneels, 1996; Hammond, Ehrenberg and Goodhardt, 1996; Dibb and Stern, 1995
Level 2: Methodological Conventions	21	57%	Jedidi, Kohli and Wilms, 1996; Cohen and Ramaswamy, 1998; Bayus and Mehta, 1995; Ramaswamy, Chatterjee and Cohen, 1996; Walker and Damien, 1999; Ramaswamy, Chatterjee and Cohen, 1999; Kamakura and Wedel, 1995; Kamakura and Mazzon, 1991; Desarbo, Ramaswamy and Chatterjee, 1995; Hagerty, 1995; Vriens, Wedel and Wilms, 1996; Krieger and Green, 1996; Allenby, Arora and Ginter, 1998; Chaturvedi, Carroll, Green and Rotondo, 1997; Lastovicka, Murray and Joachimsthaler, 1990; Novak and de Leeuw, 1992; ter Hofstede, Steenkamp and Wedel, 1999; Trivedi, 1999; Bucklin, Gupta and Siddarth 1998; Bucklin, Gupta and Han, 1995; Allenby and Ginter, 1995
Level 3: Theoretical Concepts	9	24%	Kucukemiroglu, 1999; Kamakura and Novak, 1992; Novak and MacEvoy, 1990; Botschen, Thelen and Pieters, 1999; van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; Kara and Kaynak, 1997; Schlegelmilch, Bohlen and Diamantopolous, 1996; Tepper, 1997;
Level 4: Underlying Assumptions	2	5%	Firat and Schulz, 1997; Knights, Sturdy and Morgan, 1994
	37	100%	

It can be seen that, according to the paradigm funnel classification, over half of the articles are concerned with methodology; a further quarter address theory; and the remaining quarter are devoted to empirical research or epistemological issues.

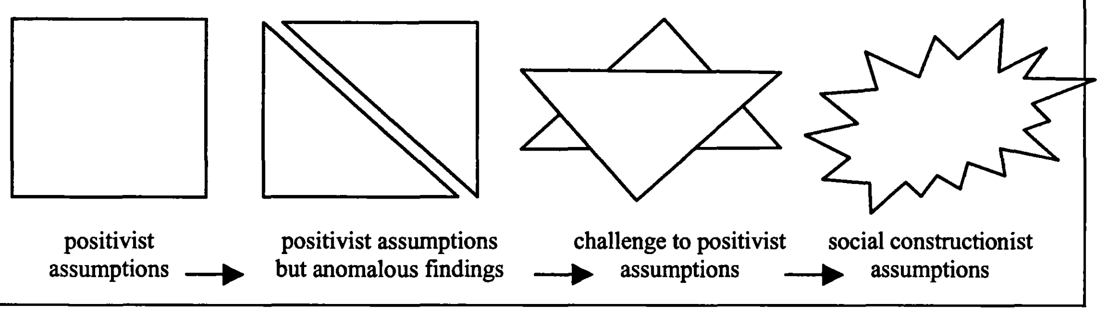
Within each level, one fundamental question was posed of each article: is the research explicitly or implicitly predicated upon a positivist or constructionist paradigm?

In order to answer this question, each text was analyzed on two levels. First, any specifically and overtly stated assumptions were noted. Second the language employed in the text was also analysed for evidence of underlying assumptions.

2.3.2.3 Positivist - Social Constructionist Continuum

When the content analysis had been carried out, 4 separate groups of articles suggested themselves. These groups cut across all paradigm levels and appeared to constitute 4 points along a positivist-social constructionist continuum. This continuum and the four points along it are represented diagrammatically in figure 2.3 below.

Figure 2.3: Positivist-Social Constructionist Continuum



One set of articles were positivist in their assumptions about the nature of segments which they saw as durable, fixed entities. These are represented by a firmly defined square and placed at the left extreme of the positivist-social constructionist continuum. A second group made explicitly positivist assumptions but their findings did not seem to match the assumptions. These are represented by a square separated into two triangles and are placed further to the right. A third group made an overt challenge to positivist assumptions but did not explicitly make social constructionist assumptions. These are represented by the two triangles flipped over to form a star shape and are placed towards the social constructionist end of the continuum. And a fourth group explicitly proposed that segments should be considered not as fixed entities, but instead as malleable constructs. This last grouping is represented by a quite different shape, much less defined than the square at the opposite positivist end of the continuum.

Of course, this sort of taxonomical methodology is, by its nature, positivist, which poses something of a conundrum for a piece of work which is ostensibly attempting to stand outside the two paradigms in question. This issue of "paradigm dialog" (Guba, 1990) is not new to social research, and the specific issue of whether methodology is independent of paradigmatic considerations on the one hand, or whether paradigms imply methodology was addressed ten years ago by Schwandt (1990). He quotes Charles Sanders Peirce (Buchler, 1940, p. 54) who advised that we "not block the way of inquiry" by too rigid an adherence to a methodology, and who labelled any philosophy which barricades the advance towards truth as "the one unpardonable offense in reasoning". Schwandt (1990, p.

276) concludes his own paper on the subject by stating that "To view inquiry as a kind of technical project characterised only by types of logics or methods in use is to empty inquiry of its significance as a kind of practically and historically situated undertaking." In the same spirit, the use of a positivist-style classification methodology in an allegedly paradigm-neutral analysis is defended as a pragmatic attempt to erect a platform upon which future research on market segmentation can be built. To accuse such a methodology in advance of the fruits which it might yield might be to "block the way of inquiry".

2.4 Results of Content Analysis

The results of the content analysis are presented on a level by level basis beginning with empirical research from level one of the paradigm funnel in Section 2.3.1 and ending with epistemological research from level four of the paradigm funnel in Section 2.3.4. Within each of these Sections, the articles are discussed on a grouping by grouping basis (see figure 2.3) beginning with those articles which make positivist assumptions; moving on to those which make positivist assumptions but whose research shows anomalies; from there to articles which overtly challenge positivism; and finally to articles which make social constructionist assumptions. It should be noted that not all subcategories are present in each paradigm funnel level classification.

2.4.1 Level 1 - Empirical Research

Five articles (14% of the total) present empirical observations of segmentation practice. Table 2.2 below summaries these articles, which are now discussed in the order they appear in the table.

Table 2.2: Level 1 Articles - Empirical Research

Author / Year	Title	Journal	Main Theme
Sarabia, 1996	Model for market segment evaluation and selection	EJM	Investigation into extent to which firms evaluate and select segments after segments have been identified.
Dalgic & Leeuw, 1994	Niche Marketing Revisited, Applications and Some European Cases	EJM	European examples of niche markets.
Danneels, 1996	Market Segmentation: Normative Model versus Business Reality	EJM	Investigation into Belgian clothes retailers and the extent to which they follow the conventional text book approach to segmentation, targeting and positioning.
Hammond, Ehrenberg & Goodhardt, 1996	Market Segmentation for Competitive Brands	EJM	Investigation into whether different brands are bought by different segments of consumers.
Dibb & Stern, 1995	Questioning the Reliability of Market Segmentation Techniques	Omega	Experiment to test whether - using established segmentation techniques - random data generates segments as robust and valid as those generated from real data.
EJM= European Journal of Marketing			

2.4.1.1 Positivist Assumptions

Sarabia's (1996) article on the evaluation and selection of market segments is strongly underpinned by positivist assumptions. "Market segmentation consists of detecting, evaluating and selecting homogeneous groups of individuals ...with the purpose of designing and directing competitive strategies towards them" (p. 58). The use of the word "detect" indicates an assumption that segments form part of an objective reality, whilst the phrase "directing ... towards" points to a belief that the consumer and the producer are agents acting upon each other but not interacting in a process of construction. This belief of separation between the two social actors of consumer and producer is further shown in statements such as: "The evaluations (of segments) must be able to detect deviations and discordances between the detected segment characteristics and the objectives of the market segmentation strategy. No segment should be selected nor commercial decision made if any incongruity is detected" (p.67). The use of words like "discordance" and "incongruity" together with the very prescriptive language such as "must be able to" and "should be" imply a world view where buyers and sellers inhabit their own objective realities which are not subject to change through interaction with each other.

2.4.1.2 Positivist Assumptions, Anomalous Findings

Dalgic and Leeuw (1994), on the face of it, also adopt positivist assumptions. Their focus is the concept of niche markets. They offer a number of definitions of "niche marketing" one of which is drawn from Keegan, Moriarty and Duncan (1992): "a small market that is not served by competing products" (p. 40). The use of the word "serve" implies belief in an objective set of consumers existing separately from the firm offering its products. The article cites a number of examples of niche markets. However, what is interesting about the examples chosen is that despite the positivist rhetoric in the definition of terms, the empirical "niches" do not appear to correspond to objective groupings of consumers with specific needs but to firm-driven niches resulting from product differentiation. For example, the American Express range of "niche" cards: gold, corporate and platinum is cited. However, as the authors themselves point out, membership of a niche is determined not by an objective consumer characteristic but by extent of usage of American Express cards. What appears to be happening in the text is that whilst the authors pay lip service to a positivist paradigm, the empirical evidence which they have chosen to include is anomalous. There appears to be a degree of discord between assumptions and findings.

2.4.1.3 Challenges to Positivist Assumptions

Danneels (1996) also reviews the practice of segmentation in Europe. His study of Belgian clothes retailers specifically sets out to investigate the extent to which marketing managers actually follow the text book steps of segmentation followed by targeting and finally positioning (e.g. Cook and Walters, 1991; Ghosh, 1990; Levy and Weitz, 1992). His major finding is that none of the companies in the study went through the standard three-step textbook process. In most cases, the retailers started with a product; ascertained who it attracted; and only then investigated the nature and needs of this segment. The managers in the study cited four reasons for opening a new retail outlet: (1) The owner had a gut feel that there was a gap in the market. (2) A factory needed to get rid of surplus stock. (3) An overseas chain sought expansion. (4) A factory shop for staff expanded to serve the general public. These are all clearly driven by the manufacturer and not by the notion of serving consumer needs. Danneels' (1996) own conclusions are that in the Belgian Clothes Retailing Market consumers segment the retailers rather than the other way round; that target markets emerge from the interaction of product offering and consumer interpretation; in fact, that segments are not pre-existent. "Segmentation, targeting and retail mix development were not found to be linked in a unidirectional, sequential manner, but instead were connected in an iterative feedback process" (Danneels, 1996, p.50). Is this researcher working within a positivist or constructionist paradigm? The answer would seem to be that the author is offering empirical evidence that mounts a challenge to what he sees as the existing positivist assumptions that segments exist independently of the consumption process. Further, whilst Dalgic and Leeuw (1994) are apparently unaware of anomaly in their research, Danneels (1996) specifically notes an anomaly between the assumptions accepted by the segmentation research community and his own empirical observations.

The crux of Hammond, Ehrenberg and Goodhardt's (1996) article is also in the nature of a challenge to what they see as the dominant positivist assumptions within segmentation research. They look specifically at brands, and their study is based on studies of consumer data from a wide range of international manufacturers and market researchers. The impetus to write the paper came from the observation that no striking reports of generalizable brand segmentation had been reported in the literature and that few studies had posed the fundamental question of whether brand segments actually exist. The hypothesis which they set out to test was that "competitive brands will not generally be bought by notably different kinds of consumers, as defined by almost any classification criterion" (Hammond, Ehrenberg and Goodhardt, 1996, p.40). The study covered 23 varied grocery products across 4 countries. The segmentation variables used were those utilized as standard by panel research: namely demographic and socio-economics. The conclusion was that there was little evidence of strong market segmentation between competitive brands.

The implication of the findings is that whilst there may indeed be identifiable groupings of individuals, if one wishes to group individuals in terms of their consumption needs, then this process of grouping can only be effected with reference to the process of consumption itself. They quote a former UK marketing manager of Mercedes Benz to illustrate their conclusion: "The only way I can identify the Mercedes Benz segment is by whether people have a Mercedes" (quoted in Hammond, Ehrenberg and Goodhardt, 1996, p.47). Thus, as with Danneels' (1996) article, the authors note anomaly between accepted assumptions and their own observations, and empirical evidence is offered to challenge what is seen as the dominant positivist paradigm.

Dibb and Stern's (1995) article is also written in response to the paucity of literature questioning the existence of objective segments: "Given the obvious emphasis placed on segmentation research in the marketing literature it seems surprising that so little attention has been directed towards questioning the existence of segments in a practical sense" (Dibb and Stern, 1995 p.626). Their study utilized two data sets: one set of genuine data collected in a survey carried out by Portsmouth Community Health Council; and a second set of randomly generated data with identical frequency counts to the real data set. Both data sets were subjected to a cluster analysis in order to generate segments. These segments were then validated and a comparison made between the validation of segments generated from real and random data. The results of the experiment showed that random data can generate segments that are as robust and valid (as measured by accepted cluster and factor analysis procedures) as real data. This implies that the segments are not objective realities but may in fact be artifacts of the statistical procedures used to generate them.

Like Danneels (1996) and Hammond, Ehrenberg and Goodhardt (1996), Dibb and Stern (1995) make an explicit challenge (albeit using positivist methods) to what they see as the dominant positivist assumption that there are objective groupings of consumers which the firm must try to serve. However, whilst the former articles intimate that segmentation is a process of construction which takes place as a result of interaction between the consumer and the producer, Dibb and Stern (1995) imply that segments may be constructed by an interaction between consumer behaviour data and the data manipulation programs used to anlayse that behavior. Specifically they argue that "...researchers and practitioners need to understand whether or not the results of segmentation are merely artifacts of the data structure" (Dibb and Stern, 1995, p. 635).

2.4.1.4 Conclusion

The analysis of the five papers dealing with empirical research shows that this group of researchers explicitly assumes that the segmentation research community is working within a positivist paradigm. However, only one of the authors appears to be comfortable working with this paradigm (Sarabia, 1996). There is evidence in a second paper (Dalgic and Leeuw, 1994) of unquestioning positivist assumptions, but the actual empirical evidence reported in the study revealed a process of construction within the practice of segmentation. Indeed, the most important finding of this part of the investigation is that 3 out of the 5 empirical research papers (Danneels, 1996, Hammond, Ehrenberg and Goodhardt, 1996, Dibb and Stern, 1995) explicitly challenge the dominant beliefs of the segmentation research community.

2.4.2 Level 2 - Methodological Research

The second level of the paradigm funnel represents research into the methodological tools used by a research community. In segmentation research these tools consist of a relatively small repertoire of statistical methods which are used to build a somewhat wider range of models. Over half of the articles included in this investigation (21 articles, 57% of the total) present modeling research. Table 2.3 shows the author(s), year, title, journal and theme of each article. The articles are analysed in the order shown in Table 2.3.

Table 2.3: Level 2 Articles - Methodological Research

Author/Year	Title	Journal	Main Theme
Jedidi, Kohli & Wilms, 1996	Consideration sets in conjoint analysis	JMR	New segment-level conjoint model for predicting market share.
Cohen & Ramaswamy, 1998	Joint segmentation on distinct interdependent bases with categorical data	JMR	Discussion of latent class segmentation using benefits sought and product usage as (distinct but possibly interdependent) segmentation bases.
Bayus & Mehta, 1995	A segmentation model for the targeted marketing of consumer durables	JMR	Using finite mixture distribution theory to develop segmentation model for targeting potential consumer durable buyers.
Ramaswamy, Chatterjee & Cohen, 1996	Latent Segmentation Models	JMR	Reports on latent segmentation models and compares them with cluster analysis.
Walker & Damien, 1999	A note on Ramaswamy, Chaterjee and Cohen's latent joint segmentation models	JMR	Claims that Ramaswamy et al.'s model (see Ramaswamy et al [1996] above) is non identifiable and therefore that the parameters are non-estimable.
Ramaswamy, Chatterjee & Cohen, 1999	Reply to a note on Ramaswamy, Chatterjee and Cohen's latent joint segmentation models	JMR	Defense of above article in response to challenge mounted by Walker and Damien (see above)
Kamakura & Wedel, 1995	Life-style segmentation with tailored interviewing	JMR	Classification of consumers into lifestyle segments using a latent-class model.
Kamakura & Mazzon, 1991	Value segmentation: a model fore the measurement of values and value systems	JCR	A model to simultaneously identify and assess the value systems of a population.
Desarbo, Ramaswamy & Chatterjee, 1995	Analyzing constant-sum multiple criterion data: a segment-level approach	JMR	A methodology for segment-level impact of explanatory criterion measures obtained on a constant-sum scale.
Hagerty, 1995	Can segmentation improve predictive accuracy in conjoint analysis.	JAMS	In spite of 8 years of research little is known about how conjoint methods of segmentation compare or under what conditions they outpredict individual-level analysis.
Vriens, Wedel & Wilms, 1996	Metric conjoint segmentation methods: a Monte Carlo comparison	JMR	A comparison of nine conjoint segmentation methods.
Krieger & Green, 1996	Modifying cluster-based segments to enhance agreement with an exogenous response variable	JMR	New algorithm to increase prediction of an exogenous variable. Comparison with clusterwise regression literature.
Allenby, Arora & Ginter, 1998	On the heterogeneity of demand	JMR	Evidence provided that the assumption of homogeneous segments may not be reasonable.
Chaturvedi, Carroll, Green & Rotondo, 1997	A feature based approach to market segmentation	JMR	Criticizes non-hierarchical (or partitioning) segmentation methods because of their sensitivity to outliers.
Lastovicka, Murray & Joachimsthaler, 1990	Evaluating the measurement validity of lifestyle typologies with qualitative measures	JMR	Using a multimethod-multitrait approach the validity of two lifestyle typologies are examined.
Novak & de Leeuw, 1992	Richness Curves for evaluating market segmentation	JMR	Claims that the principle of variance can be misleading for targeting. Proposes richness curves.
ter Hofstede, Steenkamp & Wedel, 1999	International market segmentation based on consumer-product relations	JMR	Acknowledgment that segmentation is influenced by the relationship between producer and consumer.
Trivedi, 1999	Using variety-seeking-based segmentation to study promotional response	JAMS	Acknowledges need for new dimensions to be added to segmentation models.
Bucklin, Gupta & Siddarth, 1998	Determining segmentation in sales response across consumer purchase behaviours	JMR	Looking at behaviour itself rather than the sets of people who generate that behaviour.
Bucklin, Gupta & Han, 1995	A brand's eye view of response segmentation in consumer brand choice	JMR	Looks at segments as formed in response to targeting.
Allenby & Ginter, 1995	Using extremes to design products and segment markets	JMR	Suggestion that segments are driven at least partially by firm-level variables.
JMR= Journal of Marketing Research, JCR = Journal of Consumer Research, JAMS = Journal of the Academy of Management Science			

2.4.2.1 Positivist Assumptions

The two types of statistical technique used most commonly in segmentation are cluster analysis and latent segmentation analysis (Chaturvedi, Carroll, Green and Rotondo, 1997; Dickinson, 1990). These belong to a more general class of models which are referred to as "finite mixture models" or "unmixing models" (Cohen and Ramaswamy, 1998). 10 of the articles analysed in this part of the investigation deal with some kind of finite mixture model. (Chaturvedi Carroll, Green and Rotondo, 1997; Krieger and Green, 1996; Cohen and Ramaswamy, 1998; Bayus and Mehta, 1995; Ramaswamy, Chatterjee and Cohen, 1996; Ramaswamy, Chatterjee and Cohen, 1999; Kamakura and Wedel, 1995; Walker and Damien, 1999; Allenby and Ginter, 1995; Novak and de Leeuw, 1992). The assumptions underpinning this class of model falls firmly and explicitly within the positivist paradigm. As Chaturvedi, Carroll, Green and Rotondo (1997) explain: "latent class techniques assume the existence of latent segments in the market place" (p.370).

These kinds of segmentation models have also been used in conjunction with conjoint analyses since 1985 (Hagerty, 1993, 1985). The use of segmentation models in conjoint analyses is "pursued by exploiting the idea that 'similar' individuals can be segmented and pooled in some way to improve prediction for each individual" (Hagerty, 1993, p. 353). Again, this indicates a belief in the reality of groups or pools of consumers that exist independently of individual purchase behaviour.

Another type of measurement instrument commonly used in segmentation is the value scale (Kahle, Beatty and Homer, 1986; Novak and MacEvoy, 1990). The application of the value construct in segmentation is inherently positivist. "The main goal in value measurement is to uncover the value system or hierarchy of the respondent". (Kamakura and Mazzon, 1991, p.210). The use of the word "uncover" shows the value construct is underpinned by positivist assumptions.

In 9 of the articles which deal with finite mixture models, conjoint analysis or value scales the authors appear to be working quite comfortably within the positivistic paradigm upon which these tools are predicated (Jedidi, Kohli and Wilms, 1996; Cohen and Ramaswamy, 1998; Bayus and Mehta, 1995; Ramaswamy, Chatterjee and Cohen, 1996; Walker and Damien 1999; Ramaswamy, Chatterjee and Cohen, 1999; Kamakura and Wedel, 1995; Kamakura and Mazzon, 1991; Desarbo, Ramaswamy and Chatterjee, 1995).

2.4.2.2 Positivist Assumptions, Anomalous Findings

In another 6 of the articles, however, there is evidence of researchers ill at ease with the underlying positivism of segmentation modeling (Krieger and Green, 1996; Vriens, Wedel and Wilms, 1996; Chaturvedi, Carroll, Green and Rotondo, 1997; Hagerty, 1993; Allenby, Arora and Ginter, 1998; and Lastovicka, Murray and Joachimsthaler, 1992). The overt assumptions of this group of researchers are positivist but, as was the case with Dalgic and Leeuw (1994) in the findings from empirical articles, the findings are at odds with the paradigm within which they purport to be working. The source of this anomaly appears to be the problems encountered when modeling response variables i.e. variables which capture consumer reaction to a product offering such as brand preference, repeat purchase or profitability. The superior power of response variables over descriptive variables (such as demographics) is widely argued in segmentation literature (Vriens, Wedel and Wilms 1996; Haley 1968; Wind 1978). However, for the modelers within the segmentation research community, when segments are obtained through cluster analysis "there are still problems associated with relating the segments to response variables of interest" (Krieger and Green, 1996, p. 351).

One interpretation of this "problem" may be that the paradigm within which these researchers are working no longer "fits" the phenomena observed. It may be that this lack of correlation is only "problematic" because these researchers are working within a positivist paradigm. Within a social constructionist paradigm the issue would no longer be problematic. Under a positivist paradigm, response variables are treated as modeling constructs that are similar in nature to descriptive variables. (Allenby, Arora and Ginter, 1998; Chaturvedi, Carroll, Green and Rotondo 1997). The assumption is that groups with common demographic or psychographic characteristics will have common purchase preferences because of their common characteristics. Thus once a segment has been objectively described, this process of identification will allow the prediction of purchase behaviour (Krieger and Green, 1996). However, under a social constructionist paradigm, response would be construed as a phenomenon constructed through the interaction of the producer and the consumer (and possibly other social actors). There would thus be no expectation that response could be observed as an objective phenomenon, or that physical characteristics such as age or sex are necessarily related in a pre-specified way to response.

2.4.2.3 Challenges to Positivist Assumptions

Although none of the authors in this level of the paradigm funnel approach the "problem" of modeling response variables explicitly by questioning the underlying assumptions of the models, there appears to be not only awareness of an anomaly between assumptions and findings but also something of a move towards a social constructionist paradigm. Five of the articles (Novak and de Leeuw, 1992; ter Hofstede, Steenkamp and Wedel, 1999; Trivedi, 1999; Bucklin, Gupta and Siddarth, 1998; and Bucklin, Gupta and Han, 1995) go beyond identifying the problem of modeling response variables and propose segmentation models which include some form of relationship between the consumer and the producer. Thus, they offer a challenge to the accepted paradigm. Novak and de Leeuw (1992) propose "richness curves" as a way of identifying customers who are profitable to the firm. Ter Hofstede, Steenkamp and Wedel (1999) present a model that integrates a firm's product development and communication strategies with benefits sought by the consumer. Trivedi (1999) attempts to model variety-seeking buyer behaviour based on response to a firm's promotions, using stochastic elements to allow for the fact that the same level of variety may not sought by customers on each purchase occasion.

Of these 5 articles, 2 go as far as to present experimental evidence which shows that there is not a stable relationship between consumer group and consumer response (Bucklin, Gupta and Siddarth, 1998; and Bucklin. Gupta and Han, 1995). Bucklin, Gupta and Siddarth (1998) derive response segments from scanner panel data on yogurt purchase only to conclude that these groupings of consumers are not stable, objective entities. "An important implication of our results is that differences in response for one purchase behaviour are not necessarily predictive of difference in response for other behaviors or for overall sales elasticities" (Bucklin, Gupta and Siddarth 1998 p. 197). Bucklin, Gupta and Han (1995) also conclude that individual response varies not just on a purchase by purchase basis but also on a brand by brand basis. Thus, without explicitly proposing a social constructionist paradigm, this group of researchers is proposing new methodologies that implicitly challenge the dominant positivist paradigm and implicitly assume that segments are constructed and reconstructed almost with each purchase.

2.4.2.4 Constructionist Assumptions

Whilst the 5 articles reported above can be construed as tentative challenges to the dominant paradigm of market segmentation, none make an explicit comparison between two paradigms. This is in stark contrast to Allenby and Ginter's (1995) paper. As a conclusion to their investigation into modeling the behaviour of consumers with extreme preferences, they overtly lay down the gauntlet at the feet of the positivistic consumer research community. "Our approach assumes implicitly that segments are created because firms allocate resources differentially (i.e. a decision of the firm), not necessarily because respondents are homogeneous (i.e. a property of the consumer). This has important implications for research and practice. Our model suggests that segmentation and targeting should be examined as a process that is (at least partially) driven by firm-level variables. In other words, niches and target segments emerge in response to a product or service that satisfies customers whose preference or other responses are extreme. These important aspects of market segmentation are typically not addressed by purely statistically based methods." (Allenby and Ginter, 1995, p. 403).

This is a radical challenge to what appear to be the core assumptions of contemporary segmentation. However, although the article was published in 1995, so far no other modeling researchers have picked up the gauntlet. It is hard to attribute the cause of this indifference. It may simply be a symptom of a paradigm shift. Kuhn himself pointed out that paradigm shifts only take place despite great resistance from "normal" scientists. The German physicist, Max Planck presages this view in his Scientific Autobiography (Planck, 1949) "a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it." (Planck, 1949, p. 54).

2.4.2.5 Conclusion

The statistical techniques used in segmentation models for at least the past two decades are predicated on a positivist paradigm (Chaturvedi, Carroll, Green and Rotondo, 1997; Cohen and Ramaswamy, 1998). The majority of modeling researchers have not overtly challenged the assumptions of this paradigm. In the 1990s, response variables have been recognized as particularly useful segmentation variables for firm (Vriens, Wedel and Wilms 1996). As a result, a major focus for segmentation researchers of the 1990s has been the use of existing statistical techniques to model response variables (Krieger and Green, 1996). This attempt has thrown up anomalies in the research process and the reaction has been to use different models to iron out the problem. In the process of attempting to overcome the problem of anomaly a sizable minority of researchers have begun to question, albeit tentatively, the assumptions on which the original statistical techniques are predicated (Novak and de Leeuw, 1992; ter Hofstede, Steenkamp and Wedel, 1999; Trivedi 1999; Bucklin, Gupta and Siddarth 1998; and Bucklin, Gupta and Han 1995). It is left to Allenby and Ginter (1995), who propose a fundamental rethink in the concept of segmentation, to mount the strongest challenge to the positivist paradigm.

2.4.3 Level 3 - Theoretical Research

Level three of the paradigm funnel represents research into theoretical constructs. In the context of market segmentation this represents research into the validity of using specific variables for classifying consumers into homogeneous groups. It is widely accepted that segmentation variables can themselves be classified into five groups: geography (region, county size, city size, density, climate); demographics (age, gender, family size, family life-cycle, ethnic origin, income, education, occupation); geodemographics; psychographics (social class, lifestyle, personality); and behaviour (purchase occasion, benefits sought, user status, usage rate, loyalty status, readiness state, attitude towards product) (Kotler, 1999, p. 358-401; Jobber, 1995. p. 204; Dibb, Simkin, Pride and Ferrell, p.207).

Table 2.4 shows the author(s), date, title, journal and type of variable dealt with by the 9 articles assigned to this part of the funnel. The articles deal with psychographics (Kamakura and Novak, 1992; Novak and MacEvoy, 1990; Kucukemiroglu, 1999); behaviour (Botschen, Thelen, and Pieters, 1999; Schlegelmilch, Bohlen, and Diamantopolous, 1999; van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; Kara and Kaynak, 1997; and demographics (Tepper, 1994). The articles are analysed in the order presented in Table 2.4.

Table 2.4: Level 3 Articles - Theoretical Research

Author / Year	Title	Journal	Variable
Kucukemiroglu, 1999	Market segmentation by using consumer lifestyle dimensions and ethnocentrism: an empirical study.	EJM	Psychographics
Kamakura & Novak, 1992	Value-system segmentation: exploring the meaning of LOV.	JCR	Psychographics
Novak & MacEvoy, 1990	On comparing alternative segmentation schemes: the list of values (LOV) and values and lifestyles (VALS).	JCR	Psychographics
Botschen, Thelen & Pieters, 1999	Using means-end structures for benefit segmentation. An application to services.	EJM	Behaviour
Van Raaij & Verhallen, 1994	Domain-specific market segmentation.	EJM	Behaviour
Cooper & Inoue, 1996	Building market structures from consumer preferences.	JMR	Behaviour
Schlegelmilch, Bohlen & Diamantopolous, 1999	The link between green purchasing decisions and measures of environmental consciousness.	EJM	Behaviour
Kara & Kaynak, 1997	Markets of a single customer: exploiting conceptual developments in market segmentation.	EJM	Behaviour
Tepper, 1994	The role of labeling processes in elderly consumers' responses to age segmentation cues.	JCR	Demographics - age
JMR = Journal of Marketing Research; JCR = Journal of Consumer Research; EJM = European Journal of Marketing			

2.4.3.1 Positivist Assumptions

The concept of "psychographics" which was coined in 1963 by Demby (Wells, 1974) rests fairly firmly on the positivist assumption that humans can be grouped by personality or lifestyle characteristics and that there is a correlation between membership of a psychographic group and purchase behaviour. "Psychographics seeks to describe the human characteristics of consumers which may have bearing on their response to products, packaging, advertising and public relations efforts."(Demby in Wells, 1974, p. 10). The three psychographic articles included in this investigation (Kamakura and Novak, 1992; Novak and MacEvoy, 1990; Kucukemiroglu, 1999) do not challenge this assumption. In fact, one article (Kucukemiroglu, 1999) proposes an even stronger relationship between lifestyle and consumption than that proposed in 1963. Whilst Demby suggested that human characteristics *"may have bearing* (my italics) on response", Kucukemiroglu (1999, p. 470) states boldly that "certain lifestyle patterns *determine* (my italics) ... spending habits".

2.4.3.2 Positivist Assumptions, Anomalous Findings

However, if we examine the text of Kamakura and Novak's (1992) article, it can be seen that, despite the positivist underpinnings of the psychographic concept, the link between psychographic constructs (specifically values) and consumption behaviour is rather ambiguous. The authors state in a prescriptive manner that "once the motivations that drive each segment are well understood, it becomes easier to make predictions regarding the pattern of beliefs, attitudes, and behaviour expected from each segment." (Kamakura and Novak, 1992, p. 131). However, they go on to state that, "values ... are fairly remote from each particular decision made by the consumer, which is also affected by many other more immediate (but also less stable) environmental influences, such as price, sales promotions, exposure to advertising and so on." (Kamakura and Novak, 1992, p. 131). The utility of value segmentation is thus thrown into question. What is implied in the text is that segmentation presents a trade-off situation. Marketers must weigh up whether to segment by values which are (according to value theory) stable and generalisable but may not really be closely linked with individual acts of consumption or whether to segment by response to price, sales promotions or advertising which are obviously closely related to purchase situation but which may vary over time. This view of segmentation decisions in terms of compromise is consequential to positivist thinking. Within a social constructionist paradigm there would be no requirement for segments to be "stable" at all as they would be viewed as being in a process of constant construction and reconstruction.

Botschen, Thelen and Pieters (1999) propose a method of identifying "true" benefits segments (Haley 1968; Wind 1978) by using Gutman's means-end laddering technique (Gutman, 1982). By "true" they mean benefits which can be objectively evaluated and are independent of the process of consumption. (Botschen, Thelen and Pieters, 1999. P.39). On the face of it this is a firmly positivist assumption. However, the means-end chain itself has as its starting point an attitude towards a product. Thus the nature of the "true" benefits that the authors hope to reveal is inextricably linked with the process of communication between the firm and the consumer and could thus be conceived of as constructs of the consumption process. Thus, despite positivist rhetoric, the means-end theory itself rests on an assumption that is not entirely consistent with the positivist paradigm.

2.4.3.3 Challenges to Positivist Assumptions

The other 4 articles on behavioural segmentation (Schlegelmilch, Bohlen, and Diamantopolous, 1999; van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; and Kara and Kaynak, 1997) are seeking a theoretical basis for identifying links between measurable segmentation variables and purchase behaviour. This is essentially the same mission as that undertaken by the authors in level two of the paradigm funnel who sought to model response variables (Novak and de Leeuw, 1992; ter Hofstede, Steenkamp and Wedel, 1999; Trivedi, 1999; Bucklin, Gupta and Siddarth, 1998; and Bucklin, Gupta and Han, 1995). The fundamental question asked in the 4 theory based articles is: "How are market segments related to differentiated products and services?" (Van Raaij and Verhallen, 1994, p. 49). There is little overt consensus. Each article proposes a rather different theory as to how this linkage takes place. Van Raaij and Verhallen (1994) propose that segmentation schemes should be what they call "domain specific", or, in other parlance, *product-class-specific*. Cooper and Inoue (1996), on the other hand, claim that the link between segment membership and purchase behaviour works on a *brand-level* basis. Schlegelmilch, Bohlen and Diamantopolous (1996) (who look specifically at pro-environmental purchase behaviour) suggest that *attitude* should form the basis for a "green" segmentation scheme. Finally Kara and Kaynak (1997) argue for a concept which they call "finer segmentation" which is essentially synonymous with the more commonly used term "one-to-one marketing" (Peppers and Rogers, 1993). Kara and Kaynak (1997) make two major points: first, that segments of one allow a more efficient way of meeting consumer needs; and second, that one-to-one relationships with customers allow the producer to identify the profitability of customers, which they see as a major function of segmentation.

These four sets of authors (van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; Schlegelmilch, Bohlen, and Diamantopolous, 1999; and Kara and Kaynak, 1997) in their attempt to build theory to explain the linkage between consumers groups and their purchase behaviour, display the same level of discord between assumptions and findings as the authors of the five articles seeking to model response variables discussed in the previous section (Novak and de Leeuw, 1992; ter Hofstede, Steenkamp and Wedel, 1999; Trivedi 1999; Bucklin, Gupta and Siddarth 1998; and Bucklin, Gupta and Han 1995). The framing of their research question is in terms of a clear distinction between consumer groups on the one hand and their consumption behaviour on the other (hence the need to identify linkages between the two phenomena). This shows adherence to a positivist paradigm. However, the solutions presented from both modeling and theoretical research point to the consumption process itself as the progenitor of consumer groupings. A framing of the research question within a social constructionist paradigm would make this tortuous quest for a link unnecessary because the research question would be concerned not with making identifiable linkages, but with understanding how the process of consumption creates and recreates consumer groupings.

2.4.3.4 Constructionist Assumptions

In contrast to the other 8 theory articles so far investigated in level three of the paradigm funnel, 1 article specifically mounts a serious challenge to the assumption that the groups of consumers created by using the accepted segmentation variables are also linked by predictable similarities in purchase behaviour. Dealing specifically with the over 50s and drawing on the work of Bone (1991), Tepper (1994) addresses the issue of age as a discriminator between the purchase behaviour of individuals. She makes a quite radical proposition about the nature of segmentation and the theoretical justification for using demographics as a base. What she examines is the response of elderly consumers to what she calls "segmentation cues" - namely promotional material which makes reference to older people. She draws on labeling theory from social psychology and deals specifically with the attitudes of two samples of men and women aged over 50 towards the usage of senior citizen discounts. Her hypothesis is that the phenomena of "self-devaluation" (private labeling) and "perceived stigma" (social labeling) will mediate the relationship between age segmentation cues and intentions to use senior citizen discount offers.

Her findings show that both private labeling and social labeling play a large part in the response of the over-50s to messages aimed at their "segment". She found three reasons why individuals were not responsive to offers of senior citizen discounts. First, they refused to admit to themselves that they were old (private labeling / self-devaluation). Second, they did not want sales assistants to view them as old or having money problems as they felt shop assistants were rude to older, poorer people (social labeling / perceived stigma). Third, they did not want to admit to their friends that they were old or having money problems (social labeling/ perceived stigma).

This presents a serious challenge to the theory that demographic segmentation can explain consumption behaviour and to the assumption that demographic groupings are objective, predictable entities. The implication is that consumer behaviour is not dictated by the relatively fixed characteristics of individuals (such as demographics) and thus that groups of individuals sharing the same characteristics cannot be assumed to share the same purchase behaviour. Instead, consumer behaviour is mediated both by the relationship between the offering and the individual and the relationship between the individual and "significant others". The proposition is, thus, that the nature of consumer response is much more fluid, much more of a process than a consequence. This proposition is based on social constructionist assumptions.

2.4.3.5 Conclusion

It seems that the study of psychographics is entrenched in positivism (Kamakura and Novak, 1992; Novak and MacEvoy, 1990; Kucukemiroglu, 1999) but that there is an, as yet unacknowledged, anomaly between assumption and observation.

The ability of current psychographic theory to provide a demonstrable link between psychographic grouping and purchase behaviour is highly questionable (Kamakura and Novak, 1992). Indeed, the area of research which has most preoccupied segmentation researchers into all segmentation variables in the 1990s appears to be the problematic nature of the link between identified segments and homogeneous purchase behaviour (Botschen, Thelen, and Pieters, 1999; Schlegelmilch, Bohlen, and Diamantopolous, 1999; van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; Kara and Kaynak, 1997; and Tepper, 1994). What is important for this investigation is that the central role assigned to the quest for this link reveals a research community working within the confines of a positivist paradigm. The worldview of these researchers is upheld by an assumption that membership of an objective grouping is stable and that membership of an objective group determines (to some extent) purchase behaviour. However, *despite* these assumptions, contemporary segmentation theory is being built on models of interaction between the consumer and the firm - be it profitability measures (Kara and Kaynak, 1997); or attitude to a product (Botschen, Thelen, and Pieters, 1999), product class (van Raaij and Verhallen, 1994), or brand (Cooper and Inoue, 1996). There is clear anomaly between assumption and practice. Only one author (Tepper, 1994) has overtly recognized this anomaly and has addressed it by proposing a different, social constructionist set of assumptions.

2.4.4 Level 4 – Epistemological Research

The fourth and narrowest part of the paradigm funnel that was presented at the beginning of this paper represents research into the underlying epistemological assumptions upon which the researchers within a particular paradigm operate. In this investigation, only two articles occupy the narrowest part of the funnel: Firat and Shultz's article (1997) which deals primarily with the concept of postmodernism and its implications for segmentation; and Knights, Sturdy and Morgan's article (1994) which addresses the issue of "need" in the financial services industry. See Table 2.5 below.

Table 2.5: Level 4 Articles - Epistemological Research

Author / Year	Title	Journal
Firat & Schulz, 1997	From segmentation to fragmentation. Markets and marketing strategy in the postmodern era.	EJM
Kights, Sturdy & Morgan, 1994	The Consumer Rules? An Examination of the Rhetoric and "Reality" of Marketing in Financial Services.	EJM
EJM = European Journal of Marketing		

2.4.4.1 Constructionist Assumptions

Firat and Schulz (1997) investigate the underlying assumptions of segmentation by proposing an evaluation of the concept and practice of segmentation from two standpoints: modernism and postmodernism. Broadly speaking these two standpoints fall within the positivist and constructionist paradigms respectively. The authors' definition of two modernist tenets: "the modernist assumption that a social reality independent of a socially constructed one (or of human agency) exists; and the modernist claim to having the only true way of objectively knowing and, therefore, accurately representing this reality thanks to traditional methods of scientific enquiry" (Firat and Schulz, 1997, p. 188) is almost identical to a definition of positivism used in another edition of the European Journal of Marketing. "The received view variously described as 'positivist', 'positivistic' or 'logical empiricist' rested on the assumption that a single, external world existed, that this social reality could be empirically measured by independent observers using objective methods, and that it could be explained or predicted through the identification of universal laws or law-like generalizations" (Brown, 1997, p. 171). Firat and Schulz's "modernism" can be defined as a subset of assumptions under the broader positivist umbrella. The authors more tightly define modernism by adding to the definition of positivism/modernism above the specifically modernist notion of the respective roles of humans and products. In the modernist project, humans are at the heart of all things whilst products, and specifically product value to humans, "is materialized in the prescribed benefits of the product attributes being offered" (Firat and Schulz, 1997, p. 187). This definition puts specific emphasis on the separation of production and consumption functions.

If modernism is a subset of assumptions under the positivist umbrella then postmodernism can be conceived of as a subset of assumptions under the wider social constructionist umbrella. Thus whilst Firat and Schulz's (1997) definition of postmodern reality would be completely consistent with Brown's definition of constructionist reality as "not objective and external to the observer but socially constructed and given meaning by human actors" (Brown, 1997, p.171-172), postmodernism provides a more explicit definition of the ways in which reality may be constructed.

The question to be addressed in this investigation is whether Firat and Schulz (1997) are working within a positivist or constructionist paradigm, or, put another way, to which of the two paradigms do they really subscribe: the modernist or the postmodernist? On one level, the presentation of the two views seems impartial. For example, assertions about the consequences of postmodernism are prefaced by "if" e.g. "If the arguments of postmodern scholars are correct..." and prescriptive recommendations for marketing practitioners are always prefaced by "for postmodern consumer markets..." or "in post modern markets..." thus intending to convey that the authors do not necessarily adopt a postmodernist view. However, on another level, the language used to convey the consequences of not adopting a constructionist/postmodern worldview is rather strong. For example: "for postmodern consumer markets, using segmentation strategies that try to constrain or anchor consumers to a single, consistent, stable way of behaving is likely to lead to market failure." (p. 197). Or "if the argument of postmodernist scholars are correct, it will be rather futile to try to find consistent, centered or stable self-images in post modern markets." (p.199). The words "failure" and "futile" are stern. No such language is applied to the consequences of not heeding modernist assumptions. In fact, the final paragraph of the article makes quite clear that the authors believe a postmodern/constructionist world view worthy of very serious consideration: "We submit that postmodernism, so influential in other disciplines, has the potential to reframe our thinking about social trends and business practices" (p. 204).

Knights, Sturdy and Morgan (1994) are far less equivocal in their advocacy of a social constructionist view of the concept of market segmentation. They present an account of the historical evolution of the acceptance and application of the marketing concept and market segmentation in the financial services sector. In their view, the rhetoric and reality of the (relatively recent) financial services marketing literature are not in accord. The rhetoric claims that competitive pressures that have resulted from various regulatory measures have compelled the industry to respond to diverse consumer "needs". In other words, that these external competitive pressures have caused a shift from product-led to customer-led strategic thinking (Ennew, 1992; Morgan and Piercy, 1990; Watkins and Wright, 1986). The reality – in the view of the authors – is that the whole underlying notion that consumers of financial services products have identifiable needs prior to consumption is problematic. It is their belief that "consumer 'need' is a category for ordering and making sense of behaviors which are the outcome of producer/consumer relationships (e.g. the sale) rather than the property of individuals, as is conventionally assumed." (Knights, Sturdy and Morgan, 1994, p. 48).

Two characteristics of the financial services sector are highlighted to support this view. The first is the inertia that characterizes consumer response to financial service products. A consequence of inertia is that "need" is rarely formulated before a consumption situation with the result that needs can be said to be "socially constructed within effective sales encounters" (p. 48). The second characteristic of the sector is the long established industry focus on customer profitability. Credit scoring to identify and *select out* unprofitable customers has been the stock in trade of the financial services industry since its inception. This is a financially effective method of segmentation – but one that has little to do with customer needs and one that is producer-led. Whilst not arguing that market segmentation is a method of crude exploitation, the authors simply aim to point out that the claims in the literature of competitive advantage to be gained through understanding and responding to pre-existing needs may be exaggerated.

Knights, Sturdy and Morgan (1994) thus categorically propose that working within a social constructionist paradigm may enhance the understanding of using the segmentation concept to accrue competitive advantage in the financial services industry.

2.4.4.2 Conclusion

Only two articles out of the 37 reviewed articles from the last decade explicitly address the deep assumptions that underlie the market segmentation concept (Firat and Schulz, 1997; Knights, Sturdy and Morgan, 1994). What is important for this investigation is that both – albeit in very different ways – advocate consideration of social construction as an alternative way of looking at the structure of consumer response and therefore of consumer segements.

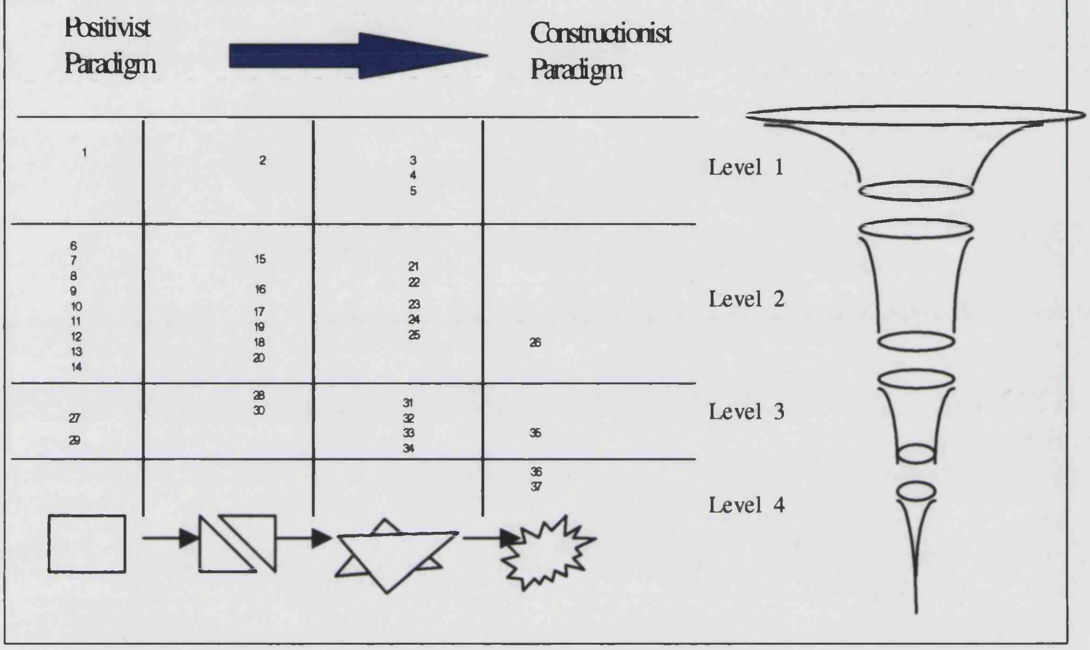
2.5 Literature Review Findings: A Parsimonious Model

This literature review set out to evaluate the assumptions upon which academic segmentation research has been based. Has it been based on the assumption that consumer segments are groupings of consumers which exist independently of the act of consumption (i.e. they are pre-existent) which is in line with market segmentation as originally conceived of by Smith (1956/1995)? Or has it been based on the assumption that consumer segments are groupings of consumers formed through the process of consumption (i.e. they are socially constructed) which is akin to the product differentation strategy?

A content analysis was carried out of the segmentation literature from the top US and European journals of the past decade. A paradigm funnel was devised to define research categories a priori.

The literature review analysis revealed that the segmentation community itself acknowledges that the currently accepted or "normal" view is that consumer groups pre-exist consumption. This implies that the members of this research community are generally working within a positivist paradigm. However, the importance of this review is that it has also shown that not all segmentation researchers are comfortable working within this positivist paradigm. In fact, the content analysis suggested a post hoc classification of articles into 4 content subcategories which can be plotted at four different points along a positivist – social constructionist continuum. The model shown in figure 2.4 shows the location of each of the articles plotted against the paradigm funnel and against the 4 continuum subcategories.

Figure 2.4: Segmentation Research – A Paradigm Shift?



Key to Figure 2.4

Level 1 Articles - Empirical Research
1 Sarabia, 1996
2 Dalgic and Leeuw, 1994
3 Danneels, 1996
4 Hammond, Ehrenberg & Goodhardt, 1996
5 Dibb and Stern, 1995

Level 2 Articles - Methodological Research
6 Jedidi, Kohli and Wilms, 1996
7 Cohen and Ramaswamy, 1998
8 Bayus and Mehta, 1995
9 Ramaswamy, Chatterjee and Cohen, 1996
10 Walker and Damien, 1999
11 Ramaswamy, Chatterjee and Cohen, 1999
12 Kamakura and Wedel, 1995
13 Kamakura and Mazzon, 1991
14 Desarbo, Ramaswamy & Chatterjee 1995
15 Kireger and Green, 1996
16 Vriens, Wedel and Wilms, 1996
17 Chaturvedi, Carroll, Green, Rotondo, 1997
18 Hagerty, 1993
19 Allenby, Arora and Ginter, 1998
20 Lastovicka, Murray& Joachimsthaler, 1992
21 Novak and de Leeuw, 1992
22 ter Hofstede, Steenkamp and Wedel, 1999
23 Trivedi, 1999
24 Bucklin, Gupta and Siddarth, 1998
25 Bucklin, Gupta and Han, 1995
26 Allenby and Ginter, 1995

Level 3 Articles - Theoretical Research
27 Kamakura and Novak, 1992
28 Novak and MacEvoy, 1990
29 Kucukemiroglu, 1999
30 Botschen, Thelen and Pieters, 1999
31 van Raaij and Verhallen, 1994
32 Cooper and Inoue, 1996
33 Kara and Kaynak, 1997
34 Schlegelmilch, Bohlen and Diamantopolous, 1996
35 Tepper, 1994

Level 4 Articles - Epistemological Research
36 Firat and Schulz, 1997
37 Knights, Sturdy and Morgan, 1994

37 Knights, Sturdy and Morgan, 1994

The 4 points on the continuum have been defined as follows.

: segmentation research which maintains an unreservedly positivist view of the market segmentation process.

: segmentation research where the overt assumptions are positivist, but where there is an element of anomaly between these assumptions and the findings.

: segmentation research which challenges the usefulness of positivist assumptions but which falls short of advocating an alternative paradigm.

: segmentation research that is underpinned by social constructionist assumptions.

2.5.1 Point one – Positivist Assumptions

It can be seen that a third of the articles (articles 1; 6-14; 27 and 29) fall at the extreme left (positivist end) of the continuum. These are represented by a clearly defined square. For these researchers e.g. Sarabia (1996) in empirical research; Ramaswamy, Chatterjee and Cohen (1996,1999) in methodological research; and Kucukermiroglu (1999) in theoretical research, the assumptions underpinning their research are explicitly and implicitly positivist. The assumption that consumer groupings exist independently of the process of consumption is accepted and the research results offer nothing to challenge this assumption.

2.5.2 Point two – Positive Assumptions, Anomaly in Findings

A further 25% of the articles (articles 2; 15-20; 28 and 30) fall further to the right, towards the social constructionist end of the continuum. These are represented by a square which has been divided into two triangles. For these researchers e.g. Dalgic and Leeuw (1994) in empirical research; Chaturvedi, Carroll, Green and Rotondo (1997) in methodological research; and Botschen, Thelen and Pieters (1999) in theoretical research, the explicit rhetoric of the articles implies positivist assumptions. However, in all of these articles the findings are somewhat discordant with the assumptions. The researchers cling to the assumption that independent groups of consumers exist, but the research evidence produced on an empirical (e.g. Dalgic and Leeuw, 1994); methodological (e.g. Krieger and Green, 1996) and theoretical (e.g. Cooper and Inoue, 1996) level does not unequivocally vindicate the assumption that segments exist independently of consumption.

2.5.3 Point three – Challenge to Positivist Assumptions

A further third of the articles are plotted yet further towards the social constructionist end of the continuum and are represented by two triangles which have been flipped over to form a star. Whilst none of these authors explicitly propose a new paradigm, they present empirical evidence (e.g. Hammond, Ehrenberg and Goodhardt, 1996), mathematical models (e.g. Bucklin, Gupta and Siddarth, 1998), and theoretical propositions (e.g. van Raaij and Verhallen, 1994) that comprise an overt challenge to the assumption that the formation of consumer groupings can be effected independently of the process of consumption.

2.5.4 Point four – Social Constructionist Assumptions

The remaining 10% of articles invite the academic community to a serious consideration of an alternative set of assumptions upon which to base future segmentation research. They are represented by a roughly constructed star. All of these articles suggest (albeit from different perspectives) that market segmentation should be considered as an integral part of the process of consumption, not in isolation from it. Allenby and Ginter (1995), and Knights, Sturdy and Morgan (1994) suggest that the producer plays a much more proactive part in the segmentation process than is assumed by the "conventional" market segmentation concept. Tepper (1994) suggests that segments are mediated by a private and social labeling process and thus that the role of social interaction should be included in attempts to understand the formation of market segments. Firat and Shulz (1997) suggest that if we are living in a postmodern society then perhaps any attempt to categorize consumers and their purchases will be somewhat futile, because stability is not a feature of postmodernity.

2.6 Conclusion

Chapter two has presented a review of the academic segmentation literature. The purpose of the review was to ascertain whether segmentation research is underpinned by an assumption that consumer segments pre-exist the consumption process (a positivist assumption), or by an assumption that the consumption process plays a role in the construction of consumer segments (a social constructionist assumption). It has been concluded that the former assumption prevails: i.e. that positivism dominates market segmentation research. However, the literature review also revealed what might be interpreted as the beginnings of a paradigm shift. It has been shown that two thirds of this research challenges (implicitly or explicitly) the prevailing positivist paradigm and that 10% of the research actively advocates an approach to segmentation research underpinned by the social constructionist assumption that segments are, in some way, constructed by the consumption process.

There is clearly doubt as to the fixed nature of segments. It is therefore apposite to further investigate both if and how market segments can be constructed.

Chapter 3 goes on to formulate a research proposition to explore this issue.

CHAPTER THREE

FORMULATING

THE

RESEARCH

OBJECTIVE

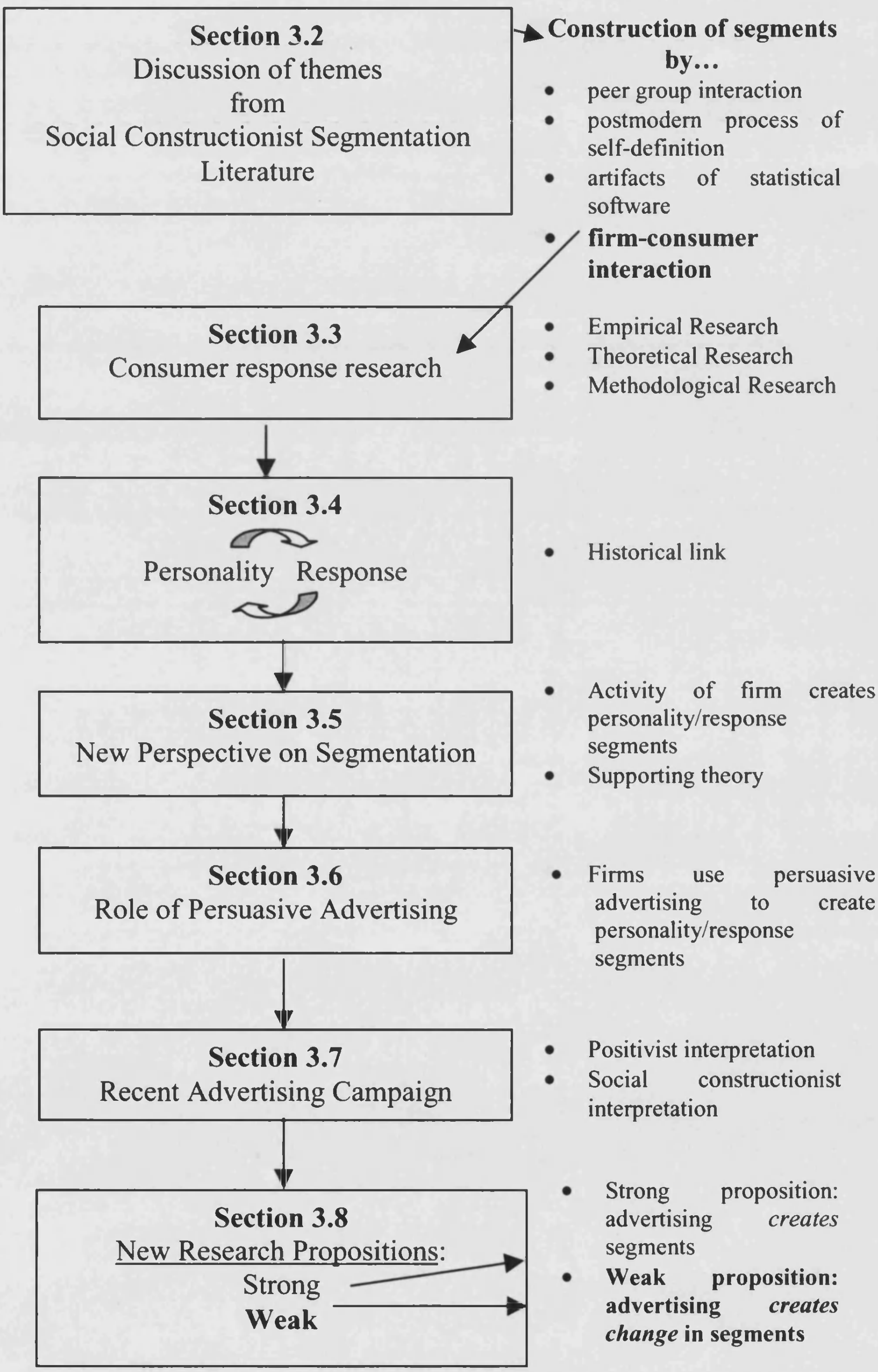
3 Formulating the Research Objective

3.1 Introduction

This chapter discusses how the findings from the literature review were taken forward to the formulation of a new research proposition to investigate if and how market segments are constructed. Figure 3.1 shows the structure of chapter 3.

Figure 3.1

Structure of Chapter 3
Formulating the Research Objective



Chapter 3 explains the research objective formulation process. In **Section 3.2** the content of the social constructionist literature from the review is considered and four major themes exposed: 1) the construction of segments by peer group relations; 2) the construction of segments through the postmodern notion of the continuous recreation of the self; 3) the construction of segments through the artifacts of statistical software; and 4) the construction of segments through interaction of the firm and the consumer. It is observed that this latter theme, the construction of segments through firm-consumer relationships, has attracted the most intense attention in the literature and appears to be the most fruitful avenue to pursue.

Section 3.3, therefore, goes on to examine, in detail, the issues which are addressed within the literature on firm-consumer relations. It is observed that the study of response variables comprises the most common research focus across all methodological lines of enquiry. However, considerable dissatisfaction with current theory and research methodology is also observed within this body of research. It is concluded that this dissatisfaction stems from positivist assumptions concerning the stability of consumer responses - assumptions questioned by the research findings.

In **Section 3.4** it is noted that a historical research link exists between the study of consumer response and the study of personality. It is also observed that the literature on personality is typically based upon positivist assumptions, thus, in turn, reinforcing researcher expectations of the stability of response segments.

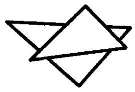
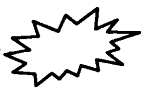
Section 3.5 goes on to propose a new perspective on the issue of the construction of segments through firm-consumer interaction. The suggestion is put forward that firms themselves play a role in the creation of personality (psychographic attributes, attitudes, values and behaviour) which, in turn, determines consumer responses to a firm's product offerings. Support for this view is then offered from two pieces of research: one theoretical the other empirical.

Section 3.6 introduces a discussion on the role of persuasion and advertising as mechanisms by which firms may be able to construct or effect changes in segments of consumers.

Section 3.7 applies this alternative view of the role of the firm in the creation of segments to a current advertising campaign.

Finally, in **Section 3.8,** two new research propositions are stated. A strong proposition that advertising can construct personality segments from scratch and a weak proposition that advertising can create changes in personality. It is concluded that the research for this thesis should focus on testing the weak proposition and the research proposition is formally defined.

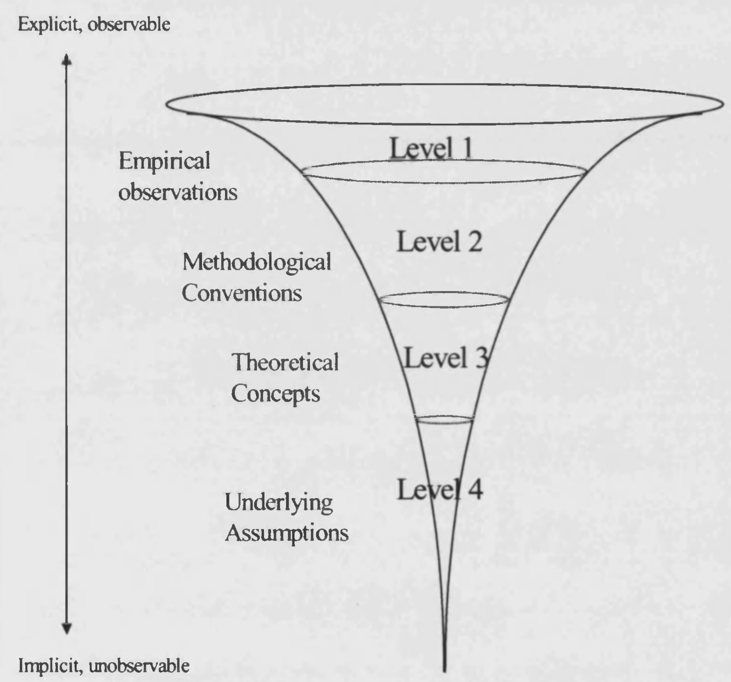
3.2 Themes from Social Constructionist Segmentation Literature

After the completion of the literature review, the next step was to examine the major themes addressed by the 16 reviewed articles which a) overtly challenged positivist assumptions or b) explicitly embraced constructionist assumptions i.e. all articles classified as  or  . This procedure would reveal fruitful lines of enquiry for research into the social constructionist of market segmentations.

It became clear from an examination of the content of these 16 articles that no coherent theory of the social construction of market segments has yet emerged. However, four themes were identified. First, the idea that consumer groupings are formed through interrelationships within peer groupings (Tepper, 1994). Second, the postmodern concept that individuals use the consumption process to create and recreate their own identity, such that the existence of segments or groupings of consumers depends on chance similarities in individual self-creations (Firat and Schulz, 1997). Third, the view that consumer segments may be no more than the artifacts of the statistical software designed to compute groupings (Dibb and Stern, 1995). Fourth, the notion that the process of construction is effected through the relationship between the consumer and the producer (e.g. Allenby and Ginter 1995; Knights, Sturdy and Morgan, 1994; Danneels, 1996). Table 3.1 shows the approach adopted by each piece of research. The table also highlights the paradigm funnel classification of each piece of research (i.e. level one - empirical;

level two - methodological; level three - theoretical; or level four - epistemological).

Table 3.1 Themes in Social Constructionist Segmentation Research

<table>
<tr><th>Construction of segments as interaction between peer groups</th><th>Construction of segments in process of individual identity-creation</th><th>Construction of segments as artifacts of statistical software</th><th>Construction of segments through interaction between firm and consumer</th></tr>
<tr><td>Tepper, 1994 (3)</td><td>Firat and Schulz, 1997 (4)</td><td>Dibb and Stern, 1995 (1)</td><td rowspan="2">• Danneels, 1996 (1)
• Hammond, Ehrenberg and Goodhardt, 1996 (1)
• Bucklin, Gupta and Han, 1995 (2)
• Bucklin, Gupta and Siddarth, 1998 (2)
• ter Hofstede, Steenkamp and Wedel, 1999 (2)
• Allenby and Ginter, 1995 (2)
• Novak and de Leeuw, 1992 (2)
• Trivedi, 1999 (2)
• Schlegelmilch, Bohlen, Diamantopolous, 1999 (3)
• Kara and Kaynak, 1997 (3)
• Cooper and Inoue, 1996 (3)
• Van Raaij, Verhallen, 1994 (3)
• Knights, Sturdy and Morgan , 1994 (4)</td></tr>
<tr><td colspan="3">
</td></tr>
</table>

Key: 1 = Empirical, 2= Methodological, 3 = Theoretical, 4 = Epistemological

3.2.1 Construction of Segments by Peer Group Interaction

One article within the segmentation literature presented evidence to support the view that segments are constructed through a process of interaction between peer groups (Tepper, 1994). In her research into the use of segmentation cues by the over 50s, Tepper (1994) suggested that segments were mediated by a private and social labelling process. Whilst the results of the study were both interesting and well argued, the research was limited in that it used a relatively small sample of consumers and it only dealt with the issue of social labelling in one specific age group, thus restricting generalisability. Consequently there would appear to be ample scope to further this line of research. However, a review of social constructionist literature in areas of marketing other than segmentation, revealed the existence of a substantial body of high quality research into the issue of the construction of peer groups, sub-cultures and neo-tribes. Examples include Cova's work on neo-tribes (1997); Holt's study of baseball spectators (1995) and his application of Bourdieu's theory of cultural capital to the US public (Holt, 1998); Thompson and Hayko's research into fashion discourses (1997); and Schouten and McAlexander's fascinating ethnography of bikers. It was therefore decided that this theme had already received a substantial amount of academic attention.

3.2.2 Construction of Segments in Postmodern Process of Self-Definition

One article proposed viewing the segmentation concept from a post modern perspective (Firat and Schulz, 1997). Within their article, Firat and Schulz (1997) draw on the definitions of postmodernism proposed by Firat and Venkatesh (1993), Brown, (1993), and van Raaij (1996) to describe a postmodern reality characterised by openness and tolerance, hyperreality, a perpetual presence, paradoxical juxtapositions, fragmentation, a loss of commitment, the decentring of the subject, a reversal of consumption and production, an emphasis on form or style and an acceptance of disorder and chaos. Definitions of these terms are shown table 3.2 below.

Table 3.2 Conditions of Postmodernity

Postmodern conditions	Brief description
Openness/tolerance	Acceptance of difference (different styles, ways of being and living) without prejudice or evaluations of superiority and inferiority
Hyperreality	Constitution of social reality through hype or simulation that is powerfully signified and represented
Perpetual Present	Cultural propensity to experience everything (including the past and future) in the present, "here and now"
Paradoxical juxtapositions	Cultural propensity to juxtapose anything with anything else, including oppositional, contradictory and essentially unrelated elements
Fragmentation	Omnipresence of disjointed and disconnected moments and experience in life and sense of self - and the growing acceptance of the dynamism which leads to fragmentation in markets
Loss of commitment	Growing cultural unwillingness to commit to any single idea, project or grand design
Decentring of the subject	Removal of the human being from the central importance she or he held in modern culture - and the increasing acceptance of the potentials of his/her objectification
Reversal of consumption and production	Cultural acknowledgment that value is created not in production (as posited by modern thought) but in consumption - and the subsequent growth of attention and importance given to consumption
Emphasis on form/style	Growing influence of form and style (as opposed to content) in determining meaning and life
Acceptance of disorder and chaos	Cultural acknowledgment that rather than order, crises and disequilibrium are the common states of existence - and the subsequent acceptance and appreciation of this condition.

(Source: Firat and Venkatesh, 1993; Brown, 1993; and van Raaij, 1996)

The proposition in the article is that if we are currently inhabiting a post modern world, segmentation is a futile concept because, given the above conditions, consumers can no longer be anchored to a single consistent stable way of behaving (Firat and Schulz, 1997). Any grouping of consumers will thus be the result of chance similarities in individual responses to fragmented consumption experiences. Given that this is the only postmodern segmentation article in the review, there seemed, on the face of it, to be scope for more research into this interesting way of looking at segmentation. However, the authors fall short of offering conclusive arguments for the existence of postmodernism. Whilst they feel the issue of segmentation in a postmodern world is worthy of consideration: "we submit that postmodernism, so influential in other disciplines, has the potential to reframe our thinking about social trends and business practices." (p.204), they are hesitant in their advocacy of such a world view: "if the arguments of postmodern scholars are correct…". It was felt that this thesis could not reliably be built upon such tentative foundations and it was therefore decided not to pursue the postmodern theme.

3.2.3 Construction of Segments by Statistical Software

Dibb and Stern's (1995) article showed that random data could generate segments, which were as robust and valid (as measured by accepted cluster and factor analysis procedures) as real data. This implied that the segments were not objective realities but may in fact have been are artifacts of the statistical procedures used to generate them.

Whilst Dibb and Stern's (1995) article offered a novel and challenging perspective to the segmentation debate, is was felt that given the 44 year history of the segmentation debate, not to mention ongoing statistical advances, it was unlikely that all segmentation was simply a function of the algorithms employed and that to pursue this line of enquiry would be somewhat limiting. It was, therefore, decided not to pursue this perspective on the construction of market segments either.

3.2.4 Construction of Segments by Firm-Consumer Interaction

Returning to table 3.1, it can be seen that by far the greatest area of interest amongst segmentation researchers is the notion of the construction of segments through interaction between consumer and firm. Thirteen of the sixteen pieces of research addressed this issue (Danneels, 1996; Allenby and Ginter, 1995; Bucklin, Gupta and Han, 1995; Bucklin, Gupta and Siddarth, 1998; ter Hofstede, Steenkamp and Wedel, 1999; Novak and de Leeuw, 1992; Trivedi, 1999; Schlegelmilch, Bohlen, Diamantopolous, 1999; Kara and Kaynak, 1997; Cooper and Inoue, 1996; Van Raaij, Verhallen, 1994; Hammond, Ehrenberg and Goodhardt, 1996; Knights, Sturdy and Morgan, 1994).

It was observed that within this relatively broad field of firm-consumer relations, one major issue dominated the studies: response variables. Of these thirteen studies on firm-consumer relations, eleven addressed, in some way, the issue of understanding or measuring response variables i.e. variables which capture consumer reaction to a product offering such as brand preference, repeat purchase or profitability (Krieger and Green, 1996). Interest from across modes of inquiry (empirical, theoretical and methodological) was attracted by the study of response variables. Danneels (1996) was alone in offering an empirical analysis of response variables. However, four studies suggested theoretical underpinnings for response variables (Schlegelmilch, Bohlen and Diamantopolous, 1999; Cooper and Inoue, 1996; and van Raaij and Verhallen, 1994); and six articles proposed a variety of statistical techniques for modelling response variables (Allenby and Ginter, 1995; ter Hofstede, Steenkamp and Wedel, 1999; Novak and de Leeuw, 1992; Trivedi, 1999s van Raaij and Verhallen, 1994; Bucklin, Gupta and Siddarth, 1998; and Bucklin, Gupta and Han, 1995). The key findings of this response variable research are considered in section 3.3 below. The findings are grouped around method of enquiry so that empirical research is presented first, followed by theoretical research and finally methodological research.

Clearly the material discussed in Section 3.3 has already been alluded to in Chapter 2. However, returning to the same material is justified in terms of the differing objectives of the two chapters. The purpose of chapter 2 was to come to a conclusion as to the paradigm within which researchers are working. The focus of attention was therefore on the assumptions underlying the research. The purpose of Section 3.3, on the other hand, is to identify a gap in the social constructionist segmentation literature which can usefully be filled by this thesis. The focus this time is therefore on finding a way of taking forward the issue of the social construction of segments.

3.3 Research into Response Variables

3.3.1 Empirical Research into Response Variables

Danneels (1996) reviewed the practice of segmentation amongst Belgian clothes retailers. He specifically set out to investigate whether the prescriptive text book concept of a tri-partite progression of strategies: first segmentation, second, targeting, and third positioning (e.g. Cook and Walters, 1991; Ghosh, 1990; Levy and Weitz, 1992) was observed in practice. He collected his data via in-depth interviews with 22 retailers. His major finding was that none of the companies in the study went through the standard three-step text book process. In most cases, the retailers started with a product; ascertained who it attracted; and only then investigated the nature and needs of this segment. Danneels' (1996) own conclusion was that in the Belgian Clothes Retailing Market, consumers segment the retailers rather than the other way round; that target markets emerge from the interaction of product offering and consumer interpretation; in fact, that segments are not pre-existent.

This empirical research offers descriptive evidence that segmentation is a phenomenon, which occurs, in at least one specific setting, in response to product offerings, not in isolation from it. It posits, albeit in a somewhat tentative and general manner, the view that response variables may be the most valuable entities of study in understanding the true nature of segmentation as a process of construction.

3.3.2 Theoretical Research into Response Variables

The next four articles under consideration moved beyond this general approach (of suggestion backed up by simple description), to a more sophisticated attempt to build theory which might explain empirical observations of the sort made by Danneels (1996). Although the content of each of the four articles was quite different, it was clear that Schlegelmilch, Bohlen, and Diamantopolous (1999), van Raaij and Verhallen (1994), Cooper and Inoue (1996) and Kara and Kaynak

(1997) all shared a common interest in the formulation of theory to explain and identify measurable response variables. The fundamental question posed, in different ways, by each of these 4 studies was articulated by Van Raaij and Verhallen (1994): "How are market segments related to differentiated products and services?" (p. 49). It was found that there was no consensual answer. Van Raaij and Verhallen (1994) claimed that response variables could only provide explanatory power on a "domain specific", or product-class-specific basis. Cooper and Inoue (1996), suggested that the explanatory power of response variables was more limited to a brand-specific basis. Schlegelmilch, Bohlen and Diamantopolous (1996) (who look specifically at pro-environmental purchase behaviour) suggested an even narrower scope for the utility of segmentation by response variable, namely attitudes to green issues. Finally Kara and Kaynak (1997) argued for a concept which they call "finer segmentation. Rather than suggest the level on which response variable data can be most usefully collected, they addressed the question of the type of response, which could be most usefully used by marketing managers to segment their customer base. They proposed the view that profitability was the key response variable of interest. They went on to suggest that data collection on an individual basis rather than in aggregate would represent the optimum method of identification of groups of profitable customers.

This small body of research, which offers theoretical suggestions for the utilisation of response variables in segmentation, does not represent a cohesive set of ideas but instead presents a disparate set of exploratory suggestions for how the firm-consumer relationship in the segmentation process can be conceptualised. Given the paucity of empirical research into the phenomenon of response variables, this is perhaps unsurprising. Yet, it does seem from these studies that consumer response is not a stable phenomenon. Rather, it varies on a product-by-product basis, a brand-by-brand basis, or even varies with every single purchase.

3.3.3 Methodological Research into Response Variables

Six articles (Allenby and Ginter, 1995; ter Hofstede, Steenkamp and Wedel, 1999; Novak and de Leeuw, 1992; Trivedi, 1999; van Raaij and Verhallen, 1994; Bucklin, Gupta and Siddarth, 1998; and Bucklin, Gupta and Han, 1995) reported the findings of attempts to model response variables. Each and every one of these studies addressed a single problem: one which had been articulated by Krieger and Green (1996). When segments are obtained through the common procedure of cluster analysis "there are still problems associated with relating the segments to response variables of interest (Krieger and Green, 1996 p. 351). The superior power of response variables over descriptive variables such as demographics had been widely argued in segmentation literature for several decades (Haley, 1968; Wind, 1978; Vriens, Wedel and Wilms, 1996) and yet current methodologies seemed unable to link response to identifiable grouping of consumers.

Allenby and Ginter (1995) articulated the most radical re-appraisal of the practice of modelling consumer data for the purpose of segmentation.

"Our approach assumes implicitly that segments are created because firms allocate resources differentially (i.e. as decision of the firm), not necessarily because respondents are homogeneous (i.e. a property of the consumer). This has important implications for research and practice. Our model suggests that segmentation and targeting should be examined as a process that is (at least partially) driven by firm-level variables". (p.403)

As noted during the discussion of this particular article in chapter two, this view presents a radical challenge to the core assumptions of contemporary segmentation. The suggestion is that segmentation results from the activities of firms rather than from the innate characteristics of consumers. This represents one of the first attempts to revise modelling procedures to take response variables into account.

Of prime interest to Allenby and Ginter's (1995) study was identifying profitable segments. Three years earlier, Novak and de Leeuw (1992) had made a similar attempt to produce a model, which would identify profitable customers. They proposed the concept of "richness curves" for this purpose.

Profitability was not, however, the sole response variable of interest to this body of researchers. Ter Hofstede, Steenkamp and Wedel (1999) attempted to model consumer response to a firm's product development and communications strategies, whilst Trivedi (1999) presented a method of modelling variety-seeking buying behaviour based on response to a firm's promotions using stochastic elements to allow for the fact that the same level of variety may not be sought by customers on each purchase occasion.

Trivedi's (1999) assumption that a constant level of variety may not be sought by customers (i.e consumer response may not be stable across purchase occasions) is an issue pursued by Bucklin, Gupta and colleagues (Bucklin, Gupta and Han, 1995; Bucklin, Gupta and Siddarth, 1998). The conclusion to the 1995 study was that individual response varied not just on a purchase by purchase basis (as Trivedi (1999) also found) but also on a brand-by brand basis. This brand-specific finding echoes the theoretical conclusions drawn by Cooper and Inoue (1996). The more recent 1998 study (Bucklin, Gupta and Siddarth, 1998) reported the derivation of response segments from scanner panel data on yoghurt purchase. The conclusion was that these response-groupings of consumers were not stable, objective entities either. "An important implication of our results is that differences in response for one purchase behaviour are not necessarily predictive of difference in response for other behaviours or for overall sales elasticities" (Bucklin, Gupta and Siddarth, 1998, p.197)

3.3.4 Response Variable Research – A Conclusion

The conclusion to be drawn from this disparate body of empirical, theoretical and methodological research is that Krieger and Green's observation of 1996 still remains true in 2000, "there are still problems associated with relating the segments to response variables of interest" (Krieger and Green, 1996, p. 351). Only one rather superficial piece of empirical research has been offered; the four pieces of theoretical research into segmentation by response variables are inconclusive; and the six pieces of high quality methodological research all lead to the same general conclusion that response variables are not stable and therefore extremely hard to model using current methods.

The key to future research into the construction of market segments seems to lie in the juxtaposition of two important observations from the segmentation literature. The first is the general acknowledgement of the superior power of response variables over descriptive variables such as demographics, as witnessed by the very fact that 11 out of 16 articles are devoted to studying response variables and by the fact that the power of response variables has been supported by seminal research over three decades (Haley, 1968; Wind, 1978; Vriens, Wedel and Wilms, 1996). The second key observation is the frustration of researchers who are beginning to acknowledge that consumer responses are not stable enough to permit reliable theoretical constructs or predictive models (Schlegelmilch, Bohlen, and Diamantopolous, 1999; van Raaij and Verhallen, 1994; Cooper and Inoue, 1996; Kara and Kaynak, 1997; Bucklin, Gupta and Han, 1995; Krieger and Green, 1996; Bucklin, Gupta and Siddarth, 1998; Trivedi, 1999).

It is suggested that this frustration is caused by an expectation by researchers that response variables *should* be stable when, in fact, there is mounting evidence to show that they are not. This discrepancy between reality and expectation is problematic. This begs the question as to the origins of the expectation that response variables should be stable. It is suggested that this mind-set which induces researchers to expect consumption responses to be stable is the direct consequence of a deep-seated and centuries-old link (Kassarjian and Sheffet, 1981) made between consumer response and the phenomenon of "personality." The evolution of this link is discussed in Section 3.4 below.

3.4 Personality and Response Variables

Kassarjian and Sheffet (1971, 1975, 1981) have produced and twice updated a comprehensive review of the literature on personality and consumer behaviour. By 1981 they had identified 200 studies relating personality variables to consumer behaviour. They point out that for researchers in psychology and marketing alike the concept of personality has generally been tied to the concept of consistent responses to the world of stimuli surrounding the individual (Advertising Research Foundation, 1964). Thus they state that:

"people tend to be consistent in coping with their environment. This consistency of response allows us to type politicians as charismatic or obnoxious, students as aggressive or submissive, and colleagues as charming or 'blah' (sic.). Since individuals do react fairly consistently in a variety of environmental situations, these generalised patterns of response or modes of coping with the world can be called personality" (1981, p.160)

They note that the relationship between personality ("the inferred hypothetical constructs relating to certain persistent qualities in human behaviour" (p.161)) and behaviour has been researched for centuries and they cite studies by the Ancient

Chinese and Egyptians; by Hippocrates and various European philosophers as evidence of this research lineage. Given this long historical link, it is easy to understand why the study of response variables is implicitly and inextricably bound up with the study of personality, which, in turn, is considered historically to be a stable phenomenon.

The specific application of personality theory to segmentation research began after World War Two (Wells, 1975). It was felt by marketing managers at the time, that segmentation variables such as demographics provided only a nodding acquaintance with consumers whilst customer-understanding on a much deeper level was required (Wells, 1975). Until the 1960s, the application of personality theory to segmentation took two directions. First were the studies by researchers like Koponen (1960) and Evans (1959), which attempted to correlate consumer behaviour with scores obtained from standardized personality inventories such as the Edwards Personal Preference Schedule (Edwards, 1957) and the Thurstone Temperament Schedule (Thurstone, 1927). The second strand of research followed the Freudian-influenced motivation research of Ernst Dichter (1964) where the concepts and methods of clinical psychology were applied to aspects of marketing. During the 1960s a blend of these two traditions began to take shape. Variously called "lifestyle" (Plummer, 1971; Plummer, 1972), "psychographic" (Demby, 1971; Nelson, 1969; Nelson, 1971; Pernica, 1974) "activity and attitude" (Hustad and Pessemier, 1971, 1974) or "value" (Kamakura and Novak, 1992; Kamakura and Mazzon, 1991) research, this blend combined the objectivity of the

the quantitative personality inventory with the descriptive detail of the qualitative motivation research investigations.

The assumption underlying all of this research is that "personality" (whether described in terms of "lifestyle", "psychographics", "attitude and activities" or "values") is a stable and enduring phenomenon (Kassarjian and Sheffet, 1981). Thus, for example, Kamakura and Novak claim that "values ... are remarkably stable over time" and cite three studies to support their claim (Inglehart, 1985; Rokeach, 1974; Rokeach and Ball-Rokeach, 1989).

However, a close look at the vast quantity of personality research reveals that despite this expectation of stability, the reality is actually quite different. An overview of studies in this area, in fact demonstrates a distinct lack of stability in the relationship between personality and consumer behaviour. Kassarjian and Sheffet (1981) conclude in the second review of their assessment of personality research that "a review of these dozens of studies and papers can be summarized in a single word – equivocal" (p. 168) On average, they found that personality variables only accounted for between 5% and 10% of the variance in purchase behaviour (Kassarjian and Sheffet, 1971). The authors venture three reasons for this rather lacklustre performance of personality measures in providing stable predictions of purchase behaviour. First, they claim that researchers are too ready to adapt original measuring instruments to suit the outcomes that they are trying to achieve. "Such changes may or may not, be proper; but although they may not necessarily violate scientific canons they certainly do not help reduce the confusion in attempting to sort out what little we know about the relationship of personality to consumer behaviour" (Kassarjian and Sheffet, 1981, p. 169). The second reason given for discrepancies in the personality literature is that instruments originally intended to measure gross personality characteristics such sociability, emotional stability, introversion or neuroticism had been used to make predictions of the chosen brand of toothpaste or cigarettes. The authors question whether this is a valid procedure. The third reason they give is that much personality research had been conducted with no specific hypotheses or theoretical justification. Jacoby (1971) supports this view pointing out that "Careful examination reveals that, in most cases, no a priori thought is directed to how, or especially why, personality should or should not be related to that aspect of consumer behaviour being studied" (p. 244).

Thus personality research supports the evidence from segmentation research that response variables and concomitantly, the concept of personality, are expected (often without conceptual justification) by researchers to be stable, but in fact are not. This conclusion has important ramifications for the future of segmentation research and an explanation for this lack of stability needs to be found.

One interpretation of this lack of stability of consumer response could be that it is a consequence of a postmodern reality (Firat and Schulz, 1997) where individual consumers use the consumption process in an attempt to continuously recreate their own identities. Thus, postmodernism could be seen to mark the end of a long era where personality is assumed to be fixed. To accept this interpretation would demand a complete revision not just of the philosophy of segmentation but of the philosophy of marketing. And, indeed, attempts to reinterpret marketing from a postmodern perspective have already been undertaken, most notably in two books by Brown (1995, 1998) and by a range of other authors e.g. Ogilvy (1990), Venkatesh(1992), Thomson (1993). However, as already noted, it had already been decided not to pursue issues of postmodernity in this thesis.

An alternative, as yet unexplored, interpretation of this observed lack of stability in response variables could be that the firm itself is playing a role in the creation of personality. This interpretation would also require a fundamental revision of current assumptions regarding the relationship between the firm and the consumer. The ramifications of this interpretation are explored in Section 3.5 below.

3.5 A New Perspective on Segmentation

What if the firm can actually influence consumer personality? This postulate is new to the segmentation literature. Yet, a situation where firms were competing to construct differing consumer personality profiles to suit the differing products they have on offer would account well for a lack of stability amongst consumer response variables. In fact if firms could construct segments, then one would expect consumer response or personality segments to vary in direct proportion to the firm's product differentiation and communications activity.

Returning to the remaining two articles from the social constructionist segmentation literature introduced at the beginning of this chapter, it is observed that this idea is supported by Hammond, Ehrenberg and Goodhardt (1996)'s study of brand segmentation. The conclusion drawn was that there was little evidence of market segmentation between competitive brands.

The implication of the findings was that whilst there may indeed be identifiable groupings of individuals, if one wished to group individuals in terms of their consumption needs, then this process of grouping could only be effected with reference to the process of consumption itself. It is worth repeating their quote from a former UK marketing manager of Mercedes Benz: "The only way I can identify the Mercedes Benz segment is by whether people have a Mercedes." (quoted in Hammond, Ehrenberg and Goodhardt, 1996, p.47). This implies that the firm has created a Mercedes-Owning segment synonymous with a Mercedes-Owning personality type or Mercedes-Owning response variable which can only be understood or modelled by understanding the process by which the firm has constructed this segment of people.

The view that the firm plays a role in creating segments is further supported by a quite different piece of research and the final one from the 16 social constructionist articles. Knights, Sturdy and Morgan (1994) examine segmentation activity in the financial services industry. Their article is premised upon the view that the whole underlying notion that consumers of financial services products have identifiable needs prior to consumption is problematic. It is their belief that "'consumer need' is a category for ordering and making sense of behaviours which are the outcome of producer/consumer relationships (e.g. the sale) rather than the property of individuals, as is conventionally assumed" (Knights, Sturdy and Morgan, 1994, p.48).

A salient characteristic of the financial services sector is highlighted to support this view: inertia. It is observed that for most consumers faced with a plethora of similar financial services products the most common response is one of inertia, defined in this instance as a lack of interest in the product. According to Knights et al. (1994) a consequence of this inertia is that "need" is rarely formulated before a consumption situation, with the result that needs can be said to be "socially constructed within effective sales encounters" (p.48). Thus, far from customers having preconceived views on a range of product attributes and the role of marketing being to find groups (as defined by their shared needs) large enough to be profitable – these needs are actually formed during the sales encounter.

For the authors, the notion of customer "need" is problematic. They espouse the view shared by Brown (1997) and Firat and Schulz (1997) that marketing has been dominated by positivism or, in their words "a reduction of its (marketing's) field (i.e.human behaviour) to a set of measurable variables" and as a consequence of this they believe that " 'need', like all marketing concepts, falls into this paradigm and is operationalised so as to remove the sense of ambiguity, uncertainty or precariousness in its meaning." (Knights, Sturdy and Morgan, 1994, p. 47). They maintain that "need" is not an objective phenomenon with an autonomous existence but, in part, a construction of advertising, marketing and selling. They conclude their discussion of the nature of need with the observation that

"Marketing claims to be satisfying a range of consumer "needs" which it plays a large, but not exclusive part in creating". (p.48)

Both the empirical study by Hammond, Ehrenberg and Goodhardt (1996) and the epistemological arguments by Knights, Study and Morgan (1994) lend support to the postulate that personality or response segments may be subject to alteration by the marketing activities of the firm.

The next section goes on to discuss the mechanisms by which a firm could alter facets of consumer personality.

3.6 Persuasion

Knights, Sturdy and Morgan's (1994) observations on financial services marketing crystallise the dichotomy which has been observed (implicitly or explicitly) throughout the segmentation literature. In theory, marketers claim to uncover and serve the pre-existent latent needs of groups of customers with similar personalities, but in reality segments are created when individuals are persuaded by similar sales encounters to form similar needs or attitudes or opinions towards the products already developed by the company. This dichotomous observation echoes the differences between a product differentiation strategy (where the firm creates segments through persuasion) and a market segmentation strategy (where the firm observes latent needs) first proposed by Smith (1956). In the discussion of Smith's ideas in chapter one the contrast between these two strategies was defined in terms of differences in three inter-related assumptions, which in turn implied differing roles for marketing activity and for the source of competitive advantage. These contrasts were summarised in table 1.1 and are presented again in table 3.3 below for ease of reference.

Table 3.3:

Product Differentiation and Marketing Segmentation Strategies Contrasted

	Product Differentiation	Market Segmentation
Assumptions	• consumption choice controlled by producer • producers create or strongly influence differentiated consumer needs. • producers can persuade consumers of differentiated needs	• consumption choice strongly influenced by consumer • differentiation consumer needs pre-exist the consumption process. • producer can observe and measure differentiated needs
Role of Marketing	• to persuade consumers of their differentiated needs	• to understand, observe and measure consumer needs
Source of Competitive Advantage	• understanding the persuasion process better than the competition	• understanding the process of researching, observing and measuring differentiated consumer behaviour better than the competition

The major difference between the two strategies is the central role of persuasion in product differentiation and its complete absence in segmentation. Thus, if this thesis is to explore the possibility that firms, at least in part, create change in personality segments then the use of persuasion in this endeavour must be considered. A consideration of persuasion leads us automatically to a consideration of the role of *marketing communications* in the construction of segments. For, as the eminent marketing communications professor Terence Shimp (2000, pg. 165) notes "*persuasion* is the essence of marketing communications". The role of persuasion in marketing communications has been hotly debated since Vance Packard's (1957) book "The Hidden Persuaders" aimed to alert the world to the insidious nature of marketing communications. Whether it acts for good or evil, there is general acceptance that marketing communications can persuade (e.g. Kelley, 1990; Wright, 1985; Friested and Wright, 1994; Perloff and Brock, 1980).

However, marketing communications is a broad field and persuasion may be more or less important within different marketing communications activities e.g. personal selling, mass advertising, sales promotion, direct marketing, data base marketing, sponsorship, public relations, point of purchase and web-site design (Shimp, 2000). With the increasing emphasis on Integrated Marketing Communications (Schultz, Tannenbaum and Lauterborn, 1993; Schultz and Kitchen, 1997) these activities now often have shared goals and objectives within a firm's communication strategy. However, the form of communications most consistently linked with the notion of persuasion is advertising (O'Keefe, 1990; Adams and Blair, 1992). In the USA consumers are exposed to no less than 1000 commercial messages per day (Kotler, 1997). Regardless of their content and the techniques they employ, most messages share a common final goal ...to "attempt to guide other people toward the acceptance of some belief, attitude, or behaviour by using reasoning and emotional appeals" (Shimp, 2000, p.65). Thus, advertising would appear to be the mechanism used by firms to persuade consumers to alter their beliefs, attitudes and responses. Advertising would appear to be the most potent mechanism by which a firm could create change in personality segments.

An intriguing research avenue is thus presented. Can firms use advertising to create personality segments? If this is the case: it may offer an explanation for why response segments are not stable.

In order to illustrate the practical ramifications of this proposition, Section 3.7 gives an example of a recent advertising campaign where a brand is promoted through a linkage with a specific personality type and offers two alternative interpretations of the effect of this campaign.

3.7 One Advertising Campaign: Two Interpretations

As explained in the previous section, an unexplored avenue of segmentation research is presented by the proposition that advertising actually creates, rather than targets, consumer segments. Let us consider the current (summer, 2000) Guinness advertising campaign "Good things come to those who wait". This campaign links the combined personality types of the *laid back* and *bon viveuer* with the pint of Guinness. The multi-million pound execution of the award-winning[2] "Surfers" TV advertising campaign (see Appendix 3.1) creates an association between the laid back, bon viveur psychographic typology of the surfer who will wait many hours for just one wave and the Guinness drinker who is prepared to wait 30 seconds for a pint of Guinness to be poured. Tacit approval is granted to the surfer's values. Of course, the manipulation of a link between

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[2] Voted the "Best Advert of All Time" by viewers and readers in a competition held by The Sunday Times and Channel 4, May 2000

psychographics and products is the lynchpin of branding and the concept of "brand personality" (Meenaghan, 1995; Aaker, D.A., 1996; Aaker, J.A., 1997). However, this symbolic link between brand and consumer personality can be interpreted in two ways. Within the positivist paradigm, personality types pre-exist the act of consumption and thus the activity of the firm in advertising is simply to "target" or appeal to a group of people who happen to have a common personality type. Under a constructionist paradigm, on the other hand, the act of linking a personality profile with an already popular brand can be said to imply social approval for particular modes of individual thought, and behaviour. Thus the "Surfers" campaign, rather than simply creating an association between Guinness and people who are prepared to wait for good things, would be said to create, actively, an impetus for people to alter their perceptions and attitudes – the advert would not be seen to *appeal to* "surfer" mentality – but to *construct, disseminate, encourage* and *popularise* it.

The difference between these two views of segmentation is shown visually in figures 3.2 and 3.3 below.

Figure 3.2 Positivist Interpretation of Segmentation in Advertising

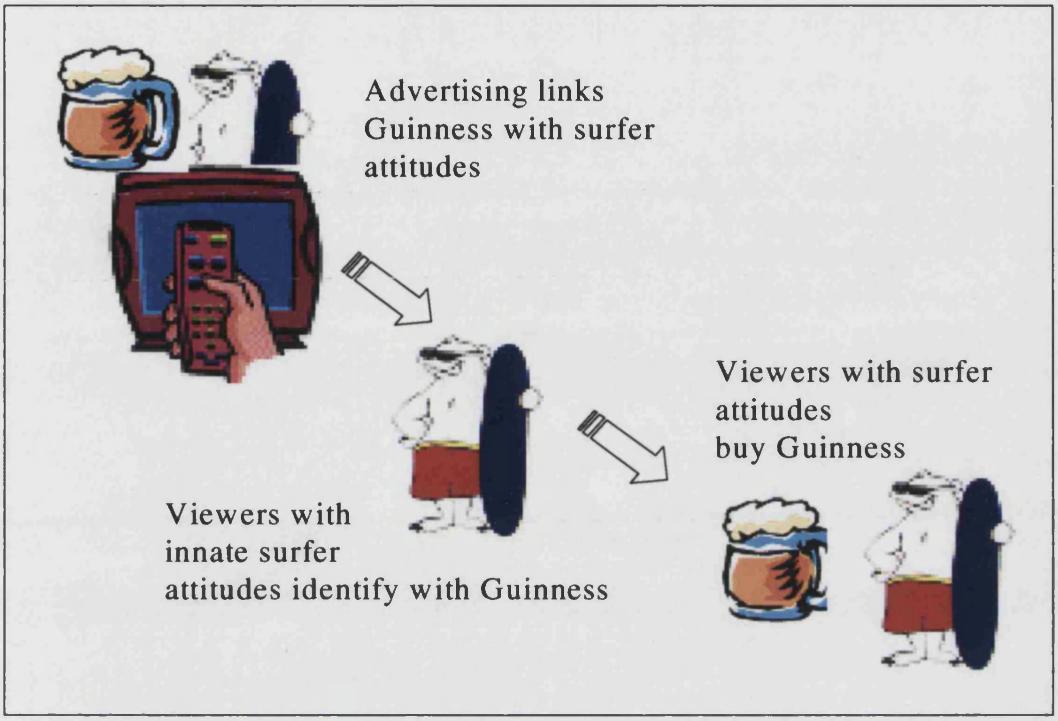


Figure 3.3 Social Constructionist Interpretation of Segmentation in Advertising

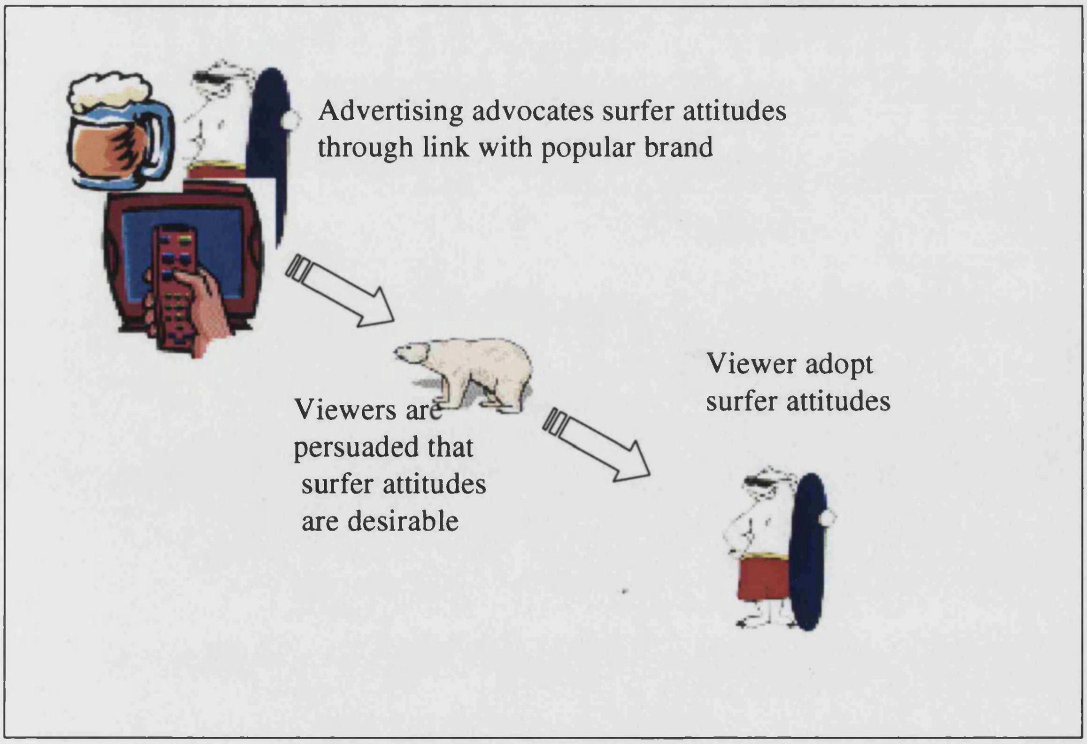


Figure 3.2 shows the positivist view of the effect of advertising on personality segmentation. A creative advertisement, through the medium of television, links a brand (Guinness) with a set of pre-existing attitudes (surfer attitudes). Those individuals who possess innate surfer attitudes identify with the product and this leads to their purchase of the brand. Personality segments pre-exist consumption and are used for targeting purposes.

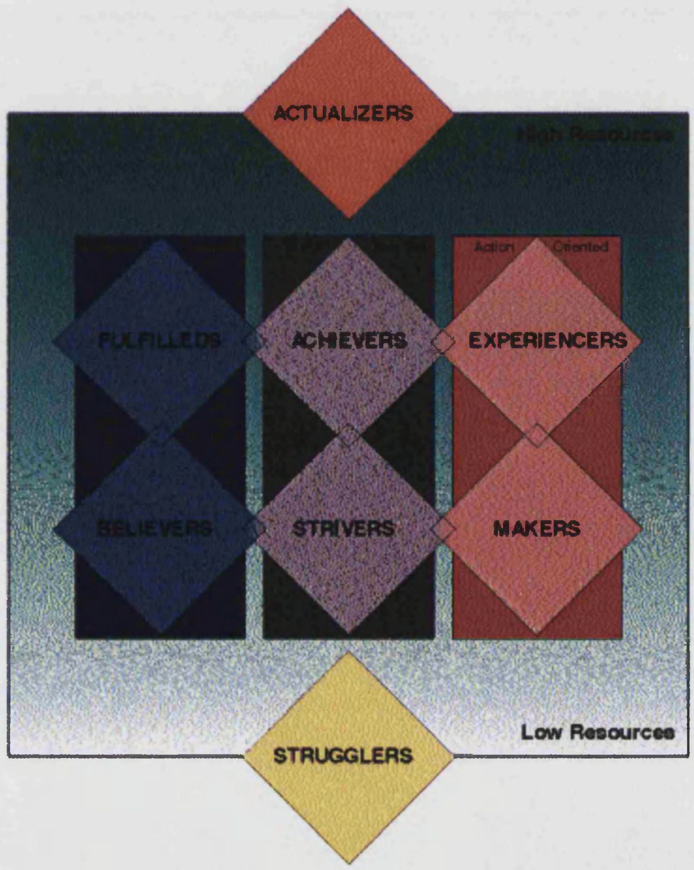
Figure 3.3, on the other hand, shows the social constructionist interpretation of the effect of advertising on personality segmentation. An appealing advertisement for an already popular brand, advocates and encourages surfer attitudes. Viewers (any viewers – not those of a specific personality type) learn to relate to and adopt these attitudes. Personality segments are created or influenced through the persuasion process inherent in advertising.

This alternative explanation of the relationship between advertising and segments offers a new social constructionist perspective on segmentation.

From this alternative viewpoint, two research propositions are suggested: one strong and one weak. The strong proposition would be that advertising has the power to create, from scratch, groups of people with shared personality traits. The weak proposition, on the other hand, would be that advertising cannot necessarily be responsible for the creation of personality groupings, but that an individual's personality classification can change as a result of exposure to advertising. The distinction between the two propositions can be exemplified by considering the

VALS2 psychographic segmentation system, which was developed by the Stanford Research Institute in the USA. The claim made by the progenitors of the system is that the US population can be divided into 8 different personality types. Individuals are classified as a result of their responses to a custom-built questionnaire (see Appendix 3.2). The 8 segments are shown below in figure 3.4 below.

Figure 3.4 VALS2 Personality Segments



The assumption is that these segments exist a priori and that every individual in the USA can be classified (via the proprietary questionnaire) as a "struggler"; a "maker"; a "striver"; a "believer"; an "experiencer"; an "achiever"; a "fulfilled"; or an "actualiser".

From the social constructionist perspective proposed in this thesis, the interpretation is different: these segments are constructed, in part, by advertising messages. According to the strong proposition, the power of advertising is such that it has played a part in the creation of identifiable groupings of people known as "makers", "strivers" etc. who are distinguishable from others by their shared values and attitudes. According to the weak proposition, advertising does not create the classifications themselves, but has the power to alter attitudes and values such that, for example, an individual may be classified as a "striver" before exposure to a particular value-imbued advert and classified as an "actualiser" after exposure.

This perspective offers a new interpretation of phenomena such as "The Yuppie" or "Generation X". Was advertising, at least in part, responsible for creating the Yuppie phenomenon (strong proposition) or did advertising play a part in turning certain individuals into Yuppies (weak proposition)?

As neither the strong nor the weak proposition has yet been investigated in the segmentation literature, this investigation could have concentrated on either. (Given that the operationalisation of the two propositions would be quite different, the idea of exploring both within one thesis was rejected). It was decided to focus research on the weak proposition for the following reasons. If the weak proposition could not be substantiated, then it is extremely unlikely that the stronger proposition could be substantiated. If however, the strong proposition could not be supported through research, one could not be sure whether or not the weak proposition could have been supported. If it could be demonstrated that advertising can alter an individual's personality classification (weak proposition) this would be an important finding in its own right and would also provide good grounds for recommending future research to test the strong proposition. The research proposition for this thesis was thus defined as follows:

Advertising can create changes in personality segments

Chapter 4 goes on to describe the research methodology, which was used to operationalise this research proposition.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4 Research Design and Methodology

4.1 Introduction

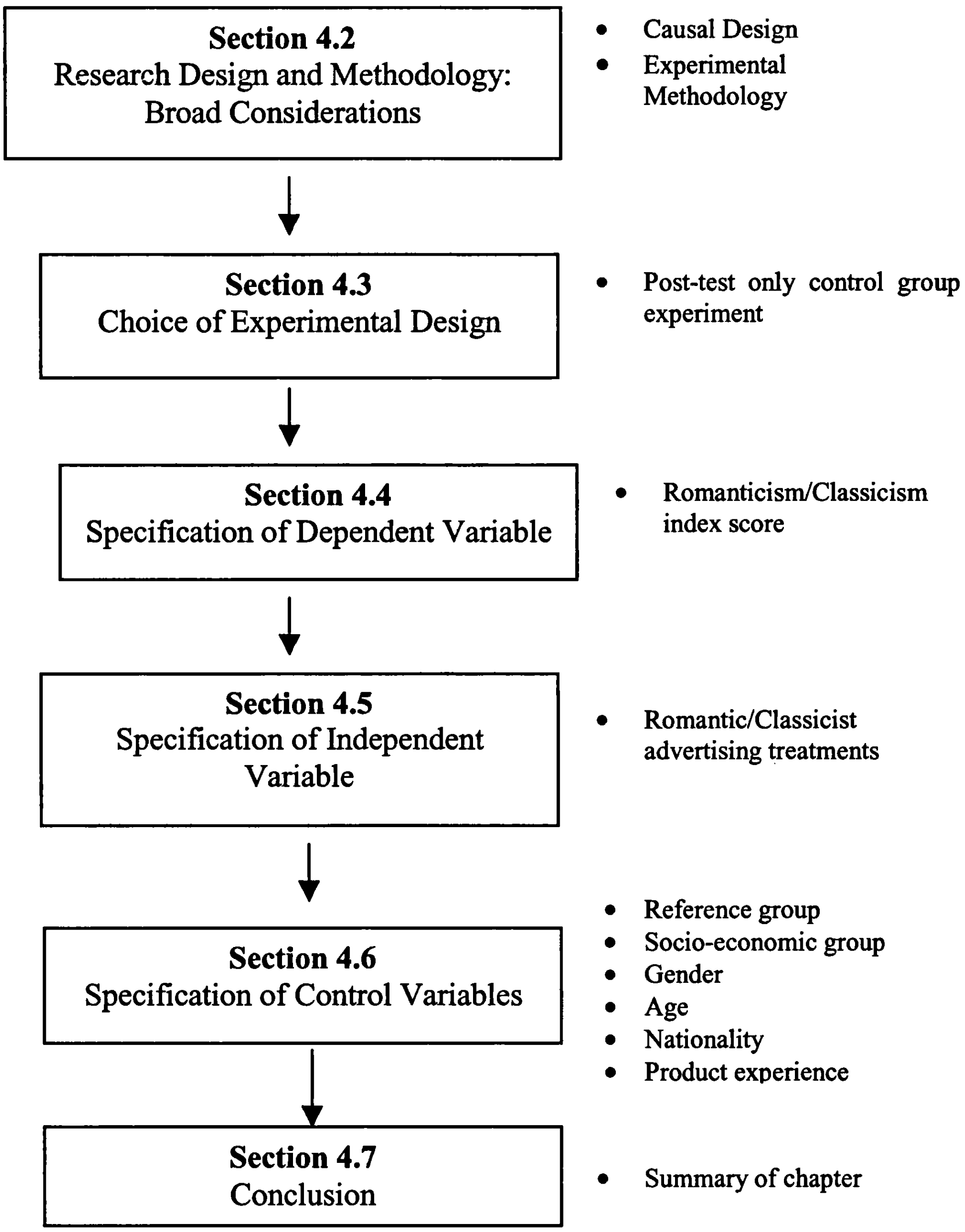
Chapter 3 explained the derivation of a new research proposition from an analysis of the past decade of segmentation literature. It was proposed that

advertising can create changes in personality segments.

Chapter 4 describes the operationalisation of this new proposition. The structure of the chapter is presented in figure 4.1 below.

Figure 4.1

Structure of Chapter 4
Research Design and Methodology

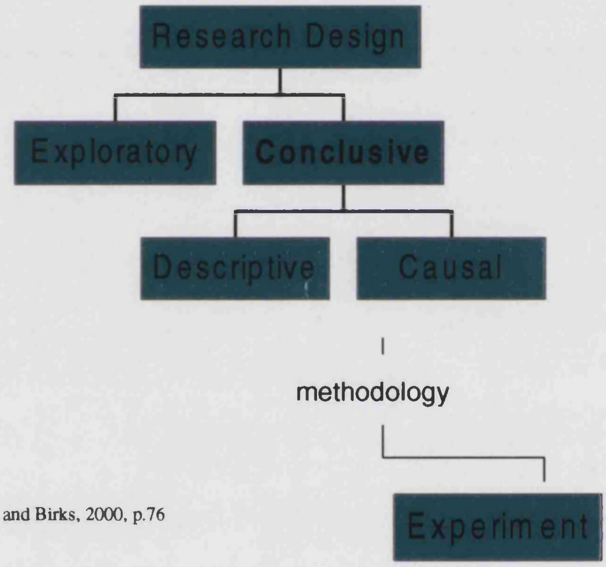


Section 4.2 considers research design at its broadest level and presents a discussion of the relative merits of an exploratory versus a conclusive research design. The Section goes on to opine that a causal conclusive research design using an experimental methodology is the most appropriate means of operationalising the research objective. **Section 4.3** discusses in detail the type of experiment most suitable to test the new research proposition and concludes that a post-test only control group experiment is the most advantageous of available designs. The experiment is explained diagrammatically using Campbell and Stanley's (1963) notation system and issues of control are addressed. **Section 4.4** goes on to justify the use of Holbrook and Corfman's (1984) Romantic/Classicist (R/C) Index Score as the dependent variable. **Section 4.5** explains the development and testing of romantic and classicist treatments to be applied as the main independent variable in the experiment. **Section 4.6** examines the theoretical case for inclusion of additional independent control variables in the experiment and concludes that there is a case for controlling for the effects on R/C Score of: reference group, socio-economic group, gender, age, nationality and product experience. Finally, **Section 4.7** presents a summary of the chapter.

4.2 Research Design and Methodology: Broad Considerations

The first step in the oprationalisation of the research proposition that a firm's advertising can create change in personality segments was to decide on an approporiate research design. This decision process was guided by the research design classification model shown in figure 4.2 below (Malhotra and Birks, 2000).

Figure 4.2: Research Design and Methodology



Adapted from Malhotra and Birks, 2000, p.76

At the broadest level, research designs can be classified as exploratory or conclusive (Malhotra and Birks, 2000). The choice is dependent upon research objectives. The objective of exploratory research is to gain general insights into and understanding of a phenomenon, whereas that of conclusive research is to test specific hypotheses by measurement (Kinnear and Taylor, 1996). A number of the social constructionist articles in the literature review used exploratory research in order to pursue objectives that revolved around the *understanding* of personality and response segmentation phenomena. For example Tepper's (1995) study of the role of social labelling in the interpretation of segmentation cues by the over 50s sought not to measure this phenomenon, but to observe it and to use psychological theories to help *understand* it. By the same token, Danneels' (1996) unstructured exploratory face-to-face interviews with Belgian retailers were designed to *gain general insights* into practitioner experience of segmentation. The proposition under consideration in this thesis, on the other hand, is not focused on understanding but on *testing* (as conclusively as possible) whether a firm's advertising can create changes in personality segments. This objective, which revolves around measuring a relationship and reaching a firm conclusion, quite clearly requires some form of conclusive research design. An early decision was therefore made to adopt a conclusive research design.

Conclusive research itself, can take the form of either descriptive or causal research (figure 4.2). Descriptive research makes observations and draws conclusions from those observations, whilst in causal research the researcher actively manipulates variables (Edwards, 1968; Hicks, 1982; Lewis-Beck, 1993). Essentially, causal research is used to obtain evidence of cause-and-effect relationships (Malhotra and Birks, 2000). All of the conclusive research conducted in the literature review of segmentation research in the 1990s used descriptive methods. For example, Hammond, Ehrenberg and Goodhardt, (1996) observed patterns in the panel data and drew conclusions from their observations. They did not attempt to attribute causality. Likewise, Schlegelmilch, Bohlen and

Diamantopolous (1996) observed the correlations between attitude and green purchasing habits and drew descriptive conclusions from the observations.

The aim of the research in this thesis, however, is specifically to determine whether certain types of advertising "cause" changes in segments.

Assumptions about causal relationships can, of course, be inferred from well structured observation and description. For example, one could infer from Schlegelmilch, Bohlen and Diamantopolous's (1996) observational research that green attitudes *cause* individuals to purchase recyclable packaging. Likewise, a research design for this thesis could be imagined wherein the researcher observed variations in the exposure to television advertising of a sample of people and also assessed personality type with a view to making inferences about the relationship between advertising and personality segments. Such an approach has been taken in a number of studies which have claimed to show an effect of television viewing on viewers' attitudes, beliefs, values and perceptions. For example, heavy television viewing has been linked to greater perception of the prevalence of violence (Gerbner, Morgan and Signorielli, 1980; Shrum 1996; Shrum and O'Guinn 1993); greater perceived danger (Gerbner, Morgan and Signorielli, 1980; Shrum 1996); greater anxiety and fearfulness (Bryant, Carveth and Brown, 1981); greater faith in doctors (Volgy and Schwartz, 1980); greater interpersonal mistrust (Gerbner, Morgan and Signorielli, 1980); a heightened perception of the prevalence of divorce (Carveth and Alexander, 1986; Shrum, 1996) and greater perceptions of the ownership of expensive products (O'Guinn and Shrum 1997).

However, although this sort of research provides evidence of a link between television viewing and the attitudes, beliefs and values which comprise personality, it is not without its critics (Hawkins and Pingree, 1982; Hirsch, 1980; McGuire 1986). The most prominent area of criticism is that the studies are typically correlational in nature and thus are subject to alternative explanations. For example, a third variable (e.g. people's socio-economic situation) might have independent influences on both television-viewing habits and direct exposure to crime and violence. Another alternative explanation is that the causal direction of the relationship might be the opposite of that implied by the research. That is, people who have certain beliefs about social reality may be drawn to television programs that confirm these beliefs.

It can be seen, therefore, that to use a descriptive research design which makes causal inferences from observed correlations is problematic and is unlikely to result in a conclusive and unambiguous answer to the research question of whether advertising can create changes in personality segments. Even when observations are made systematically, the assumptions drawn from descriptive research may not be justifiable. It was, therefore, considered necessary to test the validity of this causal relationship by using the specific formal procedures of causal research (Cox and Ennis, 1969). If these formal procedures are not observed then assumptions of causality cannot be operated upon with confidence (Hicks, 1982).

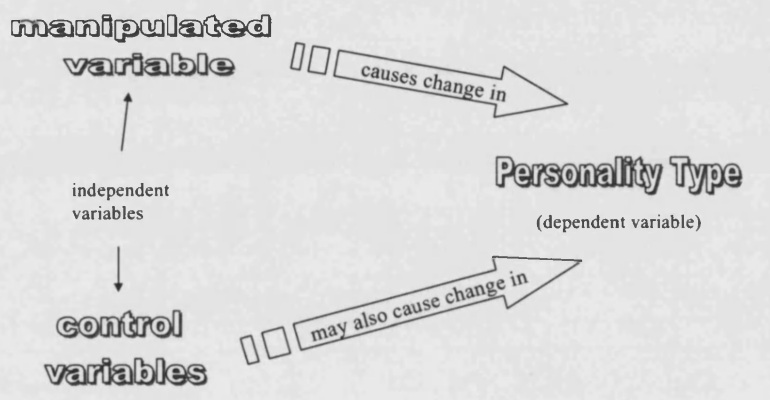
4.2.1 Methodology

The main method of causal research is experimentation (Malhotra and Birks, 2000). It was therefore decided to use an experimental methodology to operationalise the new research objective. Interestingly and importantly, no other research into segmentation over the past decade had used experimentation to study the construction of segments. Thus, this research had the opportunity not only to address a new proposition but also to add a new methodology to the literature.

In experimental design, a causal or independent variable is manipulated by the researcher in a relatively controlled environment i.e. in which the experiment allows for the testing of other variables that may affect the dependent variable. The effect of this manipulation on one or more dependent variables is then measured to infer causality (Lewis-Beck, 1993).

The objective of this experiment was to determine if exposure to different advertising treatments could cause variation in personality. The dependent variable (the observation unit whose variance would be measured to ascertain causality) in this instance would, therefore, be a personality score derived from a paper and pencil test. The main independent variable (the stimulus manipulated in the course of the experiment in an attempt to cause predictable variation in the dependent variable) in this instance would be short-term value-imbued advertising stimuli. The control variables (factors which might also contribute to the variance in the dependent variable) in this instance would be other variables which, according to existing theory, might affect personality e.g. nationality (Hofstede, 1980); or gender (Rakow, 1986). The broad form of the experiment is shown in figure 4.3 below. The objective of the experiment is to prove that a manipulated variable can cause changes in personality type. The experiment should also control for the theoretical possibility that other factors (e.g. nationality or gender) can also cause changes in personality type.

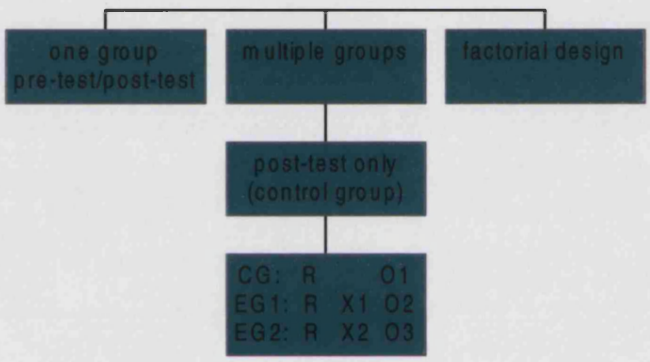
Figure 4.3: Broad Form of Experiment



4.3 Choice of Experimental Design

A decision tree based on Spector (1993) was drawn up to facilitate the choice of experimental form. (See Figure 4.4 below).

Figure 4.4: Experimental Form



Throughout this section the notational system developed by Campbell and Stanley (1963) will be used, where:

O represents observations or measurements

X represents applications of the independent variables or treatments

R represents random assignation to a treatment group

CG represents a control group

EG represents an experimental group

At the broadest level the choice was between a simple pre-test post-test experiment with one group; a slightly more complex experiment involving multiple treatments and possibly a control group; or a much more complex factorial design (Spector, 1993).

The structure of the one group experiment would be:

$O_1 \quad X \quad O_2$

Where O_1 was a personality measure taken before exposure to a value-imbued stimulus, X was the stimulus and O_2 a personality measure taken after the exposure. The advantage of this form of experiment is its simplicity and ease of administration. However, its most obvious shortcoming is that one could not be certain that some factor or event other than the treatment was responsible for the post-test change. Additionally, as there are no comparison groups it would be difficult to separate the effects of treatment from effects of measurement (Chubb, 1978) or the knowledge of being in an experiment - also known as Hawthorne Effects (Roethlisberger and Dickson, 1939). It was decided that this design was not robust enough to test the proposition of the thesis.

The structure of a multiple group design would be

(CG: R O_1)

EG_1: R X_1 O_2

EG_2: R X_2 O_3

. .

. .

. .

EG_n: R X_n O_n

Where CG is the control group and $EG_{(1\ldots n)}$ are the treatment groups. Subjects would be randomly assigned (R) to the treatment groups and the control group (if applicable). $X_1 \ldots X_n$ would be stimuli imbued with a range of values and $O_1 \ldots O_n$ would be personality measures taken after exposure. The major advantage of the multiple group design over the one-group design is the control achieved by randomly assigning subjects to groups (Fisher, 1935: see Box, 1987). If one can be certain that random assignment is achieved and that the subject groups are truly equivalent and if one can be certain that the only common difference in experience by the groups is the treatment then one can be quite confident that differences in the dependent variable are due to the independent variable (Brown and Melamed, 1993). It was thought likely that a group of students would be used in this experiment. This being the case, it would not be problematic to randomly assign students to groups (using their unique registration numbers) and the homogeneity of the groups would also be relatively high. It appeared that a multiple group design of the sort described here would, therefore, provide a robust method of testing the causality of advertising stimuli on personality.

However, given that an attempt was to be made to control for other independent variables (e.g. possibly nationality and gender), the more complex factorial design was also investigated. Factorial designs consist of "n" independent variables, each taking on "n" levels or values. The design is structured so that every level of one independent variable is crossed or associated with every level of the other (Spector, 1993). The objective of a factorial design is to determine the combined effects of the independent variables on the dependent variable in question. For the most part, the advantages and problems with the factorial design are similar to those of the multi-group design (Leclerc, Schmitt and Dube, 1994). However, the factorial design allows the addition of variables which may be used as controls or as additional aspects to be studied. The major disadvantage of higher order factorial designs (i.e. those with more than two independent variables) is the complexity that comes with size. Even when the number of levels of each independent variable is kept small, the number of cells escalates as variables are added. Whilst a 2 x 2 design (2 variables each with 2 levels or values) has 4 cells, a design comprising 4 variables with 2 levels has 16 cells. The same 4 independent variable design with 3 levels per variables would have 81 cells. With this number of cells, many hundreds of subjects (each with highly specified characteristics) would be needed to fill the cells. The number of effects is also compounded with higher order designs. Each order introduces another level of interaction and these higher order interactions are extremely difficult to interpret (Bemmaor and Mouchoux, 1991).

It was likely that the control variables for this study would include not only nationality and gender, but also factors such as age, reference group and socio-economic group. Clearly the design would be highly complex. Given that the objective of the experiment was first and foremost to test the causality between advertising stimuli and personality type and that the inclusion of other independent variables would be to serve the primary purpose of control rather than attribution of more complex layers of causality, it was decided that a factorial design was unneccessarily complicated. It was also foreseen that obtaining a sufficient number of students with the required cross section of characteristics for a factorial design would be extremely problematic and that the benefits of such a design would be minimal given the objective of the research. A multiple group experimental design therefore appeared to be the most advantageous.

The form of the multiple group experiment could have comprised a pre-test/post-test design or a post-test only design. As noted in relation to the one group design, pre-test/post-test designs are very susceptible to Hawthorne Effects (Roethlisberger and Dickson, 1939), particularly if the pre and post tests are conducted within a short time frame. If, on the other hand, the chronological duration between pre and post tests is extended, it is hard to separate the effect of the stimulus from that of other factors. Therefore, a post-test only design was selected.

At this stage, prior to the selection of personality measure or stimuli, it was not possible to specify the number of treatments which would be used. However, it was decided to use a control group i.e. a group of subjects whose personality would be measured with no treatment. Whilst the main purpose of the experiment was to test for the effects of differing advertising stimuli, it was felt that the addition of a "neutral" control group would aid interpretation of results (Demirdjian,1983; Duncan and Nelson, 1985).

The final experimental design to test the new proposition that advertising can create changes in personality segments can be described as follows:

CG:	R		O_1
EG_1:	R	X_1	O_2
EG_2:	R	X_2	O_3
.			.
.			.
.			.
EG_n:	R	X_n	O_n

Where CG is the control group, $EG(_{1..n})$ are the treatment groups, R is the random assignation of students to group, $X(_{1..n})$ are the value imbued stimuli, and $O(_{1..n})$ are measures of personality type.

4.3.1 Experimental Controls

Having decided on the experimental form, subjects were then selected. The subjects selected were the 227 undergraduate and masters students enrolled on business courses at the School of Management, University of Bath during the 1999/2000 academic year. The students were from 3 classes: 59 students on a Business to Business Marketing option (37 final year undergraduates, 16 Msc in Management postgraduates, 6 Exchange students); 80 students on the first year undergraduate business programme (a homogeneous group); and 88 students on the second year undergraduate business programme (84 second year undergraduates, 4 Exchange students).

Of particular concern in a post-test only control group experiment is the random assignment of subjects to groups (Fisher 1935: See Box, 1978). If assignation is not random then homogeneity of groups cannot be assumed. The experiments had to be run on a class by class basis for administrative and timetabling reasons. However, rather than assigning a different treatment to each of the three classes (which would not have been random assignation) the full experiment of two treatments and a control was run with each class. Using the students' unique registration numbers, members of each class were randomly assigned to an experimental or control treatment prior to the experiment. In this way, randomisation was achieved.

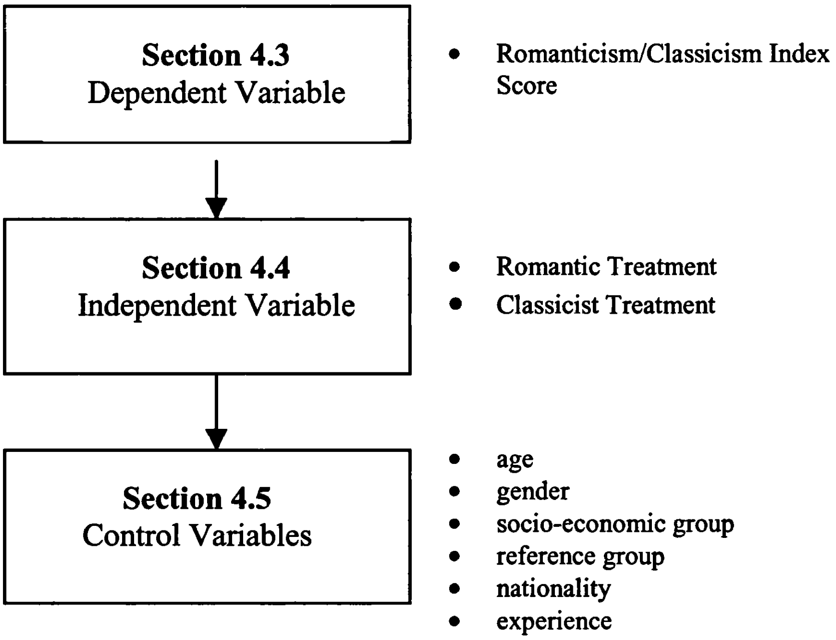
A bias usually referred to as "history" (O'Herlihy, 1980) occurs when events in addition to the independent variables or conditions of interest affect subjects. Thus, a current advertising campaign could conceivably affect students' reaction to the advertising stimuli in the experiment. However, using a relatively homogenous student population who live in close proximity to each other with similar lifestyle increases the chances of the total set of subjects being exposed to the same external effects, thus neutralising the variations.

Whilst using a student population for this type of experiment has the two major advantages outlined above (ability to achieve randomisation and general homegeneity of subject set), one disadvantage is that it is hard to justify generalising the findings beyond this population. It would be hard to argue with conviction that the results of the experiment would apply, for example, to the general population of the UK. Nonetheless, as media channels fragment and advertising becomes increasingly targeted to niche audiences (Sleight, 1997) the effects of advertising will become more and more niche-specific anyway. Thus, lack of generalisability is perhaps not a major weakness of the design.

The next three Sections of Chapter 4 contain discussions of the three major components of the experiment: the dependent variable (personality measure); the main independent variable (advertising treatments); and the other independent variables which may, theoretically, affect personality. Figure 4.5 below outlines the contents of these Sections.

Figure 4.5

Experimental Components



Thus section 4.3 justifies the use of Holbrook's (1984, 1986, 1995) Romantic/Classicist (R/C) personality-type index as the dependent variable. Section 4.4 describes the creation and testing of two advertising treatments: one Romantic and one Classicist. Section 4.5 presents theoretical justification for inclusion in the experiment of age, sex, socio-economic group, reference group, nationality and product experience as independent control variables.

4.4 Specification of Dependent Variable

With a post-test only control experiment selected and 227 student subjects designated, the next task was to select a dependent variable. The dependent variable within this experimental design is defined as personality score on a paper and pencil test. As was pointed out in Chapter 3 the term "personality" as related to consumer behaviour studies has come to include measures of "lifestyle" (Plummer, 1971; Plummer, 1972), "psychographics" (Demby, 1971; Nelson, 1969; Nelson, 1971; Pernica, 1974) "activities and attitudes" (Hustad and Pessemier, 1971, 1974) and "values" (Kamakura and Novak, 1992; Kamakura and Mazzon, 1991). It was also observed in Chapter 3, that by the early 1980s over 200 studies had been identified (Kassarjian, 1981) in which almost as many personality measures had been used in attempts to predict consumer preference. Now, in 2000, within the practitioner fields of advertising and market research yet more typologies of consumer personality can be found. The practitioner methods tend to be proprietary commercial systems, e.g. the VALS2 (Values and Lifestyles 2) system by the Stanford Research Institure; LOV (List of Values) developed by University of Michigan Survey Research Center; and SVG (Social Value Groups) owned by Synergie Consulting. These systems gather attitude, interest, values and opinion data from consumers via a lengthy questionnaire, and analyse the data by cluster analysis to classify consumers into one of a number of pre-defined segments or types. For example, SVG has seven segments: "Self-explorer", "Experimentalist", "Conspicuous Consumer", "Belonger", "Social Resister", "Survivor" and "Aimless". In similar vein, as noted in Chapter 3, VALS2 classifies consumers as "Actualizers", "Fulfilleds", "Achievers", "Experiencers", "Believers", "Strivers", "Makers" and "Strugglers".

Initially, it was thought that the use of one of these personality classifications would provide the most reliable dependent variable as these systems have the advantage of extensive utilization offering considerable scope for testing and refinement. However, after some preliminary research, it became clear that because of the commercial sensitivity of these methods, the questionnaires and algorithms are strictly not available outside the companies, as Kahle, Beatty and Homer (1983) had already discovered. In addition, as pointed out by Novak and MacEvoy (1990) these methodologies have not been scrutinised for reliability within academic circles.

Instead, it was decided to use a personality measure which had been developed and tested in the academic arena. In this way, the measurement instruments would be freely available and their reliability would have been subjected to open and objective peer review.

After a comprehensive search through the academic literature, the romanticism/classicism index developed by Morris Holbrook and others was selected as the dependent variable for the experiment (Holbrook and Corfman, 1984; Holbrook 1986; Holbrook and Olney, 1995). The index seemed to be suitable on three levels. First, it was developed by academics for research purposes. This meant that the questionnaire was publicly available (Holbrook and

Olney, 1995). Second, tests for the reliability and validity of the index were reported in full, which meant they could be subject to academic scrutiny (Holbrook 1986). Third, the index had been shown to be both reliable and valid (Holbrook, 1986; Holbrook and Olney, 1995).

4.4.1 The Romanticism/Classicism Index

Holbrook and colleagues have used the romanticism/classicism index in three separate studies of the effect of personality on consumer behaviour (Holbrook and Corfman, 1984; Holbrook 1986; Holbrook and Olney, 1995). The impetus for them to develop an index to measure romanticism and classicism came from the distinction drawn between these two personality types by Pirsig (1974) in his 1970's popular classic "Zen and the Art of Motorcycle Maintenance". As Phaedrus, the hero of the book notes:

"The romantic mode is primarily inspirational, imaginative, creative, intuitive. Feelings rather than facts predominate. The classic mode …is straightforward, unadorned, unemotional, economical and carefully proportioned. Its purpose is not to inspire emotionally, but to bring order out of chaos…persons tend to think and feel exclusively in one mode or the other." (Pirsig, 1974, pp.66-67)

Holbrook and Olney (1995) also note that this split between romantic and classicist personality types is a familiar theme in the study of philosophy in general and aesthetics in particular. They cite the works of Brinton, 1967; Jenkins, 1962; Nozick; and Osborne, 1970. Indeed, looking beyond the scope of Holbrook's studies (1984, 1986, 1995), it was observed by the early twentieth century literary critic Brunetiere (1906), that romanticism and classicism had been discussed as opposing value constructs ever since the concepts emerged within the European literary milieu of the mid-eighteenth to mid-nineteenth century through figures since such as Goethe (1749-1832), Heine (1797 – 1856), Schelling (1775-1854) and Stendhal (1783 – 1842). A more contemporary literary critic, Lilian Furst (1971) gathers together a number of definitions of the two concepts. These are shown in table 4.1 below.

Table 4.1 Literary Definitions of Romanticism and Classicism

Quotation	**Author**
Romanticism is disease, Classicism is health.	Goethe
Classic art portrays the finite, romantic art also suggests the infinite.	Heine
The classic temper studies the past, the romantic neglects it.	Shelling
Romanticism is, at any time, the art of the day; Classicism, the art of yesterday.	Stendhal
Classicism is the regularity of good sense, - perfection in moderation; Romanticism is disorder in the imagination, - the rage of incorrectness.	Brunetiere

(Source: Furst, 1971, p.2)

It can be seen that the romantic is a personality type characterised as sensitive, emotional, free-spirited and artistic, whilst the classicist is purposive, reasonable, orderly and controlled.

In order to facilitate the usage and measurement of the terms "romantic" and "classicist", Holbrook and Corfman (1984) began their research by drawing together, from a wide variety of authors, the range of features which had been attributed to each construct. This exercise resulted in a listing of 36 word-pairs. The word-pairs are shown in table 4.2 below.

Table 4.2 Holbrook and Corfman's Word-Pairs

CLASSICIST	ROMANTIC
1. Logical	1. Emotional
2. Literal	2. Poetic
3. Controlled	3. Impulsive
4. Rational	4. Intuitive
5. Conservative	5. Unpredictable
6. Factual	6. Feelingful
7. Neat	7. Messy
8. Orderly	8. Disorderly
9. Precise	9. Vague
10. Restrained	10. Adventurous
11. Normal	11. Eccentric
12. Mechanical	12. Visionary
13. Disciplined	13. Intemperate
14. Clear-Headed	14. Moody
15. Organized	15. Chaotic
16. Punctilious	16. Slightly Evil
17. Technical	17. Dreamy
18. Discreet	18. Chivalrous
19. Timid	19. Heroic
20. Scientific	20. Artistic
21. Practical	21. Impractical
22. Analytic	22. Holistic
23. Theoretic	23. Esthetic
24. Intellectual	24. Passionate
25. Masculine	25. Feminine
26. Definite	26. Mystical
27. Appolonian	27. Dionysian
28. Conventional	28. Individualistic
29. Confined	29. Transcendental
30. Familiar	30. Exotic
31. Drab	31. Colourful
32. Formal	32. Natural
33. Restricted	33. Spontaneous
34. Cultivated	34. Passionate
35. Reasonable	35. Sentimental
36. Mannered	36. Free

(Source: Holbrook and Corfman, 1984, page 45)

The word pairs are constructed on an assumption of opposition. Thus it is assumed that "logical" is the classicist counterpart of the romantic notion of "emotional", that "poetic" is the romantic counterpart of "literal" etc.

Using these word-pairs as a starting point, Holbrook and colleagues (Holbrook and Corfman, 1984; Holbrook, 1986; Holbrook and Olney, 1995) have developed an index which can be used to score individuals on a romantic - classicist scale. The measuring instrument consists of 55 statements which individuals are asked to rate on a seven point scale from strongly disagree to strongly agree. The items consist of statements such as "I am a practical person" (classicist) or "It's O.K. to daydream a lot" (romantic). A R/C (Romantic/Classicist) Score is computed for each subject . (See Appendix 4.1 for the full questionnaire).

This 55-item questionnaire evolved through several iterations (Holbrook and Olney, 1995). From an original pre-test with 100 items, 28 statements were selected which showed promising reliability i.e the Cronback Alpha statistic (α) = 0.67. In a further experiment, this 28-item RC index (α = 0.69) was further reduced to a 14-item measure with improved internal consistency (α = 0.83). However, although this 14-item RC index did show some nomological validity it was acknowledged that the apparent reliability may have resulted in part from search bias (Holbrook and Corfman, 1984). A larger set of 126 RC items were then explored and these were reduced to 55 items. These were tested (Holbrook, 1986) and good reliability was found (α = 0.87). A further test in 1995 (Holbrook and Olney, 1995) using the same 55 item measure obtained similar reliability (α = 0.85).

All three of Holbrook et al.'s experiments (Holbrook and Corfman, 1984; Holbrook 1986; Holbrook and Olney, 1995) were designed under positivist assumptions whereby there was an expectation that degree of romanticism or classicism could predict behaviour in certain given contexts. For example, Holbrook's most recent research (Holbrook and Olney, 1995) aimed not just to validate the R/C index but also claimed to show how R/C score was correlated with holiday preference.

"Specifically, we propose an a priori index intended to represent the respondent's romanticism-classicism (RC), assess the reliability of this RC Index, and provide evidence for its validity as a determinant of the weights assigned to various features in explaining preferences for different kinds of vacation trips." (Holbrook and Olney, 1995, p. 207)

They were able to conclude that subjects higher in romanticism tended to show more favourable responses to risky holidays (e.g. involving dangerous sports) and to prefer warm destinations.

In the experiment designed for the research objective of this thesis, however, the R/C index was to be used to explore a social constructionist perspective on the creation of personality segments. The objective of the experiment was to ascertain whether advertising stimuli could be shown to have a statistically significant effect on R/C score. The difference between the assumptions underlying Holbrook and Olney's (1995) research and those underlying the research for this thesis is shown in figures 4.6 and 4.7 below.

Figure 4.6: Positivist Application of R/C Index

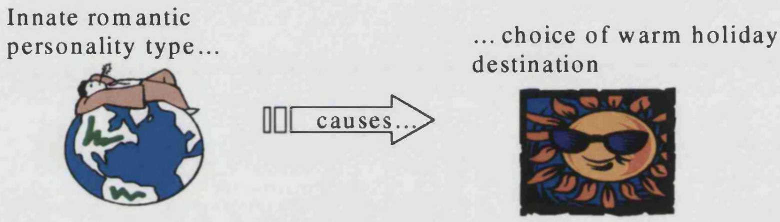
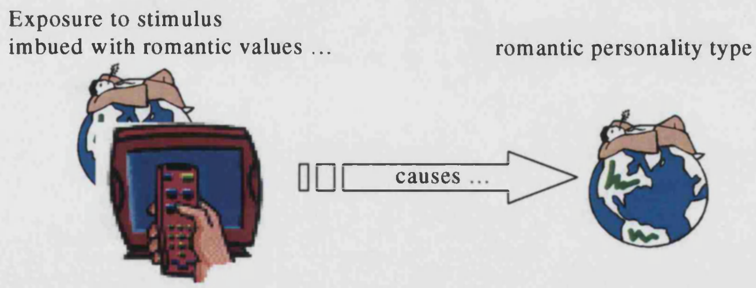


Figure 4.7: Social Constructionist Application of R/C Index



Whilst Holbrook's experiment inferred that the cause of holiday preference can be attributed to an individual's innate romantic personality type (figure 4.6), this experiment was to attempt to attribute the cause of romantic personality type to the effect on an individual of a romantic advertising stimulus (figure 4.7).

Section 4.5 goes on to describe the creation of two advertising treatments: one distinctively "romantic" and the other distinctively "classicist".

4.5 Specification of Independent Variable

Having specified the dependent variable as R/C index score, the next stage was to designate the main independent variable i.e. romantic and classicist advertising treatments. Clearly, the range of subjects which could be represented in romantic or classicist modes is immense. However, it was decided that a more valuable contribution could be made to the segmentation literature by building on existing work than by selecting a virgin subject. Therefore, as Holbrook and Olney (1995) had already studied the relationship between R/C Index and holiday preference, holiday advertising was selected.

Secondary research conducted on advertising and consumer behaviour trends in the holiday industry (MINTEL, 1998) revealed that brochure production accounts for the largest share of the industry's promotion expenditure, whilst brochure consultation constitutes the primary element in consumer holiday decisions. It was thus decided to use two different brochure treatments rather than TV advertising treatments. Unlike a fairly transitory 30 second TV advertising experience, a consumer's involvement with a holiday brochure does not usually consist of a fleeting viewing of pages. Instead, it involves a lengthy consideration of the pictures and text. In order to mimic this experience, it was decided that the treatments should consist of both a stimulus (brochure pages) and an involving task.

As Pirsig (1974) notes in "Zen and the Art of Motorcycle Maintenance" in relation to the two opposing constructs of romanticism and classicism:

"persons tend to think and feel exclusively in one mode or the other." (p.67)

The objective, therefore, was to create 2 distinctive treatments which would cause one treatment group to think and feel in a romantic mode and the other treatment group to think and feel in a classicist mode, thus creating measurable differences in their R/C score.

In order to address the issue of influencing modes of thinking and feeling, the advertising effectiveness literature was reviewed. It became clear that the debate on advertising effectiveness centres on an acknowledged dichotomy in the way in which consumers process advertising messages (i.e. their mode of thinking and feeling). Specifically, for 100 years authors have debated whether advertising works on a *cognitive* level (E.St. Elmo Lewis, 1898 (see Strong, 1925); Nelson, 1974; Bharadwaj, Varadarjan amd Fahy, 1993); on the level of *affect* (Berlyne, 1960; Batra and Ray, 1986; Shimp, 1981; Gorn, 1982; Janiszewski and Warlop, 1993); or on a level which combines the two (Lavidge and Steiner, 1961; Petty and Cacciopo, 1981). The cognitive school assume that the way in which consumers behave when confronted with advertising messages is "rational, highly cognitive, systematic and reasoned" (Shimp, 1997), whilst the affect school assume that consumer processing behaviour reflects "feelings, fantasies and fun" (Holbrook and Hirschmann, 1982). The combined school argue that the type of processing depends on the circumstances of the purchase (Lavidge and Steiner, 1969) or on the type of product being advertised (Petty and Cacciopo, 1981). Pirsig's interpretation of the putative existence of these two distinct modes of message processing would doubtless be that the classicist personality type will instinctively engage in rational and logical processing behaviour (cognitive) whilst the romantic personality type will instinctively react with emotions, imagination and intuition (affect). He would say that the existence of two types of processing reflects the existence of two types of personality. An alternative interpretation, and one which is consistent with the proposition under investigation in this thesis, is that different types of advertising can cause people to use cognition on the one hand (i.e. display classicist personality traits) or use affect on the other (i.e. display romantic personality traits).

Evidence that different types of message processing can be evoked by different external stimuli comes from recent work in neuroscience which shows that these two different types of processing (cognitive and affective) are functions of two different parts of the brain (Rose, 1993). The work of science writers such as

Demasio (1994); LeDoux (1998); Schachter (1996) and Rose (1996) are increasingly being used by marketing communications researchers (Heath, 2000; Jones, 1998). Heath, for example uses Rose's (1993) work on memory processes to point out that we process marketing communications in two ways: via the neo-cortex (right side of brain) and via the limbic system (left side of brain). The neo-cortex processes cognitive rational stimuli whilst the limbic system processes sensory stimuli. The implications for this experiment are as follows: different types of stimuli activate different parts of the brain; different parts of the brain utilize different types of processing; different types of processing lead to the display different personality traits.

The challenge for this experiment was to construct a "classicist" treatment (stimulus and task) which activated subjects' neo-cortex to process the information cognitively, rationally and logically; and a "romantic" treatment (stimulus and task) which activated subjects' limbic system alone to process information by affect through feelings, emotions and fantasies. The aim would be to demonstrate that by influencing a subject's mode of response, advertising could influence a subject's personality as measured by RC Score.

The following two sections describe the design of the two treatments. Section 4.5.1 discusses the design of the two stimuli (brochure pages) and Section 4.5.2 provides details of the design of the two tasks which were to accompany the stimuli.

4.5.1 Stimulus Design

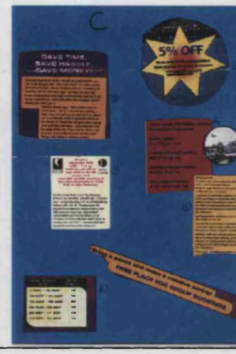
The 36 word pairs which had been drawn together by Corfman and Holbrook (1984) (see table 4.2) were taken as a starting point for the design of two distinctive sets of brochure pages. It was decided that a number of different pages would be needed for each construct in order to cover all 36 attributes of the construct domain. Thus 4 different classicist pages were designed to convey an impression of something logical, neat, familiar, analytic and cultivated and 4 romantic pages were designed to convey an impression of something passionate, spontaneous, adventurous and exotic. The design process went through 3 phases. The first phase was the actual creation of two distinct sets of stimuli. The second phase was a qualitative testing process to ascertain that a) the two sets of stimuli really were distinct, reliable and valid; b) that the content and presentation were "suitable" for the student audience; and c) that 4 stimuli was a suitable number. The third phase was a quantitative measurement of the perceived difference between the two sets of stimuli.

4.5.1.1 Phase One: Creation of Stimuli

The classicist stimuli were to emphasise the 36 values shown on the left had side of table 4.2 above. Thus the aim was to put together a series of pictures and pieces of information which together would represent the full spectrum of elements which comprise the classicist construct. In order to encompass all 36 classicist characteristics, it was decided to create two stimuli for summer holidays and two for winter holidays. The stimuli were designed to convey approximately 9 of the

36 characteristics apiece. The 4 stimuli were labelled with a randomly chosen letter for identification purposes and four different colours of card were used for the background. Table 4.3 exhibits each of the 4 stimuli along with its identity letter, a verbal description of the type of holiday presented, its main features and the classicist descriptors it was designed convey. The stimuli are shown in A4 size in Appendix 4.2. The size used for the experiment was A3.

Table 4.3 The Classicist Posters

Identity Letter	Holiday Type	Features	Classicist Descriptors	Page
C	Summer (sun holiday)	• Dates • Times • Savings • Guarantees	• Rational • Analytic • Reasonable • Precise • Theoretic • Controlled • Punctilious • Practical	
Q	Summer (overland expedition holiday)	• Insurance • Diagram layout of truck • Company information	• Mechanical • Drab • Intellectual • Masculine • Literal • Conservative • Scientific • Technical	
Y	Ski-ing	• Times • Dates • Deals • Packing list	• Clear-headed • Logical • Organized • Disciplined • Cultivated • Discrete • Formal • Orderly • Definite	
R	Ski-ing	• Resort ratings • Price details • Chalet information	• Normal • Restricted • Factual • Familiar • Neat • Timid • Confined • Restrained • Conventional • Mannered	

It can be seen, for example, that brochure page C was designed to show features of a summer sun holiday. It was designed to convey something “rational, “analytic”, “reasonable”, “precise”, "theoretic", "controlled" and "punctilious" and "practical". Thus, facts on airport hotels and airport parking were clearly presented. 5% reduction was offered for being punctilious enough to book early. An offer of saving even more money for organizing a group was made. A clear table of departure dates was presented with information on free places available for taking a group. In order to emphasise the characteristic of being “in control”, information on guarantees was given along with ABTA and ATOL bond symbols.

Brochure page Y, on the other hand shows information on a ski-ing holiday. It is designed to convey the “clear-headed”, “logical”, “organized", "disciplined”, “cultivated”, "discrete", “formal”, “orderly” and “definite” elements of the classicist construct. The layout is very logical; there is a list of things to pack; train times are given and a number of “deals” are outlined.

In contrast, the romantic brochure pages were to emphasise the values broadly associated with spontaneity and emotion. The aim was to put together a series of pictures which evoked feelings of dynamism, risk, exoticism and mystery. Again two of the pages were for summer holidays and two for winter holidays and again the posters were labelled with a randomly chosen letter for identification purposes. Table 4.4 below exhibits each of the 4 pages along with its identity letter, a verbal description of the type of holiday presented, its main features and the romantic descriptors it was designed to convey. The posters are shown A4 sized in Appendix 4.3. The size used in the experiment was A3.

Table 4.4 The Romantic Posters

Identity letter	Holiday Type	Features	Romantic Descriptors	Pages
M	Summer (sun holiday)	• Palm trees • Sunsets • Llamas • Indigenous people and architecture	• Poetic • Moody • Artistic • Impractical • Mystical • Exotic • Colourful • Sentimental • Dreamy	
F	Summer (activity and adventure holiday)	• Bungee jumping • White water rafting • Cycling across the desert	• Unpredictable • Messy • Disorderly • Chaotic • Adventurous • Eccentric • Slightly evil • Spontaneous • Passionate	
N	Ski-ing	• Action shots of snowboarders and skiers	• Impulsive • Visionary • Heroic • Intemperate • Passionate • Individualistic • Feelingful • Chivalrous	
S	Ski-ing	• Peaceful scenes • Mountains • Trees • Sun • Skiers	• Emotional • Intuitive • Aesthetic • Vague • Holistic • Feminine • Transcendental • Natural • Free	

The romantic pages consisted almost exclusively of images. It can be seen, for example, that stimulus page N shows pictures of a ski-ing holiday and features 8 different shots of skiers and snowboarders in dynamic, fast moving poses. The thrill of speed ski-ing is clear from the faces of the models and the message is something “heroic”, “intemperate”, “passionate” and “impulsive”. Page M, on the other hand, was designed to show the “exotic”, “poetic”, “moody”, “mystical” and “sentimental” elements of the romantic construct with pictures of far off places, exotic people and beautiful sun sets.

4.5.1.2 Phase 2: Qualitative Testing of Stimuli

Once the two sets of stimuli had been designed, the next phase was to test them. As pointed out by Edwards (1969) stimulus variables can be extremely difficult to quantify. He observes that whilst some stimulus variables such as light, sound or pressure can be quantified by measuring intensity, "in much research we can only say that the variations in stimulation in which we are interested consists of complex combinations of stimuli differing in kind rather than degree." (p.8) To illustrate this complexity he cites the example of measuring the behaviour of subjects involved with a "democratic" leader as opposed to an "authoritarian" leader. Undertanding what characteristics subjects perceive as constituting these two leadership types is vital if the distinction between the two treatments is to be meaningful. Likewise it was important in this experiment to understand to what extent students' perceptions of the two sets of pages were in accord with what was intended in the design. In such cases involving complex phenomena it is generally recognised that qualitative research is a useful method of gaining greater understanding of subjects' perceptions (Gilmore and Carson, 1996).

Thus after the first versions of the stimuli were assembled, two separate focus groups were conducted with final year students who did not take part in the experiment. The aim was to gain an initial impression of whether the two sets of brochure pages did indeed convey the characteristics of romanticism and classicism respectively: i.e. that the stimuli were reliable and valid. The two focus groups were also designed to check that none of the images chosen would be alienating to the student population or unsuitable in other ways for the experiment groups. Finally, the focus groups were used to determine the number of pages the students could reasonably be expected to be involved with in an experimental situation.

As a result of these two focus groups, a number of images and texts were changed. For example a cartoon image (reminiscent of Lara Croft of Tomb Raiders) and accompanying text on one of the classicist pages (C) was considered by the group to have associations with "club culture" which in turn attracted romantic descriptors such as “impulsive”, “free”, “spontaneous”. It was decided to remove the cartoon image and accompanying text. Another classicist page (Q) contained pictures and text presenting an overland expedition holiday. There was consensus amongst the students that it sounded over-organised and like a “concentration camp”. This page was thus amended to show the practical aspects of this type of holiday like the equipment on board the truck and reassuring text on the reliability of the company. This was much more acceptable to the students. One of the "exotic" images on page M (romantic) was considered as appealing to their parents and therefore unlikely to be considered adventurous or exciting. Pictures of young people in shades were substituted. Page N was also considered rather tame and "grown up". Several more smaller action pictures were added to this along with some snowboarder action shots. A few pictures were removed on the grounds of being, in the students' words, "naff" and therefore likely to encourage students to see the whole experiment as "naff" and give inappropriate or frivolous answers.

At the very beginning of the focus groups, students all completed a questionnaire relating to all eight brochure pages. Only one set of pages was used for the whole group and so they had to swap the posters amongst each other. Thus, they each evaluated the posters in a different order. Regardless of order, it was observed that after 3 or 4 pages some students started to make errors. For example one student mismatched page and questionnaire so that he noted his opinions of page Y on a questionnaire labelled R. As a result of these observations, it was decided that the experiment should consist of no more than 4 pages per stimulus.

Thus, during the first two phases of the stimulus design process, the robustness of the page design had been controlled in four ways. First, Holbrook and Corfman's (1984) opposite word pairs had been used to inform the design of the pages. Second, the pages had been tested qualitatively with the target group to gain an initial feeling for whether the designs did convey the romantic and classicist values. Third, the page design had been screened by the target group to ensure that the images were not in any way unsuitable or alienating for the target group.

Fourth, it was established that no more than 4 pages should be used for any one experimental group to avoid response fatigue.

However, it was also important that the posters were tested in an objective, quantitative manner against the criteria of the romantic and classicist value constructs.

4.5.2 Phase 3 : Quantitative Testing

As the stimuli had been created in order to reflect the descriptors designated in Holbrook and Corfman's (1984) 36 opposite word pairs, it was essential that any test of the symbolic meaning of the stimuli should be effected with reference to these word pairs. To this end, the opposite word pairs were incorporated into a 36 item semantic differential questionnaire. The 36 word pairs were laid out with 5 boxes offered between each word pair. Respondents were invited to tick the box which best described the overall effect of the poster e.g.

Precise ❑ ❑ ❑ ❑ ❑ Vague

If they thought that the overall impression created by the poster was very vague then they would respond as follows:

Precise ❑ ❑ ❑ ❑ ✓ Vague

If they thought that the overall impression created by the poster was quite precise then they would respond as follows:

Precise ❑ ✓ ❑ ❑ ❑ Vague

(Please see Appendix 4.4 for the full final semantic differential poster test questionnaire and instructions).

The suitability of this questionnaire was piloted within the two focus groups described in phase two. The students were asked to evaluate all 8 brochure pages using this semantic differential questionnaire prior to the wider ranging discussion. This exercise was carried out prior to the discussion to avoid any response bias. It was agreed by the focus group students that the format of the evaluation task was straightforward. However, not one of the students in either of the focus groups knew what either "Apollonian" or "Dionysian" meant. These epithets were therefore removed before the quantitative testing was carried out. There was also some discussion as to whether some of the pairs were really opposites. For example Holbrook and Corfman (1984) pair "passionate" with both "cultivated" and "intellectual", and the pairing of "mystical" and "definite" was seen as problematic by some students However, there was not enough consensus in the discussion to warrant the removal of any more than one of the items. Thus the quantitative test consisted of a 35 item semantic differential questionnaire.

Ideally, the quantitative test for the distinctiveness of the two sets of brochure pages should have been conducted with a group of 1st, 2nd and 4th year students to maintain profile consistency with the experimental groups (Diamantopolous, Schlegelmilch and Reynolds, 1994). However, almost the entire population of undergraduate business students was to be used in the experiment itself or had been used in the focus groups. The nearest approximation to the undergraduate student group were 60 full time MBA students. They were deemed suitable because they were all studying in Bath in a similar context to the undergraduates and apart from age, they had similar demographic profiles.

The MBA students were asked to rate the posters using the 35 item (Apollonian-Dionysian removed) semantic differential questionnaire. 29 randomly assigned students were given the 4 romantic posters (M,N,F,S) and asked to rate these. Another 31 randomly assigned students were given the 4 classicist posters (C,Q,Y,R) and asked to rate these.

4.5.2.1 Control For Bias

If this quantitative test was to be valid, then controls for error and bias had to be put in place. In a quantitative study such as this the total error can be defined as the variation between the true mean value of the population of the variables of interest and the observed mean value in the study (Malhotra and Birks, 2000). Total error can be subdivided into "random error" and "bias" (Spector, 1993). The random allocation of MBA students to test groups controlled for random error to a large extent. Random error implies that deviation from the true scores are as likely in either direction. Therefore, as Spector (1993) points out, if one takes several measurements of a characteristic, the errors of measurement should average out. The use of a 35 item scale to measure the degree of classicism or romanticism in the pages thus added additional control for random error. Bias, on the other hand can be attributed to a variety of sources such as errors in questionnaire design, data preparation or scale development (Malhotra and Birks, 2000). Spector (1993) points out that bias is more problematic than random error as bias tends to be uni-directional and so there is no simple process to average out its effects.

Two measures were taken to control for bias. First, the word-pairs on the questionnaires were presented randomly to avoid order-bias (Krosnik and Alvin, 1987). Second, 28 of the items were reversed such that in 27 cases the classicist descriptor appeared on the left and the romantic counterpart on the right and in 28 cases the romantic descriptor appeared on the left with the classicist counterpart on the right (Payne, 1951). This was to encourage respondents to think about the response rather than simply adopting a mindset whereby what was actually being evaluated was the similarity of the descriptors which followed each other down either the classicist or romantic side of the questionnaire.

The data from the completed questionnaires were entered into a spreadsheet and a mean score was calculated for each page. The ratings on each item were scored from 1 to 5 such that (with reverse scores taken into account) 1 indicated a classicist descriptor and 5 a romantic descriptor. Thus, if the pages really did represent romantic and classicist stimuli respectively, we would expect pages C,Q,Y and R to have lower means than pages M,N,F and S. The means are shown in descending order in table 4.5 below and in graphical form in figure 4.8.

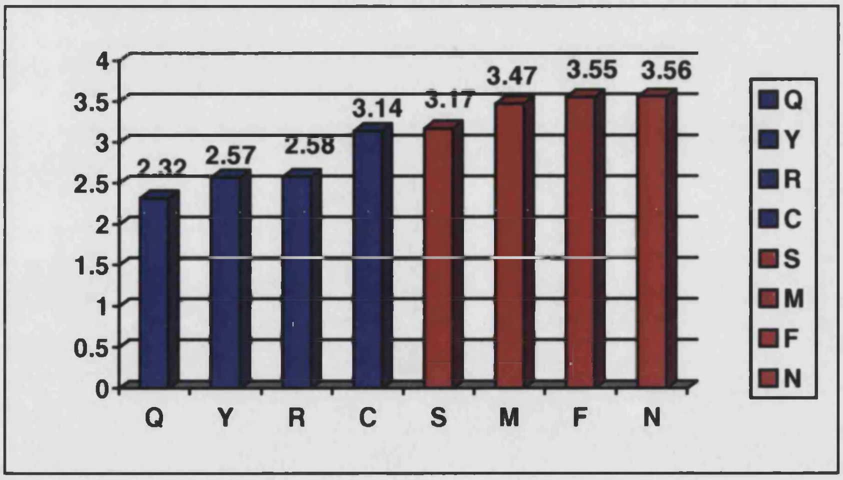
Table 4.5: Statistics for Brochure Page Means

	N	Minimum	Maximum	Std. Deviation	Mean
SCOREQ	31	1.23	3.03	.4071	2.3176
SCOREY	31	1.40	3.74	.5184	2.5739
SCORER	31	1.80	3.46	.4539	2.5816
SCOREC	31	1.89	3.86	.4696	3.1363
SCORES	29	2.31	3.94	.3948	3.1707
SCOREM	29	2.14	4.40	.4229	3.4659
SCOREF	28	2.76	4.51	.4281	3.5475
SCOREN	29	3.12	4.26	.2752	3.5626

Q,Y,R,C = classicist **S,M,F,N = romantic**

scores towards 1 = classicist
scores towards 5 = romantic

Figure 4.8 - Graphical Presentation of Brochure Page Means



The means for the classicist pages are shown in blue and the means for the romantic posters are shown in red.

It can be seen from table 4.5 and figure 4.8 that pages Q,Y,R and C do, indeed, have means lower than pages S,M,F and N. Thus, on first inspection it seems that the stimuli convey the values intended. However, what is also clear from the table and figure is that pages C and S seem to be perceived differently to the other pages in their respective groups. C is perceived as more romantic than Q,Y and R and poster S is perceived as more classicist than M,F and N. The difference between the means of C and S is very small indeed (0.03) with respective standard deviations of .47 and .39.

Whilst on visual inspection the data indicated that the stimuli were distinctive, these findings only relate to one sample. A Student *t* test was therefore carried out to ascertain whether the difference in means observed in the samples could be said to represent a difference in means for the total population. Table 4.6 below shows the *t* values resulting from a comparison of the means of each of the classicist pages with each of the romantic pages. *T* values of over 2 are significant at the 0.05 level and t values of over 2.66 are significant at the 0.01 level.

Table 4.6: Brochure Page Means - *t* Test

Yellow box = significant at 0.01 level Green box = significant at 0.05 level only Red box = not significant at either level					Classicist stimuli				
					q	y	r	c	
					31	31	31	31	n
					2.3176	2.5739	2.5816	3.1363	mean
		n	mean	SD	0.4071	0.5184	0.4539	0.4696	SD
Romantic Stimuli	s	29	3.1707	0.3948	5.22	3.43	3.50	0.20	
	m	29	3.4659	0.4229	6.90	5.04	5.17	1.91	
	f	29	3.5475	0.4281	7.36	5.49	5.63	2.38	
	n	29	3.5626	0.2752	8.28	6.11	6.32	2.72	
t values over 2.000 are significant at the 0.05 level						*t* values over 2.666 are significant at the 0.01 level			

It can be seen that all of the classicist pages are significantly different from the romantic pages with the exception of C. The mean of page C is not signficantly different from that of page S or page M at either level of significance and it is only significantly different from page F at the 0.05 level of significance.

4.5.2.2 Test for similarity within the sets of posters

The *t* tests demonstrate that the perceived differences between the two sets of pages (with the exception of poster C) are statistically significant. The next step was to carry out paired tests to ascertain whether the romantic stimuli were imbued with similar values and the classicist stimuli were imbued with similar values. It should be pointed out that it was not expected that every page in each set would be perceived as exactly the same as each page was designed to emphasize a slightly different element of the romantic or classicist value set. Page S for example was designed to capture the “emotional", "intuitive", aesthetic”, “vague”, "holistic”, “feminine”, “transcendental”, “natural” and "free" aspects of romanticism whilst F conveyed the spirit of the “unpredictable”, “messy”, “disorderly”, "chaotic", “adventurous”, “eccentric”, “slightly evil”, “spontaneous" and "passionate” elements of the same romantic construct. Looking at the classicist stimuli, Q was designed to convey the “drab”, “technical”, “mechanical”, “conservative” aspects of classicism with its black and white diagrams. R, on the other hand, used images of “everyday” people in an “everyday” setting to convey the “familiar”, “conventional”, “restrained” elements of the same construct.

The means for each page were compared with those from the rest of the set i.e. the means for Q, Y, R and C were compared with each other and the means for N,F,M and S were compared with each other. A *t* test was carried out on each pair. Table 4.7 below shows the result of the test.

Table 4.7: Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	99% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SCOREY - SCORER	-7.6830E-03	.4402	7.907E-02	-.2251	.2098	-.097	30	.923
Pair 2	SCOREY - SCOREC	-.5624	.7172	.1288	-.9167	-.2082	-4.366	30	.000
Pair 3	SCOREY - SCOREQ	.2563	.5145	9.240E-02	2.147E-03	.5104	2.773	30	.009
Pair 4	SCORER - SCOREC	-.5548	.6110	.1097	-.8565	-.2530	-5.055	30	.000
Pair 5	SCORER - SCOREQ	.2639	.5078	9.120E-02	1.313E-02	.5148	2.894	30	.007
Pair 6	SCOREC - SCOREQ	.8187	.6227	.1118	.5112	1.1262	7.321	30	.000
Pair 7	SCOREM - SCOREF	-6.7991E-02	.4618	8.727E-02	-.3098	.1738	-.779	27	.443
Pair 8	SCOREM - SCORES	.2952	.4644	8.623E-02	5.688E-02	.5334	3.423	28	.002
Pair 9	SCOREM - SCOREN	-9.6716E-02	.4329	8.038E-02	-.3188	.1254	-1.203	28	.239
Pair 10	SCOREF - SCORES	.3778	.6448	.1219	4.013E-02	.7154	3.100	27	.004
Pair 11	SCOREF - SCOREN	-2.1976E-02	.3102	5.862E-02	-.1844	.1405	-.375	27	.711
Pair 12	SCORES - SCOREN	-.3919	.5124	9.516E-02	-.6548	-.1289	-4.118	28	.000

Yellow = statistics for page C

Green = statistics for page Q

Yellow and Green = statistics for pages C and Q

Turquoise = statistics for page S

In this test a significance level of 0.05 or less indicates that the hypothesis that the means are drawn from the same population must be rejected. It can be seen quite clearly that C does not appear to correspond to the other classicist stimuli (Y,R and Q). A significance of .000 is displayed in all three comparisons (highlighted in yellow). Equally, poster S is considered quite different from the other romantic stimuli with a significance of .000 against N, .002 against M and .004 against F (highlighted in turquoise). The nature of these differences was explored.

4.5.2.3 Brochure Page C

Stimulus page C had already been amended in the light of comments from the qualitative research. It had contained "romantic" cartoon images and club-culture text. However, despite these changes it still contained "youth culture" text. An extract is shown below:

> "You could read the whole of our lovingly prepared brochure. After all, it's packed with useful info and the odd decent gag – and there are some real lookers in the pictures (who might come back next year). But … there's a simpler way: tell us which resort you wanna go to …"

The results of the *t* tests between romantic and classicist stimuli taken together with the paired *t* test shown above indicated quite clearly that the composition of this page was not consistent with the other classicist stimuli. In the light of both the qualitative comments and the quantitative test, a decision was taken to remove this stimulus from the subsequent experiment.

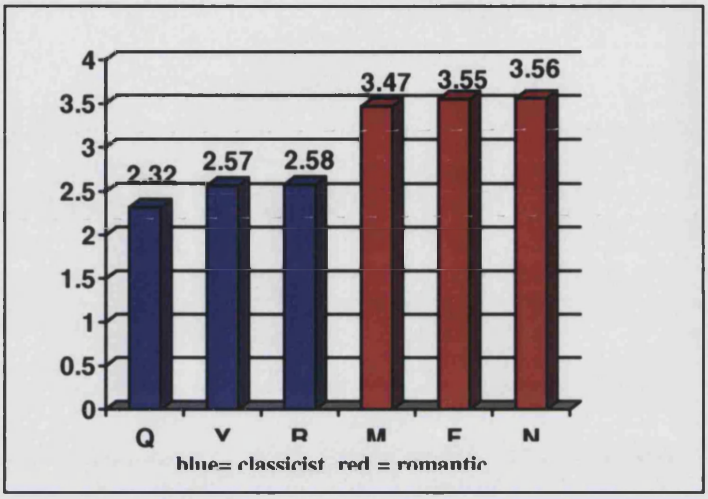
4.5.2.4 Brochure Page S

Stimulus page S showed dramatic mountain scenes; people in comtemplative postures amidst Alpine surroundings; and an imposing picture of a snow clad church in front of a misty peak. This composition had been intended to convey the "trandscendental", "natural", "holistic", "aesthetic" side of the romantic construct. According to the focus group discussions, the page conveyed a sense of the peaceful and the natural. As a result of these comments the page was left unchanged for the quantitative test. However, in retrospect, there were some comments in the focus groups that perhaps should have been heeded. For example, some students felt that the overall impression was of a scene which was "clear-headed" and "orderly" and that the blue background colour against the snow in the pictures made it look "cold" rather than "emotional". It seems likely that these comments on the colour combinations and the picture layout were representative of a larger population and had led to the page being seen as more classicist than the others in the quantitative test. Given the mean of 3.17 – sizably different from the other romantic means (3.46, 3.55, 3.56) - combined with retrospective consideration of comments made during the qualitative research, it was decided to remove stimulus S from the experiment also.

4.5.2.5 Brochure Page Q

Referring back to table 4.7, the green shaded areas highlights the comparison statistics between perception of Q and the other classicist posters (Y and R). The hypothesis that Q is drawn from the same population as Y and R is rejected with significance levels of .007 and .009 respectively. Stimulus Q has the lowest mean of all (2.32) and could thus be said to be the "most classicist" of all the posters. Q had already been changed from the "bootcamp" images of the first composition. Probably the most striking difference between the new page Q and page Y and R is the fact that the text and the illustrations are black and white. It is well documented that colour exerts an emotional influence on consumer perception (Tysoe, 1985; Gorn, Chattopadhyay, Yi and Dahl, 1997) and it is probable that the comparatively somber aspect of Q emphasized its qualities of "mechanical", "scientific" and certainly, "drab". Given this difference in means, a decision had to be made whether to make Y and R less colourful and therefore more classicist. It was decided that to make all of the classicist pages black and white would be to make the exercise unrealistic, as holiday brochure pages are never all monochrome. In any case, Y and R had means which are sizably different from romantic posters M, F and N (see figure 4.9 below) and when the standard deviations are taken into account, they were considered distinctively "classicist stimuli" for the purposes of the experiment.

Figure 4.9: Pages Used in Subsequent Experiment



Standard deviations Q .(41), Y(.52), R(.45), C(.47), S(.39), M(.42), F(.43), N(.27)

Therefore, as a result of phases 1-3 of the stimulus design process, Q,Y and R were taken forward to the final experiment as classicist stimuli and M, F and N were taken forward to the final experiment as romantic stimuli. It was felt that the stimuli were demonstrably distinctive as either classicist or romantic.

4.5.3 Task Design

As noted in section 4.4, in order to mimic consumer involvement with holiday brochures, the two experimental treatments were to consist of both a stimulus and a task. Whilst it had been possible to use Corfman and Holbook's (1994) word-pairs as a basis for both the creation and testing of the stimuli, previous theory was relied on in the design of the two accompanying treatment tasks. It had been proposed that a classicist task should be created which would activate subjects' neo-cortex (Heath, 2000) such that they would engage in cognitive mental processing (E.St. Elmo Lewis, 1898; Nelson, 1974; Bharadwaj, Varadarjan and Fahy, 1993) and that a romantic task should be created which would activate subjects' limbic system such that they would engage in affective mental processing (Berlyne, 1960; Batra and Ray, 1986; Shimp, 1981; Gorn, 1982; Janiszewski and Warlop, 1993). It was proposed that the activation of these distinctive methods of processing would cause distinctive differences in R/C score.

Each task consisted of a written questionnaire designed to elicit involvement with each of the brochure pages in turn. Subjects were each to be given one set of treatment stimuli (three full colour A3 brochure pages) and an A4 black and white questionnaire. The questionnaires were constructed as shown in table 4.8.

Table 4.8: Construction of Questionnaire

	Romantic Task	Classicist Task	Control Task
Page 1	Instructions	Instructions	Instructions
Page 2	Questions on page F	questions on page R	
Page 3	Questions on page M	questions on page Y	
Page 4	Questions on page N	questions on page Q	
Page 5	Questions comparing pages	questions comparing pages	
Pages 6-9	55 item R/C questionnaire	55 item R/C questionnaire	55 item R/C questionnaire
Pages 9-10	7 Classification questions	7 Classification questions	7 Classification questions

For the two treatments, the task questions were laid out on the first pages; the 55 item R/C index questionnaire followed on the next pages and the finally a series of questions was asked to capture data on the control variables (see Section 4.6). The control groups were simply required to fill in the R/C questionnaire and give classification information. As can be seen from table 4.8, each treatment task consisted of questions on each individual stimulus page and questions making comparisons amongst pages.

Before the tasks began, the instructions were put onto an overhead projector and read through slowly to the group. The subjects were then told to work through the whole questionnaire at their own pace.

The full questionnaires can be seen in Appendices 4.5 and 4.6.

4.5.3.1 Classicist Task

In designing a classicist task, the aim was to encourage subjects to engage with the information on the brochure pages in a conscious manner and to use logical and rational thought processes (Bharadwaj, Varadarjan amd Fahy, 1993). The type of question, the structure of the questions and the content of the questions were all taken into account during the design of the classicist questionnaire. Each of these issues will be dealt with in turn. (Please note that as the students were given the brochure pages in A3 format to make textual reading easier, the pages were referred to as "posters" throughout the questionnaires). In terms of *type of question*, the questions all required the subjects to engage in a cognitive task. The first question for each page was the same:

On first impression, does the information on this poster look well-organised?	
	✓ one box
Extremely well organised	❑
Quite well organised	❑
Fairly well organised	❑
Not very well organised	❑
Poorly organised	❑

This required thinking about what constitutes “well-organised” and making a conscious evaluation using 1 of 5 epithets. The second question for each page required subjects to compare specific pieces of numbered text on the poster, e.g. for brochure page R the following question was asked:

Which piece of text presents information most clearly 1. (the graph) 2. (price check) 3. (the bold headings) 4. (the continuous prose) Please rank the four piece of text write the number here The piece of text which presents information most clearly is _____ The piece of text which presents information second most clearly is _____ The piece of text which presents information third most clearly is _____ The piece of text which presents information fourth most clearly is _____

Here respondents were required to use reasoning powers to decide which of the pieces of text provided the "best" presentation. The third question required the subjects to rank a list of words in terms of their suitability in describing the page. The words were all taken from semantic differential word pairs. For example, the question on page Q was:

How well do these words describe the poster? technical practical literal conservative <u>Rank the words</u> write the words here best word to describe this poster is __________ 2^{nd} best word to describe this poster is __________ 3^{rd} best word to describe this poster is __________ 4^{th} best word to describe this poster is __________

This involved mentally assessing the match between page content and verbal descriptor. Thus each of these question types (which formed the bulk of the questionnaire) can clearly be seen to encourage cognitive processing.

The *structure* of the questions was also designed to bias processing to the neo-cortex. All but one of the questions was closed-ended in that it required the ticking of a box or the choice of one word from a finite list. It was hoped that this would discourage free thought and emotions.

The *content* of the questionnaire was also clearly concerned with logic. The instructions made clear that the research was to do with conscious decision making. The instruction page of the questionnaire is laid out below.

This research involves marketing holidays. This part of the research is looking at the effects of different types of information on good logical decision making. It is important for holiday companies to understand the decision making process of holiday makers. We are particularly interested in making layout orderly, neat and clear to understand helping people reach a rational decision aiding formation of well thought-out opinions

The content of the questionnaire demanded the use of the conscious faculty of reason and encouraged the subjects - in Pirsig's (1974) words - "to bring order out of chaos." (p.67).

4.5.3.2 Romantic Task

The romantic task, on the other hand, had to be designed to maximise use of the limbic system and thus emotional mode of processing. Again, the question *type*;

the question *structure* and the question *content* were all considered. First, in terms of *type*, 9 of the 15 questions on the romantic questionnaire used a projective technique. (Kassarjian, 1974; Hollander, S.L. 1988; Lindzey, G. 1959). The specific technique used in the design of the romantic task questions was the "third person technique" which was famously used by Mason Haire (1950) in his discovery that American women in the late 1940s were reluctant to use the new instant coffee not (as housewives claimed when questioned directly) because the taste was poor but because they feared social disapproval.

This third person technique was used in the romantic experimental task in order to encourage processing on an unconscious and thus cognitive-free manner. To this end, subjects were asked the same three questions for each of the three pages:

"What sort of person would this poster appeal to?"

"What emotions would this make someone feel?"

"What mood would this poster put someone in?"

It was hoped that subjects would not feel that it was their own emotions which were being laid bare on the page and thus they would not activate defensive, cognitive processing mechanisms in trying to try to guage the "correct" socially acceptable response. It was hoped that this method of questioning would leave respondents somewhat freer to express feelings than would have been the case with direct questioning.

The *structure* of the questionnaire was also designed with freedom of emotional expression in mind. Thus open ended verbal responses were required in 12 out of the 15 questions. It was hoped that this structure would encourage spontaneous, intuitive replies which did not require logical thought. In response to the 3 questions above subjects were simply given three blank lines on which they could write whatever they wished. It was felt that this would facilitate a more intuitive type of response.

Finally, as can be seen from the 3 questions above, the actual *content* of the questions related to moods, emotions and subjective characteristics. It was hoped this would lead to emotional processing. The responses to these three questions are shown in Appendix 4.7. Some are heartfelt. For example, in response to the question for F "what emotions would this make someone feel?" responses included

"Wow! That would be a wild holiday! Would increase your heartrate and build up excitement"

"Weird feeling in the stomach"

"Excitement, exploratory urges, the need to break away"

In order to encourage the fantasising element of hedonic processing a further question was asked:

"What does this poster make you want to get up and do?"

The responses are shown in Appendix 4.8. For example:

"Travel! Right Now! Everywhere! Be more spontaneous!"

"Live life to the full - experience and take risks."

4.5.4 Controls

Clearly it was well outside the scope of this experiment to test for which part of the brain was used by the two sets of subjects! However, it was felt that by controlling question type, structure and content as closely as possible there was a reasonable chance that subjects given the romantic task would be encouraged to process the task and stimuli using the limbic system with the consequence of concentrating on emotional effects and that subjects given the classicist task would be encouraged to process the task and stimuli using the neo cortex with the consequence of concentrating on cognitive effects.

As noted in section 4.4.2.1, bias is a form of quantitative research error which is due to researcher-controlled sources such as questionnaire design (Malhotra and Birks, 2000). It was also noted that bias can be problematic as it is uni-directional and thus no simple process exists to average out its effects (Spector, 1993). In order to control for bias in the design of this questionnaire, a pilot experiment (Hunt, Sparkman and Wilcox, 1982) was carried out with a group of students who did not take part in the experiment. These students were asked to complete the task and a discussion on the clarity of the questionnaire ensued. No sources of confusion or ambiguity were revealed.

It was concluded that both the stimuli and the tasks which constituted the treatment variables were sufficiently robust for inclusion in the experiment.

The next stage was to specify the control variables which could impact on RC Score.

4.6 Specification of Control Variables

Although it had been decided not to create a full factorial experimental design formally incorporating independent variables in addition to the treatments, the effects of other variables had to be controlled for (Spector, 1993). A review of the consumer behaviour and advertising effectiveness literature revealed that gender, age, peer reference group, nationality, socio-economic group and product experience might theoretically impact upon the R/C personality measure. The following subsections present a case for the inclusion of each of these variables.

4.6.1 Gender

Holbrook and Olney (1995) point out that gender exerts important consequences for a variety of consumption preferences (Bernard, 1981; Gilligan, 1982; Miller, 1976). Specifically, in Holbrook's latter two studies of the effects of Romanticism and Classicism (1986, 1995) it was discovered that men and women differed significantly in R/C score and that gender interacted with the determinants of preference towards travel opportunities. It was thus essential that the experiment controlled for the effects of gender.

4.6.2 Age

According to Solomon, Bamossy and Askegaard (1999), as consumers grow older, needs and preferences change, often in unison with those of a similar age. For this reason they argue that age exerts a significant influence on values, opinions, lifestyles and attitudes i.e. those factors which make up "personality" (Kassarjian and Sheffet, 1981). Indeed, age "subcultures" in a marketing context have been identified (or created!) since 1956 when the label "teenage" first entered the English vocabulary as *Frankie Lymon and the Teenagers* were formed. Since then additional important age subcultures have entered marketing discussions. For example "Generation X" has been identified as the group of people born between the late 60s and the early 80s whose distinguishing features include a dislike for labels and an aversion to being "marketed at" (Shiffman and Kanuk, 2000). The "Baby Boomers" are the generation before who, by contrast, are consumption-oriented (Morrison, 1997). And the "Grey Market" comprises the over 60s who are becoming an increasingly important marketing force by dint of their sheer numbers - 20% of the European population by 2010 (Steward-Allen, 1997).

As the experimental population comprised three separate years of undergraduates, Masters students and some mature students, it was thought that effects of age should be controlled for.

4.6.3 Reference Group

Whilst age may be correlated with large national or international subcultures, the term "primary reference group" is used to denote groups such a family, friends, neighbours or colleagues with whom consumers interact fairly continuously and informally (Kotler, 2000, p. 163). Peer groups in particular have been seen to create pressures for conformity (Childers and Rao, 1992). It was thus thought that the moderating influence of peer reference group on students' R/C score should be controlled for. The variable used to capture peer reference group was year of study (first, second or fourth). The masters students were included with the fourth year students as they had been studying together for their marketing classes.

4.6.4 Nationality

It is well documented that advertising messages can be decoded differently by different nationalities (Hofstede, 1980; Hall, 1976). See, for example Walle's (1990) account of the different values attached to the Marlboro Man in the USA, Africa and East Germany; or Schroeder's study (1993) on differences in advertising style and communication concepts between France and Germany. It was therefore thought possible that certain nationalities could display a bias towards either the romantic or the classicist mode of thinking and feeling. As the student population was international, it was considered necessary to control for the potential effects of nationality on R/C score.

4.6.5 Socio-Economic Group

According to sociologist Jonathon Turner (1981) socio-economic grouping involves categorising the population in terms of their social standing. Theoretically, people who are grouped within the same socio-economic group tend to work in roughly similar occupations and have similar consumption patterns by virtue of common income levels. By extension, socio-economic group has been seen to correlate with the attitudes, values and lifestyles (Coleman, 1983) which constitute personality (Kassarjian and Sheffet, 1981). Socio-economic group was controlled for by capturing the post codes of the students' parents. The post codes were classified by the MOSAIC geodemographic socio-economic classification system (See Appendix 5.6 for details on this system).

4.6.6 Product Experience

According to Vakratsas and Ambler's (1999) taxonomy of advertising effectiveness, product experience constitutes a major intermediate effect in the processing of advertising stimuli. A number of studies (Hoch and Ha, 1986; Marks and Kamins, 1988; Wright and Lynch, 1995) have shown that the consumer's mind is not a blank sheet awaiting advertising but already contains unconscious memories of product purchasing and usage. Thus the processing of advertising messages feeds back to experience. It was therefore theoretically possible that student experience of the types of holiday shown on the brochure pages could affect the way in which they processed the stimulus information and in turn could affect R/C score. It was assumed that all students would have had experience of a summer sun holiday, but further data was specifically captured on experience of ski-ing, adventure holidays and expedition holidays.

The data for each of these control variables (gender, age, peer reference group, nationality, socio-economic group and experience) was captured by a series of questions at the very end of the R/C index questionnaire. The questions are shown in figure 4.10 below.

Figure 4.10: Collection of Control Variable Information

v56abc **Date of Birth**	--- --- ---	
v57 **Sex**	M ☐ 1	F ☐ 2
v58 **Course**	DBA1	☐ 1
	DBA2	☐ 2
	DBA4	☐ 3
	IMML	☐ 4
	MSc.	☐ 6
	Exchange.	☐ 6
	Other	☐ 7
v59 **Nationality**	British	☐ 1
	Other European	☐ 2
	North American	☐ 3
	South American	☐ 4
	Asian	☐ 5
	African	☐ 6
	Other	☐ 7
v60 **Parents' Post Code** ___ ___		
v61 **Your views on ski-ing:**	Never been	☐ 1
	Love it	☐ 2
	It's OK	☐ 3
	Hate it	☐ 4
v62 **Your views on activity holidays: (rafting, mountain biking, bungee jumping etc.)**	Never been	☐ 1
	Love them	☐ 2
	They're OK	☐ 3
	Hate them	☐ 4
v63 **Your views on expedition holidays: (group treks in overland trucks, camping etc.)**	Never been	☐ 1
	Love them	☐ 2
	They're OK	☐ 3
	Hate them	☐ 4

4.7 Conclusion

Chapter 4 set out to explain the design of a piece of research to test the new proposition that a firm's advertising can create changes in personality segments. **Section 4.1** introduced the chapter. **Section 4.2** considered research design at its broadest level and presented a discussion of the relative merits of an exploratory versus a conclusive research design. The Section went on to opine that a causal conclusive research design using an experimental methodology was the most appropriate means of operationalising the research objective. **Section 4.3** discussed in detail the type of experiment most suitable to test the new research proposition and concluded that a post-test only control group experiment was the most advantageous of available designs. The experiment was explained diagrammatically using Campbell and Stanley's (1963) notation system and issues of control were addressed. **Section 4.4** went on to justify the use of Holbrook et al.'s (1984, 1986, 1995) Romantic/Classicist (R/C) Index Score as the dependent variable. **Section 4.5** explained the development and testing of romantic and classicist treatments to be applied as the main independent variable in the experiment. **Section 4.6** examined the theoretical case for inclusion of additional independent variables in the experiment and concluded that there was a case for controlling for the effects on R/C score of: reference group, socio-economic group, gender, age, nationality and product experience.

4.7.1 Final Experimental Form

The final execution of the experiment is explained below. Within each class, students were randomly assigned to either the control group, the romantic treatment group or the classicist treatment. Table 4.9 shows the allocation of students to groups.

Table 4.9 Allocation of Subjects to Experiment Group

	Control Group	**Romantic Treatment**	**Classicist Treatment**	**Total**
Fourth Year/MSc.	23	15	21	59
1st year	31	23	26	80
2nd year	33	30	25	88
Total	**87**	**68**	**72**	**227**

The control group simply completed the romanticism/classicist index questionnaire (see Appendix 4.1). The control R/C score was then computed (O_1).

The romantic treatment group examined the romantic stimuli, completed the romantic task questionnaire, and immediately afterwards completed the R/C questionnaire. The romantic R/C score was then computed (O_2).

The classicist treatment group examined the classicist stimuli, completed the classicist task questionnaire, and immediately afterwards completed the R/C questionnaire. The classicist R/C score was then computed (O_3).

The RC questionnaire consisted of a 7 point scale and responses were computed such that a low score indicated classicism and a high score indicated romanticism. Thus if $O_2>O_3$ then there would be some evidence to say that short term exposure to manipulated advertising stimuli can influence the formation of personality segments. Stronger evidence would be provided for this proposition if it could further be shown that $O_2>O_1>O_3$ i.e. that the RC score for the romantic treatment group was higher than that of the control group and that this in turn was higher than that of the classicist treatment group.

Chapter 5 explains the procedures which were followed for the analysis of the experimental data.

CHAPTER FIVE

DATA ANALYSIS

5 Data Analysis

5.1 Introduction

This chapter describes and explains the procedures which were followed for the analysis of the experimental data. Figure 5.1 shows both the data analysis procedure and also the structure of the chapter, which follows this same sequence.

Figure 5.1

Structure of Chapter 5
Data Analysis

Section 5.2
Remove Outliers

- Calculation of Mahalanobis and jacknife distances for R/C index variables

↓

Section 5.3
Test Major Hypothesis:
μ romantic > μ classicist

- Comparison of romantic and classicist treatment group mean R/C scores by:
  - *t* test

↓

Section 5.4
Test Further Hyptheses:
μ romantic > μ control
μ control > μ classicist

- Comparison of group means by:
  - ANOVA
  - Post Hoc LSD

↓

Section 5.5
Test for Effect of Other Factors
i.e.
reference group, socio-economic group, gender, age, nationality, product experience

- Creation of 3 General Linear Models

↓

Section 5.6
Conclusion

- Summary of Chapter

Thus **Section 5.2** describes the Mahalanobis distance calculation and the jack-knife procedure which were used for removing outliers. **Section 5.3** is concerned with the testing of the major hypothesis that the mean R/C score of the romantic treatment group is greater than that of the classicist treatment group. Within this section the use of the Student *t* test to compare group means is explained and justified. **Section 5.4** then turns to the testing of the further hypotheses that the romantic treatment group mean is larger that the control group mean and that the control group mean is, in turn, greater than the classicist treatment group mean. Within this section the use of ANOVA and the choice of the post hoc LSD test are explained and justified. Finally, **Section 5.5** presents the procedure for developing the best regression equation to explain the relationship between the mean R/C score of the treatment groups and the mean R/C score of the other factors which were controlled for in the experiment i.e. reference group, socio-economic group, gender, age, nationality and experience. This procedure consisted of the development of 3 consecutive general linear models.

5.2 Removal of Outliers

Before embarking on the task of data analysis, it was important that suspect observations were identified and dealt with. Given that the subjects were, for the most part, undergraduates and that the experiment took place at the end of term when student spirits are high, it was thought highly likely that some students would either have completed the questionnaire without due care and attention or have deliberately written nonsense. An "outlier analysis" was therefore conducted using the JMP[3] statistics software programme to identify cases which deviated from the other observations. Initially, the outliers were identified by a computation of the Mahalanobis distance of each point from the multivariate mean. The Mahalanobis distance depends on estimates of the mean, standard deviation and correlation for the data (Mahalanobis, 1961). The distance is plotted for each observation number and the extreme multivariate outliers can be identified by highlighting the points with the largest distance values. The Mahalanobis distance takes into account the correlation structure of the data as well as the individual scales. For each value, the distance is denoted d_i and is computed as

$$d_i = \sqrt{(y_i - \bar{y})' S^{-1} (y_i - \bar{y})}$$

where

y_i is the data for the ith row

$\bar{y}$ is the row of means

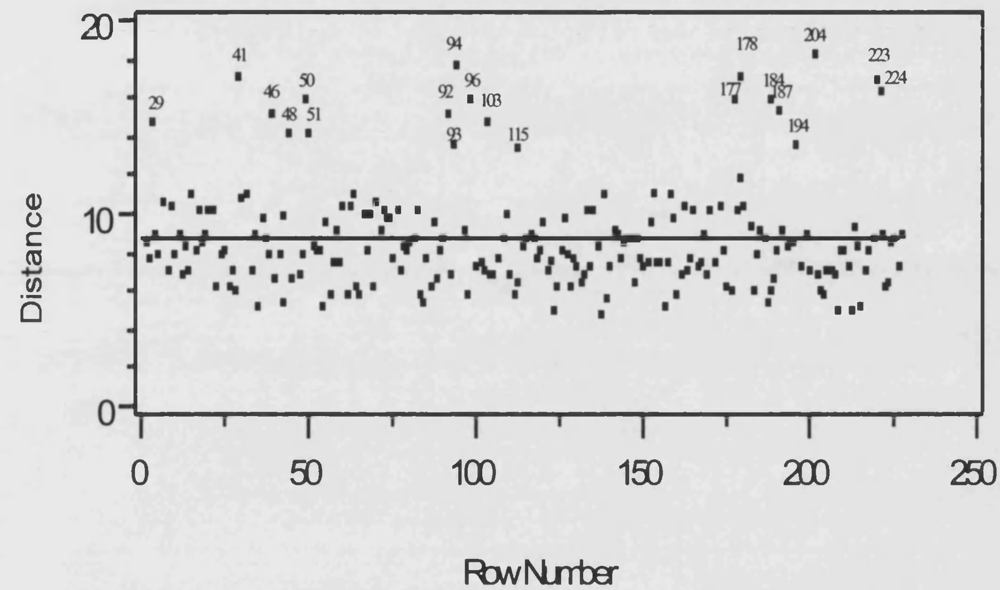
S is the estimated covariance matrix for the data

The Mahalanobis distance was calculated for each of the 55 R/C variables which made up the R/C index. Further, as the Mahalanobis outlier distance is not particularly robust in the sense that the outlying points themselves can distort the estimate of the covariance and means in such a way that outliers are disguised, it was also decided to use the alternate distance computation: the jack-knife method. Using this method, the distance for each observation uses estimates of the mean, standard deviation and correlation matrix that do not include the observation itself.

[3] JMP® Version 3, SAS Institute

The combined (i.e. all three treatment groups) scatter plot which resulted from the jack-knife procedure is shown in figure 5.2 below.

Figure 5.2 : Outlier Analysis - Combined Plot
Jacknife Distances vs Row Number (Respondent)



It can be seen from figure 5.2 above that 20 outliers were identified (respondents 29, 41, 46, 48, 50, 51, 92, 93, 94, 96, 103, 115, 177, 178, 184, 187, 194, 204, 223, 224). A profile of these observations was compared with a profile of the rest of the sample, in order to ascertain whether the variation in their responses could be accounted for by any of the variable data collected in the study. The eight control variables of interest to the study and for which data were collected were: reference group, socio-economic group, gender, age, nationality, ski-ing experience, activity holiday experience and expedition holiday experience. Appendix 5.1 contains a graphical presentation of the profiling exercise. In terms of reference group, age, and nationality, the profiles were almost identical and in terms of activity holiday experience and expedition holiday experience the profiles were very similar. The only major profile differences were found in gender and ski-ing experience. There were more male outliers (60%) than in the rest of the sample (40%). It had been observed during teaching the classes that made up this sample that the male students formed the majority of the "trouble-makers" and thus if, as had been suspected, outliers were attributable to high spirits it made intuitive sense that more of these outliers should be male. 78% of the outliers had no experience of ski-ing compared with 43% for the rest of the sample. It may be that as two of the four posters in the experiments were about ski-ing, boredom with the task led to mis-completion of the questionnaire. The case is not clear cut, but in view of the overall similarity of the profiles, and in view of the feasible explanations for differences in gender and ski-ing experience profile, it was decided that the deviation of the responses of these 20 observations could not be said, with any confidence, to be attributable to a specific variable. It was this thus decided that these were "genuine" outliers and should be removed from the analysis.

Thus, the data set analysed in the remainder of this chapter consists of 207 of the original 227 observations. Table 5.1 below shows the structure of the data by the nine variables of interest.

Table 5.1:Data Structure

variable	labels	no.	%
nationality	British	156	76
	other	50	24
age (year of birth)	1972-1979	102	50
	1980-1982	100	50
ski-ing experience	experience	115	57
	no experience	88	43
activity holiday experience	experience	130	64
	no experience	73	36
expedition holiday experience	experience	127	63
	no experience	76	37
treatment group	control	87	42
	romantic	57	28
	classicist	63	30
reference group	Dba4 / Msc.	53	26
	Dba1	74	36
	Dba2	80	38
socio-economic group	high income families/country dwellers	91	62
	others	56	38
gender	male	83	40
	female	123	60

N=207

5.3 Testing Main Hypothesis

With the outliers removed, the first part of the data analysis could proceed. The main hypothesis which is being tested in this study is that short-term exposure to and involvement with value-imbued stimuli are instrumental in causing changes in the personality scores which are used to designate segments. As explained in the previous chapter, a completely randomised experimental design was used wherein the response variable of interest was the score on a romanticism/classicism (R/C) index. In experimental terms the main research hypothesis was expressed as

$\mu_2 > \mu_3$

where

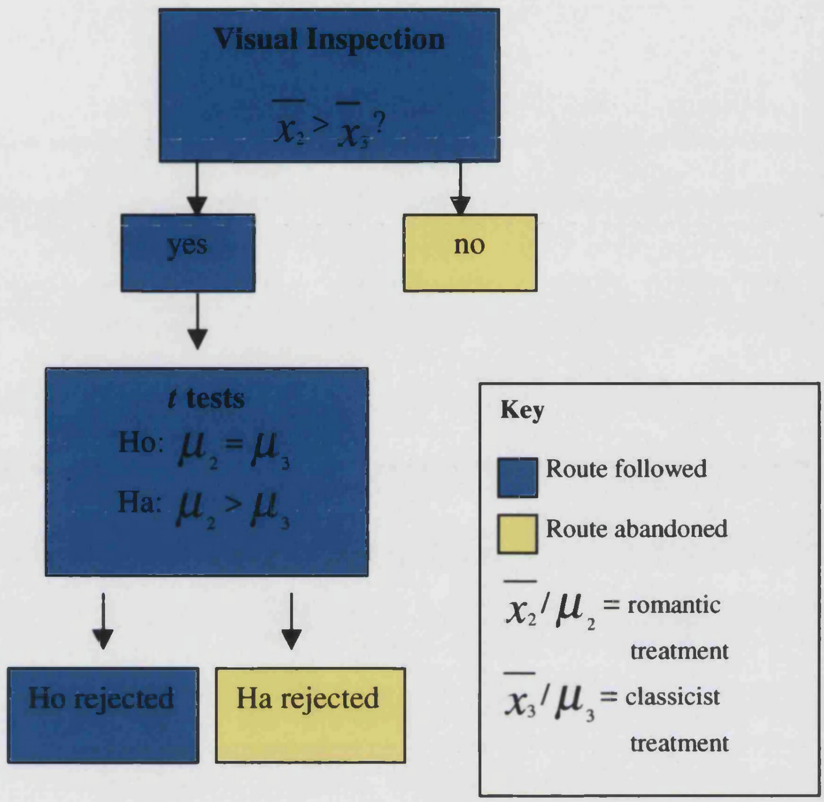
μ_2 = the mean R/C score of the romantic treatment population

μ_3 = the mean R/C score of the classicist treatment population

It should be noted that μ_1 is the mean R/C score of the control group which is not of relevance to the main hypothesis but which will be discussed in the next section of this chapter (5.4) which deals with further hypotheses.

Figure 5.3 shows the procedure which was followed to test the main hypothesis. The trajectory of the blue boxes shows the course which the analysis actually took. The yellow boxes show the courses of action which were eliminated during the progression of the comparisons and statistical tests.

Figure 5.3: Hypothesis Testing Procedure



Section 5.3.1 reports on a simple visual comparison of the sample means. Prima facie, the direction of the means confirmed the overall thesis that exposure to value-imbued stimuli influences personality type group membership as measured by R/C score. However, this experiment used 2 randomly drawn *samples.* Therefore, the probability of the sample means having been drawn from two separate *populations* had to be tested. Section 5.3.2 goes on to present the findings of *t* tests of the sample means where the null hypothesis asserted the equivalence of the population means whilst the alternative hypothesis asserted that the mean of the romantic population exceeded the mean of the classicist population. Ho: $\mu_2 = \mu_3$

and Ha: $\mu_2 > \mu_3$. The *t* test procedure allowed us to reject the null hypothesis and conclude that for the population as a whole the mean R/C score of a romantic treatment group is greater than that of a classicist treatment group.

5.3.1 Visual Inspection of Means

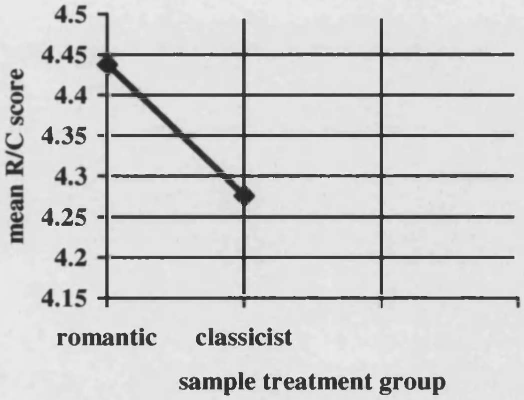
In order to test the main hypothesis, the first procedure was to make a simple visual comparison of the sample means ($\bar{x}_2$ and $\bar{x}_3$). The sample means were computed using the SPSS statistics software package.

$\bar{x}_2$ = mean R/C score of the romantic treatment sample

$\bar{x}_3$ = mean R/C score of the classicist treatment sample.

The results of this comparison are shown in figure 5.4 below

Figure 5.4: Visual Inspection of Sample Means (i)



Treatment group	Sample Mean
Romantic (2)	4.4381
Classicist (3)	4.2765

The results of this simple analysis show clearly that $\bar{x}_2$ (4.4381) $> \bar{x}_3$ (4.2765), thus confirming the most rudimentary expression of the main hypothesis.

5.3.2 *T* test

Whilst on visual inspection the experimental data had supported the main hypothesis, the findings relate only to samples. Thus a *t* test was carried out to ascertain whether the difference in means observed in the samples could be said to represent a difference in means for the total populations namely all students exposed to romantic stimuli and all students exposed to classicist stimuli. Estimates for population means were derived from sample data which was either known already i.e. the sample sizes (n), or were easily calculable using SPSS i.e. means ($\bar{x}$), standard deviations (s) and variances (s^2). This data is shown table 5.2 below.

Table 5.2: Known Sample Data (i)

Romantic Treatment Sample (2)	Classicist Treatment Sample (3)
$n_2 = 57$	$n_3 = 63$
$\bar{x}_2 = 4.4381$	$\bar{x}_3 = 4.2765$
$s_2 = .4346$	$s_3 = .3304$
$s_2^2 = .1888$	$s_3^2 = .1092$

Using the known data about differences between the samples shown in table 5.2 and assuming both that the populations are infinite and the distributions normal, the Student *t* test was used to estimate the probability of the same differences observed in the samples also being true between the total populations. Any sample drawn or random assignation made, is susceptible to a certain degree of deviation from the population parameters due to sampling error. The *t* test of significance is designed to test whether the difference between the two sample means that are being compared reflects a difference between their respective population means - a statistically significant difference - or merely reflects the hypothetical means that would be generated if the experiment were to be repeated infinitely. If the latter case is correct the observed difference between the two sample means is not statistically significant and not enough evidence is present to conclude anything other than equality of the two respective population means i.e. $\mu_2 = \mu_3$.

Prior to carrying out a *t* test it is normal practice to formulate a null and an alternative hypothesis. The null hypothesis (Ho) for a *t* test normally asserts the equivalence of the group population means, in this case $\mu_2 = \mu_3$. In many experiments, the alternative hypothesis (Ha) simply asserts non-equivalence i.e. $\mu_2 \neq \mu_3$. However, in this experiment there is specific directionality inherent in the hypothesis. The experiment is concerned to test not only whether μ_2 is different from μ_3, but specifically whether the value of μ_2 is greater than the value of μ_3. The alternative hypothesis (Ha) was therefore expressed as $\mu_2 > \mu_3$.

The null and alternative hypotheses express two competing versions of reality. In order to choose between them it is necessary to evaluate the dispersion of scores within each group in order to give operational substance to the principle that:

"Before it is possible to conclude with confidence that two groups are different from one another with respect to some characteristic, any difference *between* them must substantially exceed the differences *within* them with respect to that characteristic." (Brown and Melamed, 1993, p.84).

In this experiment, if there is great variability in the R/C scores *within* both the romantic and classicist treatment groups but very little difference *between* the mean R/C score for the romantic treatment group and the mean R/C score for the classicist treatment group, it would be difficult to sustain a belief that the different treatments affect R/C scores.

Operationally then, the *t* test compares this between-means and within-mean differential by dividing the difference between means by the standard error of the difference between the means.

Thus $t = \dfrac{(\bar{x}_2 - \bar{x}_3)}{(s\bar{x}_2 + s\bar{x}_3)}$

The between-means differential ($\bar{x}_2$ - $\bar{x}_3$) can be calculated from the figures in table 5.2.

$$4.4381 - 4.2765 = .1616$$

This defines the magnitude of between-group dissimilarity. It now remains to determine the magnitude of within-group dissimilarity in terms of which between group dissimilarity is to be evaluated. The standard deviation (*s*) is a rough indicator of the average extent to which each individual R/C score deviates from the group mean (Sirkin, 1995). In the experiment the standard deviation for the romantic treatment sample (s_2) was .4346 and that of the classicist treatment sample (s_3) was .3304. It should be noted, however, that s applies to raw scores. For the purposes of the t test where a comparison is being made between *means* rather than raw scores the standard error of the mean ($s\bar{x}$) is calculated.

The formula is $s\bar{x} = \dfrac{s}{\sqrt{n}}$

In the cases of our two treatment groups:

$$s\bar{x}_2 = \frac{.4346}{\sqrt{57}} = \frac{.4346}{7.550} = 0.0576$$

$$s\bar{x}_3 = \frac{.3304}{\sqrt{63}} = \frac{.3304}{7.9373} = .04162$$

Because the scores in each group comprise only a sample rather than the entire population $s\bar{x}_2$ and $s\bar{x}_3$ both represent unexplained variability – that is they are expressions of the extent, on the average, to which a group of persons who have been treated identically have inexplicably failed to behave in the same way. It is therefore permissible to merge these two conceptually equivalent figures into a single measure of collective within-group variability which is referred to as the standard error of the difference between the means (sd) and is expressed:

$$sd = \sqrt{s\bar{x}_2^{\,2} \pm s\bar{x}_3^{\,2}}$$

$$\begin{aligned} sd &= \sqrt{s\bar{x}_2^{\,2} + s\bar{x}_3^{\,2}} \\ &= \sqrt{0.05757^{\,2} + 0.04162} \\ &= \sqrt{.0033 + .0017} \\ &= .0707 \end{aligned}$$

Having computed the standard error of the difference between the means (S*d or* $\bar{sx_2}^2 + \bar{sx_3}^2$) the *t* statistic can now be computed.

$$t = \frac{(\bar{x}_2 - \bar{x}_3)}{(s\bar{x}_2 + s\bar{x}_3)} = \frac{.1616}{.0707} = 2.2857$$

This expresses in numerical terms the principle that prior to declaring two groups to be distinguishable the explainable performance differential between differently treated groups (numerator) must exceed the unexplainable differences among persons treated identically (denominator). How many times larger the former must be than the latter in order to be judged statistically significant is a matter of convention and probability theory is relied upon to assess the probability of obtaining a difference as large as ($\bar{x}_2$ - $\bar{x}_3$) if the null hypothesis is true. The smallest magnitude which a *t* score must reach in order for its associated mean difference to be judged significant is given in *t* tables (See Appendix 5.2). The degrees of freedom is dependent on the sample sizes and is calculated $n_2 + n_3 - 2$ and the alpha levels, where alpha refers to probability levels considered too low to support the null hypothesis, are selected according to the objectives of the experiment (Sirkin, 1995).

In this experiment degrees of freedom (df) = 57 + 63 – 2 = 118. The 0.05 alpha level was chosen as the standard experimental measure. It can be seen from the tables in Appendix 5.2 that (rounding degrees of freedom up to 120) *t* would have to exceed 1.98 (i.e. the variability between the two groups would have to be almost twice as great as the standard error) before the null hypothesis could be rejected and the treatment groups could be declared to have performed in significantly different ways. As the *t* score was 2.2857, the null hypothesis $\mu_2 \neq \mu_3$ could be rejected and the alternative hypothesis $\mu_2 > \mu_3$ accepted.

Thus we can be confident that the R/C score differences observed in the experimental samples show significant differences in the two different populations from which the samples were drawn – namely all students exposed to romantic treatments and all students exposed to classicist treatments.

5.4 Testing Further Hypotheses

The results of the *t* test reported in section 5.3.1 suggest that different treatments produce significantly different R/C scores. However, in order to provide a more realistic test of the effects of the romantic and classicist treatments, a control group was also used in the experiment. The control group members were neither exposed to nor involved with any externally manipulated stimuli: the subjects simply completed the R/C questionnaire. In reality, if advertising has the power to alter personality segment membership, the process of change would start from a "neutral" position rather than from a position of psychographic opposition. Thus it will be of more interest to practitioners to know whether a romantic/classicist stimulus can create a group of people who are more romantic/classicist than a group of people who have not been exposed to any task at all – as opposed to knowing whether exposure to opposite sets of stimuli can create two psychographically differing groups. Thus in this part of the data analysis, null and alternative hypotheses were set up such that:

Ho: $\mu_2=\mu_1=\mu_3$

Ha: $\mu_2>\mu_1>\mu_3$

where

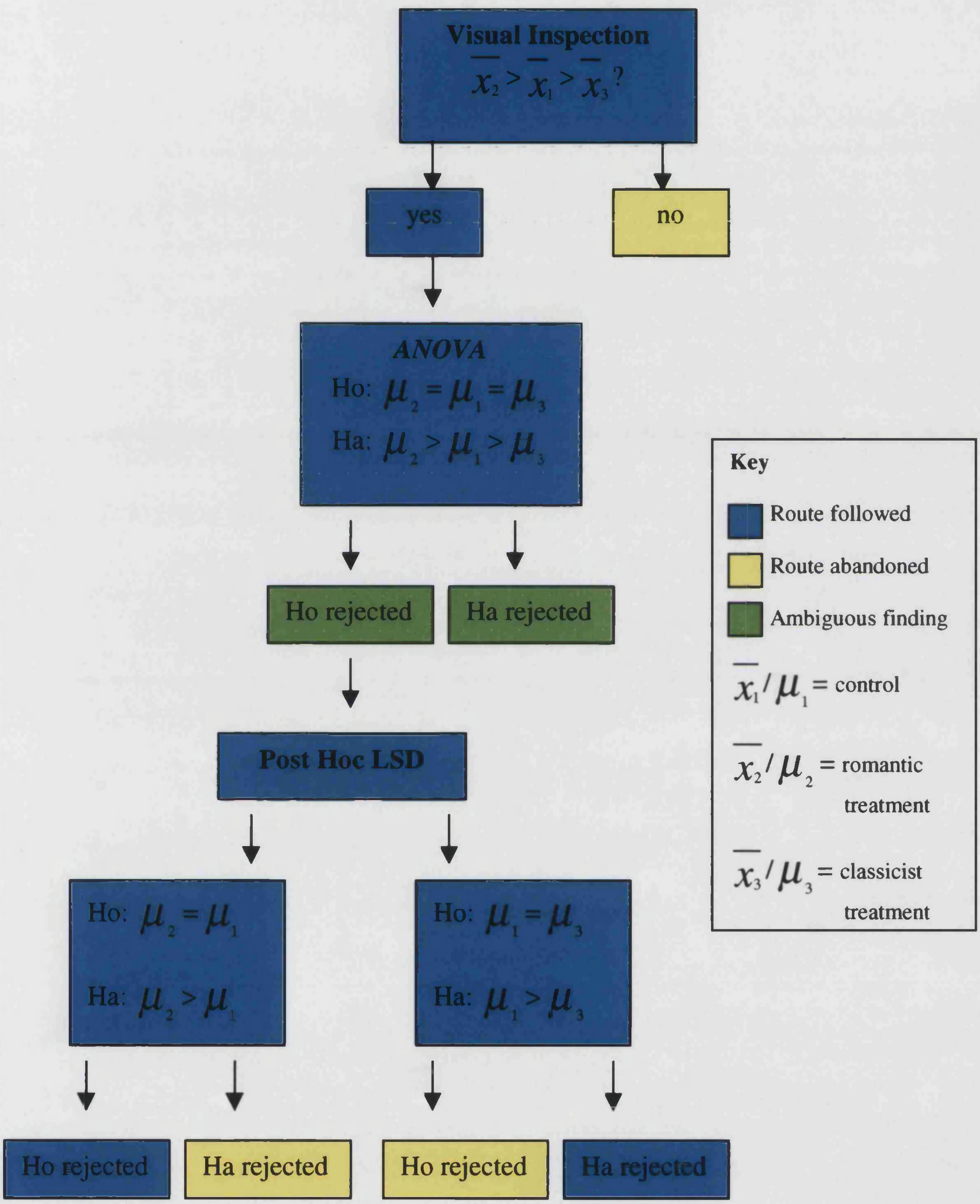
μ_2 = romantic treatment population R/C mean

μ_1 = control population R/C mean

μ_3 = classicist treatment population R/C mean.

Figure 5.5 shows the procedure which was followed to test this hypothesis. The structure of this section (section 5.4) mirrors this sequence. The trajectory of the blue boxes shows the course which the analysis actually took. The yellow boxes show the courses of action which were eliminated during the progression of the comparisons and statistical tests. Green boxes indicate an ambiguous finding.

Figure 5.5: Procedure for Further Hypothesis Testing



Section 5.4.1 reports on a simple visual comparison of the sample means. The direction of the means confirmed, at face value, that those exposed to a classicist stimulus had a lower R/C score than those in the control group and that those exposed to a romantic stimulus had a higher R/C score than those in the control group.

However, this experiment used 3 randomly drawn *samples*. Again, as with the *t* test procedure described in section 5.3.2 above, the probability of the sample means having been drawn from three separate *populations* had to be tested. Section 5.4.2 goes on to present the findings of a one way analysis of variance (ANOVA) where the null hypothesis asserted the equivalence of the three population means (Ho: $\mu_2 = \mu_1 = \mu_3$) and the alternative hypothesis asserted both difference and directionality (Ha: $\mu_2 > \mu_1 > \mu_3$). The significance level of the ANOVA test did not allow rejection of the null hypothesis. However, the test result was approaching an acceptable significance level and it was thus thought permissible to conduct post hoc tests to ascertain where the differences occurred. Fisher's Least Significant Difference Test (LSD) was chosen as the most appropriate test. The LSD test set up two hypotheses (Ho: $\mu_2 = \mu_1$, Ha: $\mu_2 > \mu_1$) and (Ho: $\mu_1 = \mu_3$, Ha: $\mu_1 > \mu_3$). The test results allowed rejection of the null hypothesis $\mu_2 = \mu_1$ but did not allow rejection of the null hypothesis $\mu_1 = \mu_3$. It was thus possible to conclude in this instance that romantic stimuli can be influential in the construction of personality whilst classicist stimuli do not have the same effect.

5.4.1 Visual Inspection of Means

In order to test the further, perhaps more realistic, hypothesis that stimuli can cause R/C scores to differ from the norm or control, the first procedure was to make a simple visual comparison of the sample means ($\bar{x}_2$, $\bar{x}_1$ and $\bar{x}_3$) where

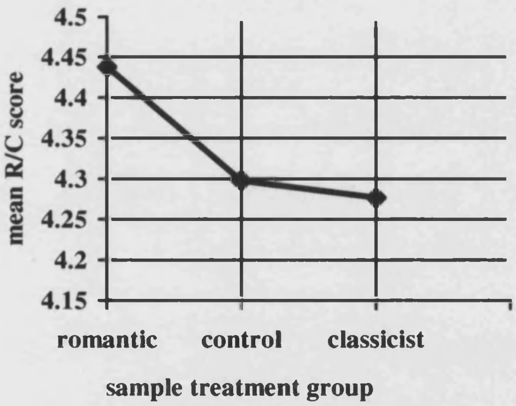
$\bar{x}_2$ = mean R/C score of the romantic treatment sample

$\bar{x}_1$ = mean R/C score of the control sample

$\bar{x}_3$ = mean R/C score of the classicist treatment sample.

The results of this comparison are shown in figure 5.6 below

Figure 5.6 Visual Comparison of Sample Means (ii)



Treatment group	Sample Mean
Romantic (2)	4.4381
Control (1)	4.2974
Classicist (3)	4.2765

The results of this simple analysis show that $\bar{x}_2$ (4.4381) > $\bar{x}_1$ (4.2974) > $\bar{x}_3$ (4.2765), thus confirming the most rudimentary expression of our hypothesis. It was noted, however, that the difference between the romantic score and the control score (0.1407) was much greater than the difference between the classicist score

score (0.1407) was much greater than the difference between the classicist score and the control score (0.0209), indicating a difference in the magnitude of effect between the romantic and classicist treatments.

5.4.2 ANOVA

Whilst on visual inspection the experimental data supported the hypothesis, the findings only related to *samples*, therefore the difference between *populations* had also to be tested. What is more, the difference between the control and classicist sample was very small indeed and required further investigation. The *t* test is normally run to test for the difference between *two* group means. This hypothesis, however, involved more than two groups and it was thus decided to use a one-way ANOVA (analysis of variance) to test for the equality of the three populations (Iverson and Norpoth, 1976). As with the *t* test, two competing hypotheses were set up. Again these were expressed as a null hypothesis of equality and an alternative hypothesis expressing not only non-equality but also directionality.

Ho: $\mu_2 = \mu_1 = \mu_3$

Ha: $\mu_2 > \mu_1 > \mu_3$

As with the *t* test, the known differences among the three samples were used to estimate the probability of the same differences being true among the populations. The distributions were assumed to be normal and the populations infinite. The known data for each sample are shown in table 5.3 below:

Table 5.3 Known Sample Data (ii)

Romantic Treatment Sample (2)	Control Sample (1)	Classicist Treatment Sample (3)
$n_2 = 57$	$n_1 = 87$	$n_3 = 63$
$\bar{x}_2 = 4.4381$	$\bar{x}_1 = 4.2974$	$\bar{x}_3 = 4.2765$
$s_2 = .4346$	$s_1 = .4774$	$s_3 = .3304$
$s_2^2 = .1888$	$s_1^2 = .2279$	$s_3^2 = .1092$
Mean of means $\bar{\bar{x}} = \frac{4.4381 + 4.2974 + 4.2765}{3} = 4.3373$		

The ANOVA procedure calculates a critical F score below which the null hypothesis must be accepted. The F score is calculated by dividing the *between-group* estimate of population variance by the *within-group* estimate of population variance.

Between-group estimate of population variance is referred to as the mean square due to treatments and is here denoted MSTR (Anderson, Sweeney Williams, 1999). The formula for computing MSTR is:

$$MSTR = \frac{\sum_{j=1}^{k} n_j (\bar{x}_j - \bar{\bar{x}})^2}{k-1}$$

The numerator is called the *sum of squares between* or *sum of squares due to treatments* and is denoted SSTR. The denominator k - 1 represents the degrees of freedom associated with SSTR where k = number of groups. In this experiment the following computation resulted.

$$SSTR = \sum_{j=1}^{k} n_j(\bar{x}_j - \bar{\bar{x}})^2$$

$$= 57(4.4381 - 4.3373)^2 + 87(4.2974 - 4.3373)^2 + 63(4.2765 - 4.3373)^2$$
$$= (57 \times 0.0102) + (87 \times 0.0016) + (63 \times 0.0037)$$
$$= .5814 + .1392 + .2331$$
$$= .9537$$

$$MSTR = \frac{SSTR}{k-1}$$

$$= \frac{.9537}{2}$$
$$= .4768$$

Next, the within-treatments estimate of population variance had to be computed. This is referred to as the *mean square due to error* and denoted MSE. The formula for computing MSE is:

$$\frac{\sum_{j=1}^{k}(n_j - 1)s^2 j}{n_T - k}$$

The numerator is called the *sum of squares within* or *sum of squares due to error* and is denoted SSE. The denominator of MSE is referred to as the degrees of freedom association with the within-treatment variance estimate.

For the experiment the following results are obtained

$$SSE = \sum_{j=1}^{k} (n_j - 1)S^{2j}$$
$$= 56(.1888) + 86(.2279) + 62(.1092)$$
$$= 10.5728 + 19.5994 + 6.7704$$
$$= 36.9426$$

$$MSE = \frac{SSE}{n_T - k}$$
$$= \frac{36.9426}{204}$$
$$= .181$$

If the null hypothesis is accepted and the ANOVA assumptions are valid, the sampling distribution of MSTR/MSE is an F distribution with numerator degrees of freedom equal to k-1 and denominator degrees of freedom equal to n_T-k. If the means of the k populations are not equal, the value of MSTR/MSE will be inflated because MSTR over-estimates σ^2 · Hence Ho will be rejected if the resulting value of MSTR/MSE appears to be too large to have been selected at random from an F distribution with degrees of freedom *k*-1 in the numerator and n_T-*k* in the denominator.

In the experiment MSTR/MSE = .4768/.181 = 2.634. The critical F value is based on two numerator degrees of freedom and 204 denominator degrees of freedom (assumed equivalent to ∞). For a .05 level of significance the tables in Appendix 5.3 show a value of F .05 = 2.99. Since the observed value of F is smaller than the critical value, strictly speaking we must accept the null hypothesis that all of the population means are equal.

However, the observed F value is approaching the critical value. Indeed, a calculation of the F statistic using the SPSS software package shows that the F value exceeds the critical value at a .077 level of significance (Appendix 5.4). As the SPSS calculation computes a slightly more conservative F score than the one computed by hand here, it was decided that it would be justified to assume a significant F value and to carry out a post hoc test to determine where differences occurred.

5.4.3 Post Hoc LSD Test

A number of post hoc tests are available for determining differences observed in ANOVA. In this case Fisher's Least Significant Difference Test (LSD) was selected. This test was one of the first methods recommended for interpreting group differences (Cramer and Bock, 1966) and has been supported over the ensuing 3 decades (Bock, 1975; Cooley and Lohnes, 1971; Finn 1974; Hummel and Sligo, 1972; Spector, 1977; Wilkinson, 1975; and Winer 1991). It is essentially a systematic procedure for comparing all possible pairs of group means. It equates (with a slight modification in how population variance is estimated) to a *t* test on the dependent variable. However, it takes into account the number of cases and has been shown to be exact for unequal group sizes (Winer, 1991). As a *t* test has already been used to test the major hypothesis and as the sample numbers are not equal (57, 63 and 87) LSD seemed a suitable choice.

The observed F score in the ANOVA procedure was approaching the critical F score for a .05 significance level. However, it was not known which differences were driving the significance. The LSD procedure sets up null and alternative hypotheses for each pair of groups in an experiment. Thus in this experiment 3 pairs of hypotheses were set up.

1. Ho: $\mu_2 = \mu_1$ Ha: $\mu_2 > \mu_1$
2. Ho: $\mu_1 = \mu_3$ Ha: $\mu_1 > \mu_3$
3. Ho: $\mu_2 = \mu_3$ Ha: $\mu_2 > \mu_3$

It was already known from the *t* tests reported in section 5.3.2 that there was a significant difference between the romantic group mean and the classicist group mean (μ_2 and μ_3) so there was no need to test hypothesis 3 again. The other two hypotheses, however, were tested.

The Test Statistic for Fisher's LSD Procedure is

$$t = \frac{\bar{x}_i - \bar{x}_j}{\sqrt{MSE(\frac{1}{n_i} + \frac{1}{n_j})}}$$

The rejection rule is

Reject Ho if $t < - t_{\alpha/2}$ or $t > - t_{\alpha/2}$

where the value of $t_{\alpha/2}$ is based on the t distribution with $n_T - k$ degrees of freedom.

5.4.3.1 Romantic Population and Control Group Population

To determine if there was a significant difference between the means of the romantic treatment population and the control population the computation was

$$
\begin{aligned}
t &= \frac{4.4381 - 4.2974}{\sqrt{.181(\frac{1}{57} + \frac{1}{87})}} \\
&= \frac{.407}{\sqrt{.181 \times .0289}} \\
&= \frac{.1407}{.0723} \\
&= 1.946
\end{aligned}
$$

At the 0.05 level of significance, the t distribution table (appendix 5.2) showed that with 204 degrees of freedom (i.e. $n_T - k$ *or* 207 - 3 assumed ∞), $t_{.025} = 1.960$. Thus if t <-1.960 or t >1.960 the null hypothesis $\mu_2 = \mu_1$ could be rejected. As the t value is 1.946, strictly speaking the null hypothesis could not be rejected. However, the t value was extremely close to the critical t value and would be significant at the 0.054 level of significance. (See SPSS print out in Appendix 5.5). It was, therefore, concluded that the mean R/C score of a group of students exposed to a romantic task and stimulus is significantly different from the mean R/C score of a randomly assigned control group of students.

5.4.3.2 Classicist Population and Control Group Population

The next stage was to determine whether there was also a significant difference between the classicist treatment population and the control group population. The computation of the *t* test statistic this time was

$$
\begin{aligned}
t &= \frac{4.2974 - 4.2765}{\sqrt{.181(\frac{1}{63} + \frac{1}{87})}} \\
&= \frac{.0209}{\sqrt{.181 \times .0274}} \\
&= \frac{.0209}{.0704} \\
&= .2968
\end{aligned}
$$

The *t* statistic was clearly neither below – 1.960 nor above 1.960. In fact, the SPSS computation (Appendix 5.5) shows that this would only be significant at the .766 level. Thus the hypothesis that the classicist group mean R/C score was equal to the control group R/C mean score could not be rejected.

Therefore the LSD tests allowed acceptance of one of the further hypotheses, namely that the R/C score mean is higher for those exposed to a romantic stimulus than those given no exposure to any stimulus. However, the hypothesis that the mean R/C score for those exposed to a classicist stimulus is different from that of those given no exposure to any stimulus could not be accepted.

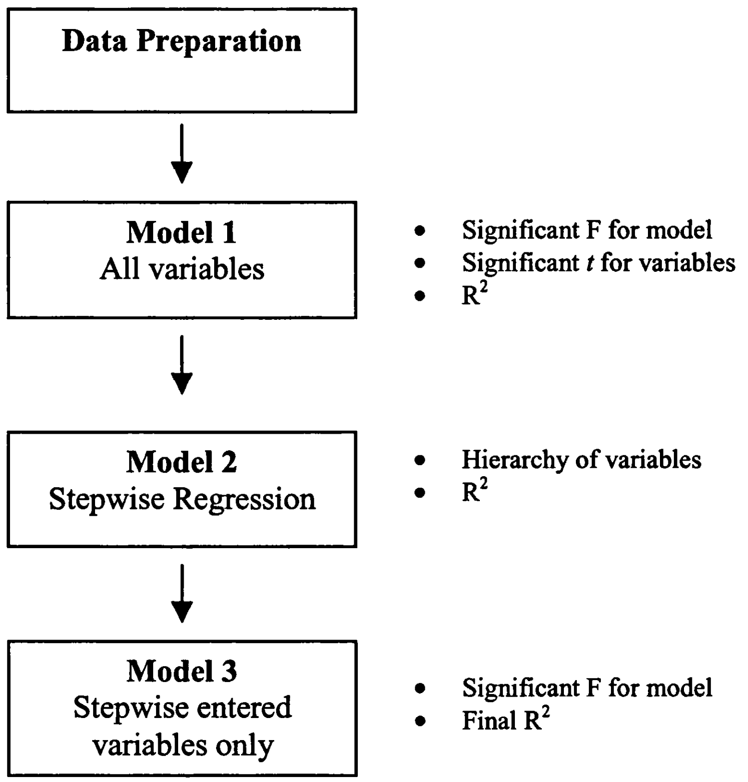
The next step of the data analysis procedure was to test for the effect of other factors which had been controlled for through the experimental design. This procedure is presented in Section 5.5 below.

5.5 Testing for Effects of Other Factors

Whilst the overall aim of the experiment was to test for the effects of the two treatment stimuli and tasks on the group R/C score, there was also theoretical evidence to suggest that other factors might influence R/C score. Whilst the use of a totally randomized design controlled substantially for this, as did the use of a homogeneous sample set, it was thought prudent to formally test for the effects of other factors. As explained in Chapter 4, theory suggests that reference group (Childers and Rao, 1992; Kotler, 2000), socio-economic group (Turner, 1981; Coleman, 1983; Kassarjian and Sheffet, 1981), gender (Holbrook and Olney, 1995), age (Solomon, Bamossy and Askegaard, 1999; Shiffman and Kanuk, 2000; Morrison, 1997; Steward-Allen, 1997), nationality (Hofstede, 1980; Hall, 1976), and product experience (Vakratsas and Ambler, 1999) may all have bearing on personality.

In order to test for the effect of these other factors, three general linear models were built using multiple regression analysis. Figure 5.7 shows the sequence and purpose of these three models. The structure of this section (Section 5.5) mirrors this sequence.

Figure 5.7: Test for Effects of Control Variables



Section 5.5.1 describes the preparation of the data for inclusion in the models. Section 5.5.2 presents an interpretation of the first model which emerged from running a multiple linear regression analysis with the treatment variable and all of the control variables together. The three fold purpose of building the first model was to ascertain whether an ANOVA of the whole regression model had a significant F score; whether significant *t* values would be found for the individual variables; and to evaluate the R^2 statistic. The purpose of the second model was to

measure the relative contribution of each of the variables to the explanation of the variance in R/C score. A stepwise regression model was built for this purpose and Section 5.5.3 presents an interpretation of this second stepwise regression model.

The variables were re-entered into the model, this time in the rank order of the magnitude of their contribution to the explanatory power of the model. The third model (presented in section 5.5.4) consisted of a regression model containing only those variables entered, because of their significance levels, into the stepwise regression model. In this model, the statistics of interest again were the F score for an ANOVA analysis and the final R^2.

5.5.1 Data Preparation

The aim of constructing these three general linear models was to develop an estimated regression equation that provided the best relationship between the R/C score and the other factors which were controlled for in the experiment i.e. reference group, socio-economic group, gender, age, nationality, ski-ing experience, activity holiday experience and expedition holiday experience. These nine variables from the data set are identified and described in table 5.4 below.

Table 5.4: Data Used in Models

variable name in computer print outs	variable name used in text	data type	variable labels
group	treatment group	nominal	1=control, 2=romantic treatment, 3=classicist treatment
year	age	interval	e.g. 1977, 1978 etc.
sex2	gender	dummy variable	0=female, 1=male
status	reference group	ordinal	1=dba4/MSc., 2=Dba1, 3=Dba2
nationality2	nationality	dummy variable	1=British, 0=Other
se2	socio-economic group	dummy variable	1=high income families and country dwellers, 0=others
ski-ing3	experience	dummy variable	1=experience of ski-ing, 0=no experience of ski-ing
activity3	experience	dummy variable	1=experience of activity holidays, 0=no experience of activity holidays
expedition3	experience	dummy variable	1=experience of expedition holidays, 0=no experience of activity holidays

First of all, it should be noted that, due to various manipulations of the data, the variable names used in the computer prints (i.e. which are exhibited in the appendices) out do not correspond exactly to variable names used in the text here. Both names are given in the table for ease of reference between text and print outs. It can be seen that in addition to the treatment group variable (group) there is a variable relating to reference group (status) socio-economic group (SE2); gender (sex2); age (year); nationality (nationality2); and three variables relating to experience (ski-ing3, activity3 and expedition3). For the purposes of model-building, nominal data was used for treatment group and reference group. Each of these two variables consisted of three categories. In the case of treatment group:

romantic treatment group, classicist treatment group and control group; and in the case of reference group, the three courses followed at the University: DBA4/MSc. (4^{th} year business undergraduates and post graduate business students); DBA1 (1^{st} year business undergraduates); and DBA2 (2^{nd} year business undergraduates). For age, interval data was used (year of birth).

The rest of the variables were transformed into dummy variables. Gender data was thus coded as 0 for female or 1 for male. Nationality data on the questionnaire had allowed 7 choices of nationality. However, the numbers in all of the non-British categories proved so small (Other European 35; South American 2; Asian 9; African 1; Other 3) that the data structure was recoded as either British (1) or non-British (0). Socio-economic group was captured by post code of parents. The post codes were classified by the MOSAIC geodemographic classification system into 12 categories (see Appendix 5.6 for full details of the 12 category MOSAIC system). However, the numbers in all except "high income families" and "country dwellers" categories were so low (suburban semis 20; blue collar owners 7; council flats 2; victorian low status 4; town houses flats 7; stylish singles 3; independent elders 5; mortgaged families 8) that a data transformation was necessary. A further analysis of the country dweller population showed that the majority of these were part of the sub category of gentrified villages. The profile of the gentrified villages and high income families is very similar in terms of disposable income and a number of lifestyle traits (see Appendix 5.6). It was therefore decided to group high income families and country dwellers together into a group of 91 respondents and to code them as "1" whilst all of the other classifications (56 respondents) were coded "0". It should be noted that students with parents outside the UK could not answer this question as the MOSAIC classification only applies to UK post codes.

As there were three different types of holiday shown in the experiment, it was necessary to control for three different types of experience. Thus responses to questions on ski-ing, activity holidays and expedition holidays data had been included on the questionnaire. For all three of these question responses were coded as 1 (respondent had experience of that type of holiday) or 0 (respondent had no experience of that type of holiday).

Throughout the rest of this section these variables will collectively be referred to as the "control" variables to distinguish them from the "treatment group" variable.

5.5.2 Model One - Using All Variables

Multiple linear regression is a technique designed primarily to develop predictive equations where there is more than one independent variable present. The predictive ability of the model is indicated by the R^2 statistic where a value of 1 shows perfect predictive power. In this experiment, it was thought unlikely that an equation with a high R^2 would be developed as personality studies in the past (albeit generally using personality type to predict purchase patterns rather than using treatment manipulations to predict personality scores) have rarely shown R^2 of above .09 (Wells, 1975; Kassarjian, 1971; Kassarjian and Sheffet, 1981). Thus the prime purpose of the regression was not prediction. Instead, the aim of the multiple regression procedure was to allow us to compare both control and treatment effects, within one model.

Although, a priori, there was no theoretical justification for higher order interaction between the control variables, as a precaution, a test was first of all carried out for the significance of higher order interactions. None proved significant. The first order model of treatment and control variables was therefore adopted with confidence.

Unlike the calculations made in sections 5.3 and 5.4 for the *t* tests and F tests, computations for multiple regressions models cannot easily be carried out by hand. The JMP statistical package was therefore used.

The model-building process began with a procedure to fit a linear model by least squares using all nine variables. Three statistics were of interest:

1. Was there a significant F score for the total model?
2. Were there significant *t* statistics for individual variables?
3. What was the R^2 for the whole model?

These statistics are presented and commented upon, in order, in the following sections.

5.5.2.1 Significant F score for the model

Within the JMP programme an Analysis of Variance Table was generated for this first regression model. (See Appendix 5.7) This table shows the basic calculations for a linear model. The table compared the model fit to a simple fit to a single mean. Essentially, the computations allow estimates about the populations to be made from the sample data collected in the experiment. Here, ANOVA is being used to test a null hypothesis that the regression coefficient (b)=0. Because where b=0, the correlation coeffiecient (r) = 0 also, the null hypothesis is stating that in the population b=0 and r=0. If Ho is true, any regression slope generated from the sample and any correlation coefficient generated from the sample will differ from 0 only as the result of sampling error. If, however, the F score obtained in the analysis of variance is statistically significant and Ho can be rejected, it can be concluded that in the population $b \neq 0$ and $r \neq 0$ and the sample regression/correlation data can be used to estimate their respective population parameters. The probability statistic is the probability of obtaining a greater F value by chance alone if the specified model fits no better that the overall response mean. Significance probabilities of 0.05 or less are often considered evidence that there is at least one significant regression factor in the model.

In the whole-model test of Analysis of Variance (Appendix 5.7), the F score (F ratio) of 1.8640 had a probability of 0.0464 which was deemed significant, as it is below 0.05. Thus it could be said with confidence that the model could be used to make inferences about the total population and it was also likely that there was at least one significant regression factor in this first model.

5.5.2.2 Significant *t* Scores for Individual Variables

The next step was therefore to find out which of the variables represented significant regression factors. To this end a "Parameter Estimates" table was generated (Appendix 5.7). This shows estimates of the parameters in the linear model and a *t* test for the hypothesis that each parameter is zero. The *t* values for treatment group (group); gender (Sex2) and socio-economic group (SE2) were all significant, with probabilities of .024, .046 and .053 respectively. It was therefore concluded that whilst $b \neq 0$ and $r \neq 0$ for the populations in the cases of the above variables, b(population)=0 and r(population)=0 for the other variables i.e. age (year), reference group (status), nationality (nationality2) and experience (ski-ing3, activity3 and expedition3).

5.5.2.3 R^2

As noted above, the primary purpose of this regression was not to enable prediction but to compare the relationship of the variable of interest (treatment group) with 8 control variables. Thus obtaining a high R^2 was not of primary importance. However, it was hoped that the R^2 would be in the order of .06 to .09 as this would be comparable with past personality models (Wells, 1975; Kassarjian, 1971; Kassarjian and Sheffet, 1981).

The R^2 for the first model was 0.097404 (see Appendix 5.7), which is towards the high end of personality experiments. However, R scores from sample data tend to overestimate the R in the population and so the R score is usually adjusted for this.

The adjusted R^2 was 0.045149 (Appendix 5.7) which is somewhat lower than other personality studies.

Thus, three conclusions were drawn from this first model using all nine variables together. First, that the model provided a fit which was better than the overall response mean. Second, that estimates about the population could be made from the model. And third, that treatment group, gender and socio-economic group were all significant regression factors. However, it also had to be concluded that the model provided a poor R^2 even in terms of the modest expectations for personality research. This, in part, was most probably due to the inclusion in the model of a relatively large number of variables which did not show significant *t* statistics and thus accounting for the large reduction in adjusted R^2 over the initial R^2. In addition, this first model simply entered the variables into the model in the order in which the data was collected, as there was no a priori theory to suggest which variables might have greater or lesser explanatory power.

In order to combat this issue as well as to provide another method of "weeding out" insignificant control variables it was decided to run a stepwise regression analysis.

5.5.3 Model Two – Stepwise Regression

The stepwise regression procedure allows the computer to determine *which* independent variables to enter into the model and *when* to enter them. The variable which, on its own, provides the greatest explanatory power is entered first; the variable which provides the second greatest explanatory power is entered second and so on. With each "step" the R^2 should increase but with each step the increment in the size of the coefficient will get smaller as each variable only tends to bring about a small increase in explained variation. Table 5.5 below shows that four variables were entered into the model in the following order: first, reference group (status); second, treatment group (group); third, socio-economic group (SE2); and fourth gender (Sex2).

Table 5.5: Stepwise Regression

Step	Parameter	Action	"Sig Prob"	RSquare
1	status{2&1-3}	Entered	0.0136	0.0300
2	group{3&1-2}	Entered	0.0399	0.0504
3	SE2	Entered	0.0437	0.0698
4	Sex2	Entered	0.0435	0.0889

It can be seen that the R^2 increases from 0.03 with the entry of the reference group variable to 0.05 for reference group plus treatment group; 0.0698 for reference group plus treatment group plus socio-economic group; and finally to 0.0889 for reference group plus treatment group pus socio-economic group plus gender. The adjusted R^2 for the whole four-variable model is 0.07 (see Appendix 5.8) which represents explanatory power in accordance with other personality studies.

Thus this second step-wise regression model allowed control for the noise in the first model which was probably created by order of entry of variables into the model and a high number of insignificant variables. Four variables were selected for the second model and the adjusted R^2 was what was expected from previous personality work.

5.5.4 Model Three - Final Model

Having weeded out the noise from the first model using the stepwise regression procedure, the final step was to create a model using only the four significant variables.

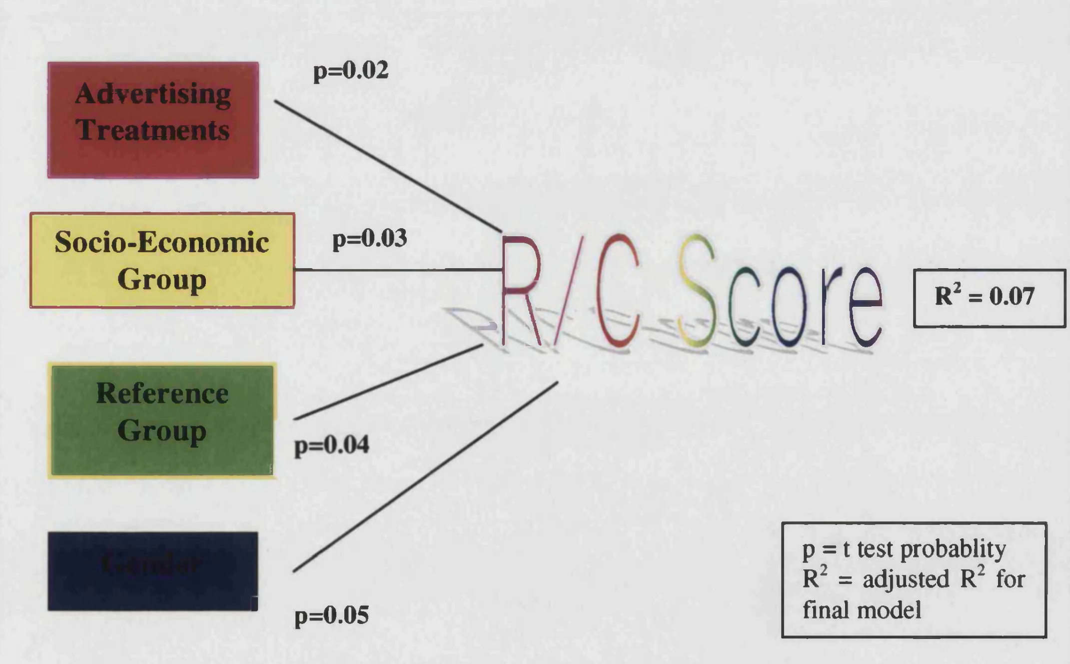
As with the procedure for Model One, a whole model test of Analysis of Variance was carried out. This time the F statistic was 4.9788 (see appendix 5.9) which had a probability of 0.0008 which compares very favourably with a probability of 0.0464 for Model One.

It was already known from the stepwise procedure that the variables in the model contributed significantly to the explanation of the variance, and indeed, the *t* statistics for the four variables gave the following probablities: Treatment Group (0.0204); Socio-Economic Group (0.0269); Reference Group (0.0413); and gender (0.0547).

The adjusted R^2 for this final model was 0.0717 (see Appendix 5.9), which, whilst low in terms of the overall explanatory power of the model, is respectable in terms of personality research.

The overall aim of the three linear regression models had been to ascertain the effect of the control variables on R/C score. The models showed that within the confines of this experimental situation, reference group, socio-economic group and gender had an influence on R/C score whilst nationality, product experience and age did not influence how romantic or classicist a person might be. This is represented diagrammatically in figure 5.8 below.

Figure 5.8 Factors Affecting R/C Score



5.6 Conclusion

This chapter has elaborated the four-fold procedure which took place to analyse the experimental data (removal of outliers; testing of major hypothesis; testing of further hypotheses; and testing for effect of control variables). The conclusions reached as a result of this procedure are as follows:

- 20 outliers had to be removed from the data set before the analysis could be conducted.

- The major hypothesis of this doctorate was upheld. The mean R/C score for a group of students exposed to a romantic advertising treatment is greater than the mean R/C score for a group of students exposed to a classicist advertising treatment.

- One of the further hypotheses was upheld. The mean R/C score of a group of students exposed to a romantic advertising treatment is greater than the mean R/C score of a group of students exposed to no advertising treatment.

- The other further hypothesis was not upheld. The mean R/C score of a group of students exposed to a classicist advertising treatment is not significantly lower than the mean R/C score of a group of students exposed to no advertising treatment.

- Reference group, socio-economic group and gender contribute significantly to the explanation of the variance in R/C score.

Chapter six will present a discussion of these conclusions from the data analysis. It will address the limitations of the experiment and will elaborate on the implications of the findings. It will also make recommendations both for future research and for the practice of market segmentation.

CHAPTER SIX

IMPLICATIONS

RECOMMENDATIONS

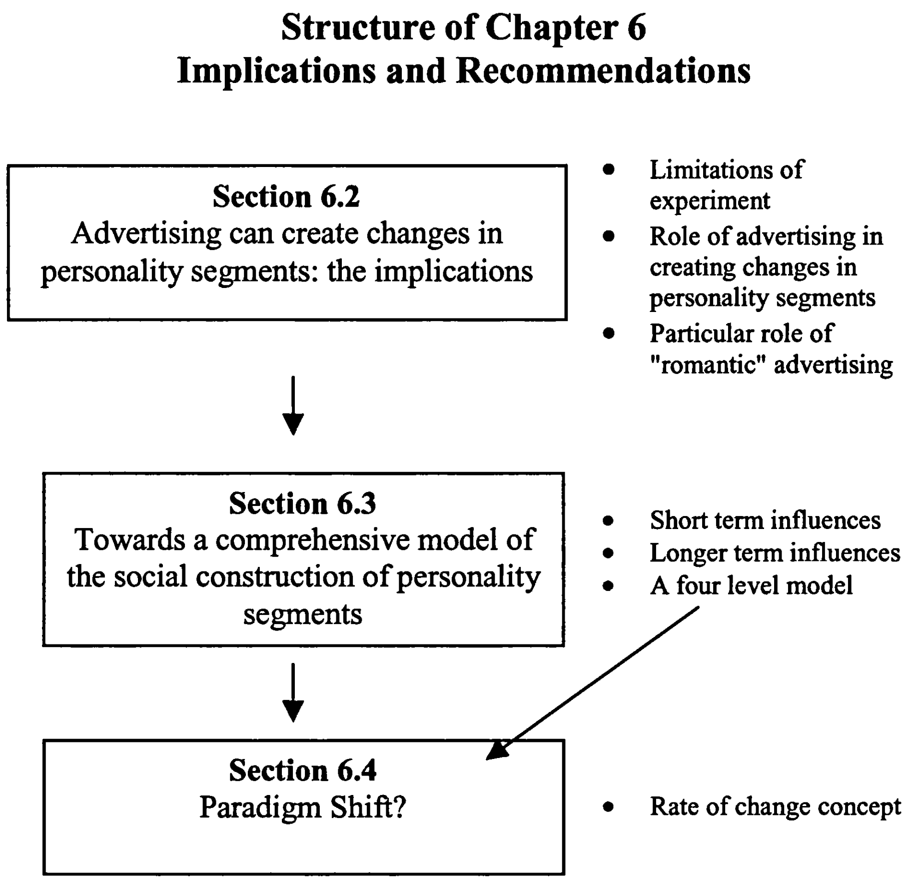
6 Implications and Recommendations

6.1 Introduction

This chapter discusses possible interpretations of the experimental findings. The chapter discusses two fundamental issues. The first relates to the specific proposition tested by the experiment. Can the results of the experiment be taken as evidence that a firm's advertising can create changes in personality segments? The second relates more generally to the future of segmentation research. Can the findings from this experiment be used to develop a comprehensive model of the social construction of segments? And, moreover, can such a model lend weight to the thesis that a paradigm shift is and will necessarily take place in segmentation research?

Figure 6.1 shows the structure of the chapter.

Figure 6.1



Section 6.2 deals with the specific proposition that advertising can create change in personality segments. In Section 6.2.1 the limitations of the experiment are discussed and further research avenues suggested which might serve to overcome these limitations. In Section 6.2.2 the implications for management thinking and practice are raised along with the ethical implications for both marketers and consumers. Section 6.2.3 discusses the implications of the unanticipated finding that "romantic" advertising appears to be more effective than "classicist"

advertising. This finding is discussed in relation to contemporary theories on consumer processing of persuasive advertising.

Section 6.3 examines whether the results of this experiment can contribute to a comprehensive model of the social construction of personality segments. In Section 6.3.1 it is concluded that given the relative ease with which a short term advertising stimulus can destabilize personality scores, this experiment supports the view that segments are changeable at least in the short term. In Section 6.3.2 the role of gender, socio-economic group and peer group influence in the construction of personality type is discussed. It is noted that the influence of these variables is longer term than that exerted by advertising. Section 6.3.3 goes on to propose a model which visualises the social construction of segments as a 4 level process which occurs over time and which can encompass short term effects such as advertising effects and very long term effects such as gender.

Section 6.4 returns to the issue of paradigm shift raised at the beginning of this thesis. The implications of this model for the future of segmentation research is discussed and it is proposed that the notion of "rate of change" is an important addition to market segmentation thinking.

6.2 Advertising Can Create Changes in Personality Segments: The Implications.

The experiment demonstrated that the mean R/C score of the romantic treatment group (4.44) was significantly higher (more romantic) than the mean R/C score of the classicist treatment group (4.28) at the 0.05 significance level. It was therefore concluded that the advertising treatments had an impact on personality as measured by R/C Score and thus that personality was, at least in part, and at least in the short term, subject to alteration through exposure to advertising. However, certain limitations on the generalisability of these findings must be pointed out. These are addressed in Section 6.2.1 below.

6.2.1 Limitations of Experiment

The first limitation of this experiment was the use of a student population. As was pointed out in chapter 4, usage of a student sample offered two advantages: firstly, it was possible to ensure complete randomization in the experimental design using unique registration numbers (Fisher 1935: See Box, 1978), and secondly, the subject homogeneity in terms of age, education level, university preference and course preference provided a high level of control for extraneous factors (O'Herlihy, 1980).

However, whilst the computation of the *t* statistics for comparison of means allowed us to say with confidence that the sample findings can be generalized to the total student population, it is not possible to say with confidence that these findings would be replicated if carried out with a representative sample of the total UK population, for example, with a sample of senior citizens (Rentz, 1987).

The second limitation was that only one set of Romantic and Classicist stimuli were used. Although the stimuli were thoroughly tested both qualitatively and quantitatively, further experiments using alternative Romantic and Classicist stimuli would enhance the generalisability of the findings.

The third limitation is that only one personality measure was tested, namely R/C score. It is not possible to say with confidence as a result of this experiment that advertising can affect other measures of personality, for example scores on Edwards' Personal Preference Schedule (Edwards, 1957) or Thurstone's Temperament Schedule (Thurstone, 1927).

However, as was pointed out in chapter 3, this thesis appears to represent the first attempt to design an experiment to test whether advertising plays a part in the construction of personality type. The research is, therefore, exploratory in nature and, as such, its role within the literature is not conclusive, but rather highly suggestive. Moreover, both in terms of findings and methodology, it provides a new direction for future research. It is proposed that future research should follow three routes to enhance the generalisability of this research (Rentz, 1987).

First, this Romanticism/Classicism experiment should be conducted with a variety of different populations. One route would be to draw a sample of the UK general public. This could be achieved by a hall test (Malhotra and Birks, 2000, p. 62) where random samples of the general public are invited to take part in the two treatment/control group experiment described in this thesis. The experiment should take place at different geographical locations at different times of day to ensure close representation of the general public (Childers and Skinner, 1985). Alternatively, the experiment could be run with another homogeneous group of people such as school sixth formers, or members of a sports or social club. In this way control over extraneous factors would be maintained whilst the general proposition of the experiment would be replicated. It is suggested that either of these routes would enhance the generalisability of the findings of the experiment reported in this thesis (Peter, 1977, 1979).

The second suggestion is to replicate the same experiment with a student population, but to use different romantic and classicist stimuli. This would provide further evidence that differences in R/C scores were, indeed, attributable to the romantic or classicist nature of the stimuli, and not to extraneous features in the stimulus design (Edwards, 1969). It is proposed that the same qualitative and quantitative tests be carried out on any new stimuli.

The third avenue for future research comprises experimentation with different personality measures. This avenue is more complex as it would involve the creation and testing of completely new advertising treatments for use with completely different personality measures. The test for the R/C treatments was fairly robust in that stimuli could be measured quantitatively against a set of pre-defined word-pairs (Holbrook and Corfman, 1984). It is certainly not guaranteed that similar test criteria would exist for other personality scoring systems.

Notwithstanding this difficulty, one possibility would be to use the Edwards Personal Preference Schedule (Edwards, 1957) which was used by Evans (1959) in his landmark study of personality differences between Ford and Chevrolet owners. In his study, Evans used 110 paired comparison sentences from the EPPS to measure 10 personality factors: achievement, deference, exhibition, autonomy, affiliation, intraception, dominance, abasement, change and aggression. He then related these to brand preference between Ford and Chevrolet. He concluded that scores on the EPPS only weakly related to the ownership of America's two most popular car brands. The study attracted a quantity of criticism (e.g. Jacoby, 1969; Winick, 1961; Kuehn, 1963; Marcus, 1965) and rejoinders (Evans, 1961, 1964) and was eventually replicated a decade later (Evans, 1968). There is, therefore, a body of critical literature on the usage of this measure upon which to build. Additionally, both Kuehn (1963) and Marcus (1965) based studies around just two opposing personality factors taken from the EPPS (dominance and affiliation). Replicating the experiment in this thesis by replacing the dichotomous constructs of romantic/classicist with Kuehn (1963) and Marcus's (1965) construct-pair of dominance/affiliation, would provide comparability between the experiments. Future experiments should be carried out with student populations in order to maintain consistency with the original experiment.

A number of other personality measures have also been used in consumer studies. For example, the Gordon Personal Profile (Tucker and Painter, 1961; Kernan, 1968); The Thurstone Temperament Schedule (Westfall, 1962; Kamen, 1964); and The Californian Personality Inventory (Robertson and Myers, 1969; Bruce and Witt, 1970; Boone, 1970; and Vitz and Johnston, 1965). Experiments using these could also be considered.

6.2.2 Role of Advertising in Creating Changes in Personality Segments

Despite the limitations of the experiment in terms of generalisability, it has been established conclusively that, for a student population at least, advertising can impact upon personality scores as measured by the R/C index. What are the implications for marketing managers?

The most obvious implication of this conclusion is that attempts to use personality scores to predict behaviour are destined to yield inconclusive results. For the advertising commissioned by the advertising director in a firm may be creating change and volatility in the very segmentation measures which are being used by the market research director in the same firm! And indeed, "equivocal" is the word used by Kassarjian and Sheffet (1981) to describe decades of studies attempting to link personality with purchase behaviour. A similar conclusion has been drawn more recently by Foxall, Goldsmith and Brown (1998) who claim that "In spite of high hopes and prima facie evidence that aspects of consumers' purchase behavior might be closely related to their personality traits, empirical verification of this association is still lacking. A large number of weak relationships have been discovered but it remains to be seen whether this approach will ever enable the majority of markets to be segmented using a purely personality approach ...there is considerable need for further research before marketing practice benefits from these concepts" (p. 178).

This experiment offers one explanation for the consistently variable results in personality segmentation research. If personality is, in part, a function of the persuasive mechanisms used by advertisers, then personality will vary in accordance with both the effectiveness and the volume of applications of such mechanisms. Where persuasive mechanisms are effective, then one might expect a match between personality and product purchase or preference – when they are not, then we would expect personality to be a poor indicator of purchase. If a consumer is subject to a large number of effective persuasive adverts then her/his personality may seem highly fragmented. If a consumer is subject to a small number of ineffective adverts then her/his personality may seem relative stable.

In the USA, consumers are subjected on average to over 1000 different commercial messages per day (Kotler, 1997). Assuming that a reasonable number of these are effective (and such volumes and expenditure suggest it is), the personality profiles of a large part of the US population must necessarily be in a state of constant flux. Consequently, the attempt to use personality measures to segment a population must currently constitute a task similar to nailing jelly to a wall. This, as was pointed out in chapters 2 and 3 is, in fact, exactly what is being found by contemporary segmentation researchers (Allenby and Ginter, 1995; ter

Hofstede, Steenkamp and Wedel, 1999; Novak and de Leeuw, 1992; Trivedi, 1999; van Raaij and Verhallen, 1994; Bucklin, Gupta and Siddarth, 1998; and Bucklin, Gupta and Han, 1995).

This finding calls into question some of the widespread tools which are used by marketing directors to inform the practice of segmentation, namely the commercially available psychographic segmentation systems such as VALS2 from the Stanford Research Institute, LOV from the University of Michigan Survey Research Centre and SVG from Synergie Consulting, and the sorts of procedures which allow potential purchasers of the Toyota *Prius* to be classified as "early adopters" or "main stream greens". All of these tools claim to be able to group people in terms of their common personality traits and to correlate these groupings with preferences and purchasing habits. It has already been observed by Kahle, Beatty and Homer (1983) that the companies who provide these tools are unwilling to discuss their algorithms publicly and as a consequence, Novak and MacEvoy (1990) have noted that commercially available psychographic systems have not been subject to scrutiny for reliability and validity in academic circles. If (as demonstrated in this experiment) personality is influenced by advertising and advertising, because of its competitive nature, is a changeable factor then the usefulness of such systems must be called into question.

And what are the implications for the allocation of the marketing budget within an organisation if the actions of one part of the organisation sabotage the efforts of another? Perhaps, instead of commissioning focus groups and surveys to enable an *understanding* of differentiated consumer needs, managers might wish to consider the relative efficacy of different modes of advertising in *creating* differentiation in consumer needs. If we return to the launch of the Toyota *Prius* then, in the light of this research, the marketing department may wish to consider using its communications budget to try to increase the size of the "early adopter" or "main stream green" segment through persuasive advertising, rather than using direct marketing to try to locate and inform these two segments.

As well as practical and budgetary issues, the findings of this experiment also raise an ethical issue for managers and consumers. It brings to the fore, once more, concerns over consumer manipulation by depth psychology and mass advertising which were voiced by Vance Packard (1957) in the 1950s. For Packard (1981/1957) the consumer was seen not only as a victim of unscrupulous commercial interests but also as fodder for the sophisticated techniques of the emerging science of consumer psychology. This notion of consumer as victim continued through the 1960s with the thinking of Marcuse (e.g. *One Dimensional Man,* 1964), and into the 1970s with the writings and actions of Ralph Nader (Bloom and Greyser, 1981). However, it slipped out of favour in the 1980s when, according to Gabriel and Lang (1995) many cultural commentators, under the influence of postmodernism, began to celebrate consumption as an active pursuit rather than a passive activity. And throughout the 1990s the notion of consumer immunity to manipulation by advertising has been fuelled through the promulgation of the twin notions of "advertising literacy" (Goodyear, 1991) and the "sophisticated consumer" (Davidson, 1992), whereby it is considered that the consumer understands the mechanisms of persuasive advertising and can, therefore, make a rational decision not to be affected by it. Consumers are increasingly viewed as "active choosers" (Gabriel and Lang, 1995, p. 27).

The findings of this experiment suggest that it might be fruitful to revisit the concerns of the 1950s and to reintroduce an ethical dimension to discussions of advertising in general, and targeted persuasive advertising in particular. This is not a particularly fashionable idea. The literature on ethics within contemporary mainstream marketing literature is very slim. Indeed, only one article could be found in the last decade's editions of the top US and European Marketing Journals (Journal of Marketing Research, Journal of Marketing, Journal of the Academy of Marketing Science, Journal of Consumer Research, Omega and European Journal of Marketing) which dealt specifically with the ethics of segmentation. This is the provocative work reported in the Journal of Marketing by Smith and Cooper-Martin (1997) in which the authors address the issue of the use of segmentation for the purpose of targeting, through persuasive advertising, of disadvantaged minorities with harmful products such as alcohol and tobacco.

Yet, if the findings of this experiment proves to be generalisable, and it can be shown that personality type is, at least in part, a function of advertising, then a large burden of moral responsibility is placed on the shoulders of consumer goods and services advertisers, and a burden of vigilance on the shoulders of consumers themselves. There is a case for reconsidering the role of the "hidden persuaders" in the next millennium.

One specific and current sphere to which the findings of this experiment could contribute, is the discussion which has been prompted by Sweden and Greece's call to ban advertising to children throughout Europe (Advertising Age, 1999). Advertising to children under 12 is already illegal in Sweden and a ban in Italy seems imminent as the Italian Parliamentary Committee for Children has just approved a proposal to ban advertising during children's programmes (Campaign, 2000). However, the move to introduce Europe-wide legislation has been resisted in the UK by ITV, who stand to lose an annual income of £70m (Campaign, 1999), and by the World Federation of Advertisers, who have set up a forum to co-ordinate research on the issue in the hope that support for children's advertising can thus be strengthened (Advertising Age, 1999).

It has already been argued by Mendelson and his colleagues (1992) that "Young children are unable to distinguish between programmes and commercials and do not understand that commercials are designed to sell products. This observation suggests that any advertising directed at young children is inherently unfair" (1992, p. 343). If it can be shown that the effects of advertising treatments affect personality scores of children as well as those of students, then this would make a substantial empirical contribution to the current debate. Indeed, if advertising can shape the personalities of intelligent, marketing-literate young adults, the potential impact on less disciminating small children might be profound.

6.2.3 Particular Role of Romantic Advertising

Although the main hypothesis of the experiment (that the mean score of the romantic treatment group would be higher than that of the classicist treatment group) was accepted, a further, more demanding hypothesis was also tested in the experiment. This hypothesis related the R/C score of the two treatment groups to that of a control group (who had been exposed to no treatment at all) and stated that the R/C score of the romantic treatment group would be higher (more romantic) than that of the control group and that the R/C score of the classicist group would, in turn, be lower (more classicist) than that of the control group. In a natural setting advertising effectiveness would be measured in terms of the difference between "no exposure" and "exposure" as opposed to two different forms of exposure.

The results of testing this hypothesis were ambiguous. Whilst on visual inspection the hypothesis held true (romantic score 4.44, control group score 4.30, classicist score 4.28) the F score derived from a One Way Analysis of Variance of these means did not allow us, strictly speaking, to reject the null hypothesis that the three mean scores were equal. However, the F score was approaching significance (0.077) and a post hoc LSD test was run. The LSD tests allowed acceptance of the hypothesis that the romantic score was greater than the control group but did not allow acceptance of the hypothesis that the classicist group score was lower than the control group score. The conclusion drawn from this result was that the romantic treatment had a significant impact on R/C score but that the classicist treatment did not.

This was an unexpected finding, and one which prompts the question of why romantic advertising should have a stronger effect on personality score than classicist advertising. It is thought likely that the answer lies in the close association of the romantic and classicist personality types with modes of message processing. It was pointed out in chapter 4 that, drawing on recent literature which links message processing and neuroscience (e.g. Heath, 2000; Rose, 1993), the romantic mode of thinking and feeling can be construed as affective mental processing using the limbic system, whilst the classicist mode of thinking and feeling can be interpreted as cognitive processing using the neo cortex. The specific objective of the two treatment tasks was to activate one or other of these two types of processing.

In attempting to answer the question of why romantic advertising appears to be more effective than classicist advertising in this instance, further investigations into persuasion theory literature were undertaken. These investigations revealed widespread acceptance of the co-existence of two general mechanisms by which advertising achieves persuasive impact: one systematic or cognitive and the other heuristic (MacInnes and Jaworski, 1989). For example Petty and Cacioppo's (1986) Elaboration Likelihood Model posits a central (systematic) route to persuasion which is said to produce enduring effects based on extensive and critical elaboration of message claims, and a peripheral (heuristic) route which results in relatively ephemeral effects grounded in simple intuitive inferences that emerge from exposure to readily processed cues and involve scant elaboration.

Similar theories have been put forward by Chaiken (1980) and Eagly and Chaiken (1993). However, as noted by Myers-Levy and Malaviya (1999), recent theory has emerged that points to a third general mechanism for determining the persuasive effects of advertising. Unlike the systematic and heuristic routes to persuasion, which suggest that effects reflect people's cognition about message content, this theory proposes that effects may be mediated instead by sensations or feelings that are triggered by the very act of engaging in processing (Starck, 1992). Effects based on these sensations may require only the most meager level of cognitive resources (Jacoby et al. 1989; Witherspoon and Allan, 1985) and yet may be highly effective. However, Myers-Levy and Malaviya (1999) note that "it remains unclear exactly how process-generated experience influences judgement" (p. 51).

It would seem that whilst the structured, cognitive classicist task in the experiment is likely to have elicited a systematic or heuristic response mechanism, the picture-based projective techniques used in the romantic task are likely to have activated an "experiential" mechanism. In this instance, the experiential route to persuasion appears to have been demonstrably more effective than a more systematic or cognitive route. It can thus be tentatively postulated (as an auxiliary result of this experiment) that advertising which succeeds in eliciting the experiential mechanism of persuasion has a greater affect on R/C score than a more systematic or even heuristic mechanism.

This finding therefore suggests another avenue for future research. It is suggested that the scope of segmentation research should expand to embrace the persuasion theory literature and, indeed, the advertising effectiveness literature and that more experiments of the type presented in this thesis should be designed to build on the, as yet relatively unexplored, concept of the experiential route to persuasion.

6.2.4 Conclusion

What then are the implications of the first fundamental issue addressed by this experiment: can advertising create changes in personality segments?

The experiment showed that in certain circumstances advertising treatments do affect R/C personality score. This finding has far reaching implications for the current practice of market segmentation in consumer organisations, for the activities of the advertising department may be undermining the activities of the market research department; the widely used psychographic classification systems may rest on fragile foundations; and the segmentation budget should perhaps be directed away from research and focussed, instead, on the mechanisms of persuasion. This, in turn, presents a case for raising the profile of the debate over the ethics of segmentation and target marketing. Specifically, this finding could be used in the current debate over the legality of advertising to children in Europe.

It was pointed out in chapter three that two research propositions could have been investigated in this thesis, one weak and one strong. The weak proposition has been addressed (advertising can cause changes in personality segments). Now that the proposition has been supported, it leaves the way open for future research to investigate the strong proposition, that advertising can create segments of people from scratch. The ethical implications of this proposition are even stronger.

Romantic advertising appears to have a greater impact on personality score than classicist advertising. This has implications for the scope of segmentation research. The findings can be said to make a contribution to the literature on the experiential processing of persuasive advertising. It is suggested that persuasion theory has a contribution to make to the segmentation literature and vice versa. To date, these two bodies of theory have not in any way been linked.

The experimental findings must be viewed within their limitations. In order to be able to generalise the experimental findings, it is suggested that the same experiment is replicated using different populations; that a student population is used again in experiments using different R/C stimuli; and that new experiments are designed using completely different treatments and personality tests.

Having addressed the issues arising from the specific question of whether advertising can create changes in personality segments, attention is now turned to the broader question of whether the results of the experiment can be used to build a comprehensive model of the social construction of personality segments.

6.3 Towards a Comprehensive Model of the Social Construction of Personality Segments

This section addresses the question of whether the findings of the experiment can be used to move towards a model of the social construction of segments.

6.3.1 Short Term Effects on Personality Segments

It is clear that, within the limitations already outlined, "romantic" advertising can impact upon personality score. Thus, if short-term exposure to images coupled with a short-term task can have an immediate and significant impact on personality score, then segments measured by personality type must surely be construed as malleable constructs - at least in the short term.

6.3.2 Longer Term Effects on Personality Segments

Whilst the primary purpose of the experiment was to measure the effect of advertising treatments on R/C score, controls were put in place for a number of other factors which theoretically could have accounted for variations in R/C score. Through the building of 3 consecutive general linear models it was found that in addition to the advertising treatments, gender, socio-economic group and peer reference group all accounted for some of the variation in R/C score.

What are the implications of these findings for the issue of whether segments are fixed or fluid?

It has been demonstrated in the main part of the experiment that advertising can cause changes in personality score. In relating this to the overall stability of aggregated personality or response segments, the line of argument runs that, as advertising stimuli do not constitute a fixed phenomenon (different companies are competing with different messages) personalities are subject to change (however minimal) on an almost continuous basis; in which case using personality as a basis for segmentation will be limiting. It follows, therefore, that in an examination of the effects of other factors on personality score, the question which must be asked is: to what extent is the influence of these factors constant or changeable? If gender, socio-economic group and reference group (all of which have been shown to influence personality score) are stable phenomena, then their influence is likely to stabilise personality score and thus enhance the reliability of segmentation by personality. If, on the other hand, gender, socio-economic group and reference group are themselves constructed, changing phenomena, then there is yet more evidence that the assumption of personality segments as fixed entities may have limited validity.

At this juncture, a note of caution should be introduced to the discussion of the effects of these other three variables. The experiment was designed primarily to measure the effects of advertising on R/C score and thus a relatively simple post-test only control group experiment was used. An experiment which would have formally tested for a wider range of possible influences on R/C Score would have demanded a more complex factorial design (Spector, 1993). As was pointed out in chapter 4, data for 8 control variables were collected (nationality, age, experience of ski-ing, experience of activity holidays, experience of adventure holidays plus gender, socio-economic group and gender). A full random factorial design for so many variables would have been extremely hard to operationalise and the interpretation would have been equally problematic (Leclerc, Schmitt and Dube, 1994). Given that a full factorial design was not used, prudence should be exercised in drawing hard conclusions about the causal effects of gender, socio-economic group and reference group on personality score.

Nonetheless, although the causal effects of these three variables have not been formally tested in experimental terms, the findings confirm previous research which has suggested that gender (Holbrook and Olney, 1995; Bernard, 1981; Gilligan, 1982; and Miller, 1976); reference group (Childers and Rao, 1992); and socio-economic group (Coleman, 1983) impact upon personality score.

With this caveat in mind, a discussion of the theoretical evidence for the static or transitory nature of reference groups, socio-economic groups and gender is presented in sections 6.3.2.1 to 6.3.2.3 below.

6.3.2.1 Reference Group

Reference group in this experiment was defined by year of study. It is well documented that normative attitudes and behaviour result from groups of people living and working in close proximity to each other (e.g. Asch, 1955; Milgram, 1974). Thus we would expect, a priori, that different student groups might give consistently different answers to a personality questionnaire. What is of interest to this study, however, is the stability of the reference group concept. For if reference group is relatively fixed, then this will contribute to the stability of personality segments. It is suggested that there are two factors which contribute to the stability of the reference group construct. First, the rate of change of group norms and second the extent to which individuals are simultaneously influenced by multiple reference groups.

In terms of the first factor, the experimental results suggest that student values can change over a four year period (the students were from years 1 to 4 on their business studies programme). This seems quite fast in marketing terms, and a review of the reference group literature revealed that in a world of fast-paced, globally generated images, reference group norms appear to be subject to increasingly rapid change (Solomon, Bamossy and Askegaard, 1999). It also seems that exposure to television is possibly the most powerful change agent (Shrum, 1995; Hawkins and Pingree, 1982). Thus there may be a case for arguing that reference group values move with the media and are almost as transient as the values transmitted by competing adverts.

It has also been postulated by Irwin (1973) in his study of surfers, that reference groups (or what he calls "subcultures of consumption") exhibit a defined life cycle. He claims that this lifecycle is composed of four stages: articulation, expansion, corruption and decline. This implies an inherent changeability in the very existence of reference groups. Of course, it is the speed of this change process which determines predictive ability of the personality construct. However, at present, as noted by Shouten and McAlexander (1995) in their study of Harley Davidson bikers "uncertainty about the lifecycle and longevity of subcultures of consumption suggests the need for further exploration" (1995, p.60).

Nonetheless, prima facie, there seems to be some evidence that reference group norms are not stable constructs and therefore that the contribution which they make to personality is neither fixed nor constant. What is also clear is that changes in these norms occur over a longer period than changes in short term advertising stimuli.

The second factor which contributes to the stability of the reference group construct is the extent to which individuals may simultaneously be influenced by a number of different reference groups. Markus and Nurius (1986) argue that consumers have "multiple selves". This reflects the understanding that a single consumer is likely to act quite differently with different people and in different situations. Shiffman and Kanuk (2000) propose that a person is likely to behave in different ways with parents, at school, at work, at the theatre or with friends at a nightclub (p.111) i.e. that one individual may be influenced by different reference groups in different situations.

Although this glance at the nature of reference groups is necessarily cursory, some supporting evidence has been provided for the position that reference group may not be an entirely stable construct and that it will thus exert a changeable influence on personality score. There are three key points to be made. First reference group has an effect on personality classification; second, the reference group construct changes over time; and third the rate of change is slower than the rate of change of advertising stimuli.

6.3.2.2 Socio-Economic Group

In this experiment, socio-economic group was captured by parents' postcode. The postcodes were analysed using the MOSAIC geodemographic classification system (see appendix 5.6) which allocates every postcode in the UK to one of 12 classifications, based on data gathered from the census, magazine subscriptions, shoppers surveys, the DVLC, county court judgements and credit agencies. As was pointed out in chapter 5, the number of postcodes captured (in the experiment) in all except the "high income families" and "country dwellers" categories was so small that the data had to be transformed. "High income families" and "country dwellers" were classified together under one code and all the remaining postcodes were coded together as another separate group.

As the MOSAIC classification of the students relates to parents rather than the students themselves, the classification actually captures differences in family upbringing. The questions to be asked here, therefore, is to what extent is family upbringing a constant influence? If it is stable then it will exert a stable effect upon personality score. If it is a changeable influence then it will render personality score changeable.

The process through which individuals learn the attitudes and behaviour patterns appropriate to their social roles is referred to in the consumer behviour literature as "socialisation" (Foxall, Goldsmith and Brown, 1998). Goode (1964) points out that although all of life may be a process of socialisation, where new roles are acquired and learned, the term "socialisation" is especially applied to "the process by which the young human being acquires the values and knowledge of his group and learns the social roles appropriate to his position in it" (Goode, 1964, p.112). However, as has been pointed out by Shiffman and Kanuk (2000), the concept of the family is in flux. They point out that although the term family is a basic concept, it is not easy to define, because family composition and structure as well as the roles played by family members are almost always in transition. Whilst the learning which happens in the family (socialisation) may be very formative, it is extremely hard to pin it down or to make predictions based upon measurement of its influence. Thus the nature of household groups can be seen to be very changeable and thus, by extension the influence they exert over personality variables.

Again, three points emerge. First socio-economic group influences personality classification; second, the influence of socio-economic group alters over time; and third, the rate of change is likely to be slower than both advertising stimuli and reference group.

6.3.2.3 Gender

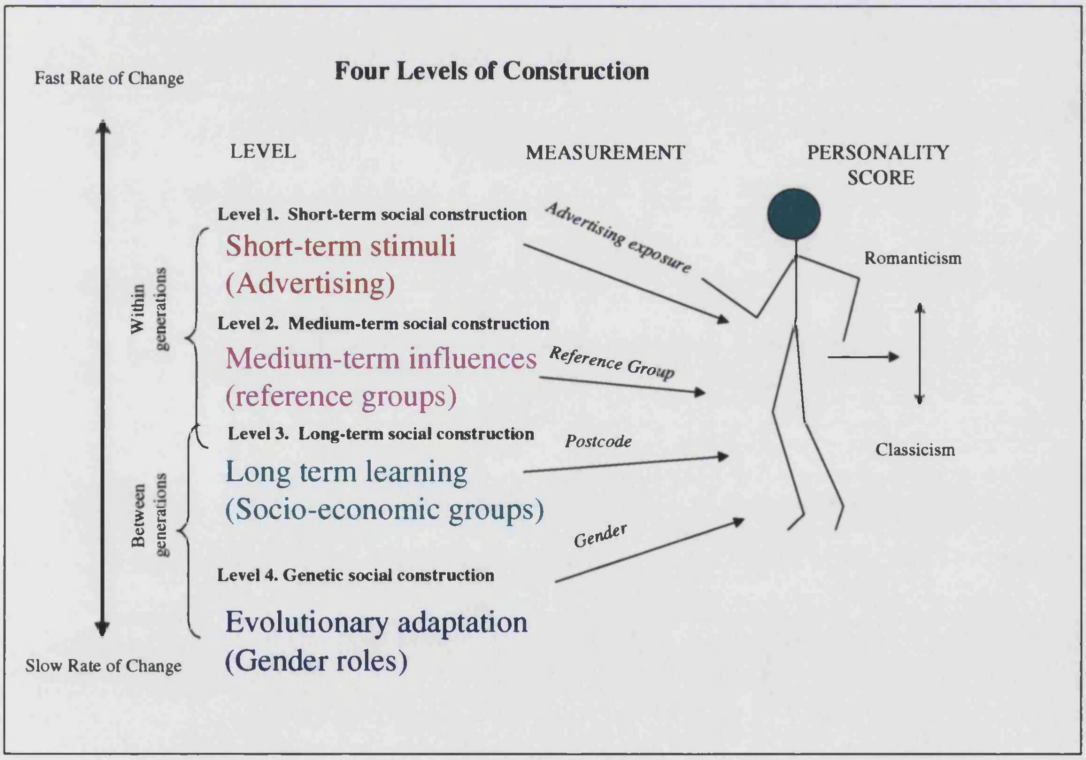
If reference group and socio-economic group can theoretically be construed as relatively fluid constructs, surely gender is fixed. Barring surgery, we are all either male or female. Holbrook and Olney (1995) showed in their study that women had higher R/C scores than men and that R/C score correlated with holiday preference. The assumption is that as gender is constant, reliable predictions can be made about holiday preference from gender. By the same token, if gender can, in part, construct personality and gender is fixed, then personality must, in part, be a relatively stable construct. However, whilst popular classics such as "Men are from Mars. Women are from Venus" (Gray, 1993) and scientific research such as Richard Skuse et al.'s (1997) study of the link between chromosomes and communication style, point to gender as a "hard wired" construct, a substantial body of research exists to support the view that gender roles are socially conditioned (Eagly, 1987; Rakow, 1986; Eagly and Steffen, 1984). Thus arguably, as male and female roles change in society, then the construct of gender is becoming less "hard wired" than it may seem. Once again three conclusions can be reached. First, gender impacts on personality type; second the meaning of gender is changing; third, the rate of this change is unquestionably slower that that of advertising stimuli, reference group norms, or even family influence.

Using the experimental findings that advertsing, reference group, socio-economic group and gender all contribute to personality score; the theoretical implications that each of these antecedents is subject to change; and the observation that the rate of change is different for each antecedent, a model can be built which represents the social construction of personality segments. This model is shown and explained in section 6.3.3 below.

6.3.3 The Social Construction of Personality Segments: A Model

The model is shown in figure 6.2 below.

Figure 6.2 Social Construction of Personality Segments: A Model



This model proposes that personality (as measured by score on a paper-and-pencil test such as R/C Index) is constructed over time, by four antecedents.

Level One refers to the construction of personality score through short term exposure to and involvement with advertising stimuli. The experiment presented in this thesis has shown conclusively that romantic advertising exerts a causal effect on the R/C scores of a student population. The impact of this part of the construction process can be measured in terms of exposure to advertising. One individual will be exposed to many hundreds of adverts even in one day and thus this level comprises the most volatile element in the construction process.

Level two specifies the medium term construction which takes place through affiliation with reference groups. The experiment implied that there is a relationship between student reference group and their R/C score. The effect of this level is measured in terms of reference group affiliation. It is clear from the literature on reference group and on the concept of "self", that an individual may be influenced by a number of reference groups in the course of their lives and that different membership groups may even exert simultaneous influence. This level, therefore, comprises a relatively unsettled component of the construction process.

Level three denotes the socialisation process which, through childhood learning, contributes to an individual's personality. Postcode is one method of capturing differences in socialisation outcomes. This construction takes place across generations and it thus longer term than the first two levels. For this reason the rate of change is slower and it is thus somewhat more stable.

The longest term level (**level four**) in the construction of R/C score was represented in the experiment by gender. Whilst the physical attributes of gender may be fixed (for most people), it seems that the nature of gender-specific responses may evolve through genetic adaptation or very long term collective societal learning. The rate of change inherent in this process is clearly very slow and long term in nature, spanning several generations. As such, it can be construed as a fixed influence, whilst in fact it is continually changing incrementally.

According to this model, parts of the personality construct, such as gender and socio-economic group, change slowly, a phenomenon which allows personality to seem stable and thus to allow some measure of prediction from correlating it with purchase behaviour. This may be why studies have shown that personality can predict 5% to 10% of the variation in purchase behaviour (Kassarjian and Sheffet, 1981). However, other constructs, such as reference group and exposure to advertising stimuli, change much more quickly both in terms of the values which define the constructs and in terms of the number of influences exerted on an individual at any one time.

Acceptance of this model of the construction of personality, requires a new way of thinking about segmentation. Rather than assuming that people can be grouped in terms of shared, fixed characteristics; researchers and practitioners need to understand the process of the construction of personality; and to understand the relative rates of change of the antecedents. It is suggested that a new programme of segmentation research could be built around this model.

This brings us to the final question raised at the beginning of this chapter. Can the model lend weight to the thesis that a paradigm shift is and will necessarily take place in segmentation research?

Section 6.4 below addresses this question.

6.4 Paradigm Shift?

The wide issue addressed by this research was whether the assumptions underpinning segmentation research are shifting or, indeed, should shift. The review of segmentation literature in chapter 2 uncovered some evidence of a shift from a positivist to a social constructionist research paradigm. To what extent has the model built in this thesis either substantiated or repudiated such a shift?

It has been proposed that personality segments be viewed as the outcome of a range of antecedents all of which are to some extent malleable and all of which are subject to differing rates of change. If this is accepted then the dichotomy of fixed versus fluid antecedents to personality segments may usefully be rethought by replacing the terms "fixed" (no change) and "variable" (change) with *rate of change.* The introduction of a time dimension into the conceptualisation of segment construction can, in fact, reconcile the competing positivist and social constructionist paradigms.

In the light of this research, it would appear to be more helpful to segmentation research and practice to assume that segments are constructed rather than revealed. However it is argued that any paradigm shift in evidence is not a move from positivism to social constructionism but instead constitues a shift to an assumption of market segments as constructed by a number of antecedents each of which are themselves subject to differing rates of change, and some of which are relatively static.

The model proposed in this thesis links the positivist and social constructionist paradigms. Where on the one hand some antecedents of personality are relatively fixed (e.g. gender) and on the other hand some antecedents are extremely fluid (e.g. short term advertising stimuli), the model proposes a third way. It proposes that segmentation be conceived of as a continuously moving process.

It now remains to draw together the elements which have comprised this thesis and to evaluate the contribution made. This evaluation is presented in Chapter 7.

CHAPTER SEVEN

EVALUATION

7 Evaluation

This thesis set out to investigate whether market segments are enduring, discoverable entities or fluid, created phenomena. This broad question was framed in terms of competing paradigms whereby within a positivist paradigm, market segments are viewed as fixed and measurable, whilst within a social constructionist paradigm, segments are conceived of as changing and malleable.

A review of contemporary segmentation literature led to the observation that the dominant assumption amongst marketing academics is of segments as stable, fixed, objective occurrences. This observation can be construed as a sign that researchers are currently working within a positivist paradigm. However, it was also observed that a substantial proportion of the segmentation research findings did not concur with this assumption: anomalies between expectation and observation were noted. It was postulated that these anomalies might be symptomatic of a paradigm shift from positivism to social constructionism.

In order to investigate how best to make a definable contribution to this issue, the key themes in social constructionist segmentation research were analysed. This analysis indicated that "response segments" comprised the major focus across empirical, methodological and theoretical research. It was noted that despite decades of agreement as to the theoretical superiority of response segments over descriptive segments in terms of predictive power, the instability of response segments was a consistent finding across studies. This lack of stability rendered the modeling and thus practical implementation of response segmentation problematic.

At this juncture, the historical link between consumer response and personality type was introduced to the discussion. It was noted that consumer response has generally been considered as the "output" of personality type. It was further observed that the study of personality has been underpinned by positivist assumptions whereby personality type is considered a fixed actuality. It was argued that this link may have served to reinforce the expectation amongst marketing researchers that response segments should be enduring and fixed - despite anomalous findings.

A new and, as yet, unexplored interpretation of response variable instability was then proposed. It was conjectured that instability in response or personality variables may be the result of the firm's role in the construction of consumer personality type. It was further proposed, from a review of the advertising effectiveness literature, that the mechanism used by firms in the creation or alteration of personality types would be persuasive advertising.

From this new interpretation of response segment instability, a new proposition was formulated, namely that a firm's advertising can create, or at least influence, personality segments. Were this to be true, lack of stability in segments would be accounted for in terms of the effect on consumers of frequent encounters with changing messages from competing firms.

A weak and a strong proposition were suggested. The strong proposition stated that advertising could create personality segments from scratch whilst the weak proposition claimed that advertising could cause individuals to move from segment to segment. It was decided to test the weak proposition in this thesis.

The proposition was tested by an experiment in which the effect of romantic and classicist advertising treatments on students' R/C personality scores was measured. It was demonstrated conclusively that students exposed to a romantic advertising treatment consequently had a more romantic personality score than those exposed to a classicist advertising treatment and vice versa. An unanticipated finding was that those exposed to the romantic treatment had a more romantic personality score than a control group whilst those exposed to a classicist treatment did not demonstrate a more classicist personality than a control group. The experiment also revealed that in addition to the advertising treatment, reference group, socio economic group and gender also affected this personality score.

The implications of these findings were discussed in depth and recommendations made for managers and for future research. Additionally, a new model of the social construction of segments was proposed and its implications for marketing thinking explored.

Table 7.1 below presents the four major conclusions from the findings of the experiment along with a summary of their implications and recommendations for future research.

Table 7.1 : Summary of Findings

Conclusions	**Implications**	**Further Research**
1. In certain circumstances advertising can cause changes in personality scores	• Managers may wish to reassess marketing activities and budget allocation • Managers may wish to question validity of psychographic segmentation procedures • It may be fruitful to reintroduce ethics to discussions of segmentation	• Further generalisation experiments • Testing of strong proposition that advertising can create segments from scratch
2. Romantic treatments are more effective than classicist treatments	• Experiential processing may be more effective in changing personality score than systematic processing	• More research on experiential processing in persuasive contexts is required • Link between persuasion theory literature and segmentation literature is suggested
3. Reference group, socio-economic group and gender also impact on R/C score	• Raises question of stability of these constructs.	• Further research required on causal link between personality score and reference group, socio-economic group and gender
4. Theoretically, reference group, socio-economic group and gender can all be construed as flexible constructs	• Personality can be conceptualised as, in part, constructed by the influence of antecedents which themselves are subject to different rates of change • A model of the social construction of segments	• New direction for segmentation research suggested by new model • Further research into the rate of change of segments

The first conclusion states that in certain circumstances advertising can influence personality score. If advertising influences the personality scores which are used to classify consumer into segments, then this raises questions about the practical activity of segmentation. Mangers may wish to assess the impact which their own advertising activity (and that of competitors) has on the composition of market segments. They may also wish to consider reallocating budget away from market research to identify segments and instead direct it towards research to understand the persuasive impact of advertising. This conclusion also raises again the ethical issues which were on the marketing agenda in the 1950s, '60s and '70s but which have not been in the forefront of the marketing literature for the past two decades. In particular, the findings of this experiment - if generalisable from students to children - make an empirical contribution to the current debate over European children's advertising legislation. However, before issues of ethics are pursued further, attempts should be made to generalise the experiment both by carrying out the same experiment with different populations and using different treatments and personality measures on a student population. Researchers may also wish to test the strong proposition which states that advertising can not only change personality segments but can also create them.

The second conclusion is derived from a quite unanticipated finding: that the romantic treatment was more effective than the classicist treatment. Although this question was outside the original scope of the thesis, relevant literature was reviewed and an attempt made to provide an answer. It is suggested that this finding may imply a difference in the types of persuasive mechanisms engaged by the two treatments. Specifically, it is proposed that experiential processing of persuasive cues may be more effective in the influence of personality scores than systematic processing. Avenues for further research are opened up: both into experiential processing in general and into the links which can be made between segmentation theory and persuasion theory.

The third conclusion relates to the findings of the experimental controls. Reference group, socio-economic group and gender all accounted for some of the variation in R/C score. This led to a further question as to the stability of reference group, socio-economic group and gender as antecedents of personality.

Theoretical evidence was then presented which led to the fourth and final conclusion that, theoretically at least, reference group, socio-eonomic group and gender can all be construed as changeable entities. The implication of this conclusion is that personality segments (at least measured by R/C score) can be viewed as a mutable entities which are socially constructed by antecedents which display rates of change which vary from the very fast (advertsing stimuli) to the extremely slow (gender). A model was proposed by means of which this process can be visualised. It is suggested that this model serve as the basis of a programme of research which attempts to understand the concept of segmentation not as a matter of finding pre-existent segments of consumers but as a matter of comprehending the processes by which segments are socially constructed.

In terms of contributing to the debate as to whether segmentation can be more usefully framed within a positivist or social constructionist paradigm, this research has suggested that the dichotomy between positivism and social constructionism be replaced by the notion of market segments as constructed by a number of antecedents each of which are themselves subject to differing rates of change.

Market Segments: Revealed or Constructed?

This thesis suggests that market segments are in part constructed entities. For the first time experimental evidence has been added to the literature on the social construction of segments. Moreover a model is proposed which provides foundations and direction for a whole new strand of future segmentation research.

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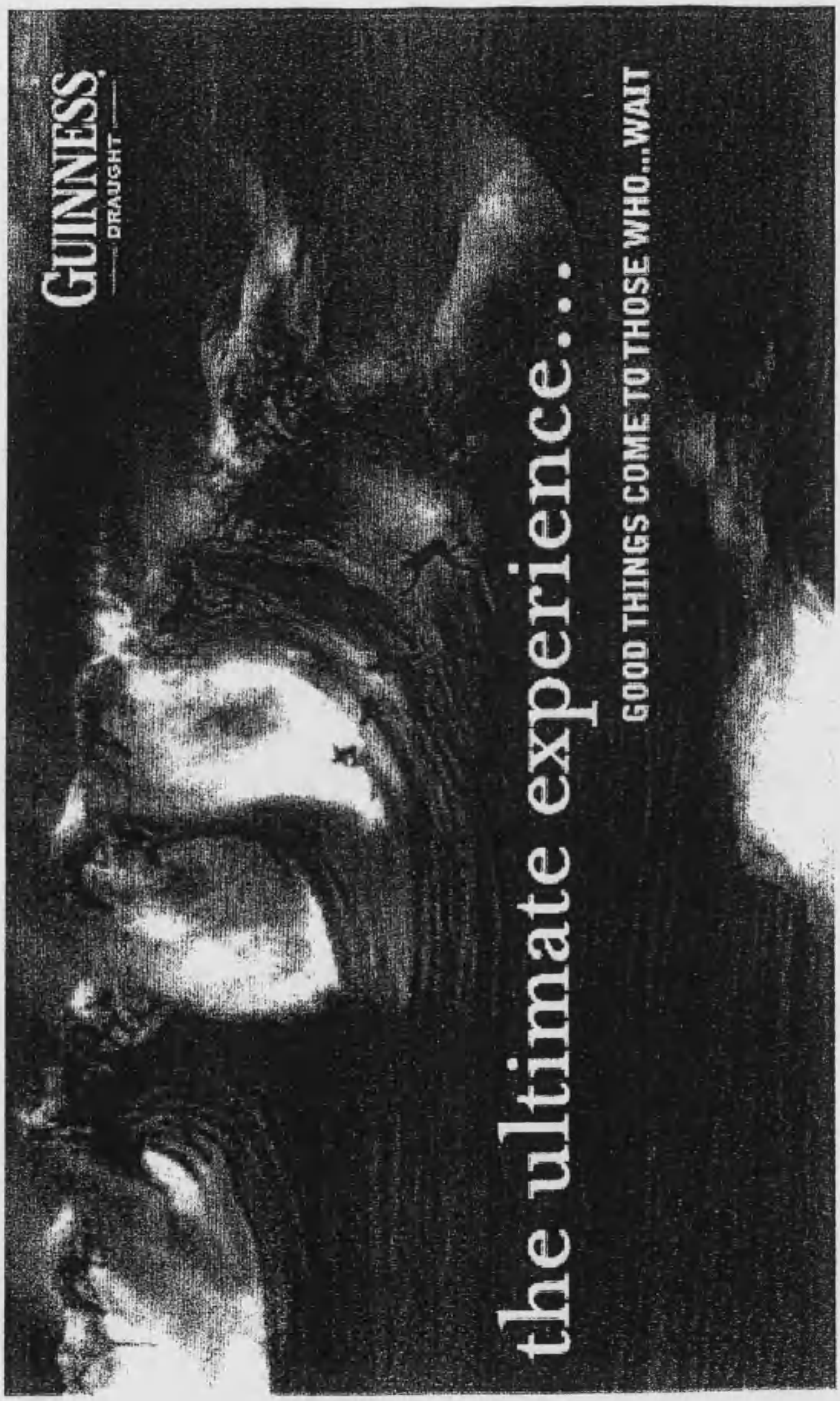
APPENDIX 3.1

GUINNESS

SURFERS

CAMPAIGN

'SURFER'


GUINNESS
DRAUGHT
the ultimate experience...
GOOD THINGS COME TO THOSE WHO...WAIT

APPENDIX 3.2

VALS2

QUESTIONNAIRE

What is Your VALS Type?

This questionnaire operates on a simple multiple-choice system. To make an answer, click on the appropriate response bubble. To change an answer, just click on the other answer. You may scroll up or down the page as necessary. Once you have entered all your answers, click on the Submit button at the end of the questionnaire.

Important: All your questionnaire answers will remain anonymous. No information that links your answers with your identity will be sold or furnished to any company or agency for any commercial, marketing, or political purpose whatsoever. Read the VALS FAQ regarding general questions about these surveys.

Important: The version of VALS we are using for this server is specific to the population of the United States. If you are outside the United States, you are welcome to try the questionnaire, but please read the considerations for users outside the United States.

---

1. Have you taken this on-line questionnaire before? ● Yes No

2. Sex: ● Male Female

3. Age: ● 0-24 25-29 30-34 35-44 45-54 55-64 65 or over

4. What is the highest level of formal education you have completed?
● Grade 8 or less Grades 9-11 High School 1-3 years of college
College (4 years) Attended or completed graduate school

5. What was your total household income before taxes for the past calendar year (January through December)? (Please include income from all sources, including salaries, pensions, interest, dividends, bonuses, capital gains, profits, other.)
● less than $10,000 $10,000 - $14,999 $15,000 - $19,999
$20,000 - $24,999 $25,000 - $29,999 $30,000 - $39,999
$40,000 - $49,999 $50,000 - $74,999 $75,000 - $99,999
$100,000 - $199,999 $200,000 or more

6. Please enter your 5 digit zip code: 00000 (Do not hit return after entering your zip code)

We are interested in the attitudes that describe you as a person. For each of the following statements, please indicate how much you agree or disagree with that statement as a description of you. There are no right or wrong answers--just answers that describe you best.

7. I am often interested in theories.
● Mostly disagree Somewhat disagree Somewhat agree Mostly agree

8. I like outrageous people and things.
● Mostly disagree Somewhat disagree Somewhat agree Mostly agree

9. I like a lot of variety in my life.
● Mostly disagree Somewhat disagree Somewhat agree Mostly agree

10. I love to make things I can use everyday.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

11. I follow the latest trends and fashions.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

12. Just as the Bible says, the world literally was created in six days.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

13. I like being in charge of a group.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

14. I like to learn about art, culture, and history.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

15. I often crave excitement.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

16. I am really interested only in a few things.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

17. I would rather make something than buy it.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

18. I dress more fashionably than most people.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

19. The Federal government should encourage prayers in public schools.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

20. I have more ability than most people.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

21. I consider myself an intellectual.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

22. I must admit that I like to show off.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

23. I like trying new things.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

24. I am very interested in how mechanical things, such as engines, work.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

25. I like to dress in the latest fashions.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

26. There is too much sex on television today.
• Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

27. I like to lead others.
· Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

28. I would like to spend a year or more in a foreign country.
Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

29. I like a lot of excitement in my life.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

30. I must admit that my interests are somewhat narrow and limited.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

31. I like making things of wood, metal, or other such material.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

32. I want to be considered fashionable.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

33. A woman's life is fulfilled only if she can provide a happy home for her family.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

34. I like the challenge of doing something I have never done before.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

35. I like to learn about things even if they may never be of any use to me.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

36. I like to make things with my hands.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

37. I am always looking for a thrill.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

38. I like doing things that are new and different.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

39. I like to look through hardware or automotive stores.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

40. I would like to understand more about how the universe works.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

41. I like my life to be pretty much the same from week to week.
- Mostly disagree · Somewhat disagree · Somewhat agree · Mostly agree

---

42. When on the Web, how frequently do you access the following types of content? (Try to focus on the categories rather than the particular examples, which are for illustratitive purposes only. The four answer bubbles are, from left to right,"Always," "Often," "Sometimes," "Never.")

Always	Often	Sometimes	Never	
•	·	·	·	Recommendations (such as Cool Site of the Day, Netscape's What's Cool)
•	·	·	·	Search engines (such as Lycos, Infoseek, Webcrawler)
•	·	·	·	Corporate sites and information (such as SGI, AT&T, Microsoft)
•	·	·	·	Personal home pages (such as those in Yahoo's People listings)
•	·	·	·	Sports (such as ESPNET SportsZone)
•	·	·	·	Personals (such as match.com)
•	·	·	·	Online consumer publications (such as HotWired, Time World Wide)

- TV and movie pages (such as the Simpsons, MCA/Universal CyberWalk)
- Software Archives (such as Info Mac, Windows Shareware Archives)
- Music acts (such as those at IUMA or in the Ultimate Band List)

Submit Reset

(Processing should take 5-10 seconds, depending on the server load.)

VALS(tm) 2 Home Page	VALS(tm) 2 Understanding American consumers

For more information please contact vals@sri.com.

APPENDIX 4.1

HOLBROOK'S 55 ITEM

ROMANTIC / CLASSICIST

QUESTIONNAIRE

How much do you agree with these statements?
✓ one box for each statement

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
v1 One should adopt a conservative lifestyle	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v2 Truth often involves an element of mysticism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v3 I am a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v4 Sensitivity is a valuable trait	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v5 In art, colour excites me more than form	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v6 A routine way of life is preferable to unpredictability	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v7 I think that life is a great mystery	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v8 Uncertainty is exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v9 I am a sensitive person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v10 Progress in science continues to ensure a brighter tomorrow	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v11 Rigorous training is the true basis of athletic skill	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v12 Facts are more important than feelings	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v13 I enjoy art that expresses the artist's emotions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v14 A cool head wins every time	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v15 Sometimes evil is consistent with greatness	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Group 1 V1

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
v16 Intuition is a valuable tool	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v17 Disorganisation is a major flaw	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v18 I believe that first impressions are almost always correct	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v19 Paintings should attempt to represent their subjects with maximum realism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v20 I am not an emotional person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v21 It is O.K. to be eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v22 I am organised	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v23 Every decision deserves to be carefully thought out	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v24 I think of myself as eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v25 The heart, not the brain should be your guide	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v26 I like to touch sculpture	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v27 People should try to be more tender	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v28 Feelings are more important than facts	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v29 Idealism is a wonderful quality	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v30 Logic can solve any problem	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v31 When I am being taken somewhere in an unfamiliar place, I like to know exactly where I am going	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v32 Occasionally it's O.K. to be moody	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v33 I am impulsive	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

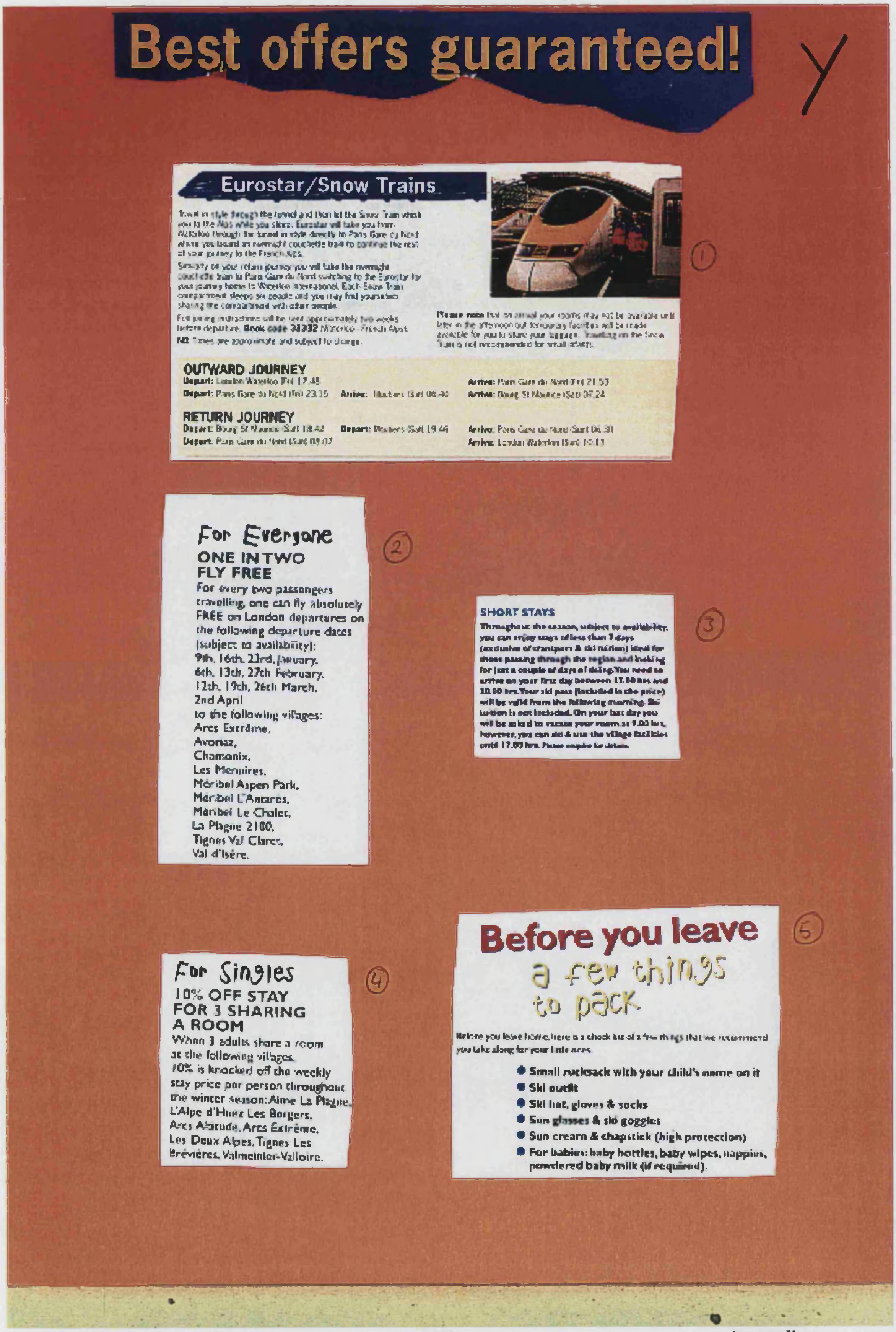
	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
v34 In life, unpredictability is preferable to routine	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v35 I like to keep my home neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v36 One's actions should always be carefully planned	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v37 I prefer to live in a certain amount of chaos	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v38 One should remain stable at all times	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v39 I prefer a routine way of life to an unpredictable one	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v40 A nice home is always neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v41 I think of myself as a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v42 Absent-mindedness is a lovable characteristic	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v43 I think of myself as a natural person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v44 One should always be precise	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v45 It is fun to be exposed to people with new ideas	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v46 I tend to be a serious person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v47 It's O.K. to daydream a lot	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v48 Self-control is all important	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v49 I am precise about where I keep my possessions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v50 I am easily distracted	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v51 New ideas are exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
v52 I am a controlled person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v53 Forgetfulness is forgivable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v54 I have a scientific outlook on most problems	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
v55 One should always be rational	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

APPENDIX 4.2

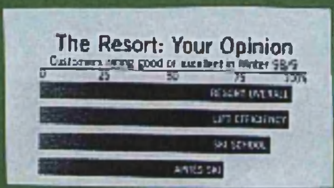
CLASSICIST BROCHURE PAGES

(originals were A3)


Best offers guaranteed!
Y
Eurostar/Snow Trains
1
OUTWARD JOURNEY
RETURN JOURNEY
For Everyone
2
ONE IN TWO
FLY FREE
For every two passengers travelling, one can fly absolutely FREE on London departures on the following departure dates (subject to availability):
9th, 16th, 23rd, January.
6th, 13th, 27th February.
12th, 19th, 26th March.
2nd April
to the following villages:
Arcs Extrême,
Avoriaz,
Chamonix,
Les Menuires,
Méribel Aspen Park,
Méribel L'Antares,
Méribel Le Chalet,
La Plagne 2100,
Tignes Val Claret,
Val d'Isère.
SHORT STAYS
3
For Singles
4
10% OFF STAY
FOR 3 SHARING
A ROOM
When 3 adults share a room at the following villages.
10% is knocked off the weekly stay price per person throughout the winter season: Aime La Plagne, L'Alpe d'Huez Les Bergers, Arcs Altitude, Arcs Extrême, Les Deux Alpes, Tignes Les Brévières, Valmeinier-Valloire.
Before you leave
a few things
to pack
5
Small rucksack with your child's name on it
Ski outfit
Ski hat, gloves & socks
Sun glasses & ski goggles
Sun cream & chapstick (high protection)
For babies: baby bottles, baby wipes, nappies, powdered baby milk (if required).

R

Choose the right holiday



PRICE CHECK Below we have listed a number of costs that you may expect to pay in this resort. They are an approx cost only in pounds sterling (£) & are based on restaurant, bar & café prices: • small beer £2.05 • litre of milk 90p • bottle of house wine £5.70 • glass of coke £1.70 • cup of coffee £1.35 • cup of tea £1.35 • pizza £5.10 • sandwich £1.35 • loaf of bread 70p

Entertainment - All chalets have board games and a CD player.
Safety - For your peace of mind all chalets have passed a stringent Health and Safety inspection
Cleaning Service - a real joy of chalet holidays! Your chalet will be cleaned daily except on the host's day off.

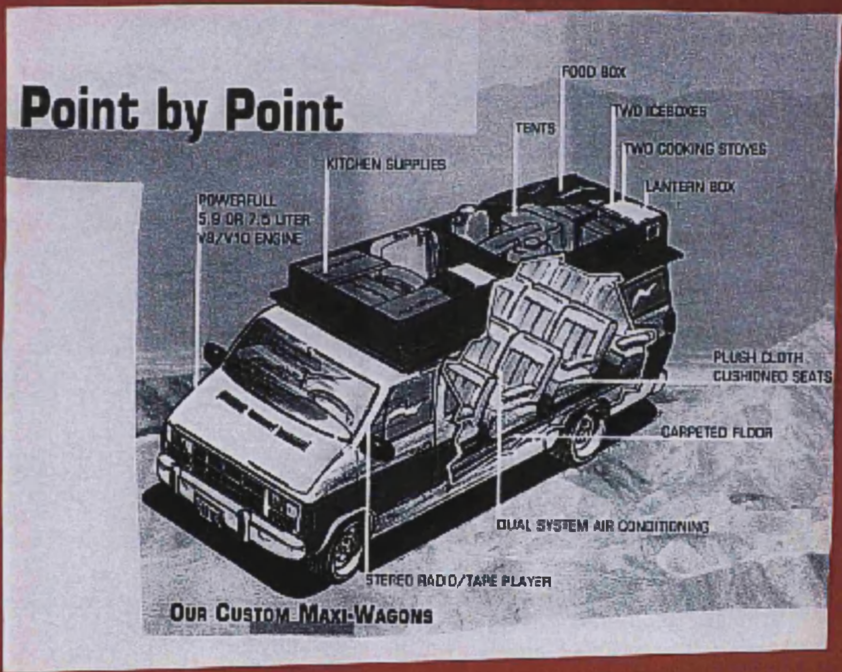
an informal setting where you can relax and socialise with friends, family and other like-minded people.
Your Chalet Host is trained to the highest standards, in housekeeping and cooking, so all you need to worry about is having fun.
a true home from home – but without the cooking and cleaning!

TOWELS & SHEETS PROVIDED

Q

US COMPANY: WE HAVE OUR OWN OPERATING AND MAINTENANCE FACILITIY

The nerve center of the Suntrek organization is located within our large facility in Santa Rosa, California. It is here that our reservations, publications, customer service, operations, training, fleet and equipment departments work together to ensure your vacation is a success! Our on-site, comprehensive, preventative maintenance programs allow us to offer you safe and well-maintained vehicles and equipment. Your safety is our prime consideration!

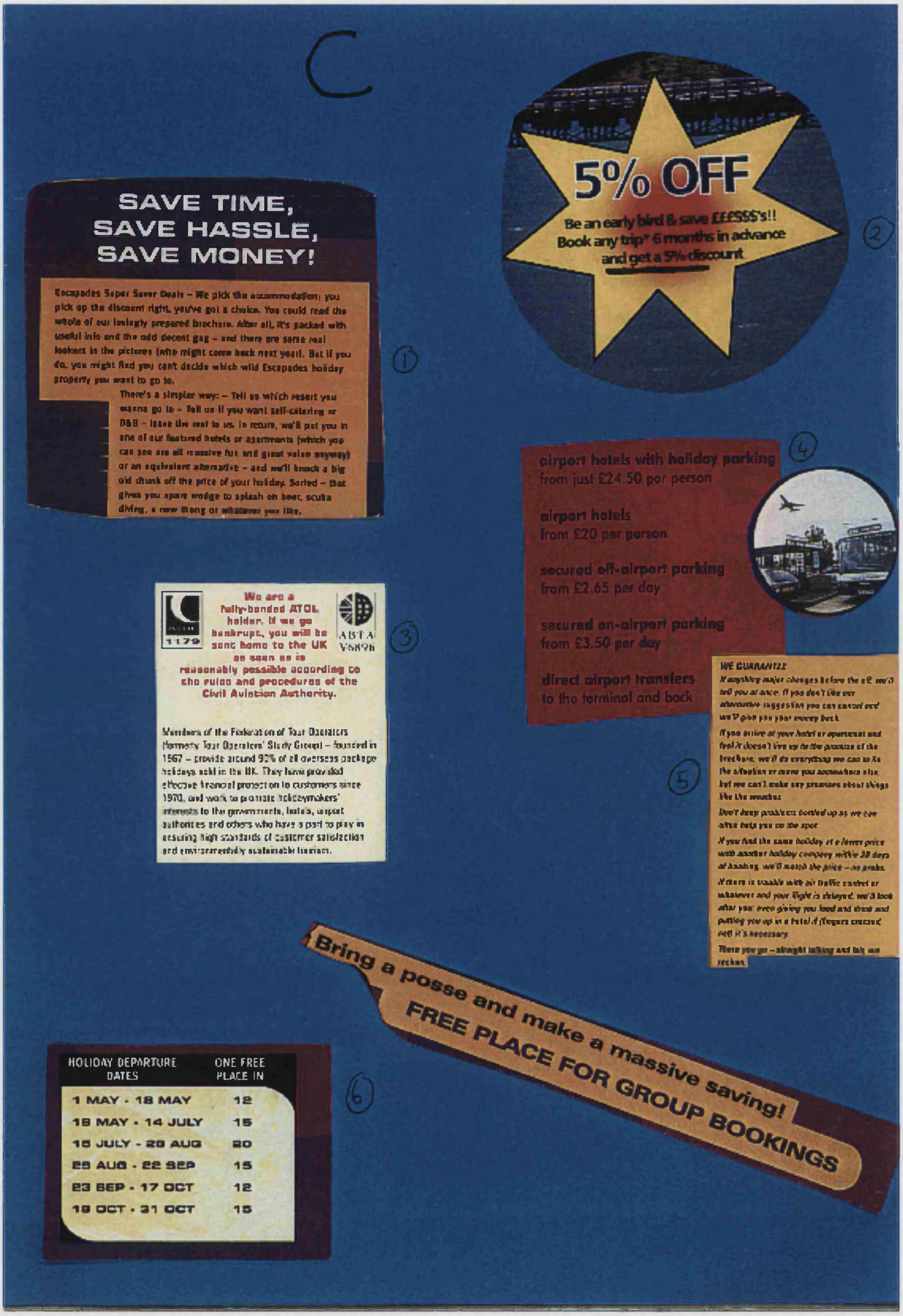


GUARANTEED DEPARTURES

Suntrek guarantees the departure of every one of the treks regardless of the number of participants. There is no need to worry about a trek being cancelled, ruining your vacation plans.

INSURANCE

You take full responsibility for insurance matters. For this kind of travel you must have special insurance against accidents, sickness, emergency return trip expenses, cancellation fees and insurance for lost or damaged luggage. It is a condition of booking that all travellers take outsufficient insurance for the above risks.


C
SAVE TIME,
SAVE HASSLE,
SAVE MONEY!
①
5% OFF
Be an early bird & save £££$$$'s!!
Book any trip* 6 months in advance
and get a 5% discount
②
③
④
airport hotels with holiday parking
from just £24.50 per person
airport hotels
from £20 per person
secured off-airport parking
from £2.65 per day
secured on-airport parking
from £3.50 per day
direct airport transfers
to the terminal and back
⑤
Bring a posse and make a massive saving!
FREE PLACE FOR GROUP BOOKINGS
⑥
HOLIDAY DEPARTURE DATES | ONE FREE PLACE IN
1 MAY - 18 MAY | 12
19 MAY - 14 JULY | 15
15 JULY - 28 AUG | 20
29 AUG - 22 SEP | 15
23 SEP - 17 OCT | 12
18 OCT - 31 OCT | 15

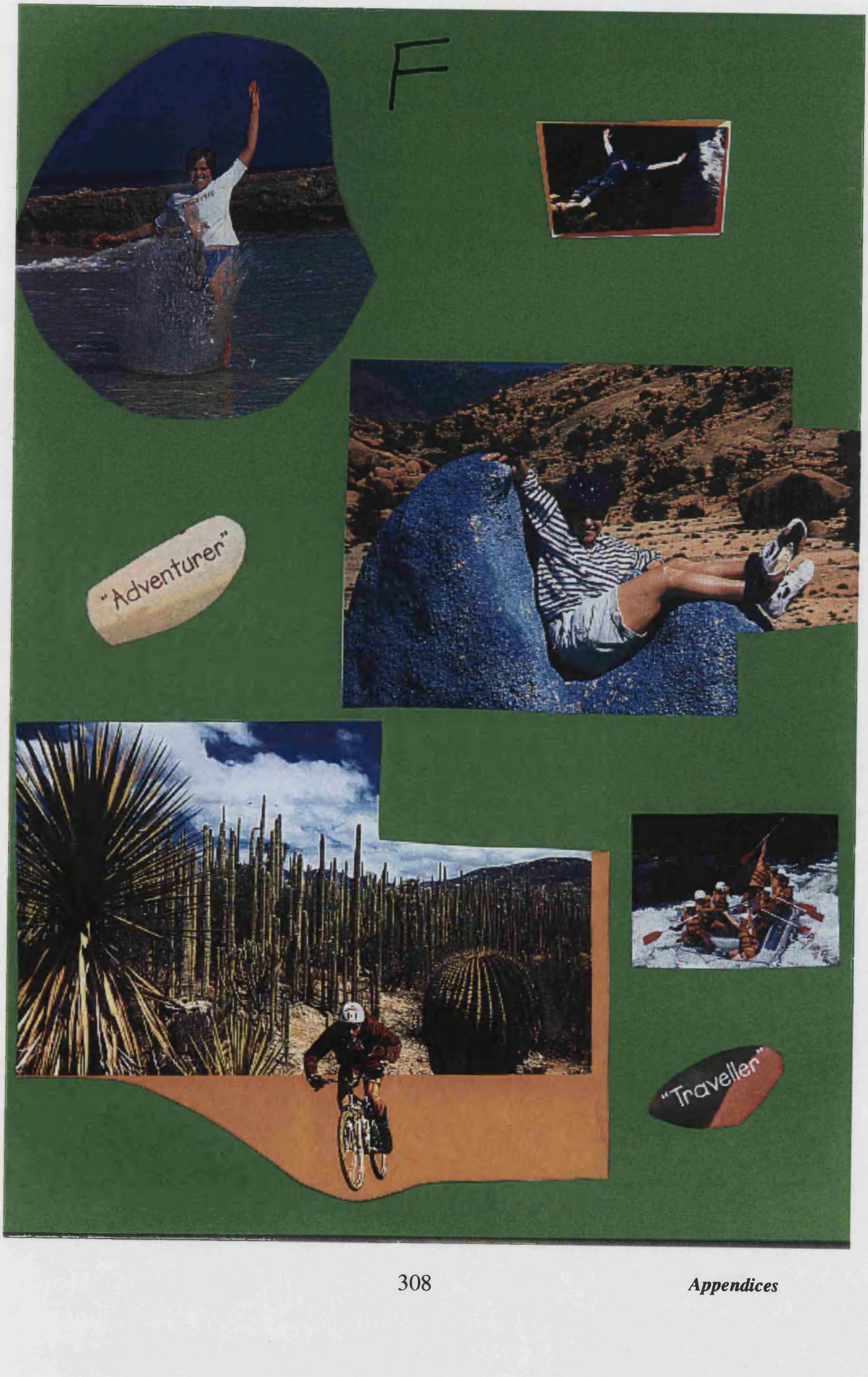
APPENDIX 4.3

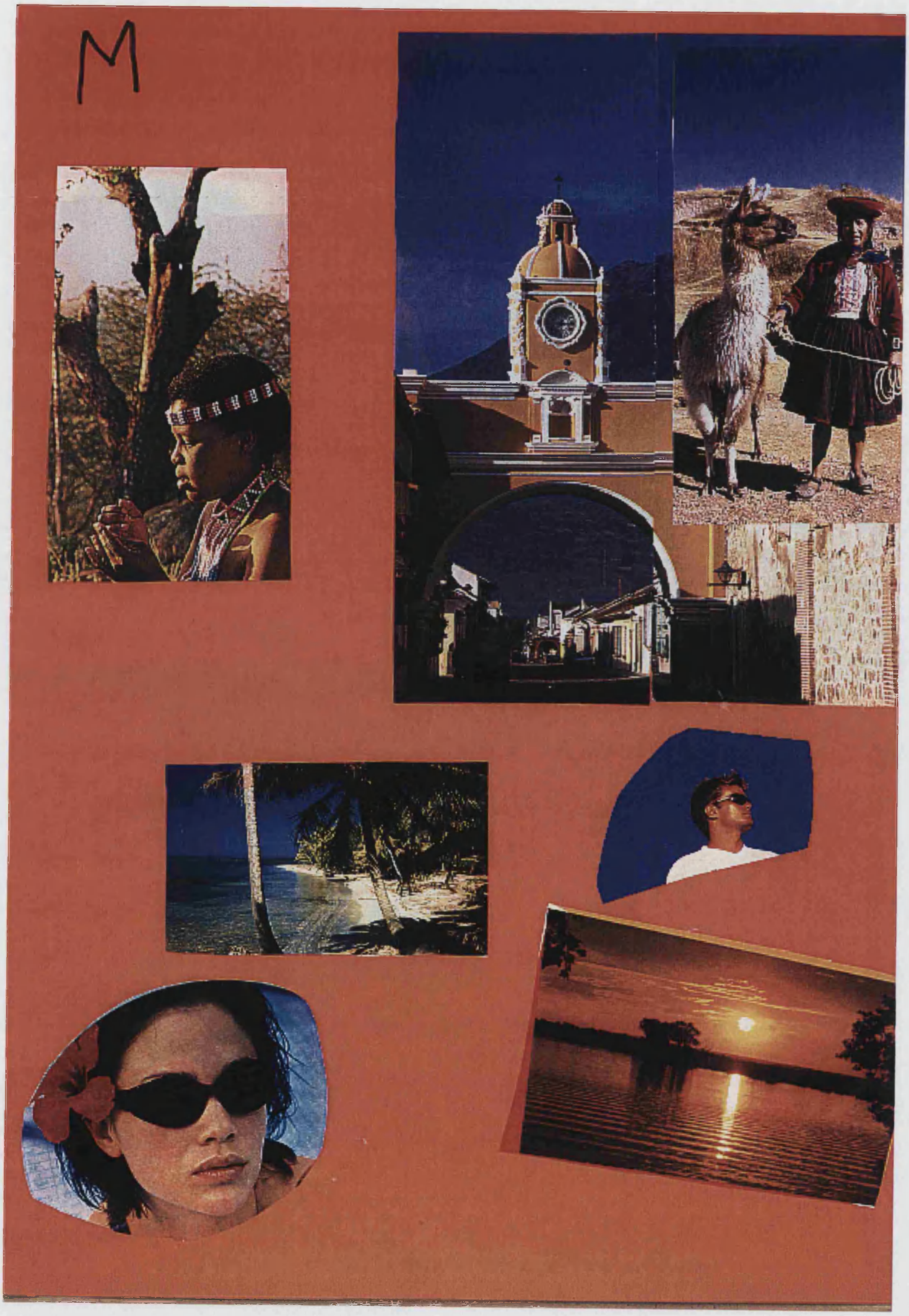
ROMANTIC

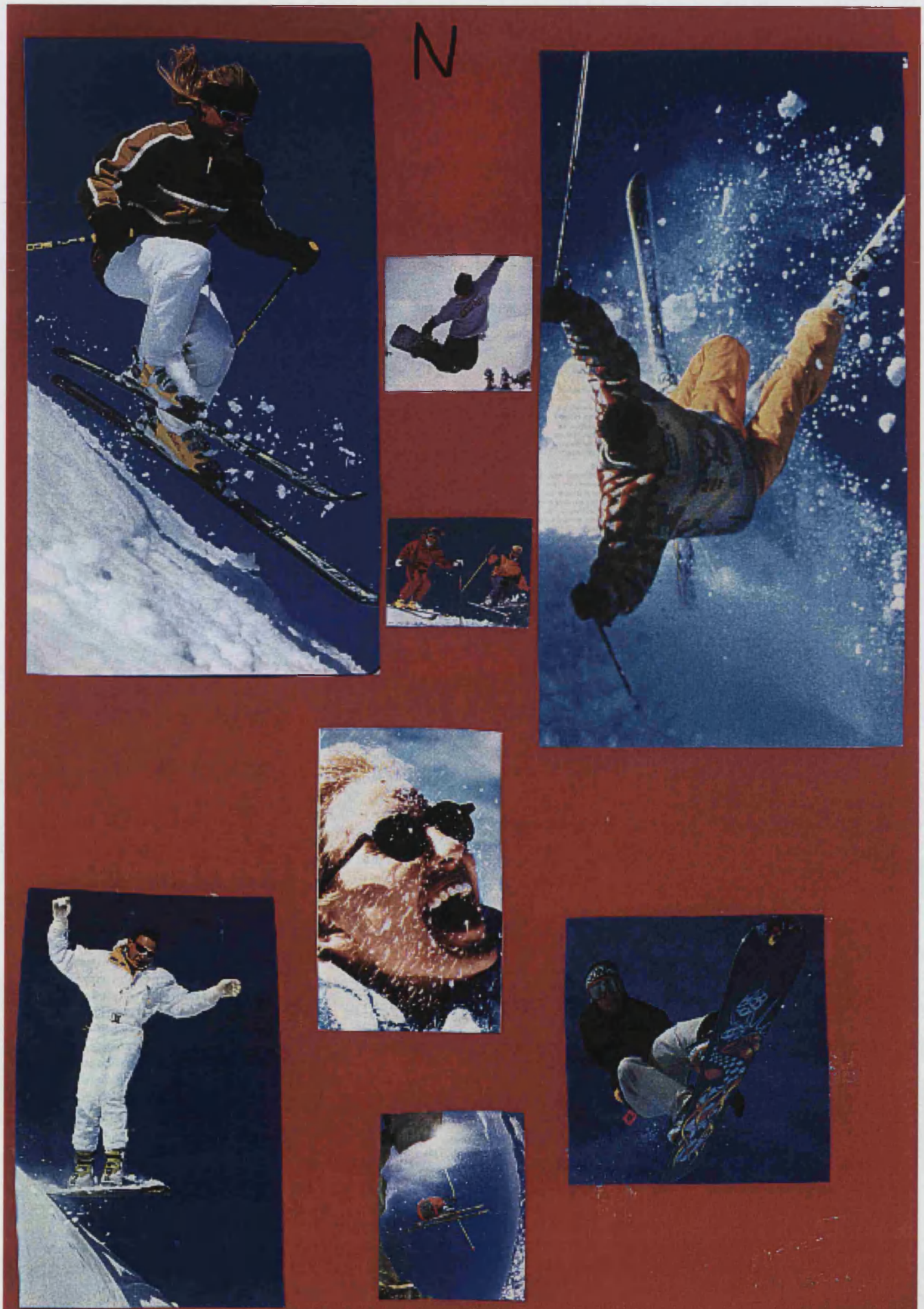
BROCHURE

PAGES

(originals were A3)


F
"Adventurer"
"Traveller"


M


N


S

APPENDIX 4.4

SEMANTIC DIFFERENTIAL POSTER TEST

You are about to see different posters of

Holiday ideas

some for ski-ing
some for summer holidays

What **overall** impression do the **images** and **text** on the posters create?

For each poster you will be given
35 opposite word pairs

e.g.

Exciting	❑	❑	❑	❑	❑	**Boring**
Beautiful	❑	❑	❑	❑	❑	**Ugly**

Your task is to tick the one box for each word pair which best describes the overall effect of everything on the poster.

So if you think that the poster conveys something very exciting and very beautiful your answer would look like this

Exciting	✓	❑	❑	❑	❑	**Boring**
Beautiful	✓	❑	❑	❑	❑	**Ugly**

Whereas if you think that the impression is a bit on the boring side also very ugly your answer would look like this

Exciting	❑	❑	❑	✓	❑	**Boring**
Beautiful	❑	❑	❑	❑	✓	**Ugly**

Please read any text carefully

Take time to look at the poster. Make sure you are looking at poster M.

POSTER M

Precise$_{9}$	❑	❑	❑	❑	❑	Vague
Adventurous$_{10}$	❑	❑	❑	❑	❑	Restrained
Eccentric$_{11}$	❑	❑	❑	❑	❑	Normal
Mechanical$_{12}$	❑	❑	❑	❑	❑	Visionary
Disciplined$_{13}$	❑	❑	❑	❑	❑	Intemperate
Moody$_{14}$	❑	❑	❑	❑	❑	Clear-headed
Chaotic$_{15}$	❑	❑	❑	❑	❑	Organised
Punctilious$_{16}$	❑	❑	❑	❑	❑	Slightly Evil
Technical$_{17}$	❑	❑	❑	❑	❑	Dreamy
Discreet$_{18}$	❑	❑	❑	❑	❑	Chivalrous
Heroic$_{19}$	❑	❑	❑	❑	❑	Timid
Scientific$_{20}$	❑	❑	❑	❑	❑	Artistic
Practical$_{21}$	❑	❑	❑	❑	❑	Impractical
Analytic$_{22}$	❑	❑	❑	❑	❑	Holistic
Aesthetic$_{23}$	❑	❑	❑	❑	❑	Theoretic
Passionate$_{24}$	❑	❑	❑	❑	❑	Intellectual
Feminine$_{25}$	❑	❑	❑	❑	❑	Masculine
Definite$_{26}$	❑	❑	❑	❑	❑	Mystical
Individualistic$_{27}$	❑	❑	❑	❑	❑	Conventional
Transcendental$_{28}$	❑	❑	❑	❑	❑	Confined
Exotic$_{29}$	❑	❑	❑	❑	❑	Familiar
Drab$_{30}$	❑	❑	❑	❑	❑	Colourful
Formal$_{31}$	❑	❑	❑	❑	❑	Natural
Spontaneous$_{32}$	❑	❑	❑	❑	❑	Restricted
Passionate$_{33}$	❑	❑	❑	❑	❑	Cultivated
Reasonable$_{34}$	❑	❑	❑	❑	❑	Sentimental
Free$_{35}$	❑	❑	❑	❑	❑	Mannered
Logical$_{1}$	❑	❑	❑	❑	❑	Emotional
Literal$_{2}$	❑	❑	❑	❑	❑	Poetic
Controlled$_{3}$	❑	❑	❑	❑	❑	Impulsive
Intuitive$_{4}$	❑	❑	❑	❑	❑	Rational
Unpredictable$_{5}$	❑	❑	❑	❑	❑	Conservative
Factual$_{6}$	❑	❑	❑	❑	❑	Feelingful
Messy$_{7}$	❑	❑	❑	❑	❑	Neat
Disorderly$_{8}$	❑	❑	❑	❑	❑	Orderly

Take time to look at the poster. Make sure you are looking at poster F.

POSTER F

Passionate$_{33}$	❑	❑	❑	❑	❑	Cultivated
Reasonable$_{34}$	❑	❑	❑	❑	❑	Sentimental
Free$_{35}$	❑	❑	❑	❑	❑	Mannered
Logical$_{1}$	❑	❑	❑	❑	❑	Emotional
Literal$_{2}$	❑	❑	❑	❑	❑	Poetic
Controlled$_{3}$	❑	❑	❑	❑	❑	Impulsive
Intuitive$_{4}$	❑	❑	❑	❑	❑	Rational
Unpredictable$_{5}$	❑	❑	❑	❑	❑	Conservative
Factual$_{6}$	❑	❑	❑	❑	❑	Feelingful
Messy$_{7}$	❑	❑	❑	❑	❑	Neat
Disorderly$_{8}$	❑	❑	❑	❑	❑	Orderly
Precise$_{9}$	❑	❑	❑	❑	❑	Vague
Adventurous$_{10}$	❑	❑	❑	❑	❑	Restrained
Eccentric$_{11}$	❑	❑	❑	❑	❑	Normal
Mechanical$_{12}$	❑	❑	❑	❑	❑	Visionary
Disciplined$_{13}$	❑	❑	❑	❑	❑	Intemperate
Moody$_{14}$	❑	❑	❑	❑	❑	Clear-headed
Chaotic$_{15}$	❑	❑	❑	❑	❑	Organised
Punctilious$_{16}$	❑	❑	❑	❑	❑	Slightly Evil
Technical$_{17}$	❑	❑	❑	❑	❑	Dreamy
Discreet$_{18}$	❑	❑	❑	❑	❑	Chivalrous
Heroic$_{19}$	❑	❑	❑	❑	❑	Timid
Scientific$_{20}$	❑	❑	❑	❑	❑	Artistic
Practical$_{21}$	❑	❑	❑	❑	❑	Impractical
Analytic$_{22}$	❑	❑	❑	❑	❑	Holistic
Aesthetic$_{23}$	❑	❑	❑	❑	❑	Theoretic
Passionate$_{24}$	❑	❑	❑	❑	❑	Intellectual
Feminine$_{25}$	❑	❑	❑	❑	❑	Masculine
Definite$_{26}$	❑	❑	❑	❑	❑	Mystical
Individualistic$_{27}$	❑	❑	❑	❑	❑	Conventional
Transcendental$_{28}$	❑	❑	❑	❑	❑	Confined
Exotic$_{29}$	❑	❑	❑	❑	❑	Familiar
Drab$_{30}$	❑	❑	❑	❑	❑	Colourful
Formal$_{31}$	❑	❑	❑	❑	❑	Natural
Spontaneous$_{32}$	❑	❑	❑	❑	❑	Restricted

Take time to look at the poster. Make sure you are looking at poster S.

POSTER S

Logical$_1$	☐	☐	☐	☐	☐	Emotional
Literal$_2$	☐	☐	☐	☐	☐	Poetic
Controlled$_3$	☐	☐	☐	☐	☐	Impulsive
Intuitive$_4$	☐	☐	☐	☐	☐	Rational
Unpredictable$_5$	☐	☐	☐	☐	☐	Conservative
Factual$_6$	☐	☐	☐	☐	☐	Feelingful
Messy$_7$	☐	☐	☐	☐	☐	Neat
Disorderly$_8$	☐	☐	☐	☐	☐	Orderly
Precise$_9$	☐	☐	☐	☐	☐	Vague
Adventurous$_{10}$	☐	☐	☐	☐	☐	Restrained
Eccentric$_{11}$	☐	☐	☐	☐	☐	Normal
Mechanical$_{12}$	☐	☐	☐	☐	☐	Visionary
Disciplined$_{13}$	☐	☐	☐	☐	☐	Intemperate
Moody$_{14}$	☐	☐	☐	☐	☐	Clear-headed
Chaotic$_{15}$	☐	☐	☐	☐	☐	Organised
Punctilious$_{16}$	☐	☐	☐	☐	☐	Slightly Evil
Technical$_{17}$	☐	☐	☐	☐	☐	Dreamy
Discreet$_{18}$	☐	☐	☐	☐	☐	Chivalrous
Heroic$_{19}$	☐	☐	☐	☐	☐	Timid
Scientific$_{20}$	☐	☐	☐	☐	☐	Artistic
Practical$_{21}$	☐	☐	☐	☐	☐	Impractical
Analytic$_{22}$	☐	☐	☐	☐	☐	Holistic
Aesthetic$_{23}$	☐	☐	☐	☐	☐	Theoretic
Passionate$_{24}$	☐	☐	☐	☐	☐	Intellectual
Feminine$_{25}$	☐	☐	☐	☐	☐	Masculine
Definite$_{26}$	☐	☐	☐	☐	☐	Mystical
Individualistic$_{27}$	☐	☐	☐	☐	☐	Conventional
Transcendental$_{28}$	☐	☐	☐	☐	☐	Confined
Exotic$_{29}$	☐	☐	☐	☐	☐	Familiar
Drab$_{30}$	☐	☐	☐	☐	☐	Colourful
Formal$_{31}$	☐	☐	☐	☐	☐	Natural
Spontaneous$_{32}$	☐	☐	☐	☐	☐	Restricted
Passionate$_{33}$	☐	☐	☐	☐	☐	Cultivated
Reasonable$_{34}$	☐	☐	☐	☐	☐	Sentimental
Free$_{35}$	☐	☐	☐	☐	☐	Mannered

Take time to look at the poster. Make sure you are looking at poster N.

POSTER N

Passionate$_{24}$	☐	☐	☐	☐	☐	Intellectual
Feminine$_{25}$	☐	☐	☐	☐	☐	Masculine
Definite$_{26}$	☐	☐	☐	☐	☐	Mystical
Individualistic$_{27}$	☐	☐	☐	☐	☐	Conventional
Transcendental$_{28}$	☐	☐	☐	☐	☐	Confined
Exotic$_{29}$	☐	☐	☐	☐	☐	Familiar
Drab$_{30}$	☐	☐	☐	☐	☐	Colourful
Formal$_{31}$	☐	☐	☐	☐	☐	Natural
Spontaneous$_{32}$	☐	☐	☐	☐	☐	Restricted
Passionate$_{33}$	☐	☐	☐	☐	☐	Cultivated
Reasonable$_{34}$	☐	☐	☐	☐	☐	Sentimental
Free$_{35}$	☐	☐	☐	☐	☐	Mannered
Logical$_{1}$	☐	☐	☐	☐	☐	Emotional
Literal$_{2}$	☐	☐	☐	☐	☐	Poetic
Controlled$_{3}$	☐	☐	☐	☐	☐	Impulsive
Intuitive$_{4}$	☐	☐	☐	☐	☐	Rational
Unpredictable$_{5}$	☐	☐	☐	☐	☐	Conservative
Factual$_{6}$	☐	☐	☐	☐	☐	Feelingful
Messy$_{7}$	☐	☐	☐	☐	☐	Neat
Disorderly$_{8}$	☐	☐	☐	☐	☐	Orderly
Precise$_{9}$	☐	☐	☐	☐	☐	Vague
Adventurous$_{10}$	☐	☐	☐	☐	☐	Restrained
Eccentric$_{11}$	☐	☐	☐	☐	☐	Normal
Mechanical$_{12}$	☐	☐	☐	☐	☐	Visionary
Disciplined$_{13}$	☐	☐	☐	☐	☐	Intemperate
Moody$_{14}$	☐	☐	☐	☐	☐	Clear-headed
Chaotic$_{15}$	☐	☐	☐	☐	☐	Organised
Punctilious$_{16}$	☐	☐	☐	☐	☐	Slightly Evil
Technical$_{17}$	☐	☐	☐	☐	☐	Dreamy
Discreet$_{18}$	☐	☐	☐	☐	☐	Chivalrous
Heroic$_{19}$	☐	☐	☐	☐	☐	Timid
Scientific$_{20}$	☐	☐	☐	☐	☐	Artistic
Practical$_{21}$	☐	☐	☐	☐	☐	Impractical
Analytic$_{22}$	☐	☐	☐	☐	☐	Holistic
Aesthetic$_{23}$	☐	☐	☐	☐	☐	Theoretic

Take time to read the text. Make sure you are looking at poster Y.

POSTER Y

Chaotic[15]	☐	☐	☐	☐	☐	Organised
Punctilious[16]	☐	☐	☐	☐	☐	Slightly Evil
Technical[17]	☐	☐	☐	☐	☐	Dreamy
Discreet[18]	☐	☐	☐	☐	☐	Chivalrous
Heroic[19]	☐	☐	☐	☐	☐	Timid
Scientific[20]	☐	☐	☐	☐	☐	Artistic
Practical[21]	☐	☐	☐	☐	☐	Impractical
Analytic[22]	☐	☐	☐	☐	☐	Holistic
Aesthetic[23]	☐	☐	☐	☐	☐	Theoretic
Passionate[24]	☐	☐	☐	☐	☐	Intellectual
Feminine[25]	☐	☐	☐	☐	☐	Masculine
Definite[26]	☐	☐	☐	☐	☐	Mystical
Individualistic[27]	☐	☐	☐	☐	☐	Conventional
Transcendental[28]	☐	☐	☐	☐	☐	Confined
Exotic[29]	☐	☐	☐	☐	☐	Familiar
Drab[30]	☐	☐	☐	☐	☐	Colourful
Formal[31]	☐	☐	☐	☐	☐	Natural
Spontaneous[32]	☐	☐	☐	☐	☐	Restricted
Passionate[33]	☐	☐	☐	☐	☐	Cultivated
Reasonable[34]	☐	☐	☐	☐	☐	Sentimental
Free[35]	☐	☐	☐	☐	☐	Mannered
Logical[1]	☐	☐	☐	☐	☐	Emotional
Literal[2]	☐	☐	☐	☐	☐	Poetic
Controlled[3]	☐	☐	☐	☐	☐	Impulsive
Intuitive[4]	☐	☐	☐	☐	☐	Rational
Unpredictable[5]	☐	☐	☐	☐	☐	Conservative
Factual[6]	☐	☐	☐	☐	☐	Feelingful
Messy[7]	☐	☐	☐	☐	☐	Neat
Disorderly[8]	☐	☐	☐	☐	☐	Orderly
Precise[9]	☐	☐	☐	☐	☐	Vague
Adventurous[10]	☐	☐	☐	☐	☐	Restrained
Eccentric[11]	☐	☐	☐	☐	☐	Normal
Mechanical[12]	☐	☐	☐	☐	☐	Visionary
Disciplined[13]	☐	☐	☐	☐	☐	Intemperate
Moody[14]	☐	☐	☐	☐	☐	Clear-headed

Take time to read the text. Make sure you are looking at poster R.

POSTER R

Formal$_{31}$	☐	☐	☐	☐	☐	Natural
Spontaneous$_{32}$	☐	☐	☐	☐	☐	Restricted
Passionate$_{33}$	☐	☐	☐	☐	☐	Cultivated
Reasonable$_{34}$	☐	☐	☐	☐	☐	Sentimental
Free$_{35}$	☐	☐	☐	☐	☐	Mannered
Logical$_{1}$	☐	☐	☐	☐	☐	Emotional
Literal$_{2}$	☐	☐	☐	☐	☐	Poetic
Controlled$_{3}$	☐	☐	☐	☐	☐	Impulsive
Intuitive$_{4}$	☐	☐	☐	☐	☐	Rational
Unpredictable$_{5}$	☐	☐	☐	☐	☐	Conservative
Factual$_{6}$	☐	☐	☐	☐	☐	Feelingful
Messy$_{7}$	☐	☐	☐	☐	☐	Neat
Disorderly$_{8}$	☐	☐	☐	☐	☐	Orderly
Precise$_{9}$	☐	☐	☐	☐	☐	Vague
Adventurous$_{10}$	☐	☐	☐	☐	☐	Restrained
Eccentric$_{11}$	☐	☐	☐	☐	☐	Normal
Mechanical$_{12}$	☐	☐	☐	☐	☐	Visionary
Disciplined$_{13}$	☐	☐	☐	☐	☐	Intemperate
Moody$_{14}$	☐	☐	☐	☐	☐	Clear-headed
Chaotic$_{15}$	☐	☐	☐	☐	☐	Organised
Punctilious$_{16}$	☐	☐	☐	☐	☐	Slightly Evil
Technical$_{17}$	☐	☐	☐	☐	☐	Dreamy
Discreet$_{18}$	☐	☐	☐	☐	☐	Chivalrous
Heroic$_{19}$	☐	☐	☐	☐	☐	Timid
Scientific$_{20}$	☐	☐	☐	☐	☐	Artistic
Practical$_{21}$	☐	☐	☐	☐	☐	Impractical
Analytic$_{22}$	☐	☐	☐	☐	☐	Holistic
Aesthetic$_{23}$	☐	☐	☐	☐	☐	Theoretic
Passionate$_{24}$	☐	☐	☐	☐	☐	Intellectual
Feminine$_{25}$	☐	☐	☐	☐	☐	Masculine
Definite$_{26}$	☐	☐	☐	☐	☐	Mystical
Individualistic$_{27}$	☐	☐	☐	☐	☐	Conventional
Transcendental$_{28}$	☐	☐	☐	☐	☐	Confined
Exotic$_{29}$	☐	☐	☐	☐	☐	Familiar
Drab$_{30}$	☐	☐	☐	☐	☐	Colourful

Take time to read the text. Make sure you are looking at poster C.

POSTER C

Spontaneous$_{32}$	❑	❑	❑	❑	❑	Restricted
Passionate$_{33}$	❑	❑	❑	❑	❑	Cultivated
Reasonable$_{34}$	❑	❑	❑	❑	❑	Sentimental
Free$_{35}$	❑	❑	❑	❑	❑	Mannered
Logical$_{1}$	❑	❑	❑	❑	❑	Emotional
Literal$_{2}$	❑	❑	❑	❑	❑	Poetic
Controlled$_{3}$	❑	❑	❑	❑	❑	Impulsive
Intuitive$_{4}$	❑	❑	❑	❑	❑	Rational
Unpredictable$_{5}$	❑	❑	❑	❑	❑	Conservative
Factual$_{6}$	❑	❑	❑	❑	❑	Feelingful
Messy$_{7}$	❑	❑	❑	❑	❑	Neat
Disorderly$_{8}$	❑	❑	❑	❑	❑	Orderly
Precise$_{9}$	❑	❑	❑	❑	❑	Vague
Adventurous$_{10}$	❑	❑	❑	❑	❑	Restrained
Eccentric$_{11}$	❑	❑	❑	❑	❑	Normal
Mechanical$_{12}$	❑	❑	❑	❑	❑	Visionary
Disciplined$_{13}$	❑	❑	❑	❑	❑	Intemperate
Moody$_{14}$	❑	❑	❑	❑	❑	Clear-headed
Chaotic$_{15}$	❑	❑	❑	❑	❑	Organised
Punctilious$_{16}$	❑	❑	❑	❑	❑	Slightly Evil
Technical$_{17}$	❑	❑	❑	❑	❑	Dreamy
Discreet$_{18}$	❑	❑	❑	❑	❑	Chivalrous
Heroic$_{19}$	❑	❑	❑	❑	❑	Timid
Scientific$_{20}$	❑	❑	❑	❑	❑	Artistic
Practical$_{21}$	❑	❑	❑	❑	❑	Impractical
Analytic$_{22}$	❑	❑	❑	❑	❑	Holistic
Aesthetic$_{23}$	❑	❑	❑	❑	❑	Theoretic
Passionate$_{24}$	❑	❑	❑	❑	❑	Intellectual
Feminine$_{25}$	❑	❑	❑	❑	❑	Masculine
Definite$_{26}$	❑	❑	❑	❑	❑	Mystical
Individualistic$_{27}$	❑	❑	❑	❑	❑	Conventional
Transcendental$_{28}$	❑	❑	❑	❑	❑	Confined
Exotic$_{29}$	❑	❑	❑	❑	❑	Familiar
Drab$_{30}$	❑	❑	❑	❑	❑	Colourful
Formal$_{31}$	❑	❑	❑	❑	❑	Natural

Take time to read the text. Make sure you are looking at poster Q.

POSTER Q

Scientific$_{20}$	☐	☐	☐	☐	☐	Artistic
Practical$_{21}$	☐	☐	☐	☐	☐	Impractical
Analytic$_{22}$	☐	☐	☐	☐	☐	Holistic
Aesthetic$_{23}$	☐	☐	☐	☐	☐	Theoretic
Passionate$_{24}$	☐	☐	☐	☐	☐	Intellectual
Feminine$_{25}$	☐	☐	☐	☐	☐	Masculine
Definite$_{26}$	☐	☐	☐	☐	☐	Mystical
Individualistic$_{27}$	☐	☐	☐	☐	☐	Conventional
Transcendental$_{28}$	☐	☐	☐	☐	☐	Confined
Exotic$_{29}$	☐	☐	☐	☐	☐	Familiar
Drab$_{30}$	☐	☐	☐	☐	☐	Colourful
Formal$_{31}$	☐	☐	☐	☐	☐	Natural
Spontaneous$_{32}$	☐	☐	☐	☐	☐	Restricted
Passionate$_{33}$	☐	☐	☐	☐	☐	Cultivated
Reasonable$_{34}$	☐	☐	☐	☐	☐	Sentimental
Free$_{35}$	☐	☐	☐	☐	☐	Mannered
Logical$_{1}$	☐	☐	☐	☐	☐	Emotional
Literal$_{2}$	☐	☐	☐	☐	☐	Poetic
Controlled$_{3}$	☐	☐	☐	☐	☐	Impulsive
Intuitive$_{4}$	☐	☐	☐	☐	☐	Rational
Unpredictable$_{5}$	☐	☐	☐	☐	☐	Conservative
Factual$_{6}$	☐	☐	☐	☐	☐	Feelingful
Messy$_{7}$	☐	☐	☐	☐	☐	Neat
Disorderly$_{8}$	☐	☐	☐	☐	☐	Orderly
Precise$_{9}$	☐	☐	☐	☐	☐	Vague
Adventurous$_{10}$	☐	☐	☐	☐	☐	Restrained
Eccentric$_{11}$	☐	☐	☐	☐	☐	Normal
Mechanical$_{12}$	☐	☐	☐	☐	☐	Visionary
Disciplined$_{13}$	☐	☐	☐	☐	☐	Intemperate
Moody$_{14}$	☐	☐	☐	☐	☐	Clear-headed
Chaotic$_{15}$	☐	☐	☐	☐	☐	Organised
Punctilious$_{16}$	☐	☐	☐	☐	☐	Slightly Evil
Technical$_{17}$	☐	☐	☐	☐	☐	Dreamy
Discreet$_{18}$	☐	☐	☐	☐	☐	Chivalrous
Heroic$_{19}$	☐	☐	☐	☐	☐	Timid

Just a few more details please

Age:		❑
Sex:	M	❑1
	F	❑2
Nationality:	South American	❑1
	Asian	❑2
	African	❑3
	British	❑4
	Other European	❑5
	North American	❑6
	Other	❑7
<u>Your views on ski-ing:</u>	Never been	❑1
	Love it	❑2
	It's O.K.	❑3
	Hate it	❑4
<u>Your views on activity holidays:</u>	Never been	❑1
(rafting, mountain biking,	Love them	❑2
bungee jumping etc.)	They're O.K.	❑3
	Hate them	❑4
<u>Your views on expedition holidays:</u>	Never been	❑1
(group treks in overland trucks,	Love them	❑2
camping etc.)	They're O.K.	❑3
	Hate them	❑4

Thank You

A chocolate bar is yours

APPENDIX 4.5

QUESTIONNAIRE

FOR

CLASSICIST TASK

This research involves marketing holidays

This part of the research is looking at the effects of different types of **information** on good, logical decision making

It is important for holiday companies to understand the decision making process of holiday makers

We are particularly interested in

- making layout orderly, neat and clear to understand
- helping people reach a rational decision
- aiding formation of well thought-out opinions

You are about to see 3 different posters - each containing different types of information

- poster R
- poster Y
- poster Q

How well do these posters help you decide?

We'll ask you to take time to read the information in the posters

You will then be asked to write down a few things about decision making

After this you'll be asked to fill in a questionnaire with 55 statements (indicate your level of agreement with each one)

POSTER R

R1. On first impression, does the information on this picture look well-organised?

✓ one box

Extremely well organised	❐ 1
Quite well organised	❐ 2
Fairly well organised	❐ 3
Not very well organised	❐ 4
Poorly organised	❐ 5

R2. Which piece of text presents information most clearly

***1.** (the graph)* ***2.** (price check)* ***3.** (the bold headings)* ***4.** (the continuous prose)*

<u>Please rank the four pieces of text</u>	<u>write the number here</u>
R2a The piece of text which presents information **most clearly** is	_____
R2a The piece of text which presents information **second most clearly** is	_____
R2a The piece of text which presents information **third most clearly** is	_____
R2a The piece of text which presents information **fourth most clearly** is	_____

R3. How well do these words describe the poster?

familiar 1 ***factual*** 2 ***scientific*** 3 ***neat*** 4

<u>Rank the words</u>	<u>write the words here</u>
N4a Best word to describe this poster is	________________
N4b 2nd best word to describe this poster is	________________
N4c 3rd best word to describe this poster is	________________
N4d 4th best word to describe this poster is	________________

POSTER Q

Q1. On first impression, does the information on this picture look well-organised?

✓ one box

Extremely well organised ❐1
Quite well organised ❐2
Fairly well organised ❐3
Not very well organised ❐4
Poorly organised ❐5

Q2. Does the diagram or the text present information more clearly?

✓ one box

The diagram ("point by point") presents information more clearly ❐1

The pieces of text ("US Company", "Guaranteed Departure", "Insurance") present information more clearly ❐2

Q3. How well do these words describe the poster?

technical1 ***practical***2 ***literal***3 ***conservative***4

Rank the words — write the words here

N4a Best word to describe this poster is ____________________

N4b 2nd best word to describe this poster is ____________________

N4c 3rd best word to describe this poster is ____________________

N4d 4th best word to describe this poster is ____________________

POSTER Y

Y1. On first impression, does the information on this picture look well-organised?

✓ one box

Extremely well organised	☐ 1
Quite well organised	☐ 2
Fairly well organised	☐ 3
Not very well organised	☐ 4
Poorly organised	☐ 5

Y2. Which piece of text presents information most clearly

***1.** (train info) **2.** ("for everyone") **3.** ("short stays") **4.** ("for singles") **5.** ("before you leave")*

Please rank the five pieces of text — write the number here

Y2a The piece of text which presents information **most clearly** is _____

Y2b The piece of text which presents information **second most clearly** is _____

Y2c The piece of text which presents information **third most clearly** is _____

Y2d The piece of text which presents information **fourth most clearly** is _____

Y2e The piece of text which presents information **fifth most clearly** is _____

Y3. How well do these words describe the poster?

Clear headed 1 ***organised*** 2 ***logical*** 3 ***orderly*** 4

Rank the words — write the words here

N4a Best word to describe this poster is ________________

N4b 2nd best word to describe this poster is ________________

N4c 3rd best word to describe this poster is ________________

N4d 4th best word to describe this poster is ________________

D. Overall which poster do you think has greatest effect on making you into a good decision maker?

Write letter here (R,Q,Y)

$_{Da}$The poster which has greatest effect on making me into a good decision maker is: _____

$_{Db}$Why? ____

How much do you agree with these statements?

✓ one box for each statement

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
One should adopt a conservative lifestyle	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Truth often involves an element of mysticism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Sensitivity is a valuable trait	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
In art, colour excites me more than form	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A routine way of life is preferable to unpredictability	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think that life is a great mystery	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Uncertainty is exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a sensitive person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Progress in science continues to ensure a brighter tomorrow	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Rigorous training is the true basis of athletic skill	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Facts are more important than feelings	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I enjoy art that expresses the artist's emotions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A cool head wins every time	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Sometimes evil is consistent with greatness	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

up 3

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
Intuition is a valuable tool	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Disorganisation is a major flaw	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I believe that first impressions are almost always correct	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Paintings should attempt to represent their subjects with maximum realism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am not an emotional person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It is O.K. to be eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am organised	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Every decision deserves to be carefully thought out	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
The heart, not the brain should be your guide	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I like to touch sculpture	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
People should try to be more tender	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Feelings are more important than facts	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Idealism is a wonderful quality	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Logic can solve any problem	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
When I am being taken somewhere in an unfamiliar place, I like to know exactly where I am going	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Occasionally it's O.K. to be moody	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am impulsive	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
In life, unpredictability is preferable to routine	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

up 3

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
I like to keep my home neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One's actions should always be carefully planned	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I prefer to live in a certain amount of chaos	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One should remain stable at all times	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I prefer a routine way of life to an unpredictable one	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A nice home is always neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Absent-mindedness is a lovable characteristic	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as a natural person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One should always be precise	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It is fun to be exposed to people with new ideas	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I tend to be a serious person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It's O.K. to daydream a lot	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Self-control is all important	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am precise about where I keep my possessions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am easily distracted	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
New ideas are exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a controlled person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Forgetfulness is forgivable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

up 3

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
I have a scientific outlook on most problems	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ 6	❑ 7
One should always be rational	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ 6	❑ 7

Date of Birth day month year

__ ___ ___

Sex M ❑ 1 F ❑ 2

Course

DBA1	❑ 1
DBA2	❑ 2
DBA4	❑ 3
IMML	❑ 4
MSc.	❑ 5
Exchange	❑ 6
Other	❑ 7

Nationality

British	❑ 1
Other European	❑ 2
North American	❑ 3
South American	❑ 4
Asian	❑ 5
African	❑ 6
Other	❑ 7

Parents' Post Code _ _ _ _ _ _

P.T.O

oup 3

Your views on ski-ing:	Never been	☐1
	Love it	☐2
	It's O.K.	☐3
	Hate it	☐4

Your views on activity holidays:	Never been	☐1
rafting, mountain biking,	Love them	☐2
ungee jumping etc.)	They're O.K.	☐3
	Hate them	☐4

Your views on expedition holidays:	Never been	☐1
group treks in overland trucks,	Love them	☐2
amping etc.)	They're O.K.	☐3
	Hate them	☐4

THANK YOU VERY MUCH

APPENDIX 4.6

QUESTIONNAIRE

FOR

ROMANTIC TASK

This research involves marketing holidays

This part of the research is looking at the effects which **pictures** create

We are particularly interested in

- how the pictures make people feel
- what associations people make with the pictures
- what mood the pictures put people in
- how pictures can make people want to act

You are about to see 3 different posters - each made up of several pictures

- poster F
- poster M
- poster N

How do these posters work at an emotional level?
How do they affect your motivation?

We'll ask you to take time to look at the posters

You will then be asked to write down a few things about the pictures

After this you'll be asked to fill in a questionnaire with 55 statements
(indicate your level of agreement with each one)

POSTER F

1. **What sort of person would this poster appeal to?**

____

____

2. **What emotions would this make someone feel?**

____

____

3. **What mood would this poster put someone in?**

____

4. **How well do these words describe the poster?**

adventurous, ***spontaneous***, ***eccentric***, ***chaotic***

Rank the words	write the words here
Best word to describe this poster is	________________
2nd best word to describe this poster is	________________
3rd best word to describe this poster is	________________
4th best word to describe this poster is	________________

POSTER M

M1. What sort of person would this poster appeal to?

____

____

M2. What emotions would this make someone feel?

____

____

M3. What mood would this poster put someone in?

____

M4. How well do these words describe the poster?

exotic $_1$ ***dreamy*** $_2$ ***poetic*** $_3$ ***moody*** $_4$

Rank the words — write the words here

.Best word to describe this poster is ____________

2^{nd} best word to describe this poster is ____________

3^{rd} best word to describe this poster is ____________

4^{th} best word to describe this poster is ____________

POSTER N

1. What sort of person would this poster appeal to?

____

____

2. What emotions would this make someone feel?

____

____

3. What mood would this poster put someone in?

____

4. How well do these words describe the poster?

impulsive$_1$ ***heroic***$_2$ ***passionate***$_3$ ***individualistic***$_4$

Rank the words	write the words here
Best word to describe this poster is	________________
2nd best word to describe this poster is	________________
3rd best word to describe this poster is	________________
4th best word to describe this poster is	________________

.. What is the most appealing thing to YOU about each poster?

escribe the posters

The thing I find most appealing about picture F is: ______________

The thing I find most appealing about picture M is: ______________

The thing I find most appealing about picture N is: ______________

. Which is your favourite poster?

Write the poster letter here (F,1, M,2 N,3)

My favourite poster is _____

/hy?

My favourite poster is ____ because:

____

. What do these posters make you want to go out and do?

____

How much do you agree with these statements?

✓ one box for each statement

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
One should adopt a conservative lifestyle	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Truth often involves an element of mysticism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Sensitivity is a valuable trait	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
In art, colour excites me more than form	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A routine way of life is preferable to unpredictability	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think that life is a great mystery	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Uncertainty is exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a sensitive person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Progress in science continues to ensure a brighter tomorrow	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Rigorous training is the true basis of athletic skill	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Facts are more important than feelings	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I enjoy art that expresses the artist's emotions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A cool head wins every time	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Sometimes evil is consistent with greatness	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

up 2 V1

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
Intuition is a valuable tool	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Disorganisation is a major flaw	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I believe that first impressions are almost always correct	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Paintings should attempt to represent their subjects with maximum realism	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am not an emotional person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It is O.K. to be eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am organised	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Every decision deserves to be carefully thought out	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as eccentric	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
The heart, not the brain should be your guide	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I like to touch sculpture	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
People should try to be more tender	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Feelings are more important than facts	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Idealism is a wonderful quality	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Logic can solve any problem	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
When I am being taken somewhere in an unfamiliar place, I like to know exactly where I am going	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Occasionally it's O.K. to be moody	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am impulsive	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
In life, unpredictability is preferable to routine	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

up 2 V1

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
I like to keep my home neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One's actions should always be carefully planned	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I prefer to live in a certain amount of chaos	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One should remain stable at all times	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I prefer a routine way of life to an unpredictable one	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
A nice home is always neat and orderly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as a practical person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Absent-mindedness is a lovable characteristic	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I think of myself as a natural person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
One should always be precise	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It is fun to be exposed to people with new ideas	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I tend to be a serious person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
It's O.K. to daydream a lot	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Self-control is all important	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am precise about where I keep my possessions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am easily distracted	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
New ideas are exciting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am a controlled person	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Forgetfulness is forgivable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

p 2 V1

	completely agree	pretty much agree	sort of agree	neither agree nor disagree	sort of disagree	pretty much disagree	completely disagree
I have a scientific outlook on most problems	❏ 1	❏ 2	❏ 3	❏ 4	❏ 5	❏ 6	❏ 7
One should always be rational	❏ 1	❏ 2	❏ 3	❏ 4	❏ 5	❏ 6	❏ 7

Date of Birth day month year

__ ___ ___

Sex M ❏ 1 F ❏ 2

Course

	DBA1	❏ 1
	DBA2	❏ 2
	DBA4	❏ 3
	IMML	❏ 4
	MSc.	❏ 5
	Exchange	❏ 6
	Other	❏ 7

Nationality

	British	❏ 1
	Other European	❏ 2
	North American	❏ 3
	South American	❏ 4
	Asian	❏ 5
	African	❏ 6
	Other	❏ 7

Parents' Post Code ___ ___

P.T.O

up 2 V1

<u>Your views on ski-ing:</u>	Never been	❑1
	Love it	❑2
	It's O.K.	❑3
	Hate it	❑4
<u>Your views on activity holidays:</u>	Never been	❑1
rafting, mountain biking,	Love them	❑2
ungee jumping etc.)	They're O.K.	❑3
	Hate them	❑4
<u>Your views on expedition holidays:</u>	Never been	❑1
group treks in overland trucks,	Love them	❑2
amping etc.)	They're O.K.	❑3
	Hate them	❑4

THANK YOU VERY MUCH

APPENDIX 4.7

RESPONSES TO

THE 3 OPEN ENDED QUESTIONS

FOR ROMANTIC POSTERS

F

M

N

Poster F - What sort of person would this poster appeal to?

1. An adventurous person
2. Thrill seeking, likes to live on the edge, adventurous, exciting.
3. Active, fit, adventurer, like to try something new.
4. Traveller and adventurer
5. Active, young, outdoor person, slightly crazy. Person who is always doing something active, enjoyes new and varied experiences
6. Likes to take risks, lively person
7. Young/energetic/extreme!!!/social
8. more adventurous, likes the open space, traveller
9. A young adventurous person in to extreme sports, backpacker
10. Young, adventurous person
11. someone looking for action and tie out. Curious, USA fans, cheeky
12. young, free, adventurous, willing to take risks, rebel, wanting to get everything they can out of life
13. Young, adventurous couples. Active people, "outdoors-type"
14. Young, active, sporty, into health and fitness, middle class, likes outdoors, adventrous, thrill seeker
15. the adventurous sports fanatic. The thrill seeker
16. someone who likes adventure and excitement, is sporty and likes the outdoors
17. someone who liked the idea of a non-luxury, back-to-basics, middle of nowhere kind of holiday
18. young person who is looking for adventure
19. young, adventurous people who enjoy sports
20. adventurous, young or middle-aged
21. active, adventurous people who feel that their life is mundane
22. energetic, outdoor person who enjoys activities
23. adventurous, someone who likes risk, danger and excitement
24. someone who has a lot of get up & go, enjoys outdoor activities, likes to be adventurous, spontaneous
25. a keen sportsman, someone who is also adventurous and willing to try new things
26. active, outdoor person, adventurous young person
27. adventurous, somebody who's not afraid to try something new & enjoys the hot climate
28. someone who is young or young at heart, energetic and enjoys the thrills and spills of interacting with the environment and doing something exhilarating
29. someone who's very active and enjoys less relaxing more athletic & challenging holidays - unafraid of new/ different experiences
30. people who like adventure, excitement in their holiday, sporty
31. someone who is into adventure holidays: an active person, someone who has no children - single or married younger person, someone who is involved with leading a group, eg Venture Scouts
32. a young adventurous person with the desire to travel

33. younger, more active generation: 18-30
34. adventurous person who likes and extreme sports with a hint of danger
35. young energetic person who likes sports and excitement
36. adrenalin junkie - adventure traveller
37. active, sporty, adventurous, determined
38. active, fun loving and possibly young (20s)
39. The younger generation. Person interested in travelling and exploring
40. Young, motivated individual who likes to try out new things. Enjoys adventure.
41. Young, adventurous, action packed holiday
42. Young, active, sporty, adventure, funlike type person who likes to do a lot on holiday rather than stay put
43. Somebody looking for an action/adventure holiday
44. The people who like adventure, sport and excitement
45. Young and sporty
46. active peopls who like adventure and who want to challenge themselves
47. adventurous
48. outdoors type
49. an active person who enjoys being outdoors and facing challenges, someone ith get up and go
50. very sporty, active, young person. Lots of energy and adventure
51. young, 20s, "action type" not your average sun worshipper
52. young, sporty
53. fun loving person who likes outdoor sport activities, excited by the adventure concept
54. people who enjoy different sporting activities people who want to do something different on holday
55. fun loving, someone who enjoys activity holidays, someone with loads of energy
56. outdoors, adventurous type. University students. Fairly affluent
57. active sporty person who likes to take risks and have a good fun holiday
58. young adults looking for a fun packed exciting holiday
59. active outdoorsy type
60. young, dynamic, adventure seeking, low budget e.g. students
61. young, sporty, exciting, adventurous, athletic
62. outdoor, adventurous, young, athletic
63. sporty, adventurous person
64. someone young, active and energetic with enough money to afford the activites, e.g. no family young worker
65. adventurous, fun loving
66. young (i.e. 16-30) adventurous, outgoing person
67. adventurous, sporty, exciteing, zest for life, athletic, energetic

Poster F
What emotions would this make someone feel?

1.	Scared! But probably exhilerated as well.
2.	Alive, excited as well as relaxed.
3.	a feeling of "i want to be doing that" feeling of freedom
4.	
5.	Mixture of excitement and awe
6.	weird feeling in the stomach
7.	adrenalin, non-stop
8.	wild and crazy and sense of freedom
9.	excitement, quirkiness
10.	happy, excited
11.	interested, excited, awe inspired
12.	excitment, urgency to act, sense of freedom
13.	jealous of the people in poster. Warm, sunny, relaxed, no sense of urgency
14.	excited, get a thrill from it
15.	thrill, adrenaline, expectiation
16.	excited, scared, brave, envious
17.	actually made me feel unmotivated and sad
18.	excited, free, inspired
19.	excited by the prospect of an adventurous holiday, if that's their thing, or scared by the dangerous activities if it's not
20.	excited, interested, bored with everday life
21.	excitement, exploratory urges, the need to break away
22.	excitement, maybe nerves or anxiety
23.	excited, eager, thrilled
24.	excited, exhilarated, happy, desire to go out and do something different
25.	excited, enthusiastic
26.	livey, excited
27.	action-packed, plenty of things to do but could be relaxing at same time - one would feel secure and confident that one could have a good time
28.	adventurous, happy, desire to be active, energetic
29.	excited, anticipation - for some, fear /anxiety, if they don't like this kind of thing
30.	excitement, adrenalin rush, energetic
31.	feel need to get out and do activities, inspired to try something new, urge to break away from monotony of life at home
32.	curiosity, excitement, desire
33.	opportunity, discovery, being alongside nature
34.	excitement, happiness, some would feel a bit scared
35.	excitement and fear, sense of adventure
36.	"Wow! That would be a wild holiday!" Would increase your heartrate and build up excitement, maybe also fear
37.	excitement, challenge, enjoyment
38.	excitement (particularly bungee photo) and fear
39.	excitement, danger
40.	Excited enthusiastic, want to travel and do new interesting things.Enjoyment.
41.	Feel excitement, want to be adventurous, adreneline rush!
42.	If they enjoyed the sports - excited, if that was not their idea of a good time - disinterested
43.	Excitement/ adreneline rush

44. achievement, proud, give them a buzz
45. lively get up and go
46. exhilirated, feeling of achiveement, enjoyment, frightened
47. excitement
48. energised, it would make you thing about what y ou could be doing
49. haooy excited, adventurous
50. energetic, happy
51. restless about current life - makes you want to get out and do something. Looking for adventure
52. excited
53. freedom, different, excitemen and challenge, adventure
54. fun, exhilerating, happy
55. exhausted!(if it doesn't appeal) sense of adventure and excitement
56. Excitement, fear, fun, sense of possible achivement
57. excitement, fear, exhileration, danger, looking into the unknown
58. excitement, adventurous
59. exhilirating
60. "wouldn't it be great to do this?" type of emotion. Generally positive.
61. thrilled, scared, adrenaline rush
62. excited, sense of adventure, bravery, want to travel
63. excited
64. excited, carefree, exhilerated
65. adrenaline filled
66. excitement, free, wild, daring
67. excitement raring to go motivated

Poster F - What mood would this poster put someone in?

1. An Active mood.
2. Happy, excited.
3. Energetic.
4. it depends if you are looking at travellers of adventure
5. light headed
6. excitement, good mood
7. excited, anticipation
8. free, thrill seeking, excited
9. quirky, adventurous mood, escape
10. happy
11. curious
12. energised, tired!
13. wanting to go on holiday soon
14. positive - everyone looks happy
15. glad, good
16. happy, excited
17. makes me disappointed that I'm not adventurous
18. upbeat, optimistic
19. a happy, adventurous mood
20. wanting, desirous
21. enthusiastic, dynamic
22. get up & go, energetic
23. spontaneous
24. energetic
25. good
26. happy, carefree
27. positive, lively, energetic
28. desire to pursue something that is pysically challenging
29. happy & excited
30. vibrant, lively
31. excited
32. elated
33. enthusiatic, active
34. good
35. adventurous
36. maybe quite hyped up at the challenge; excited
37. positive, adventurous
38. depressed! Being contrained from going by work etc.!
39. a happy mood
40. Motivated and excited
41. happy, energetic
42. energetic
43. focused mood
44. full of energy, ready to go
45. energetic mood
46. "up for anything" mood
47. (hyper) active
48. energetic

49. inspired, restless
50. a good mood, happy
51. wanting to be free
52. excited, ready to go
53. positive - I'd like to try that
54. Itchy feet - the need to get away
55. challenged to take part in the activities
56. An aggressive get out there and do ti mood
57. ecited, active mood
58. energetic
59. cheerful, up for it
60. Energetic, positive mood
61. buzzing, excited
62. to get out and do something - motivated
63. a competitive daring mood
64. very happy, wanting to try out new things
65. spontaneous, excited mood
66. excited, scared to the extent of some of the dangers
67. "high"

Poster M - What sort of person would this poster appeal to?

1. someone who likes hot, exotic holidays combined with an interest in culture.
2. Busy- who needs to relax, likes culture, wants to get away from it all.
3. Individuals, City-dwellers
4. Tourists in organised groups
5. Explorer. Someone who enjoys taking in other cultures. Exotic tastes.
6. Quiet, open-minded, interested in different cultures
7. Cultured/late 20s
8. Traveller (someone who isn't afraid to go to new countries) twenties
9. people with a bit of adventure in their blood, over 25, like experiencing new cultures and sightseeing
10. cultural, scenic appreciative person
11. Someone who likes to think of themsleves as worldly. Or maybe someone who is stressed.
12. somone who likes to travel, enjoy other cultures, viit new and exotic places, go slightly "off-the-track"
13. somebody more sophisticate/maybe more affluent maube. A more relaxe person , slower pace of life, older age group, 30+, someone less impulsive
14. middle class 25-40, prefers a more cultural experience rather than active holiday
15. The world traveller. SOmeone who wants to see all 7 continents
16. cultured people, people who want a relaxing and sightseeing holiday
17. someone who likes to experience different cultures and travel to exotic places
18. young professional
19. middle-aged and some elderly people, who enjoy experiencing different cultures
20. quiet, middle-aged, elderly, cultured
21. adventurous person who is less dynamic or excitement-seeking but more interested in culture and relaxation
22. beach holidaymaker - lazier or more cultural
23. someone who appreciates culture, ethnic differences, peace and quiet
24. quiet person who wants peace and relaxation, someone who is more interested in looking at things and reading
25. peaceful person who wants to get away from the hustle & bustle of urban life
26. quiet person who likes serenity and travelling
27. someone who enjoys the sun and wants to get a tan - someone who wants to learn about new cultures
28. somone who enjoys sightseeing and sampling different cultures - wants to learn about different places and break away from the tourist image
29. someone who enjoys relaxing holidays, perhaps with an interest in history & diferent cultures
30. someone who enjoys culture, sun-lovers
31. young couples, or older couples whose children have left home, someone who wants time to relax & recouperate
32. 20-30 year-olds, looking to learn things from their travels
33. any age - perhaps busy workers in need of a cultural break
34. person who likes experiencing different cultures, exotic places, romantic honeymoon type
35. older person with more cultural interests, someone that likes peace and quiet
36. traveller who likes new cultures, beautiful surroundings and relaxation
37. busy in his normal life, loving exotic places
38. someone who appreciated culture and or relaxation; no pressures or commitments
39. The person who wishes to understand different cultures and ways of life. A relaxed person
40. SOmeone who enjoys culture, doeasn't want a commercialised holiday. Learning holiday.

	Not necessarily older.
41.	A more mature person interested in clutures and likes travelling to exotic places.
42.	cultural, adventurous person. Probably someone quite interesting to be around
43.	somebody looking for a cultural holiday
44.	Young, romantic person who want to experience totally different culture - often couples
45.	older people, couples
46.	someone who enjoys cultural visits, enjoys relaxing unadventurous
47.	cultured
48.	somewhere who wants ot go somewhere hot on holiday
49.	someone who likes somehting a little different. Less fast paced but still interested in many things - culture, seeing new things, beautifu
50.	the traveller or explorer. A culture seeker
51.	more females than males. More culture oriented idealistic. AGain young but more mature than f
52.	relaxed, mature, culture
53.	people who enjoy a laid back holiday in the sun biut would enjoy experience of the cultural side of the country
54.	well off, travellers, people interestedion culture
55.	someone looking fo culture, looking for a relaxing holiday in the sun or the beach
56.	wealthy traveller, older people, perhaps retired couples
57.	someone who likes a mix of culture and good weather in a holiday
58.	young adults (those without a family) who want relaxation and something different
59.	explorer - interested in new places/cultures
60.	traveller that would like to go somewhere different, look into different cultures
61.	any age group, cultured people that like to relax and experience other cultures
62.	older, experienced traveller- cultured
63.	someone interested in culture and exotic different locations
64.	someone interested in travelling seeing the word, interested in cultures. SOmone more educated with money
65.	older, cultural
66.	to a stresed hard working person
67.	intelligent, cultured, adventurous, thirst for knowledge, traveller, romantic

Poster M - What emotions would this make someone feel?

1. Relaxed.
2. Calm, tranquility, relaxed.
3. dreamy, relaxed, calm
4. peaceful
5. Peaceful, longing to be out in the sun/outdoors
6. relaxed
7. calm, peace
8. curiosity, happy (all the sun)
9. nostalgia, a pleasant emotion
10. calm, relaxed
11. Relaxed, calm, inquisitive, romantic
12. Desire to visit these places
13. much calmer than previous poster. Must go and explore the world
14. content
15. Anticipation. TOp half - cultural anticipation. Bottom half - exotic anticipation
16. relaxation, calm, sense of discovery
17. happy, intrigued, a desire to travel
18. contentment, restfulness
19. calm and relaxed
20. warm, peaceful, unexcited
21. calm, relaxed
22. relaxed, happy, llama is amusing
23. alive, anxious to know more
24. calm, relaxed, bored
25. calm, relaxed, tranquil
26. calm, serene, warm
27. relaxed, tranquil
28. content, relaxed, warm & heartening
29. happy, wistful (not to be there now), calm, peaceful
30. relaxed, calm, happy
31. relaxed, need some sun
32. interest, intrigue
33. relaxed, at ease, sentiment and history
34. romance, longing for a place far away from hectic everyday life
35. happiness and a sense of tranquility
36. "I want to go" - envious that they're not there - desire for such relaxation and experiences
37. relaxation, love
38. warm pleasure. Calm and relaxed
39. Calm and relaxed, anticipation
40. Peaceful. The pictures have a sense of calming about them. Intriguing
41. relaxed, calm, happy, sentimental, dreamy
42. I feel it would make them think about other cultures other than their own and consider the d
43. intrigue and interest
44. romance/love/relaxed
45. relaxed, happy
46. relaxed, fulfilled
47. peaceful, nostalgic
48. ambition to go to those places

49. inquisitive, peaceful, calm
50. enthusiastic. Happy to be alive
51. calm, restful, romantic, discovery
52. calm, peaceful
53. relaxed, romantic, appreciation of culture, calm
54. romantic, happy envious
55. relaxed, happy
56. relaxed, calm, sense of excitement
57. relaxed, worry free, happy, amazed
58. tranquility, warmth, exlusivity
59. interest ecitement
60. romantic, wider mind
61. contented, relaxed
62. relaxed - peaceful - inspired
63. interested and curious about their surroundings
64. relaxed inspired, fascinated
65. intrigue
66. relaxed stress free
67. calm, happy, nostalgic

Poster M - What mood would this poster put someone in?

1. A dreamy mood.
2. Calm , tranquil and relaxed.
3. Tranquil
4. no idea
5. Calmness, serious
6. both into a good and sad mood
7. relaxed
8. amazement of the beauty, want to go on an adventure
9. relaxed, nostalgic
10. relaxed, peaceful
11. Rlaxed
12. relaxed, chilled, at-ease, loning (to visit)
13. Relaxed, day dreaming
14. would rather be sitting on the beach than at work
15. dreamy
16. a pleasing mood
17. relaxed
18. peaceful
19. uninterested, unless it's their thing
20. calm, relaxed
21. good/happy
22. mysterious
23. bored, irritated
24. subdued
25. top half quiet/lazy - bottom half romantic
26. relaxed, ready to fly off right now
27. v. relaxed and appreciative of some of the world's delights
28. wistful, happy
29. relaxed, good mood
30. relaxed
31. excitement
32. relaxed
33. dreaming, romantic, mellow
34. calm and relaxed
35. relaxed, but wanting to do themselves - in awe
36. peaceful, relaxed
37. relaxed. Perhaps slow down the pace a bit.
38. relaxed, laid back
39. thoughtful
40. happy
41. THoughtful, possibly unhappy with their present situation
42. mood of though/contemplation
43. relaxed
44. happy
45. quite, invigorated mood
46. dreamy
47. happy mood- imaging they wre there
48. happy, laid back

49. happy
50. serenity
51. calm
52. desirable - would want to sample and see this place
53. calm relaxed
54. Imagining they're on holiday, wishing you could be there no
55. relaxed
56. stress-free, open-minded mood
57. relaxed
58. contemplative
59. "chill-out" romantic, laid back
60. relaxed
61. want to travel
62. relaxed
63. relaxed, happy, at peace with the world
64. curious
65. relaxed and calm
66. peaceful, relaxed

Poster N - What sort of person would this poster appeal to?

1. Someone who looks for exciting, very active holidays.
2. Exciting, thrill seeking.
3. Young, active, excitement-seeking
4. Young, trendy, cool or extreme sport fan
5. Young, active and sporty person. Lives life in the fast lane.
6. Young, sporty, open for adventures, likes to have fun
7. outgoing/adventurous/sporty/younger
8. Young, outgoiong person. Sporty person , thrill seeking, someone who loves to ski and snowboard
9. To a person interested in extreme sports, probably young with some money in their pocket. Maybe male.
10. Exciting/adventurous person/risk taker
11. Risk-taker - extreme sports - thrill seker - the Pepsi Max people
12. ACtive, young, daring, willing to take risks
13. Younger people = 28-30/35. Someone who is already active, sporty -a "go-getter"
14. young, sporty, middle class, likes outdoors, like to try new things
15. Ski/Board enthusiast. Me! SOmeone who likes to go on "snow" holidays
16. someone who likes to ski/snowboard, adventurous people, sporty people
17. skiier/snowboarder, action person
18. professonal from high-pressure industry
19. young and middle-aged people who could afford to engage in winter sports
20. young, adventurous, thrill-seeker, sporty, active
21. active person who (unlike f or m) is not very adventurous or interested in the exotic
22. fun-loving, energetic, sporty
23. someone who enjoys the snow or the unexpected, professional skiiers
24. energetic, sporty type of person - someone who can be spontaneous and likes fun and excitement
25. keen skiier, someone who likes to take risks and actively seeks new adventures
26. active snow-loving person
27. anyone who's up for a challenge and wants to have a good time with other people
28. somone who is vibrant, full of energy & enthusiasm towards sport and recreation
29. active, athletic, someone who likes a challenge, adventurous - preferably someone who was interested in winter sports & probably an experienced skiier - would scare off beginners
30. adventuruos, likes the outdoors, energetic, adrenalin seekers, sporty
31. all ages - those who have been skiing before and maybe those who haven't - mainly to the younger person who is looking for an adrenalin rush
32. experienced skiiers, probably younger generation
33. younger generation - those with past skiing/snowboarding experience?
34. adventurous, ski-loving
35. younger person who likes fear and excitement
36. energetic fun-filled adrenalin junkie
37. extreme, sporty, active, impulsive, heroic, risky
38. experienced skiers/boarders. THose who are willing to try something new. A sporty person.
39. The adventurous. Person who is willing to take risks.
40. Younger generations who enjoys danger, sports. live on the edge.
41. Younger people, adventurous, dare devils, impulsive
42. Young (under 50) active, sporty
43. adventurous outdoors type

44. ADventurous people with lots of energy, normally younger generation could be individuals
45. most ages (below about 60) sporty, adventurous
46. someone who is adventurous, fit, enjoys exciting/daring holidyas
47. young adventurous
48. young, trendy, someone with a sense of fun
49. fun loving, full of energy, risk taker
50. very active, energetic person. Likes extreme sports. Enjoys ski-ing and the snow. Impulsive person
51. younger than other 2. Cool - someone concerned with image. active.
52. sporty, young
53. outgoing, fun-loving, active, sporty, likes a challenge
54. young, fun, happy go lucky people
55. people interested in winter sports
56. very active, no holds barred, fun, lively, young, still wealthy
57. active, sporty, adventurous person who has enough money not to worry about the expense of ski-ing
58. funseekers, good time guys
59. active thrill-seeker
60. winter sports people, young, adventurous
61. young, middle-aged, athletic, sporty, risk-taking
62. young, free-willed, adventurous
63. very daring, adventurous person
64. young energetic person
65. radical, adrenaline seeking, young
66. a young, wild person up for a good lauch
67. adventurous, sporty, young, energetic

Poster N - What mood would this poster put someone in?

1. Exhileration.
2. Excited, wild, danger.
3. Fun, fear, exhileration
4. freshness, freedom
5. Excitement, unfit
6. being free
7. exhilerated
8. excited, happy, freedom
9. Excitement, quirkiness
10. happy, excited, envious
11. Either exhilerated or excited or just plain scared
12. alive, energised
13. SOme element of fantasy/longing ("wow look at that") Happy. "itchy feet". Respect and awe for these people who are v. good/experts
14. happy, full of energy, that you an to be the person in the picture
15. Happiness, joy, thrill, danger and anticipation
16. excited, anticipation, perhaps scared if first time
17. motivated, fun - desire to have fun
18. exhilaration, enjoyment, freedom
19. excited and adventurous
20. excited, energetic, anxious if not done before
21. lively, cheerful
22. v. excited, happy, jealous of skiiers, for some, nervous/scared
23. happy, adrenalin pumping, excited
24. excited, happy, desire to have fun, passionate
25. exhilarated, longing for some sunshine
26. excitement, fun, happiness
27. energised, refreshed, motivated
28. cold, chaotic, pressured, feeling lazy
29. excited, anticipation, anxious if you didn't like it, spontaneous & impulsive - you want to do it now
30. excited, sense of vigour
31. desire to do more of it, makes you feel excited at the prospect of going
32. desire to be as good as the people in the pictures
33. energetic, adventurous, satisfaction
34. happiness, adventurous
35. fear and euphoria
36. excited, hyped-up, motivated to go - desire for something different
37. happiness, joy, excitement
38. Exhiliration and possibly fear
39. Danger, excited, cold
40. Excited, raring to go on holiday.Also seems busy or chaotic, thriling.
41. excitement, want to try out new things, ne more spontaneous
42. Excited, untalented (the skiers are good!) cold! energetic
43. excitement adreneline
44. free, happy, excited
45. exhiliratted, lively
46. exhilirated, want to try the sport

47. active, powerful
48. exhilirated, jealous of the peole that are thre
49. exhilirated, scared, temptation, satisfaction
50. happy, danger, exhileration
51. excited, adrenaline filled, impulsive
52. wild, excitement
53. free, challenged, excited, joy
54. excitement, exhileration, passion
55. excitement, fun, challenging
56. excitement, happy, wanting to be there, fear, anticipation
57. excited, aroused, happy, fearless
58. happiness, energetic
59. danger fun
60. adrenaline, speed
61. exhilerated
62. excited, thrill seeking, wish they were there
63. excited, "pumped up" - huge adrenaline rush
64. exhilerated, possibly scared or daunted by the challenge
65. adrenaline filled - ALIVE
66. excited, free, heroic
67. excited, happy

Poster N - What mood would this poster put someone in?

1.	A fun mood.
2.	Happy
3.	Adventruesome
4.	relax
5.	Happy
6.	excitement
7.	depressed! want to be at there!
8.	excited and happy
9.	Mood for action, to do something
10.	happy/good mood/excited
11.	Fired-up
12.	happy, eanting to go there
13.	Wish I was there...
14.	
15.	sadness - "why an I here in Bath whan I could be ski-ing. (a good mood)
16.	wintery, sporty, energetic
17.	motivated, makes you want to be active
18.	hyped-up, excited
19.	adventurous
20.	happy, dreamy, inspired
21.	lively, cheerful
22.	good/excitable
23.	challenging
24.	energetic
25.	energetic
26.	happy, excited
27.	happy & energetic
28.	wanting to be active
29.	excited
30.	energetic, hyper
31.	enthusiastic
32.	excited, enthusiastic, compulsive
33.	impulsive and enthusiastic
34.	happy
35.	adventurous, risk-taking
36.	excited and energetic
37.	determined, excited
38.	Anxious. Wishing you could do something active.
39.	nervous
40.	excited
41.	happy
42.	Good, happy mood
43.	happy, excited
44.	haooy/excited
45.	excited, lively
46.	wanting the try the experience
47.	excited

48. ambitious. Make them want to go and do it
49. excited, in awe, must try
50. very good mood
51. excited
52. wild, excited
53. upbeat, fun
54. uplifted, happy
55. desire to join in the fun and excitement
56. excited, crazy
57. get up and go sort of mood
58. happy
59. energetic
60. adventurous
61. excited
62. excited
63. happy, competitive, game for a challenge mood
64. free and careless
65. awe inspired
66. it would put you in an excited "party" sort of mood
67. "raring to go" high

APPENDIX 4.8

RESPONSES TO QUESTION C

ROMANTIC QUESTIONNAIRE

What do these posters make you want to go out and do?

What do these posters make you want to go out and do?

1.	be on holiday
2.	get away and go on holiday (apart from f)
3.	go on holiday to exotic places and participate in exciting, adrenalin-fuelled activities
4.	they make you want to be adventurous
5.	see something new/try something new
6.	organise a holiday - preferably skiing
7.	need to break away from routine, be someone different, try something new
8.	book a holiday
9.	go on holiday
10.	go somewhere brighter than Bath is at the moment, possibly even book a summer holiday
11.	book a holiday - I need one
12.	have fun, do something adventurous and extraordinary
13.	go on holiday, do something different and adventurous
14.	go & book a holiday, do some kind of leisure activity, try something thrilling
15.	try something new and do something that is active - but do it with other people, ie a chance to meet new people too
16.	no response
17.	they make me want to go out & check my bank balance, to see if I could afford a holiday (especially n, not f)
18.	travel, adventure, be impulsive, go skiing, rafting and experience other cultures
19.	get away from university and experience something new & different
20.	travel & never come back - keep doing different things all around the world
21.	pack your things and go on holiday
22.	Something either culturally fulfilling or extremely active. AT the present time I am more inclined to want to sunbathe than ski!
23.	Possibly try to book a holiday to somewhere peaceful but not really. I just look at them and it doesn't really make me want to do anything.
24.	Go out and try new things. I enjoy holidays like in M. However, I would love to go on a holiday as in F.
25.	Travel! Right now! Everywhere! Be more spontaneous!
26.	Ski, Go off and see new cultural places, organise my summer travelling
27.	travel and be impulsive
28.	have fun
29.	N makes me want to go skiing again and M makes me want to relax on holiday sunbathing
30.	They don't make me want to do anything
31.	Travel. See different environments and cultures. Makes you realise you're only young once.
32.	they make me feel like I need a holiday so I might go out and book one
33.	make better use of my free time - go and do things - this would include nice fun holidays
34.	be more adventurous, explore the world, have fun

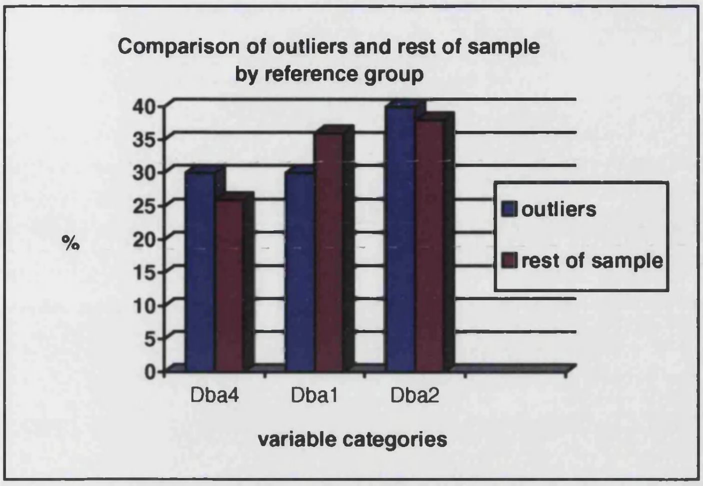
35.	go on holiday - especially F and N. M is a bit calmer but the same thing.
36.	to go ski-=ing
37.	look at going on holiday or playing some sport
38.	go on holiday!! Or at least look at some brochures also to look back at photos of past holidays I've been on.
39.	Depending on the type of person you are and what you enjoy doing will influence preferred poster. Poster M makes me want to go on a holiday
40.	Try something different experience different varieties of life from excitement to calm.
41.	Book an all action holiday on the other side of the world
42.	Go out and do something, but not necessarily go on holiday
43.	something active outdoors
44.	Makes me want to find out more but doesn't necessarily make me want to go.
45.	all the activities I see in the posters
46.	Book a holiday Relax in the sun, travel and forget about university
47.	Be sporty and adventurous - do new activities and be impulsive
48.	try new sports and activities (F), fo on holiday (M) do something exciting (F and N)
49.	sport - preferably extreme - i.e. ski-ing, rock climbing, mountain biking etc.
50.	give up writing essays and go out and relax and forget about all my worries

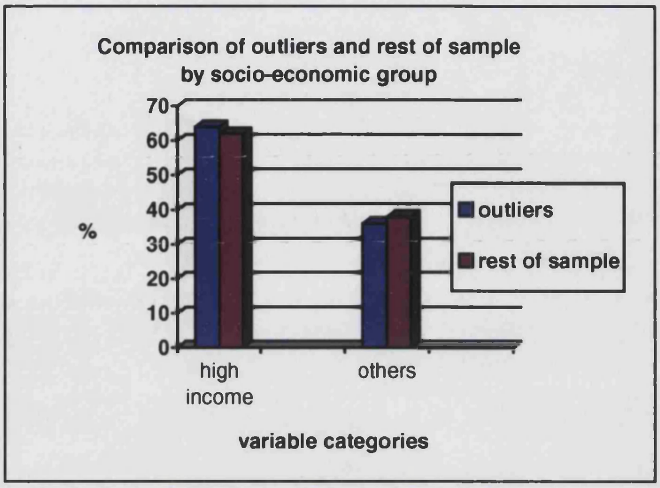
APPENDIX 5.1

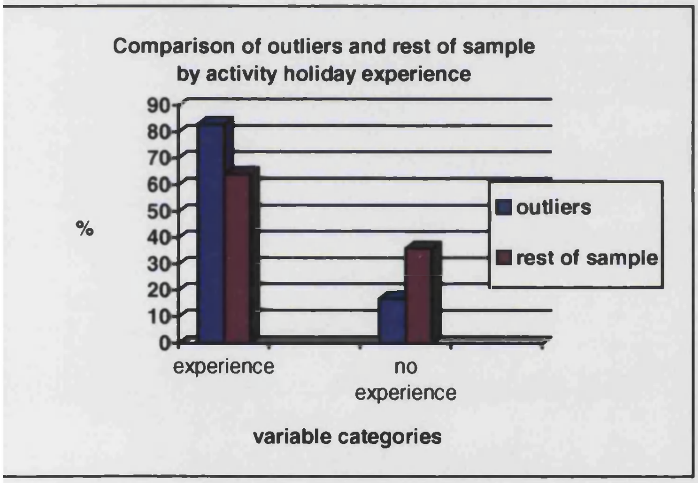
ANALYSIS OF OUTLIERS

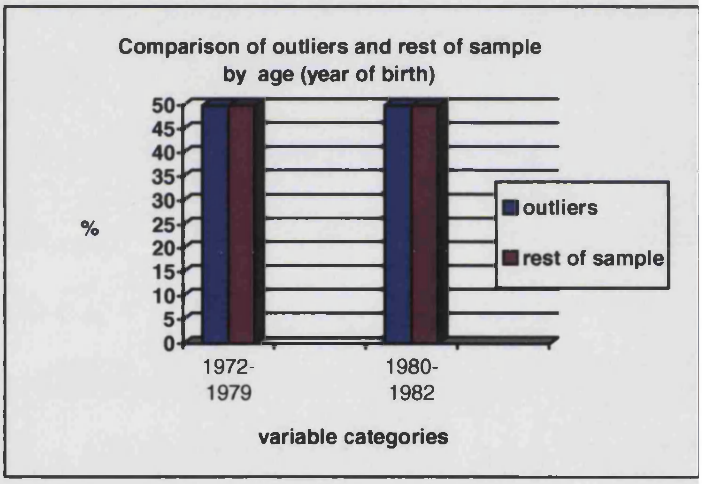
BY

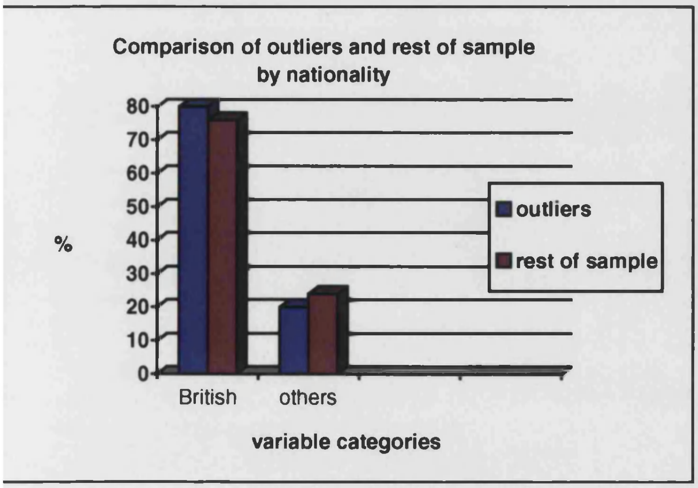
Reference group
Socio-economic group
Gender
Age
Nationality
Ski-ing experience
Activity holiday experience
Expedition holiday experience

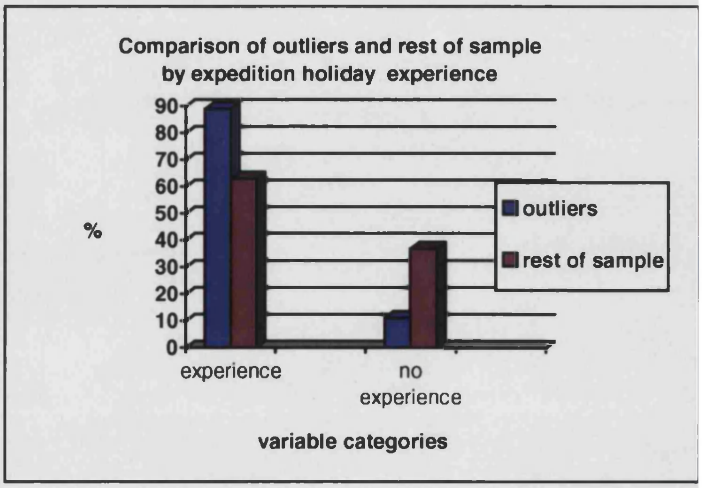

Comparison of outliers and rest of sample
by reference group
40
35
30
25
20
15
10
5
0
%
Dba4
Dba1
Dba2
outliers
rest of sample
variable categories

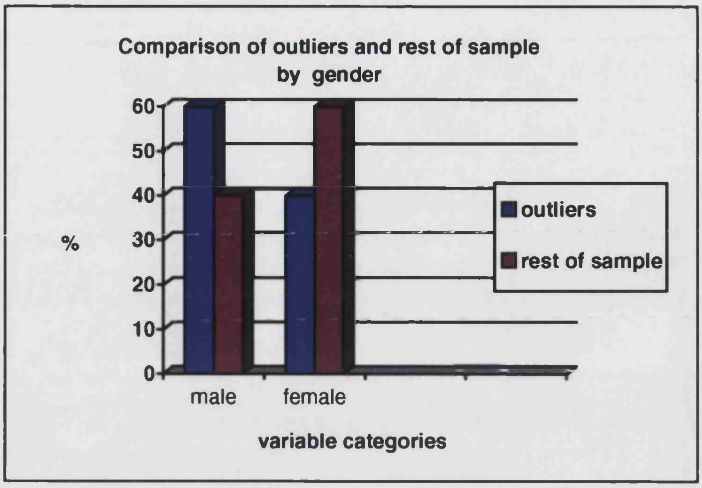

Comparison of outliers and rest of sample
by socio-economic group
70
60
50
40
30
20
10
0
%
high
income
others
outliers
rest of sample
variable categories

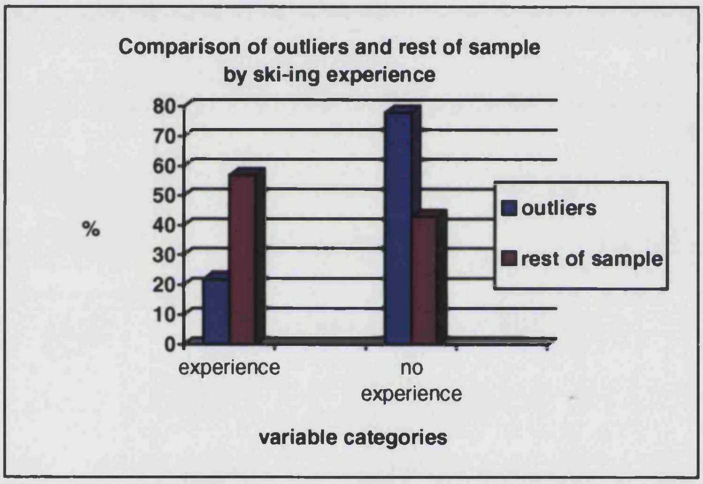

Comparison of outliers and rest of sample
by activity holiday experience
90
80
70
60
50
40
30
20
10
0
%
experience
no
experience
outliers
rest of sample
variable categories


Comparison of outliers and rest of sample
by age (year of birth)
50
45
40
35
30
25
20
15
10
5
0
%
1972-
1979
1980-
1982
outliers
rest of sample
variable categories


Comparison of outliers and rest of sample
by nationality
80
70
60
50
40
30
20
10
0
%
British
others
outliers
rest of sample
variable categories


Comparison of outliers and rest of sample
by expedition holiday experience
90
80
70
60
50
40
30
20
10
0
%
experience
no
experience
outliers
rest of sample
variable categories


Comparison of outliers and rest of sample
by gender
60
50
40
30
20
10
0
%
male
female
variable categories
outliers
rest of sample


Comparison of outliers and rest of sample
by ski-ing experience
80
70
60
50
40
30
20
10
0
%
experience
no experience
variable categories
outliers
rest of sample

APPENDIX 5.2

TABLES FOR

t STATISTIC

	Level of significance for one-tailed test					
	.10	.05	.025	.01	.005	.0005
	Level of significance for two-tailed test					
df	.20	.10	.05	.02	.01	.001
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.598
3	1.638	2.353	3.182	4.541	5.841	12.941
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.859
6	1.440	1.943	2.447	3.143	3.707	5.959
7	1.415	1.895	2.365	2.998	3.499	5.405
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.767
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.684	2.021	2.423	2.704	3.551
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
∞	1.282	1.645	1.960	2.326	2.576	3.291

SOURCE: Appendix 2 is abridged from Table III of R. A. Fisher and F. Yates, *Statistical Tables for Biological, Agriculture and Medical Research* (6th ed.), published by Longman Group UK Ltd., 1974, by permission of the authors and the publisher.

APPENDIX 5.3

TABLES FOR F STATISTIC

$n_2 \backslash n_1$	1	2	3	4	5	6	8	12	24	∞
1	161.40	199.50	215.70	224.60	230.20	234.00	238.90	243.90	249.00	254.30
2	18.51	19.00	19.16	19.25	19.30	19.33	19.37	19.41	19.45	19.50
3	10.13	9.55	9.28	9.12	9.01	8.94	8.84	8.74	8.64	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.04	5.91	5.77	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.82	4.68	4.53	4.36
6	5.99	5.14	4.76	4.53	4.39	4.28	4.15	4.00	3.84	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.73	3.57	3.41	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.44	3.28	3.12	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.23	3.07	2.90	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.07	2.91	2.74	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	2.95	2.79	2.61	2.40
12	4.75	3.88	3.49	3.26	3.11	3.00	2.85	2.69	2.50	2.30
13	4.67	3.80	3.41	3.18	3.02	2.92	2.77	2.60	2.42	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.70	2.53	2.35	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.64	2.48	2.29	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.59	2.42	2.24	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.55	2.38	2.19	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.51	2.34	2.15	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.48	2.31	2.11	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.45	2.28	2.08	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.42	2.25	2.05	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.40	2.23	2.03	1.78
23	4.28	3.42	3.03	2.80	2.64	2.53	2.38	2.20	2.00	1.76
24	4.26	3.40	3.01	2.78	2.62	2.51	2.36	2.18	1.98	1.73
25	4.24	3.38	2.99	2.76	2.60	2.49	2.34	2.16	1.96	1.71
26	4.22	3.37	2.98	2.74	2.59	2.47	2.32	2.15	1.95	1.69
27	4.21	3.35	2.96	2.73	2.57	2.46	2.30	2.13	1.93	1.67
28	4.20	3.34	2.95	2.71	2.56	2.44	2.29	2.12	1.91	1.65
29	4.18	3.33	2.93	2.70	2.54	2.43	2.28	2.10	1.90	1.64
30	4.17	3.32	2.92	2.69	2.53	2.42	2.27	2.09	1.89	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.18	2.00	1.79	1.51
60	4.00	3.15	2.76	2.52	2.37	2.25	2.10	1.92	1.70	1.39
120	3.92	3.07	2.68	2.45	2.29	2.17	2.02	1.83	1.61	1.25
∞	3.84	2.99	2.60	2.37	2.21	2.09	1.94	1.75	1.52	1.00

SOURCE: Appendix 3 is abridged from Table V of R. A. Fisher and F. Yates, *Statistical Tables for Biological, Agricultural and Medical Research* (6th ed.), published by Longman Group UK, Ltd., 1974, by permission of the authors and the publisher.
NOTE: Values of n_1 and n_2 represent the degrees of freedom associated with the larger and smaller estimates of variance, respectively.

APPENDIX 5.4

ANOVA

SPSS

PRINTOUT

SPSS CALCULATION

OF

F STATISTIC

FOR

ANOVA

(CONTROL GROUP, ROMANTIC TREATMENT GROUP, CLASSICIST TREATMENT GROUP)

RC score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.939	2	.469	2.591	0.77
Within Groups	36.950		.181		
Total	37.889				

APPENDIX 5.5

LSD TEST

SPSS

PRINTOUT

Post Hoc Tests

Multiple Comparisons

Dependent Variable: RC score
LSD

(I) 1=control 2=romantic 3=classicist	(J) 1=control 2=romantic 3=classicist	Mean Difference (I-J)	Std. Error	Sig.
1.00	2.00	-.1407	.073	.054
	3.00	2.097E-02	.070	.766
2.00	1.00	.1407	.073	.054
	3.00	.1616*	.078	.039
3.00	1.00	-2.0969E-02	.070	.766
	2.00	-.1616*	.078	.039

Multiple Comparisons

Dependent Variable: RC score
LSD

(I) 1=control 2=romantic 3=classicist	(J) 1=control 2=romantic 3=classicist	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1.00	2.00	-.2836	2.335E-03
	3.00	-.1178	.1598
2.00	1.00	-2.3352E-03	.2836
	3.00	8.231E-03	.3150
3.00	1.00	-.1598	.1178
	2.00	-.3150	-8.2312E-03

*. The mean difference is significant at the .05 level.

APPENDIX 5.6

PROFILE OF

MOSAIC CLASSIFICATIONS

HIGH INCOME FAMILIES

COUNTRY DWELLERS

experian

Great Britain MOSAIC Group descriptions

L1 : HIGH INCOME FAMILIES 11.0%

High Income Families are found in the more affluent and leafy suburbs, where only professionals and wealthy business-people can afford the premium prices of large, owner occupied housing. These are typically family areas, where houses have four or more bedrooms and generous gardens. Such areas are frequented neither by first time buyers nor by pensioners, but by two-income, two-car households where children as well as parents are performance and achievement oriented.

L2 : SUBURBAN SEMIS 10.7%

Suburban Semis represent the bedrock of middle-brow suburban taste, attracting people whose ambitions, are focused on limited and attainable objectives. Living in satellite villages as well as established suburbs, these people live well-organised and agreeable lives and have sufficient time and incomes to pursue a wide variety of home based leisure interests.

L3 : BLUE COLLAR OWNERS 12.8%

Blue Collar Owners consist of the less expensive areas of owner occupier housing where skilled manual and junior white collar workers take pride in the exercise of practical skills in the home and garden. These are unpretentious areas, where sensible and self-reliant people have worked hard to achieve a comfortable and independent lifestyle.

L4 : LOW RISE COUNCIL 13.5%

Low Rise Council contains areas of local authority and housing association tenants who, for various reasons, have not exercised the right to buy their homes. Reasons may be that they are poor, unemployed or retired or that they live, for example, in ex-mining areas or industrial Scotland, where renting from the council remains popular.

L5 : COUNCIL FLATS 6.6%

Council Flats includes high rise flats, large municipal overspill estates and smaller developments of local authority maisonettes and mid-rise dwellings. These are commonly areas of very low incomes and aspirations, where watching television is often the principal form of leisure activity and where consumers are often unable to afford more than basic brands and products. These are areas with a high demand for consumer credit and where the mail order catalogue is used for durable purchases.

L6 : VICTORIAN LOW STATUS 9.3%

Victorian Low Status contains areas of genuine community feeling, where young families and the childless elderly live in owner occupied and privately rented terraces and tenements, often dating from the last century. These older established communities often lie close to the centres of large towns and offer less formal and pretentious environments than more recently built suburban areas. Whilst offering high levels of local social contact, such areas contain residents with diverse lifestyles. Ownership of "lifestyle" products is less likely to impress the neighbours than elsewhere.

Great Britain MOSAIC

continue

L7 : TOWN HOUSES & FLATS 9.5%

Whereas Victorian Low Status areas were originally developed to house the growing workforce of 19th century industrial towns, Town Houses & Flats are typically areas of lower and middle income housing for junior administrative and service employees. Such areas are found typically in small market towns and service centres, in the older areas of towns where large houses have been divided into small flats and in early turn of the century areas of high density terraced housing designed for clerks and the junior managers in the service industries of large cities. These areas today house people who typically use inter-personal rather than craft skills in their work, who are well informed and sociable in their lifestyles, and relatively unambitious in their material aspirations.

L8 : STYLISH SINGLES 5.4%

Stylish Singles attracts people for whom self-expression is more important than conformity to any external set of social standards. Typically very well educated and very involved in their work, people are highly interested in the behaviour of different social groups and enjoy living in a diverse, cosmopolitan and sometimes multi-cultural environment. People are often too busy experimenting and experiencing life to want to get married early and postpone as long as possible the responsibility of looking after homes, gardens and children. These people prefer the vitality of the large city to the tranquillity of outer suburbs and spend money freely on fashion, foreign travel, the arts, entertainment and eating out.

L9 : INDEPENDENT ELDERS 7.2%

As the nation's population ages, Independent Elders represent a rapidly increasing target audience. Here we find retired and soon-to-be-retired people who are still fit enough to look after themselves, and who typically own their own houses, purpose built flats or sheltered accommodation. Whilst household income is not high, low expenditure on rent, mortgages or children leads to quite high levels of discretionary expenditure. With their accumulated capital these are also excellent markets for many financial products.

L10 : MORTGAGED FAMILIES 6.9%

Mortgaged Families consists mostly of areas of newly built private housing, typically lived in by younger households often burdened by high levels of mortgage repayment. Whilst most of these areas contain young families living on the outskirts of towns and cities, we find an increasing number of young single people and childless couples in this group, often living in in-fill housing in older areas. The furnishing and decoration of homes and gardens is a key focus of their leisure activities and shopping trips are undertaken by the entire family to retail multiples in newly developed retail parks in out-of-town locations.

L11 : COUNTRY DWELLERS 6.9%

Country Dwellers consists of genuinely rural areas beyond the commuter belt of villages with their newly built estates, where houses have names rather than numbers and where agriculture remains a significant source of local employment. Such areas vary considerably in their levels of affluence from the gentrified villages of the New Forest and Sussex Weald to the impoverished hamlets of the Celtic fringes. But they all share problems of access to modern retail multiples and a resistance to the growing depersonalisation of modern consumer society.

L12 : INSTITUTIONAL AREAS 0.3%

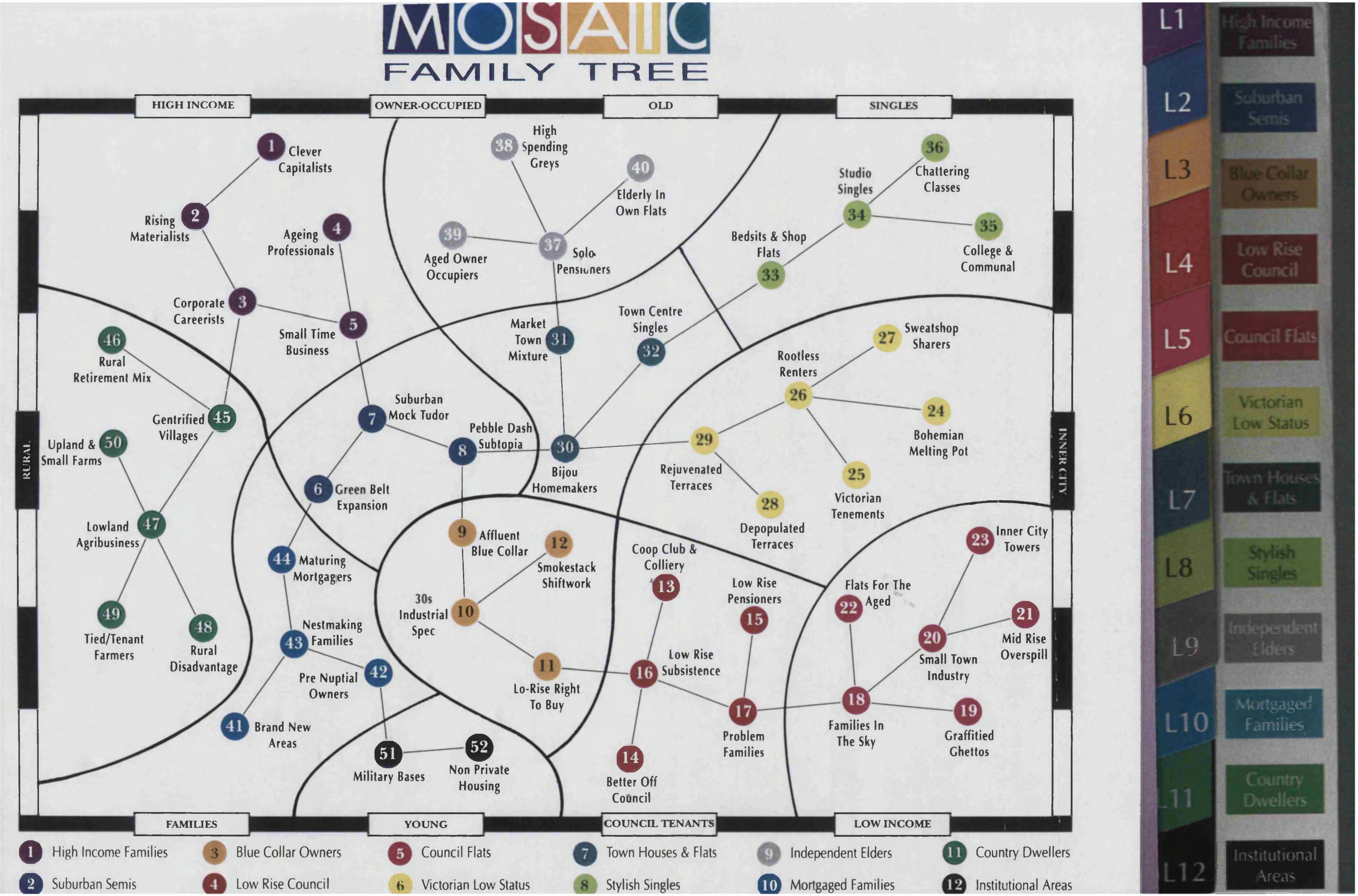
Institutional Areas consist of neighbourhoods which for various reasons do not conform to a typical household pattern. These include areas of military housing and areas where people live in institutions such as prisons, hospitals, boarding schools and religious retreats. These areas are inappropriate for many forms of consumer advertising and are often best ignored when profiling product users.

If you would like to discuss how *Great Britain MOSAIC* can be used effectively in your organisation please call Experian's Micromarketing Division on **0115 934 4343** or e-mail **micromarketing@experian.com**

Great Britain
MOSAIC

The 12 lifestyle groups and 52 types with their national household penetration (%)

L1	**High Income Families**	**9.9**
M1	Clever Capitalists	1.5
M2	Rising Materialists	1.5
M3	Corporate Careerists	2.4
M4	Ageing Professionals	1.7
M5	Small Time Business	2.7
L2	**Suburban Semis**	**11.0**
M6	Green Belt Expansion	3.4
M7	Suburban Mock Tudor	3.2
M8	Pebble Dash Subtopia	4.4
L3	**Blue Collar Owners**	**13.0**
M9	Affluent Blue Collar	2.9
M10	30s Industrial Spec	3.8
M11	Lo-rise Right to Buy	3.3
M12	Smokestack Shiftwork	3.1
L4	**Low Rise Council**	**14.4**
M13	Coop Club & Colliery	3.4
M14	Better Off Council	2.1
M15	Low Rise Pensioners	3.2
M16	Low Rise Subsistence	3.5
M17	Problem Families	2.2
L5	**Council Flats**	**6.8**
M18	Families In The Sky	1.3
M19	Gratified Ghettos	0.3
M20	Small Town Industry	1.4
M21	Mid Rise Overspill	0.7
M22	Flats For The Aged	1.4
M23	Inner City Towers	1.8
L6	**Victorian Low Status**	**9.4**
M24	Bohemian Melting Pot	2.3
M25	Victorian Tenements	0.1
M26	Rootless Renters	1.5
M27	Sweatshop Sharers	1.1
M28	Depopulated Terraces	0.8
M29	Rejuvenated Terraces	3.5
L7	**Town Houses & Flats**	**9.4**
M30	Bijou Homemakers	3.5
M31	Market Town Mixture	3.8
M32	Town Centre Singles	2.1
L8	**Stylish Singles**	**5.2**
M33	Bedsits & Shops Flats	1.2
M34	Studio Singles	1.7
M35	College & Communal	0.5
M36	Chattering Classes	1.9
L9	**Independent Elders**	**7.4**
M37	Solo Pensioners	1.9
M38	High Spending Greys	1.3
M39	Aged Owner Occupiers	2.7
M40	Elderly In Own Flats	1.5
L10	**Mortgaged Families**	**6.2**
M41	Brand New Areas	1.0
M42	Pre Nuptial Owners	0.8
M43	Nestmaking Families	1.7
M44	Maturing Mortgagers	2.7
L11	**Country Dwellers**	**7.0**
M45	Gentrified Villages	1.5
M46	Rural Retirement Mix	0.6
M47	Lowland Agribusiness	1.8
M48	Rural Disadvantage	1.2
M49	Tied/Tenant Farmers	0.6
M50	Upland & Small Farms	1.3
L12	**Institutional Areas**	**0.3**
M51	Military Bases	0.3
M52	Non Private Housing	0.1



MOSAIC
FAMILY TREE
HIGH INCOME
OWNER-OCCUPIED
OLD
SINGLES
RURAL
INNER CITY
FAMILIES
YOUNG
COUNCIL TENANTS
LOW INCOME
1 Clever Capitalists
2 Rising Materialists
3 Corporate Careerists
4 Ageing Professionals
5 Small Time Business
6 Green Belt Expansion
7 Suburban Mock Tudor
8 Pebble Dash Subtopia
9 Affluent Blue Collar
10 30s Industrial Spec
11 Lo-Rise Right To Buy
12 Smokestack Shiftwork
13 Coop Club & Colliery
14 Better Off Council
15 Low Rise Pensioners
16 Low Rise Subsistence
17 Problem Families
18 Families In The Sky
19 Graffitied Ghettos
20 Small Town Industry
21 Mid Rise Overspill
22 Flats For The Aged
23 Inner City Towers
24 Bohemian Melting Pot
25 Victorian Tenements
26 Rootless Renters
27 Sweatshop Sharers
28 Depopulated Terraces
29 Rejuvenated Terraces
30 Bijou Homemakers
31 Market Town Mixture
32 Town Centre Singles
33 Bedsits & Shop Flats
34 Studio Singles
35 College & Communal
36 Chattering Classes
37 Solo Pensioners
38 High Spending Greys
39 Aged Owner Occupiers
40 Elderly In Own Flats
41 Brand New Areas
42 Pre Nuptial Owners
43 Nestmaking Families
44 Maturing Mortgagers
45 Gentrified Villages
46 Rural Retirement Mix
47 Lowland Agribusiness
48 Rural Disadvantage
49 Tied/Tenant Farmers
50 Upland & Small Farms
51 Military Bases
52 Non Private Housing
1 High Income Families
2 Suburban Semis
3 Blue Collar Owners
4 Low Rise Council
5 Council Flats
6 Victorian Low Status
7 Town Houses & Flats
8 Stylish Singles
9 Independent Elders
10 Mortgaged Families
11 Country Dwellers
12 Institutional Areas
L1 High Income Families
L2 Suburban Semis
L3 Blue Collar Owners
L4 Low Rise Council
L5 Council Flats
L6 Victorian Low Status
L7 Town Houses & Flats
L8 Stylish Singles
L9 Independent Elders
L10 Mortgaged Families
L11 Country Dwellers
L12 Institutional Areas

High Income Families (9.9%)

High Income Families are found in the more affluent and leafy suburbs, where only professionals and wealthy business-people can afford the premium prices of large, owner-occupied housing.

These are typically family areas, where houses have four or more bedrooms and generous gardens. Such areas are frequented neither by first time buyers nor by fragile pensioners, but by two-income, two-car households where children as well as parents are performance and achievement oriented.

Variables	L1
Aged 0-4	85
Aged 5-14	110
Aged 15-24	94
Aged 25-34	75
Aged 35-44	121
Aged 45-54	125
Aged 55-64	107
Aged 65+	89
Singles	58
Families	122
Cohabitees	64
H/hlds with children	110
Professional/managerial	194
Skilled manual	55
Unskilled	28
Manufacturing/mining	75
Services	113
Agriculture	53
Outright owners	135
Mortgaged owners	139
Private rented	60
Local authority rented	12
Detached	299
Semi-detached	86
Terraced	30
Flats	35
Company directors	325
CCJs	39

M1 Clever Capitalists 1.5%

Clever Capitalists are typically wealthy people involved in business, particularly in the setting up and financial management of companies and in broking, commercial trading, importing and exporting. The areas are characterised by company directors living in large detached houses, though not necessarily with extensive grounds, in well established residential areas within reasonable reach of city centres. Children are typically of secondary school age or students and there is a higher proportion of foreigners than in the more suburban types within *High Income Families*.

M2 Rising Materialists 1.5%

Rising Materialists describe neighbourhoods containing large, recently built owner-occupied houses, typically on smaller developments in areas of rapidly growing new industry. Such areas have highly paid young professionals who have migrated following the growth of jobs in new technology industries. The lifestyle of such areas is highly achievement oriented, focused on the material symbols of success. In these areas career and family take precedence over community involvement, the honouring of traditional customs or self exploration. These are dynamic, future oriented areas, eagerly embracing new consumer products and services.

Variables	M1	M2
Aged 0-4	75	143
Aged 5-14	107	129
Aged 15-24	99	86
Aged 25-34	63	141
Aged 35-44	115	145
Aged 45-54	132	90
Aged 55-64	115	56
Aged 65+	97	35
Singles	57	61
Families	124	115
Cohabitees	52	141
H/hlds with children	103	150
Professional/managerial	216	170
Skilled manual	51	69
Unskilled	24	30
Manufacturing/mining	71	101
Services	116	104
Agriculture	42	43
Outright owners	144	60
Mortgaged owners	130	187
Private rented	73	45
Local authority rented	14	9
Detached	270	327
Semi-detached	88	75
Terraced	31	38
Flats	57	14
Company directors	940	197
CCJs	33	61

M3 Corporate Careerists 2.4%

Corporate Careerists consists of an upmarket group mostly living in fairly modern detached houses in outer suburban areas. Such areas are characterised by well paid middle aged executives, working typically for large national and international companies rather than small proprietors, directors or public sector professionals.

The high income groups living in this type of area have typically made rapid career progression and are now settled into a family house that is likely to last them until their children have grown up. Most are still repaying mortgages but the payments are now a manageable proportion of their incomes.

This neighbourhood type has particularly high levels of company cars. These are not areas of trendy opinion formers but people who get satisfaction from getting things done within the disciplined structures of modern corporate life. Quiet self confidence has replaced the overt dynamism of the *Rising Materialists* and the extroverted scepticism of the *Chattering Classes*.

M4 Ageing Professionals 1.7%

Ageing Professionals live in areas of very large inter-war and early post-war houses, typically with large well wooded gardens in the more expensive suburbs of the UK's larger regional centres.

Typical of these areas are public sector professionals who are approaching the end of their careers and who have reached the peak of their salary scales. Hospital consultants, senior academics, top civil servants and top managers of utilities and public sector enterprises have now paid off mortgages on houses which were absurdly cheap by today's prices when they were first bought.

There are more bedrooms than are needed, gardens are becoming unmanageable and people are planning early retirement, releasing capital by moving to a smaller house, maybe among the *High Spending Greys*.

These are areas of relaxed self-sufficiency, largely uninfluenced by fashion and governed by classical standards of good taste.

Variables	M3	M4
Aged 0-4	82	76
Aged 5-14	127	103
Aged 15-24	105	92
Aged 25-34	65	66
Aged 35-44	136	114
Aged 45-54	140	127
Aged 55-64	98	114
Aged 65+	60	107
Singles	37	83
Families	133	109
Cohabitees	43	70
H/hlds with children	130	97
Professional/managerial	181	263
Skilled manual	55	37
Unskilled	27	23
Manufacturing/mining	83	55
Services	110	119
Agriculture	56	60
Outright owners	114	148
Mortgaged owners	159	119
Private rented	39	97
Local authority rented	8	16
Detached	346	255
Semi-detached	80	82
Terraced	20	41
Flats	14	62
Company directors	288	173
CCJs	34	43

Country Dwellers (7.0%)

Country Dwellers consists of genuinely rural areas beyond the commuter belt of villages with newly built estates, where houses have names rather than numbers and where agriculture remains a significant source of local employment.

Such areas vary considerably in their levels of affluence from the gentrified villages of the New Forest and Sussex Weald to the impoverished hamlets of the Celtic fringes. They all share problems of access to modern retail multiples and a resistance to the growing depersonalisation of modern consumer society.

Variables	L11
Aged 0-4	83
Aged 5-14	101
Aged 15-24	89
Aged 25-34	75
Aged 35-44	110
Aged 45-54	123
Aged 55-64	117
Aged 65+	104
Singles	71
Families	116
Cohabitees	56
H/hlds with children	97
Professional/managerial	108
Skilled manual	84
Unskilled	68
Manufacturing/mining	70
Services	89
Agriculture	851
Outright owners	144
Mortgaged owners	91
Private rented	126
Local authority rented	44
Detached	285
Semi-detached	87
Terraced	44
Flats	22
Company directors	104
CCJs	66

M45

Gentrified Villages 1.5%

Gentrified Villages contain a mixture of extremely well paid or wealthy refugees from large cities and ordinary country people, typically found in areas of high landscape value within easy commuting distance of large population centres where planners have protected the countryside against further housing development.

In these architecturally attractive villages, a few large houses have been built and many of the more attractive village cottages have been carefully restored and extended to produce property of considerable value. Commuters live in the village rather than in small estates tacked on to the village, as in *Greenbelt Expansion*.

With their extensive grounds and rural sporting and conservationist tendencies, these areas represent excellent prospects for suppliers of garden products, from lawnmowers and garden plants to conservatories and paved driveways. Estate versions of upmarket cars sell well. But such areas are also fertile territory for wildlife charities and the National Trust. Preferences are for stout and dependable rather than for fashion clothing.

M46

Rural Retirement Mix 0.6%

Whereas the Worthings and Sidmouths continue to attract a disproportionate share of the nation's retirees, an increasing number of mobile older people prefer to retire to small detached bungalows in rural areas often close to the sea or to other natural attractions.

Rural Retirement Mix consists of a small segment of the population where traditional farming populations have been joined by rural retirees and small proprietors in the tourist industry.

Such areas are characterised by high proportions of owner-occupiers, living in detached and "named" dwellings, often in small seaside villages. Pensioners, although numerous, do not dominate the community to the same extent as in the *Independent Elders*. In these areas, old people are typically married and still active.

In such areas people's interests are in gardening and local environmental activities rather than in foreign travel. Going to church and supporting local charities is more important than keeping up with latest fashions and technology.

People dislike junk mail and neither need nor use credit.

Variables	M45	M46
Aged 0-4	72	71
Aged 5-14	102	84
Aged 15-24	93	78
Aged 25-34	62	66
Aged 35-44	117	90
Aged 45-54	141	106
Aged 55-64	120	127
Aged 65+	96	159
Singles	54	83
Families	125	111
Cohabitees	46	49
H/hlds with children	99	74
Professional/managerial	180	93
Skilled manual	66	104
Unskilled	36	96
Manufacturing/mining	76	80
Services	102	91
Agriculture	372	548
Outright owners	150	144
Mortgaged owners	115	70
Private rented	88	101
Local authority rented	18	99
Detached	344	182
Semi-detached	70	105
Terraced	25	72
Flats	18	48
Company directors	280	75
CCJs	44	56

M47 Lowland Agribusiness 1.8%

Ambridge might not be an untypical example of the type of English village represented by *Lowland Agribusiness*. Here you find genuine villages which have not been overwhelmed by new developments for ex-urban settlers, where most of the population come from local families with generations of association with local farms. Today, with the decline of the agricultural labour force, these villages house countryfolk who have been forced to work in towns, rather than townspeople who are forced to live in the country by shortages of local housing.

Such villages retain traditional symbols of community life, the parish church, the village hall, the local pub, perhaps its own primary school and small council estate. East Anglia, the East Midlands and South Central England contain much more of this type of area than the centre fringes and South West of England. Though owner-occupation is high and unemployment low, local wage rates are often below the average and fewer than average women go out to work.

Such areas are parochial in their interests and conservative in their tastes, phlegmatic, relaxed and disdainful of ideology and extremism.

M48 Rural Disadvantage 1.2%

Rural England conjures up images of large and wealthy landowners and of pretty cottages set in attractive gardens. Yet once you travel beyond commuting distance of large cities you increasingly find neighbourhoods characterised by *Rural Disadvantage*.

In Wales and the South West in particular, wage levels in such villages are especially low, there are few jobs for women and the small upland farmers can seldom afford to hire paid labour.

Low incomes are compounded by the deteriorating provision of local services. Buses no longer provide access to local market towns, necessitating the expense of buying and running a car. Village post offices, butchers and bakers are no longer economically viable and the quality, range and value for money associated with urban supermarkets contrasts with the high prices and limited variety of the remaining local shops.

Poor accessibility and low incomes make such areas an attractive target group to mail order operators. In such areas petrol stations and cash and carry operators take a disproportionate share of consumer expenditure.

Variables	M47	M48
Aged 0-4	90	95
Aged 5-14	107	101
Aged 15-24	91	91
Aged 25-34	81	87
Aged 35-44	120	105
Aged 45-54	124	108
Aged 55-64	107	109
Aged 65+	88	104
Singles	57	98
Families	122	102
Cohabitees	66	75
H/hlds with children	106	98
Professional/managerial	109	88
Skilled manual	84	110
Unskilled	57	122
Manufacturing/mining	68	95
Services	93	88
Agriculture	744	489
Outright owners	127	120
Mortgaged owners	103	86
Private rented	127	126
Local authority rented	38	86
Detached	281	182
Semi-detached	103	106
Terraced	37	88
Flats	15	32
Company directors	76	60
CCJs	88	83

M49 Tied/Tenant Farmers 0.6%

Tied/Tenant Farmers are particularly concentrated in those parts of Scotland where landed estate owners continue to rent out farms to tenant farmers or to own the tied cottages in which their agricultural workers live.

This type occurs only in isolated pockets of England and Wales and shares many common features with *Upland & Small Farms* - high proportions of the labour force working in agriculture, high level of self employment, few women working and large distances to shops. By comparison, houses are typically smaller, more likely to be privately rented and more frequently lacking a bath or inside WC.

Tastes in these areas are very conservative though politically these areas are typically represented by Liberal Democrats and Welsh or Scottish Nationalists. People shop in small village stores, where prices are high and the range is limited, and by mail order.

M50 Upland & Small Farms 1.3%

Upland & Small Farms is characterised by very high proportions of self employed farmers, typically living in old isolated farmhouses beyond easy commuting distance of major centres of population.

These farms are typically too small to support paid labourers. Often they have been handed down over many generations and are still worked by a single family. Though incomes are low, the capital value of land, buildings and stock is not inconsiderable.

The type is commonest in the rural west of Britain, in Wales, Cornwall and the Welsh Marches, where small scale dairy and beef farming is more common than cereal harvesting.

In such areas traditional and community values act as a barrier to the homogenising influences of mass marketing. During the last ten years the economy of these areas has been revived by small scale tourism and by the influx of the "small is beautiful" brigade of well educated environmentalists advocating a return to a more craft-based and self-reliant lifestyle. This type represents the bedrock of the Welsh Nationalists and of the Liberal Democrat, West Country stalwarts.

Variables	M49	M50
Aged 0-4	93	75
Aged 5-14	109	95
Aged 15-24	95	82
Aged 25-34	85	68
Aged 35-44	114	103
Aged 45-54	123	122
Aged 55-64	113	130
Aged 65+	80	120
Singles	63	83
Families	120	111
Cohabitees	48	45
H/hlds with children	109	88
Professional/managerial	46	86
Skilled manual	44	87
Unskilled	49	62
Manufacturing/mining	40	52
Services	53	84
Agriculture	2727	1118
Outright owners	130	185
Mortgaged owners	66	77
Private rented	238	130
Local authority rented	24	26
Detached	335	343
Semi-detached	75	64
Terraced	28	30
Flats	13	15
Company directors	31	40
CCJs	54	55

APPENDIX 5.7

MODEL

ONE

Model One

Whole-Model Test
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	11	3.619701	0.329064	1.8640
Error	190	33.541889	0.176536	Prob>F
C Total	201	37.161590		0.0464

Parameter Estimates

Term	**Estimate**	**Std Error**	**t Ratio**	**Prob>|t|**
Intercept	7.0143982	2.57296	2.73	0.0070
group[1-3]	-0.04523	0.040492	-1.12	0.2654
group[2-3]	0.1034784	0.045481	2.28	0.0240
Sex2	-0.122923	0.061086	-2.01	0.0456
year	-0.034874	0.032865	-1.06	0.2900
status[1-3]	-0.088758	0.073377	-1.21	0.2279
status[2-3]	-0.00535	0.061064	-0.09	0.9303
SE2	0.1196353	0.061329	1.95	0.0526
Ski3	-0.033982	0.063654	-0.53	0.5941
Actvty3	0.02077	0.069598	0.30	0.7657
Expdtn3	0.0065046	0.067633	0.10	0.9235
Nationality2	0.0693071	0.081758	0.85	0.3977

Response: R_C2
Summary of Fit

RSquare	0.097404
RSquare Adj	0.045149
Root Mean Square Error	0.420162
Mean of Response	4.325545
Observations (or Sum Wgts)	202

APPENDIX 5.8

MODEL

TWO

Model Two

Step History

Step	Parameter	Action	"Sig Prob"	Seq SS	RSquare	Cp	p
1	status{2&1-3}	Entered	0.0136	1.116275	0.0300	6.1808	2
2	group{3&1-2}	Entered	0.0399	0.758425	0.0504	3.8847	3
3	SE2	Entered	0.0437	0.719284	0.0698	1.8102	4
4	Sex2	Entered	0.0435	0.709548	0.0889	-0.209	5

Response: R_C2
Summary of Fit

RSquare	0.089742
RSquare Adj	0.071717
Root Mean Square Error	0.41356
Mean of Response	4.33029
Observations (or Sum Wgts)	207

Response: R_C2
Stepwise Regression Control

Prob to Enter	0.250
Prob to Leave	0.100

Direction = Forward
Rules = Combine
25 rows not used due to missing values.

Current Estimates

SSE	DFE	MSE	RSquare	RSquare Adj	Cp	AIC
33.858057	197	0.171868	0.0889	0.0704	-0.20905	-350.79

Lock	Entered	Parameter	Estimate	Ndf	SS	"F Ratio"	"Prob>F"
X	X	Intercept	4.35455476	1	0	0.000	1.0000
_	X	group{3&1-2}	-0.0749607	1	0.890445	5.181	0.0239
_	_	group{3-1}	?	1	0.008512	0.049	0.8245
_	X	Sex2	-0.1215513	1	0.709548	4.128	0.0435
_		year	?	1	0.07338	0.426	0.5149
_	X	status{2&1-3}	-0.0622049	1	0.713884	4.154	0.0429
_	_	status{2-1}	?	1	0.012961	0.075	0.7844
_	X	SE2	0.12722758	1	0.786309	4.575	0.0337
_	_	Ski3	?	1	0.036952	0.214	0.6441
_	_	Actvty3	?	1	0.014238	0.082	0.7743
_	_	Expdtn3	?	1	0.00356	0.021	0.8860
_	_	Nationality2	?	1	0.036234	0.210	0.6473

APPENDIX 5.9

MODEL

THREE

MODEL THREE

Whole-Model Test
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	4	3.406109	0.851527	4.9788
Error	202	34.548473	0.171032	Prob>F
C Total	206	37.954583		0.0008

Response: R_C2
Summary of Fit

RSquare	0.089742
RSquare Adj	0.071717
Root Mean Square Error	0.41356
Mean of Response	4.33029
Observations (or Sum Wgts)	207

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	4.3518136	0.05247	82.94	<.0001
group{3&1-2}	-0.075647	0.032377	-2.34	0.0204
Sex2	-0.113942	0.058956	-1.93	0.0547
status{2&1-3}	-0.06174	0.030059	-2.05	0.0413
SE2	0.1310416	0.058782	2.23	0.0269